

What you need to know about Graphics File Formats

ACPCUG Beginner's SIG

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Why a file format?

- *Communicate* a picture, graph or visual info
- Edit, draw, creatively change or enhance, i.e. *manipulate* the graphics
- To *import* into another file, publication, document, presentation (*Use picture*)

Know what format? Why?

- Formattalk.wpd Word Perfect document
- formattalk.doc MSWord document
- formattalk.mem.doc MSWord document (still)
- formattalk.pub MSPublisher document
- formattalk.ppt MSPowerPoint document

Two Kinds of Formats

Vector, Draw, CAD

- Scalable without loss of resolution. Mathematical descriptions of the shapes, points, lines, curves, fills, strokes, and other attributes. Can contain text. Can usually contain bitmaps also.

Bitmaps, Raster, Paint

- Fixed-resolution rendering of each dot in the image. Scaling can produce “jaggies” (obvious or uneven dots). Editing the image permanently modifies it. Photos and other scanned images are bitmapped.

Two Kinds of Formats

- Bitmap - just like your computer screen!
 - Every dot has *THREE* color strength info
 - (That's the intensity of each primary color)
 - $600 \times 480 \times 256$ (8 bit) = 73,728,000 bits
 - $1224 \times 768 \times 16.7$ mil (24 bit) = $1.6 \text{ e}+13$!!
- Vector - mathematical descriptions of lines!
 - Always exactly what described at any scale!

Partial List of Formats

- **GIF** Graphics Interchange File. Bitmap. Note: limited to 256 colors. Lossless LZW compression. CompuServe - now animated!
- **JPG, JPEG** Joint Photographic Experts Group. Photo/Bitmap. Web/Publish/Draw/Paint. Note: solid colors may appear blotchy on-screen. New versions can be lossless, varying compression
- **TIF, TIFF** Tagged Image File Format. Bitmap (Paint). Publish/Draw/Paint.

Partial List of Formats (2)

- **EPS** Encapsulated PostScript (preferably) with TIFF preview. Drawing (Vectors). Publish/Draw. EPS files can contain vector drawings as well as bitmaps. They can even contain editable text. EPS is used by professional publishing and drawing programs. Your local print shop, if they work from clients' data disks, will prefer EPS or TIFF files. **ADOBE**

Partial List of Formats (3)

- **PNG** Portable Network Graphics. Web Vector/Bitmap format. Some Web/Publish/Draw. New format, supported by Macromedia FreeHand 8, Microsoft Internet Explorer 4. May be supported by Netscape Navigator 4 or 5.
- **WMF** Windows Metafile, Photodraw2000
- **EMF** Enhanced Metafile
- **DWF, DFX** AutoCad

Conversions?

- Vector to raster is an output option for (all) vector drawing generators (they do it for the screen!)
- Raster to vector is problematic, but improving
- R to V offered by HiJaak (now 5), and most hi-end vector drawing programs

Further Information

- Internet Loaded!
- <http://www.xml.com/xml/pub/98/06/22> for graphics conversions and web usage - good, practical tutorial
- <http://129.116.192.2/wag/slides/index.html>
ditto - source unknown
- Always look for updated drivers for your favorite programs - improved imports and exports.