QuadGraphics®

Innovative People *Redefining* Print℠

Submitting Digital Files to Quad/Graphics

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Table of Contents

CHAPTER 1. INTRODUCTION TO IMAGING WORKFLOWS

3 All-digital workflows

CHAPTER 2. QUAD'S HANDLE & PREPARE PROCESS FOR ALL JOBS

4 Preparing page files for printing
4 Handle & Prepare steps

CHAPTER 3. QUAD'S OPTIMIZATION PROCESS

4 Optimization vs. Normalization
4 Quad Optimization

CHAPTER 4. GUIDELINES FOR PREPARING DIGITAL FILES FOR QUAD/GRAPHICS

5 Submitting PDF/X-1a files
5 InDesign, QuarkXPress and Acrobat
5 Native page file applications
5 Page construction guidelines
6 Layer ordering
6 Guidelines specific to InDesign files
6 Guidelines specific to QuarkXPress files
6 Guidelines specific to vector art programs
6 Guidelines specific to gravure printing
6 Guidelines specific to Die Cuts, Spot UV & Texturized Spot UV

CHAPTER 5. EVERYTHING ELSE YOU NEED TO KNOW ABOUT SUBMITTING FILES

7 Fonts
7 Page file printouts
7 What should be marked on each printout?
7 Pantone Colors
7 Total Area Coverage based on paper stock
7 Submitting transparencies, artwork, digital images
8 Preparing digital photography images
8 Network options and file transfers
8 Naming conventions
8 Contact us

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1. Introduction to Imaging Workflows

ALL-DIGITAL WORKFLOWS

Welcome to Quad/Graphics, the industry leader in the development of all-digital workflows. In 1998 Quad/Graphics was the first web offset printer to embrace a 100-percent digital computer-to-plate workflow for imaging plates.

This manual provides the information necessary to submit digital files for our prepress workflows. We offer three basic categories of digital workflows based on file type.

1. Plateready file workflow

All plateready files undergo a standard preparation process we refer to as "Handle & Prepare." See chapter 2, "Quad's Handle & Prepare and Optimization Processes," for more information.

2. Postscript and normalized PDF workflows

All submitted PostScript and normalized PDF files undergo our optimization process to create streamlined PDF files compatible with any prepress workflow and output device.

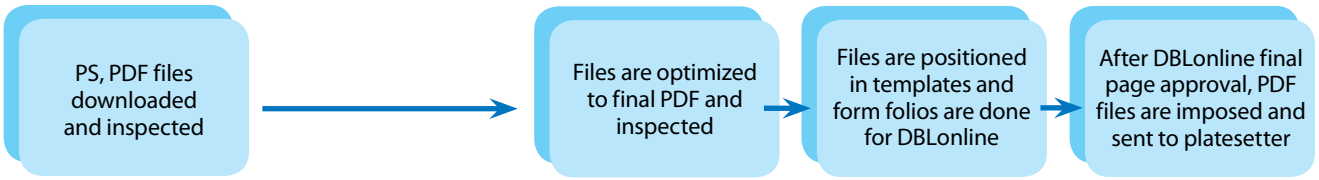
These files also undergo our standard "Handle & Prepare" process. See chapters 2 and 3, "Quad's Handle & Prepare and Optimization Processes" and "Quad's Optimization Process," for more information.

3. Workflows for native application files

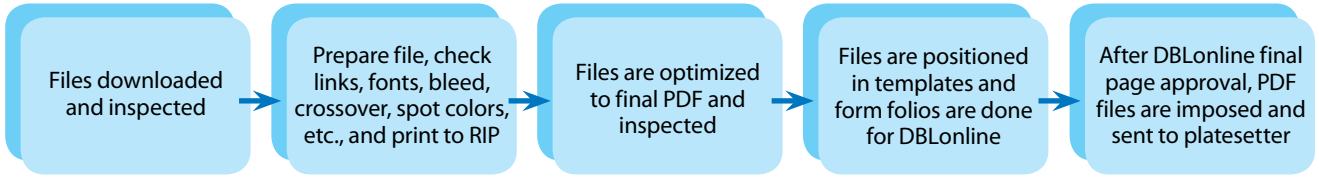
Imaging provides full prep prepress services for clients submitting QuarkXPress and Adobe InDesign files, including conversions, digital page assembly, retouching, color manipulation, silhouetting and special effects, and proofing. These files undergo our "Handle & Prepare" process and our optimization process. For more information, please see chapters 2 and 3, "Quad's Handle & Prepare and Optimization Processes," "Quad's Optimization Process," and "Guidelines for Preparing Digital Files for Quad/Graphics."

The diagram below shows the basic differences in digital workflows based on supplied file types.

Plateready File Workflow (Handle & Prepare)



PostScript & Normalized PDF File Workflow (Optimization)



Native Application File Workflow (Full Prep)

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2. Quad's Handle & Prepare Process for All Jobs

PREPARING PAGE FILES FOR PRINTING

All incoming page files, including plate ready files, undergo prepress production steps that we call "Handle & Prepare."

Quad's Handle & Prepare is a standardized process with a standard fee that is applied to EVERY print job. The Handle & Prepare process is documented in our standard operating procedures, called Quality Systems Management (QSM), and is managed in exactly the same way at all of our Regional Imaging Centers. The imaging QSM system is our guide for continuous improvement in our performance, allowing us to provided the highest attainable quality in prepress technology and service.

HANDLE & PREPARE STEPS

1. Receive the page files digitally via FTP or by disk.
2. Download the files onto a network server.
3. Create low-res for imposition (high-res swapped at RIP).
4. Impose files in a single-page template. This creates a digital reader PDF for DBLonline, and separated preview files.
5. Inspect ripped preview files.
6. Do form folios for association with DBLonline (i.e., putting page numbers to the pages based on file-name associations).
7. Files go to platemaking after final page approval in DBLonline.
8. Impose the page files in plate template for press.

3. Quad's Optimization Process

Our all-digital workflows are based on optimized PDF files. All non-plateready files from clients, including "normalized" PDF files often considered as plateready, undergo an "optimization" conversion to create streamlined PDF files that are compatible with any prepress workflow and output device. In addition to normalized PDF files, imaging will optimize PostScript files and current versions of QuarkXPress and Adobe InDesign.

The Quad optimization process converts incoming files into industry-standard PDF/X-1a files, which will process efficiently through any workflow system with maximum security and reliability. Optimization allows our prepress specialists to adjust the PDF file for any output requirement.

Our optimization process is a critical step to ensure the files move efficiently through our workflows and print correctly on press. **Quad/Graphics cannot guarantee the accuracy, integrity, and stability of page files unless they undergo our optimization process.**

OPTIMIZATION VS. NORMALIZATION

Most digital prepress vendors use a traditional digital workflow in which incoming data files, including PDF files, are normalized, which means they are converted into standard PDF files for futher processing in a dedicated RIP or workflow. Many normalized PDF files are NOT plateready and cannot be printed without problems. Unflattened transparency layers, for example, could erroneously conceal (knock out) text, and images may not be the proper resolution. The bottom line is that an incorrect page reproduced during a press run could result in a great financial burden.

QUAD OPTIMIZATION

During optimization, incoming data files are first pre-flighted to check for common errors. Our verification software confirms that the file is error-free and includes all necessary elements and instructions. After pre-flighting, OPI images are updated to the high-res. The file is then exported, then "optimized," removing layers, flattening transparencies, down-sampling images, setting overprints and creating traps (trap is a Quad requirement).

The instructions contained in each Quad-optimized PDF file support consistent and reliable file output with any workflow. The Quad-optimized PDF is ripped at each output device, providing extensive workflow flexibility since any RIP device can be used with any proofer, printer or platesetter.

The ONLY exceptions to our optimization process are what we consider plateready files, including PDF/X-1a files created with one of these Quad-certified RIPs: DALiM TWiST, Kodak PRINERGY Evo and EskoArtwork Nexus. ALL other PDF files (such as those exported from InDesign and QuarkXpress) are required to undergo our optimization process. All incoming files, including plateready files, also go through our standard "Handle & Prepare" process before platemaking.

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4. Guidelines for Preparing Digital Files for Quad/Graphics

Quad/Graphics is one of the leading prepress providers in North America, and is capable of processing many different digital file types.

SUBMITTING PDF FILES

A PDF optimized or creating using the DALiM TWiST, Kodak PRINERGY Evo and EskoArtwork Nexus RIPs is the preferred file format for both web offset and gravure printing.

PDF files created with a RIP other than DALiM TWiST, Kodak PRINERGY Evo and EskoArtwork Nexus must undergo our Optimization process. (See chapter 3).

If a PDF 1.4 and above is created, transparency remains live must be flattened by the RIP or proofer during prepress. Flatteners in RIP software vary, so different RIPs and proofers may deliver different results.

If you supply a flattened proof but an unflattened PDF file of the page or ad, then the flattener that created the proof must perfectly match our flattener or there may be different output results.

All PDF files *MUST* have:

- All fonts embedded
- Page geometry defined and consistant (trim, bleed, and media/art boxes)
- Correct color space for all elements (CMYK, named spot color, grayscale)
- Spot colors named consistantly with alternative color as CMYK
- Color and Grayscale image resolution between 225 and 300 ppi
- Bitmap image resolution between 600 and 1200 dpi

PDF files *CAN NOT* have:

- Calibrated RGB, LAB, ICC-based color
- Form fields
- Interactive elements such as movies, sounds, buttons, hyperlinks and annotations.
- OPI comments
- Layers
- Transfer functions
- Actions and Javascript
- Security setttings or Encryption
- Preseparation

INDESIGN, QUARK AND ACROBAT PDFS

PDFs exported from InDesign and QuarkXPress are not plate-ready files. These and other normalized PDF files and PostScript files are accepted, but also must undergo our optimization and Handle & Prepare processes to create plateready files (See chapters 2 & 3).

Download instructions and importable output presets at: http://www.qg.com/imaging_specifications.asp

NATIVE PAGE FILE APPLICATIONS

Quad/Graphics accepts native Macintosh page files created using the most current released versions of Adobe InDesign and QuarkXPress. Native InDesign pages and QuarkXPress are processed in a traditional prepress workflow. Proofs are then forwarded to the client for approval.

Page Construction Guidelines

- We prefer to have pages created as single pages built to trim size.
- Reader spreads should be set up as facing single pages.
- Elements that bleed off the page must be extended 1/8" over the edge of the page on all three outer edges.
- All live matter of importance, including all type, must be a minimum of 1/4" inside the final trim in order to guarantee that no essential information is trimmed off.
- In constructing pages that will have versions, contact your ISR for specifications for options on how to best build and supply these files.
- InDesign and QuarkXPress offer built-in options for clipping paths. Special care should be taken to assure that the desired embedded path (from Photoshop) is selected and active.
- OPI workflows used with InDesign's and Quark's transparency functions may require special consideration. Contact your Quad ISR for testing prior to submitting final files.
- All Photoshop images should be 300 dpi (or double the line screen) and either CMYK or grayscale. Black and white line art should be in bitmap .psd or TIFF format.
- If using a spot color (PMS), do not edit its default name. It should be named exactly the same in all page files and linked image files.

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- For variable text, please colorize in a custom spot color named ***"Variable"***. Make this spot color 100C, 0M, 100Y, 0K.
- Thin lines, fine serifs and lightweight or very small type should be restricted to one color. Reproduce all colored type with a minimum of colors.
- Reverse type and line art should not be less than .007" (1/2 point rule) at the thinnest part of a character or rule. Reverse type should use dominant color (usually 70 percent or more) for the shape of letters. Where practical, and not detrimental to the appearance of the job, make the type in subordinate colors slightly larger to minimize register problems on the production press. Small type and fine serifs should not be used for reverse type. The surrounding tone must be dark enough to ensure legibility.
- Overprinted (surprinted) type should not be less than .004" (1/3 point rule) at the thinnest part of a character or rule. When type is to be overprinted, the background should be no heavier than 30 percent in any one color and no more than 90 percent total in all four colors for legibility.
- Trapping and overprinting may require special consideration. Except for special cases, Quad uses process settings which automatically overprint only occurrences of 100% K. If you want a black object to knockout, create a color that includes at least 1% CM & Y along with 100% K.
- Maintain a consistent naming convention for your files that includes the folio(s). Avoid using the following special characters: (-, .?/*\{|>=#:").
- Use InDesign's "Package" and QuarkXPress's "Collect for Output" feature when preparing files for output. These assist in gathering corresponding art, image files and fonts needed for processing.

LAYER ORDERING

- Depending on the design complexity of your pages and whether you work in a high-res or low-res workflow, a layering strategy can help you and Quad/Imaging work more efficiently and yield the most consistent results.
- In general, all body text should be placed on the topmost layer of the page's stacking order or on its own layer using the Layer Palette.
- Using the Layers Palette, a specific solution for a more complex page may be similar to this example:
    - 1st Layer: Folio versions (topmost)
    - 2nd Layer: Tag info such as directions
    - 3rd Layer: Body text
    - 4th Layer: Variable text
    - 5th Layer: Images and Art
    - 6th Layer: Rules and Lines
    - 7th Layer: Tints, Backgrounds and Shadows (bottom)

GUIDELINES SPECIFIC TO INDESIGN FILES

- To learn more about transparency for print output from InDesign, go to www.adobe.com.

GUIDELINES SPECIFIC TO QUARKXPRESS FILES

- To learn more about the best practices for using transparency in QuarkXPress, go to www.quark.com.
- Quark templates/documents should be recreated from scratch in their highest version. Do not open older version Quark documents in a newer version of the application.

GUIDELINES SPECIFIC TO VECTOR ART PROGRAMS

- Do not supply final page files as Adobe Illustrator. Instead, place the CMYK .ai or .eps file into InDesign or Quark. If necessary to construct pages in an art program, clearly note this to your Quad ISR. Additional charges may apply.

GUIDELINES SPECIFIC TO GRAVURE PRINTING

- A dot smaller than five percent cannot be reproduced on press consistently and will result in a salt-and-pepper pattern.
- Please contact your Quad ISR for specifications on how to build and supply pages or covers for gravure jobs that will be perfect-bound.

GUIDELINES SPECIFIC TO DIE CUTS, SPOT UV & TEXURIZED SPOT UV

- Contact your ISR. The Die Line ordering process is a 10-business day requirement before earliest press start.
- The shape needs to be built as a vectored artwork; preferably created in Adobe Illustrator.
- The **DIE CUT** shape should be built as a 1pt stroke (.0138" or .3527 mm) of 100% process black.
- The **SPOT UV** shape should be filled with 100% process black.
- The **TEXTURIZED SPOT UV** shape should be built with a 1pt stroke (.0138" or .3527 mm) of 100% process black and a fill of none. If not using the Quad-supplied textures, please contact your ISR.

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5. Everything Else You Need to Know About Submitting Files

FONTS

According to CREF standards, "fonts used by both customers and vendor must be the same version, name and manufacturer."

To accommodate any inconsistencies between customer fonts and our current font library, please supply all the OpenType fonts used in your page files. If you use PostScript fonts, supply both screen and printer fonts. We don't recommend using TrueType fonts.

You may furnish your font library by family in subfolders. We recommend maintaining the screen and printer font organization as originally provided by the font manufacturer.

There are two options for supplying fonts to Quad:

1) Supply a copy of your entire in-house font library. Imaging will keep this collection on file and use it whenever your files are supplied. Only new additions to your typeface library will need to be submitted when you supply your page files for production.

2) Supply the fonts used for your job each time page files are submitted. If we do not receive the necessary fonts to process your job, or are supplied a listing of the fonts, the customer will be responsible for any type reflows or substitutions.

PAGE FILE PRINTOUTS

Supply final color or black and white laser printouts at actual size (100%) with no corrections noted. If the image area in the page file exceeds the size of a laser or thermal print, print the laser at a reduced percentage, but clearly note the reduction.

If possible, output final printouts with registration marks. This places crop marks on the edges of the file and also prints the name of the file at the top of the page.

What should be marked on each of the printouts?

- Note any special instructions directly on your laser proofs before submitting them to Quad.
- If supplying files that are to be output as 3/C, 2/C or 1/C, a discussion with your Quad ISR should determine laser markup requirements specific to your workflow.
- If fifth/spot colors (actual PMS color) are to be used, they should be clearly indicated.
- Clearly indicate on your proofs any areas in which you have trapping, overprint or knockout concerns.

PANTONE COLORS

The Pantone® Process Guide Coated SWOP tint book should not be used for accurate representation of web offset printing when using anything less than a #3 sheet. The Pantone Process Guide book itself is printed on a #1 sheet @ 175 linescreen. Physical and optical gains and trap values are visibly different on proof and press, especially in deeper tones.

TOTAL AREA COVERAGE BASED ON PAPER STOCK

The basis weight and type of paper stock to be used in the final printed piece will directly affect the amount of UCR at the separation stage.

UCR is expressed and checked in the final file as total area coverage, which is the sum of the four dot percentages measured in the same spot of the densest part of the separation and larger than the size of a quarter.

- **Uncoated and newsprint stocks:** 240 percent total area coverage maximum.
- **Supercalendered stock:** 260 percent maximum.
- **Lightweight coated stock:** 280-300 percent maximum.
- **Heavier coated stock** (50 lb. and above): SWOP requires a maximum of 300 percent and 325 percent for small image areas carrying no significant detail.

NOTE: If images will be reproduced by both Offset and Gravure, then they should adhere to SWOP, which is 300 percent.

SUBMITTING TRANSPARENCIES, ARTWORK, DIGITAL IMAGES

If you are submitting digital images or artwork/transparencies for scanning, please provide the following information on each image.

- The scan name should be no more than 10 characters. If you plan to archive images, it may be helpful to use a unique naming convention. Your Quad ISR can provide more information about naming conventions.
- If an image needs to be silhouetted, please indicate "SILO" on the laser proof and/or transparency.
- If an image or artwork requires special effects, such as drop shadows, please indicate it on the laser proof and/or transparency.

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- Please supply a black and white laser proof of the image at 100 percent. Imaging will use these proofs to calculate percent of enlargement/reduction/rotation for each image.

PREPARING DIGITAL PHOTOGRAPHY IMAGES

Please see "How To Create and Supply Digital Images" at http://www.qg.com/imaging_specifications.asp.

IMPORTANT NOTE: Digital photographers who have not yet worked with Quad should submit test files at least 30 days before production begins. We will use the test files to:

- Check color and sharpness
- Ensure that we receive workable files
- Verify the RGB to CMYK conversion

NETWORK OPTIONS AND FILE TRANSFERS

Quad/Graphics maintains a wide variety of network and connectivity options for our clients. Transmitting digital page files to Imaging via the Internet or a Wide Area Network connection saves time and supports late content changes. Contact your ISR to set up — this requires 48 hours lead time.

Quad/Disk

Our Quad/Disk file transfer Smartool enables you to send and receive low-res or high-res files with ease on either a Mac or PC. Using Quad/Disk, there is no need to compress files prior to sending them.

In order that file transfer methods are completely understood, please discuss file transfers with your Customer Service Representative or Salesperson before production begins. We want to be clear on the file transfer method to be used, which Imaging facility will receive data, etc.

NOTE: Internet-based client Smartools require clients to have an Internet connection of at least 768K.

Network options

- **Internet**: Quad/Graphics maintains multiple DS3 lines to the Internet for FTP or Quad/Disk transfers, and client Smartool access. Quad/Net is an AFP share accessible through the Internet. NOTE: Connection speeds on the Internet can vary.
- **Custom T1 or DS3** (scalable to volume): Connect directly to the Quad/Net or have a connection established between your network and ours. Please note that connections of this nature will require lead times ranging from 30 to 90 days, depending on design and availability.

Non-network file transfer

If you do not use one of the network file transfer options described above, Imaging accepts files on CD-ROM and DVD.

FLIP BOOKS

All pages need to be supplied rotated with the correct orientation as to how the supplier wants them to print.

NAMING CONVENTIONS

Please name Offset and Gravure files using a maximum of 63 characters, excluding the file extension (40 for *PDF Manager* PDFs).

- Uppercase characters are preferred
- Use only alpha numeric characters within file names
- Do not use "special characters" such as -, ?/*|\[{>+#:")

If you desire a naming convention that does not conform to the following example, please contact your Imaging Service Representative to discuss.

Naming convention example: LP001__42288.job

LP	001	_	_	42288	.job
1	2	3	4	5	6

1 = First two letters of job name
2 = Three-digit folio (up to 4 digits for books over 999 pages)
3 & 4 = Reserved for version numbers (no versions in example)
5 = Last 5 digits of job number
6 = Suffix such as .job, .eps, .pdf

CONTACT US

If you have concerns about any of these guidelines, please contact your Imaging Service Representative. This will prevent delays and additional costs.

These guidelines do not take into account the many special situations that can occur with today's high-tech prepress production processes. We pride ourselves on our flexibility and customer responsiveness, so if you require special arrangements or procedures in order to submit your files, please contact your Imaging Service Representative or your Imaging Sales Representative.

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