REQUIREMENTS FOR CREATING PDF DOCUMENTS FOR IEEE XPLORE®

INCLUDING A TECHNICAL APPENDIX

VERSION 3.1

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IEEE CONTENT ENGINEERING

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DOCUMENT STATUS RECORD

Release Date	Status	Version	Amendment / Purpose
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 SUMMARY OF PDF SETTINGS

This document is both a specification for IEEE Xplore® compliant PDF files as well as suggestions as to how best create them. Whenever possible the PDF files must be created from either the application (e.g., Microsoft Word) or PostScript files. When these files are not available the PDF file is created from scans of each page. The settings for both of these cases are summarized below.

These settings are for Adobe Acrobat Distiller version 4. They are also valid for Acrobat Distiller version 5. When using Acrobat version 5 the Compatibility *option must be set to* Acrobat 4.0.

1.1 PDF Settings for PDF Files Created from Application or PostScript Files

Compatibility: PDF version 1.3 (Acrobat 4) preferred. PDF version 1.4 (Acrobat 5) files are acceptable.
File Format: Binary
Optimize PDF: Yes
Generate Thumbnails: Yes
Resolution: 600 dpi

Color Images: Bicubic Downsampling at 300dpi
Compression for Color Images: JPEG/Medium Quality

Grayscale Images: Bicubic Downsampling at 300dpi

Compression for Grayscale Images: JPEG/Medium Quality

Monochrome Images: Bicubic Downsampling at 600dpi
Compression for Monochrome Images: CCITT Group 4

Compress Text and Line Art: Yes

Subset all Font if less than 100% of the Font is used. Otherwise embed the entire Font.

Color Management: No. All colors remain in the original color space or model.
Preserve any Overprint, Under Color Removal (UCR), Black Generation, and Halftone information from the application or PostScript files.

Preserve the PostScript Level 2 copypage Semantics. Preserving this setting gives maximum flexibility when viewing and printing the PDF file.

In general, the PostScript code must not override the PDF creation settings. If the PostScript files override the PDF creation settings the resultant files must fully comply with this specification.

Security: All security settings must be turned off. No passwords must be assigned.

Links and Bookmarks: Neither links nor bookmarks are allowed.

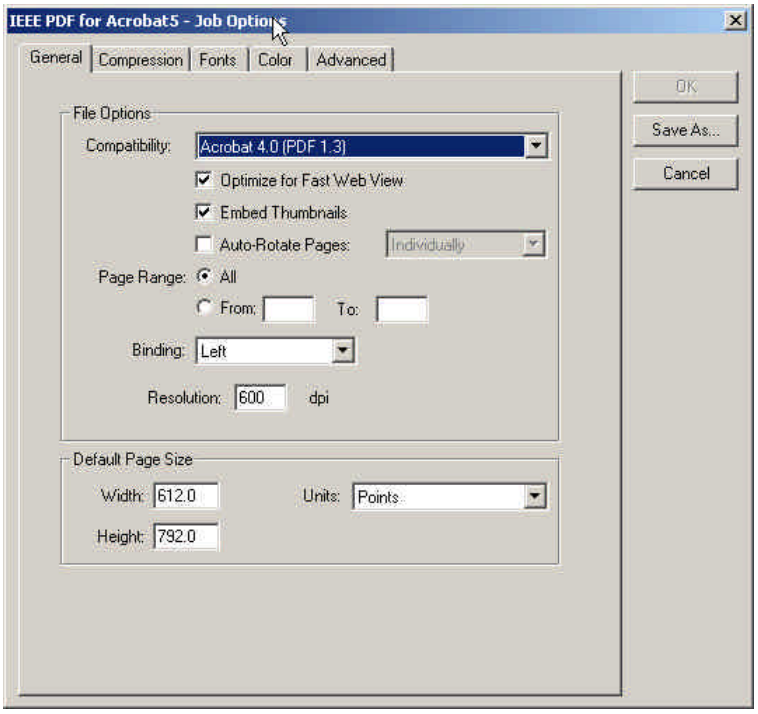
1.2 PDF Settings for PDF Files Created from Scans

PDF files that are created from scans are image only files (the text is not searchable). Thus, these files are simply a collection of page images that have been converted to the PDF format. For this reason this method of creating PDF files should be avoided if at all possible.

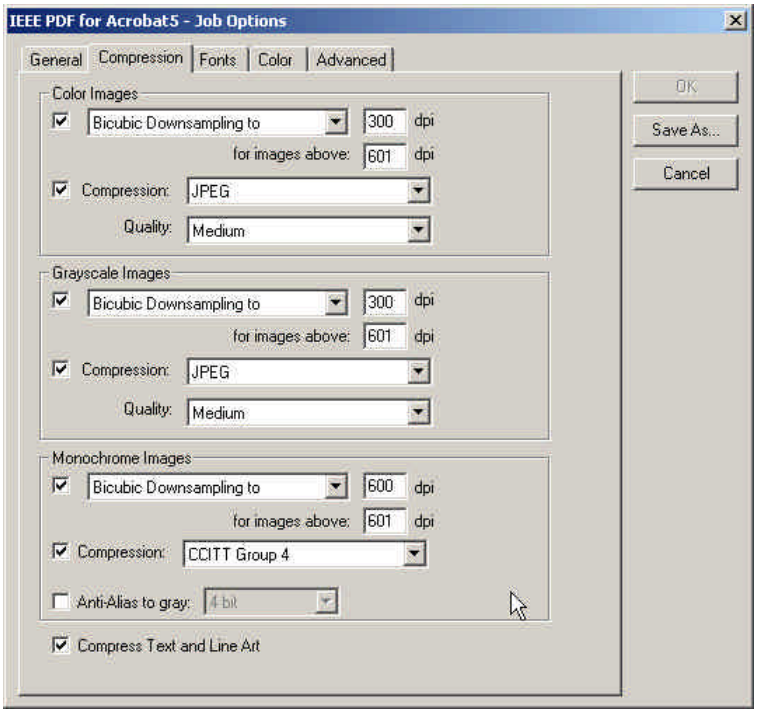
Pages must be scanned at 300dpi and in the appropriate Image Mode (e.g., black and white, grayscale, color, etc.). Scanning in the inappropriate Image Mode will make the PDF file larger than is necessary and slower to download.

2 SCREEN CAPTURES OF ACROBAT DISTILLER 5.X

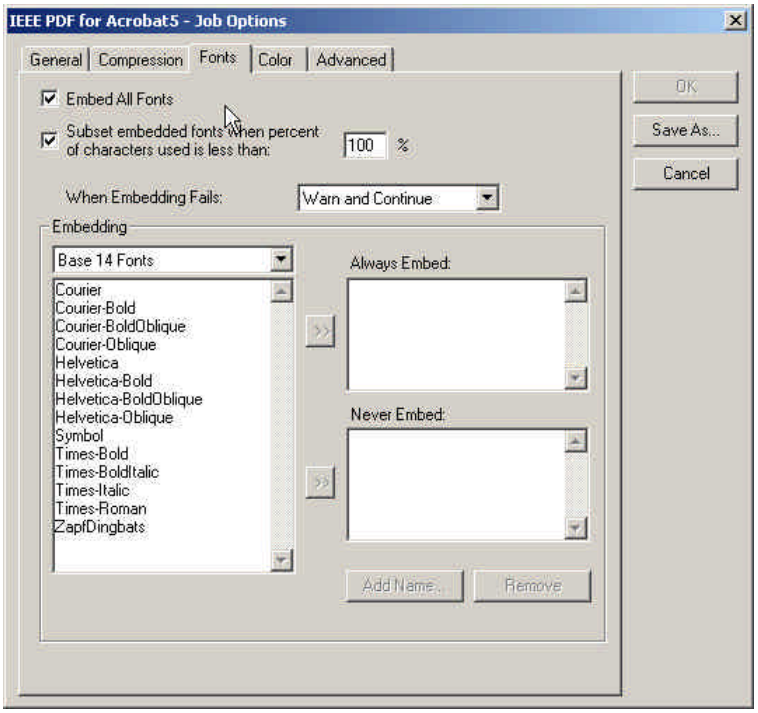
2.1 General Options



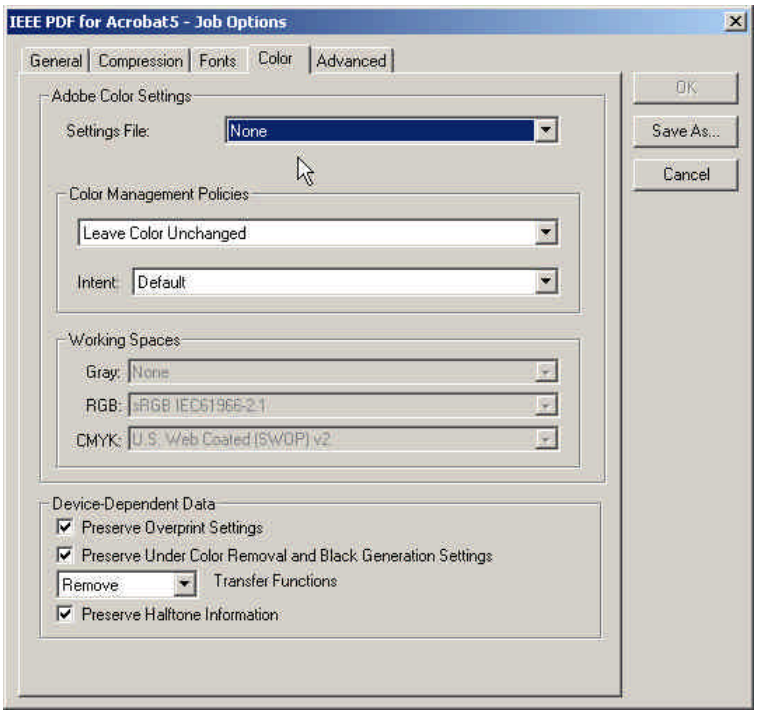
2.2 Compression Options



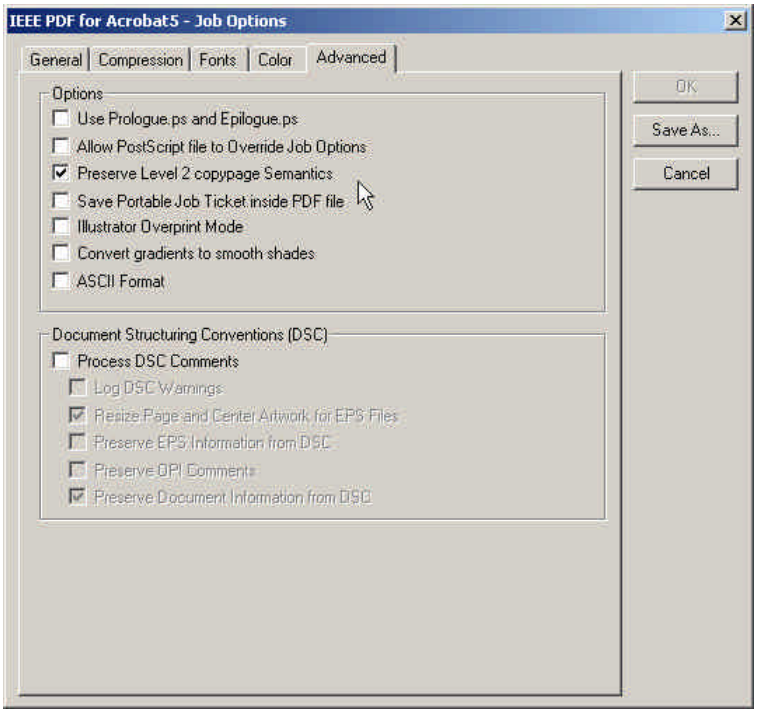
2.3 Font Options



2.4 Color Options

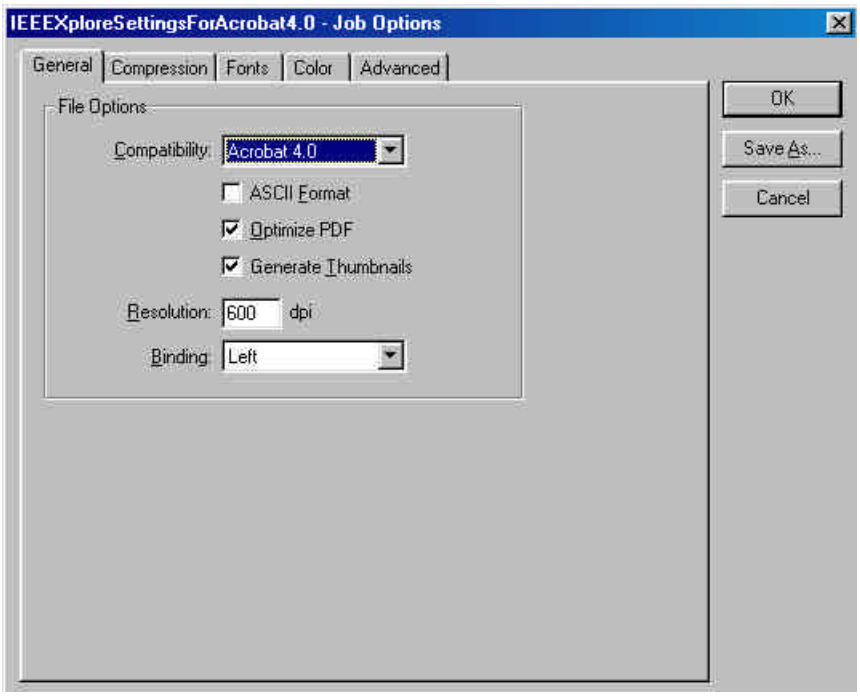


2.5 Advanced Options

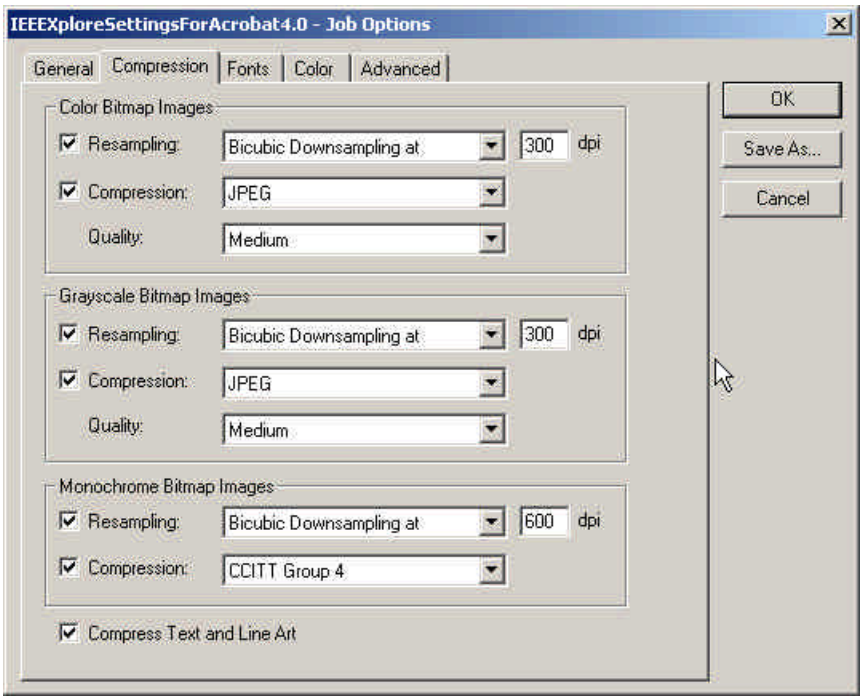


3 SCREEN CAPTURES OF ACROBAT DISTILLER 4.X

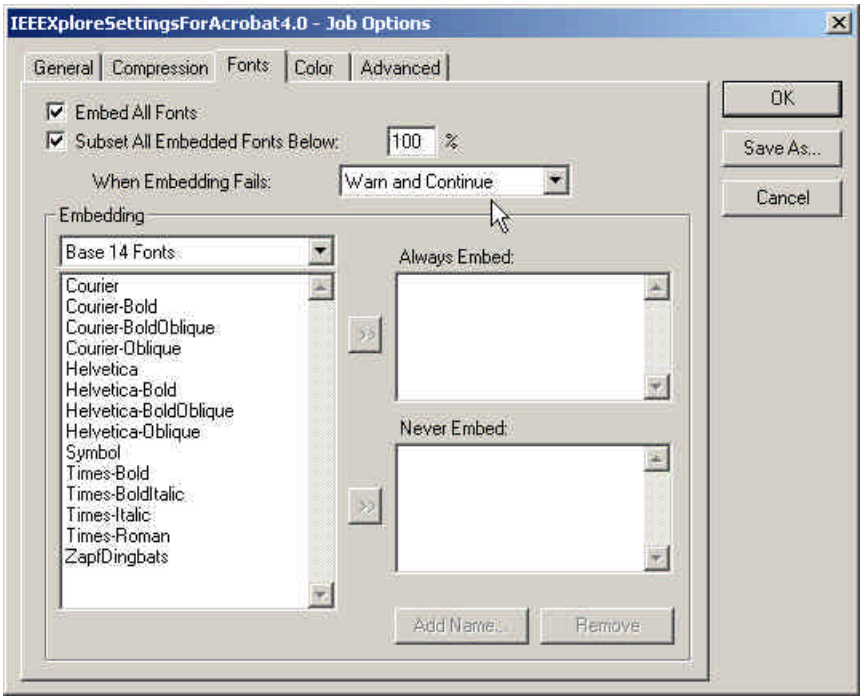
3.1 General Options



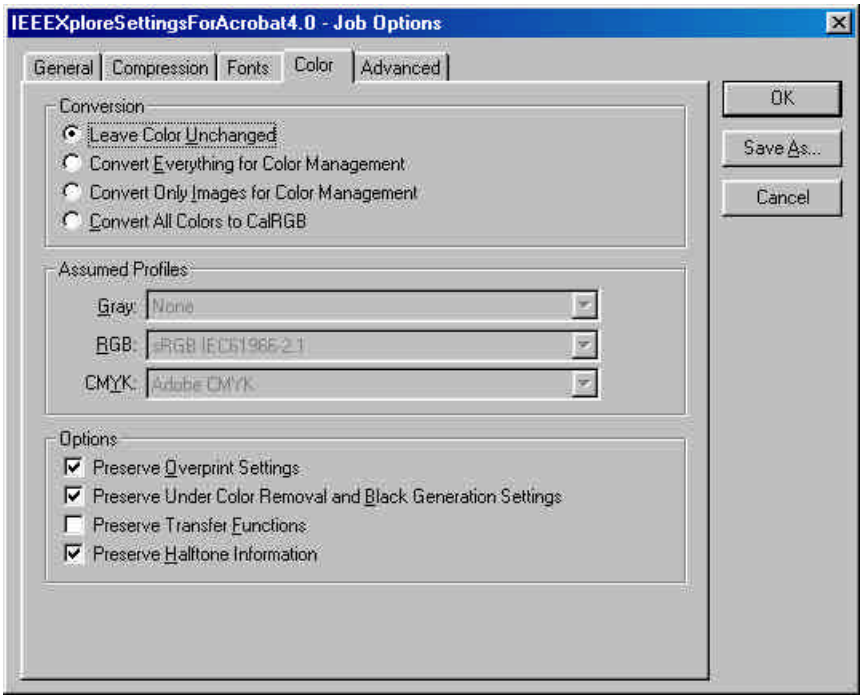
3.2 Compression Options



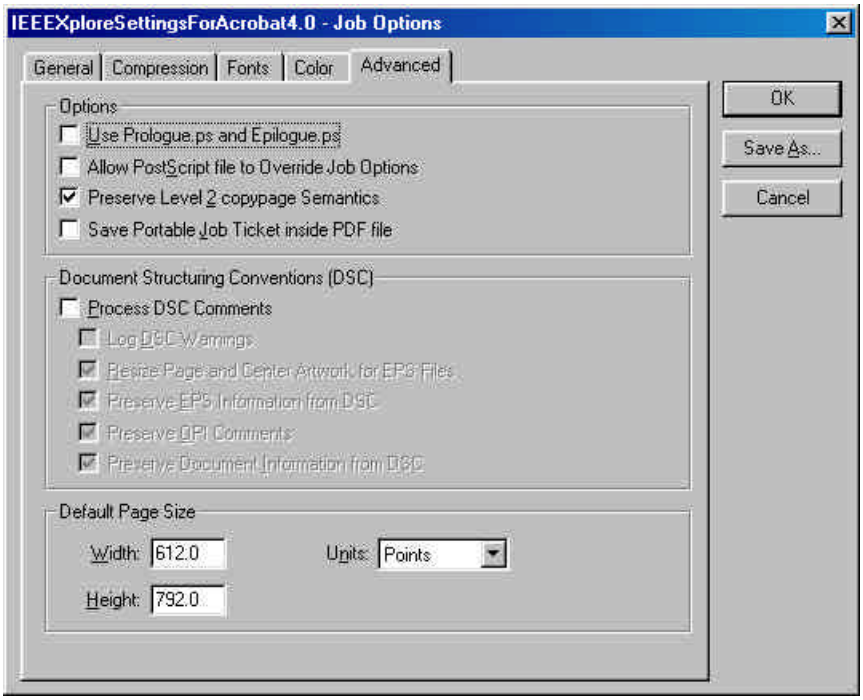
3.3 Font Options



3.4 Color Options



3.5 Advanced Options



4 CHECKLIST OF ACROBAT 4.X DISTILLER SETTINGS

4.1 General Settings

Compatibility: 4.0
ASCII Format: No
Optimize PDF: Yes
Generate Thumbnails: Yes
Resolution: 600 dpi
Binding: Left

4.2 Compression Settings

"Automatic Compression" should not be selected for Color, Grayscale, and Monochrome Images. The following compression settings are required.

4.2.1 Color Bit Map Images

Resample/Downsample: Bicubic at 300 dpi
Compression: JPEG
Quality: Medium

4.2.2 Grayscale Bit Map Images

Resample/Downsample: Bicubic at 300 dpi
Compression: JPEG
Quality: Medium

4.2.3 Monochrome Bit Map Images

Resample/Downsample: Bicubic at 600 dpi
Compression: CCITT Group 4
Compress Text and Line Art: Yes

4.3 Font Settings

Embed all fonts: Yes
Maximum Subset %: 100
When embedding fails: Warn and Continue (optional)
Always embed list: None
Never embed list: None

4.4 Color Settings

4.4.1 Conversion

Leave Color Unchanged: Yes

4.4.2 Options

Preserve Overprint settings: Yes
Under Color Removal/Black Generation: Yes
Transfer Function: No
Preserve Halftone Screen Information: Yes

4.5 Advanced Settings

4.5.1 Options

Use Prologue.ps and Epilogue.ps: No
Allow PostScript to Override Job Options: No
Preserve Level 2 copypage Semantics: Yes
Save Portable Job Ticket inside PDF file: No

4.5.2 Document Structuring Conventions (DSC)

Process DSC Comments: No

4.5.3 Default Page Size

Width: 612.0
Length: 792.0
Units: Point

TECHNICAL APPENDIX—DETAILED DESCRIPTION OF DISTILLER SETTINGS

5 OVERVIEW

This appendix describes in more technical detail the required settings for creating Adobe Acrobat PDF (Portable Document Format) files for IEEE Xplore®. It is intended for use by content providers with knowledge and experience in the wholesale production of PDF files. It is not intended for use by authors wishing to submit material to IEEE. IEEE Xplore® content providers are responsible for ensuring that PDFs delivered to IEEE Xplore® are in full compliance with the requirements set forth in this specification.

The settings described are intended to optimize PDF file size and produce reasonable quality files that download quickly. This is accomplished through a combination of graphic compression settings, downsampling settings, font embedding strategies, and optimization of the PDF file. It is assumed that PDFs are created using Adobe Acrobat version 4.x.

The simplest way for creating compliant PDF files is to create a new joboptions file that follows the screen captures in Section 2 (Acrobat 5) and Section 3 (Acrobat 4).

Other means for producing PDFs are acceptable provided the resultant files comply with all the requirements set forth in this specification. In all cases the PDF files must be complaint with Acrobat 4 (PDF 1.3) specification. If using an application other than Acrobat 4 please refer to Section 9.

6 ORGANIZATION OF THE CHECKLIST

Section 4 is organized as a series of checklists. Each checklist corresponds to the tabs found in Acrobat under "Settings→Job Options" (Sections 4.1, 4.2, 4.3, 4.4, and 4.5). For example, "**General Settings**" represents the "General" tab. Under each tab is a listing of all the settings for the tab. After each setting is its value. For example, under "**Compression Settings"** is a setting "Compress Text and Line Art" which should be set. "Compress Text and Line Art: Yes" represents this in the checklist. In general, if a setting should be turned on it is followed by "Yes". If a setting should be turned off it is followed by "No". A few settings require a numerical value. For example the setting "Compatibility" should have a value of "4.0" (under "**General Settings**").

7 GENERAL REQUIREMENTS FOR APPLICATION, POSTSCRIPT, AND PDF FILES

7.1 General Page Characteristics (Application, PostScript, and PDF Files)

The pages in a PDF file must not contain crop marks, registration marks, date stamps, time stamps, or any other mark that does not appear in the published version. Page size must be 8.5″ x 11″.

7.2 Fonts (Application, PostScript, and PDF Files)

PDF files must contain only PostScript or TrueType fonts or a combination of the two. In order for the PDF files to match the printed version all fonts must be properly embedded. There are generally two ways to accomplish this. The first way is for the application to include all the fonts

used when the PostScript file is created. The second way is to give Acrobat access to the fonts at the time the PostScript file is converted to PDF.

Including fonts within a PostScript file depends on the application and the printer driver chosen. Since each computer is different, please refer to the appropriate operating system and application documentation for more information.

Giving Acrobat access to the fonts takes only a little bit of effort. Typical installations of Acrobat do not look in the system's font folder after the completion of installation. To get Acrobat to do so choose "Settings→Folder Options". Click on "Add" to select the folder that contains the system's fonts. Choosing "Settings→Folder Options" will show which folders Acrobat currently looks at for font information.

To properly embed fonts the following items in the Acrobat "Fonts" tab must be selected (i.e., checked):
1. Embed All Fonts
2. Subset All Embedded Fonts Below
3. If the fonts are not included in the PostScript file Acrobat must be given access to the fonts (see the beginning of Section 4.3 for more information).

(If it is unclear that fonts will be properly embedded in a PDF file change the "Fonts" tab so that "when embedding fails" the job is canceled prior to Distilling the PostScript file.) Refer to the Acrobat documentation for specific information regarding accessing fonts.

7.3 Graphics and Figures (Application Files)

Graphics used in the source application must have resolutions in excess of that given in this specification (see Sections 4.2.1, 4.2.2, and 4.2.3).

7.4 Security

All security options must be turned off and no passwords should be assigned.

7.5 Links and Bookmarks

Neither links nor bookmarks are allowed.

8 REQUIREMENTS FOR PDF FILES CREATED FROM SCANS (SCANNED PDFS)

PDF files that are created from scans are image only files (the text is not searchable). For this reason "Scanned PDFs" are created only when the original application or PostScript files are not available. Each page is scanned at 300dpi and in the proper image mode. For instance, if a group of pages do not contain color the resultant PDF file will download faster and is much smaller if the pages are scanned as black and white instead of as color.

It is assumed that the "Import→Scan" command in Adobe Acrobat 4 is used to create a "Scanned PDF" file. If other means for producing Scanned PDFs are used the resultant files must be the same as those provided by "Import→Scan" command of Adobe Acrobat 4. Such a file is simply a series of images stored in a single file. As long as there is no additional information in the PDF file no specific settings are required other than scanning at the proper resolution and mode.

9 REQUIREMENTS FOR PDF VERSION 1.5 (ACROBAT 6) FILES

PDF files must be compatible with PDF version 1.4 (Acrobat 5) or earlier. Any PDF application is acceptable as long as the PDF files produced are version 1.4 or earlier.