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PDF Driver® On Line Guide

Using PDF Driver

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Customizing Document Info

See Also: *Tips for Compatibility*

PDF Driver Control Interface

PDF Driver Limitations

DocuCom PDF Since 1995

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Using PDF Driver

You can use “DocuCom PDF Driver” to generate PDF files directly from Microsoft Windows (95, 98, or NT) applications, with powerful and unique features – such as **Watermarking**, **Font Embedding**, and **Customizing Document Info**.

- Use any Windows application to create your original document.
- Execute the “Print” command from the application to create PDF directly.

Powerful (unique) features

- ☑ Compressing PDF contents to reduce document size. See **Compression Tab**.
- ☑ Including fonts (embedding fonts) in PDF documents. See **Font Embedding Tab**.
- ☑ Printing watermarks on document pages. See **Watermark Tab** for more information.

- ☑ Adding customized “Document Info”. See *Customizing Document Info*.

Creating PDF documents

After completing your original document, simply “**Print**” a PDF file from your application using “DocuCom PDF Driver”. Optionally, you can **modify PDF Driver’s behavior**.

1. Execute “File > Print” command.
2. Choose “DocuCom PDF Driver” from the Printer name” menu and click OK.
3. Enter the target PDF file name.
4. Select **View PDF File** option to view the PDF file right after creation.
5. Click **Edit Document Info** button to enter Title, Subject, Author, and Keywords.
6. Click “OK” to create the PDF file.

Modifying PDF Driver Behavior

1. Open document in your application, then execute “File>Print” (Printer Setup in some applications) command.
2. Choose DocuCom PDF Driver from the Printer menu, and click the Properties (or Setup in some applications) button.

Optionally, use “/Startup/Settings/Printer” command to list all installed printers. Then click “DocuCom PDF Driver” icon and press right button to display PDF Driver Properties dialog box.

PDF Driver Property dialog box

Includes following tabs:

General Tab: Specify page setup, resolution, scale, optimization, and other general information for DocuCom PDF Driver.

Compression Tab: Choose appropriate compression options to reduce the size of PDF document.

Font Embed Tab: Select True Type fonts to be embedded in PDF document.

Watermark Tab: Create and/or edit watermarks to be included in PDF document.

Help, About: Click to display PDF Driver Online Guide or Copyright notice.

See **Tips for compatibility** for more information.

General Tab

Page Layout

PDF Driver supports many standard and custom page sizes in portrait or landscape layout. The default size is A4 -- 8 1/2-by-11 inches. Page size allowed in a PDF file is:

1-by-1 inch < page size < 45-by-45 inches

Steps to setup size and orientation:

1. Open the document in your application.
2. Execute “**File>Print** (Printer Setup in some applications)” command
3. Choose DocuCom PDF Driver from the Printer menu, and click the **Properties** (or Setup in some applications) button.
4. Check “**Portrait**” or “**Landscape**” to change the page orientation.

5. Choose page size from the menu. If **Custom size** is selected, you can enter the page dimensions and margins directly.

Resolution

Select a resolution – one of Screen, Low(150dpi), Medium(300dpi), High(600dpi), or Precision (1200dpi), to be used to create PDF document. This setting influences **character spacing**, **line breaks**, and **image quality**. Usually, higher resolution produces more accurate layout -- possibly with bigger file size.

For example: MS Excel may wrongly break lines or even pages when you choose a lower resolution, such as Screen or 150dpi.

Character positioning



Screen-300dpi → Average Character Spacing: When choosing resolution below (include) 300dpi, PDF Driver try to

set whole line of characters by evenly distribute (or subtract) spacing between them, if necessary, without considering the exact position of each individual character. (Because in lower resolution, fewer pixels can be used to compute the required precision.)



600dpi and higher → Precision Character Positioning: For resolution above 600dpi (include), PDF Driver accurately position each character requested by application program.

Graphics and Image

Windows uses the Resolution setting to prepare graphics or image data. For example, WordArt will generate more detailed (larger) image data to match the higher resolution you picked.

Important: Low resolution is ideal for screen viewing. However, if high-quality paper print, or the accurate control of character position is required, you should choose resolution above (include) 600dpi.

Scale

Enter the zoom factor to enlarge or reduce page contents. Acceptable values are between 25% to 400% -- default is 100%.

Note: Avoid choosing 1200 or higher resolution together with large Scale factor, such as 400%. Otherwise, PDF Driver may wrongly calculate integer numbers (overflow) and PDF pages become blank. Just choose a lower resolution or smaller Scale factor to remove this problem.

Optimize ONLY for MS Office

Choose this option to improve the quality of graphics generated by MS Office programs. (By doing so, PDF Driver asks MS Office to send more accurate graphics data.)

IMPORTANT: If you can not get correct results, try to de-select this option and print again. Sometimes, choosing "Optimize Only for MS Office" may give you totally blank pages in applications other than MS Office.

Compression Tab

One major benefit of using PDF documents is the greatly reduced file size comparing with other formats. This is a key factor for electronic distribution.

Compressing PDF documents

DocuCom PDF creation tools allow you to compress images (bitmaps), text, and graphics (line art) using **compression methods**, and **Re-sampling** feature provides a further reduction to very large or high-resolution images.

Since the effectiveness of compression is highly data dependent. For the best result, you might want to try different compression setting for different kind of data sources.

Compression Options

Compression Issues

Compression Options

Click the “**Default Settings**” button in the Compression Tab, brings you following settings:

- Compress text and graphics using **ZIP**.
- Automatically choose either ZIP (for sharp color change) or JPEG Medium (for smooth color change) method to **compress color and grayscale images**.
- Compress monochrome images with the **CCITT Group 4**.
- Do not **Down sampling** any image.

Steps to compress PDF

1. Execute “File>Print (or Printer Setup)” and choose “DocuCom PDF Driver” from the Printer menu, click Properties.
2. Click “**Compression Tab**”.
3. Select or De-select **Compress Text and**

Graphics option.

4. Choose (use) compression methods from the pull-down menu for each image type (Color, Gray, and Monochrome).
5. Select (use) or Deselect (not to use) **re-sampling method** for each image type; choose either Down-sampling or Sub-sampling from the pull-down menu; then enter the minimum resolution for re-sampling.
6. Click Default to restore the **default value**.
7. Click OK to accept the settings.

See **Compression Issue** for detail discussion of each compression option.

Font Embedding Tab

Embedding Fonts

You may include TrueType fonts inside PDF documents using DocuCom PDF Driver.

Sending PDF documents together with fonts **promises the same document layout and appearance** at reader side, regardless of whether necessary fonts are installed in readers' computer.

Select font **Sub-setting** option to include only those characters of a font that are used in the PDF document, to reduce document size.

Note: Sub-setting is always true when embedding DBCS fonts.

Steps to embed fonts

Font Issue

Steps to embed fonts

DocuCom PDF Driver supports the embedding of any TrueType font installed in Windows -- **except fonts that do not allow embedding**. Usually, all display-face fonts are embedded to avoid font substitution.

1. Execute "File>Print (or Printer Setup)", and choose DocuCom PDF Driver from the Printer menu, click Properties (or Setup) and click Font Embed tab:

Available options

- ☒ **Embed all fonts:** Choose "Embed All Fonts" check box to embed all fonts used in a document. Always embed list will be disabled if this option is checked.
- ☒ **Embed specific fonts:** select specific fonts -- that you want to embed, in the Available Font list and click ">>" to be included in **Always Embed** list.
- ☒ **Embed all but specific fonts:** select Embed All Fonts first, then select fonts (in

the Available Font list) -- that do not require embedding, and click ">>" to be included in **Never Embed** list.

Click the "<<" or ">>" buttons to Add or Remove fonts in the Always Embed or Never Embed list.

- ☑ **Subset fonts:** select (check) this option to include only those characters of a font that are actually used in a PDF document. A "threshold" is specified to tell if font-subset is necessary. If the percentage of used characters (compare with total characters of the particular font) exceeds this threshold, the entire font is embedded.

Important: An "Allow Embedding" flag defined in TrueType specification tells whether the font vendor allows the embedding of their fonts. DocuCom PDF Driver strictly follows this guideline. You may switch to a different font, if the embedding is definitely necessary.

Watermark Tab

PDF Driver allows you to print watermarks on PDF document pages.

Types of Watermarks

- ✎ **Text:** Enter text string as watermark and specify Font, Size, Color, Styles (bold, italic, bold-italic), and rotation Angle for it. Check “Outline only” to print character outlines only.
- ✎ **Image:** Specify any image file (*.bmp, *.DIB) and Width, Height to be used as watermark; Optionally, you can select “Cover the whole page”, and “Keep aspect ratio” for the image watermark.
- ✎ **Composite:** A special watermark that contains other watermarks. You can combine multiple pre-defined watermarks as a single composite watermark -- similar to File and Folder relationship.

Use the “**Add**” button to select watermark from Watermark list box to be included in “Composite” list box. Click “**Remove**” button to remove member watermark from the “Composite” list box.

Important: Be aware of those graphics or images that cover the whole page area. They will also make the background watermark invisible. Consider printing the watermark in the foreground and using the “Print Outline” Only option to avoid obstructing too much of your page.

Steps to print Watermarks

1. Execute “**File>Print** (or Printer Setup)”, and choose DocuCom PDF Driver from the Printer menu, click Properties (or Setup), then choose Watermark Tab:

Creating new watermark

2. Click “**Create**” in Watermark dialog box to display the New Watermark dialog box.
3. Select “Watermark Type”-- one of **Text**,

Image, or **Composite**; optionally you can specify a watermark name.

4. According to different Watermark Type, enter text string; browse a image file; or create a Composite watermark by including other watermarks; and specify attributes (properties) settings for the new watermark in the Properties box.
5. In the **Position box**, specify the location where the PDF Driver prints the watermark relative to one of following anchor points – **Page Center, Left Top, Left Bottom, Right Top, Right Bottom**. You can also enter the exact x and y offset (margin) values directly.
6. Click OK to return to the Watermark dialog box.

Editing watermark

Do “step 1” to display Printer Properties dialog box and choose Watermark Tab.

2. Choose a watermark from the “**Select a**

Watermark” box in the Watermark dialog box, and then click Modify.

3. Modify properties of the selected watermark in the Edit dialog box.
4. Click OK to return to the Watermark dialog box.

Note: The preview box is updated automatically whenever you modify watermark attributes. Each watermark has its' own settings.

Deleting watermark:

Do “step 1” to display Printer Properties dialog box and choose Watermark Tab.

2. Choose a watermark in the “Select watermark” box, and then click Delete.
3. Click OK in “Delete Watermark dialog box” for the confirmation.

Choosing Watermark

Do “step 1” to display Printer Properties dialog box and choose Watermark Tab.

2. Click to select the desired watermark in the Watermark list box. It becomes visible in the preview window.

Note: Following options in the Print box tell PDF Driver how to print watermark. They are applied to all Watermarks.

3. **First Page Only:** select this option to print watermark only on the first page. Usually, watermark is applied to all pages.
4. **As Background:** usually, watermark is printed above all other page contents. However, if application paints the entire page with a specific color, you might choose to print the watermark in the foreground.

Note: Some applications -- such as IE and PowerPoint, always paint a full-page sized "white" rectangle as the first object of each page. PDF Driver automatically recognizes and removes it to display the background watermark -- if specified.

5. Click OK to return to the Printer Properties dialog box.

Customizing Document Info

PDF may contain **descriptive information** of the document -- such as Title, Subject, Author, Keywords, Creator, Producer, Created date, Last modified date, etc. **Document management** system may utilize that information to control document flow or archiving.

- ☑ Typing standard “Document Info” interactively by clicking “**Edit Document Info**” button in “**Save As**” dialog box.
- ☑ Enter customized information or assigning information dynamically by other applications.

Auto-assigned Fields

- **Title**: this field may display the application file name by default.
- **Author**: This field is automatically filled

with the name you registered with PDF Driver.



Producer, Creator, Created Date: PDF Driver automatically assigns values for those fields, if available.

Defining Custom Fields

DocuCom PDF Driver Control Interface describes a method that allows developer to include **application-specific** key-value pairs into PDF document created. Later, those information can be retrieved by other applications for special purpose post-processing – a simple and powerful interface for document management applications.

Detail information regarding to the methods of customizing “**Document info**” is given in “***PDF Driver Control Interface***”.

Tips for Compatibility

PDF Driver creates 100% PDF-specification-1.3 conforming documents that can be readable by any PDF viewer (such as Acrobat®) under any language or platform.

Choosing a suitable Resolution

Resolution (in General tab) may play a subtle role in the files generated by PDF Driver. Lower resolution **MAY** produce smaller file and faster display, while higher resolution keeps precise character positioning and more image-details. Internally, PDF Driver controls the positioning of each individual character for resolutions above (include) 600dpi. For lower resolution, spaces are evenly distributed between characters.

The default 600dpi resolution usually produces satisfactory size and quality.

Tips for embedding fonts

DocuCom PDF Driver 4.0 delivers the best TrueType fonts embedding (including DBCS Asian fonts) capability currently available on the market:

- ✎ Embed all fonts with sub-setting – except those **standard Windows fonts**. 13 Base Fonts are already included in the “**Never Embed Font**” list box.
- ✎ Embed all DBCS fonts. By doing so, your documents could be displayed in any language version of PDF viewer program that is compatible with PDF spec. 1.3 – such as Acrobat 4.0.

Note: DocuCom PDF Driver 4.0 creates PDF spec. 1.3 conforming DBCS embedded fonts. Unfortunately, older version of Acrobat Reader program can not recognize them. Therefore, you must download the latest 4.0 Acrobat Reader before viewing embedded DBCS Asian fonts.

PDF Driver Control Interface

You can use “**PDF Driver Control Interface**” to write programs that modify the behavior of PDF driver programmatically. All attributes (or controls) presented in the “User Interface” are accessible to programmers, plus some extra benefits.

All PDF Driver settings are kept in an “INI” file – “pdfdrv95.ini” or “pdfdrvNT.ini”. By modifying this file, you can control the behavior of PDF Driver; such as whether to display dialog box; how to compress contents; how to embed fonts; or how to include watermarks, etc.

Note: The pdfdrv95.ini is placed under your Windows installation directory.

See “PDF Driver Control Interface.pdf” for more information. (Download this file from <http://www.zeon.com.tw>).

PDF Driver Limitations

PDF Driver is a Windows GDI printer driver to create PDF files from virtually any Windows application. PDF Driver takes Windows applications print out and convert them to PDF on the fly.

Pro: one step operation to generate PDF documents. It is convenient and fast for most of office productivity software.

Con: can not handle EPS, native CMYK image, or Halftone settings in their original form. Therefore, you might not be able to get perfect results from professional desktop publishing software.

Note: PDF Driver is available as a separate product of the DocuCom family, or included in other packages.

You can use PDF Driver for most of Windows' applications – such as MS Office and many

Web authoring tools. However, you may need DocuMaker (a PS to PDF converter) or compatible program for professional desktop publishing software – such as Quark, PageMaker, etc.

Basics

EPS (Encapsulated PostScript®): A full PostScript® interpreter (DocuMaker) is required to translate EPS to PDF. PDF Driver can only use the bitmap preview image (if exists) that embedded in the EPS file to create the PDF.

CMYK images: They are Device-Dependent Pre-Separated image data. You may see different color on monitor comparing with original photo.

Half Tone Settings: All half tone settings are not used in the resulting PDF document. If the application using halftone screen to achieve certain printing effects, they may not be visible on monitor.

Efficiency Concerns: Because the PDF Driver only processes low level Windows GDI commands, the resulting PDF document is still correct but may become bigger or take longer time to display for complex page layout done by professional desktop publishing software. However, many applications write efficient and high-level PostScript® commands. You can always try the DocuMaker program for possible improvement.

Compression issue

One major benefit of using PDF documents is the greatly reduced size comparing with other formats -- an important consideration when moving documents through the Internet.

Text and Graphics

Compress text and graphics (line art) -- everything other than bitmap images, by using the **ZIP compression** method with no information lose. It takes slightly longer time to display compressed data.

Note: Character shapes or drawings that are scanned-images or created by using some painting or photo programs are considered as images.

Compatibility: Some PDF browsers may not support ZIP compression method yet. Upgrade your PDF browser if necessary.

Color and Grayscale images

High-resolution color and grayscale images may extremely large. Use following methods to reduce their size:

ZIP/JPEG

Rely on PDF Driver to select either ZIP or JPEG method according to image contents:

- Use JPEG (5 levels) to compress 8-bit grayscale and 8-bit, 16-bit, and 24-bit color images that have continuous, smooth color tones.
- Use ZIP to compress 8-bit grayscale and 16-bit, 24-bit color images that have sharp color changes.
- Use ZIP to compress 2-bit, 4-bit grayscale and 4-bit color images, and 8-bit indexed color images.

Usually, the default setting “**ZIP/JPEG Medium**” generate the best results.

JPEG

Use JPEG for image compression. Suitable for high resolution and large photo images. See **JPEG Method** for more information.

ZIP

Use ZIP for image compression. This compression method is suitable for screenshots, dialog boxes, drawings, or relatively small bitmap images. See **ZIP Method**.

Choosing an appropriate method may not be so obvious. If necessary, try different methods to achieve the best results.

Re-sampling

Choose re-sampling to extract pixels from the original image by averaging neighbor pixels (down sample) or just pick one pixel (sub sample). See **Re-sampling methods** for more information.

Monochrome image

- Several lossless compression options are available for monochrome images (black-and-white): **CCITT Group 3**, **CCITT Group 4**, **ZIP**, and **Run Length**.
- You can also use **resampling** for reducing the size of monochrome images.

Scanned text or drawing

Monochrome images should only be scanned as monochrome and not as grayscale. If you save scanned text as grayscale – sometimes it is system default, and compress grayscale text with the JPEG (lossy) method. You may experience terribly muddy result and may be totally unreadable.

Compression methods

Compression methods are data dependent. Try different methods to find the most suitable one for your target images.

ZIP (deflate, zlib) method

ZIP is designed to be a free, general-purpose, legally unencumbered -- that is, not covered by any patents. It is a lossless data-compression library for use on virtually any computer hardware and operating system. The ZIP data format is itself portable across platforms.

The ZIP compression method essentially never expands the data. The zlib's memory footprint is also independent of the input data and can be reduced, if necessary, at some cost in compression.

LZW compression

This compression method produces the best compression results for images that contain repeating patterns.

Note: DocuCom do not generate LZW compressed PDF documents.

CCITT Group 4

This compression method is a general-purpose method that produces good compression for most types of monochrome images.

Run Length

This compression method produces the best results for images that contain large areas of solid black or white.

JPEG compression

A technique to compress or remove image data that are less sensitive to human eyes, where keep or compress less in the human-sensitive image data area. This method tries to reduce the image size with the least quality loss.

Five (5) preset compression levels of JPEG are available – High (Quality), High-medium, Medium, Medium-Low, Low. Usually, High or Medium-High compression results are very much similar to the original. Ordinary viewer

Compression Issue

could not tell the differences. However, at Low or Medium-Low compression, the image usually becomes blocky and unsatisfactory.

Important: Unfortunately, the JPEG compression method is highly data dependent. You may need to test different settings to find the best option for your image data.

Resample

Resample is one way to reduce the image size by combining several neighboring pixels to make a single pixel. This method produces a smaller bitmap with loss of details.

Resampling in whole number

Images are resampled in whole number divisions of their original resolutions. For example, a 300dpi image can be resampled to 150dpi(divide by 2), 100dpi(divide by 3), 75dpi, 60dpi, etc.

You can control resampling by specifying a minimum resolution. Image is resampled as

Compression Issue

much as possible but not below that minimum resolution. For example, given a minimum resolution of 72dpi, a 300dpi image is down-sampled to 75dpi(divide by 4) but not 60dpi(divide by 5), and a 180dpi image can not be down-sampled when minimum resolution is 100dpi.

Choose the correct minimum resolution for an acceptable file size and image quality.

Down-sampling

Used to reduce the resolution of the image to the specified dpi setting by averaging the pixel color of a sample area and replacing that area with a pixel of the averaged color.

Sub-sampling

Used to reduce the resolution of the image to the specified dpi setting by choosing a pixel in the center of the sample area and replacing that area with the pixel chosen.

Sub-sampling do not average pixel values; therefore are faster than down-sampling.

Font issue

PDF documents support many popular font formats – such as TrueType, Type1, Type2 (CFF), Type3, CID, MM fonts, for the rendering of high-quality characters on screen or printer.

Font names, character width, and other font attributes are kept in PDF documents. If necessary, you can also embed “Font Outlines” for displaying with the exact fonts on other computers.

Windows Fonts

All versions of Windows come with basic (13) Latin **TrueType® fonts**. In addition to that, many applications and international versions of Windows add more fonts into your system. Windows TrueType® software read those TrueType fonts and create characters for display and printing.

Note. Use Windows utility to check for installed TrueType® fonts.

Font substitution

When a font used in PDF document is not available (not embedded in PDF file, and not installed in the system) -- a Look-alike substitute font is used. The substitute font is automatically created by PDF viewer program to mimic the original fonts.

PDF viewer program uses character width and position information maintained in PDF document to display substitute font. If character width of the substitute is different from the original font, characters may overlap or break apart. However, the original line breaks are retained

Types of fonts

Type1, Type2, CFF, MM, CID fonts

They are PostScript® outline fonts used by PostScript® printers that may contain hints to

display clear type in small size.

Type3 font

Outline fonts that are created by using the PostScript® language program -- used for specially designed logos or decorative fonts.

Note. You must embed the Type 3 fonts in PDF documents.

TrueType fonts

Widely used outline fonts with mathematically described character contour. You can enlarge or reduce TrueType® characters with smooth outlines.

Font Size and embedding

Both Type1® and TrueType® alphabetic fonts take 30K to 70K storage spaces, and Type3® fonts may be bigger. However, DBCS Asian fonts usually consume several MEGA bytes of space. It depends on the quality of display and cost of storage (or transmission) to decide whether to embed fonts in PDF documents.

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Zeon DocuCom PDF Driver Online Guide

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