
PDF Specification for IEEE Xplore[®]
(Part A-Core Requirements)

VERSION 4.12

MAY 2013

IEEE CONTENT ENGINEERING



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September 2010	Final	4.11	Clarifies scanning requirements. Updates PDF spec development plans.
December 2008	Final	4.10	Adds features that were previously not allowed. Describes plans for supporting “PDF 1.7, Adobe Extension Level 3” (Acrobat 9) files.
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

For ease of understanding this specification is broken into several parts. This document describes the core (minimum) requirements for “PDF Specification for IEEE Xplore[®]”. The other parts cover (1) additional features and (2) creating and checking PDFs. These files may be accessed via links within this document or by viewing the contents of the “Supplemental Info” folder. *This document and the linked to documents define the complete “PDF Specification for IEEE Xplore[®]”.*

The introduction of Acrobat 9 (PDF 1.7, Adobe Extension level 3) or later files brings many interesting features. However these features are specific to Adobe products. Since IEEE Xplore does not require a specific viewer or browser they are not supported in this specification. *The current requirement is that Acrobat 9 or later files must be converted to PDF 1.4 thru 1.7 (Acrobat 5 thru 8).*

2. MINIMUM PDF REQUIREMENTS

This section describes the minimum PDF files requirements for IEEE Xplore[®].

Each PDF for IEEE Xplore[®] must have all of these characteristics.

1. Be PDF 1.4 (Acrobat 5) or later but not Acrobat 9, X, or XI.
2. Must be created with a PDF distiller¹. Scanning is not permitted (See Section 5).
3. Embeds² or subsets³ all fonts⁴. Doing so helps makes sure that the mathematics appears as intended and improves text searching in the PDF (Section 3). *Please note some TrueType fonts have a setting added by the font designer that prevents the font from being embedded or subset and should be avoided⁵.*
4. Does not have a password or other security settings.
5. Does not contain any bookmarks or links⁶. The only exception to this rule is supplemental materials that are captured with the Supplemental Electronic Material Metadata Capture program.
6. Does not contain crop marks, registration marks, date stamp, time stamp, or any other mark that does not appear in the official version of the article.
7. Does not contain any PostScript that overrides the settings file.
8. Does not use PDF attachments.
9. Does not consist of a PDF Package or Merged PDF, a PDF 1.7 (Acrobat 8) feature.

Please note that the last seven requirements are not fully under Acrobat Distiller’s control. Once the PDF file is created the characteristics can change. For example, Acrobat can add passwords or bookmarks.

In addition to the requirements above all PDF files must be text searchable. Please see Section 3 for details.

There are supplemental documents relating to (1) additional features and (2) creating and checking PDFs.

¹ For conferences, Technical Activities has established a process to convert January 2005 and forward files that do not meet the requirements to IOHT (image over hidden text) PDF. Doing so however results in a delay in posting the entire conference and causes a chargeback for the additional processing.

² An embedded font contains all the characters in font regardless of whether they are used in the PDF. Such a font is fully editable.

³ A subset font contains only those characters used in the PDF file. A PDF with subset fonts may not fully editable.

⁴ To embed all fonts, including the base fonts, may require informing the PDF distiller about the location of the fonts. Please see the PDF distiller help files or documentation for more information. In addition, for best results do not embed or subset fonts in graphics files.

⁵ Once IEEE receives a PDF file without embedded fonts nothing can be done. Using these fonts may delay posting the issue or possibly cause the paper not to be included in IEEE Xplore[®].

⁶ Refer to “*Submission Guidelines for IEEE Xplore[®] PDF Files with Supplemental Electronic Material*” for an overview. The metadata capture program works only with PCs.

3. PDF SEARCHING

PDF text searching is a requirement because it improves discoverability online and electronically. The best way to ensure this is if the PDF contains embedded fonts. Doing so also helps ensure that the mathematics appear correctly. Such fonts must use one of the following standard PDF font encodings.

1. MacRoman or Roman
2. WinAnsi or Ansi
3. MacExpert or Expert
4. Built-in
5. Standard
6. PDFDoc

If using Acrobat version 5 please see creating and checking PDFs to check the font encoding in Part C. Otherwise, PDF files can be checked by viewing the Fonts tab of the Document Properties screen in Acrobat.

PDF files created with TeX, LaTeX, and PostScript Type 3 fonts are generally not searchable⁷. So it is best to use these fonts only when necessary. However, text created with TeX or LaTeX is usually searchable in PDF format.

4. INSTRUCTIONS FOR FILES COMPATIBLE WITH ADOBE EXTENSION LEVEL 3 AND LATER

Since IEEE can't guarantee that all users of IEEE Xplore can view these new formats the PDF files may not be stored in their native format. Instead files created in "PDF 1.7, Adobe Extension Level 3" (Acrobat 9.x) or later formats must be saved as PDF 1.4 thru 1.7 (Acrobat 5 thru 8). PDF version 1.6 (Acrobat 7) is the recommended viewer (reader) for IEEE Xplore[®]. In all other ways "PDF 1.7, Adobe Extension Level 3" (Acrobat 9.x) or later files must meet the other requirements contained in this document. This requirement applies to Acrobat 9, X, and XI or similar files.

5. SCANNED PDF EXCEPTIONS IN IEEE XPLORE[®]

Scanned PDF files⁸ are not allowed in IEEE Xplore[®] unless they fall into one of the exceptions below.

1. If the publication is a journal, magazine, or standard originally published prior to 1988.
2. If the publication is a conference held prior to 2005.
3. If the publication is part of an IEEE recognized digitization project.

In all other cases the files will not be loaded into IEEE Xplore[®].

⁷ PostScript Type 1 versions of these fonts are readily available on the web at CTAN (Comprehensive TeX Archive Network).

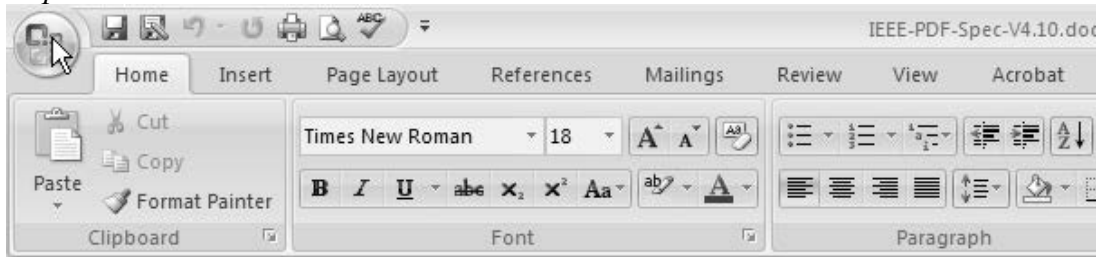
⁸ Scanned PDFs must have their fonts embedded or subset in order to pass the PDF QA process.

6. PDF ENHANCEMENTS

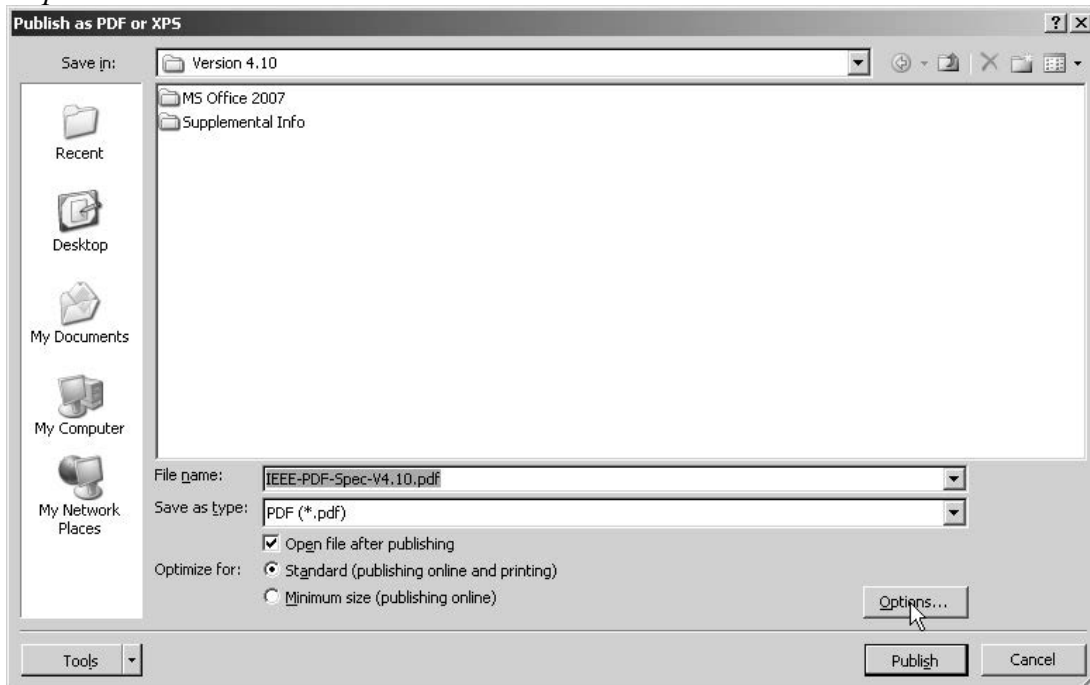
The following features are permitted in IEEE Xplore® PDF files.

1. PDFs files may use either JBIG or JPEG2000 compression. This will be useful for PDFs that don't meet the compatibility requirements. The resulting scanned files will be closer in size to a distilled PDF. These compression algorithms may be used anywhere they are permitted under the PDF reference published by Adobe Systems for PDF versions 1.4 thru 1.7⁹. *Use of this feature requires a reader that can view PDF 1.5 or later files.*
2. Files created using Microsoft Office 2007 and 2010 built-in PDF creation capability are supported as long as the right options are selected. *By default they are not.* Please make sure that the “ISO 19005-1 compliant (PDF/A)” option is checked so that the font are embedded and subset¹⁰. The following screen captures show the process from clicking on the “Office Button” to selecting the “ISO 19005-1 compliant (PDF/A)” checkox. The arrow shows where to click.

Step 1:



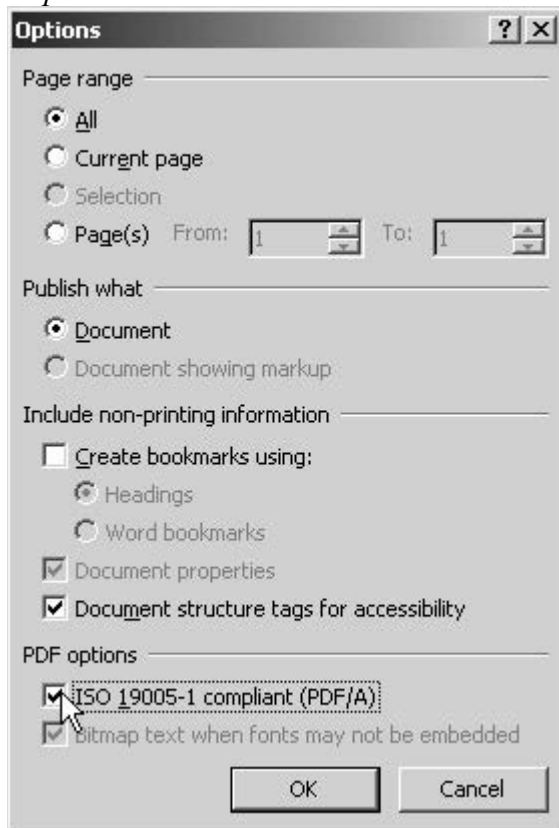
Step 2:



⁹ Acrobat 9 and later files are not supported at this time.

¹⁰ If a TrueType font is not embedded or subset with this option chosen it is likely due to a setting in the TrueType font. Please reformat the problem text with a different font.

Step 3:



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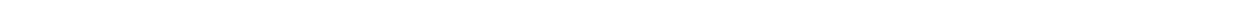


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Release Date	Status	Version	Amendment / Purpose
May 2013	Final	4.12	Updates specification for Acrobat X and XI.
September 2010	Final	4.11	Clarifies scanning requirements. Updates PDF spec development plans.
December 2008	Final	4.10	Describes additional 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.
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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[®]” 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[®]. 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 PDF¹.
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) compatibility².
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

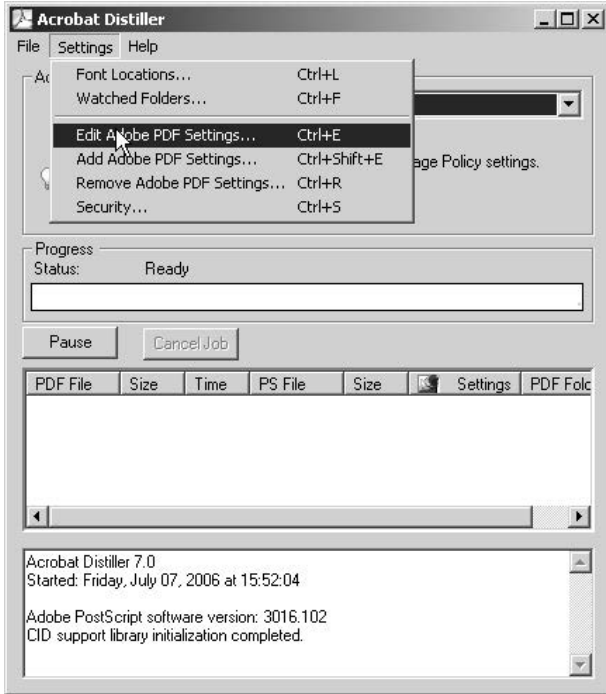
¹ Do not confuse fast web view with the PDF optimizer. The PDF optimizer can add fast web viewing but may also create PDF files that no longer meet the requirements specified in this document. For example it may, unembed fonts or reduce the graphic’s resolution.

² 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.

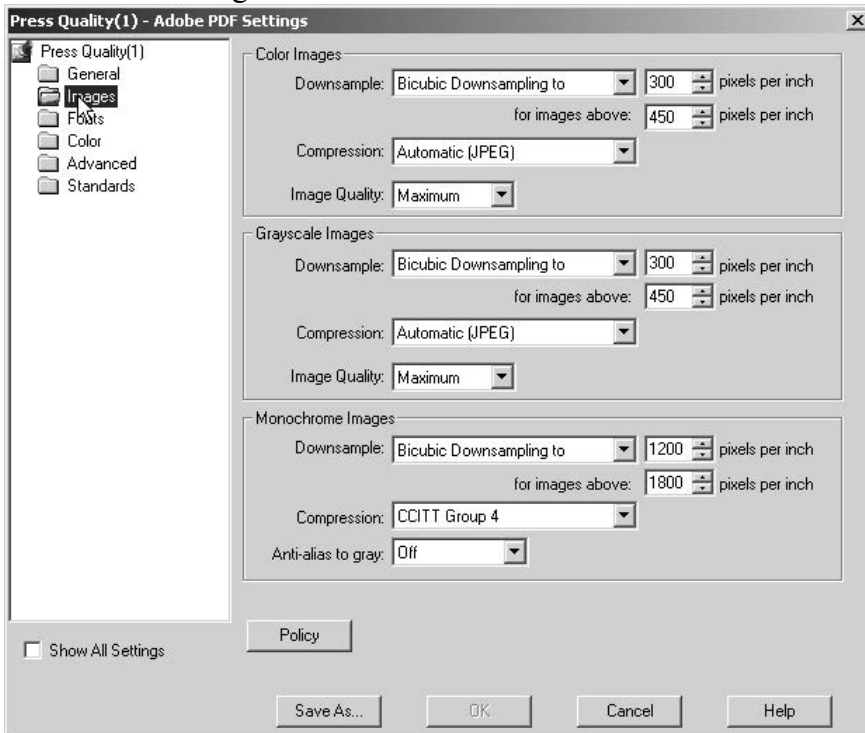
Policy for images in Acrobat Distiller. Please note that PDF Maker or selecting “Adobe PDF→Convert to Adobe PDF” *ignores the image policy set*. Other applications might ignore or not implement image policy.

To set the image policy, follow the steps below.

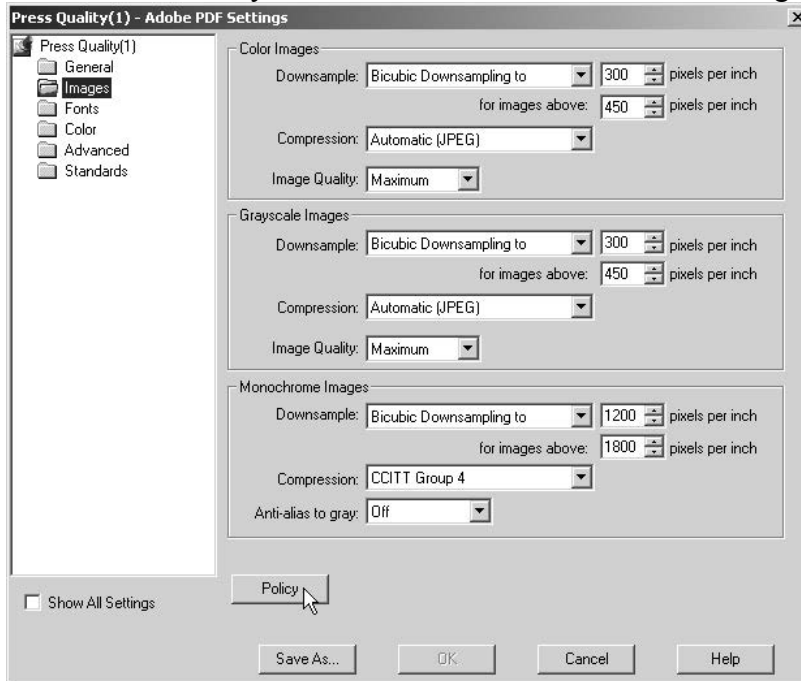
1. From the “Settings” menu select “Edit Adobe PDF Settings...”



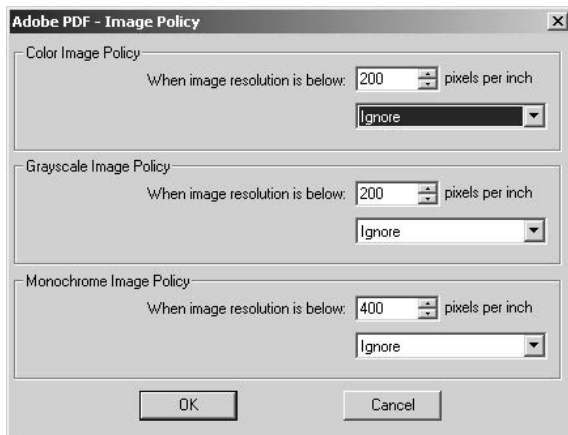
2. Click on the “Images” folder.



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 ($300 \times 2/3$).

PDF Specification for IEEE Xplore[®]
(Part C-Creating and Checking PDFs)

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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 the settings used to create PDFs for IEEE Xplore[®]. It also provides the profile used to check PDF files. The profile that is used is the same for IEEE’s internal QA and PDF eXpress. The document “PDF Specification for IEEE Xplore[®]” also includes (1) core requirements and (2) additional PDF features.

2. SAMPLE SETTINGS FILES

IEEE provides Acrobat Distiller settings files, designed for specific purposes, online at iee.org. Please note that these files set other PDF characteristics (See Section 4) because Acrobat Distiller requires it. A content provider is free to change these other settings as necessary.

Please note that no changes are needed to the version 4.0 settings to meet the required, recommended, and suggested settings in version 4.01 or later.

The downloadable sample settings are summarized in the table below. Each PDF characteristic described in this document is shown in the first column. The subsequent columns show how the “required”, “recommended” and “suggested” Acrobat Distiller settings are set-up, respectively. Please see the next page for the rest of the table and the footnotes.

In the last three columns:

1. **Yes** means that the example Acrobat Distiller setting sets the PDF characteristic.
2. **No** means that the example Acrobat Distiller setting does not set the PDF characteristic.
3. **User Set** means that user and not the example Acrobat Distiller settings control the PDF characteristic.

PDF Characteristic	Required	Recommended	Suggested
Available for PDF version(s) ^{1,2}	1.4, 1.5, 1.6, 1.7, Acrobat 9, X, and XI	1.4, 1.5, 1.6, 1.7, Acrobat 9, X, and XI	1.4, 1.5, 1.6, 1.7, Acrobat 9, X, and XI
No Passwords or Security Allowed	User Set	User Set	User Set
PDF Distiller	Yes	Yes	Yes
No Bookmarks or Links	User Set	User Set	User Set
No Crop Marks, Registration Marks, or Other Marks	User Set	User Set	User Set
No PostScript Code Overriding Settings File	User Set	User Set	User Set
Embed or Subset All Fonts	Yes/User Set	Yes/User Set	Yes/User Set
Merged or Packaged PDF	User Set	User Set	User Set
PDF Contains Attachments	User Set	User Set	User Set
Latest Version of Fonts	User Set	User Set	User Set
Open Type Fonts	User Set	User Set	User Set
Fast Web View (Linearized)	No	Yes	Yes
Broadest use	No	No	Yes
Older Printer Support	No	No	Yes
Color Images ³	Yes	Yes	Yes
Grayscale Images ³	Yes	Yes	Yes
Monochrome Images ³	Yes	Yes	Yes
Thumbnail in PDF	No	No	Yes

Footnotes:

1. For “required” and “recommended” settings PDF version 1.4 always gives broadest use and older printer support.
2. For “suggested” settings the files for PDF versions 1.5, 1.6 , and 1.7 are stored in PDF 1.4 (Acrobat 5) compatibility. Editing or opening the files afterward may change the PDF version.
3. These settings are intended to be reasonable in most cases. Settings may be changed as needed.

3. CHECKING PDF FILES

Internally, at the time of this writing, IEEE uses PitStop Server version 3.51 from Enfocus Software (www.enfocus.com) to check all PDF files. The settings that are used in PDF eXpress and for internal QA by IEEE and are available online at iee.org.

Unlike earlier IEEE supplied profiles the new ones are not locked (password protected). If the profile is edited care must be taken not to change the original values in the profile. Otherwise the profile may no longer detect problems in the PDF file.

4. OTHER ADOBE DISTILLER SETTINGS

This section describes the other Acrobat Distiller settings that are set in samples in Section 2. *Please note that no changes are needed to the version 4.0 settings to meet the required, recommended, and suggested settings in version 4.01.* The shaded boxes shows changes from the “Required” settings file. Any setting described in this section may be changed as needed.

Adobe Acrobat Distiller XI.x Settings

Setting Location and Name	Required	Recommended	Suggested
GENERAL TAB			
Object Level Compression	Off	Off	Off
Auto-Rotate Pages	Off	Off	Off
Binding	Left	Left	Left
Resolution	600	600	600
All Pages (Radio Button)	Selected	Selected	Selected
Embed Thumbnails	Not checked	Not checked	Checked
Optimize for fast web view	Not checked	Checked	Checked
Default Page Size	Desired size	Desired size	Desired size
IMAGES TAB			
Anti-alias to gray	Off	Off	Off
Policy	See Part B- Additonal PDF Features	See Part B- Additonal PDF Features	See Part B- Additonal PDF Features
FONTS TAB			
Embed or Subset All Fonts	Checked	Checked	Checked
Embed Open Type Fonts ¹	Not checked	Not checked	Not checked
Subset embedded fonts when percent of characters used is less than ²	Not checked	Not checked	Not checked
When Embedding Fails	Warn and Continue	Warn and Continue	Warn and Continue

Setting Location and Name	Required	Recommended	Suggested
Always Embed	All fonts in font folder(s)	All fonts in font folder(s)	All fonts in font folder(s)
Never Embed	Empty	Empty	Empty
COLOR TAB			
Settings File	None	None	None
Color Management Policies	Leave Color Unchanged	Leave Color Unchanged	Leave Color Unchanged
Document Rendering Intent	Preserve	Preserve	Preserve
Working Spaces	Dimmed	Dimmed	Dimmed
Preserve under color removal and black generation	Checked	Checked	Checked
When transfer functions are found	Remove	Remove	Remove
Preserve halftone Information	Checked	Checked	Checked
ADVANCED TAB			
Convert gradients to smooth shades	Checked	Checked	Checked
Preserve Level 2 cypage semantics	Checked	Checked	Checked
Preserve overprint settings	Checked	Checked	Checked
Save Adobe PDF settings inside PDF file	Checked	Checked	Checked
Save original JPEG images in PDF if possible	Checked	Checked	Checked
All other choices in Options ³	Not checked	Not checked	Not checked
All Document Structuring Conventions (DSC)	Not checked	Not checked	Not checked
STANDARDS TAB			
Standards Reporting and Compliance	None	None	None
Default Value if Not Specified in the Document	Dimmed	Dimmed	Dimmed

Footnotes:

1. This is not checked because Open Type support is a PDF 1.6 (Acrobat 7) and later feature.
2. If the option is checked, the suggested percentage is 100%.
3. Never check (select) "Use Prologue.ps and Epilogue.ps" or "Allow PostScript file to override Adobe PDF settings" (or both). *Doing so violates the requirement that the PostScript code does not override the settings or job options file.*

Adobe Acrobat Distiller X.x Settings

Setting Location and Name	Required	Recommended	Suggested
GENERAL TAB			
Object Level Compression	Off	Off	Off
Auto-Rotate Pages	Off	Off	Off
Binding	Left	Left	Left
Resolution	600	600	600
All Pages (Radio Button)	Selected	Selected	Selected
Embed Thumbnails	Not checked	Not checked	Checked
Optimize for fast web view	Not checked	Checked	Checked
Default Page Size	Desired size	Desired size	Desired size
IMAGES TAB			
Anti-alias to gray	Off	Off	Off
Policy	See Part B- Additional PDF Features	See Part B- Additional PDF Features	See Part B- Additional PDF Features
FONTS TAB			
Embed or Subset All Fonts	Checked	Checked	Checked
Embed Open Type Fonts ¹	Not checked	Not checked	Not checked
Subset embedded fonts when percent of characters used is less than ²	Not checked	Not checked	Not checked
When Embedding Fails	Warn and Continue	Warn and Continue	Warn and Continue
Always Embed	All fonts in font folder(s)	All fonts in font folder(s)	All fonts in font folder(s)
Never Embed	Empty	Empty	Empty
COLOR TAB			
Settings File	None	None	None
Color Management Policies	Leave Color Unchanged	Leave Color Unchanged	Leave Color Unchanged
Document Rendering Intent	Preserve	Preserve	Preserve
Working Spaces	Dimmed	Dimmed	Dimmed
Preserve under color removal and black generation	Checked	Checked	Checked
When transfer functions are found	Remove	Remove	Remove
Preserve halftone Information	Checked	Checked	Checked
ADVANCED TAB			
Convert gradients to smooth shades	Checked	Checked	Checked
Preserve Level 2 cypage semantics	Checked	Checked	Checked
Preserve overprint settings	Checked	Checked	Checked
Save Adobe PDF settings inside PDF file	Checked	Checked	Checked
Save original JPEG images in PDF if possible	Checked	Checked	Checked

Setting Location and Name	Required	Recommended	Suggested
All other choices in Options ³	Not checked	Not checked	Not checked
All Document Structuring Conventions (DSC)	Not checked	Not checked	Not checked
STANDARDS TAB			
Standards Reporting and Compliance	None	None	None
Default Value if Not Specified in the Document	Dimmed	Dimmed	Dimmed

Footnotes:

1. This is not checked because Open Type support is a PDF 1.6 (Acrobat 7) and later feature.
2. If the option is checked, the suggested percentage is 100%.
3. Never check (select) “Use Prologue.ps and Epilogue.ps” or “Allow PostScript file to override Adobe PDF settings” (or both). *Doing so violates the requirement that the PostScript code does not override the settings or job options file.*

Adobe Acrobat Distiller 9.x Settings

Setting Location and Name	Required	Recommended	Suggested
GENERAL TAB			
Object Level Compression	Off	Off	Off
Auto-Rotate Pages	Off	Off	Off
Binding	Left	Left	Left
Resolution	600	600	600
All Pages (Radio Button)	Selected	Selected	Selected
Embed Thumbnails	Not checked	Not checked	Checked
Optimize for fast web view	Not checked	Checked	Checked
Default Page Size	Desired size	Desired size	Desired size
IMAGES TAB			
Anti-alias to gray	Off	Off	Off
Policy	See Part B- Additional PDF Features	See Part B- Additional PDF Features	See Part B- Additional PDF Features
FONTS TAB			
Embed or Subset All Fonts	Checked	Checked	Checked
Embed Open Type Fonts ¹	Not checked	Not checked	Not checked
Subset embedded fonts when percent of characters used is less than ²	Not checked	Not checked	Not checked
When Embedding Fails	Warn and Continue	Warn and Continue	Warn and Continue
Always Embed	All fonts in font folder(s)	All fonts in font folder(s)	All fonts in font folder(s)
Never Embed	Empty	Empty	Empty
COLOR TAB			
Settings File	None	None	None
Color Management Policies	Leave Color Unchanged	Leave Color Unchanged	Leave Color Unchanged
Document Rendering Intent	Preserve	Preserve	Preserve
Working Spaces	Dimmed	Dimmed	Dimmed
Preserve under color removal and black generation	Checked	Checked	Checked
When transfer functions are found	Remove	Remove	Remove
Preserve halftone Information	Checked	Checked	Checked
ADVANCED TAB			
Convert gradients to smooth shades	Checked	Checked	Checked
Preserve Level 2 cypage semantics	Checked	Checked	Checked
Preserve overprint settings	Checked	Checked	Checked
Save Adobe PDF settings inside PDF file	Checked	Checked	Checked
Save original JPEG images in PDF if possible	Checked	Checked	Checked
All other choices in Options ³	Not checked	Not checked	Not checked

Setting Location and Name	Required	Recommended	Suggested
All Document Structuring Conventions (DSC)	Not checked	Not checked	Not checked
STANDARDS TAB			
Standards Reporting and Compliance	None	None	None
Default Value if Not Specified in the Document	Dimmed	Dimmed	Dimmed

Footnotes:

1. This is not checked because Open Type support is a PDF 1.6 (Acrobat 7) and later feature.
2. If the option is checked, the suggested percentage is 100%.
3. Never check (select) "Use Prologue.ps and Epilogue.ps" or "Allow PostScript file to override Adobe PDF settings" (or both). *Doing so violates the requirement that the PostScript code does not override the settings or job options file.*

Adobe Acrobat Distiller 8.x Settings

Setting Location and Name	Required	Recommended	Suggested
GENERAL TAB			
Object Level Compression	Off	Off	Off
Auto-Rotate Pages	Off	Off	Off
Binding	Left	Left	Left
Resolution	600	600	600
All Pages (Radio Button)	Selected	Selected	Selected
Embed Thumbnails	Not checked	Not checked	Checked
Optimize for fast web view	Not checked	Checked	Checked
Default Page Size	Desired size	Desired size	Desired size
IMAGES TAB			
Anti-alias to gray	Off	Off	Off
Policy	See Part B- Additional PDF Features	See Part B- Additional PDF Features	See Part B- Additional PDF Features
FONTS TAB			
Embed or Subset All Fonts	Checked	Checked	Checked
Embed Open Type Fonts ¹	Not checked	Not checked	Not checked
Subset embedded fonts when percent of characters used is less than ²	Not checked	Not checked	Not checked
When Embedding Fails	Warn and Continue	Warn and Continue	Warn and Continue
Always Embed	All fonts in font folder(s)	All fonts in font folder(s)	All fonts in font folder(s)
Never Embed	Empty	Empty	Empty
COLOR TAB			
Settings File	None	None	None
Color Management Policies	Leave Color Unchanged	Leave Color Unchanged	Leave Color Unchanged
Document Rendering Intent	Preserve	Preserve	Preserve
Working Spaces	Dimmed	Dimmed	Dimmed
Preserve under color removal and black generation	Checked	Checked	Checked
When transfer functions are found	Remove	Remove	Remove
Preserve halftone Information	Checked	Checked	Checked
ADVANCED TAB			
Convert gradients to smooth shades	Checked	Checked	Checked
Preserve Level 2 cypage semantics	Checked	Checked	Checked
Preserve overprint settings	Checked	Checked	Checked
Save Adobe PDF settings inside PDF file	Checked	Checked	Checked
Save original JPEG images in PDF if possible	Checked	Checked	Checked
All other choices in Options ³	Not checked	Not checked	Not checked

Setting Location and Name	Required	Recommended	Suggested
All Document Structuring Conventions (DSC)	Not checked	Not checked	Not checked
STANDARDS TAB			
Standards Reporting and Compliance	None	None	None
Default Value if Not Specified in the Document	Dimmed	Dimmed	Dimmed

Footnotes:

1. This is not checked because Open Type support is a PDF 1.6 (Acrobat 7) and later feature.
2. If the option is checked, the suggested percentage is 100%.
3. Never check (select) “Use Prologue.ps and Epilogue.ps” or “Allow PostScript file to override Adobe PDF settings” (or both). *Doing so violates the requirement that the PostScript code does not override the settings or job options file.*

Adobe Acrobat Distiller 7.x Settings

Setting Location and Name	Required	Recommended	Suggested
GENERAL TAB			
Object Level Compression	Off	Off	Off
Auto-Rotate Pages	Off	Off	Off
Binding	Left	Left	Left
Resolution	600	600	600
All Pages (Radio Button)	Selected	Selected	Selected
Embed Thumbnails	Not checked	Not checked	Checked
Optimize for fast web view	Not checked	Checked	Checked
Default Page Size	Desired size	Desired size	Desired size
IMAGES TAB			
Anti-alias to gray	Off	Off	Off
Policy	See Part B- Additional PDF Features	See Part B- Additional PDF Features	See Part B- Additional PDF Features
FONTS TAB			
Embed or Subset All Fonts	Checked	Checked	Checked
Embed Open Type Fonts ¹	Not checked	Not checked	Not checked
Subset embedded fonts when percent of characters used is less than ²	Not checked	Not checked	Not checked
When Embedding Fails	Warn and Continue	Warn and Continue	Warn and Continue
Always Embed	All fonts in font folder(s)	All fonts in font folder(s)	All fonts in font folder(s)
Never Embed	Empty	Empty	Empty
COLOR TAB			
Settings File	None	None	None
Color Management Policies	Leave Color Unchanged	Leave Color Unchanged	Leave Color Unchanged
Document Rendering Intent	Preserve	Preserve	Preserve
Working Spaces	Dimmed	Dimmed	Dimmed
Preserve under color removal and black generation	Checked	Checked	Checked
When transfer functions are found	Remove	Remove	Remove
Preserve halftone Information	Checked	Checked	Checked
ADVANCED TAB			
Convert gradients to smooth shades	Checked	Checked	Checked
Preserve Level 2 cypage semantics	Checked	Checked	Checked
Preserve overprint settings	Checked	Checked	Checked
Save Adobe PDF settings inside PDF file	Checked	Checked	Checked
Save original JPEG images in PDF if possible	Checked	Checked	Checked
All other choices in Options ³	Not checked	Not checked	Not checked

Setting Location and Name	Required	Recommended	Suggested
All Document Structuring Conventions (DSC)	Not checked	Not checked	Not checked
STANDARDS TAB			
Standards Reporting and Compliance	None	None	None
All other options	Dimmed	Dimmed	Dimmed

Footnotes:

1. This is not checked because Open Type support is a PDF 1.6 (Acrobat 7) and later feature.
2. If the option is checked, the suggested percentage is 100%.
3. Never check (select) “Use Prologue.ps and Epilogue.ps” or “Allow PostScript file to override Adobe PDF settings” (or both). *Doing so violates the requirement that the PostScript code does not override the settings or job options file.*

Adobe Acrobat Distiller 6.x Settings

Setting Location and Name	Required	Recommended	Suggested
GENERAL TAB			
Object Level Compression	Off	Off	Off
Auto-Rotate Pages	Off	Off	Off
Binding	Left	Left	Left
Resolution	600	600	600
All Pages (Radio Button)	Selected	Selected	Selected
Embed Thumbnails	Not checked	Not Checked	Checked
Optimize for fast web view	Not checked	Checked	Checked
Default Page Size	Desired size	Desired size	Desired size
IMAGES TAB			
Anti-Alias to gray	Off	Off	Off
FONTS TAB			
Embed or Subset All Fonts	Checked	Checked	Checked
When Embedding Fails	Warn and Continue	Warn and Continue	Warn and Continue
Subset embedded fonts when percent of characters used is less than ¹	Not checked	Not checked	Not checked
Always Embed	All fonts in font folder(s)	All fonts in font folder(s)	All fonts in font folder(s)
Never Embed	Empty	Empty	Empty
COLOR TAB			
Settings File	None	None	None
Color Management Policies	Leave Color Unchanged	Leave Color Unchanged	Leave Color Unchanged
Intent	Default	Default	Default
Working Spaces	Dimmed	Dimmed	Dimmed
Preserve under color removal and black generation	Checked	Checked	Checked
When transfer functions are found	Remove	Remove	Remove
Preserve halftone Information	Checked	Checked	Checked
ADVANCED TAB			
Convert gradients to smooth shades	Checked	Checked	Checked
Preserve Level 2 cypage Semantics	Checked	Checked	Checked
Preserve overprint settings	Checked	Checked	Checked
Save Adobe PDF settings inside PDF file	Checked	Checked	Checked
Save original JPEG images in PDF if possible	Checked	Checked	Checked
All other choices in Options ²	Not checked	Not checked	Not checked
All Document Structuring Conventions (DSC)	Not checked	Not checked	Not checked
PDF/X TAB			
PDF/X-1a	Not checked	Not checked	Not checked
PDF/X-3	Not checked	Not checked	Not checked

Footnotes begin on the next page.

1. If the option is checked, the suggested percentage is 100%.
2. Never check (select) “Use Prologue.ps and Epilogue.ps” or “Allow PostScript file to override Adobe PDF settings” (or both). *Doing so violates the requirement that the PostScript code does not override the settings or job options file.*

Adobe Acrobat Distiller 5.x Job Options

Setting Location and Name	Required	Recommended	Suggested
GENERAL TAB			
Optimize for Fast Web View	Not checked	Checked	Checked
Embedded Thumbnails	Not checked	Not checked	Checked
Auto-Rotate Pages	Not checked	Not checked	Not checked
Page Range	All	All	All
Binding	Left	Left	Left
Resolution	600	600	600
Default Page Size	Desired size	Desired size	Desired size
COMPRESSION TAB			
Anti-Alias to gray	Not checked	Not checked	Not checked
Compress Text and Line Art	Checked	Checked	Checked
FONTS TAB			
Embed or Subset All Fonts	Checked	Checked	Checked
When Embedding Fails	Warn and Continue	Warn and Continue	Warn and Continue
Subset embedded fonts when percent of characters used is less than ¹	Not checked	Not checked	Not checked
Always Embed	Base 14 Fonts	Base 14 Fonts	Base 14 Fonts
Never Embed	Empty	Empty	Empty
COLOR TAB			
Settings File	None	None	None
Color Management Policies	Leave Color Unchanged	Leave Color Unchanged	Leave Color Unchanged
Intent	Default	Default	Default
Working Spaces	Dimmed	Dimmed	Dimmed
Preserve Overprint Settings	Checked	Checked	Checked
Preserve Under Color Removal and Black Generation Settings	Checked	Checked	Checked
Transfer Functions	Remove	Remove	Remove
Preserve Halftone Information	Checked	Checked	Checked
ADVANCED TAB			
Preserve Level 2 cypage Semantics	Checked	Checked	Checked
All other choices in Options ²	Not checked	Not checked	Not checked
All Document Structuring Conventions (DSC)	Not checked	Not checked	Not checked

Footnotes:

1. If the option is checked, the suggested percentage is 100%.
2. Never check (select) "Use Prologue.ps and Epilogue.ps" or "Allow PostScript file to Override Job Options" (or both). *Doing so violates the requirement that the PostScript code does not override the settings or job options file.*

5. HOW TO CHECK FONT EMBEDDING AND ENCODING IN ADOBE ACROBAT 5 OR EARLIER

The steps below explain how to check for font embedding and encoding as required by this specification using Acrobat or Acrobat Reader.

5.1 Using Acrobat or the Acrobat Reader¹ to Check the Fonts

To check if all the fonts are embedded, subset, or substituted follow the steps below.

1. (Skip this step if using the Acrobat Reader) Under the View menu, be sure that “Use local fonts” is not checked.
2. On the Print panel, check “Print to file”. This will cause Acrobat to try to assign fonts to all the fonts in the document.
3. Print the file.
4. Go to Document Properties → Fonts
5. Click on the “List all fonts” button
6. (Note: Columns in the screen shots below are numbered to aid in understanding the Font Info screen). In the Font Info panel, column one gives the original font name. Column two gives the original font type (i.e., Type 1 or TrueType). Column three is not relevant to this check. If the font is embedded column four (“Used Font”) will say “Embedded”. If the font is subset column four will say “Embedded Subset.” In either case, column five (“Type”) will match column two. If font substitution occurs then column four will not match column 1. In addition, column five may or may not match column two.

Sample Screen Showing Required Font Embedding

Original Font ①	Type ②	Encoding ③	Used Font ④	Type ⑤
ArialBlack	TrueType	Windows	Embedded	TrueType
Helvetica	Type 1	Windows	Embedded	Type 1
Tahoma	TrueType	Windows	Embedded	TrueType
Times-Roman	Type 1	Windows	Embedded	Type 1

Sample Screen Showing Embedded and Not Embedded Fonts

Fonts are OK.
Original Fonts are subset.

Original Font ①	Type ②	Encoding ③	Used Font ④	Type ⑤
ArialBlack	TrueType	Windows	Embedded Subset	TrueType
Helvetica	Type 1	Windows	Embedded Subset	Type 1
Tahoma	TrueType	Windows	Embedded Subset	TrueType
Times-Roman	Type 1	Windows	Embedded Subset	Type 1

ArialBlack	TrueType	Windows	Adobe Sans MM	Type 1
Helvetica	Type 1	Windows	ArialMT	Type 1
Tahoma	TrueType	Windows	Adobe Sans MM	Type 1
Times-Roman	Type 1	Windows	TimesNewRomanPSMT	Type 1

Fonts are **NOT** OK.
Original fonts are not embedded.

¹ The free Acrobat Reader is available at www.adobe.com/products/acrobat/readstep2.html.