

eBooks: Optimizing images for the EPUB file format

Guide to using Adobe® InDesign® to produce eBooks with high-quality images

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The electronic publication (EPUB) file format is an open eBook standard that was developed by the International Digital Publishing Forum (IDPF) to allow publishers to produce and distribute a single version that can be read on a diverse range of eBook readers—from handheld devices (like the Sony Reader) to desktop reading applications (like Adobe Digital Editions) and smartphone reading applications (like Stanza on the iPhone). When producing an EPUB file with Adobe InDesign, it's important to prepare the images for optimum display on a variety of screen sizes and resolutions. This white paper provides some best practices to follow when laying out images in an InDesign document that will be exported as an EPUB file. It also walks you through each of the image export options that InDesign provides when exporting an EPUB file.

Best practices for working with images

For optimum display when exporting to the EPUB format, use the following best practices to prepare the images in InDesign.

Convert InDesign artwork to external images. Only the images that have been placed into InDesign are retained in the EPUB file. Artwork created with the InDesign vector drawing tools is discarded. To include artwork generated in InDesign in an EPUB file, copy and paste the artwork into either Adobe Illustrator®, Adobe Photoshop®, or another InDesign document to create an external image that you can then place into InDesign.

Anchor images. To precisely control where images appear in the EPUB file, anchor the images within the main body of text. Anchoring the images also ensures that when the text in the EPUB file reflows, the images travel with the text to which they are attached. If you don't anchor the images, InDesign exports them in the order they are arranged on the page—from left to right and then from the top down. The images will likely end up toward the beginning or end of all the text in the EPUB file, unless you carefully extend or relocate the text and image frames to control their flow order. To create an anchored image, select the image with the Selection tool and choose Edit > Cut. Then use the Type tool to position the cursor within the text where you want the image to appear and choose Edit > Paste. By default, the anchored image's position is inline.

Anchor each image to its own paragraph. To ensure that an image appears between paragraphs in the EPUB file, it must be anchored to its own paragraph by inserting an extra paragraph return and anchoring the image to that paragraph. You can then apply a paragraph style to the paragraph to further control the image's position. For example, to center an image and create some space above and below it in the EPUB file, you center-align the paragraph and apply space before and after it.

Note: Since text wrap settings are discarded in the EPUB file, you must use the InDesign Space Before and Space After options to add extra space above or below an image.

If you want to preserve the original layout of your InDesign document, you must customize the position of the anchored images. Select the anchored image that you want to reposition and choose Object > Anchored Object > Options. In the Anchored Object Options dialog box, choose Custom from the Position menu, specify the position options as necessary, and then click OK. If the image is anchored to its own paragraph, extra space will appear in your layout. To remove the space, apply a leading value of 0 points to the paragraph that the image is anchored to.

Note: When you use the Custom position option in the Anchored Object Options dialog box, the exact position of the image is not preserved in the EPUB file, but you gain full control over its position in the InDesign document.

Use color images. While many current eBook readers have grayscale displays, it's a good idea to use color images for two reasons. For one, future eBook readers will likely have color displays, so you won't have to update your eBooks when that time comes. Second, some reading devices, such as the iPhone, iPod touch, and various Mobipocket-supported devices, do support color images.

Create a single image for the cover. The cover for an eBook must be a single image. If your cover design is composed of an assortment of text and image frames within InDesign, the design elements will be linearized in the eBook. To quickly generate a cover image, you can export the cover from InDesign as a JPEG file. Choose File > Export, specify a name for the image, choose JPEG from the Format menu, and then click Save. In the Export JPEG dialog box, specify which page you want exported. For optimum display on different screen sizes and resolutions, specify a resolution of 72 pixels per inch (ppi) and choose Maximum from the Quality menu. Click Export to generate the image. The final image size for the cover should be around 600x800 pixels so that the cover looks good on a variety of eBook readers. If the pixel dimensions of the image are not large enough, export the image at a higher resolution. After your cover image has been created, import it into InDesign.

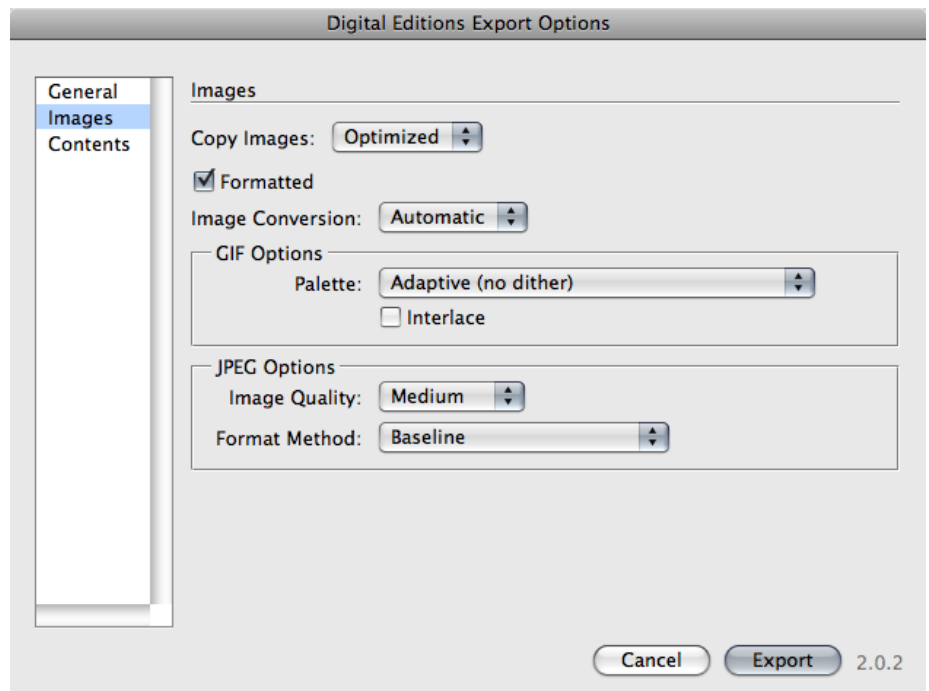
Alternatively, you can copy and paste the cover artwork into another InDesign document and then place that document into your book layout. When you export the EPUB file, the imported InDesign document is converted to a JPEG image.

Manage the cover with a book file. The EPUB file format does not define page structure, so all content flows together in one continuous linear stream. This can be problematic for an eBook cover, because text from the following page can potentially run into the cover image. To avoid this problem, create a separate InDesign document for the cover image. Then combine the cover document with any other documents that make up your book layout into an InDesign book file (File > New > Book).

To learn more about setting up an InDesign document, the training resources at Adobe.com can point you in the right direction. See www.adobe.com/support/training/products/indesign.html.

Understanding the InDesign image export options

When you are ready to export a document as an EPUB file, choose File > Export for Digital Editions. If you are exporting a book file, choose Export Book For Digital Editions from the Book panel menu. In the Digital Editions Export Options dialog box, select the Images category to display the image export options.



InDesign provides two methods for exporting images to an eBook. You can choose to export the original images or an optimized version of each image. From the Copy Images menu, determine how you want the images to be exported.

Exporting optimized images

When producing a document in InDesign, you typically use high-resolution images. However, if you try to use the same images for an eBook, they will be too large. Large images consume a lot of memory and take longer to draw on screen. If an image is too large, you encounter problems on eBook readers with limited memory and processing power. If you choose Optimized from the Copy Images menu, InDesign automatically exports an optimized version of each image that displays well on most eBook readers and is small enough to avoid performance and memory issues.

With the Optimized option selected, InDesign provides several options to specify how the images are exported.

Formatted—The exported images are reformatted to the size to which you have scaled them in your InDesign document. The images are also converted to the RGB color mode, and their resolution is changed to 72 ppi, which helps reduce the overall file size of the final EPUB file. In addition, the Formatted option preserves InDesign formatting that you’ve applied to your image frames, such as stroke, fill, rotation, shear angle, and any cropping you’ve done.

If you do not select the Formatted option, any formatting you’ve applied to your image frames is discarded. The images are still converted to the RGB color mode (except for grayscale images), and their resolution is changed to 72 ppi.

If you plan on selecting the Formatted option, make sure that your images and illustrations are between 300 points and 600 points wide so that the exported versions look good on various eBook readers. An image that is 600 points wide becomes 600 pixels wide when it is exported.

Image Conversion—You can choose whether the optimized images are converted to GIF or JPEG. If you choose Automatic, InDesign determines which format to use for each image. GIF uses a limited color palette that cannot exceed 256 colors, so it’s best for logos and simple graphics. The JPEG format is best for images and illustrations. If your InDesign document contains a combination of logos and images, choose Automatic. Otherwise, specify the format that fits your needs best.

GIF options—There are two main options in this section of the Digital Editions Export Options dialog box: the Palette menu and the Interlace option. With the Palette menu, you can determine how you want InDesign to handle colors when optimizing GIF images. The Adaptive (no dither) option creates a palette using a representative sample of colors in the image without any dithering. The Web option creates a palette of web-safe colors. The System option creates a palette using the built-in operating system color palette. Select the Interlace option to speed up the download time of the GIF images. This option also increases file size.

JPEG options—This section contains two menus: Image Quality and Format Method. Select an option from the Image Quality menu to determine the amount of compression and image quality of each JPEG image created. Choose Low to produce the smallest file sizes and the lowest image quality. Choose Maximum to produce the highest image quality and the largest file sizes. Use the Format Method menu to determine how quickly the JPEG images display when the eBook is opened. The Progressive option creates images that increase in detail as they are downloaded. The Baseline option creates images that display after they have been completely downloaded.

Exporting original images

If you prefer to optimize the images yourself, choose Original from the Copy Images menu, and InDesign will export the original images to the EPUB file. With this option selected, all the other image export options are not available.

When optimizing images for the EPUB file format, it's best to create one eBook that works well across a variety of reading devices. Keep in mind that there is an abundance of eBook readers available on the market today. They vary in screen size and resolution. For example, the iPhone has a 3.5-inch display with a resolution of 163 ppi, whereas the Amazon Kindle has a 6-inch display with a resolution of 167 ppi, and the Amazon Kindle DX has a 9.7-inch display with a resolution of 150 ppi. Figuring out how to handle images depending on the end device is a challenge. And as the eBook reader market continues to grow, there will be newer models with even more advanced technology and impressive features.

If you choose to manually optimize images for your eBooks, consider the following criteria.

Color space—Convert your images to either RGB or grayscale.

Resolution—Save your images at a resolution of 72 ppi or higher if you are publishing your eBook on a specific reading device that has a high-resolution display.

Image dimensions—It's not always possible to predict which reading device your eBooks will be read on. So if you are not targeting a specific device, make sure that your images are larger than 300 pixels wide and smaller than 600 pixels wide. Logos can be smaller, at around 75–100 pixels wide. These dimensions ensure that your images display well on most eBook readers. If you are creating an eBook for a specific device, make your images the same size or smaller than the viewable area of the device.

File format—The EPUB file format supports JPEG, GIF, and PNG images. The JPEG format is commonly used for photographs. The GIF and PNG formats are good for logos, charts, and graphs.

Keep in mind that it's always a good idea to test your eBooks on various eBook readers before offering them for sale.



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