



Reliable PDF Creation in the Enterprise

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Agenda

Introduction

Content Creation

PDF File Creation

Post-PDF File Creation Tweaking
& “Other” Considerations

Q&A



Introduction





Introduction

The Enterprise

- We are not talking about Star Trek
- In our context, *enterprise* refers to an organization conducting day-to-day business which is not primarily creative content creation, prepress service, or publishing
- May include governmental agencies, academia, and R&D organizations



Introduction

The Enterprise

- **Organizations in which PDF can be created and used as a content communications media for display and on-demand printing with occasional external production needs**
- **Creators and recipients of PDF in such organizations are primarily Windows-based (90%+) but must maintain compatibility with the 10% who “think different”**



Introduction

The Enterprise

- **Typical applications from which PDF is derived:**
 - Microsoft Office
 - Corel WordPerfect
 - Lotus WordPro
 - Adobe FrameMaker
 - Microsoft Internet Explorer
 - FileMaker Pro
 - Microsoft Visio, Project, and Publisher
 - JASC Paint Shop Pro
 - CorelDRAW
 - Specialized & industry-specific application programs



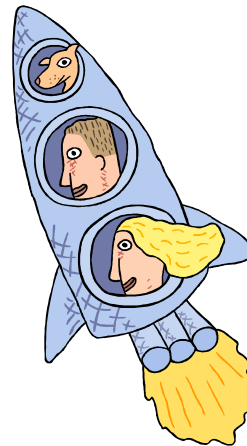
Introduction

The Enterprise

- **And some content from professional graphics and document layout programs:**
 - Adobe Illustrator
 - Adobe Photoshop
 - Macromedia Freehand
 - Adobe PageMaker
 - Quark XPress
 - Adobe InDesign

This is NOT ...

- **A sales pitch**
(if you are attending this conference, you have already bought into Acrobat and PDF)
- **A tutorial on Advanced Techniques**
(other sessions deal with the specifics of hyperlinks, indexing, multimedia, forms, collaboration, prepress, etc.)
- **Rocket Science**



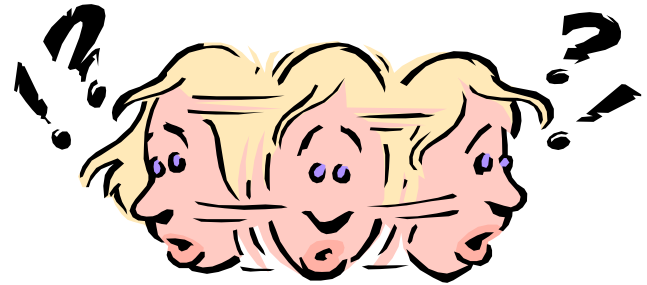
We will ...

- Solve the puzzle as to how to reliably, consistently, and easily create PDF files without gurus and prepress experts — mere mortals can do this!



We will ...

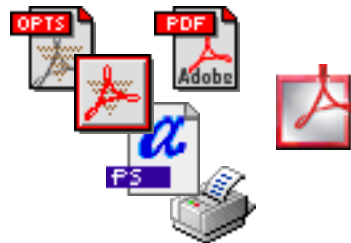
- **Discuss:**
 - Issues associated with content creation
 - Limiting the number of settings, options files, and decisions necessary to create a PDF file
 - Techniques and shortcuts to create lean, mean, high quality PDF files suitable for:
 - Display (and web)
 - Printing
 - & “Low end” prepress
- **Debunk myths and urban legends surrounding basic issues of PDF creation**





Dov Isaacs agrees with Ron Popeil ...

***"Set it
and
Forget it"***





The Fine Print (pun intended) ...

- ➡ The material presented today may challenge long-held religious beliefs about how to create content, PostScript, and PDF
- ➡ The opinions and techniques presented are those of the presenter, Dov Isaacs, and do not necessarily represent opinions held by or techniques officially endorsed by Adobe Systems Incorporated
- ➡ You mileage may vary, but DO try this at home!



Content Creation



Content Creation

General Considerations

- A PDF file can never be better than the content from which it is created
- GIGO: Garbage in, garbage out!





Content Creation

General Considerations

- **\$2,500 buys a tremendous amount of computer, printer, and software, well beyond even the dreams of publishing professionals fifteen years ago**
- **Today, we can very rapidly and inexpensively produce cruddy, shlocky-looking junk**
- **There is just no accounting for bad taste**

Content Creation

General Considerations

- We will discuss the mechanics of content creation, not issues of taste and style!

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Gustav Hunckledinkle		
Objective	<i>I wanna gud prophphesional posishun!</i>	
Experience	2000 – 2001 Glurbish Design Studio West Pork Chop, CA <i>Grafic Designer</i> <ul style="list-style-type: none">▪ Helped rite and layout many documents & pamphlets.▪ Layed off when customers went elsewhere.	
	1985 – 2000 <i>Acme Supply Company</i> <i>Fast Pork Chop, CA</i> Quality Manager <ul style="list-style-type: none">▪ PERSONALLY INSPECTED ALL STUPHPH SHIPPED TO THE COYOTE.	
Education	1985 General Custer High School Surrender, WY <ul style="list-style-type: none">▪ Graduated Summa Cum Lowly.	
Interests	Fast cars and booze.	



Content Creation

General Considerations

- Maintain content at its highest level of abstraction by category and within category; expedience can bite you terribly later!

Text (as realized via fonts)

trumps **Vector Graphics** (lines & polygons)

&

Vector Graphics (lines & polygons)

trump **Images** (raster data)

Content Creation

General Considerations

- **Lose no data before its time ...
... add no unnecessary data**
 - Image data
 - Transparency information
 - Color information
- **Avoid unnecessary and cascading data and attribute transformations**
 - Lossy compressions
 - Colorspace transformations
 - Artifacts from flattening of transparency

Text

- **Keep text as “text”**
 - Avoid “convert to outline” or “rasterize” operations except for complex, very special artistic effects
 - Why?
 - Text rendered with fonts has smart scalability due to “hinting” of mathematical character shape definitions
 - Displays and prints with much higher quality, especially at smaller point sizes and on low resolution devices
 - Vector artwork is not “hinted” as are commercial Type 1, TrueType, and OpenType fonts – loss of readability when scaled down
 - Images are resolution dependent and not readily scalable without serious quality loss
 - PDF searchability and touch-up capability for text is lost with conversions to vector graphics or images



Text

■ Fonts

- Adobe PostScript and PDF both support Type 1 and TrueType fonts natively and equally well
(Yes, this is contrary to what many so-called graphics and prepress professionals may continue to tell you!)
- Choice of fonts should be based on:
 - Aesthetics
 - Appropriateness of font design to its proposed use
 - Quality of font production including adherence to standards (such as encoding and character sets)
 - Licensing terms – font vendor must allow embedding of fonts in PostScript and PDF for purposes of “preview and print” – otherwise, the font license is effectively USELESS!



Text

- **Fonts** (*continued*)
 - Avoid “hacked fonts”
 - Font tools such as Fontographer and FontLab
 - Great for creating and editing new fonts
 - NOT lossless editors and “converters” of existing fonts
 - Changes to metrics may alter line and page breaks
 - Possible changes to design (bezier versus quadratic)
 - Loss of kerning data
 - Loss of “hinting” data degrades display/print quality
 - For custom characters and logos
 - Do not add or substitute characters into existing fonts
 - Commission special symbol font from type foundry
 - NEVER, repeat NEVER modify a commercial font and resave it with the same name!

- **Fonts (continued)**
 - For non-Western Latin character sets
 - Do not use fonts that masquerade as Western Latin fonts
 - Results in data conversion problems later
 - Problems with text touch-up and search in Acrobat
 - Use applications that support Unicode
 - Use OpenType fonts with support for desired character sets

Серия Шиуриим Фрэнкельуфер
№ 4а
ПАРШАТ ВА-ЙЕРА – ПЕРВАЯ ЧАСТЬ
Раввин Менахем Лайбтаг

Почему в Сефер Берешите так много «материала» о СЕДОМЕ? Просто потому, что там случайно живет Лот, племянник Авраама?
В шиуре этой недели мы увидим, что Седом в Танахе является антиподом Иерусалима. Первая часть является повторением шиура прошлого года, в то время как вторая часть рассматривает ту же тему в несколько ином аспекте.

ВВЕДЕНИЕ

В двух последних шиуриим мы избрали Авраама Авину, т. е. из человечество к более близкой строителями Вавилонской баш ("зера") особую страну ("арец") Ва-йере мы знакомимся с тем, поставленной цели.



باكستان: قوات طالبان ليست اراهبية

اعلن الناطق باسم وزارة الخارجية الباكستانية رياض محمد خان الاثنيين ان باكستان لا تعتبر مسؤولي حركة طالبان الحاكمة في كابول "ارهابيين". وقال خلال مؤتمر صحفي قبل وصول وزير الخارجية الاميركي كولن باول الى اسلام اباد ان "قوات طالبان ليست اراهبية، ولم نعتبرهم ابدا ارهابيين". وقد صرحت باكستان منذ عدة ايام على لسان وزير خارجيتها عبد الستار ان الشعب الافغاني بات "رهينة" بين يدي "مجموعة صغيرة من الغرباء" حيث انها ابتعدت مؤخرا عن طالبان بعد ان اوصلتهم الى الحكم عام 1996. كما رأى عبد الستار ان اعتقال اسامة بن لادن وقادته في تيار "القاعدة" العربي المتطرف يفترض ان يشكل نهاية العمليات العسكرية في افغانستان. مقال خان ان الولايات المتحدة لم وضحت ان اهدافها هم "الارهابيين".

פרשת וירא (שיעורו של הרב מנחם ליבטאג בפ"ש המופיע באינטרנט)

בשיעורים הקודמים עסקנו בבחירתו של אברהם אבינו: בתכלית שלשמה נבחר- ייסוד עם שינחה את כלל האנושות לאמונה בה', ובהבטחות של זרע וארץ- המכשירים ההכרחיים לתכלית זו.

בשיעורנו השבוע נלמד מהן התכונות הלאומיות העתידיות לאפיין את זרעו של אברהם, ואשר באמצעותן הוא עתיד למלא את ייעודו.

פרשיה ארוכה במיוחד

עיון בתנ"ך בעל חלוקה לפרשיות מעלה כי חלק נכבד מאד של פרשתנו- מפרק י"ח פס'; א' ועד פרק י"ט פס' ל"ח- מהוה פרשיה ארוכה אחת, המכילה שני נושאים:

(1) הבשורה על הולדת יצחק.

(2) סיפור הפיכת סדום והצלתו של לוט.

כיוון שהתורה כוללת את שני הנושאים הללו בפרשיה אחת- נעלבנום שבוים קשר כלשהו ביניהם.

יטרה מזאת: לאחר שאברהם ארבעת המלכים ומציל את כל מביע את הסתייגות מסדום ואנש לקחת את חלקו בשלל:

"ויאמר אברהם אל מלך סדום ידי אל ה' אל עליון קונה שמים ועד שרוך נעל ואם אקח מכל

Each of these samples is composed in "Arial"

- **Fonts** (*continued*)
 - Avoid “amateur hour” font production like the plague!
 - Existing tools make it easy to create a font file
 - Extensive knowledge and experience are required to use these tools to produce quality fonts that interface properly with:
 - Latest versions of Windows and Mac operating systems
 - Application programs that directly control fonts
 - RIPs
 - Acrobat and ability to be embedded in PDF files
 - What looks OK on-screen may fail or look terrible farther down in the workflow



Vector Graphics

Vector Graphics

graphical objects represented by stroked and filled polygons and stroked line segments

- **For non-text artwork, offers highest flexibility**
 - No data loss under transformations:
 - Scaling
 - Rotation
 - Masking
 - Minimal graphic display quality degradation when transformed (primarily when downscaling)



Vector Graphics

- **Content creation and editing via “draw” programs, not “paint” programs**
 - Adobe Illustrator
 - Macromedia Freehand
 - CorelDRAW
 - Microsoft Visio
 - “Paint” programs allow creation of stroked and filled polygons and stroked line segments, but such objects are exported and output strictly as image data



Vector Graphics

- **Investment required to learn to use tools properly and effectively**
 - Rectangle as a “rectangle” as opposed to four nearly-touching line segments
 - Difficulty in visualizing shapes, widths, color, and effects as they will appear as ultimately used and either displayed or printed
 - Low resolution screens versus high resolution output devices can result in misjudgment of correct line widths
 - RGB screen display (high gamut) versus CMYK print output (lower gamut)



Vector Graphics

- **Not all output is what you expect it to be!**
 - Examples:
 - Gradient fills ⇒ bunches of polygons of different colors or device resolution image data
 - Vector effects such as drop shadows
⇒ device resolution image data
 - Text ⇒ filled outlines
 - All objects ⇒ device resolution image data
 - Causes:
 - Inherent problems due to file format or file format version
 - PostScript 3 versus PostScript Level 2 or Level 1
 - TIFF, GIF, JPEG are image-only formats
 - Wrong export / save options specified
 - Inherent “limitations” of content creation program



Vector Graphics

- **Specific recommendations**
 - Save vector graphics-based artwork in the highest level file format your workflow can “digest”
 - PDF 1.4 for import into InDesign 2 (1.3 for earlier versions)
 - EPS with PostScript 3 and fonts embedded for other applications
 - Transparency (Illustrator 9 and 10)
 - Works best with InDesign 2 and PDF 1.4
 - Otherwise, requires implicit flattening
 - Can cause objects in region of transparency to be decomposed, text converted to vector graphics, and/or vector graphics converted to images
 - For flattening options, choose “highest quality / slowest speed” and appropriate image resolution

Vector Graphics

- **Specific recommendations** (*continued*)
 - Gradients, blends, fountain fills
 - Choose object type carefully
(Illustrator - *blends* never generate PostScript 3 / PDF 1.3 smooth-shaded gradients, *gradients* do)
 - Choose export format carefully
 - PDF 1.3 and above retain smooth-shaded gradients
 - PostScript 3 / EPS with language level 3 required to retain smooth-shaded gradients
 - All other formats decompose gradients
 - Be careful in defining colors
 - *Spot color* versus *named composite color* definitions
 - Spot colors should be defined and used only when you really need them



Vector Graphics

- **Specific recommendations** (*continued*)
 - Beware of vector artwork from CAD programs
 - AutoCAD and others output PostScript of the form
0 setlinewidth
resulting in stroked lines that are *minimal width renderable*,
i.e., one pixel in width, regardless of device
 - Workarounds:
 - Import and edit in “draw” program before importing into target document
 - Download and install *Prinergy Distiller Plug-in* from CreoScitex at:
<http://www.creo.com/prinergy/distillerplugindownload2.asp>

Vector Graphics

- And finally ...
 - Most of us are NOT gifted, graphic artists
 - Good vector-based clip art is well worth its cost; it is much better than sloppy, poorly-rendered, amateur-hour graphics!





Images

Images

graphical objects represented by raster data

- **The *most flexible* and the *least flexible* format**
 - All graphics can be and ultimately are represented in image format – “edit” can be at the pixel level
 - Lowest level of abstraction for graphics
 - Potential data loss and graphic display quality degradation under transformations:
 - Scaling
 - Downsampling – data loss
 - Interpolation – quality loss
 - Rotations (usually at other than 90° increments)



Images

- **Content creation via “paint” programs**
 - Adobe Photoshop (and Photoshop Elements)
 - Corel PhotoPaint
 - JASC Paint Shop Pro
- **Images necessary for**
 - Computer screen shots
 - Reproduction of photographs
 - Artwork that cannot otherwise be readily represented as text or vector graphics
- **Investment required to learn to use tools properly and effectively**

Images

- **Specific Recommendations**
 - Scan photographic images at reasonable resolutions
 - Scanner support for 2400 dpi doesn't mean that an 8"x10" photo should be scanned at 2400 dpi unless significant magnification and cropping is involved
 - Consider downsampling before saving image
 - Screen shots (and other image graphics)
 - Do NOT interpolate to higher resolutions
 - Extra image data is bloat carried through the workflow and into the PDF file
 - No quality improvement achieved; can result in poorer image display and printing
 - Use "image interpolation" option when saving from Photoshop as EPS or PDF or use "cheap Prologue.ps trick" discussed later!

Images

- **Specific recommendations** *(continued)*
 - Save as EPS format image if exact color must be passed through to Distiller
 - Cardinal rule:
Postpone image transformations as much as possible to later phases in the workflow
 - Avoid lossy data compression (such as JPEG for photographic images) until creation of final PDF file
 - Avoid color transformations until display or print time (more about color later!)
 - Remember that some formats such as GIF are inherently lossy due to 8-bit, indexed color



PDF File Creation





PDF File Creation

PDF Files may be created by three methods:

- **Application Direct PDF Export**
- **PDF via Distillation of PostScript**
- **PDF via PDFWriter**



PDF File Creation

Application Direct PDF Export





Distillation of PostScript

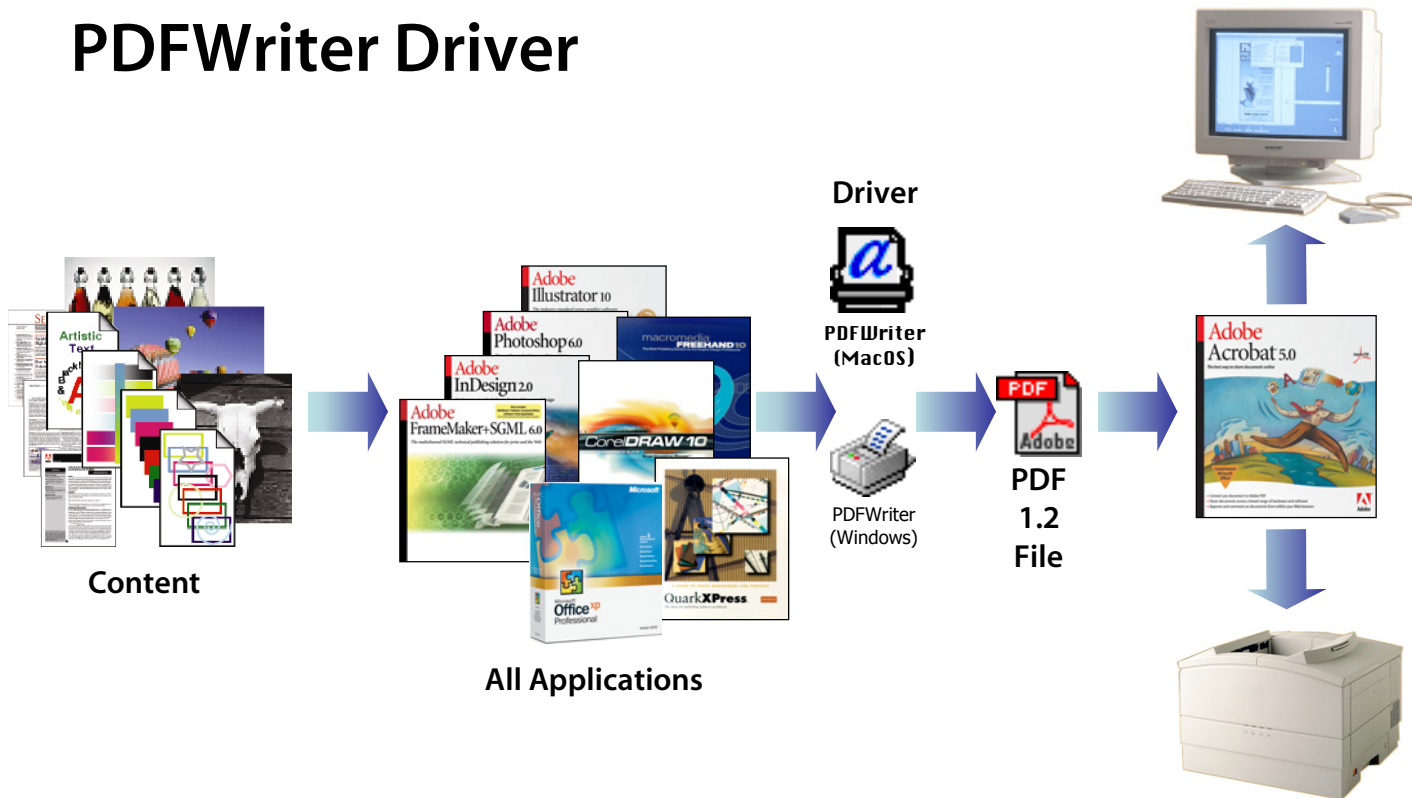
The diagram illustrates the workflow for distilling PostScript into a PDF file. It begins with 'Content' (represented by a stack of documents) and 'All Applications' (represented by various Adobe software boxes like Photoshop, InDesign, and Illustrator). These feed into a 'PostScript Driver' (represented by a printer icon). The driver outputs a 'PostScript File' (represented by a file icon with a blue 'a' and 'PS' label). This file is then processed by 'Acrobat Distiller' (represented by a red Adobe logo icon). The distiller uses 'Distiller Job Options Files' (represented by a file icon with a red 'OPS' label) to produce a 'PDF File' (represented by a file icon with a red 'PDF' label). Finally, the PDF file is sent to a printer (represented by a large white printer icon) for output.

```
graph LR; Content[Content] --> Driver[PostScript Driver]; Apps[All Applications] --> Driver; Driver --> PSFile[PostScript File]; PSFile --> Distiller[Acrobat Distiller]; Options[Distiller Job Options Files] --> Distiller; Distiller --> PDFFile[PDF File]; PDFFile --> Printer[Printer];
```



PDF File Creation

PDF File Creation via PDFWriter Driver





PDF File Creation

Application Direct PDF Export *trumps* PDF via Distillation of PostScript

- Applications with the capability of directly generating PDF from *all* content:
 - Adobe InDesign
 - Adobe Illustrator
 - Adobe Photoshop
 - Others?
- Efficiency – Single pass operation
- Support for PDF objects and attributes that have no corresponding feature in PostScript (example, transparency)



PDF File Creation

PDF via Distillation of PostScript *trumps* PDF via PDFWriter

- Support of EPS graphics requires PostScript output stream and subsequent distillation to create PDF
- Application, driver, and OS support for PostScript:
 - Highest level of graphics support for most applications
 - Most mature driver
 - Globally-recognized “escape” mechanism by which PDFMark can supplement standard PostScript for PDF creation (PDFMaker as well as third party products for FrameMaker)
- PDFWriter support ends with PDF 1.2; default installation of Acrobat 5.0.x does not install PDFWriter

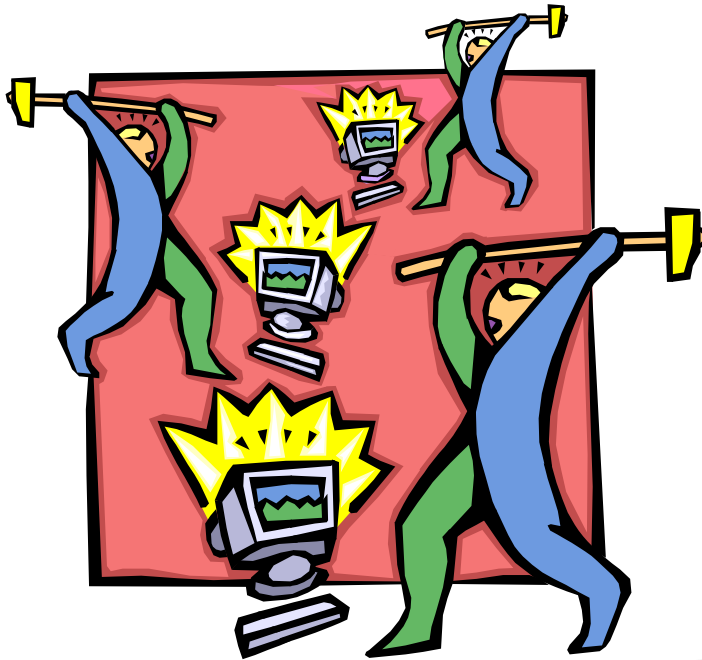


PDF File Creation via Distillation of PostScript

- **Generate PostScript per capabilities of PDF, *not* the capabilities of “final” target print device**
 - Acrobat Distiller PPD in conjunction with the PostScript driver
 - PostScript Language Level 3
 - Native TrueType support
- ***Acrobat Distiller (Windows) & Create Adobe PDF (Mac) printer driver instances***
 - Created automatically by Acrobat Installer with correct PPD file
 - Obviates most any need to manually create and distill PostScript or to maintain the PostScript files

PDF File Creation via Distillation of PostScript

- However, some of the “as installed” default driver settings could use some “tweaking” for best (or even usable) results ...



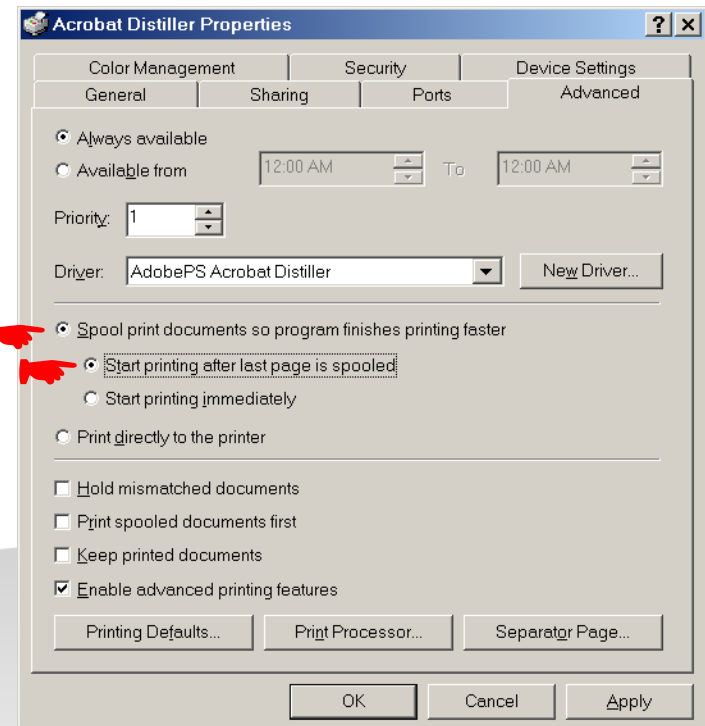
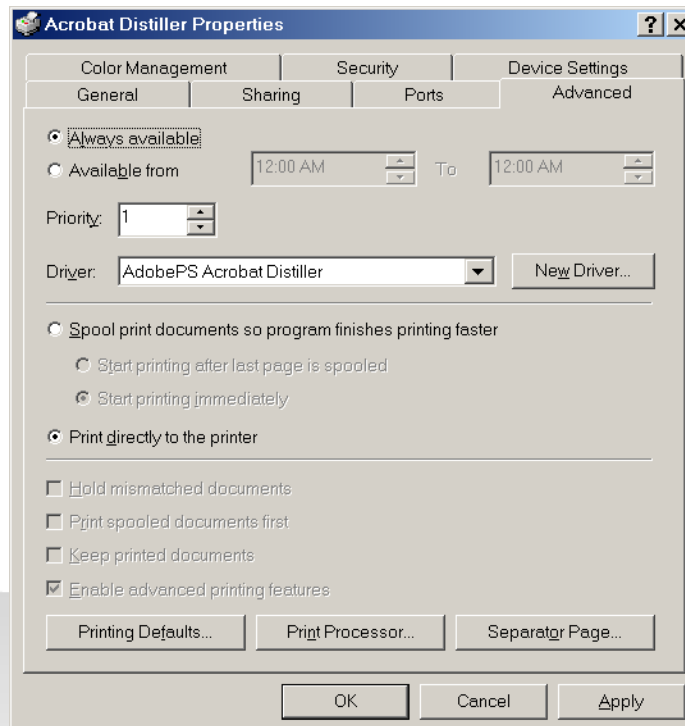


PostScript Driver Setup

PDF Production & Otherwise

Windows 2000 / XP – *Properties* → *Advanced*

- Controls when and how “printing” occurs
- Change spool options





PostScript Driver Setup

PDF Production & Otherwise

Windows 2000 / XP – *Properties* → *Advanced*

- Spooling dramatically improves “return control to application” time
- Printing *after last page is spooled* avoids possible PostScript timeout problems in Distiller
- On the Macintosh, use *Background Printing*

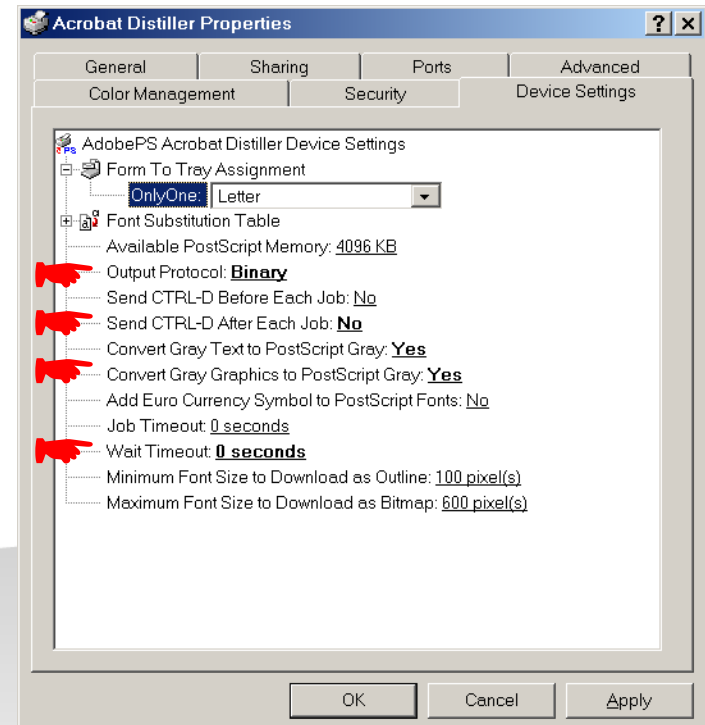
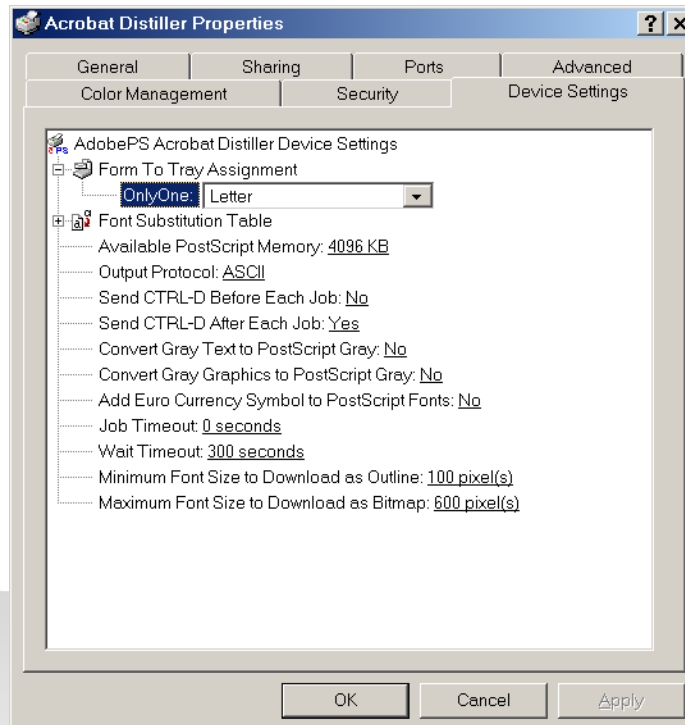


PostScript Driver Setup

PDF Production & Otherwise

Windows 2000 / XP – *Properties* → *Device Settings*

- Controls device specific parameters





PostScript Driver Setup

PDF Production & Otherwise

Windows 2000 / XP – *Properties* → *Device Settings*

- Output Protocol *Binary* yields less and more efficient PostScript for distillation
- CTRL-D is technically incorrect for binary channels (although Distiller kludges around it)
- Wait Timeout = 0 avoids Distiller or PostScript printer job cancellation due to transient system or network slowdown



PostScript Driver Setup

PDF Production & Otherwise

Windows 2000 / XP – *Properties* → *Device Settings*

- **Convert Gray Text/Graphics to PostScript Gray yields more efficient PostScript and PDF**
 - Windows GDI is totally RGB; application black and grayscale expressed as R=G=B
 - Black and grayscale as RGB can lead to “rich black” (C=M=Y or C=M=Y=K) printing or prepress problems
 - Option enabled causes driver to change all GDI text and line art graphics (not images) for which R=G=B to equivalent K (grayscale) Postscript
 - Macintosh QuickDraw supports CMYK; no need for comparable driver options



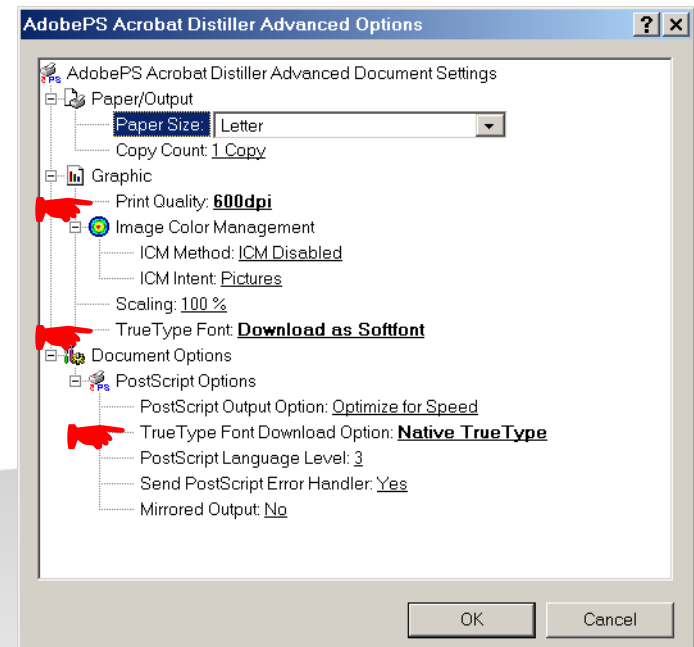
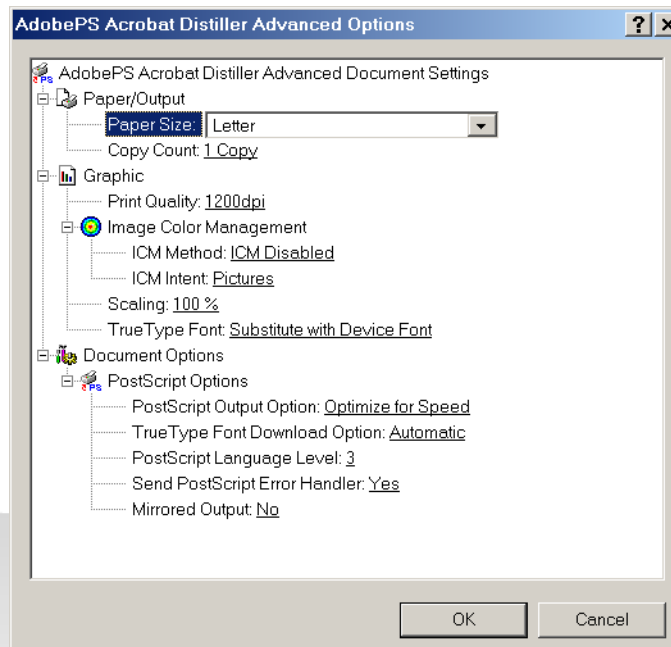
PostScript Driver Setup

PDF Production & Otherwise

Windows 2000 / XP –

Properties → Advanced → Printing Defaults → Layout → Advanced & Properties → General → Printing Preferences → Layout → Advanced

- Controls additional document-oriented PostScript generation options





PostScript Driver Setup

PDF Production & Otherwise

Windows 2000 / XP –

Properties → Advanced → Printing Defaults → Layout → Advanced & Properties → General → Printing Preferences → Layout → Advanced

■ **600 DPI? Windows 2000 / XP / NT 4 Bug**

- For GDI applications only, “large text” is passed to driver as filled outlines – poor rendering / no searchability and PDF touch-up
- Crossover point dependent upon point size, specified print device resolution, font, and Windows version
- 600 DPI setting under Windows 2000 / XP typically allows for 144 pt text, 1200 DPI setting doesn't
- Minor but endurable side effects



PostScript Driver Setup

PDF Production & Otherwise

Windows 2000 / XP –

Properties → Advanced → Printing Defaults → Layout → Advanced & Properties → General → Printing Preferences → Layout → Advanced

- **TrueType Font *Download as Softfont***
 - Option avoids any substitution of host-based TrueType font with “printer resident” font
 - Problems with substitution:
 - Differences in style
 - Differences in character sets supported
 - Less of a problem with the Acrobat Distiller printer instance; potentially a massive problem with “real” PostScript printers with documents using international character sets



PostScript Driver Setup

PDF Production & Otherwise

Windows 2000 / XP –

Properties → Advanced → Printing Defaults → Layout → Advanced & Properties → General → Printing Preferences → Layout → Advanced

- **TrueType Font Download Option**
Native TrueType

- Explicit setting of option avoids surprises
- Conversion of TrueType fonts yields degraded results
 - Bitmaps are at device resolution / not scalable or searchable
 - Outlines are “unhinted” Type 1 fonts
 - No PDF touch-up for text in these fonts



PostScript Driver Setup

PDF Production & Otherwise

Windows 2000 / XP –

Properties → Advanced → Printing Defaults → Layout → Advanced & Properties → General → Printing Preferences → Layout → Advanced

- **PostScript Language Level 3**

- Should **always** be specified for the Distiller, regardless of the capabilities of the final printing device
- Acrobat / Acrobat Reader printing capable of printing all constructs to PostScript printers of all language levels



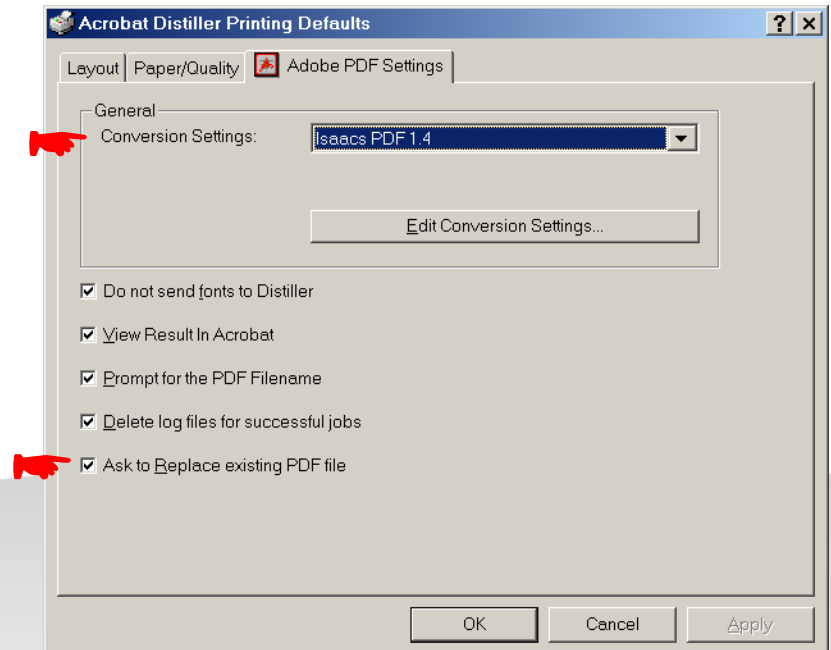
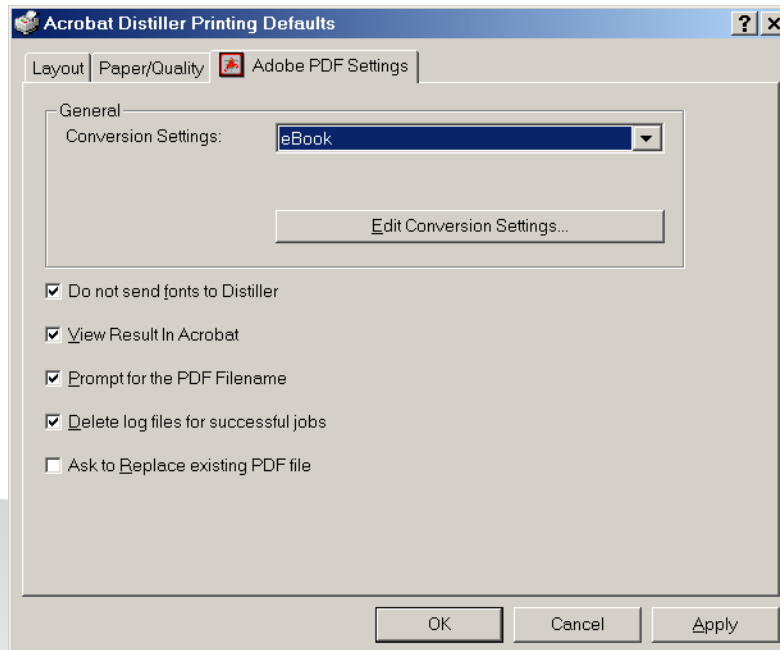
PostScript Driver Setup

PDF Production & Otherwise

Windows 2000 / XP –

Properties → Advanced → Printing Defaults → Adobe PDF Settings & Properties → General → Printing Preferences → Adobe PDF Settings

- Controls the interface between the PostScript driver and the “background” Distiller *plus* specification of distillation job options





PostScript Driver Setup

PDF Production & Otherwise

Windows 2000 / XP –

Properties → Advanced → Printing Defaults → Adobe PDF Settings & Properties → General → Printing Preferences → Adobe PDF Settings

- **Conversion settings**
 - Specify the appropriate job options for distillation
 - Defaults for printer, once set, can be changed or overridden on a job-by-job basis
 - Live dangerously; create and use your own job options appropriate to your needs
- **Ask to Replace existing PDF file option prevents accidental overwrite of existing PDF file with the same name**



PostScript Driver Setup

PDF Production & Otherwise

Windows 2000 / XP –

Properties → Advanced → Printing Defaults → Adobe PDF Settings & Properties → General → Printing Preferences → Adobe PDF Settings

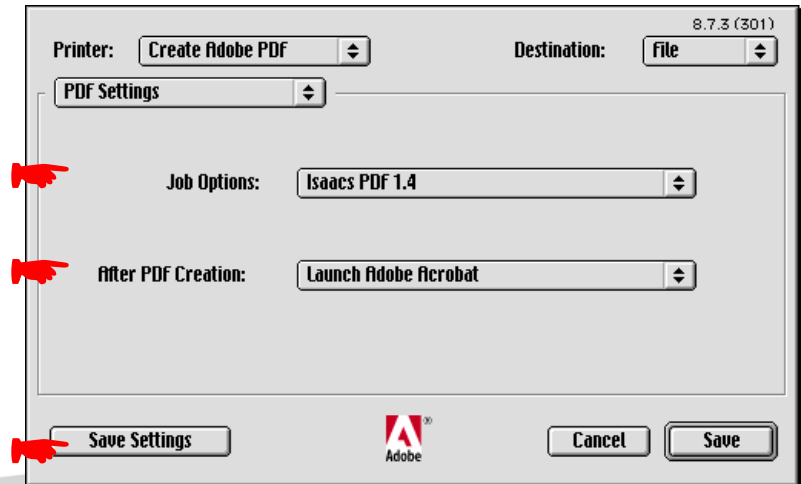
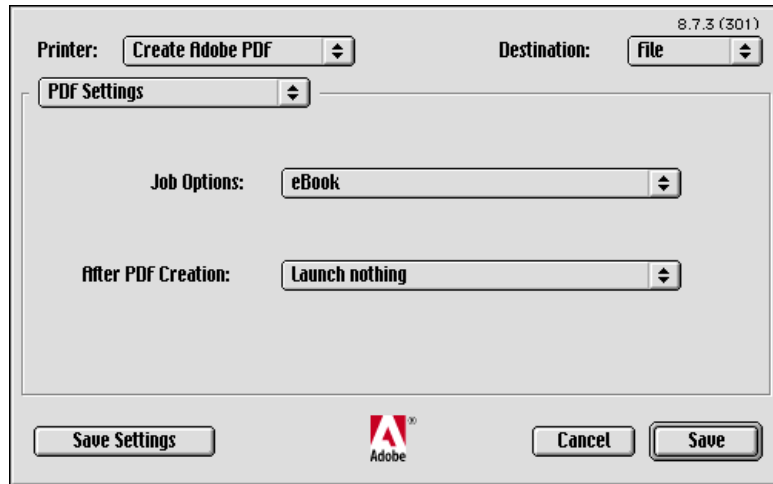
- **Do not send fonts to Distiller – Huh?**
 - Very counter-intuitive to what we've been preaching
 - Distiller now find and embeds Type 1, TrueType, and OpenType fonts from system & user locations
 - Why?
 - Efficient and compact intermediate PostScript
 - Faster distillation and less chance of VM problems
 - Better and more consistent embedding of font subsets
 - Exceptions?
 - Private, application-installable fonts

PostScript Driver Setup

PDF Production & Otherwise

Mac OS 8.x and 9.x – *Print* → *PDF Settings*

- Controls the interface between the PostScript driver and the “background” Distiller *plus* specification of distillation job options





PostScript Driver Setup

PDF Production & Otherwise

Mac OS 8.x and 9.x – *Print* → *PDF Settings*

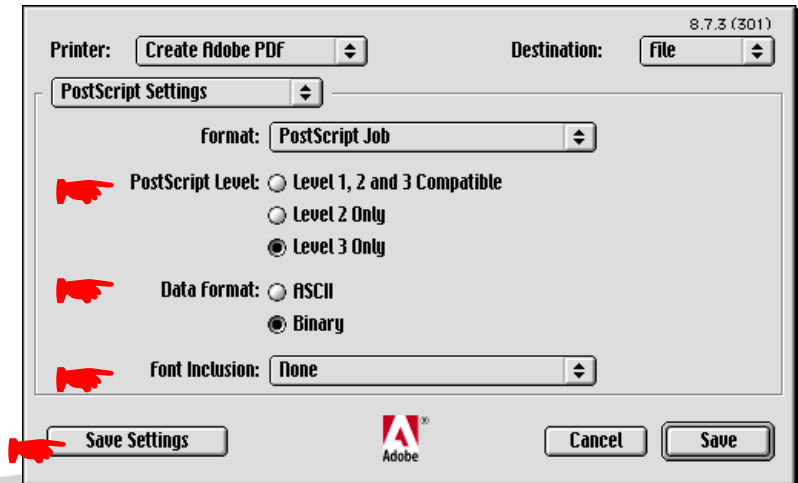
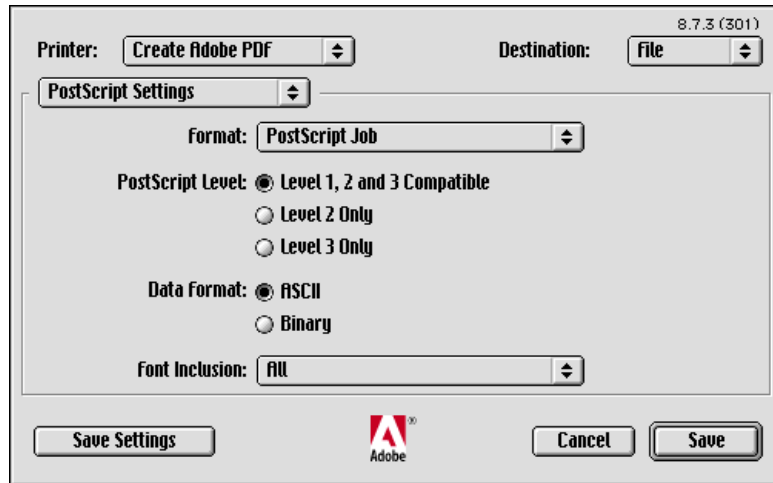
- **Conversion settings**
 - Specify the appropriate job options for distillation
 - Live dangerously; create and use your own job options appropriate to your needs
- **After PDF Creation option allows preview of the PDF file**
 - Unlike Windows, default is Launch Nothing
 - Reasonable option is to Launch Adobe Acrobat
- **Save Settings allows “stickiness” of settings by application program**

PostScript Driver Setup

PDF Production & Otherwise

Mac OS 8.x and 9.x – *Print* → *PostScript Settings*

- Determines type and format of PostScript generated plus options for font embedding in the PostScript stream





PostScript Driver Setup

PDF Production & Otherwise

Mac OS 8.x and 9.x – *Print* → *PostScript Settings*

- **PostScript Level – *Level 3 Only***
 - Should **always** be specified for the Distiller, regardless of the capabilities of the final printing device
 - Acrobat / Acrobat Reader printing capable of printing all constructs to PostScript printers of all language levels
- **Data Format *Binary* yields less and more efficient PostScript for distillation**



PostScript Driver Setup

PDF Production & Otherwise

Mac OS 8.x and 9.x – *Print* → *PostScript Settings*

- **Do not send fonts to Distiller – Again!**
 - Same issues and reasoning as under Windows
 - Works around TrueType font embedding bug on Mac:
 - All TrueType fonts embedded in PostScript stream by MacOS end up as “unhinted” Type 1 outlines
 - Quality degradation
 - PDF text touch-up problems
 - MacOS (*PrintingLib* 8.7.x module)!!
 - Exceptions?
 - Private, application-installable fonts
- **Save Settings (as previously described)**



PostScript Driver Setup

PDF Production & Otherwise

Mac OS 8.x and 9.x – *How to Drive a Mac User Crazy!*

- PDF file *fully* produced under MacOS 9.1
- Encoding names are historical
- PDF files with fonts “Windows-encoded” display, print, and touch-up without any problems on Macintosh (and vice-versa)!

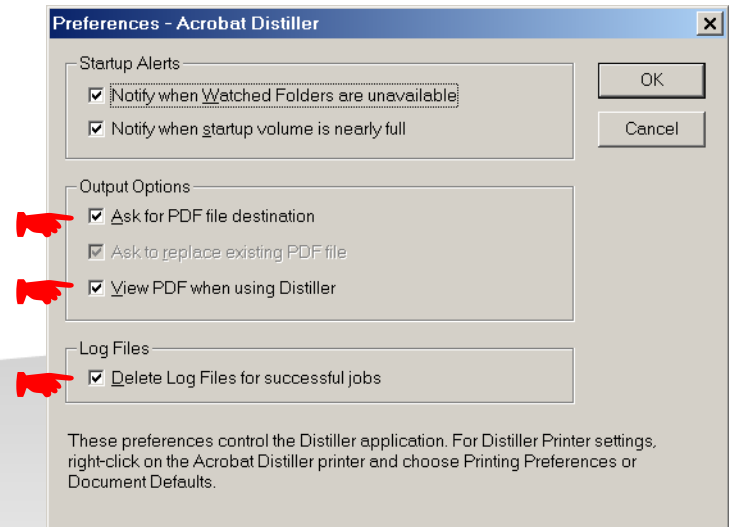
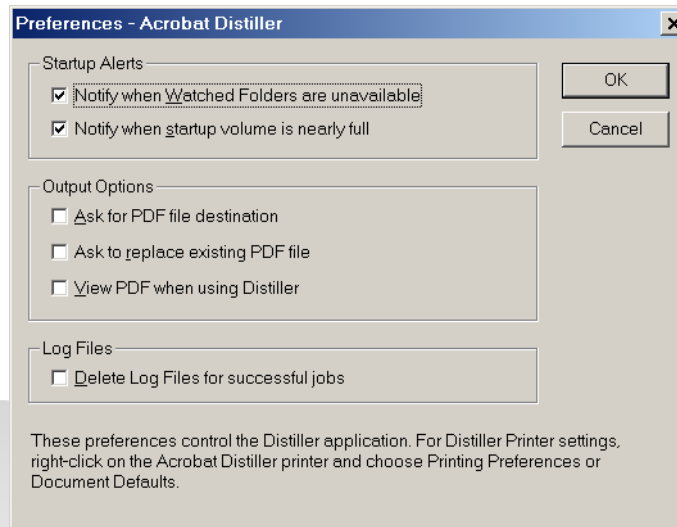
Fonts in: Maddening Fonts.doc.pdf				
Original Font	Type	Encoding	Actual Font	Type
Times-Roman	Type 1	MacRoman	Embedded Subset	Type 1
Times-Bold	Type 1	Windows	Embedded Subset	Type 1
ArrusBT-Roman	TrueType	Windows	Embedded Subset	TrueType
ArrusBT-Bold	TrueType	Windows	Embedded Subset	TrueType
Symbol	Type 1	Custom	Embedded Subset	Type 1
LetterGothicMT	TrueType	Windows	Embedded Subset	TrueType
LetterGothicMT-Oblique	TrueType	Windows	Embedded Subset	TrueType
ZapfDingbats	Type 1	Custom	Embedded Subset	Type 1
Wingdings	TrueType (CID)	Identity-H	Embedded Subset	TrueType

List All Fonts... OK

Distiller Setup

Preferences

- Provides output options for when Distiller is invoked “manually”
- Delete Log Files for successful jobs option for all invocations of Distiller
 - You’ve been asking for this feature for years!
 - Turn off only for debugging purposes





Distiller Job Options

- **Acrobat Distiller provides four sets of predefined job options:**
 - *Screen, eBook, Print, and Press*
 - Job options based on intended usage and audience;
Screen ⇨ *Press*:
 - Low resolution ⇨ High resolution
 - Medium quality, highly compressed images
⇨ Maximum quality, less compressed images
 - Less emphasis on typographical fidelity
⇨ Perfect typographical fidelity
 - RGB, screen-oriented managed color
⇨ Use color exactly as specified in PostScript file
 - Smaller PDF files ⇨ Larger PDF files



Distiller Job Options

- **The predefined job options attempt to optimize PDF files by intended usage**
 - Yields scenarios in which “view and print anywhere” with a single PDF file is not quite true!
 - Assumes that:
 - Screen display PDF doesn’t require high quality typography
 - Image quality loss for screen display PDF files is acceptable
 - Print or press quality PDF is *necessarily* too big or otherwise unacceptable for screen display purposes
 - Operating system / driver / PostScript-based color management actually works and is properly invoked by enterprise application programs and users
 - Poor quality printed output from screen display PDF is OK
 - Repurposing of existing PDF is not important



Distiller Job Options

- You can do better using fewer sets of customized job options in conjunction with more carefully and consistently-prepared content!



Distiller Job Options Compared

Standard Distiller & Isaacs Job Options Sets

	Screen	eBook	Print	Press	Isaacs 150	Isaacs
Compatibility	PDF 1.2	PDF 1.3	PDF 1.3	PDF 1.3	PDF 1.4	PDF 1.4
Optimize for Fast Web View	✓	✓	✓	✓	✓	✓
Embed Thumbnails	✗	✗	✗	✓	✓	✓
Auto-Rotate Pages	Individually	Collectively	✗	✗	Individually	Individually
Binding	Left	Left	Left	Left	Left	Left
Resolution	600 dpi	600 dpi	1200 dpi	2400 dpi	2400 dpi	2400 dpi
Default Page Size	612 x 792 pts	612 x 792 pts	612 x 792 pts	612 x 792 pts	612 x 792 pts	612 x 792 pts
Color Image Downsampling	Average 72 dpi, images over 108	Bicubic 150 dpi, images over 225	Bicubic 300 dpi, images over 450	Bicubic 300 dpi, images over 450	Bicubic 150 dpi, images over 225	Bicubic 300 dpi, images over 450
Color Image Compression	Automatic, Medium Quality	Automatic, Medium Quality	Automatic, High Quality	Automatic, Maximum Quality	Automatic, Maximum Quality	Automatic, Maximum Quality
Grayscale Image Downsampling	Average 72 dpi, images over 108	Bicubic 150 dpi, images over 225	Bicubic 300 dpi, images over 450	Bicubic 300 dpi, images over 450	Bicubic 150 dpi, images over 225	Bicubic 300 dpi, images over 450
Grayscale Image Compression	Automatic, Medium Quality	Automatic, Medium Quality	Automatic, High Quality	Automatic, Maximum Quality	Automatic, Maximum Quality	Automatic, Maximum Quality



Distiller Job Options Compared

Standard Distiller & Isaacs Job Options Sets

	Screen	eBook	Print	Press	Isaacs 150	Isaacs
Monochrome Image Downsampling	Average 300 dpi, images over 450	Bicubic 300 dpi, images over 450	Bicubic 1200 dpi, images over 1800	Bicubic 1200 dpi, images over 1800	Bicubic 300 dpi, images over 450	Bicubic 1200 dpi, images over 1800
Monochrome Image Compression	CCITT Group 4	CCITT Group 4	CCITT Group 4	CCITT Group 4	CCITT Group 4	CCITT Group 4
Monochrome Image AntiAliasing	✗	✗	✗	✗	✗	✗
Compress Text & Line Art	✓	✓	✓	✓	✓	✓
Embed ALL Fonts	✗	✓	✓	✓	✓	✓
Subset Embedded Fonts	< 100% of characters used	< 100% of characters used	< 100% of characters used	< 100% of characters used	< 100% of characters used	< 100% of characters used
If Embedding Fails	Warn & Continue	Warn & Continue	Warn & Continue	Cancel Job	Cancel Job	Cancel Job
Always Embed	✗	✗	✗	✗	✗	✗
Never Embed	Times, Courier, Helvetica, Symbol, & Zapf Dingbats	Times, Courier, Helvetica, Symbol, & Zapf Dingbats	✗	✗	✗	✗



Distiller Job Options Compared

Standard Distiller & Isaacs Job Options Sets

	Screen	eBook	Print	Press	Isaacs 150	Isaacs
Color Settings File	✗	✗	✗	✗	✗	✗
Color Management Policies	Convert Everything to CalRGB; Default Intent	Convert All Colors to sRGB; Default Intent	Tag Everything for Color Management; Default Intent	Leave Color Unchanged; Default Intent	Leave Color Unchanged; Default Intent	Leave Color Unchanged; Default Intent
Color Workspace: Gray	✗	✗	✗	✗	✗	✗
Color Workspace: RGB	sRGB IEC61966-2.1	sRGB IEC61966-2.1	sRGB IEC61966-2.1	✗	✗	✗
Color Workspace: CMYK	US Web Coated (SWOP) v2	US Web Coated (SWOP) v2	US Web Coated (SWOP) v2	✗	✗	✗
Preserve Overprint Settings	✗	✗	✓	✓	✓	✓
Preserve UCR and BG Settings	✗	✗	✓	✓	✓	✓
Transfer Functions	Preserve	Preserve	Preserve	Preserve	Preserve	Preserve
Preserve Halftone Information	✗	✗	✗	✗	✗	✗
Use Prologue.ps & Epilogue.ps	✗	✗	✗	✗	✓	✓



Distiller Job Options Compared

Standard Distiller & Isaacs Job Options Sets

	Screen	eBook	Print	Press	Isaacs 150	Isaacs
PostScript Job Option Override	✓	✓	✓	✓	✓	✓
Preserve Level 2 Copypage	✓	✓	✓	✓	✓	✓
Save PJT in PDF	✗	✗	✓	✓	✓	✓
Illustrator Overprint Mode	✓	✓	✓	✓	✓	✓
Convert Gradients to Smooth Shades	✓ effectively ✗	✓	✓	✓	✓	✓
ASCII Format	✗	✗	✗	✗	✗	✗
Log DSC Warnings	✗	✗	✗	✗	✗	✗
Resize & Center EPS	✗	✓	✓	✓	✓	✓
Preserve EPS DSC Information	✗	✗	✓	✓	✓	✓
Preserve OPI Comments	✗	✗	✓	✓	✓	✓
Preserve DSC Document Info	✓	✓	✓	✓	✓	✓

Cheap *Prologue.ps* Trick

Forcing the Image Interpolation Option

- **The *Prologue.ps* and *Epilogue.ps* facility**
 - Designed for special effects via custom PostScript run by Distiller at the start and end of each PostScript job
 - Requires detailed knowledge of PostScript to write *Prologue.ps* and *Epilogue.ps* code.
- **Examples:**
 - Cover page generation
 - Logging of Distiller parameters
 - Global fixup of bum PostScript
- **Not generally recommended for normal use of Acrobat in the enterprise**

Cheap *Prologue.ps* Trick

Forcing the Image Interpolation Option

- Useful example of use of *Prologue.ps* to force the high quality image interpolation option “on” for all images:

```
% Redefine image operator to set Interpolate to true unconditionally.  
  
/image {  
    dup type /dicttype eq {  
        dup /Interpolate true put  
    } if  
    //image  
} bind def
```



Post-PDF File Creation Tweaking & “Other” Considerations



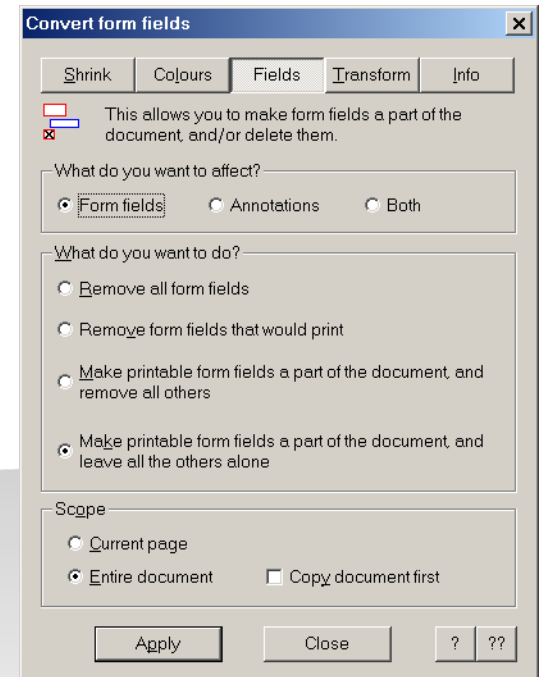
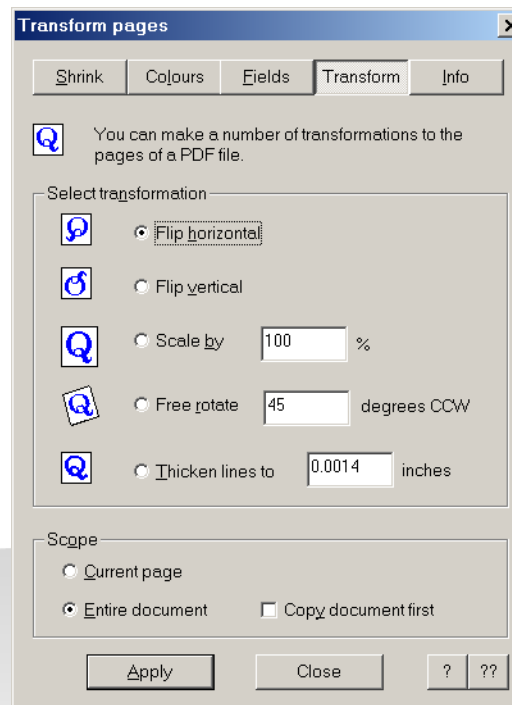
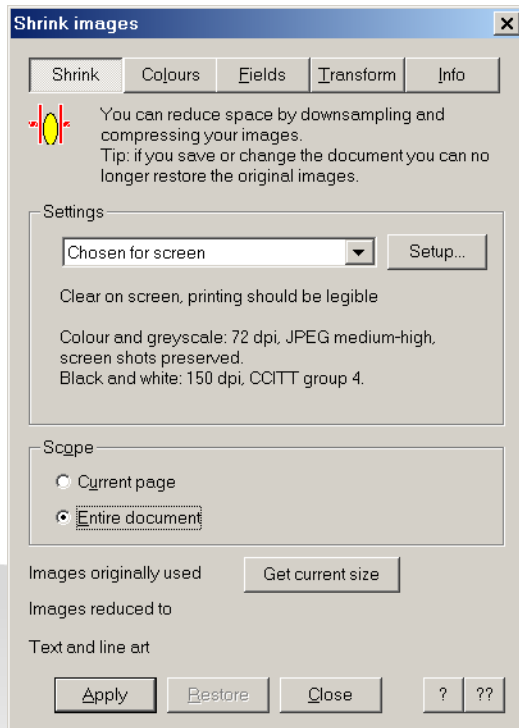
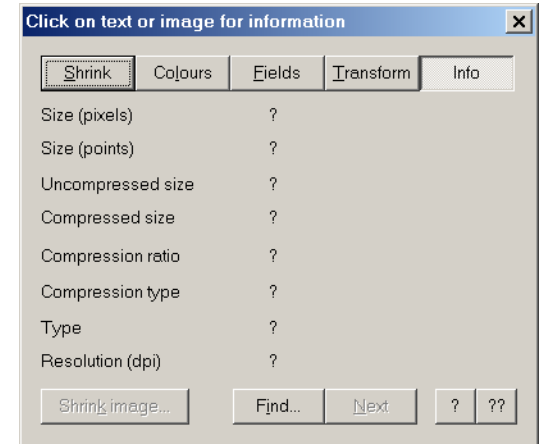


Wonderful Plug-Ins for Acrobat

- **For certain functions not built-into Acrobat 5, available third-party plug-ins provide excellent solutions**
 - Color and colorspace modifications
 - Advanced touch up
 - Document imposition
 - Separations

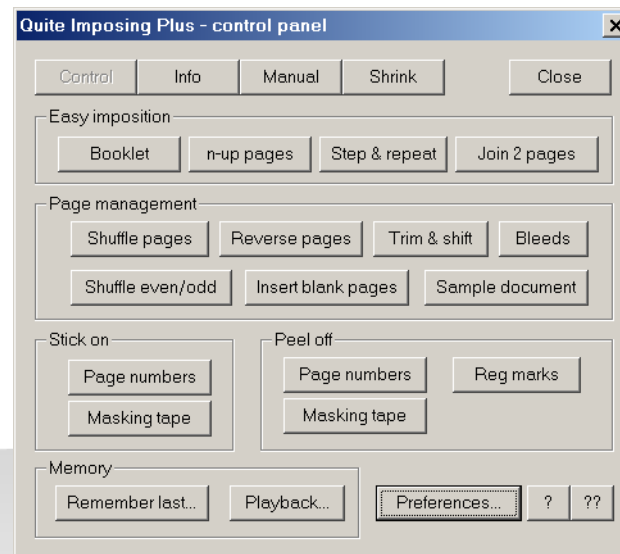
Wonderful Plug-Ins for Acrobat

- *Quite A Box of Tricks*
 - Quite Software
 - Wide variety of “tricks”
 - More on the color conversion tools, later



Wonderful Plug-Ins for Acrobat

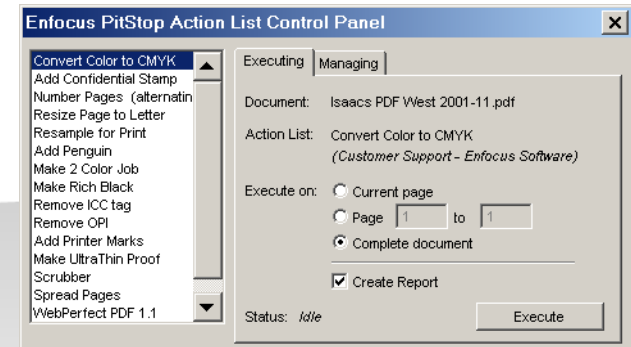
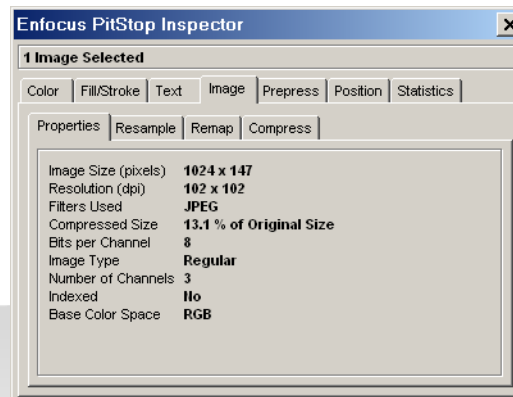
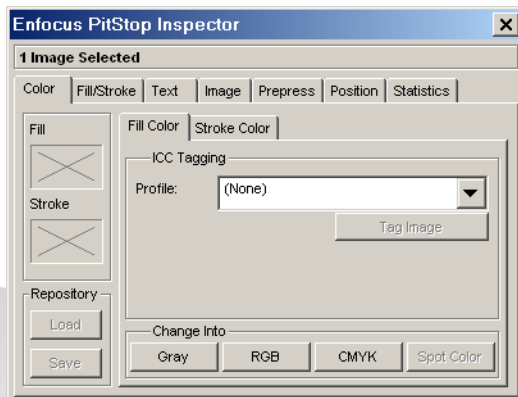
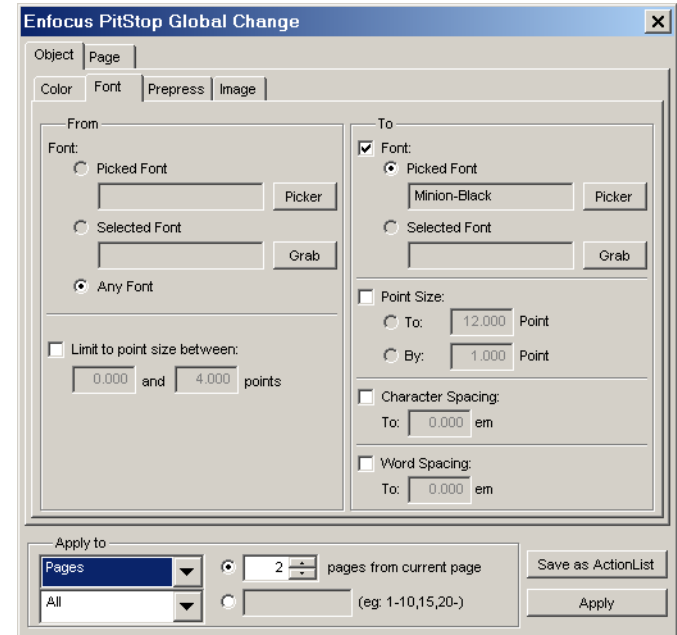
- *Quite Imposing* and *Quite Imposing Plus* – Quite Software
 - Booklet creation, n-up pages, step & repeat, as well as general page imposition functions
 - Easy step-by-step “easy imposition” functions
 - Readily usable by office workers for most functions





Wonderful Plug-Ins for Acrobat

- ***PitStop Professional***
– **Enfocus Software**
 - Virtual “Swiss Army knife” of tools for analysis and fixup of PDF files
 - Oriented more towards prepress professionals





Wonderful Plug-Ins for Acrobat

- *CrackerJack*
 - Lantana Research Software Corporation
 - Separations for prepress from PDF files within Acrobat
- Others ...

Prepress Color Issues

- **CMYK versus RGB**
 - NOT an issue for high-end publishing programs that provide for CMYK color and managed color
 - Primarily an issue for typical “enterprise applications” under Windows AND Macintosh that only support RGB color
 - Generally NOT an issue for composite color output devices (i.e., color laser printers, high-end inkjet printers)
 - PostScript does automatic conversion of RGB or CMYK
 - Acrobat printing options for color management
 - Rich black problem under Windows solved by driver TrueGray options (R=G=B text & vector graphics to K)

Prepress Color Issues

- However, for many prepress professionals ...



- Solutions in the enterprise ...
 - Excellent and inexpensive global RGB to CMYK conversion via *Quite A Box of Tricks* plugin
 - Use EPS from CMYK-capable applications for precise CMYK (or managed color) as well as spot color where and when necessary
 - PostScript pre-processing programs such as *Preflight2000 Colour Chameleon* from Grafikhuset



Acrobat “Save as EPS”

EPS Generation Options

- Controls the options by which EPS can be exported by Acrobat’s “Save as EPS” capability
- The “defaults” are likely **not** what you want!

The screenshot shows the 'Encapsulated PostScript' dialog box with the following settings:

- File Format Options:**
 - PostScript: Language Level 1
 - ☐ ASCII
 - ☐ Binary
 - ☐ Include Preview
- Page Range:**
 - ☐ All
 - ☒ Pages: From: 1 To: 1
- Settings:**
 - Font Inclusion: All Embedded
 - Transparency Quality/Speed: Medium/Medium
 - Color Profile: Printer/PostScript Color Management
 - ☒ Convert TrueType to Type 1
 - ☐ Include RGB and Lab images
 - ☐ Include Comment Appearances (Annotations)
 - ☐ Include Halftone Screens
 - ☒ Clip to Bounding Box
 - ☒ Include Transfer Functions
 - ☐ Include Undercolor Removal/Black Generation
 - ☐ Print ICC colors as Device colors
 - ☐ Apply Overprint Preview

Buttons at the bottom: Defaults, OK, Cancel.

The screenshot shows the 'Encapsulated PostScript' dialog box with the following settings, with red arrows pointing to the changes from the defaults:

- File Format Options:**
 - PostScript: Language Level 3
 - ☐ ASCII
 - ☐ Binary
 - ☒ Include Preview
- Page Range:**
 - ☐ All
 - ☒ Pages: From: 1 To: 1
- Settings:**
 - Font Inclusion: All
 - Transparency Quality/Speed: Highest/Slowest
 - Color Profile: Same As Source (No Color Management)
 - ☐ Convert TrueType to Type 1
 - ☐ Include RGB and Lab images
 - ☐ Include Comment Appearances (Annotations)
 - ☐ Include Halftone Screens
 - ☒ Clip to Bounding Box
 - ☒ Include Transfer Functions
 - ☐ Include Undercolor Removal/Black Generation
 - ☐ Print ICC colors as Device colors
 - ☐ Apply Overprint Preview

Buttons at the bottom: Defaults, OK, Cancel.

Q&A





Adobe

everywhere
you look™

