APPENDIX G: Incorporation of PostScript Graphics

So far you've heard no mention of graphics in conjunction with TeX — this is because TeX itself makes no explicit provision for their inclusion!

TeX *does,* however, provide a "`\special`" command which implements "user-exits" (or "hooks") which can be exploited by an intelligent DVI-to-<whatever> postprocessor to extend TeX. One such extension provided by the DVI-to-PostScript converter `DVIPS` is inclusion of PostScript graphics files.

NOTE: Do not embark upon including PostScript files in your TeX document lightly; including graphics this way is a big decision for a couple of reasons:

(1) The quality of the PostScript code produced by applications can vary immensely. Some nominal "PostScript" output can be so ill-formed you'll find yourself wondering how *any* PostScript device has every been able to interpret and print it. This "low-grade" PostScript may cause all sorts of headaches when you try to include it in your document.

(2) If you do elect to include PostScript graphics in your TeX document, you'll find that virtually no DVI previewer will be able to show you your graphic inclusions on screen during the output previewing process; you'll need to use a PostScript previewer (like NeXT's Preview application) if you need to look at your output on screen before actually printing it.

(3) Inclusion of PostScript graphics in your document excludes, virtually by definition, all DVI-to-<whatever> converters other than DVIPS. Are you *sure* you'll never need to do output to a non-PostScript output device, such as an HP LaserJet printer?

(4) Even small illustrations tend to generate huge PostScript files. Do you have the disk space you'll need to work with the images you'll be generating?

Nonetheless, if in spite of all these potential problems you decide that you really *do* want to include PostScript graphics in your document, take a look at the code which was used to generate this appendix, and be sure to give yourself *lots* of extra time to overcome any problems you may encounter in working with this feature.

A machine readable copy of the raw TeX commands used is available to OREGON VAX users as:

```
TEX$DISK:[TEX.SAMPLES]EPSGRAPHS.TEX
```

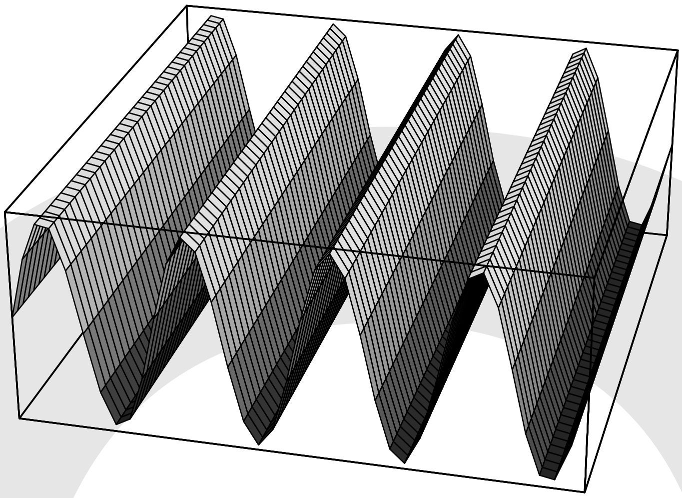
On other systems get a copy of that file via anonymous FTP.

FTP to `DECOY.UOREGON.EDU (128.223.32.19)` and see directory `pub/tex/samples`.

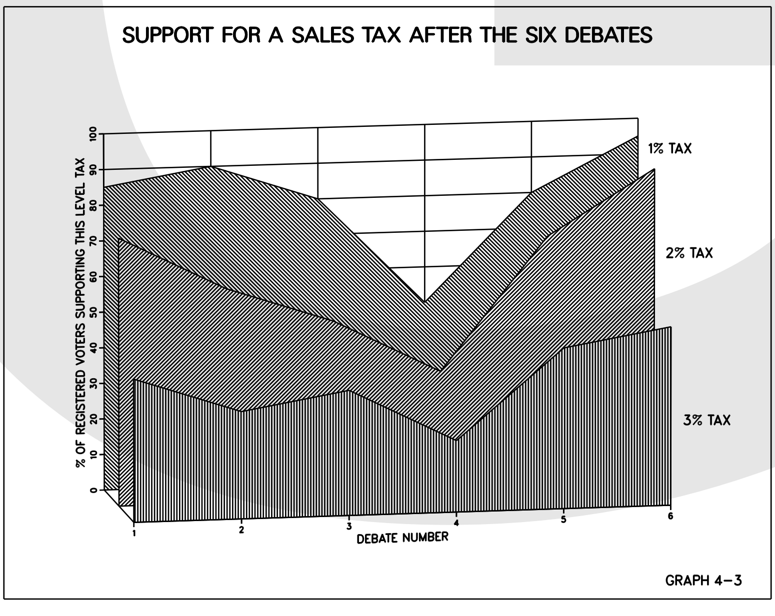
Graphics in TEX

TEX can incorporate PostScript files created by applications such as Mathematica, CA-DISSPLA, GIF-to-PS converters, and TIFF-to-PS converters. For example:

Mathematica (PostScript image created on a NeXT):

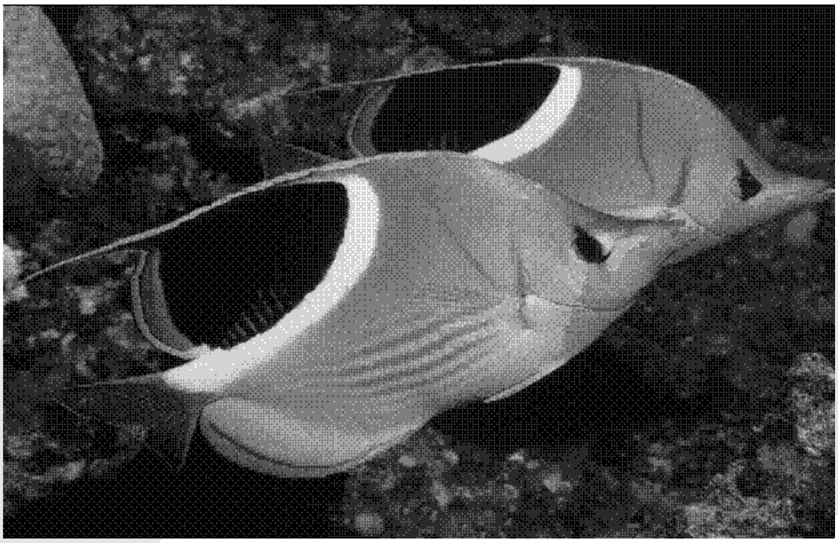


CA-DISSPLA (PostScript image created on the VAX):



GIF Files Converted to PostScript (GIF from WUARCHIVE.WUSTL.EDU):

This image was converted from GIF format to PS by taking the raw GIF image into the ViewGif application on a NeXT and then "printing" the GIF image to a file. The NeXT Icon application was then used to insure that the resulting file had reasonable length lines, and finally, a PostScript translate instruction was manually added to the PostScript file to achieve the required horizontal placement of the image on the page.



TIFF Files Converted to PostScript (Scanned Images)

These two sample TIFF files (of the author and his wife) were created from photos digitized on an Apple flatbed Scanner in (relatively crude) 16 bit greyshade mode, then converted to EPS on a NeXT using the tifftoeps converter written by Eric P. Scott of San Francisco State University. The NeXT Icon application was then used to crop the images and generate the resulting PostScript files.