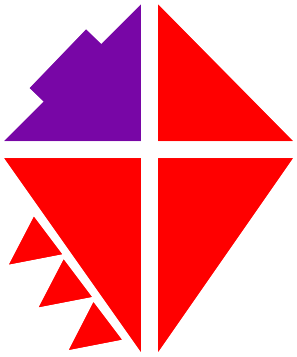

PDFFLY™

USER'S GUIDE

Converts Adobe Acrobat® PDF,
PostScript® and EPS files into
industry-standard vector and image formats

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Chapter 1: Introduction

Welcome

Congratulations on Your Purchase of PDF FLY

Thank you for purchasing ***PDF FLY***™. We hope that you will enjoy using it and that it quickly becomes one of your most relied-upon tools. At Visual Integrity, we take great pride in our products and work hard to ensure that they are well designed, powerful and intuitive. Most of our new business results from satisfied customers spreading the word. We believe that this is a direct testament to our high standards and find it more rewarding than any other form of recommendation.

Please share your experiences using ***PDF FLY*** with us. In this way, we can continue to ensure that our software remains the best set of professional file format conversion utilities available and that it evolves in the direction you require. Please send comments by email to support@visual-integrity.com.

New in this Release

PDF FLY is a new product that combines many of our proven conversion modules into one easy-to-use end-user suite. Each module includes performance improvements, additional support for handling fonts during conversion and enhanced intelligent filter options. In addition, we've added full support for the image formats already popular in our Unix versions – TIFF, GIF, JPEG and PNG. These enhancements have made ***PDF FLY*** much more robust and versatile. With its current support for input from PostScript, Adobe PDF and EPS, ***PDF FLY*** is now able to handle significantly more content from different source applications and from different printer drivers.

Some key features in ***PDF FLY*** for Windows include:

- **the automatic preservation of PDF page size**
- **addition of PNG and DXF as output formats**
- **improved naming conventions for referenced raster image (DXF and SVG output)**
- **improved font / text handling capabilities**
- **Option to rotate output by any degree**
- **Option to set CGM level for target application**
- **Option to target SVG output for Adobe's SVG Viewer or Apache FOP/Batik**
- **Options for absolute or relative scaling of SVG output**
- **Option to embed or reference raster images in SVG output**
- **Sophisticated new filter parameters to optimize ASCII output**
- **Updated documentation and Help file**

- **Ongoing software enhancements, performance and algorithm improvements**
- **Inclusion of batch capabilities in software release (Production License required)**

If you have any feedback or suggestions regarding our software's functionality, please let us know via support@visual-integrity.com. Your ideas are greatly appreciated, and we'll do our best to ensure that ***PDF FLY*** continues to meet your evolving requirements.

What is PDF FLY?

PDF FLY for Windows is a powerful desktop tool for converting Adobe PostScript, Encapsulated PostScript (EPS) and Acrobat Portable Document Format (PDF) files into a variety of industry-standard vector and image formats. Output formats supported in this version include:

Vector: SVG, WMF, EMF, CGM, MIF, EPS, DXF, HPGL

Image: TIFF, GIF, JPEG, PNG

Text: ASCII

The intuitive user interface allows you to quickly select source files and then choose target format, options and destination prior to conversion.

PDF FLY uses the same high-performance engine as our line of products for developers, system integrators and process automation. These include a batch command-line version, API and DLL.

In addition to support for all Microsoft 32-bit operating systems, our products are also available for UNIX operating systems, including Sun Solaris, HP-UX, IBM AIX and Linux.

For more information on any of these products, please visit www.visual-integrity.com or email info@visual-integrity.com.

Overview of Graphic Formats

Understanding Graphic Formats

The two main types of graphics formats are vector graphics and bitmap images. It's important to understand the difference between these two basic formats.

Vector Graphics: Graphics that are composed of objects such as lines, circles, polygons, curves and text. Vector graphics are fully editable, resolution-independent and scalable, which means that no matter how large or small you make them, they remain in proportion and are visually sharp. They can also be "ungrouped" and edited in a drawing program - objects can be deleted, stretched, resized, etc. The vector format is suitable for any graphic that is composed of objects. Vector graphics are edited using Drawing or Presentation programs such as Adobe Illustrator, PowerPoint and CorelDraw. Examples are line art, illustrations, CAD drawings, schematics, business charts and plots.

Bitmap Images: Graphics that are composed of “pixels” or “dots”. Bitmap images have an absolute resolution (e.g. 300 dots per inch/300dpi) and can not be resized without distortion. Bitmap images are edited by using Paint programs such as Adobe PhotoShop. Examples are scanned images, photos and screen captures.

> **Tip**
> Most vector graphic formats support the inclusion of bitmap images as objects. These will not share the scalable features of the vector contents of the file. In files which contain vector and image information, all objects are preserved during the conversion to the specified vector formats.

Supported Graphic Formats

Industry Standard Formats

PDF FLY can convert PostScript, EPS and PDF into a number of industry standard file formats, including:

Vector – SVG, WMF, EMF, CGM, MIF, EPS, HPGL, DXF

Image – TIFF, GIF, JPEG, PNG

Text - Formatted ASCII

Details on Conversion Support for Vector Formats

Vector formats vary in their support of different object elements. PostScript and PDF are very complete and feature-rich formats. The table below indicates how object elements are handled during conversion:

Attribute	WMF	EMF	MIF	CGM	SVG	HPGL	EPS	DXF
text	✓	✓	✓	✓[1]	✓	✓	✓	✓
lines	✓	✓	✓	✓	✓	✓	✓	✓
curves	✓[2]	✓	✓	✓[2]	✓	✓[2]	✓	✓
images	✓	✓	✓	✓	✓		✓	✓[4]
cropping		✓[3]			✓[3]		✓[3]	

Notes

1. Font mapping in CGM is very dependent on the source-application. ***PDF FLY*** offers a font mapping utility to map the fonts used in the PostScript file to CGM.
2. An algorithm is used to convert Beziers to an accurate polygon.

3. Only EMF, SVG and EPS support native cropping. Cropping for the other vector formats is intelligently calculated by ***PDF FLY*** as an option.
4. Instead of embedding raster images, the DXF format accesses them by reference. Upon conversion, ***PDF FLY*** saves referenced images as TIFF or JPEG for display in AutoCAD.

Output to Vector Formats

Vector formats supported in ***PDF FLY*** include:

- WMF **(Windows Metafile) Microsoft - Microsoft Office plus many other Windows applications. Although WMF is a 16-bit format, it is still very prevalent today in Windows applications.**
- EMF **(Enhanced Metafile) from Microsoft – Microsoft Office plus many other Windows applications. The enhanced metafile format is a 32-bit format.**
- MIF **(FrameMaker Interchange Format) from Adobe Systems - FrameMaker**
- CGM **(Computer Graphics Metafile), an industry standard - GIS, SGML, IETM and technical data management systems**
- SVG **(Scalable Vector Graphics), the XML vector graphics standard for the Web**
- EPS **(Encapsulated PostScript) – DTP and UNIX/PDF production environments**
- HPGL **(HP Graphics Language) - used primarily on plotting devices and in CAD environments**
- DXF **(Drawing eXchange Format) – AutoCAD, Microstation and other CAD, CAM and CNC systems.**

Output to Image Formats

Support for images has been added in this release of ***PDF FLY*** and includes the following formats:

- TIFF **(Tagged Image File Format) is a widely supported high-quality raster format, and a standard in areas like faxing, imaging and archiving.**
- GIF **(Graphics Interchange Format) is an image format used mainly to publish visual content on the Internet.**
- JPEG **(Joint Photographic Experts Group) is a raster image format used mostly for storage and publishing of photographic images.**
- PNG **(Portable Network Graphic) is a newer file format for image compression on the Web.**
- **If you need additional image formats such as EPSF or EPSI, please contact us.**
-
- TIP
  You can use the DXF conversion to extract the embedded bitmap images from a PDF file. Just convert the PDF file to DXF and all color images in your file will be converted to JPEG and all black & white images as TIFF in the target directory (discard the DXF file itself).

Output to Text Formats

In addition to vector graphics formats, ***PDF FLY*** can convert PostScript or PDF files into formatted ASCII text files. Unlike other utilities, which simply strip files, ***PDF FLY*** intelligently

parses the file to ensure the resulting document or form retains the original positioning of headers, footers, columns and rows. Both horizontal spacing and vertical line breaks can be preserved.

Intelligent Filter Options

Intelligent Filter Options are one of the main features that make ***PDF FLY*** standout from other graphics conversion tool. Using our unique and powerful Display List Technology, we've been able to extend ***PDF FLY*** with a number of powerful and flexible conversion options. These options can be defined using the Options button when the destination format is specified.

The Intelligent Filter Options give you a high degree of control over your output. Some examples follow:

- **Rotate the output by any degree**
- **Substitute fonts with other user-defined fonts**
- **Omit graphics, images or text from the output**
- **Add margin to the image**
- **Convert text to curves**

The software also offers advanced options for specific output formats, such as SVG, CGM, MIF and ASCII.

Who Uses PDF FLY

A Versatile and Powerful Solution for Many Users

PDF FLY is used by a wide variety of end users to move graphics, forms and charts into their documentation, publishing and data management systems. In addition, corporate developers implement batch Production Licenses as part of their automated server-based processes and Web-based enterprise applications. Software Application Developers use the Software Developers Kit (SDK) to add import/export formats to their standalone applications.

Engineers – ***PDF FLY*** is popular with engineers in AEC and Manufacturing because of its breakthrough ability to extract CAD geometry from PDF files. They often find it to be beneficial to their documentation workflow as well. It's used to move graphical output from technical applications into Microsoft Word reports, PowerPoint presentations and FrameMaker documents. It's also used to generate scalable and fully editable vector graphics for the web and content management systems in CGM (SGML standard) or SVG (XML standard). Source applications range from CAD applications and EDA systems to custom applications, plotting packages and more.

Scientists – Whether you're an electrical engineering professor at a university, a geologist at a government agency or a chemist in a pharmaceutical lab, chances are you are working with specialized applications on your technical computing desktop. ***PDF FLY*** gives you the tools you need to exchange, publish and even re-work the output from these applications.

Technical Writers – Technical writers receive graphics from their engineering departments, create them in packages like Adobe Illustrator, Microsoft Visio and Macromedia Freehand, or have them stored in databases and legacy systems like Interleaf. In most cases, Adobe FrameMaker is the target publishing system. ***PDF FLY*** is used to bring vector graphics into manuals as scalable and editable FrameMaker illustrations that will render in vector quality on any screen or printer and make documents smaller and easier to handle. More and more, they also convert their graphics to CGM and SVG for the Web versions of their manuals.

Other Business Professionals – People across industries and business functions use ***PDF FLY*** for everything ranging from forms and database reports to marketing material and business diagrams. It's used to publish print ads to the web, transform multi-page documents to single-page graphics, extract images from documents, substitute fonts in PostScript files, extract text from PDF reports and more.

Documentation and Support

About This Manual

This manual is organized into 6 parts:

CHAPTER 1: INTRODUCTION gives you an overview of our software, its use and the technology concepts behind it.

CHAPTER 2: POSTSCRIPT & PDF BASICS briefly describes the input formats for our software and how you can generate them from your source application.

CHAPTER 3: INSTALLING PDF FLY details the system requirements, installation instructions and licensing procedures.

CHAPTER 4: USING PDF FLY features step by step instructions for using the software including screenshots for the various stages of the conversion process.

CHAPTER 5: WORKING WITH THE RESULTING FILES gives you some pointers on how to use the vector output formats in their common target applications.

APPENDIX 1-4 offers information on resources, related products and other details.

This manual can also be found on-line as an electronic help-file. See Viewing the on-line help for more information.

How to contact us

We're glad that you purchased ***PDF FLY*** and hope that it becomes an indispensable tool for you. We're committed to the highest level of customer service and are at your service from 8:30am-6pm both in Europe and the USA to answer questions and provide license keys.

USA (Norwalk CT): +1.203.847.3355

Europe (Netherlands): +31 71 364 8657

Outside of business hours, we recommend that you email your inquiries and comments to support@visual-integrity.com . We'll do our best to respond in less than one business day.

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(send files to /incoming, retrieve files from /outgoing)

Visual Integrity is a division of Square One bv.

Chapter 2 - PostScript & PDF Basics

Why Convert PostScript and PDF files?

PostScript and PDF are ideal formats to generate visual content from any source application or database on any platform because they are robust printer languages. Both are high-quality, industry-standard page layout formats capable of handling vector graphics, raster images and font text. Both are ideally suited to a range of document types including single-page complex graphics and long composite documents. If your source application doesn't export to PostScript or PDF, printing to a file using PostScript or PDF drivers is an easy and robust method to store your output in an application-independent and easy to view format.

Creating portable content from the source application is challenging. Moving it into the target applications while preserving the layout, quality and usability of the original is an even greater challenge. Most applications don't offer native support for importing PostScript or PDF files. At best, they can place the file on a page but do not allow editing. ***PDF FLY*** transforms your files into the optimal file format for your authoring or publishing workflow – whether it's MIF for FrameMaker or WMF for Microsoft Word - guaranteeing that your graphics will be fully scalable and editable. You can even search, edit and reuse the text strings contained in the files.

What is PDF

Portable Document Format (PDF) is the popular standard for the secure distribution and exchange of electronic documents and forms. PDF is a universal file format that preserves the fonts, images, graphics, and layout of any source document, regardless of which application and platform were used to create it. Adobe PDF files are compact and can be shared, viewed, and printed by anyone with free Adobe Reader software. You can generate Adobe PDF using Adobe Acrobat software products.

In addition to Adobe's own Acrobat technology, a host of other independent software products and methods have emerged to generate PDF files from applications or data. Generating, viewing and printing PDF files with Adobe Acrobat is easy but reusing them in other applications is not. This is especially true for PDF files containing, or consisting of, vector graphics such as engineering drawings, business diagrams, charts and graphs. ***PDF FLY*** helps overcome this limitation by converting PDF files to scalable and editable vector graphics formats for use in popular documentation, publishing and data management systems.

Note: The PDF interpreter in PDF FLY is compatible with version 1.5 of the PDF specification. It's backwards compatible and reliably handles PDF 1.3, 1.4 and 1.5 files.

Caution!

Scanned PDF files, or PDF files produced from raster image formats like TIFF, do not contain vector objects. Converting them with *PDF FLY* will result in a file containing the image file as a single object.

What is PostScript

PostScript is a powerful vector-based page description language developed by Adobe for high-quality printing and display. Since its introduction in 1985, it has become a cross-platform industry standard for printing as well as for storage and exchange of digital documents and computer graphics. PostScript files may contain vector graphics as well as raster images and font text.

Virtually every application available today is able to save files in the PostScript format simply by "printing" to a file. When using this option in the Print Menu, you must use a PostScript printer driver. Microsoft Windows includes a large selection of printer-drivers capable of generating true PostScript output.

As with other file formats, there are several levels of PostScript, with each subsequent release offering additional functionality. ***PDF FLY*** offers full support for Level 1-3 PostScript.

Caution!
Printing 'to file' to a PCL or HPGL printer driver does not create PostScript input for our software. When in doubt, you can download a dedicated PS printer driver from http://www.adobe.com/products/printerdrivers/main.html.

Tip
To check if a file is a valid PostScript file, open it in a simple text editor like Notepad to see if it starts with %!PS-Adobe-3.0.

Tip
In order to generate PostScript files, you simply need to install a PostScript printer driver. There's no need to actually have a physical PostScript printer machine attached to your system!

What is EPS

Encapsulated PostScript (EPS) is the format used for exchanging PostScript files between environments. It is by definition a single page PostScript file that usually describes an illustration. The EPS file can contain any combination of text, graphics, and images. An EPS file is basically

the same as any other PostScript language page description, but is encapsulated to travel well. Most drawing applications and DTP packages can save files in EPS format.

EPS files can optionally contain a imageped image preview, so that systems that can't render PostScript directly can at least display a crude representation of what the graphic will look like. There are three preview formats: Mac (PICT), IBM (TIFF), and a platform independent preview called EPSI.

To Create a PostScript File:

1. Using any application, load the file you want to generate a PostScript file from on your screen.
2. Choose **File, Print**.
3. Check **Print to File** and ensure that a printer is chosen which generates PostScript files. Click **OK**. Beware that some printers such as the HP 4MP are capable of outputting both PCL and PostScript and will default to PCL. It is best to choose a pure PostScript printer driver. ***PDF FLY*** will not recognize a PCL file and an error message will be returned.
4. Choose a **"file name"** and **directory** for your PostScript file. Click **OK**.
5. You'll find your PostScript file in the directory you selected. It's now ready to be converted using ***PDF FLY***.

Tip
If you "printed to file" to a PostScript printer driver, it does not matter what extension you or the computer assigned to the file (.ps, .prn, .plt are the most common one). It will always be a PostScript file!

Tip
In order to generate PostScript files, you simply need to generate a PostScript printer driver. There's no need to have a physical PostScript printer machine attached to your system!

To Install a PostScript Printer Driver

1. From the Start menu, select Settings > Printers
2. The Printers window will pop up, displaying an icon for each of the printer drivers that you have installed. Double Click on the icon for Add Printer.
3. When the Add Printer Wizard window pops-up, click on Next.
4. Select any color PS printer driver. Click on Next.
5. From the list of ports displayed, select: File: Create a file on disk. Click on Next.
6. Enter a name for this printer such as ps2file and select whether to use this printer as the default (not recommended). Click on Next.
7. There is no need to print a test page. Click on Finish.
8. Test by 'printing' a file to the printer named ps2file and a dialog should appear automatically asking you to provide a name for the file. Check to see that the target directory contains the file after completing this test.

Tip

Non-PostScript fonts should be embedded in the PostScript or PDF file. These and other options are generally defined in your printer driver settings. Embedding Type 1 and TrueType fonts ensures that they are not outlined, imageped or substituted in the source file, and gives our software the best chance to correctly convert the text to the target format. For more information on font handling please see Appendix 3.

Chapter 3 - Installing PDF FLY

Installation System Requirements

To run ***PDF FLY*** for Windows you must have a minimum of:

- **32 Mb RAM**
- **12 Mb free hard disk space for installation**
- **Windows 98, NT, ME, 2000 or XP**

What comes with PDF FLY

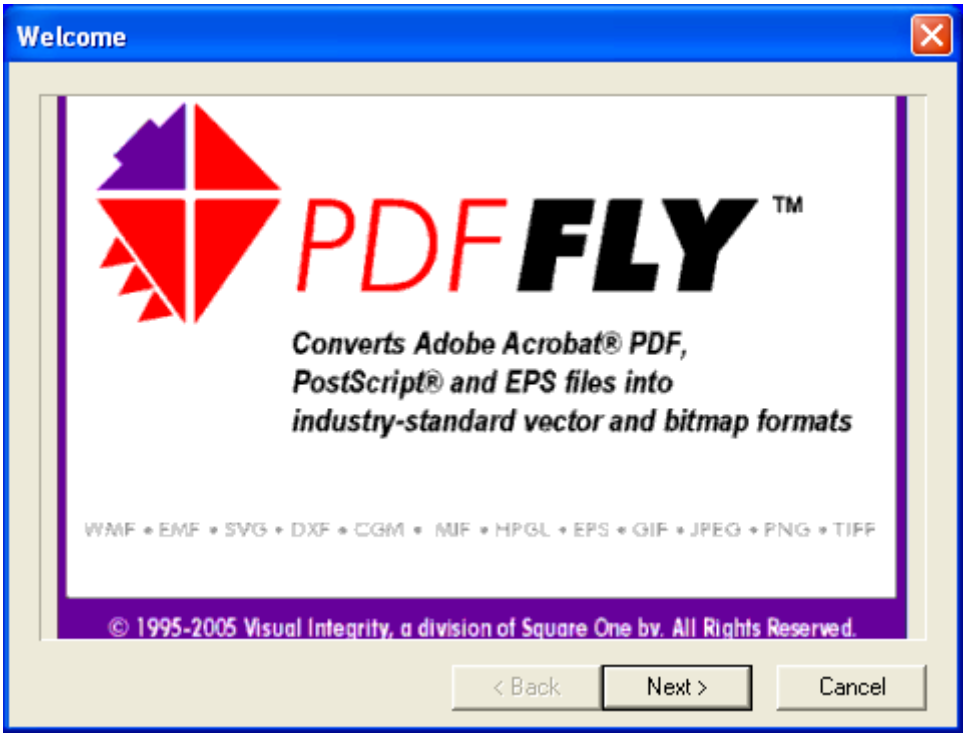
When you purchase a license for ***PDF FLY***, you will receive an email containing your:

- **License Agreement**
- **Serial #**
- **License key**
- **Download instructions**

Most customers download the software from the WWW- or FTP-site. It is a self-extracting executable which also contains the Help file. If required, the software is available, at an extra charge, on CD ROM. A hard-copy of the user manual may be downloaded from the support section of our web-site.

Installation

PDF FLY is very easy to install. An install-wizard will help you through the following steps during the installation:



1. Go to the directory where you've downloaded the self-extracting executable. If you've received the software on CD-ROM, put it in the appropriate drive.

2. Setup.exe program from the Program Manager or double-click the Setup icon in Windows Explorer. The welcome-page will appear. Click on the Next button to go to the next step.

3. Register by entering your name (required), your company name and the serial number supplied by us (required). Click on the Next button to go to the next step

4. PDF FLY will, by default, be installed in c:\Program Files\Visual Integrity\PDF FLY. You may use the Browse button to select another directory where you want to install PDF FLY. Click on the Next button to go to the next step

5. The install wizard will ask you what name you wish to give the program icon. By default this will be "PDF FLY". Click on the Next button to go to the next step

The install-wizard will present you with an overview of the actions, which will be performed during installation. If you want to make any changes during the process, you can simply click on the ***Back button*** as many times as necessary to backtrack. Once you are pleased with your choices, click the ***Finish button***. The program will be installed automatically.

Licensing PDF FLY

When you download and install ***PDF FLY***, it will already run in evaluation mode by default. You do not need any kind of license key to evaluate the software. When running in evaluation mode, ***PDF FLY*** will insert a watermark into every file to prevent unlicensed use. This watermark consists of horizontal and vertical grid-lines and some text strings.

In order to begin using ***PDF FLY***, you must obtain a license key from Visual Integrity. Upon purchase, you will receive this key in the email confirming your order, usually within one business day from receipt of your order. It can also be requested by email: support@visual-integrity.com. Please mention your name, company name and serial number and we'll send a replacement license key or troubleshooting advice to you as quickly as possible.

Installing an Evaluation Version

When you receive or download an evaluation version of ***PDF FLY***, you do not need a license key. The software is fully functional upon installation. The evaluation control to prevent unauthorized use is a watermark of a grid and some text that is placed on each converted file. This watermark is disabled upon purchase.

Once you purchase a full license for the software, there is no need to install additional software. You can simply upgrade your evaluation installation using the license key we'll send after receiving your order.

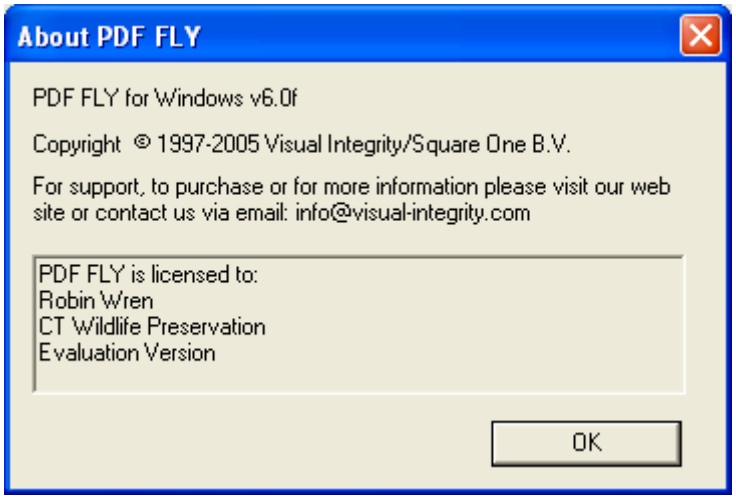
Upgrading from an Evaluation Version to a Full Version

When you are satisfied with the results of your trial installation and have purchased a license, you will receive a license key to unlock the software for unlimited use.

Viewing the HELP SYSTEM

The ***PDF FLY*** User's Guide is also available as a context sensitive help system. Click on the Help button when using ***PDF FLY*** to view the help system.

Help on Version



Should you require information about the version you are using, or need licensing information, both can be found easily by clicking on the arrows in the lower corner of the main dialog.

About *PDF FLY* contains important information that you'll need when requesting technical support or customer service from Visual Integrity:

- **Version Number**
- **User Name**
- **License Type (full license or evaluation version)**
- **Statistics regarding number of conversions that have been performed**

Uninstalling PDF FLY

PDF FLY uses the standard Windows procedures for Adding/Removing programs. To remove ***PDF FLY*** from your system, please perform the following steps:

1. Go to the Windows Task-Bar and click on Start.
2. Choose Settings, Click on the Control Panel
3. Double-click on Add/Remove Programs
4. Select PDF FLY from the display of programs.
5. Click on Add/Remove.

6. Windows will ask you if you are sure to complete remove the application and all its components. Select Yes to remove PDF FLY.

7. ***PDF FLY*** is now completely removed from your system

Chapter 4 - Using PDF FLY

PDF FLY - Step by Step

PDF FLY - Step by Step

We hope that ***PDF FLY*** will quickly become an indispensable tool for converting your PostScript and PDF files for use in other applications. This section describes the process, step-by-step, for using the Wizard interface.

Starting PDF FLY

Starting PDF FLY

There are three ways to start ***PDF FLY***.

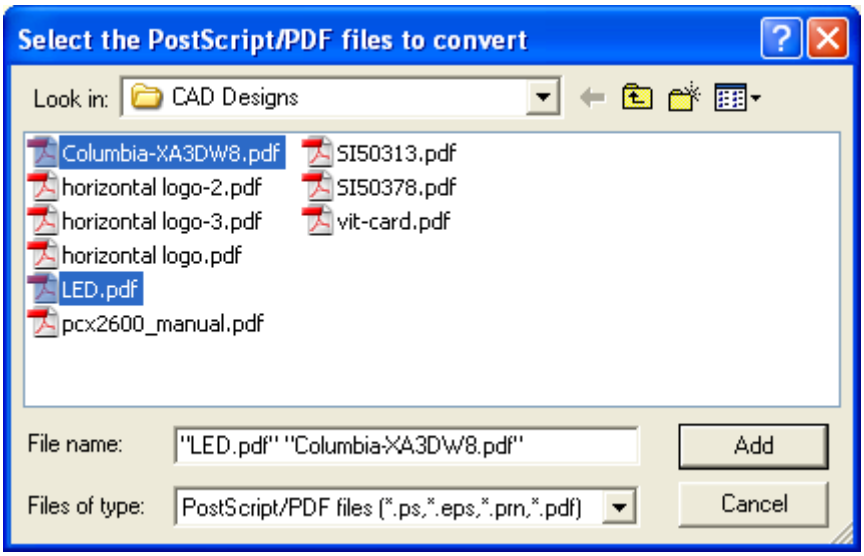
- From the Start Menu **– The most common way to start** *PDF FLY* **is via the Windows Start Menu. The** *PDF FLY* **menu can be found under** Programs/Visual Integrity**.**
- Starting from your Desktop (Shortcut) **- During the installation a short-cut icon is installed on your Desktop. Simply double-click on the** *PDF FLY* **icon to start the program.**
- Via Windows Explorer **– Start Windows Explorer and open the folder where PDF FLY is located. Double-click on pdffly.exe.**

TIP

If you already have ***PDF FLY*** running in the background, you can select any PDF or PostScript file and then drag it onto the task bar and hold it there. Within a few moments, ***PDF FLY*** will open and you can drop the file in the 'PostScript/PDF files to convert box' by releasing the mouse button. The file is added to the list of files to be converted.

Step 1: Enter the Source information

Select the files to convert



With ***PDF FLY***, it is just as easy to convert one hundred files as it is a single file. You have the choice to select files one by one, to select multiple files from several directories or to convert entire directories. You can choose your files by "dragging and dropping" files into the **Step 1: Selection** window or onto the task bar when ***PDF FLY*** is running in the background. You can also use the **Add** button to browse for files. If the PostScript/PDF file is a multi-page file, TGC converts each page into a separate output file. The naming convention for myfile.pdf is as follows: myfile.wmf, myfile-2.wmf, etc. The numbering sequence can be customized using the .ini parameters.

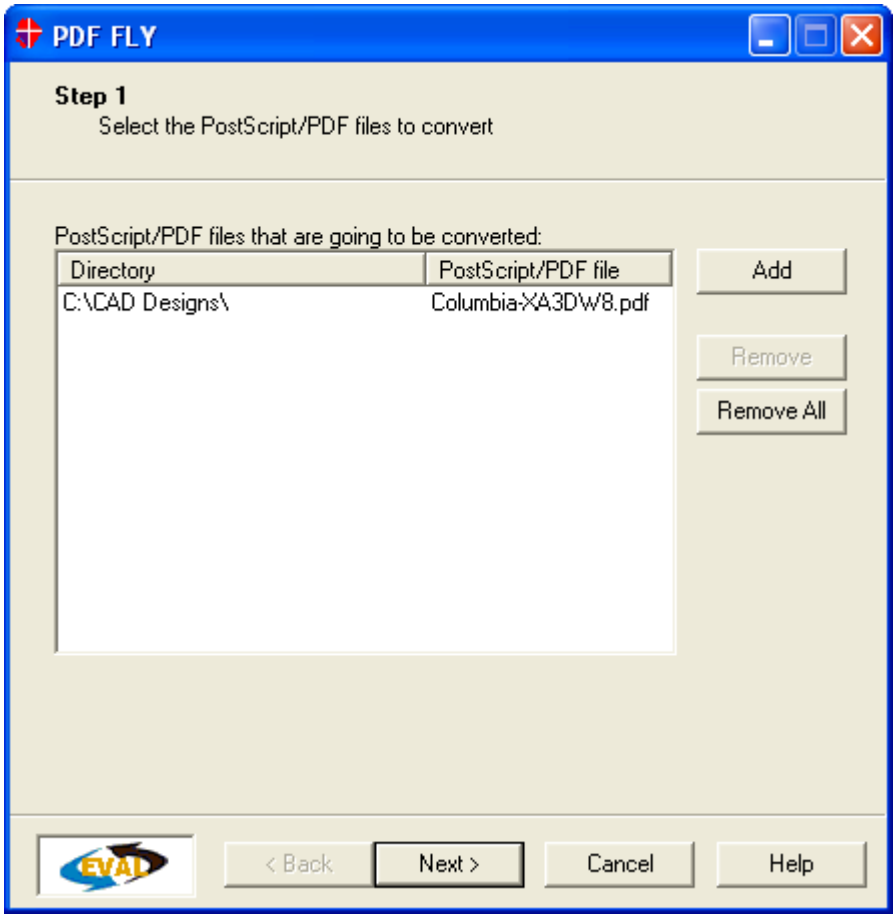
At any time, you can manage the files in this dialog using the following features:

- Add - **Click to view the file manager to select additional files**
- Remove - **Select a file or set of files (Ctrl-Click) to be removed from the dialog**
- Remove All - **Click to remove all files**
- Sort - **Sort Selection alphabetically by either directory or file name**
- Directory - **Shows all files planned for conversion by Directory**
- File Name - **Shows all files planned for conversion by File Name**
- Back - **Backs up to the former dialog**
- Next - **Confirms selection and moves ahead to the next dialog**
- Cancel - **Cancels conversion process**
- Help - **Displays on-line help system for your assistance**

Adding Files

PDF FLY provides a standard and intuitive way to browse your network for files you wish to convert:

- **Click on the** Add Files **button. The File Manager dialog will be opened.**
- **Browse for the files you want to convert using the familiar Windows file manager.**
- **By default, the software is set to display all PostScript and PDF files (*.ps, .eps, .pdf) within a directory. If you want TGC to display only PDF Files (.pdf) or just PostScript Files (.ps, .eps, .prn), change the** Files of type **setting accordingly. You can also chose All files (.) or specifiy an extension.**
- **Select the file(s) you want to convert, then click the** Add **button.**
- **Once you are satisfied, click** Next



Tip

Set **Files of type** to All files (*.*) if you have PostScript/PDF files with no extension or a different extension. Assuming they are valid input, the extension does not matter – ***PDF FLY*** will accept them when added.

WARNING
If you try to add a file that is not a valid PostScript/PDF file, *PDF FLY* will give an error-message *'Some or all of the files you tried to add are not PostScript/PDF files'*. Check your files to ensure that they are valid input files. See *How to create PostScript Files* for more information.

Sorting files and/or the directories

If you are selecting many files for conversion, you can sort your selection for easier viewing. This can be accomplished by clicking on the column heading in the Conversion dialog box:

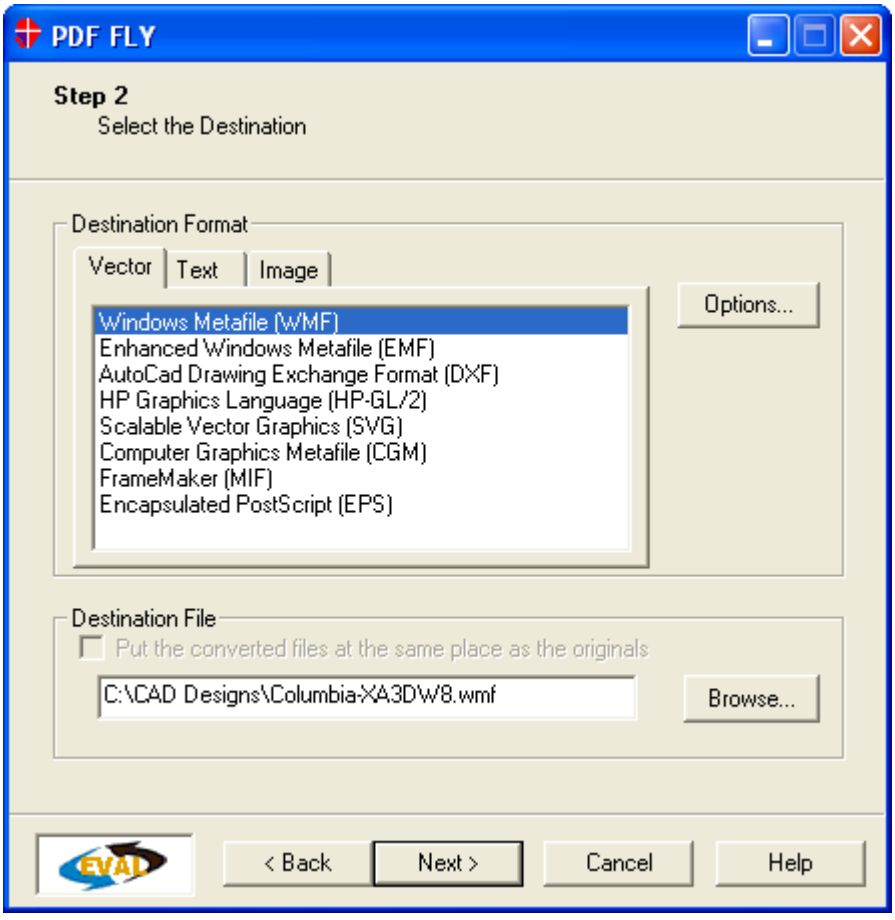
- Directory - **sorts by directory name and then file name**
- File Name - **sorts by file name independent of directory location**

Tip
The column width in this dialogue box may be adjusted by selecting the separator and changing the position while holding the mouse button down. When the desired position is reached, release the mouse.

Step 2: Enter the destination information

Select the Destination

Once you have chosen all of the files you wish to convert, you must indicate which format you want them converted into.



Click on the **Vector**, **Text** or **Image** tabs to review the choices

Select the format you want the files to be converted into

Choose any conversion options which you want to use when converting the files

Indicate the destination directory in which you want the files to be placed once converted

Next when you are satisfied with your choices

Selecting the Target Format

Choose your destination format. ***PDF FLY*** allows you to choose between many different formats. For more information on these, please refer to Chapter 1. Currently supported formats are:

- Vector **- WMF, EMF, MIF, CGM, SVG, HPGL, EPS, DXF**
- Image **– TIFF, GIF, JPEG, PNG**
- Text **- ASCII**

Note

You can select only one output format per conversion. If you want to output your files into a few different formats, you'll need to run the conversion once for each different target format.

Setting the Destination Directory

There are three ways of setting the destination directory in which the converted files will be stored:

Default

By default the destination directory is the same directory of the source files. *PDF FLY* will create a new file with the original name and a new extension indicating the output format. If you want to save the converted file in the same directory of the source file, click on the *Next button*.

Browse

You can browse your file system to select the directory you want the converted file to be stored. When you find the appropriate directory, click on the *Select button*. *PDF FLY* will display the path of the destination directory. Click on the *Next button* to continue.

New Directory

Single file conversion

You can create a new directory in which the converted files will be stored. Simply type in the complete path, including the correct filename and extension, for example C:\test\example.wmf. Click on the Next button. Windows will warn you that this directory does not exist and ask you if it should create it. Confirm this by clicking on the Yes button. Just typing c:\test will create a file named 'test' (note: without extension) in the root directory.

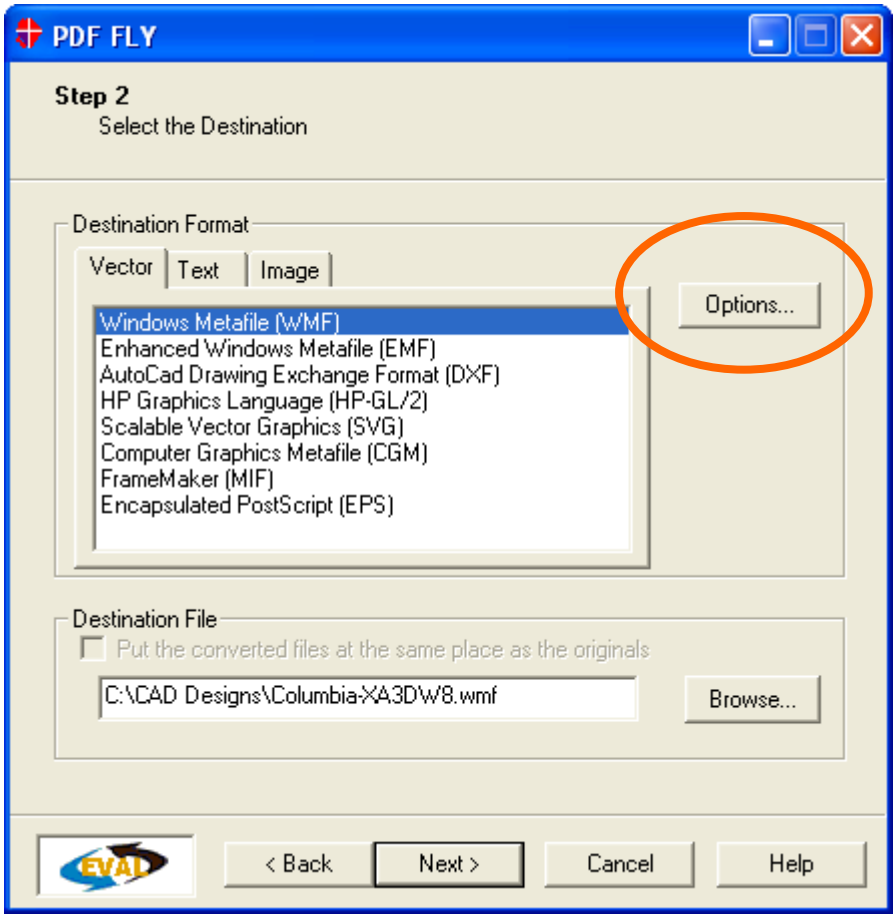
Several files or multiple directory conversion

When converting more than one file or complete directories, you can make a new directory by just typing the name of the directory in which you want the converted files stored. For example c:\results. Click on the Next button. Windows will warn you that this directory does not exist and ask you if it should create it. Confirm this by clicking on the Yes button.

Conversion Option

Summary of Intelligent Filter Options

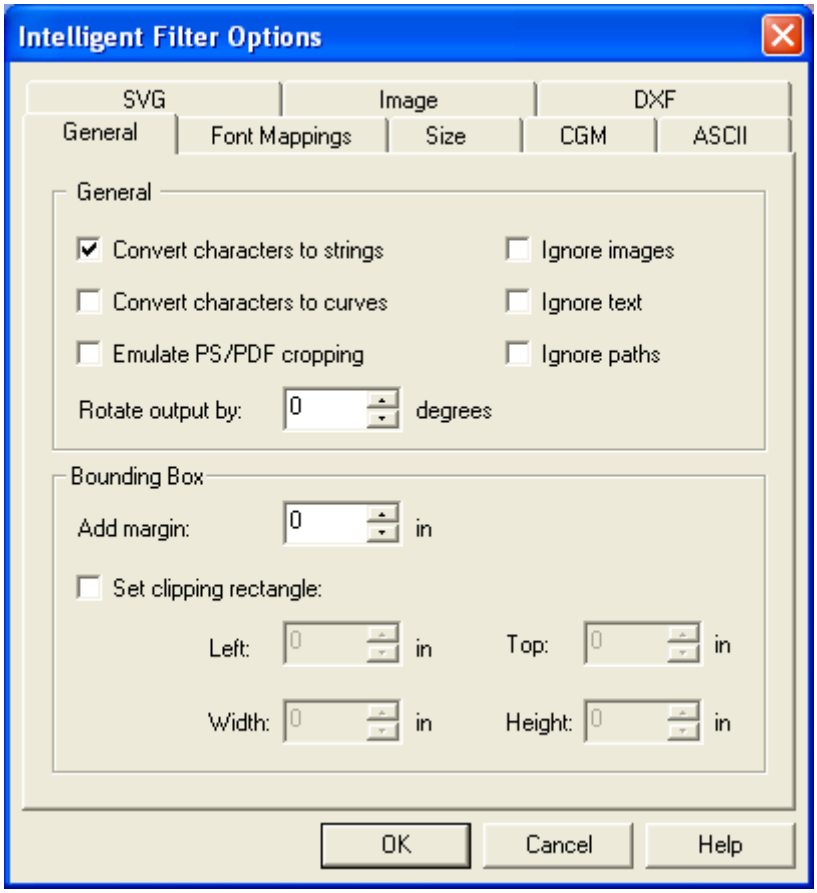
One of the unique features of ***PDF FLY*** is that it allows you to select options to fine-tune the conversion process. These options differ from format to format and may include:



- **General Options which apply to all destination formats**
- **Font Mappings which allow you to specify a font substitution during the conversion**
- **Size Options allow you to specify whether a converted file is generated as discreet object (anchored frame) or as a user-definable single page.**
- **Format Specific Options allow you to specify parameters which are specific to the destination format only**

Summary of Conversion Options

The General Options apply to any of the destination formats and include:



- Convert characters to strings **– When checked, combines text characters into one-line text which are fully editable in the target application. Recommended.**
- Convert characters to curves **– When checked, characters will be converted into Bezier curves (vector formats only). Also known as outlining, this feature ensures WYSIWYG rendering in the target application even if the used fonts are not available.**
- Emulate PS/PDF cropping **– PostScript and PDF support cropping features that several vector output formats do not. When checked,** *PDF FLY* **will attempt to intelligently recreate the cropping in the original file using the format-specific features available in the target format.**
- Ignore images **– When checked, raster images in the source file are not included in the output file.**
- Ignore text **– When checked, font text strings in the source file are not included in the output file.**
- Ignore paths **– When checked, vector graphics in the source files are not included in the output file.**
- Rotate output by [0] degrees **– Set to 90 to rotate output clockwise by 90 degrees, -90 for counterclockwise, 180 for upside down, or any other angle desired.**

- Add margin [0] **– Increases the bounding box around the objects in the file by specified measure (metric or inches determined by your operating systems settings) to add white space around the object.**
- Set clipping rectangle **– When applied, converts only the objects within that clipping rectangle.**

Using Font Mappings

Using Font Mappings, you can substitute a new font for the one specified in the original file. To specify a mapping:

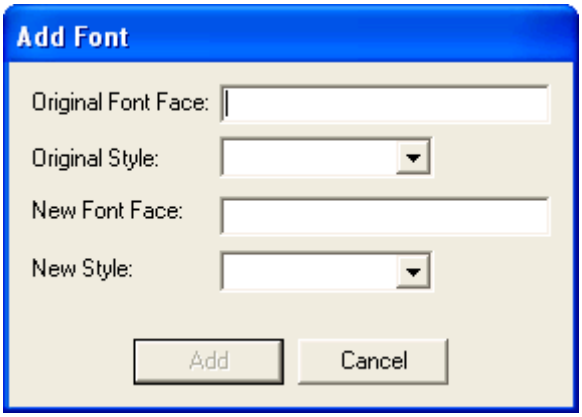
Click on Font Mappings

Choose Add Mapping to define a new font mapping or Modify Mapping to change an existing mapping.

Specify the original font and indicate style (always specify “Normal”)

Specify the new substitution with desired style, Click Add to confirm

Select the mapping you wish to apply and click OK

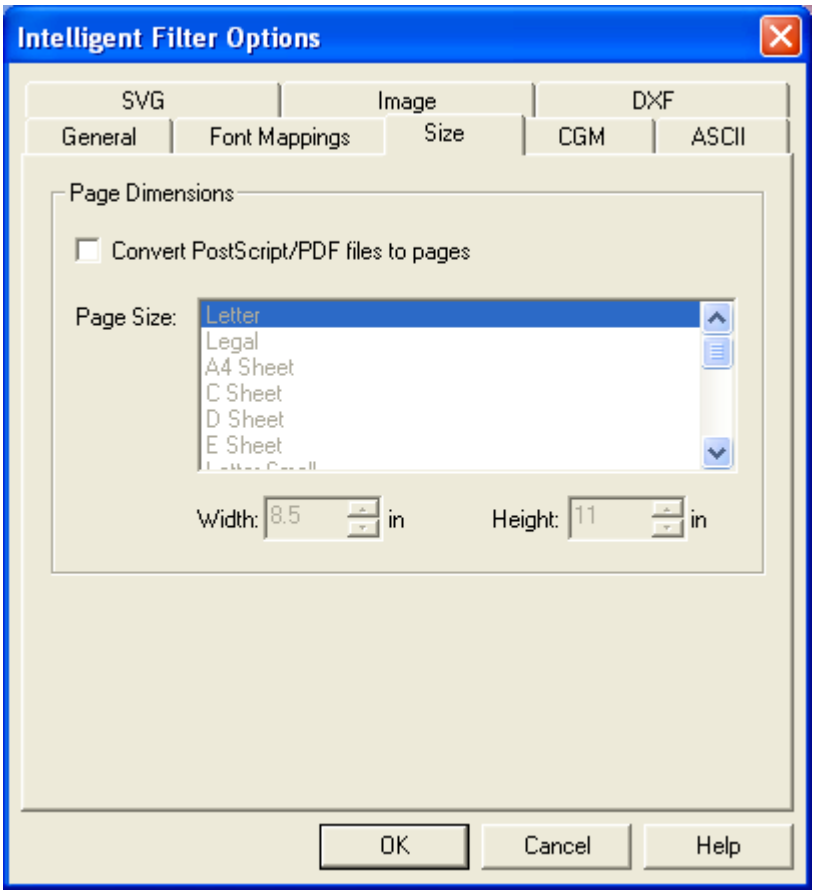


NOTE
You must specify the font name to be substituted with the syntax exactly as it appears in the PostScript/PDF file. For help with font mappings, contact support@visual-integrity.com and send along a sample file containing the fonts to be substituted.

Size Options

The Size options apply to all formats and include settings for:

Page Size -Specify the size of the resulting file. Many standard page sizes are offered or you can create a custom size. This option does not scale the drawing to the chosen size; it places it on a page of the defined size. Normally, TGC will created an anchored frame when converting files. The automatic option only works with PDF files and will reproduce the page size of the PDF original.



Format Specific Options

Overview of Format Specific Options

The Format Specific Options are advanced options that apply only to certain formats. The formats that include special Intelligent Filter Options are:

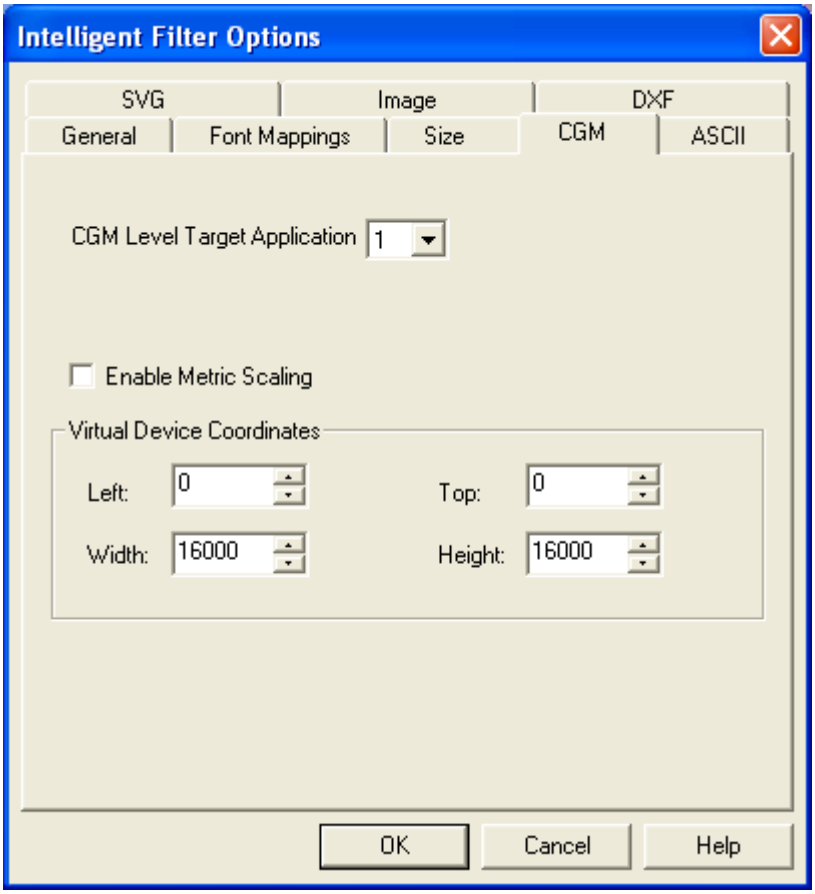
- CGM **– option to specify CGM Level 1-4, use Metric Scaling and to set Virtual Device Coordinates (VDC).**
- SVG **– option to choose target SVG parser with appropriate scaling as well as whether bitmap images are embedded or referenced.**
- ASCII **– specialized filter parameters to optimize horizontal and vertical positioning of text strings in ASCII output**
- DXF **– options to Keep, Outline or Remove files/hatches; to represent dashed line styles as segments; to set a minimal line width.**
-

CGM Filter Options

CGM Level Target Application – Sets the CGM output to the level expected by the target application. Support is included for levels 1, 2, 3 and 4.

Enable Metric Scaling – When metric scaling is turned on, the source picture size will be preserved. If not selected, the picture size will be determined by the target application (may scale to fit page, etc). For a true WYSIWYG conversion, metric scaling should be enabled.

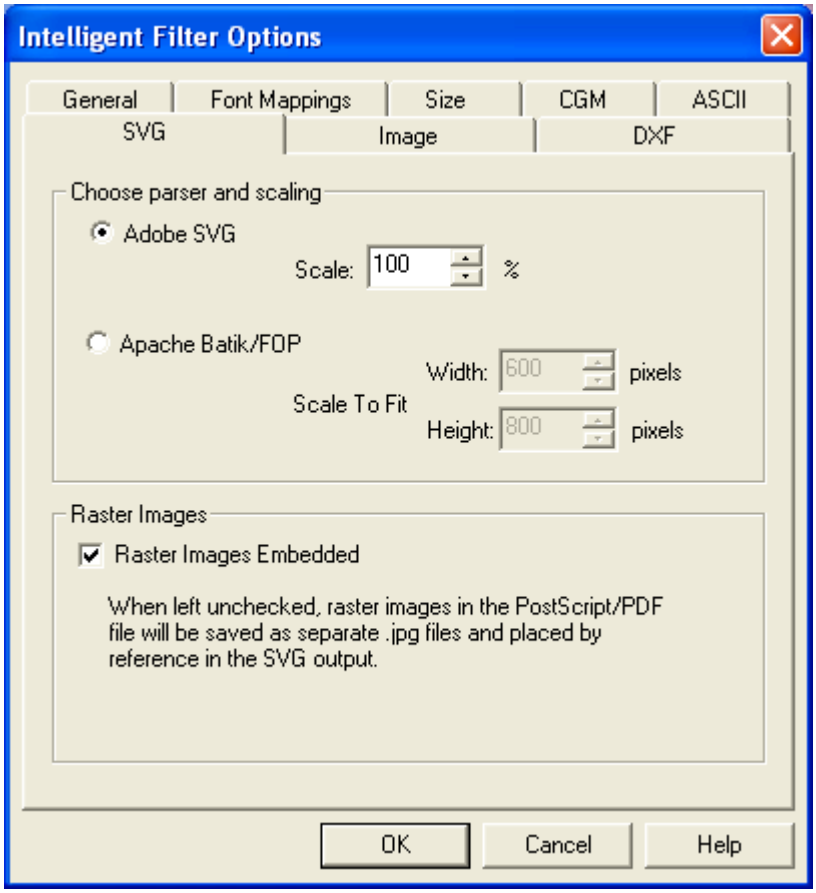
Virtual Device Coordinates - Virtual Device Coordinates (VDC) can be set which are then scaled to the display device (CGM only)



SVG Filter Options

Set Parser and Scaling - Adobe SVG scaling must be set in percentages and SVG destined for the Apache Batik/FOP parser must be set in pixels. If you prefer to set your scaling in pixels, choose Apache Batik/FOP and the pixel settings required. The file will display without problems in the Adobe SVG Viewer.

Raster Images – Raster images are referenced by default. If you want to include them in the SVG file, this item must be checked.



ASCII Filter Options

Decrease Pointsize – Decreases the font size of all text strings in a file by X points during calculation of placement in ASCII output.

Absolute Pointsize – Sets a pointsize of X points for all text strings in a file during calculation of placement in ASCII output.

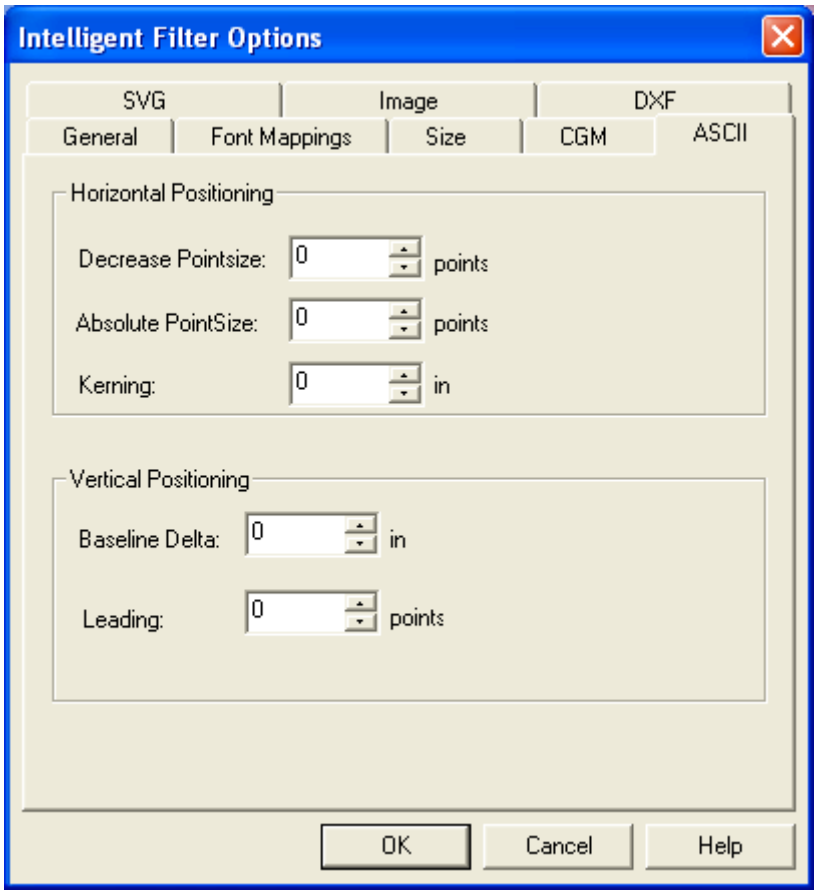
Kerning – Decreases spacing between characters by X mm (metric) or inches during calculation of placement in ASCII output.

Baseline Delta – The baseline delta determines how text is combined on one line or generated as separate lines based on its original baseline position. For example, if the baseline delta is zero, only the characters which have the same baseline would be combined into one line. Because many programs, especially forms programs, may not align text in an exact row, a baseline delta of up to 5mm or .2-inches is common to ensure the text of a complete, logical row is converted into one line.

Leading – Determines unit of vertical distance between text strings for white line(s) to be inserted in ASCII output.

TIP

Pages vary widely in the size and placement of text strings. These characteristics affect the ASCII output produced by the conversion. To optimize the results for any given print stream, a number of filter parameters must be finetuned. Please contact support@visual-integrity.com to determine the best possible settings for your files.

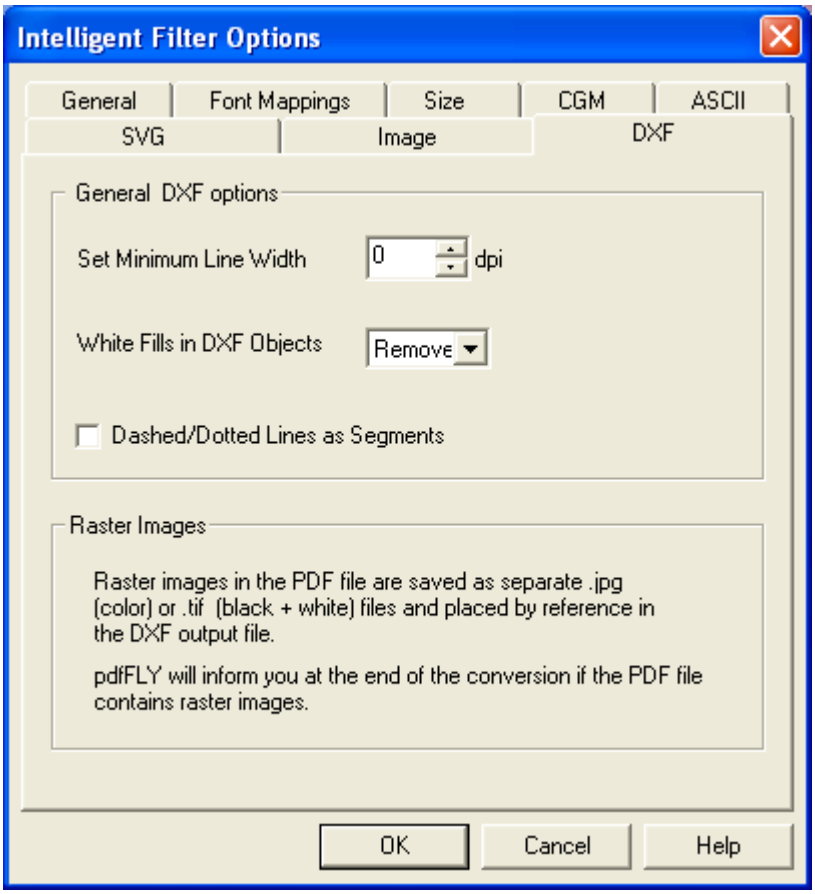


DXF Filter Options

PDF FLY gives you control over your DXF output in several ways:

- **Set Minimum Line Width**
- **White Fills in DXF**

Set Minimum Line Width - Establishes minimum line width for all objects (Default: 0)
A minimum line width should be defined when lines in the PDF file are so thin that they do not render on screen or when zoomed in the DXF file. Setting this option to a certain minimum ensures that all vector geometry defined in the DXF conversion will have a line width of at least that value. This option is measured in either millimeters or inches depending on the Windows system settings.



White Fills in DXF - Keep, outline or remove white fills (Default: Remove)
PDF supports the overlay of objects. This is not the case in DXF, where such filled shapes always render white and on top of any other objects that share any of the same coordinates. This unfortunately blocks other objects from view. In addition, some systems, such as a CNC cutter, may not be able to use artwork that is delivered using filled shapes. In these cases, *PDF FLY* can be set to *Keep* filled objects so that they are produced in the DXF output, *Remove* filled objects completely from the DXF output or *Outline* filled objects so that the object renders in the DXF without a fill.

Dashed/Dotted Lines As Segments - Converts dashed and dotted lines into individual line segments (Default: off)
Engineering drawings use different line styles that have different meanings associated with them. Both PDF and DXF support a number of them. Unfortunately, their definitions do not always match. *PDF FLY* attempts to map PDF line styles to their DXF equivalent as well as possible.

Choosing Dashed/Dotted Lines As Segments will break dashed/dotted lines into individual line segments. Note that it will be harder to edit these lines in your CAD environment since the segments are no longer connected.

Note: if your line styles do not map correctly and you need them reproduced as complete lines in DXF using the same style, please send a sample PDF file with those line styles to us at support@visual-integrity.com.

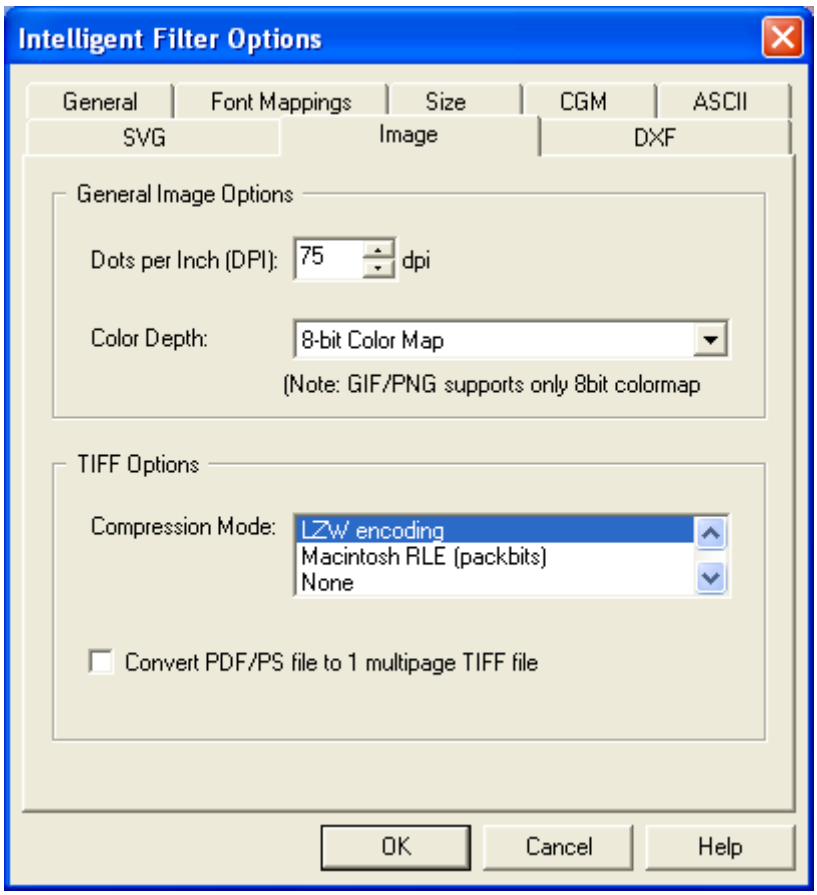
Image Options

Dots per Inch (DPI): This option controls the resolution of the resulting image file. The default is 72dpi which is ideal for graphics destined for Web-site or screen display. For print purposes, a higher resolution such as 150 or 300 dpi should be chosen.

Color Depth: Color depth defines how many colors are used to generate the resulting file. The default color map is 8-bit. Other options include 1-bit (Black & White) and 24-bit (True Color)

Compression Mode (TIFF Only): When generating a TIFF file, you can choose the type of compression used. The default is LZW encoding.

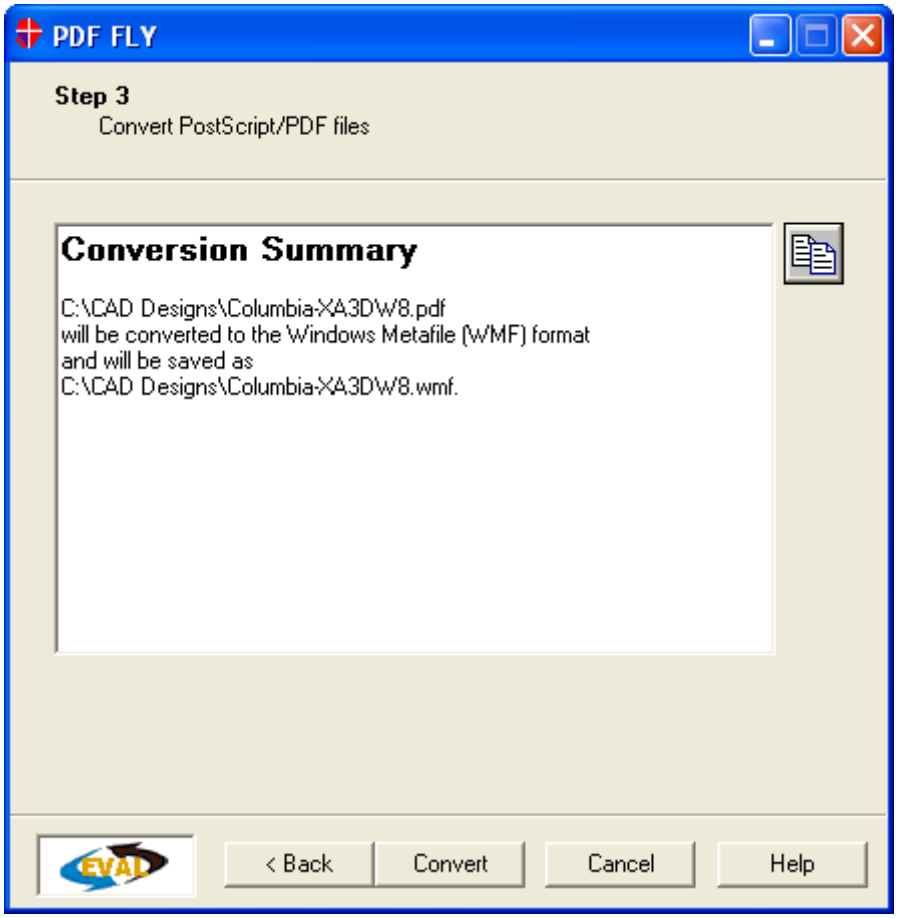
Convert PDF/PS files to 1 Multipage TIFF file: By default, ***PDF FLY*** will generate a separate file corresponding to each page of the original file. If this option is selected, a single file including all pages will be generated.



Step 3. Convert Files

Converting Selected Documents

Once you have selected the output format and conversion options, ***PDF FLY*** will give you a summary of your request. It lists the files to be converted and the selected output format. If you want to make any changes, click on the **Back** button as many times as necessary. By doing this, you are able for example to add more files or to change the output format.



If you do not want to change anything, click on the **Convert** button. ***PDF FLY*** will convert the listed files to the output format. When the conversion is finished, you should see the converted files in the directory you specified in Step 2: Enter the destination information.

Irregularities During Conversion

If ***PDF FLY*** encounters any irregularities during conversion, a warning message will be logged. These warnings will alert you to font incompatibilities as well as inform you how bitmap images were handled during conversion. Errors, if any, will also be summarized the Conversion Report. The location of this log file can be configured. Click on the *Details* button to review the report.

Warning
If ***PDF FLY*** reports a “Warning”, the file has one or more embedded raster images (possibly the

whole drawing) and/or unknown fonts. To make sure that the text in your output has the same fonts and styles as the PDF/PS original, you may need to add some font mappings for ***PDF FLY*** to apply during conversion and then run the file again. More information, such as the names of the unknown fonts, can be found in the Conversion Report.

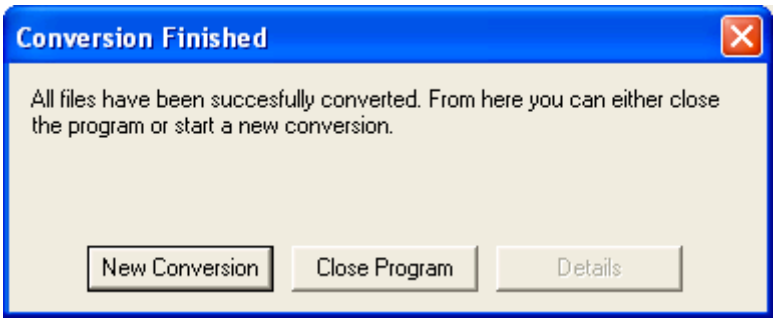
Error
If ***PDF FLY*** reports an "Error", it found something in a specific PDF/PS file that it could not handle. It will typically say "Error: Syntax error found in PDF/PS file." That may be an error in the PDF/PS file itself or a problem with our software. If the file opens and renders without problems in your version of Acrobat (Reader or Distiller), please send it to support@visual-integrity.com for analysis.

Crash
Should ***PDF FLY*** exit during conversion or produce a Windows error message before shutting down, please let us know and send the file you were trying to convert when the problem occurred to support@visual-integrity.com.

Step 4: Another conversion

Finishing the Conversion Process

At this point, your conversion is finished and you have the option to either **Close Program** or start a **New Conversion**. If you choose 'Another Conversion' button. ***PDF FLY*** will automatically go back to Step 1: Enter the Source information.



Once you have finished troubleshooting, you can choose to either perform another conversion or close ***PDF FLY***.

Step 5: Closing PDF FLY

Exiting PDF FLY

After finishing your conversion, you can close ***PDF FLY*** by clicking on the **Close Program** button.

Prior to or during a conversion, you can exit ***PDF FLY*** by pressing the **Cancel** button that will close ***PDF FLY***.

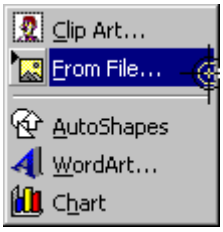
Working with the resulting files

How to Work with Converted Files

Depending on the output format you selected, you can insert or import the file into your documentation, publishing, authoring or data management application. The methods for doing this vary from application to application. In most cases, the formats generated by ***PDF FLY*** are considered “picture” files and must be imported or inserted into a document.

Use of WMF & EMF files in MS Office

To use WMF & EMF files in Microsoft Word or PowerPoint, you must either create a new document or open an existing document in which you want to insert the graphic.



- **Choose Picture – From File**
- **Choose the file you want to insert from the File Manager.**
- **The graphic will be placed in the document just below the caret position. Use Format Picture to apply any attributes for wrapping, size and position.**
- **You can edit the graphic by double clicking on it.**

About WMF & EMF

The Windows Metafile Format (WMF) is the original 16-bit native vector file format for the Microsoft Windows operating environment. The Enhanced Metafile Format (EMF) is a newer native Windows 32-bit metafile. EMF files have extended functionality including a color palette and full support for all 32-bit GDI commands. The Win32 API (Windows 95 and Windows NT) and 32-bit OLE support both WMF and EMF files. Windows 3.x and 16-bit OLE only support WMF files.

> **TIP**
> Although EMF was designed as an enhanced metafile format for the latest 32-bit Windows operating systems, many applications still support WMF by default. Choose WMF if you cannot get EMF to render correctly in your target application.

Use of MIF files in Framemaker

MIF (Maker Interchange Format) is a group of ASCII statements that create an easily parsed, readable file representing all the text, graphics, formatting, and layout constructs that Adobe FrameMaker understands. Because MIF is an alternative representation of a Frame document, it allows Frame products and other applications to exchange information while preserving graphics, document content, and format.

When generating the MIF file ***PDF FLY*** creates either a one page MIF file or a MIF file containing an anchored frame. For each object parsed in the PostScript file, it generates an equivalent MIF object.

Using the anchored frame option, the MIF file can be inserted at any position in the textstream of a FrameMaker document.

NOTE: A utility to bind multiple MIF pages together into a book as part of your conversion process is available. Contact support@visual-integrity.com for details.

Use of SVG Files

SVG is the XML standard for vector graphics on the Web. Companies generally use it either to deliver graphically rich content directly to their users' desktop or mobile browsers, or to deliver content into their XML publishing and data management environments. SVG content can be interactive, dynamic and animated.

You can significantly decrease SVG file sizes by compressing them. This is easily achieved by adding **gZip** to the batch process (see http://www.gzip.org/), thus creating .svgz files. SVG implementations are required to be able to read .svgz files without the user having to decompress the file first. Using gZip saves bandwidth without loss of quality, making for a smoother user experience.

Currently, the leading plug-in to view SVG files is the free Adobe SVG Viewer which can be used with most major Web browsers including Internet Explorer and Netscape Navigator. It auto-installs with Acrobat Reader and you can download it from http://www.adobe.com/svg/viewer/install/main.html. Distribution of the Adobe SVG Viewer (currently at version 3) is widespread. Other browser implementations are also available.

For more information about the SVG format and SVG applications, please visit the official W3C pages at http://www.w3.org/Graphics/SVG/Overview.htm8

Using DXF

DXF is a CAD interchange format and most popular CAD applications support it as an import option via "load", "open" or "import". With the DXF files generated by ***PDF FLY***, you can:

- **Make modifications in AutoCAD**
- **Overlay other GIS information in Microstation**
- **View in, or plot from, your favorite CAD system**
- **Feed into your CNC software**

- **Merge with other project drawings**
- **Test, measure, change, add, delete**
-

DXF Files with Bitmap Images – In order for the DXF to render any referenced raster images, the corresponding TIFF and/or JPEG files need to be in the same directory as the DXF file.

Fonts in DXF – In order for fonts to be displayed properly, they must be available on the target system. If they are not, an automatic substitution will be made in favor of the closest available font.

Adjusting Lines - Line types in PDF and PostScript are often handled differently than those that are defined in a CAD application. This is due to file format differences. For example, PDF and PostScript represent circles and ellipses using splines or polyline segments, text may be composed of curves and fills may have been used to simulate cropping. ***PDF FLY*** can in many cases compensate for these differences using Intelligent filter options. In many cases, a little manual clean-up may be required to adapt the vector geometry to your CAD system.

WARNING:
Inaccuracies in X/Y measurements may have been introduced during the creation of the PDF or PostScript file that you are converting to DXF. Visual Integrity is not responsible for the accuracy of the designs or other derivatives that you create using the DXF output of ***PDF FLY***. Our software reproduces the vector geometry from the source file as accurately as possible. It is up to the end user to make sure that the resulting CAD file meets their engineering requirements.

Appendix 1: Batch Mode

Appendix 1: Instructions for Batch Use

Your installation of ***PDF FLY*** for Windows includes the complete set of batch configuration tools in a disabled mode. If you are interested in using this powerful functionality to automate conversion of files, you may upgrade your license to a Production License at any time.

These batch tools enable you to programmatically automate a conversion process via the command line – for example by having it watch a hot folder for incoming new PostScript/PDF files.

Intelligent Filter options should be set in the corresponding .ini file (pdf2xxx.ini or ps2xxx.ini). In order to run the batch version you must add the installation path to the search path (%path%) of your Windows machine. The syntax that the converter expects is as follows:

PostScript Input: *ps2xxx source destination*
PDF Input: *ps2xxx source destination*

Example*:* **pdf2xxx** foo.pdf foo.png

source - Specifies the PostScript or PDF files to convert.

destination - Specifies the name of the output file.

The **xxx** should be replaced with the code for the output format you require from the list below:

- wmf - **Windows Metafile (WMF)**
- emf - **Enhanced Windows Metafile (EMF)**
- mif - **FrameMaker (MIF)**
- eps – **Encapsulated PostScript (EPS)**
- cgm - **Computer Graphics Metafile (CGM)**
- hpgl – **HP Graphics Language**
- txt – **formatted ASCII text**
- dxf – **CAD interchange format**
- svg – **Scalable vector graphic for the Web and XML**
- gif – **Graphics Interchange Format**
- jpg – **JPEG Format**
- png- **Portable Network Graphic**
- tiff – **Tagged Interchange File Format**

Appendix 2: WMF Viewer

Appendix 2: WMF Viewer

A free Windows Metafile Viewer is bundled with ***PDF FLY*** for Windows. The viewer can be used in combination with the WMF and EMF output filters, but also can be used to view any Enhanced Metafile or Windows Metafile files on your system. It's offered free as an example of how you could use the SDK to add viewing and printing of PostScript/PDF files to your Windows application. For more information on our products for developers, please email info@visual-integrity.com.

The viewer can be invoked by selecting the Metafile Viewer option under the SubMenu "***PDF FLY***" of the Windows Start Menu, or by using the shortcut on your PC desktop.

Main Features of the WMF Viewer

The WMF Viewer is a handy, free utility that can be used to view any WMF file on your system. The main features include:

- **View both types of Windows Metafiles: WMF and EMF**
- **Preview files on a page (page dimensions are retrieved from the current printer setup)**
- **Align Metafiles to top/middle/bottom and left/center/right -side of the page**
- **Zoom in/out from a page in the range of 10% ... 1000%**
- **Zoom to a specified point in the file**
- **Preview and/or Print the Metafile**
- **Scales the Metafile by changing paper-size or orientation**

Appendix 3: Font Handling

Font Handling

Text can be stored in PostScript/PDF files in three different ways. The following table outlines how it will be stored in the various vector graphics output formats supported by ***PDF FLY***:

Text in original PostScript/PDF file:	**Text in output as:**
Font text	Fonts (default), Curves (option)
Vector text (curves)	Curves
Image text	Images

For text to be 'live' (e.g. editable, selectable, searchable) in the output file, it needs to be 'live' in the PostScript/PDF source file. This depends on what the source application generates and/or the printer driver settings. This appendix offers some general tips and explanations for how to handle fonts when using our software.

Generating PostScript/PDF from your source application

Standard PostScript fonts are generally not embedded in PostScript/PDF files and do not need to be. Both PS printers and ***PDF FLY*** software support them natively. Examples of PostScript fonts are Times Roman, Courier and Helvetica.

Type 1 and TrueType fonts should be embedded in the PostScript/PDF source file, rather than being referenced, substituted, outlined or imageped.

If you cannot embed fonts, try to make sure that your files use fonts that are available on the system, so the application or printer driver can reference them.

Fonts with non-standard character encodings should be avoided.

Note that some applications, for example several CAD and EDA systems, will always represent text as vectors in the output, to ensure reliable WYSIWYG rendering.

Font handling by *PDF FLY*

PDF FLY supports PostScript fonts. Non-PostScript font names will be passed through to the output file as referenced fonts, which then rely on the target system for correct rendering. In cases where the font name in the source file does not match another known font, custom font mappings can be added via the user interface or by Visual Integrity engineers.

If you have any questions regarding font handling or need help with any part of the above process, please contact support@visual-integrity.com

Appendix4: Troubleshooting

Appendix 4: Installation Troubleshooting

Message: "The Space Required For Installation is Not Sufficient"
Solution: Delete some unnecessary programs and/or files from your hard drive ensuring more than 20MB free and try the installation procedure again.

Message: "Some or all of the files that you tried to add were not PostScript/PDF files."
Solution: The documents you tried to convert were not valid PostScript or PDF files. Please refer to the 'How to create Postscript documents' section for more help about creating Postscript documents. If you are using a HP LaserJet with Postscript support, please make sure you are not using the PCL support to create the files.

TIP
EPS files created from Mac applications can have a image preview in front of the actual PostScript code, causing **PDF FLY** to not recognize it as a valid PostScript file. In such cases, simply open the EPS in Notepad and delete all the raster image code from the file. The actual PostScript code should start with %!PS-Adobe-3.0. To avoid this, save your files as PostScript or as EPS without preview.

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