

Frequently Asked Questions About IEEE Author-Supplied Graphics and Multimedia

What are the acceptable formats for submitting graphics for my paper?

IEEE accepts PostScript (PS), Encapsulated PostScript (EPS), Portable Document Format (PDF), Portable Network Graphics (PNG), or Tagged Image File Format (TIFF) for graphics submission. Only when the graphic was originally drawn in the program, is it acceptable to submit Microsoft Office Documents (DOC, PPT, XLS). High-resolution JPGs are acceptable for author photos only (IEEE also continues to accept Postscript, EPS, and TIFF).

What graphics formats are not acceptable?

Figures prepared as VSD, GIF, JPEG, BMP, or any other file formats not listed as acceptable cannot be processed except in the case of an author photo.

How should I name my figures / tables / author photos?

Figures should be named beginning with the first 5 letters of the primary author's surname, followed by a number signifying the figure's sequential position within the paper. For example, the first 3 figures in a paper by author John Author would be named: autho1.tif, autho2.pdf, autho3.png.

Tables should follow a similar naming convention, the only difference is that after the first 5 letters of the author's surname, you should insert a ".t" before the table's sequential location in the paper. Note: figures and tables should be numbered independently of each other. For example, if the above author is going to include one table in his paper, it should be named "autho.t1.tif"

Author photos should be named using the first 5 letters of each author's surname. If more than one author has the same surname, you should replace the last of the 5 letters with the first letter of their first names. For example, if a paper has 3 authors, John Author, Sally Author, and Stephen Contributor, their author photos should be named authj.tif, auths.tif, and contr.tif.

How can I make sure the graphics I submit are high quality?

Creating and saving your figures in a vector format will ensure that your figures appear as clearly as possible in your final published paper. Acceptable vector file formats include PostScript (PS), Encapsulated PostScript (EPS), and Portable Document Format (PDF).

If you are unable to create your figure in vector format, ensure that your figure is created at a high resolution from the beginning, as increasing the resolution after the fact WILL NOT improve the image's quality. IEEE standards for non-vector graphics are >300dpi for color and grayscale images, and >600 for black and white "line art."

If you create your graphics using Microsoft Office (Word, Powerpoint, or Excel), it is recommended that you save your files in PDF format.

Can you improve the quality of a figure?

Original image quality is very important to how your graphics will reproduce. Even though we can accept graphics in many formats, and make revisions when necessary, we cannot vastly improve your graphics. If a graphic is submitted at low quality, it cannot be "improved" during the publication process.

Can I take my graphics off of the Web?

No. Graphics on the web are optimized for speed of download, and are of low resolution (72 dpi). As the minimum resolution for a figure is 300dpi, graphics originating from websites tend to reproduce very poorly. Please note that increasing the resolution of a low resolution image WILL NOT improve the quality of the image, and is unacceptable.

How should I size my graphics?

Most charts, graphs, and tables are one column wide (3.5 inches, 88.9 millimeters, or 21 picas) or two column width (7.16 inches, 182 millimeters, or 43 picas wide). We recommend that you avoid sizing figures to less than one column wide, as extreme enlargements may distort your images and result in poor reproduction. Please keep in mind that we can reduce the sizes of your figures but, in most cases, cannot increase them without negatively impacting quality.

My graphics are very large; how can I reduce the size for submission?

First, make sure that all image layers are flattened, and your figure is of the correct resolution (DPI), and dimensions (no larger than 7.16 x 8.8 inches, 182 x 220 millimeters, or 43 x 52 picas). If none of these factors are the cause of your large file size, you may use any of a variety of compression methods in order to create a ZIP, SIT, or TAR.Z file:

- 1) "File > Compress" command
- 2) pkzip <http://www.pkware.com/downloads?kc=googleppc&kw=pkzip&gclid=CKvb58GdnqYCFcNM4AodVTSynw>
- 3) Stuffit <http://www.stuffit.com>

Please note that "condensing" your figures could have a small negative effect on the final quality of graphics, so we suggest this only be used when absolutely necessary.

What fonts should I use when creating my graphic files?

When preparing your graphics IEEE suggests that you use of one of the following: Helvetica, Times New Roman, Arial, Cambria, and Symbol. If you are supplying EPS, PS, or PDF files, please either convert all text to outlines, or embed the fonts. Some fonts may be native only to your operating system; without the fonts embedded, parts of the graphic may be distorted or missing when opened on another computer.

What type size should I use?

Please use consistent typefaces and type sizes in all your figures and tables. Type should appear approximately 9-10 pt when viewed at full size.

I'd like to have some or all of the figures in my paper in color. How can I determine what those charges will be beforehand?

The following are the basic charges for color:

- \$1,045.00 US for printing charges (four or fewer color pages)
- \$2,090.00 US (four to eight pages)
- \$3,135.00 US (nine to twelve pages)
- + \$62.50 US per color image (i.e., if you have two color figures the charge would be \$125 US, + \$1,045)

Please note that these are costs for color printing and do not include page charges or reprint charges, which must be paid separately. Once your paper is received at the IEEE, a staff editor will contact you with specific instructions on how to proceed with color figures.

If your decision is to include color graphics, IEEE will require that you send as soon as possible, a faxed copy of the purchase order reflecting the amount due or an e-mail with the following details of your credit card: Name as it appears on credit card, credit card number, type of credit card (Visa/ Mastercard etc.) expiration date, and amount to be charged. Notify IEEE, as soon as possible, if your decision is to have all graphics in black and white.

Color art can be processed only after IEEE receives either the purchase order or the credit card details.

Can my color graphics appear as color on-line but print in black and white?

Yes.

How do I supply on-line color files?

IEEE accepts color graphics in the following formats: PDF, EPS, PS, TIFF, PNG, (and Word, PowerPoint, and Excel when they were generated within those programs). The resolution of a RGB color TIFF file should be 300 dpi. If a graphic is to appear in print or Web color, it should be submitted as RGB color. All color on web (but not in print) figures will be converted to grayscale figures for the print version if no separate grayscale file is provided. In nearly all occasions, this is sufficient. In the event that simply converting your figures to grayscale will negatively affect the information within the figure, you may submit a separate grayscale "print" version for each affected figure.

How do I create a PDF file?

Please go to the Adobe website <http://www.adobe.com>. Here, you will find instructions on how install a PostScript printer driver to create a PDF on any platform you are working on. You will need to download the software to install the PostScript drivers. You can do this at no cost.

Is there any way to check my graphics before submitting them?

The IEEE Graphics Analyzer enables you to check graphic files before they are submitted for publication. The tool will check journal article graphic files against a set of rules for compliance with IEEE requirements. These requirements are designed to ensure sufficient image quality. When a graphic or a set of graphics, is uploaded to the tool, the tool will generate a report listing each graphic and whether it met or failed to meet the requirements. If the file fails, a description and explanation will be sent along with instructions on how to correct the problem. The IEEE Graphics Analyzer can be accessed at <http://graphicsqc.ieee.org/>. Please note that this tool is designed to check individual graphics, and not entire manuscripts, so figures should be uploaded accordingly.

Why is the IEEE Graphics Checker Tool claiming my vector file has "0" resolution?

Because it does. Unlike a raster based graphic, a vector file's information is not based on a matrix of dots, and thus it has no defined "resolution" within itself. Their resolution is determined by the output device.

Should I avoid using vector based figures?

No. Vector graphics are comprised of mathematically defined points, shapes and fills that are resolution-independent. This means we are able to size them perfectly in your paper and keep the highest possible resolution when we convert them to TIF format. When using them, it is required that all fonts be embedded. Otherwise parts of the graphic may be distorted or missing when viewed on other computers.

What if I am still have trouble creating graphics or have more questions?

For questions or more information contact the IEEE: Graphics H-E-L-P Desk at graphics@ieee.org A member of the Transactions/Journals graphics staff will contact you and may suggest you e-mail a test file.

What types of multimedia files are accepted?

For audio, IEEE accepts AIFF (older but still common Audio Interchange File Format), AU (Unix audio), MIDI, MOV (Quicktime audio), MP3, RA (Real Audio) and WAV (Windows audio) files.

For video, IEEE accepts MP4, ASF and WMA (Microsoft Media Player), AVI (Microsoft's Audio-Video Interleaved), GIF (animated GIFs), MPEG, and MOV (Quicktime) files.

How should I submit my data sets?

Data sets are typically provided in compressed format, and can be submitted in TAR.GZ, TAR.Z, HQX, SIT, or ZIP format.

What information is required in my multimedia file / dataset's README file?

The information required in your README file varies based on the file type. Please consult the following documents for specific information:

Multimedia README Requirements- <http://www.ieee.org/documents/PlayableREADME.pdf>

Data Set README Requirements- <http://www.ieee.org/documents/DatasetREADME.pdf>