

Cambridge Journals Electronic Artwork Submission Guidelines

The Cambridge University Press electronic artwork guide will help you:

1. Create artwork that renders well when printed or when published online
2. Get a quick idea of the technology used in processing the images you submit
3. Submit images that meet Cambridge University Press specifications

The objective of the guide is to help you at every step so that you are able to create images that enhance the appeal of your work.

Please look at the overview page and select a section that you feel is closest to the information you are looking for. You can visit the relevant section by clicking on the arrow beside every section.

If you need to know more, please contact the production editor of the journal in which your paper is likely to be published.



Overview

CAMBRIDGE

JOURNALS

OVERVIEW

INTRODUCTION

A brief introduction on acceptable file formats, colour modes and the advantages of submitting files in an electronic format

SPECIFICATIONS

- Technical requirements for submission of electronic artwork files
- Acceptable file formats and methods of file compression
- Other file formats and tips for converting a file to an EPS / aTiff or a PDF file
- Fonts
- Print requirements
- Scanning & proofing
- Sizing

SOFTWARE USAGE

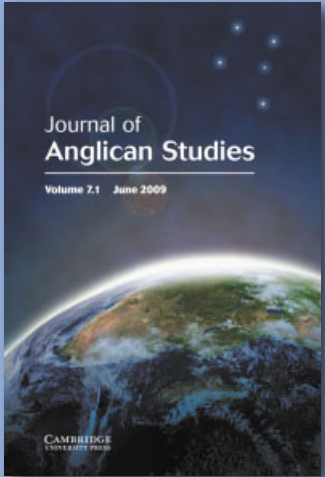
Software commonly used to create and render graphics

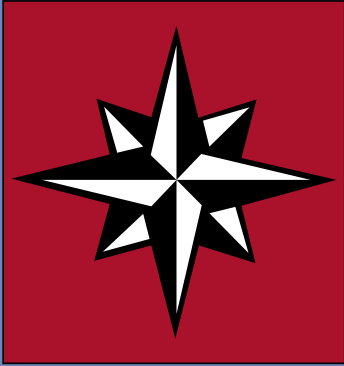
GLOSSARY

A brief note on the terminology used in the typesetting and printing industry

FAQs

- How to compress large files?
- How to generate a print-optimised PDF file?
- Is it safe to use internet images in a file that will be printed?





Vector Image



Raster Image

The artwork included in your paper is a graphical/pictorial representation of some information or data. This guide will ensure you help Cambridge Journals achieve your objective.

Artwork submitted in an electronic (i.e. not on paper) format is referred to as electronic artwork and falls in two categories:

1. Vector (made up of mathematically defined lines and curves)
2. Raster (made up of pixels or picture elements)

Vector graphics are resolution-independent and are mathematically-defined. Scaling vector images (enlarging or reducing their size) requires modification of their components i.e., mathematical descriptions. This ensures that the image renders consistently and typically have a smaller file size than raster images.

Raster images are resolution-dependent. The number of pixels that occupy a given space must be defined. Consequently, raster image resolution is specified in pixels per inch (ppi). However, although the term is not effective, image resolution commonly is referred to in dots per inch (dpi)—dpi more appropriately is attributed to device resolution or output resolution, where the number of dots an output device is able to produce within an inch represents the resolution of the device.

The preferred resolution for submission of electronic artwork are:

- Halftone Images: 300 dpi
- LineTone: 600 dpi
- Bitmap: 1200dpi

TIFF

The Tagged-Image File Format (TIFF, TIF) is used to exchange files between applications and computer platforms. TIFF is a flexible bitmap image format supported by virtually all paint, image-editing, and page-layout applications. Almost all desktop scanners can produce TIFF images. The TIFF format supports CMYK, RGB, Lab, Indexed Colour, and grayscale images with alpha channels and bitmap mode images without alpha channels.

EPS

The Encapsulated PostScript (EPS) file format can contain both vector and bitmap graphics and is supported by virtually all graphics, illustration, and page-layout programs. The EPS format is used to transfer PostScript artwork between applications. Please make sure that all fonts are embedded and images used are of high resolution and ideally are in TIFF format.

PDF

The Portable Document Format (PDF) is a flexible, cross-platform, cross-application file format. PDF files accurately display and preserve fonts, page layouts, and both vector and bitmap graphics. All images and fonts must be embedded when creating a PDF.

You may submit artwork in other file formats, but sending us files in either of the three formats specified above is strongly recommended.

Advantages of submitting electronic artwork:

Submitting artwork in an electronic form helps reproduce them with accuracy and clarity. It is far better to use a high-quality electronic image, than scanning from hardcopy.

COLOUR MODES

BITMAP

The Bitmap mode uses one of two colour values (black or white) to represent the pixels in an image. Images in the bitmap mode are called bitmapped 1-bit images because they have a bit depth of 1.

GRayscale

The Grayscale mode uses different shades of gray in an image. In 8-bit images, there can be up to 256 shades of gray. Every pixel of a grayscale image has a brightness value ranging from 0 (black) to 255 (white).

RGB

Photoshop's RGB colour mode uses the RGB model, assigning an intensity value to each pixel. In 8-bits-per-channel images, the intensity values range from 0 (black) to 255 (white) for each of the RGB (red, green, blue) components in a colour image. This system is typically used in scanners, digital cameras, computer monitors and for online publishing

CMYK

In the CMYK mode, each pixel is assigned a percentage value for each of the process inks. The lighter (highlight) colours are assigned smaller percentages of process ink colours and the darker (shadow) colours higher percentages. A multi-dimensional colour space consists of Cyan, Magenta, Yellow and Black intensities makes up any given colour. This system is typically used in the four colour process (for printing books and journals).

Pictorial representation of *Colour Modes*



BITMAP



GRayscale



RGB



CMYK



FILE FORMATS

Raster images accompanying your paper should be submitted in the tiff format and vector images should be submitted in an EPS format. However, in very special cases, we do accept files in the following formats:

1. Microsoft Office Document (*.doc)
2. Microsoft Powerpoint file (*.ppt)
3. Microsoft Excel format (*.xls)
4. Microsoft Visio Document (*.vsd)
5. Adobe Illustrator (*.AI)
6. Adobe Photoshop (*.PSD)
7. Encapsulated Postscript file (*.eps)
8. Tagged Image Format (*.tif)
9. Joint Photographic Experts Group (*.jpeg)
10. Adobe Acrobat (*.pdf)
11. Postscript file (*.ps)
12. Macromedia Freehand (*.FHx – x is the version)
13. Bitmap (*.bmp)
14. Compuserve GIF (*.gif)
15. Portable Network Graphics (*.PNG)
16. PICT Format (*.PCT or *.PICT)
17. Scalable Vector Graphics (*.SVG)
18. Chemdraw (*.cdx)
19. AutoCAD Drawing (*.dwg or *.dxf)
20. Computer Graphics Metafile (*.CGM)
21. Enhanced Metafile (*.EMF)
22. Windows Metafile (*.WMF)
23. ISIS Reaction (*.rxn)
24. ISIS Sketch (*.skc)
25. Coreldraw (*.cdr)
26. Sigma Plot (*.jnb)
27. Origin (*.opj)
28. Canvas (*.CNV or *.CVX)

While the file formats mentioned above are acceptable in special cases, it is important to note that most graphics programs will 'Save' or 'Export' files to the TIFF or EPS, and you can create an EPS or the PDF file from any program using a PostScript printer driver or PDF creation software.

You can reduce the size of your files using file compression algorithms. The most preferred algorithms are ZIP and LZW.

FONTS

Fonts can be defined as a set of letters, numbers and special characters related to a particular style put together as a group to form a font family.

- There are various types of fonts that are used, but TYPE 1 and TRUE TYPE fonts are the ones used most widely.
- Type 1 fonts are recommended over TrueType. TrueType use if necessary should be restricted to the current MSOffice font set.
- TYPE 1 (Base fonts) fonts that are recommended are Courier, Helvetica, Symbol, Times-Roman and Arial.

PRINT REQUIREMENTS

1. What looks great on the screen won't always look great on paper. For a great-looking printed product, make sure that all your graphics are above 300 dpi.
2. Using graphics from the web rarely yields a good printed result. While you may have some luck "adding" resolution with Photoshop, they will never look as good as high-resolution images.
3. By converting any RGB image to CMYK before submitting them to us, you can view and adjust the CMYK colour values yourself. This avoids delays and possible disappointment at proof time.
4. Always embed fonts in EPS and PDF files.

SCANNING AND PROOFING

Scanning

Scanners are used to convert photographic or hand-drawn originals or documents into a digital format.

Proofing

Proofing is a process of converting an electronic artwork file to a digital printout. The accuracy of the colour matching is dependent on the Colour Management System used in proofing.

SIZING

Enlargement and Reduction:

This section is about reducing and enlarging images on the basis of their quality/resolution of the image. The more you enlarge an image, the resolution will come down since size and resolution are inversely proportionate.

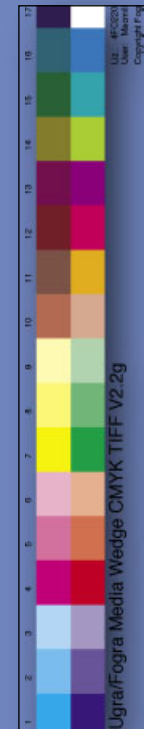
Tips for scaling images:

1. Ideal scale is 100% of the final output size
2. Maximum enlargement is 120%
3. Maximum reduction is 70%
4. Enlarging will lead to pixelation. Reducing an image too much will lead to a loss in sharpness and contrast

SOFTWARE USAGE

Some design applications do a better job preparing files for print. They have been especially created for publishing purposes. Other software applications require more attention. The most preferred preferred design applications are:

1. Adobe Photoshop
2. Adobe Illustrator
3. Adobe Freehand
4. Corel Draw
5. Adobe InDesign
6. Quark XPress





GLOSSARY

1. **Bitmaps:** These images are exactly what their name says they are: a collection of bits that form an image. The image consists of a matrix of individual dots (or pixels) that all have their own colour (described using bits, the smallest possible units of information for a computer).
2. **Halftone:** Images which are made of various tones (Highlight, Middletone and Shadow)
3. **Line tone:** An image which is made up of halftones and line elements/text
4. **Contrast:** Contrast is the relationship between the lightest and the darkest area of an image
5. **Brightness:** Brightness is adjusting the lightness value
6. **Compression:** A technique which is used to reduce the file size.
7. **Down sampling:** Reducing the resolution of an image
8. **Up sampling:** Increasing the resolution of an image
9. **Pixels:** Pixels are picture elements which are basic for creating a raster image and the smallest discrete element of an image or picture on a computer screen
10. **Colour space:** The Complete range of Hues & strengths of colour is achieved with a given set of colourants i.e., CMYK or RGB

FAQs

Question: How to compress huge files?

Answer: Compressions are usually applied in order to reduce the file size. The advantage of compressing your file is that it makes upload or download of your file much faster. It also reduces the storage space. The most commonly used compression formats are: *.zip, *.sit

Question: How to generate a print-optimised PDF file?

Answer: You can generate print-ready PDF files from any application, by installing Adobe Acrobat (not Reader) version 5 or higher. Ignore the "Save as PDF" options available in some applications. Of the major design programs, only InDesign creates reliable print-ready PDF files using the "Save as PDF" option.

It is preferable to print a PostScript file rather than exporting it to PDF directly from the source application. Use Acrobat Distiller with the job option set to "Print" / "Press" to create a Print PDF from the PostScript file.

Question: Is it safe to use an image downloaded from the internet?

Answer: Usually, images used over the web have a low resolution where the original quality of those images have deteriorated, since they are down-sampled before being published on the Web. So you should scrutinize the quality of the image before you submit them for typesetting or printing.

