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# **PDF Specification for IEEE Xplore<sup>®</sup>**

**VERSION 4.01B**

**MAY 2007**

**IEEE CONTENT ENGINEERING**



## INTRODUCTION

This document defines the PDF requirements for creating PDF files for IEEE Xplore<sup>®</sup>. The goal of this specification is creating PDF files that are viewable on a broad range of computers and download reasonably quickly regardless of connection speed. This document replaces earlier versions of the PDF specification and the addendum.

Other IEEE products such as print on demand or creating PDF files for traditional printing are not covered by this specification. The requirements for these PDF files may be more stringent than this specification (e.g., graphics quality and fonts).

The document's organization is different from previous versions of the specification. PDF files are **no longer** viewed as compliant or compatible. Instead the PDF files must have all the required characteristics. In addition, "recommended" and "suggested" settings are defined.

*PDF files that are compatible or compliant with version 3.2 and/or its addendum must be saved as PDF 1.4 (Acrobat 5) or later to meet the requirements for version 4.01 of the PDF specification.*

*The transition to PDF 1.4 (Acrobat 5) or later will take place in phases to allow content providers time to adjust and test their systems. In phase 1 support for PDF 1.0 thru 1.2 (Acrobat 1 thru 3) will end on 30 June 2007. In phase 2 support for PDF version 1.3 (Acrobat 4) will end on 31 December 2007.*

Please see Section 1 for a summary of the PDF settings in table form. A general document overview follows the summary in Section 2.

*Scanned PDF files are generally not permitted. The exceptions are described in Section 7.*

This specification refers to both PDF distiller and Acrobat Distiller. For clarity, the terms are defined below.

**PDF distiller** is any program or collection of programs that creates PDF files by first converting them to PostScript format. In some cases the PostScript file is created virtually. For example, a virtual PostScript file is created when "Convert to Adobe PDF" is clicked in Microsoft Word.

**Acrobat Distiller** is a PDF distiller from Adobe Systems Inc. It is referenced in this document because it is a relatively common tool for creating PDF files.

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## 1. SUMMARY OF PDF SETTINGS

As noted in the introduction, PDF characteristics are divided into “required”, “recommended”, and “suggested” groups. For all tables in Section 1, required PDF characteristics are lightly shaded, recommended PDF characteristics are medium shaded, and suggested PDF characteristics are darkly shaded.

PDF files that are compatible or compliant with version 3.2 and/or its addendum must be saved as PDF 1.4 (Acrobat 5) or later to meet the requirements for version 4.01 of the PDF specification.

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If a PDF characteristic is “required” the PDF file must have this characteristic and allowable value to be processed by IEEE.

If it is “recommended” or “suggested” the PDF characteristic does not have to appear in the PDF file. For “recommended” or “suggested” types any valid value is allowed. This includes not setting a value (where allowed by the Adobe PDF specification and PDF distiller).

A “recommended” characteristic generally improves the quality of the PDF file. A “suggested” characteristic may not always be under the full control of the publishing entity or the suggested value may not always be appropriate.

For more details on “Required”, “Recommended”, or “Suggested” types, please see Sections 3.1, 3.2, and 3.3 respectively.

The table below summarizes various PDF characteristics and their allowable value or usage. If a PDF characteristic is missing in the table then any valid value is allowed. For example, page size is not specified in the table or in this document—therefore any page size is allowed.

PDF Characteristic	Allowed Value or Usage
PDF Version	PDF 1.4 (Acrobat 5) or later
Use Passwords or Security?	No
Use PDF Distiller?	Must use
Use Bookmarks or Links?	No
Allow Crop Marks, Registration Marks, or Other Marks?	No
PostScript Code Override Settings File?	No
Embed <b>All</b> Fonts <sup>1</sup>	Yes <sup>2</sup>
Contains Merged Files or Packaged PDF	No
Contains Attachments	No
Latest Version of Fonts	Yes
Open Type Fonts	OK <sup>3</sup>
Fast Web View (Linearized)	Yes
Work with Early PDF Viewers	Yes, if PDF 1.4 compatibility

(Continues at top of next page)

<sup>1</sup> For best results do not embed or subset fonts in graphics files.

<sup>2</sup> Embedded subset fonts are also allowed.

<sup>3</sup> For compatibility with PDF version 1.5 (Acrobat 6) and earlier avoid using Open Type fonts.

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PDF Characteristic	Allowed Value or Usage
Work with Older Printer Support	Yes, if PDF 1.4 compatibility
Color Images	Resolution: 300dpi Downsampling: Bicubic Compression: JPEG/Medium
Grayscale Images	Resolution: 300dpi Downsampling: Bicubic Compression: JPEG/Medium
Monochrome Images	Resolution: 600dpi Downsampling: Bicubic Compression: CCITT Group 4 Anti-alias: Off
Thumbnail in PDF	Yes

### 1.1 Summary PDF Characteristics for Different Kinds of Publications

The content delivered by IEEE Xplore<sup>®</sup> can generally be divided into: (1) transactions and journals, (2) magazines, (3) conferences, and (4) standards. The table below shows the PDF characteristics of typical content for each of these types of publications. Remember all PDF files must have the required PDF characteristics listed in the table on pages 2 and 3.

PDF Characteristic	Transactions & Journals	Magazines	Conferences	Standards
PDF Version	Yes	Yes	Yes	Yes
No Passwords or Security	Yes	Yes	Yes	Yes
PDF Distiller Used	Yes	Yes	Yes	Yes
No Bookmarks or Links	Yes	Yes	Yes	Yes
No Crop Marks, Registration Marks, or Other Marks	Yes	Yes	Yes	Yes
PostScript Code Does Not Override Settings File	Yes	Yes	Yes	Yes
Embed <b>All</b> Fonts	Yes	Yes	Varies	Yes
Merged or Packaged PDF	No	No	No	No
PDF Contains Attachments	No	No	No	No
Latest Version of Fonts	Yes	Yes	No	Varies
Open Type Fonts	No	No	No	Varies
Fast Web View (Linearized)	Yes	Yes	Yes	No
Work with Early PDF Viewers	Might Not	Might Not	Might Not	Might Not
Work with Older Printers	Might Not	Might Not	Might Not	Might Not
Color Images	Yes	Yes	Varies	Varies
Grayscale Images	Yes	Yes	Varies	Varies
Monochrome Images	Yes	Yes	Varies	Varies
Thumbnail in PDF	Yes	Yes	No	No

For more details on “Required”, “Recommended”, or “Suggested” types, please see Sections 3.1, 3.2, and 3.3 respectively. Acrobat Distiller settings files and PitStop profiles may be downloaded from <http://www.ieee.org/confpubcenter> Also see Section 5 for more information about the sample Acrobat Distiller settings.

## 2. DOCUMENT OVERVIEW

This document is organized differently from previous versions and replaces earlier versions of the PDF specification and the addendum.

PDF files are **no longer** viewed as compliant or compatible. Instead the PDF files must have all the required characteristics. From a practical perspective this means that *at a minimum* the files must be created using a PDF distiller, **all** fonts are embedded, must not have any form of security, and must not contain bookmarks, links, or multiple files in a single PDF file.

IEEE will accept PDF files that have either higher or lower quality than those described in the recommendations and suggestions sections. Doing so may cause long download times or produce lower quality PDF files. So please try to follow the recommendation and suggestions sections.

The remainder of this document is divided into the following sections:

1. PDF Characteristics (Section 3)
  - Requirements (Section 3.1)
  - Recommendations (Section 3.2)
  - Suggestions (Section 3.3)
2. PDF Searching (Section 4)
3. Sample Settings Files (Section 5)
4. Checking PDF Files (Section 6)
5. Scanned PDF Exceptions (Section 7)
6. Acrobat 7 and 8 Distiller Image Policy (Appendix A)
7. Other Acrobat Distiller Settings (Appendix B)
8. Checking Font Embedding in Acrobat 5 or Earlier (Appendix C)

*IEEE will only load PDF files to IEEE Xplore<sup>®</sup> if they meet all the requirements in Section 3.1. PDF files that do not meet one or more recommendations (Section 3.2) or suggestions (Section 3.3) will be loaded to IEEE Xplore<sup>®</sup>.*

*NOTE:* Using some of the newer PDF features such as layers or Open Type fonts may cause the files not to display correctly in earlier viewers or not print correctly on older printers. Making use of these features is a decision for the content providers.

All PDF files must be text searchable and meet the IEEE Xplore<sup>®</sup> PDF requirements. Section 4, PDF Searching, explains the importance of submitting searchable PDF files. It provides guidance on how to accomplish this.

For those using Acrobat Distiller sample settings files are available for download as described in Section 5. Appendix B describes the other settings set in the samples.

The Checking PDF files section describes how IEEE checks submitted PDF files.

The Scanned PDF Exceptions section describes the only conditions where scanned PDF files are permitted. In all other cases scanned PDF files will not be posted to IEEE Xplore<sup>®</sup>.