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**PDF Specification for IEEE Xplore<sup>®</sup>**  
*(Part B-Additional PDF Features)*

**VERSION 4.10**

**DECEMBER 2008**

**IEEE CONTENT ENGINEERING**



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## DOCUMENT STATUS RECORD

Release Date	Status	Version	Amendment / Purpose
December 2008	Final	4.10	Describes additional characteristics a PDF may have. Covers Image Policy introduced in Acrobat Distiller version 7.
July 2008	Final	4.02	Provides initial instructions for “PDF 1.7, Adobe Extension Level 3” (Acrobat 9) files.
May 2007	Final	4.01B	Announces the ability to test PDF 1.7 (check Acrobat 8 files.
February 2007	Final	4.01A	Addresses PitStop’s ability to check Acrobat 8 files. Announces the phase out of support of PDF versions 1.0 thru 1.3 (Acrobat 1 thru 4) during 2007.
November 2006	Final	4.01	Addresses PDF 1.7 (Acrobat 8) issues.
October 2006	Final	4.0	Consolidates PDF specifications and addendum. Replaces the concepts of compliant or compatible PDF files with a simpler set of requirements. Addresses Acrobat 7 issues.
15 December 2003	Final	3.2	Divided into two parts. The first part is for authors. It defines compatible PDF files. The second part is for conference organizers and vendors. It defines the requirements for compliant PDF files. This section also defines the requirements for PDF version 1.5 (Acrobat 6) and the settings (job options) file.
6 August 2003	Final	3.1	Defines requirements for PDF version 1.5 (Acrobat 6) files.
25 June 2003	Final	3.0	Combines author and technical documentation into a single specification. The technical information is in an appendix. Includes screen captures for Acrobat 5. Adjusts Acrobat 5 Compression settings. Summarizes requirements for links and bookmarks.
14 April 2003	Final	2.2B	Adjusted graphics settings to provide print production quality graphics. Clarifies how to embed fonts.
21 January 2002	Final	2.2	Summarizes requirements for Acrobat 5 compatible PDF files.
18 May 2001	Final	2.1	Summarizes PDF parameter settings; describes the requirements for scanned PDFs.
30 April 2001	Final	2.0	Initial release

## 1. INTRODUCTION

This document describes additional characteristics a PDF may have. It also addresses Image Policy which was introduced in Acrobat Distiller version 7. The “PDF Specification for IEEE Xplore<sup>®</sup>” also includes (1) [core requirements](#) and (2) [creating and checking PDFs](#).

## 2. OPTIONAL PDF CHARACTERISTICS

This section describes optional characteristics of PDF files for IEEE Xplore<sup>®</sup>. It is divided into two parts.

The first, “recommendations”, describes the PDF characteristics that IEEE believes are important for PDF quality, but may make the PDF file not viewable on some computers or may cause files not to print on some printers.

The second, “suggestions”, describes the PDF characteristics that the content provider may not have complete control over, may not always be suitable, or only minimally impact PDF usability.

### 1.1 Recommendations (Optional)

When a PDF file is created IEEE recommends the following.

1. Whenever possible update your fonts to the most recent version. This will eliminate many font problems.
2. Optimize the file for fast web viewing. This allows the beginning of a PDF file to be viewed prior to downloading the entire PDF<sup>1</sup>.
3. For broadest usability of PDF files avoid using Open Type fonts, which are not always viewable in older PDF viewers (PDF 1.5 or earlier).

### 1.2 Suggestions (Optional)

The following settings may be worthwhile considering.

1. If there is reason to believe that users have not upgraded to the most recent PDF viewers, consider saving the files with PDF 1.4 (Acrobat 5) compatibility<sup>2</sup>.
2. PDF files with version 1.4 compatibility (Acrobat 5) are more likely to print on older printers.
3. The graphics settings below are chosen to produce good quality graphics that will download quickly in most cases. These settings may be adjusted to suit other needs.

Image Type	Resolution	Downsampling	Compression	Ant-Alias
Color	300dpi	Bicubic	JPEG/Medium	Not applicable
Gray	300dpi	Bicubic	JPEG/Medium	Not applicable
Monochrome	600dpi	Bicubic	CCITT Group 4	Off

If using Acrobat 7 or later please see Section 3 regarding specific image features. There is also documentation for [creating and checking PDFs](#).

4. Since older PDF viewers do not automatically create thumbnails, include thumbnails in the PDF.

## 3. ADOBE DISTILLER VERSION 7 AND LATER IMAGE POLICY OPTION

Image Policy was introduced in Acrobat 7 Distiller. It applies when an image is below the resolution (e.g., dots per inch or points per inch) defined in the main Images dialog box. This section explains how to set the

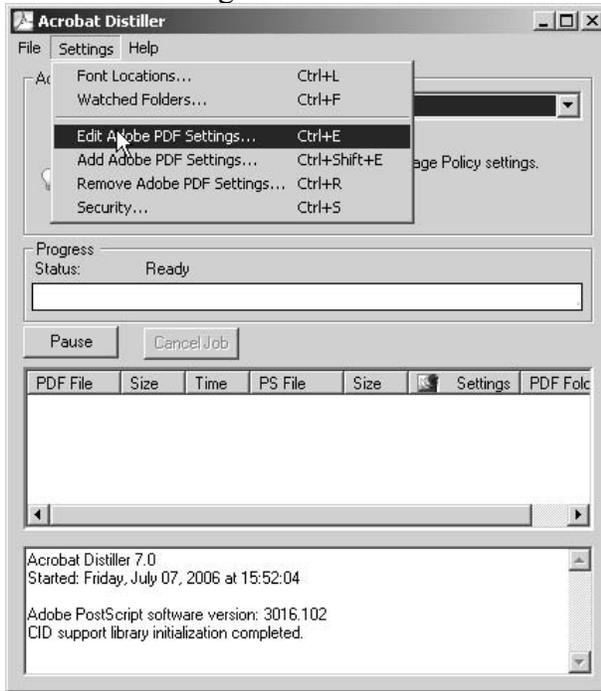
<sup>1</sup> Do not confuse fast web view with the PDF optimizer. The PDF optimizer can add fast web viewing but may also create PDF files that no longer meet the requirements specified in this document. For example it may, unembed fonts or reduce the graphic’s resolution.

<sup>2</sup> PDF version 1.4 does not support layers, page size larger than 200 inches (508cm) in either direction, Open Type fonts, or JPEG 2000 but will work with most PDF viewers and older printers.

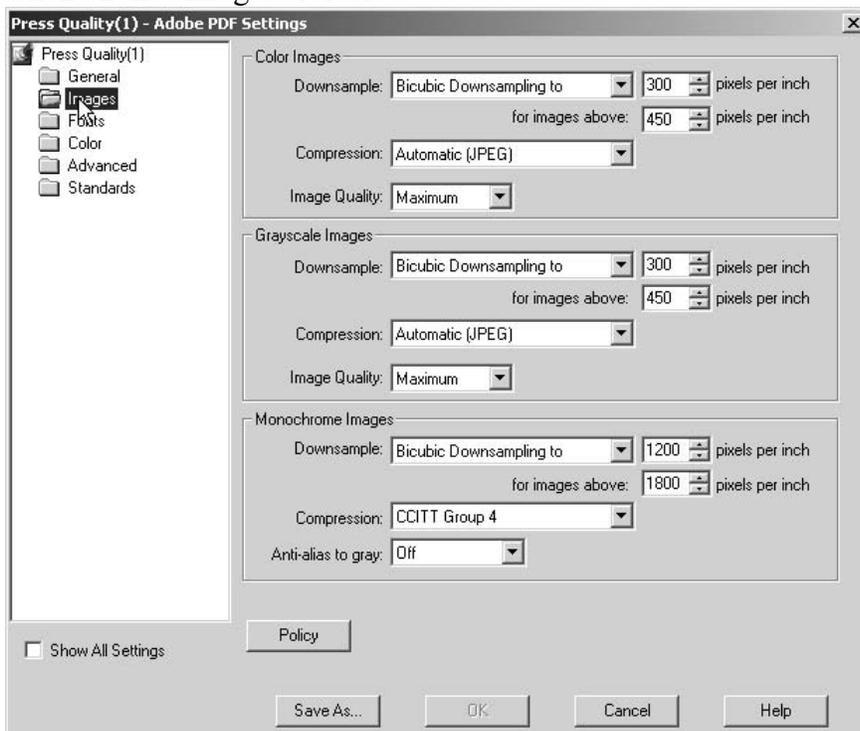
Policy for images in Acrobat Distiller. Please note that PDF Maker or selecting “Adobe PDF →Convert to Adobe PDF” *ignores the image policy set*. Other applications might ignore or not implement image policy.

To set the image policy, follow the steps below.

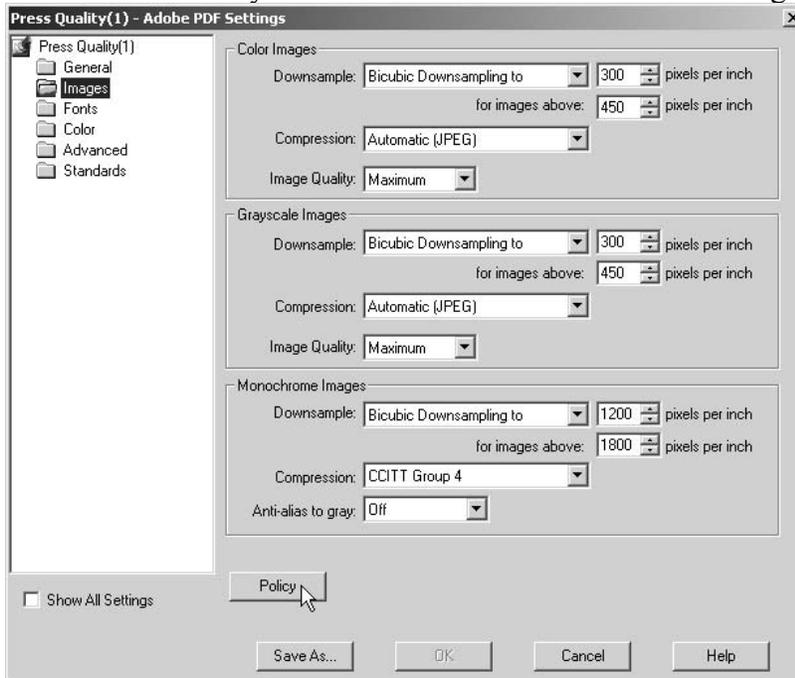
1. From the “Settings” menu select “Edit Adobe PDF Settings...”



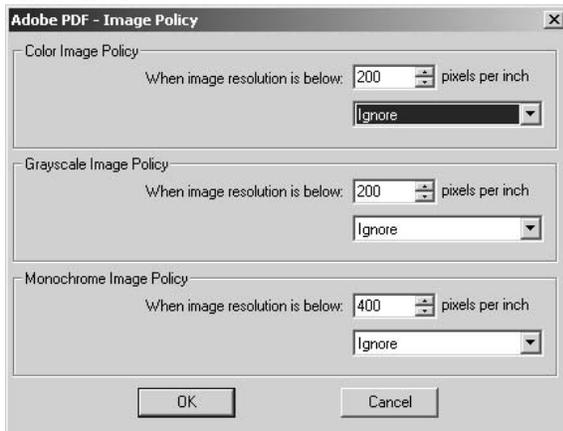
2. Click on the “Images” folder.



3. Click on the “Policy” button to access the “Adobe PDF-Image Policy” dialog box.



4. The screen below sets Acrobat Distiller’s behavior when images lower than the set resolution are encountered.



Best practice is setting the desired image resolution (e.g., pixels per inch) when initially creating the image.

There are three options available in the drop down menus.

1. *Ignore*. Processes all images regardless of their resolution.
2. *Warn and continue*. Warns if any image is lower than the resolution set in the dialog box. Unfortunately, any Type 3 fonts are treated as images, so this option potentially can generate many warnings not related to images. Type 3 fonts are common in TeX or LaTeX but are not limited to these programs.
3. *Cancel job*. Causes Acrobat Distiller to stop creating the PDF file. If a partial PDF was created it is deleted.

For each type of image (color, grayscale, and monochrome) IEEE suggests setting the policy to “Ignore”. If there is a reason to choose an option other than “Ignore”, consider setting the resolution in the image policy screen to at least two-thirds the image resolution shown in step 2. For example, if the desired color image resolution is 300ppi, then the “Color Image Policy” value is 200ppi ( $300 \times 2/3$ ).