

NETPBM 7/12/93

COLLABORATORS

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WRITTEN BY		July 31, 2024	

REVISION HISTORY

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Chapter 1

NETPBM 7/12/93

1.1 NETPBM 7/12/93

NETPBM Image conversion and processing package
Release 7 December 1993

Amiga information

What is NETPBM?
Binaries
Requirements
Merged binaries vs Separate binaries
Installation
Memory usage
Misc info
Support
Manual Pages
Index
Copyright

The archives/binaries and the documentation were printed/compiled/
prepared by Ingo Wilken. (Documentation merged and converted to
AmigaGuide(tm) by Julie Brandon with permission from Ingo.)

1.2 copyright

Netpbm consists of code contributed by many authors. In every file of
the source code, there is a copyright notice, telling you what you may
or may not do with the code. All authors have granted you the right
to use and distribute their code without having to pay them, as long
as you do it on a non-commercial basis. Most authors allow you to do
even more, but remember to check their copyright notices.

1.3 What is NETPBM?

NETPBM is a revised version of the PBMplus package, containing corrections and enhancements to the 10dec91 version of PBMplus. It is not "official" in the sense of being released by the original author, but the idea of a net supported version has been approved by him.

NETPBM is a collection of tools which do the following:

1. Import - read images in popular formats and convert to one of the internal PBM formats.
2. Image processing - manipulate the image data to produce many effects including scaling, contrast and gamma adjustment, edge detection, etc.
3. Export - write images in popular formats for use with other software.

NETPBM uses three intermediate formats:

PBM = portable bitmap (black&white)
PGM = portable gray map (greyscale, usually 8bit)
PPM = portable pix map (color, usually 24bit)

The formats are upward compatible, PGM programs can read both PBM and PGM and write PGM, PPM programs can read all three and write PPM. There are also PNM programs (PNM = portable anymap), these work on all three formats. The difference between PPM and PNM programs is that PPM programs always write PPM, but PNM programs can write any of the three formats (usually they write the same format as they got as input). There is no PNM format!

The great advantage of using intermediate formats is that for a conversion between N formats only $2 \times N$ converters are needed instead of N^2 ; and if yet another graphic format appears, all that is needed are the newtop?m and p?mtonew filters, and you are immediately able to convert the new format to and from any other old format. The disadvantage is that two commands are needed to convert an image:

```
giftopnm mypic.gif >mypic.ppm  
ppmtoilbm -hamif mypic.ppm >mypic.iff
```

or on Unix-like shells: `giftopnm mypic.gif | ppmtoilbm > mypic.iff`

Another disadvantage is that the intermediate formats are very simple and therefore the files get quite big, for example a 1024x768 PPM picture needs $1024 \times 768 \times 3$ bytes = 2.25MB.

NETPBM also includes a lot of tools that manipulate the intermediate formats in some way: scaling, rotating, reducing the number of colors and more. For example, to convert a GIF of any size to a 320x200 IFF-ILBM you could do this:

```

giftopnm mypic.gif >mypic.ppm
pnmscale -xysize 320 200 mypic.ppm >mypic.ppm2
ppmtoilbm -hamif mypic.ppm2 >mypic.iff

or giftopnm mypic.gif | pnmscale -xysize 320 200 |
ppmtoilbm -hamif >mypic.iff

```

If you are not using an Unix-like shell, you can use the PIPE: handler to avoid using temporary files:

```

run giftopnm mypic.gif >pipe:1
run pnmscale -xysize 320 200 <pipe:1 >pipe:2
run ppmqvga <pipe:2 >pipe:3
ppmtoilbm -aga <pipe:3 >mypic.iff

```

1.4 Binaries

Binaries are available at [ftp.informatik.uni-oldenburg.de](ftp://informatik.uni-oldenburg.de) [134.106.1.9] in `/pub/netpbm/amiga`, or on all Aminet sites in `/pub/aminet/gfx/pbm`.

The full distribution consists of these archives:

texts.lha	REQ	textfiles, miscellaneous stuff
manuals.lha	REQ	formatted Unix manuals
mergedbin.lha	REQ*	merged binaries
pbmbin.lha	REQ*	PBM binaries, for B&W images
pgmbin.lha	REQ*	PGM binaries, for greyscale images
ppmbin1.lha	REQ*	PPM binaries #1, for color images
ppmbin2.lha	REQ*	PPM binaries #2, for color images
pnmbin.lha	REQ*	PNM binaries, tools and special converters
scripts.lha	OPT	Unix shell scripts
source1.lha	DEV	source: tools and main libraries
source2.lha	DEV	source: TIFF library, Unix nroff mans., VMS stuff
dicelibs.lha	DEV	compiled link libraries, for DICE

REQ = required, OPT = optional, DEV = only useful for programmers

* You need either all the p?mbin archives, or just the mergedbin archive. See the section Merged binaries vs Separate binaries for an explanation.

1.5 Requirements

- * OS 2.04 or higher, or 1.3 with disk-based mathieeesingbas/mathieeesingtrans libraries (available from C=).
- * mathtrans, mathieeedoubbas and mathieeedoubtrans libraries in LIBS:

A hard disk, a fast CPU, and lots of memory are recommended. It will work on 68000's if you have sufficient memory; on machines with 020+MMU, non-EC 030, or non-EC 040, a virtual memory program like GigaMem will be useful if you are processing large images.

A full binary installation takes 1MB of HD space for merged binaries, 3MB for separate binaries. Source (not including libtiff source, unix nroff manuals and the vms subdir) takes another 3MB.

There is no special 68020/881 binary distribution. The FPU is already used by the math libraries, and most programs are I/O-bound instead of CPU-bound.

1.6 Merged binaries vs Separate binaries

Netpbm consists of more than 130 programs, each being stand-alone and not depending on the other programs. This means a lot of disk space is wasted, since all programs use the same routines for reading, writing, allocation etc., and the code for these routines has to be in every single program. To avoid this, the programs can be merged into a single huge executable (actually four of them) and the individual programs are just hardlinks to this binary. Both methods have advantages and disadvantages:

Separate binaries:

- + executables can be individually tuned for maximum performance (register args and small data model are used whenever possible).
- + most executables are "pure" and can be made resident
- full installation takes MUCH more disk space (3MB)

Merged binaries:

- + only 4 executables and a bunch of links. Requires only 1MB of disk space for a full installation.
- executables are slower, since all have to be compiled with stack-args and large data model
- executables are huge and require more RAM to execute. This will be fixed in the future by using overlays.

Why no shared library? Its just too much work. If you think your life depends on having a pbm.library, go ahead and create it... or pay me for a month or two of full-time work, and I'm doing it :-)

1.7 Installation

Seperate binaries:

You need the following archives: pbmbin, pgmbin, ppmbin1, ppmbin2, pnmbin. Extract the programs that you need from the archives and copy them to a directory in your search path.

Merged binaries:

You only need the mergedbin archive. Extract the four p?mmmerge programs and copy them to a directory in your search path. Then CD to this directoy and execute the "link_merged" script. This generates all the hardlinks.

Links are not supported by 1.3, so if you are still running it, you have no choice but to use the separate binaries. Some 2.x and 3.x filesystems have bugs with links that trashes the disk if the original file is deleted and a link still exists. A safe way is to use the merged binaries on these systems is to install them in their own directory, and if you decide one day to de- install them do it in this way:

```
delete ~(#?merge)
delete #?
```

X11 color names file: Some programs (for example pgmtoppm and ppmmake) can use a color names file, so you can specify colors by names instead of RGB values. An example color names file is included in the texts archives, as "RGB.txt". Just copy the file to a convenient place (S: is a good choice) and set the environment variable "RGBDEF" to the full path and name of this file:

```
setenv RGBDEF "s:RGB.txt"
```

Unix shell scripts: I didn't bother to convert the scripts to AmigaDOS-scripts (it's almost impossible anyway). If you want to run them, use a Bourne-shell or Csh clone.

Stack size: Don't worry about it. The programs automatically allocate a larger stack if they need more.

1.8 Memory usage

You can control the way how the programs allocate their memory with the environment variable "PBMMEM". The following keywords are used:

fast

The programs will not try to allocate chipmem if they run out of

fastmem. If this keyword is not used, then the programs will allocate both fast- and chipmem (fastmem first).

pool

pool=<n>

With this keyword, the programs use memory pools. This is faster and avoids run-time memory fragmentation, but unfortunately crashes if used with GigaMem. Note that OS 3.x is **NOT** required, it works under 2.x (tested on 2.1) and probably even under 1.3 (not tested). The optional number selects the size of the pools, the default being 32K. If this keyword is not used, all allocations are done with normal AllocMem() calls. This should work on all systems and with virtual memory programs like GigaMem.

max=<n>

The maximum memory a program allocates. This does not include the memory used for the code, data and stack segments. The default value (if this keyword is not used) is "unlimited" (2GB, to be precise).

Multiple keywords are delimited by whitespace or commas. Numbers can be in decimal, hex (prefix "0x") or octal (prefix "0") and can be given in bytes, Kbytes (suffix "k") or megabytes (suffix "m").

Example:

```
setenv PBMMEM "pool=64k,fast,max=2M"
```

Selects allocation via memory pools, fast memory only, and sets the poolsize to 64KB and the maximum memory usage to 2MB.

1.9 Misc info

NETPBM does not include converters for JPEG, but the freely distributable programs "djpeg" and "cjpeg" can convert JPEG to and from P?M. You can get them from Aminet:/pub/aminet/gfx/conv, look for an archive called "jpegV?.lha" or "AmigaJPEG?.lha" or something similar.

The hpcdtoppm included in NETPBM converter is an older version, an up-to-date version is available on Aminet:/pub/aminet/gfx/pbm, archive "hpcdtoppm*.lha".

All programs have two hidden options, "--version" and "--quiet". The first does the obvious: it prints version and configuration information of the program. The other suppresses all messages from the program (unfortunately, some programs ignore this option). Most programs print usage information if a "--?" option is given.

1.10 Support

Your can reach me via:

E-mail:

Ingo.Wilken@informatik.uni-oldenburg.de

IRC:

Nobody (usually on channel "#amigager")

Carrier pigeon and other ancient communication channels:

Ingo Wilken

Bloherfelder Str. 72

26129 Oldenburg

W-Germany

For bug reports, please describe exactly what you were doing, what went wrong (guru number?) what OS version you are using, your machine configuration, and everything else that could be important. If possible, provide the following:

- * "enforcer" & "mungwall" output
- * "showconfig" output
- * a sample image that triggers the bug (unless it appears with any image)
- * the output of running the NETPBM-program with the -version option

Also, make sure that it's really the NETPBM-program thats causing the problems, not some background-utility playing corewar.

1.11 Julie Brandon

Your can reach me via:

E-mail:

csc157@cent1.lancs.ac.uk (probably only until September '95)

IRC:

Jewelie (usually on channels "#amiga" or "#gb")

Please keep in mind all -I- have done is convert the original documents into one large AmigaGuide(tm) database, so I can't help with any queries/problems with the actual programs obviously.

1.12 Manual Pages

PNM UTILITIES

PNM Portable anymap file format. No actual file format, the pnm programs operate on ppm, pgm and pbm files.

PNM General

PNMALLOC	Antialias a portable anymap.
PNMARITH	Perform arithmetic on two portable anymaps.
PNMCAT	Concatenate portable anymaps.
PNMCOMP	Composite two portable anymap files together.
PNMCONVOL	General MxN convolution on a portable anymap.
PNMCROP	Crop a portable anymap.
PNMCUT	Cut a rectangle out of a portable anymap.
PNMDEPTH	Change the maxval in a portable anymap.
PNMENLARGE	Read a portable anymap and enlarge it N times.
PNMFILE	Describe a portable anymap.
PNMFLIP	Perform one or more flip operations on a portable anymap.
PNMGAMMA	Perform gamma correction on a portable anymap.
PNMHISTMAP	Draw a histogram for a PGM or PPM file.
PNMINDEX	Build a visual index of a bunch of anymaps.
PNMINVERT	Invert a portable anymap.
PNMMARGIN	Add a border to a portable anymap.
PNMNLFLT	Non-linear filters: smooth, alpha trim mean, optimal.
PNMNORAW	Force a portable anymap into plain format.
PNMPAD	Add borders to portable anymap.
PNMPASTE	Paste a rectangle into a portable anymap.
PNMROTATE	Rotate a portable anymap by some angle.
PNMSCALE	Scale a portable anymap.
PNMSHEAR	Shear a portable anymap by some angle.
PNMSMOOTH	Smooth out an image.
PNMTILE	Replicate a portable anymap into a specified size.

Convert From PNM

PNMTODDIF	convert a portable anymap to DDIF format.
PNMTOFITS	Convert a portable anymap into FITS format.
PNMTOPS	Convert portable anymap to PostScript.
PNMTORAST	Convert a portable pixmap into a Sun rasterfile.
PNMTOSGI	Convert a portable anymap to a SGI image file.
PNMTOSIR	Convert a portable anymap into a Solitaire format.
PNMTOTIFF	Convert a a portable anymap into a TIFF file.
PNMTOXWD	Convert a portable anymap into an X11 window dump.

Convert To PNM

ANYTOPNM	Attempt to convert an unknown type of image file to a portable anymap.
FITSTOPNM	Convert a FITS file into a portable anymap.
GIFTOPNM	Convert a GIF file into a portable anymap.
PSTOPNM	Convert a PostScript file into a portable anymap.
RASTTOPNM	Convert a Sun rasterfile into a portable anymap.
SGITOPNM	Convert a SGI image file to a portable anymap.
SIRTOPNM	Convert a Solitaire file into a portable anymap.
TIFFTOPNM	Convert a TIFF file into a portable anymap.
XWDTOPNM	Convert a X11 or X10 window dump file into a portable anymap.
ZEISSTOPNM	Convert a Zeiss confocal file into a portable anymap.

PPM UTILITIES

PPM Portable pixmap file format. Lowest common denominator color image file format.

PPM General

PPM3D Convert two portable pixmap into a red/blue 3d glasses pixmap.

PPMBRIGHTEN Change an images Saturation and Value from an HSV map.

PPMCHANGE Change all pixels of one color to another in a portable pixmap.

PPMDIM Dim a portable pixmap down to total blackness.

PPMDIST Simplistic grayscale assignment for machine generated, color images.

PPMDITHER Ordered dither for color images.

PPMFLASH Brighten a picture up to complete white-out.

PPMFORGE Fractal forgeries of clouds, planets, and starry skies.

PPMHIST Print a histogram of a portable pixmap.

PPMMAKE Create a pixmap of a specified size and color.

PPMMIX Blend together two portable pixmaps.

PPMNORM Normalize the contrast in a portable pixmap.

PPMNTSC Make a portable pixmap look like taken from an American TV.

PPMPAT Make a pretty pixmap.

PPMQUANT Quantize the colors in a portable pixmap down to a specified number.

PPMQUANTALL Run ppmquant on a bunch of files all at once, so they share a common colormap.

PPMQVGA 8 plane quantization.

PPMRELIEF Run a Laplacian relief filter on a portable pixmap.

PPMSHIFT Shift lines of a portable pixmap left or right by a random amount.

PPMSPREAD Displace a portable pixmap's pixels by a random amount.

Convert From PPM

PPMTOACAD Convert portable pixmap to AutoCAD database or slide.

PPMTOBMP Convert a portable pixmap into a BMP file.

PPMTOGIF Convert a portable pixmap into a GIF file.

PPMTOICR Convert a portable pixmap into NCSA ICR format.

PPMTOILBM Convert a portable pixmap into an ILBM file.

PPMTOMAP Extract all colors from a portable pixmap.

PPMTOMITSU Convert a portable pixmap to a Mitsubishi S340-10 file.

PPMTOPCX Convert a portable pixmap into a PCX file.

PPMTOPGM Convert a portable pixmap into a portable graymap.

PPMTOPI1 Convert a portable pixmap into an Atari Degas .pil file.

PPMTOPICT Convert a portable pixmap into a Macintosh PICT file.

PPMTOPJ Convert a portable pixmap to an HP PaintJet file.

PPMTOPJXL Convert a portable pixmap into an HP PaintJet XL PCL file.

PPMTOPUZZ Convert a portable pixmap into an X11 "puzzle" file.

PPMTORGB3 Separate a portable pixmap into three portable graymaps.

PPMTOSIXEL Convert a portable pixmap into DEC sixel format.

PPMTOTGA Convert portable pixmap into a TrueVision Targa file.

PPMTOUIL Convert a portable pixmap into a Motif UIL icon file.

PPMTOXPM Convert a portable pixmap into an X11 pixmap.

PPMTOYUV Convert a portable pixmap into an Abekas YUV file.

PPMTOYUVSPLIT Convert a portable pixmap into 3 subsampled raw YUV

files.

Convert To PPM

BMPTOPPM	Convert a BMP file into a portable pixmap.
GOULDTOPPM	Convert Gould scanner file into a portable pixmap.
HPCDTOPPM	Convert a Photo-CD file into a portable pixmap.
ILBMTOPPM	Convert an ILBM file into a portable pixmap.
IMGTOPPM	Convert an Img-whatnot file into a portable pixmap.
MTVTOPPM	Convert output from the MTV or PRT ray tracers into a portable pixmap.
PCXTOPPM	Convert a PCX file into a portable pixmap.
PIITOPPM	Convert an Atari Degas .pil into a portable pixmap.
PICTTOPPM	Convert a Macintosh PICT file into a portable pixmap.
PJTOPPM	Convert an HP PaintJet file to a portable pixmap.
QRTTOPPM	Convert output from the QRT ray tracer into a portable pixmap.
RAWTOPPM	Convert raw RGB bytes into a portable pixmap.
RGB3TOPPM	Combine three portable graymaps into one portable pixmap.
SLDTOPPM	Convert an AutoCAD slide file into a portable pixmap.
SPCTOPPM	Convert an Atari compressed Spectrum file into a portable pixmap.
SPUTOPPM	Convert an Atari uncompressed Spectrum file into a portable pixmap.
TGATOPPM	Convert TrueVision Targa file into a portable pixmap.
XIMTOPPM	Convert an Xim file into a portable pixmap.
XPMTOPPM	Convert an X11 pixmap into a portable pixmap.
XVMINITOPPM	Convert a XV "thumbnail" picture to PPM.
YUVSPLITTOPPM	Convert a Y- an U- and a V-file into a portable pixmap..
YUVTOPPM	Convert Abekas YUV bytes into a portable pixmap.

PGM UTILITIES

PGM	Portable graymap file format. Lowest common denominator greyscale format.
-----	---

PGM General

PGMBENTLEY	bentleyize a portable graymap.
PGMCRATER	Create cratered terrain by fractal forgery.
PGMEDGE	Edge-detect a portable graymap.
PGMENHANCE	Edge-enhance a portable graymap.
PGMHIST	Print a histogram of the values in a portable graymap.
PGMKERNEL	Generate a convolution kernel.
PGMNOISE	Create a graymap made up of white noise.
PGMNORM	Normalize the contrast in a portable graymap.
PGMOIL	Turn a portable graymap into an oil painting.
PGMRAMP	Generate a grayscale ramp.
PGMTEXTURE	Calculate textural features on a portable graymap.

Convert From PGM

PGMTOFS	Convert portable graymap to Usenix FaceSaver(tm) format.
PGMTOLISPM	Convert a portable graymap into Lisp Machine format.
PGMTOPBM	Convert a portable graymap into a portable bitmap.

PGMTOPPM Colorize a portable graymap into a portable pixmap.

Convert To PGM

ASCIITOPGM Convert ASCII graphics into a portable graymap.
 BIORADTOPGM Convert a Biorad confocal file into a portable graymap.
 FSTOPGM Convert a Usenix FaceSaver(tm) file into a portable
 graymap.
 HIPSTOPGM Convert a HIPS file into a portable graymap.
 LISPMTOPGM Convert a Lisp Machine bitmap file into pgm format.
 PSIDTOPGM Convert PostScript "image" data into a portable graymap.
 RAWTOPGM Convert raw grayscale bytes into a portable graymap.
 SPOTSTOPGM Convert SPOT satellite images to Portable Greymap
 format.

PBM UTILITIES

PBM Portable bitmap file format. Lowest common denominator
 monochrome file format.

PBM General

PBMCLEAN Flip isolated pixels in portable bitmap.
 PBMLIFE Apply Conway's rules of Life to a portable bitmap.
 PBMMAKE Create a blank bitmap of a specified size.
 PBMMASK Create a mask bitmap from a regular bitmap.
 PBMPSCALE Enlarge a portable bitmap with edge smoothing.
 PBMREDUCE Read a portable bitmap and reduce it N times.
 PBMTEXT Render text into a bitmap.
 PBMUPC Create a Universal Product Code bitmap.

Convert From PBM

PBMT010X Convert a portable bitmap into Gemini 10X printer
 graphics.
 PBMT04425 display PBM images on an AT&T 4425 terminal.
 PBMT0ASCII Convert a portable bitmap into ASCII graphics.
 PBMT0ATK Convert portable bitmap to Andrew Toolkit raster object.
 PBMT0BBNBG Convert a portable bitmap into BitGraph graphics.
 PBMT0CMUWM Convert a portable bitmap into a CMU window manager
 bitmap.
 PBMT0EPSI Convert a portable bitmap into an encapsulated
 PostScript.
 PBMT0EPSON Convert a portable bitmap into Epson printer graphics.
 PBMT0G3 Convert a portable bitmap into a Group 3 fax file.
 PBMT0GEM Convert a portable bitmap into a GEM .img file.
 PBMT0GO Convert a portable bitmap into compressed GraphOn
 graphics.
 PBMT0ICON Convert a portable bitmap into a Sun icon.
 PBMT0LJ Convert a portable bitmap into HP LaserJet format.
 PBMT0LN03 Convert portable bitmap to DEC LN03+ Sixel output.
 PBMT0LPS Convert portable bitmap to PostScript.
 PBMT0MACP Convert a portable bitmap into a MacPaint file.
 PBMT0MGR Convert a portable bitmap into a MGR bitmap.
 PBMT0PGM Convert portable bitmap to portable graymap by
 averaging areas.

PBMTOPI3	Convert a portable bitmap into an Atari Degas .pi3 file.
PBMTOPK	Convert a portable bitmap into a packed (PK) format font.
PBMTOPILOT	Convert a portable bitmap into a Unix plot(5) file.
PBMTOPTX	Convert a portable bitmap into Printronix printer graphics.
PBMTOX10BM	Convert a portable bitmap into an X10 bitmap.
PBMTOXBM	Convert a portable bitmap into an X11 bitmap.
PBMTOYBM	Convert a portable bitmap into a Bennet Yee "face" file.
PBMTOZINC	Convert a portable bitmap into a Zinc bitmap.

Convert To PBM

ATKTOPBM	Convert Andrew Toolkit raster object to portable bitmap.
BRUSHTOPBM	Convert a doodle brush file into a portable bitmap.
CMUWMTOPBM	Convert a CMU window manager bitmap into a portable bitmap.
G3TOPBM	Convert a Group 3 fax file into a portable bitmap.
GEMTOPBM	Convert a GEM .img file into a portable bitmap.
ICONTOPBM	Convert a Sun icon into a portable bitmap.
MACPTOPBM	Convert a MacPaint file into a portable bitmap.
MGRTOPBM	Convert a MGR bitmap into a portable bitmap.
PI3TOPBM	Convert an Atari Degas .pi3 file into a portable bitmap.
PKTOPBM	Convert packed (PK) format font into portable bitmap(s).
XBMTOPBM	Convert an X11 or X10 bitmap into a portable bitmap.
YBMTOPBM	Convert a Bennet Yee "face" file into a portable bitmap.

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CMUWMTOPBM	Convert a CMU window manager bitmap into a portable bitmap.
FITSTOPNM	Convert a FITS file into a portable anymap.
FSTOPGM	Convert a Usenix FaceSaver(tm) file into a portable graymap.
G3TOPBM	Convert a Group 3 fax file into a portable bitmap.
GEMTOPBM	Convert a GEM .img file into a portable bitmap.
GIFTOPNM	Convert a GIF file into a portable anymap.
GOULDTOPPM	Convert Gould scanner file into a portable pixmap.
HIPSTOPGM	Convert a HIPS file into a portable graymap.
HPCDTPPM	Convert a Photo-CD file into a portable pixmap.
ICONTOPBM	Convert a Sun icon into a portable bitmap.
ILBMTOPPM	Convert an ILBM file into a portable pixmap.
IMGTOPPM	Convert an Img-whatnot file into a portable pixmap.
LISPMTOPGM	Convert a Lisp Machine bitmap file into pgm format.
MACPTOPBM	Convert a MacPaint file into a portable bitmap.
MGRTOPBM	Convert a MGR bitmap into a portable bitmap.
MTVTOPPM	Convert output from the MTV or PRT ray tracers into a portable pixmap.

PCXTOPPM	Convert a PCX file into a portable pixmap.
PI1TOPPM	Convert an Atari Degas .pil into a portable pixmap.
PI3TOPBM	Convert an Atari Degas .pi3 file into a portable bitmap.
PICTTOPPM	Convert a Macintosh PICT file into a portable pixmap.
PJTOPPM	Convert an HP PaintJet file to a portable pixmap.
PKTOPBM	Convert packed (PK) format font into portable bitmap(s).
PBMCLEAN	Flip isolated pixels in portable bitmap.
PBMLIFE	Apply Conway's rules of Life to a portable bitmap.
PBMMAKE	Create a blank bitmap of a specified size.
PBMMASK	Create a mask bitmap from a regular bitmap.
PBMPSCALE	Enlarge a portable bitmap with edge smoothing.
PBMREDUCE	Read a portable bitmap and reduce it N times.
PBMTEXT	Render text into a bitmap.
PBMT010X	Convert a portable bitmap into Gemini 10X printer graphics.
PBMT04425	display PBM images on an AT&T 4425 terminal.
PBMT0ASCII	Convert a portable bitmap into ASCII graphics.
PBMT0ATK	Convert portable bitmap to Andrew Toolkit raster object.
PBMT0BBNBG	Convert a portable bitmap into BitGraph graphics.
PBMT0CMUWM	Convert a portable bitmap into a CMU window manager bitmap.
PBMT0EPSI	Convert a portable bitmap into an encapsulated PostScript.
PBMT0EPSON	Convert a portable bitmap into Epson printer graphics.
PBMT0G3	Convert a portable bitmap into a Group 3 fax file.
PBMT0GEM	Convert a portable bitmap into a GEM .img file.
PBMT0GO	Convert a portable bitmap into compressed GraphOn graphics.
PBMT0ICON	Convert a portable bitmap into a Sun icon.
PBMT0LJ	Convert a portable bitmap into HP LaserJet format.
PBMT0LN03	Convert portable bitmap to DEC LN03+ Sixel output.
PBMT0LPS	Convert portable bitmap to PostScript.
PBMT0MACP	Convert a portable bitmap into a MacPaint file.
PBMT0MGR	Convert a portable bitmap into a MGR bitmap.
PBMT0PGM	Convert portable bitmap to portable graymap by averaging areas.
PBMT0PI3	Convert a portable bitmap into an Atari Degas .pi3 file.
PBMT0PK	Convert a portable bitmap into a packed (PK) format font.
PBMT0PLOT	Convert a portable bitmap into a Unix plot(5) file.
PBMT0PTX	Convert a portable bitmap into Printronix printer graphics.
PBMT0X10BM	Convert a portable bitmap into an X10 bitmap.
PBMT0XBM	Convert a portable bitmap into an X11 bitmap.
PBMT0YBM	Convert a portable bitmap into a Bennet Yee "face" file.
PBMT0ZINC	Convert a portable bitmap into a Zinc bitmap.
PBMUPC	Create a Universal Product Code bitmap.
PGM	Portable graymap file format. Lowest common denominator greyscale format.
PGMBENTLEY	bentleyize a portable graymap.
PGMCRATER	Create cratered terrain by fractal forgery.
PGMEDGE	Edge-detect a portable graymap.
PGMENHANCE	Edge-enhance a portable graymap.
PGMHIST	Print a histogram of the values in a portable graymap.
PGMKERNEL	Generate a convolution kernel.
PGMNOISE	Create a graymap made up of white noise.
PGMNORM	Normalize the contrast in a portable graymap.

PGMOIL	Turn a portable graymap into an oil painting.
PGMRAMP	Generate a grayscale ramp.
PGMTEXTURE	Calculate textural features on a portable graymap.
PGMTOFS	Convert portable graymap to Usenix FaceSaver(tm) format.
PGMTOLISPM	Convert a portable graymap into Lisp Machine format.
PGMTOPBM	Convert a portable graymap into a portable bitmap.
PGMTOPPM	Colorize a portable graymap into a portable pixmap.
PNM	Portable anymap file format. No actual file format, the pnm programs operate on ppm, pgm and pbm files.
PNMALIAS	Antialias a portable anymap.
PNMARITH	Perform arithmetic on two portable anymaps.
PNMCAT	Concatenate portable anymaps.
PNMCOMP	Composite two portable anymap files together.
PNMCONVOL	General MxN convolution on a portable anymap.
PNMCROP	Crop a portable anymap.
PNMCUT	Cut a rectangle out of a portable anymap.
PNMDEPTH	Change the maxval in a portable anymap.
PNMENLARGE	Read a portable anymap and enlarge it N times.
PNMFILE	Describe a portable anymap.
PNMFLIP	Perform one or more flip operations on a portable anymap.
PNMGAMMA	Perform gamma correction on a portable anymap.
PNMHISTMAP	Draw a histogram for a PGM or PPM file.
PNMINDEX	Build a visual index of a bunch of anymaps.
PNMINVERT	Invert a portable anymap.
PNMMARGIN	Add a border to a portable anymap.
PNMNLFLT	Non-linear filters: smooth, alpha trim mean, optimal.
PNMNORAW	Force a portable anymap into plain format.
PNMPAD	Add borders to portable anymap.
PNMPASTE	Paste a rectangle into a portable anymap.
PNMROTATE	Rotate a portable anymap by some angle.
PNMSCALE	Scale a portable anymap.
PNMSHEAR	Shear a portable anymap by some angle.
PNMSMOOTH	Smooth out an image.
PNMTILE	Replicate a portable anymap into a specified size.
PNMTODDIF	convert a portable anymap to DDIF format.
PNMTOFITS	Convert a portable anymap into FITS format.
PNMTOPS	Convert portable anymap to PostScript.
PNMTORAST	Convert a portable pixmap into a Sun rasterfile.
PNMTOSGI	Convert a portable anymap to a SGI image file.
PNMTOSIR	Convert a portable anymap into a Solitaire format.
PNMTOTIFF	Convert a a portable anymap into a TIFF file.
PNMTOXWD	Convert a portable anymap into an X11 window dump.
PPM	Portable pixmap file format. Lowest common denominator color image file format.
PPM3D	Convert two portable pixmap into a red/blue 3d glasses pixmap.
PPMBRIGHTEN	Change an images Saturation and Value from an HSV map.
PPMCHANGE	Change all pixels of one color to another in a portable pixmap.
PPMDIM	Dim a portable pixmap down to total blackness.
PPMDIST	Simplistic grayscale assignment for machine generated, color images.
PPMDITHER	Ordered dither for color images.
PPMFLASH	Brighten a picture up to complete white-out.
PPMFORGE	Fractal forgeries of clouds, planets, and starry skies.
PPMHIST	Print a histogram of a portable pixmap.

PPMMAKE	Create a pixmap of a specified size and color.
PPMMIX	Blend together two portable pixmaps.
PPMNORM	Normalize the contrast in a portable pixmap.
PPMNTSC	Make a portable pixmap look like taken from an American TV.
PPMPAT	Make a pretty pixmap.
PPMQUANT	Quantize the colors in a portable pixmap down to a specified number.
PPMQUANTALL	Run ppmquant on a bunch of files all at once, so they share a common colormap.
PPMQVGA	8 plane quantization.
PPMRELIEF	Run a Laplacian relief filter on a portable pixmap.
PPMSHIFT	Shift lines of a portable pixmap left or right by a random amount.
PPMSPREAD	Displace a portable pixmap's pixels by a random amount.
PPMTOACAD	Convert portable pixmap to AutoCAD database or slide.
PPMTOBMP	Convert a portable pixmap into a BMP file.
PPMTOGIF	Convert a portable pixmap into a GIF file.
PPMTOICR	Convert a portable pixmap into NCSA ICR format.
PPMTOILBM	Convert a portable pixmap into an ILBM file.
PPMTOMAP	Extract all colors from a portable pixmap.
PPMTOMITSU	Convert a portable pixmap to a Mitsubishi S340-10 file.
PPMTOPCX	Convert a portable pixmap into a PCX file.
PPMTOPGM	Convert a portable pixmap into a portable graymap.
PPMTOPI1	Convert a portable pixmap into an Atari Degas .pil file.
PPMTOPICT	Convert a portable pixmap into a Macintosh PICT file.
PPMTOPJ	Convert a portable pixmap to an HP PaintJet file.
PPMTOPJXL	Convert a portable pixmap into an HP PaintJet XL PCL file.
PPMTOPUZZ	Convert a portable pixmap into an X11 "puzzle" file.
PPMTORGB3	Separate a portable pixmap into three portable graymaps.
PPMTOSIXEL	Convert a portable pixmap into DEC sixel format.
PPMTOTGA	Convert portable pixmap into a TrueVision Targa file.
PPMTOUIL	Convert a portable pixmap into a Motif UIL icon file.
PPMTOXPM	Convert a portable pixmap into an X11 pixmap.
PPMTOYUV	Convert a portable pixmap into an Abekas YUV file.
PPMTOYUVSPLIT	Convert a portable pixmap into 3 subsampled raw YUV files.
PSIDTOPGM	Convert PostScript "image" data into a portable graymap.
PSTOPNM	Convert a PostScript file into a portable anymap.
QRTTOPPM	Convert output from the QRT ray tracer into a portable pixmap.
RASTTOPNM	Convert a Sun rasterfile into a portable anymap.
RAWTOPGM	Convert raw grayscale bytes into a portable graymap.
RAWTOPPM	Convert raw RGB bytes into a portable pixmap.
RGB3TOPPM	Combine three portable graymaps into one portable pixmap.
SGITOPNM	Convert a SGI image file to a portable anymap.
SIRTOPNM	Convert a Solitaire file into a portable anymap.
SIDTOPPM	Convert an AutoCAD slide file into a portable pixmap.
SPCTOPPM	Convert an Atari compressed Spectrum file into a portable pixmap.
SPOTTOPGM	Convert SPOT satellite images to Portable Greymap format.
SPUTOPPM	Convert an Atari uncompressed Spectrum file into a portable pixmap.
TGATOPPM	Convert TrueVision Targa file into a portable pixmap.

TIFFTOPNM	Convert a TIFF file into a portable anymap.
XBMTOPBM	Convert an X11 or X10 bitmap into a portable bitmap.
XIMTOPPM	Convert an Xim file into a portable pixmap.
XPMTOPPM	Convert an X11 pixmap into a portable pixmap.
XVMINITOPPM	Convert a XV "thumbnail" picture to PPM.
XWDTOPNM	Convert a X11 or X10 window dump file into a portable anymap.
YBMTOPBM	Convert a Bennet Yee "face" file into a portable bitmap.
YUVSPLITTOPPM	Convert a Y- an U- and a V-file into a portable pixmap..
YUVTOPPM	Convert Abekas YUV bytes into a portable pixmap.
ZEISSTOPNM	Convert a Zeiss confocal file into a portable anymap.

1.14 anytopnm

anytopnm(1) AMIGA (27 July 1990) anytopnm(1)

NAME

anytopnm - attempt to convert an unknown type of image file to a portable anymap

SYNOPSIS

anytopnm file

DESCRIPTION

Uses the file program, possibly augmented by the magic numbers file included with PBMPPLUS, to try to figure out what type of image file it is. If that fails (very few image formats have magic numbers), looks at the filename extension. If that fails, punts.

The type of the output file depends on the input file.

SEE ALSO

pnmfile(1), pnm(5), file(1)

BUGS

It's a script. Scripts are not portable to non-Unix environments.

AUTHOR

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1.15 asciitopgm

asciitopgm(1)

AMIGA (26 December 1994)

asciitopgm(1)

NAME

asciitopgm - convert ASCII graphics into a portable graymap

SYNOPSIS

asciitopgm [-d divisor] height width [asciifile]

DESCRIPTION

Reads ASCII data as input. Produces a portable graymap with pixel values which are an approximation of the "brightness" of the ASCII characters, assuming black-on-white printing. In other words, a capital M is very dark, a period is very light, and a space is white. Input lines which are fewer than width characters are automatically padded with spaces.

The divisor argument is a floating-point number by which the output pixels are divided; the default value is 1.0. This can be used to adjust the brightness of the graymap: for example, if the image is too dim, reduce the divisor.

In keeping with (I believe) Fortran line-printer conventions, input lines beginning with a + (plus) character are assumed to "overstrike" the previous line, allowing a larger range of gray values.

This tool contradicts the message in the pbmtoascii manual: "Note that there is no asciitopbm tool - this transformation is one-way."

BUGS

The table of ASCII-to-grey values is subject to interpretation, and, of course, depends on the typeface intended for the input.

SEE ALSO

pbmtoascii(1), pgm(5)

AUTHOR

Wilson H. Bent. Jr. (whb@usc.edu)

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1.16 atktopbm

atktopbm(1)

AMIGA (26 September 1991)

atktopbm(1)

NAME

atktopbm - convert Andrew Toolkit raster object to portable bitmap

SYNOPSIS

atktopbm [atkfile]

DESCRIPTION

Reads an Andrew Toolkit raster object as input. Produces a portable bitmap as output.

SEE ALSO

pbmtoatk(1), pbm(5)

AUTHOR

Copyright (C) 1991 by Bill Janssen.

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1.17 bioradtopgm

bioradtopgm(1)

AMIGA (28 June 1993)

bioradtopgm(1)

NAME

bioradtopgm - convert a Biorad confocal file into a portable
graymap

SYNOPSIS

bioradtopgm [-image#] [imagedata]

DESCRIPTION

Reads a Biorad confocal file as input. Produces a portable graymap as output. If the resulting image is upside down, run it through `pnmflip -tb` .

OPTIONS

`-image#`

A Biorad image file may contain more than one image. With this flag, you can specify which image to extract (only one at a time). The first image in the file has number zero. If no image number is supplied, only information about the image size and the number of images in the input is printed out. No output is produced.

BUGS

A Biorad image may be in word format. If `PbmPlus` is not compiled with the `"BIGGRAYS"` flag, word files can not be converted. See the Makefile.

SEE ALSO

`pgm(5)`, `pnmflip(1)`

AUTHORS

Copyright (C) 1993 by Oliver Trepte

bmptoppm(1)

AMIGA (26 Oct 1992)

bmptoppm(1)

NAME

bmptoppm - convert a BMP file into a portable pixmap

SYNOPSIS

bmptoppm [bmpfile]

DESCRIPTION

Reads a Microsoft Windows or OS/2 BMP file as input.
Produces a portable pixmap as output.

SEE ALSO

ppmtobmp(1), ppm(5)

AUTHOR

Copyright (C) 1992 by David W. Sanderson.

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1.19 brushtopbm

brushtopbm(1)

AMIGA (28 August 1988)

brushtopbm(1)

NAME

brushtopbm - convert a doodle brush file into a portable
bitmap

SYNOPSIS

brushtopbm [brushfile]

DESCRIPTION

Reads a Xerox doodle brush file as input. Produces a
portable bitmap as output.

Note that there is currently no pbmtobrush tool.

SEE ALSO

pbm(5)

AUTHOR

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1.20 cmuwmtopbm

cmuwmtopbm(1)

AMIGA (15 April 1989)

cmuwmtopbm(1)

NAME

cmuwmtopbm - convert a CMU window manager bitmap into a portable bitmap

SYNOPSIS

cmuwmtopbm [cmuwmfile]

DESCRIPTION

Reads a CMU window manager bitmap as input. Produces a portable bitmap as output.

SEE ALSO

pbmtocmuwm(1), pbm(5)

AUTHOR

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1.21 fitstopnm

fitstopnm(1)

AMIGA (20 September 89)

fitstopnm(1)

NAME

fitstopnm - convert a FITS file into a portable anymap

SYNOPSIS

fitstopnm [-image N] [-noraw] [-scanmax] [-printmax] [-min
f] [-max f] [FITSfile]

DESCRIPTION

Reads a FITS file as input. Produces a portable pixmap if the FITS file consists of 3 image planes (NAXIS = 3 and NAXIS3 = 3), a portable graymap if the FITS file consists of 2 image planes (NAXIS = 2), or whenever the -image flag is specified. The results may need to be flipped top for bottom; if so, just pipe the output through pnmflip -tb.

OPTIONS

The -image option is for FITS files with three axes. The assumption is that the third axis is for multiple images, and this option lets you select which one you want.

Flags -min and -max can be used to override the min and max values as read from the FITS header or the image data if no

DATAMIN and DATAMAX keywords are found. Flag -scanmax can be used to force the program to scan the data even when DATAMIN and DATAMAX are found in the header. If -printmax is specified, the program will just print the min and max values and quit. Flag -noraw can be used to force the program to produce an ASCII portable anymap.

The program will tell what kind of anymap is writing. All flags can be abbreviated to their shortest unique prefix.

REFERENCES

FITS stands for Flexible Image Transport System. A full description can be found in Astronomy & Astrophysics Supplement Series 44 (1981), page 363.

SEE ALSO

pnmtofits(1), pgm(5), pnmflip(1)

AUTHOR

Copyright (C) 1989 by Jef Poskanzer, with modifications by Daniel Briggs (dbriggs@nrao.edu) and Alberto Accomazzi (alberto@cfa.harvard.edu).

1.22 fstopgm

fstopgm(1)

AMIGA (06 April 89)

fstopgm(1)

NAME

fstopgm - convert a Usenix FaceSaver(tm) file into a portable graymap

SYNOPSIS

fstopgm [fsfile]

DESCRIPTION

Reads a Usenix FaceSaver(tm) file as input. Produces a portable graymap as output.

FaceSaver(tm) files sometimes have rectangular pixels.

While `fstopgm` won't re-scale them into square pixels for you, it will give you the precise `pnmscale` command that will do the job. Because of this, reading a FaceSaver(tm) image is a two-step process. First you do:

```
fstopgm > /dev/null
```

This will tell you whether you need to use `pnmscale`. Then use one of the following pipelines:

```
fstopgm | pgmnorm
```

```
fstopgm | pnmscale -whatever | pgmnorm
```

To go to PBM, you want something more like one of these:

```
fstopgm | pnmenlarge 3 | pgmnorm | pgmtopbm
```

```
fstopgm | pnmenlarge 3 | pnmscale <whatever> | pgmnorm | pgmtopbm
```

You want to enlarge when going to a bitmap because otherwise you lose information; but enlarging by more than 3 does not look good.

FaceSaver is a registered trademark of Metron Computerware Ltd. of Oakland, CA.

SEE ALSO

```
pgmtofs(1), pgm(5), pgmnorm(1), pnmenlarge(1), pnmscale(1),  
pgmtopbm(1)
```

AUTHOR

Copyright (C) 1989 by Jef Poskanzer.

1.23 g3topbm

`g3topbm(1)`

AMIGA (02 October 1989)

`g3topbm(1)`

NAME

`g3topbm` - convert a Group 3 fax file into a portable bitmap

SYNOPSIS

g3topbm [-kludge] [-reversebits] [-stretch] [g3file]

DESCRIPTION

Reads a Group 3 fax file as input. Produces a portable bitmap as output.

OPTIONS

-kludge

Tells g3topbm to ignore the first few lines of the file; sometimes fax files have some junk at the beginning.

-reversebits

Tells g3topbm to interpret bits least-significant first, instead of the default most-significant first. Apparently some fax modems do it one way and others do it the other way. If you get a whole bunch of "bad code word" messages, try using this flag.

-stretch

Tells g3topbm to stretch the image vertically by duplicating each row. This is for the low-quality transmission mode.

All flags can be abbreviated to their shortest unique prefix.

REFERENCES

The standard for Group 3 fax is defined in CCITT Recommendation T.4.

BUGS

Probably.

SEE ALSO

pbmtog3(1), pbm(5)

AUTHOR

Copyright (C) 1989 by Paul Haeberli <paul@manray.sgi.com>.

1.24 gemptopbm

gemptopbm(1)

AMIGA (11 Jul 1992)

gemptopbm(1)

NAME

gemptopbm - convert a GEM .img file into a portable bitmap

SYNOPSIS

gemptopbm [-d] [gemfile]

DESCRIPTION

Reads a GEM .img file as input. Reads from stdin if input file is omitted. Produces a portable bitmap as output.

OPTIONS

-d Produce output describing the contents of the .img file.

BUGS

Does not support files containing more than one plane.

SEE ALSO

pbmtogem(1), pbm(5)

AUTHOR

Copyright (C) 1988 Diomidis D. Spinellis (dds@cc.ic.ac.uk).

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1.25 giftopnm

giftopnm(1)

AMIGA (29 September 1993)

giftopnm(1)

NAME

giftopnm - convert a GIF file into a portable anymap

SYNOPSIS

giftopnm [-verbose] [-comments] [-image N] [GIFfile]

DESCRIPTION

Reads a GIF file for input, and outputs portable anymap.

OPTIONS

-verbose

Produces verbose output about the GIF file input.

-comments

Only outputs GIF89 comment fields.

-image

Output the specified gif image from the input gif archive (where N is '1', '2', '20'...). Normally there is only one image per file, so this option is not needed.

All flags can be abbreviated to their shortest unique prefix.

BUGS

This does not correctly handle the Plain Text Extension of the GIF89 standard, since I did not have any example input files containing them.

SEE ALSO

ppmtogif(1), ppm(5)

AUTHOR

Copyright (c) 1993 by David Koblas (koblas@netcom.com)

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1.26 gouldtoppm

gouldtoppm(1)

AMIGA (20 May 1990)

gouldtoppm(1)

NAME

gouldtoppm - convert Gould scanner file into a portable
pixmap

SYNOPSIS

gouldtoppm [gouldfile]

DESCRIPTION

Reads a file produced by the Gould scanner as input.
Produces a portable pixmap as output.

SEE ALSO

ppm(5)

AUTHOR

Copyright (C) 1990 by Stephen Paul Lesniewski

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1.27 hipstopgm

hipstopgm(1)

AMIGA (24 August 89)

hipstopgm(1)

NAME

hipstopgm - convert a HIPS file into a portable graymap

SYNOPSIS

hipstopgm [hipsfile]

DESCRIPTION

Reads a HIPS file as input. Produces a portable graymap as output.

If the HIPS file contains more than one frame in sequence, hipstopgm will concatenate all the frames vertically.

HIPS is a format developed at the Human Information Processing Laboratory, NYU.

SEE ALSO

pgm(5)

AUTHOR

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1.28 hpcdtoppm

hpcdtoppm(1)

AMIGA (28 November 1992)

hpcdtoppm(1)

NAME

hpcdtoppm v0.3 - convert a Photo-CD file into a portable
pixmap

SYNOPSIS

hpcdtoppm [options] pcd-file [ppm-file]

DESCRIPTION

Reads a Photo-CD Image file or Overview file, and outputs
portable pixmap. Image files you can find on the Photo-CD

in photo_cd/images, they are named as "imgnnnn.pcd", where nnnn is a 4-digit-number. The Overview file is at photo_cd/overview.pcd . If there is no ppm-file-name given, output will be printed to stdout. hpcdtoppm stands for "Hadmut's pcdtoppm" to make it distinguishable in case someone else is building the same thing and calling it pcdtoppm.

OPTIONS

- i Give some information from the fileheader to stderr. It works only for Image files. (It is not working correctly, just printing some strings.)
- s Apply simple sharpness-operator on the Luma-channel.
- d Do not show the complete image, but only the decompressed difference. It works only on the 4Base and the 16Base resolution. It does not have any deeper sense, but it was simple to implement and it shows what causes different sizes of image files.
- r Rotate the picture clockwise for portraits.
- l Rotate the picture counter-clockwise for portraits.
- a Try to find out the image orientation byself. This doesn't work for overview files yet. It is very experimental and depends on one byte. Please tell me if it doesn't work.
- x Overskip Mode. Works on Base/16, Base/4, Base and 4Base. In Photo-CD images the luma channel is stored in full resolution, the two chroma channels are stored in half resolution only and have to be interpolated. In the Overskip Mode the chroma channels of the next higher resolution are taken instead of interpolating. To see the difference, generate one ppm with and one ppm without this flag. Use pnmarith to generate the difference image of these two images. Call ppmhist for this difference or show it with xv (push the HistEq button in the color editor).

Extract the Base/16 size picture (size 128x192 pixels).
Note that you can only give one size option.

-2 | -Base/4 | -256x384

Extract the Base/4 size picture.

-3 | -Base | -512x768

Extract the Base size picture.

-4 | -4Base | -1024x1536

Extract the 4Base size picture.

-5 | -16Base | -2048x3072

Extract the 16Base size picture.

-0 | -Overview | -O

Extract all pictures from an Overview file. A ppmfilename must be given. If the given name is "foo", the files are named "foonnnn", where nnnn is a 4-digit number. Since they are stored in Base/16 format, they are extracted in this format.

-ycc Suppress the ycc to rgb conversion. This is experimental only. You can use this and apply ppmtorgb3 on the file. Then you will get three pgm-files, one Luma and two Chroma files.

BUGS

I still don't have enough information about the Photo-CD to take care of all data structures. The informations i have are quite vague and this program was developed by starring at the hex-dumps and the famous trial-and-error-method. :-)
If anything doesn't work, please send me a report and perhaps you could try to find out, why it doesn't work.

SEE ALSO

ppm(5), ppmquant(1), ppmtopgm(1), ppmhist(1), pnmarith(1), ppmtorgb3(1), xv(1)

AUTHOR

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1.29 icontopbm

icontopbm(1)

AMIGA (31 August 1988)

icontopbm(1)

NAME

icontopbm - convert a Sun icon into a portable bitmap

SYNOPSIS

icontopbm [iconfile]

DESCRIPTION

Reads a Sun icon as input. Produces a portable bitmap as output.

SEE ALSO

pbmtoicon(1), pbm(5)

AUTHOR

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1.30 ilbmtoppm

ilbmtoppm(1)

AMIGA (04 October 1993)

ilbmtoppm(1)

NAME

ilbmtoppm - convert an ILBM file into a portable pixmap

SYNOPSIS

ilbmtoppm [-verbose] [-ignore<chunkID>] [-isham|-isehb] [-adjustcolors] [ILBMfile]

DESCRIPTION

Reads an IFF ILBM file as input. Produces a portable pixmap as output. Supported ILBM types are:

Normal ILBMs with 1-16 planes.

Amiga Extra_Halfbrite (EHB)

Amiga HAM with 3-16 planes.

24 bit.

Multiplatte (normal or HAM) pictures.

Color map (BMHD + CMAP chunk only, nPlanes = 0).

Unofficial direct color.

1-16 planes for each color component.

Chunks used:

BMHD, CMAP, CAMG (only HAM & EHB flags used), PCHG,
BODY unofficial DCOL chunk to identify direct color
ILBM

Chunks ignored:

GRAB, DEST, SPRT, CRNG, CCRT, CLUT, DPPV, DRNG, EPSF

Other chunks (ignored but displayed in verbose mode):

NAME, AUTH, (c), ANNO, DPI

Unknown chunks are skipped.

OPTIONS

-verbose

Give some information about the ILBM file.

-ignore <chunkID>

Skip a chunk. <chunkID> is the 4-letter IFF chunk identifier of the chunk to be skipped.

-isham | -isehb

Treat the input file as a HAM or Extra_Halfbrite picture, even if these flags are not set in the CAMG chunk (or if there is no CAMG chunk).

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ilbmtoppm(1)

AMIGA (04 October 1993)

ilbmtoppm(1)

-adjustcolors

If all colors in the CMAP have a value of less than 16, ilbmtoppm assumes a 4-bit colormap and gives a warning. With this option the colormap is scaled to 8 bits.

BUGS

The multipalette PCHG BigLineChanges and Huffman decompression code is untested.

REFERENCES

Amiga ROM Kernel Reference Manual - Devices (3rd Ed.)
Addison Wesley, ISBN 0-201-56775-X

SEE ALSO

ppm(5), ppmtoilbm(1)

AUTHORS

Copyright (C) 1989 by Jef Poskanzer.
Modified October 1993 by Ingo Wilken
(Ingo.Wilken@informatik.uni-oldenburg.de)

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1.31 imgtoppm

imgtoppm(1)

AMIGA (05 September 1989)

imgtoppm(1)

NAME

imgtoppm - convert an Img-whatnot file into a portable
pixmap

SYNOPSIS

imgtoppm [imgfile]

DESCRIPTION

Reads an Img-whatnot file as input. Produces a portable
pixmap as output. The Img-whatnot toolkit is available for
FTP on venera.isi.edu, along with numerous images in this
format.

SEE ALSO

ppm(5)

AUTHOR

Based on a simple conversion program posted to comp.graphics

by Ed Falk.

Copyright (C) 1989 by Jef Poskanzer.

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1.32 lispmtopgm

lispmtopgm(1)

AMIGA (06 March 1990)

lispmtopgm(1)

NAME

lispmtopgm - convert a Lisp Machine bitmap file into pgm
format

SYNOPSIS

lispmtopgm [lispmfile]

DESCRIPTION

Reads a Lisp Machine bitmap as input. Produces a portable graymap as output.

This is the file format written by the `tv:write-bit-array-file` function on TI Explorer and Symbolics lisp machines.

Multi-plane bitmaps on lisp machines are color; but the lisp image file format does not include a color map, so we must treat it as a graymap instead. This is unfortunate.

SEE ALSO

`pgmtolisp(1)`, `pgm(5)`

BUGS

The Lisp bitmap file format is a bit quirky; Usually the image in the file has its width rounded up to the next higher multiple of 32, but not always. If the width is not a multiple of 32, we don't deal with it properly, but because of the Lisp microcode, such arrays are probably not image data anyway.

Also, the lisp code for saving bitmaps has a bug, in that if you are writing a bitmap which is not mod32 across, the file may be up to 7 bits too short! They round down instead of up, and we don't handle this bug gracefully.

No color.

AUTHOR

Copyright (C) 1991 by Jamie Zawinski and Jef Poskanzer.

1.33 macptopbm

NAME

macptopbm - convert a MacPaint file into a portable bitmap

SYNOPSIS

macptopbm [-extraskip N] [macpfile]

DESCRIPTION

Reads a MacPaint file as input. Produces a portable bitmap as output.

OPTIONS

-extraskip

This flag is to get around a problem with some methods of transferring files from the Mac world to the Unix world. Most of these methods leave the Mac files alone, but a few of them add the "finderinfo" data onto the front of the Unix file. This means an extra 128 bytes to skip over when reading the file. The symptom to watch for is that the resulting PBM file looks shifted to one side. If you get this, try -extraskip 128, and if that still doesn't look right try another value.

All flags can be abbreviated to their shortest unique prefix.

SEE ALSO

picttoppm(1), pbmtomacp(1), pbm(5)

AUTHOR

Copyright (C) 1988 by Jef Poskanzer. The MacPaint-reading code is copyright (c) 1987 by Patrick J. Naughton (naughton@wind.sun.com).

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1.34 mgrtopbm

mgrtopbm(1)

AMIGA (24 January 1989)

mgrtopbm(1)

NAME

mgrtopbm - convert a MGR bitmap into a portable bitmap

SYNOPSIS

mgrtopbm [mgrfile]

DESCRIPTION

Reads a MGR bitmap as input. Produces a portable bitmap as output.

SEE ALSO

pbmtomgr(1), pbm(5)

AUTHOR

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1.35 mtvtoppm

mtvtoppm(1)

AMIGA (02 February 1989)

mtvtoppm(1)

NAME

mtvtoppm - convert output from the MTV or PRT ray tracers
into a portable pixmap

SYNOPSIS

mtvtoppm [mtvfile]

DESCRIPTION

Reads an input file from Mark VanDeWettering's MTV ray
tracer. Produces a portable pixmap as output.

The PRT raytracer also produces this format.

SEE ALSO

ppm(5)

AUTHOR

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1.36 pbm

pbm(5)

AMIGA (27 September 1991)

pbm(5)

NAME

pbm - portable bitmap file format

DESCRIPTION

The portable bitmap format is a lowest common denominator monochrome file format. It was originally designed to make it reasonable to mail bitmaps between different types of machines using the typical stupid network mailers we have today. Now it serves as the common language of a large family of bitmap conversion filters. The definition is as follows:

- A "magic number" for identifying the file type. A pbm file's magic number is the two characters "P1".
 - Whitespace (blanks, TABs, CRs, LFs).
 - A width, formatted as ASCII characters in decimal.
 - Whitespace.
 - A height, again in ASCII decimal.
 - Whitespace.
-

- Width * height bits, each either '1' or '0', starting at the top-left corner of the bitmap, proceeding in normal English reading order.
- The character '1' means black, '0' means white.
- Whitespace in the bits section is ignored.
- Characters from a "#" to the next end-of-line are ignored (comments).
- No line should be longer than 70 characters.

Here is an example of a small bitmap in this format:

```
P1
# feep.pbm
24 7
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 1 1 1 1 0 0 1 1 1 1 0 0 1 1 1 1 0 0 1 1 1 1 0
0 1 0 0 0 0 0 1 0 0 0 0 0 1 0 0 0 0 0 1 0 0 1 0
0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 0 0 0 1 1 1 1 0
0 1 0 0 0 0 0 1 0 0 0 0 0 1 0 0 0 0 0 1 0 0 0 0
0 1 0 0 0 0 0 1 1 1 1 0 0 1 1 1 1 0 0 1 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
```

Programs that read this format should be as lenient as possible, accepting anything that looks remotely like a

bitmap.

There is also a variant on the format, available by setting the RAWBITS option at compile time. This variant is different in the following ways:

- The "magic number" is "P4" instead of "P1".
- The bits are stored eight per byte, high bit first low bit last.
- No whitespace is allowed in the bits section, and only a single character of whitespace (typically a newline) is allowed after the height.
- The files are eight times smaller and many times faster to

read and write.

SEE ALSO

atktopbm(1), brushtopbm(1), cmuwmtopbm(1), g3topbm(1),
 gentopbm(1), icontopbm(1), macptopbm(1), mgrtopbm(1),
 pi3topbm(1), xbmtopbm(1), ybmtopbm(1), pbmto10x(1),
 pbmtoascii(1), pbmtoatk(1), pbmtobbnbg(1), pbmtocmuwm(1),
 pbmtoepson(1), pbmtog3(1), pbmtogem(1), pbmtogo(1),
 pbmtoicon(1), pbmtolj(1), pbmtomacp(1), pbmtomgr(1),
 pbmtopi3(1), pbmtoplot(1), pbmtoptx(1), pbmtox10bm(1),
 pbmtoxbm(1), pbmtoybm(1), pbmtozinc(1), pbmlife(1),
 pbmmake(1), pbmmask(1), pbmreduce(1), pbmtext(1), pbmupc(1),
 pnm(5), pgm(5), ppm(5)

AUTHOR

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1.37 pbmclean

pbmclean(12 Dec 1990)

AMIGA

pbmclean(12 Dec 1990)

NAME

pbmclean - flip isolated pixels in portable bitmap

SYNOPSIS

pbmclean [-connect] [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Outputs a portable bitmap with every pixel which has less than connect identical neighbours inverted. Pbmclean can be used to clean up "snow" on bitmap images.

SEE ALSO

pbm(5)

AUTHOR

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pbmlife(1)

AMIGA (21 February 1991)

pbmlife(1)

NAME

pbmlife - apply Conway's rules of Life to a portable bitmap

SYNOPSIS

pbmlife [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Applies the rules of Life to it for one generation, and produces a portable bitmap as output.

A white pixel in the image is interpreted as a live beastie, and a black pixel as an empty space.

SEE ALSO

pbm(5)

AUTHOR

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1.39 pbmmake

pbmmake(1)

AMIGA (22 February 1989)

pbmmake(1)

NAME

pbmmake - create a blank bitmap of a specified size

SYNOPSIS

pbmmake [-white|-black|-gray] width height

DESCRIPTION

Produces a portable bitmap of the specified width and height. The color defaults to white.

OPTIONS

In addition to the usual -white and -black, this program implements -gray. This gives a simple 50% gray pattern with 1's and 0's alternating.

All flags can be abbreviated to their shortest unique prefix.

SEE ALSO

pbm(5), ppmake(1)

AUTHOR

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1.40 pbmmask

pbmmask(1)

AMIGA (08 August 1989)

pbmmask(1)

NAME

pbmmask - create a mask bitmap from a regular bitmap

SYNOPSIS

pbmmask [-expand] [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Creates a corresponding mask bitmap and writes it out.

The color to be interpreted as "background" is determined automatically. Regardless of which color is background, the mask will be white where the background is and black where the figure is.

This lets you do a masked paste like this, for objects with a black background:

```
pbmmask obj > objmask
```

```
pnmpaste < dest -and objmask <x> <y> | pnmpaste -or obj <x> <y>
```

For objects with a white background, you can either invert them or add a step:

```
pbmmask obj > objmask
```

```
pnminvert objmask | pnmpaste -and obj 0 0 > blackback
```

```
pnmpaste < dest -and objmask <x> <y> | pnmpaste -or blackback <x> <y> ↵
```

Note that this three-step version works for objects with black backgrounds too, if you don't care about the wasted time.

You can also use masks with graymaps and pixmaps, using the pnmarith tool. For instance:

```
ppmtopgm obj.ppm | pgmtopbm -threshold | pbmmask > objmask.pbm
```

```
pnmarith -multiply dest.ppm objmask.pbm > t1.ppm
pnminvert objmask.pbm | pnmarith -multiply obj.ppm - > t2.ppm
pnmarith -add t1.ppm t2.ppm
```

An interesting variation on this is to pipe the mask through the pnmsmooth script before using it. This makes the boundary between the two images less sharp.

-expand

Expands the mask by one pixel out from the image. This is useful if you want a little white border around your image. (A better solution might be to turn the pbmlife tool into a general cellular automaton tool...)

SEE ALSO

pnmpaste(1), pnminvert(1), pbm(5), pnmarith(1), pnmsmooth(1)

AUTHOR

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1.41 pbmpscale

pbmpscale(12 Dec 1990)

AMIGA

pbmpscale(12 Dec 1990)

NAME

pbmpscale - enlarge a portable bitmap with edge smoothing

SYNOPSIS

pbmpscale N [pbmfile]

DESCRIPTION

Reads a portable bitmap as input, and outputs a portable bitmap enlarged N times. Enlargement is done by pixel replication, with some additional smoothing of corners and edges.

SEE ALSO

pnmenlarge(1), pnmscale(1), pbm(5)

AUTHOR

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fee is hereby granted, provided that the above copyright notice appear in all copies and that both that copyright notice and this permission notice appear in supporting documentation. This software is provided "as is" without express or implied warranty.

NOTES

pbmpscale works best for enlargements of 2. Enlargements greater than 2 should be done by as many enlargements of 2 as possible, followed by an enlargement by the remaining factor.

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1.42 pbmreduce

pbmreduce(1)

AMIGA (02 August 1989)

pbmreduce(1)

NAME

pbmreduce - read a portable bitmap and reduce it N times

SYNOPSIS

pbmreduce [-floyd|-fs|-threshold] [-value val] N [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Reduces it by a factor of N, and produces a portable bitmap as output.

pbmreduce duplicates a lot of the functionality of pgmtopbm;

you could do something like `pnmscale | pgmtopbm`, but `pbmreduce` is a lot faster.

`pbmreduce` can be used to "re-half-tone" an image. Let's say you have a scanner that only produces black&white, not grayscale, and it does a terrible job of halftoning (most b&w scanners fit this description). One way to fix the halftoning is to scan at the highest possible resolution, say 300 dpi, and then reduce by a factor of three or so using `pbmreduce`. You can even correct the brightness of an image, by using the `-value` flag.

OPTIONS

By default, the halftoning after the reduction is done via boustrophedonic Floyd-Steinberg error diffusion; however, the `-threshold` flag can be used to specify simple thresholding. This gives better results when reducing line drawings.

The `-value` flag alters the thresholding value for all quantizations. It should be a real number between 0 and 1. Above 0.5 means darker images; below 0.5 means lighter.

All flags can be abbreviated to their shortest unique prefix.

SEE ALSO

`pnmenlarge(1)`, `pnmscale(1)`, `pgmtopbm(1)`, `pbm(5)`

AUTHOR

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1.43 pbmtext

`pbmtext(1)`

AMIGA (26 October 1993)

`pbmtext(1)`

NAME

pbmtext - render text into a bitmap

SYNOPSIS

pbmtext [-font fontfile] [-builtin fontname] [text]

DESCRIPTION

Takes the specified text, either a single line from the command line or multiple lines from standard input, and renders it into a bitmap.

OPTIONS

By default, pbmtext uses a built-in font called bdf (about a 10 point Times-Roman font). You can use a fixed width font by specifying -builtin fixed.

You can also specify your own font with the -font flag. The fontfile is either a BDF file from the X window system or a PBM file.

If the fontfile is a PBM file, it is created in a very specific way. In your window system of choice, display the following text in the desired (fixed-width) font:

```
M ",/^_['`jqy| M
```

```
/ !"#%&'()*+ /
< ,-. /01234567 <
> 89:;<=>?@ABC >
@ DEFGHIJKLMNOP @
_ PQRSTUVWXYZ[ _
{ \]^_`abcdefg {
} hijklmnopqrs }
~ tuvwxyz{|}~ ~
```

```
M ",/^_['`jqy| M
```

Do a screen grab or window dump of that text, using for instance xwd, xgrabsc, or screendump. Convert the result into a pbm file. If necessary, use pnmcut to remove everything except the text. Finally, run it through pnmcrop to make sure the edges are right up against the text. pbmtext can figure out the sizes and spacings from that.

SEE ALSO

pbm(5), pnmcut(1), pnmcrop(1)

AUTHOR

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1.44 pbmto10x

pbmto10x(1)

AMIGA (1 January 1990)

pbmto10x(1)

NAME

pbmto10x - convert a portable bitmap into Gemini 10X printer graphics

SYNOPSIS

pbmto10x [-h] [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Produces a file of Gemini 10X printer graphics as output. The 10x's printer codes are alleged to be similar to the Epson codes.

Note that there is no 10xto10pbm tool - this transformation is one way.

OPTIONS

The resolution is normally 60H by 72V. If the -h flag is specified, resolution is 120H by 144V. You may find it useful to rotate landscape images before printing.

SEE ALSO

pbm(5)

AUTHOR

Copyright (C) 1990 by Ken Yap

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1.45 pbmto4425

PBMT04425 (1)

AMIGA

PBMT04425 (1)

NAME

pbmto4425 - Display PBM images on an AT&T 4425 terminal

SYNOPSIS

pbmto4425 [pbmfile]

DESCRIPTION

Pbmto4425 displays PBM format images on an AT&T 4425 ASCII terminal using that terminal's mosaic graphics character set. The program should also work with other VT100-like terminals with mosaic graphics character sets such as the C. Itoh CIT-101, but it has not yet been tested on terminals other than the 4425.

Pbmto4425 puts the terminal into 132 column mode to achieve the maximum resolution of the terminal. In this mode the terminal has a resolution of 264 columns by 69 rows. The pixels have an aspect ratio of 1:2.6, therefore an image should be processed before being displayed in a manner such as this:

```
% pnmscale -xscale 2.6 pnmfile \  
| pnmscale -ysize 264 69 \  
| ppmtopgm \  
| pgmtopbm \  
| pbmto4425
```

AUTHOR

Copyright (C) 1993 by Robert Perlberg

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1.46 pbmtoascii

pbmtoascii(1)

AMIGA (20 March 1992)

pbmtoascii(1)

NAME

pbmtoascii - convert a portable bitmap into ASCII graphics

SYNOPSIS

pbmtoascii [-1x2|-2x4] [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Produces a somewhat crude ASCII graphic as output.

Note that there is no asciitopbm tool - this transformation is one-way.

OPTIONS

The -1x2 and -2x4 flags give you two alternate ways for the bits to get mapped to characters. With 1x2, the default, each character represents a group of 1 bit across by 2 bits down. With -2x4, each character represents 2 bits across by 4 bits down. With the 1x2 mode you can see the individual bits, so it's useful for previewing small bitmaps on a non-graphics terminal. The 2x4 mode lets you display larger bitmaps on a standard 80-column display, but it obscures bit-level details. 2x4 mode is also good for displaying graymaps - "pnmscale -width 158 | pgmnorm | pgmtopbm -thresh" should give good results.

SEE ALSO

pbm(5)

AUTHOR

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1.47 pbmtoatk

pbmtoatk(1)

AMIGA (26 September 1991)

pbmtoatk(1)

NAME

pbmtoatk - convert portable bitmap to Andrew Toolkit raster object

SYNOPSIS

pbmtoatk [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Produces a Andrew Toolkit raster object as output.

SEE ALSO

atktopbm(1), pbm(5)

AUTHOR

Copyright (C) 1991 by Bill Janssen.

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(printed 3/1/94)

1.48 pbmbbntobg

pbmtobg(1)

AMIGA (16 May 1989)

pbmtobg(1)

NAME

pbmtobg - convert a portable bitmap into BitGraph graphics

SYNOPSIS

pbmtobg [rasterop] [x y] < pbmfile

DESCRIPTION

Reads a portable bitmap as input. Produces BBN BitGraph terminal Display Pixel Data (DPD) sequence as output.

The rasterop can be specified on the command line. If this is omitted, 3 (replace) will be used. A position in (x,y) coordinates can also be specified. If both are given, the rasterop comes first. The portable bitmap is always taken from the standard input.

Note that there is no bgtopbm tool.

SEE ALSO
pbm(5)

AUTHOR
Copyright 1989 by Mike Parker.

pbmtocmuwm(1)

AMIGA (15 April 1989)

pbmtocmuwm(1)

NAME

pbmtocmuwm - convert a portable bitmap into a CMU window manager bitmap

SYNOPSIS

pbmtocmuwm [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Produces a CMU window manager bitmap as output.

SEE ALSO

cmuwmtopbm(1), pbm(5)

AUTHOR

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1.50 pbmtoepsi

pbmtoepsi(1)

AMIGA (1992)

pbmtoepsi(1)

NAME

pbmtoepsi - convert a portable bitmap into an encapsulated PostScript style preview bitmap

SYNOPSIS

pbmtoepsi [-bbonly] [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Produce an encapsulated Postscript style bitmap as output. The output is not a stand alone postscript file, it is only a preview bitmap, which can be included in an encapsulated PostScript file. Note that there is no epsitopbm tool - this transformation is one way.

This utility is a part of the pstoepsi tool by Doug Crabill (dgc@cs.purdue.edu).

OPTIONS

-bbonly

Only create a boundary box, don't fill it with the image.

SEE ALSO

pbm(5), pnmtops(1), psidtopgm(1)

AUTHOR

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1.51 pbmtoepson

pbmtoepson(1)

AMIGA (4 January 1991)

pbmtoepson(1)

NAME

pbmtoepson - convert a portable bitmap into Epson printer graphics

SYNOPSIS

pbmtoepson [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Produces a file of Epson printer graphics as output.

Note that there is no epsontopbm tool - this transformation is one way.

SEE ALSO

pbm(5)

AUTHOR

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(tillier@galois.msfc.nasa.gov) and Jef Poskanzer.

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1.52 pbmtog3

pbmtog3(1)

AMIGA (02 October 1989)

pbmtog3(1)

NAME

pbmtog3 - convert a portable bitmap into a Group 3 fax file

SYNOPSIS

pbmtog3 [pbmfile]

DESCRIPTION

Reads a portable bitmap as output. Produces a Group 3 fax file as input.

REFERENCES

The standard for Group 3 fax is defined in CCITT Recommendation T.4.

BUGS

Probably.

SEE ALSO

g3topbm(1), pbm(5)

AUTHOR

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1.53 pbmtogem

pbmtogem(1)

AMIGA (11 July 1992)

pbmtogem(1)

NAME

pbmtogem - convert a portable bitmap into a GEM .img file

SYNOPSIS

pbmtogem [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Produces a compressed GEM .img file as output.

BUGS

pbmtogem does not support compression of repeated lines

SEE ALSO

gentopbm(1), pbm(5)

AUTHOR

Copyright (C) 1988 by David Beckemeyer (bdt!david) and Jef Poskanzer.

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1.54 pbmtogo

pbmtogo(1)

AMIGA (24 November 1989)

pbmtogo(1)

NAME

pbmtogo - convert a portable bitmap into compressed GraphOn

graphics

SYNOPSIS

pbmtogo [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Produces 2D compressed GraphOn graphics as output. Be sure to set up your GraphOn with the following modes: 8 bits / no parity; obeys no XON/XOFF; NULs are accepted. These are all on the Comm menu. Also, remember to turn off tty post processing. Note that there is no gotopbm tool.

SEE ALSO

pbm(5)

AUTHOR

Copyright (C) 1988, 1989 by Jef Poskanzer, Michael Haberler, and Bo Thide'.

1.55 pbmtoicon

pbmtoicon(1) AMIGA (31 August 1988) pbmtoicon(1)

NAME

pbmtoicon - convert a portable bitmap into a Sun icon

SYNOPSIS

pbmtoicon [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Produces a Sun icon as output.

SEE ALSO

icontopbm(1), pbm(5)

AUTHOR

Copyright (C) 1988 by Jef Poskanzer.

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1.56 pbmtolj

pbmtolj(1)

AMIGA (29 August 1988)

pbmtolj(1)

NAME

pbmtolj - convert a portable bitmap into HP LaserJet format

SYNOPSIS

pbmtolj [-resolution N] [-float] [-noreset] [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Produces HP LaserJet data as output.

Note that there is no ljtopbm tool.

OPTIONS

-resolution

Specifies the resolution of the output device, in dpi. Typical values are 75, 100, 150, 300. The default is 75.

-float

Suppresses positioning information. The default is to write the sequence ESC & l 0 E to the output file.

-noreset

Prevents pbmtolj from writing the reset sequences to the beginning and end of the output file.

All flags can be abbreviated to their shortest unique prefix.

SEE ALSO

pbm(5)

AUTHOR

Copyright (C) 1988 by Jef Poskanzer and Michael Haberler.
-float and -noreset options added by Wim Lewis.

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1.57 pbmtoln03

pbmtoln03(1)

AMIGA (7 May 1993)

pbmtoln03(1)

NAME

pbmtoln03 - convert portable bitmap to DEC LN03+ Sixel output

SYNOPSIS

pbmtoln03 [-rltbf] pbmfile

DESCRIPTION

Reads a portable bitmap as input. Produces a DEC LN03+ Sixel output file.

OPTIONS

-l nn

Use "nn" as value for left margin (default 0).

-r nn

Use "nn" as value for right margin (default 2400).

-t nn

Use "nn" as value for top margin (default 0).

-b nn

Use "nn" as value for bottom margin (default 3400).

-f nn

Use "nn" as value for form length (default 3400).

SEE ALSO

pbm(5)

AUTHOR

Tim Cook, 26 Feb 1992

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1.58 pbmtolps

pbmtolps(12 Dec 1990)

AMIGA

pbmtolps(12 Dec 1990)

NAME

pbmtolps - convert portable bitmap to PostScript

SYNOPSIS

pbmtolps [-dpi n] [pbmfile]

DESCRIPTION

Reads a portable bitmap as input, and outputs PostScript. The output Postscript uses lines instead of the image operator to generate a (device dependent) picture which will be imaged much faster.

The Postscript path length is constrained to be less than 1000 points so that no limits are overrun on the Apple Laserwriter and (presumably) no other printers.

SEE ALSO

pnmtops(1), pnm(5)

AUTHOR

George Phillips <phillips@cs.ubc.ca>

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(printed 3/1/94)

1.59 pbmtomacp

pbmtomacp(1)

AMIGA (31 August 1988)

pbmtomacp(1)

NAME

pbmtomacp - convert a portable bitmap into a MacPaint file

SYNOPSIS

pbmtomacp [-l left] [-r right] [-b bottom] [-t top]
[pbmfile]

DESCRIPTION

Reads a portable bitmap as input. If no input-file is given, standard input is assumed. Produces a MacPaint file

as output.

The generated file is only the data fork of a picture. You will need a program such as mcvert to generate a Macbinary or a BinHex file that contains the necessary information to identify the file as a PNTG file to MacOS.

OPTIONS

Left, right, bottom & top let you define a square into the pbm file, that must be converted. Default is the whole file. If the file is too large for a MacPaint-file, the bitmap is cut to fit from (left, top).

BUGS

The source code contains comments in a language other than English.

SEE ALSO

ppmtopict(1), macptopbm(1), pbm(5), mcvert(1)

AUTHOR

Copyright (C) 1988 by Douwe van der Schaaf
(...!mcvax!uvapsy!vdschaaf).

1.60 pbmtomgr

NAME

pbmtomgr - convert a portable bitmap into a MGR bitmap

SYNOPSIS

pbmtomgr [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Produces a MGR bitmap as output.

SEE ALSO

mgrtopbm(1), pbm(5)

AUTHOR

Copyright (C) 1989 by Jef Poskanzer.

1.61 pbmtopgm

pbmtopgm(12 Dec 1990)

AMIGA

pbmtopgm(12 Dec 1990)

NAME

pbmtopgm - convert portable bitmap to portable graymap by averaging areas

SYNOPSIS

pbmtopgm <width> <height> [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Outputs a portable graymap created by averaging the number of pixels within a sample area of width by height around each point. Pbmtopgm is similar to a special case of ppmconvol. A ppmsmooth step may be needed after pbmtopgm.

Pbmtopgm has the effect of anti-aliasing bitmaps which contain distinct line features.

SEE ALSO

pbm(5)

AUTHOR

Copyright (C) 1990 by Angus Duggan Copyright (C) 1989 by Jef Poskanzer.

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NOTES

Pbmtopgm works best with odd sample width and heights.

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1.62 pbmtopi3

pbmtopi3(1)

AMIGA (11 March 1990)

pbmtopi3(1)

NAME

pbmtopi3 - convert a portable bitmap into an Atari Degas
.pi3 file

SYNOPSIS

pbmtopi3 [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Produces an Atari Degas
.pi3 file as output.

SEE ALSO

pi3topbm(1), pbm(5), ppmtopi1(1), piltoppm(1)

AUTHOR

Copyright (C) 1988 by David Beckemeyer (bdt!david) and Jef
Poskanzer.

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1.63 pbmtopk

pbmtopk(1)

AMIGA (6 August 1990)

pbmtopk(1)

NAME

pbmtopk - convert a portable bitmap into a packed (PK) format font

SYNOPSIS

pbmtopk pkfile[.pk] tfmfile[.tfm] resolution [-s designsize] [-p num param...] [-C codingscheme] [-F family] [-f optfile] [-c num] [-W width] [-H height] [-D depth] [-I ital] [-h horiz] [-v vert] [-x xoff] [-y yoff] [pbmfile]...

DESCRIPTION

Reads portable bitmaps as input, and produces a packed (PK) font file and a TFM (TeX font metric) file as output. The resolution parameter indicates the resolution of the font, in dots per inch. If the filename "-" is used for any of the filenames, the standard input stream (or standard output where appropriate) will be used.

OPTIONS

-s designsize

Sets the design size of the font, in TeX's points (72.27pt to the inch). The default design size is 1. The TFM parameters are given as multiples of the design size.

-p num param...

Sets the first num font parameters for the font. The

first seven parameters are the slant, interword spacing, interword space stretchability, interword space shrinkability, x-height, quad width, and post-sentence extra space of the font. Math and symbol fonts may have more parameters; see The TeXbook for a list of these. Reasonable default values are chosen for parameters which are not specified.

-C codingscheme

Sets the coding scheme comment in the TFM file.

-F family

Sets the font family comment in the TFM file.

-f optfile

Reads the file optfile, which should contain a lines of the form:

```
filename xoff yoff horiz vert width height depth ital
```

The pbm files specified by the filename parameters are inserted consecutively in the font with the specified attributes. If any of the attributes are omitted, or replaced with "*", a default value will be calculated from the size of the bitmap. The settings of the -W,

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pbmtpk(1)

AMIGA (6 August 1990)

pbmtpk(1)

-H, -D, -I, -h, -v, -x, and -y options do not affected characters created in this way. The character number can be changed by including a line starting with "=", followed by the new number. Lines beginning with "%" or "#" are ignored.

-c num

Sets the character number of the next bitmap encountered to num.

-W width

Sets the TFM width of the next character to width (in design size multiples).

-H height

Sets the TFM height of the next character to height (in design size multiples).

-D depth
Sets the TFM depth of the next character to depth (in design size multiples).

-I ital
Sets the italic correction of the next character to ital (in design size multiples).

-h horiz
Sets the horizontal escapement of the next character to horiz (in pixels).

-v vert
Sets the vertical escapement of the next character to vert (in pixels).

-x xoff
Sets the horizontal offset of the next character to xoff (in pixels).

-y yoff
Sets the vertical offset of the next character to yoff (in pixels, from the top row).

SEE ALSO

pktopbm(1), pbm(5)

AUTHOR

Adapted from Tom Rokicki's pxtopk by Angus Duggan
<ajcd@dcs.ed.ac.uk>.

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1.64 pbmtoplot

pbmtoplot(1)

AMIGA (1 September 1990)

pbmtoplot(1)

NAME

pbmtoplot - convert a portable bitmap into a Unix plot(5)
file

SYNOPSIS

pbmtoplot [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Produces a Unix plot file.

Note that there is no plottopbm tool - this transformation is one-way.

SEE ALSO

pbm(5), plot(5)

AUTHOR

Copyright (C) 1990 by Arthur David Olson.

1.65 pbmtoptx

NAME

pbmtoptx - convert a portable bitmap into Printronix printer graphics

SYNOPSIS

pbmtoptx [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Produces a file of Printronix printer graphics as output.

Note that there is no ptxtopbm tool - this transformation is one way.

SEE ALSO

pbm(5)

AUTHOR

Copyright (C) 1988 by Jef Poskanzer.

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1.66 pbmtox10bm

pbmtox10bm(1)

AMIGA (31 August 1988)

pbmtox10bm(1)

NAME

pbmtox10bm - convert a portable bitmap into an X10 bitmap

SYNOPSIS

pbmtox10bm [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Produces an X10 bitmap as output. This older format is maintained for compatibility.

Note that there is no x10bmtopbm tool, because xbmtopbm can read both X11 and X10 bitmaps.

SEE ALSO

pbmtoxbm(1), xbmtopbm(1), pbm(5)

AUTHOR

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1.67 pbmtoxbm

pbmtoxbm(1)

AMIGA (31 August 1988)

pbmtoxbm(1)

NAME

pbmtoxbm - convert a portable bitmap into an X11 bitmap

SYNOPSIS

pbmtoxbm [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Produces an X11 bitmap as output.

SEE ALSO

pbmtox10bm(1), xbmtopbm(1), pbm(5)

AUTHOR

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1.68 pbmtoybm

pbmtoybm(1)

AMIGA (06 March 1990)

pbmtoybm(1)

NAME

pbmtoybm - convert a portable bitmap into a Bennet Yee
"face" file

SYNOPSIS

pbmtoybm [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Produces as output a file
acceptable to the face and xbm programs by Bennet Yee
(bsy+@cs.cmu.edu).

SEE ALSO

ybmtopbm(1), pbm(5), face(1), face(5), xbm(1)

AUTHOR

Copyright (C) 1991 by Jamie Zawinski and Jef Poskanzer.

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1.69 pbmtozinc

pbmtozinc(1)

AMIGA (02 November 1990)

pbmtozinc(1)

NAME

pbmtozinc - convert a portable bitmap into a Zinc bitmap

SYNOPSIS

pbmtozinc [pbmfile]

DESCRIPTION

Reads a portable bitmap as input. Produces a bitmap in the format used by the Zinc Interface Library (ZIL) Version 1.0 as output.

SEE ALSO

pbm(5)

AUTHOR

Copyright (C) 1988 by James Darrell McCauley
(jdm5548@diamond.tamu.edu) and Jef Poskanzer.

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1.70 pbmupc

pbmupc(1)

AMIGA (14 March 1989)

pbmupc(1)

NAME

pbmupc - create a Universal Product Code bitmap

SYNOPSIS

pbmupc [-s1|-s2] type manufac product

DESCRIPTION

Generates a Universal Product Code symbol. The three arguments are: a one digit product type, a five digit manufacturer code, and a five digit product code. For example, "0 72890 00011" is the code for Heineken.

As presently configured, pbmupc produces a bitmap 230 bits wide and 175 bits high. The size can be altered by changing the defines at the beginning of the program, or by running the output through pnmenlarge or pnmscale.

OPTIONS

The -s1 and -s2 flags select the style of UPC to generate. The default, -s1, looks more or less like this:

```

|||||
|||||
|||||
|||||
0||12345||67890||5

```

The other style, -s2, puts the product type digit higher up, and doesn't display the checksum digit:

```

|||||
|||||
0|||||
|||||
||12345||67890||

```

SEE ALSO

pbm(5)

AUTHOR

Copyright (C) 1989 by Jef Poskanzer.

1.71 pcxtoppm

pcxtoppm(1)

AMIGA (9 April 1990)

pcxtoppm(1)

NAME

pcxtoppm - convert a PCX file into a portable pixmap

SYNOPSIS

pcxtoppm [pcxfile]

DESCRIPTION

Reads a PCX file as input. Produces a portable pixmap as output.

SEE ALSO

ppmtopc(1), ppm(5)

AUTHOR

Copyright (C) 1990 by Michael Davidson.

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1.72 pgm

pgm(5)

AMIGA (12 November 1991)

pgm(5)

NAME

pgm - portable graymap file format

DESCRIPTION

The portable graymap format is a lowest common denominator grayscale file format. The definition is as follows:

- A "magic number" for identifying the file type. A pgm file's magic number is the two characters "P2".
- Whitespace (blanks, TABs, CRs, LFs).
- A width, formatted as ASCII characters in decimal.
- Whitespace.
- A height, again in ASCII decimal.
- Whitespace.
- The maximum gray value, again in ASCII decimal.
- Whitespace.
- Width * height gray values, each in ASCII decimal, between 0 and the specified maximum value, separated by whitespace, starting at the top-left corner of the graymap, proceeding in normal English reading order. A value of 0 means black, and the maximum value means white.
- Characters from a "#" to the next end-of-line are ignored (comments).
- No line should be longer than 70 characters.

Here is an example of a small graymap in this format:

```
P2
# feep.pgm
24 7
15
```

```

0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
0 3 3 3 3 0 0 7 7 7 7 0 0 11 11 11 11 0 0 15 15 15 15 0
0 3 0 0 0 0 0 7 0 0 0 0 0 11 0 0 0 0 0 15 0 0 15 0
0 3 3 3 0 0 0 7 7 7 0 0 0 11 11 11 0 0 0 15 15 15 15 0
0 3 0 0 0 0 0 7 0 0 0 0 0 11 0 0 0 0 0 15 0 0 0 0
0 3 0 0 0 0 0 7 7 7 7 0 0 11 11 11 11 0 0 15 0 0 0 0
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0

```

Programs that read this format should be as lenient as possible, accepting anything that looks remotely like a graymap.

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pgm(5)

AMIGA (12 November 1991)

pgm(5)

There is also a variant on the format, available by setting the RAWBITS option at compile time. This variant is different in the following ways:

- The "magic number" is "P5" instead of "P2".
- The gray values are stored as plain bytes, instead of ASCII decimal.
- No whitespace is allowed in the grays section, and only a single character of whitespace (typically a newline) is allowed after the maxval.
- The files are smaller and many times faster to read and write.

Note that this raw format can only be used for maxvals less than or equal to 255. If you use the pgm library and try to write a file with a larger maxval, it will automatically fall back on the slower but more general plain format.

SEE ALSO

fstopgm(1), hipstopgm(1), lispmtopgm(1), psidtopgm(1),
 rawtopgm(1), pgmbentley(1), pgmcrater(1), pgmedge(1),
 pgmenhance(1), pgmhists(1), pgmnorm(1), pgmoil(1),
 pgmramp(1), pgmtexture(1), pgmtofs(1), pgmtolisp(1),
 pgmtopbm(1), pnm(5), pbm(5), ppm(5)

AUTHOR

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1.73 pgmbentley

pgmbentley(1) AMIGA (11 January 1991) pgmbentley(1)

NAME

pgmbentley - Bentleyize a portable graymap

SYNOPSIS

pgmbentley [pgmfile]

DESCRIPTION

Reads a portable graymap as input. Performs The Bentley Effect, and writes a portable graymap as output.

The Bentley Effect is described in "Beyond Photography" by Holzmann, chapter 4, photo 4. It's a vertical smearing based on brightness.

SEE ALSO

pgmoil(1), ppmrelief(1), pgm(5)

AUTHOR

Copyright (C) 1990 by Wilson Bent (whb@hoh-2.att.com)

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1.74 pgmcrater

pgmcrater(1)

AMIGA (15 October 1991)

pgmcrater(1)

NAME

pgmcrater - create cratered terrain by fractal forgery

SYNOPSIS

pgmcrater [-number n] [-height|-ysize s] [-width|-xsize s]
[-gamma g]

DESCRIPTION

pgmcrater creates a portable graymap which mimics cratered terrain. The graymap is created by simulating the impact of a given number of craters with random position and size, then rendering the resulting terrain elevations based on a

light source shining from one side of the screen. The size distribution of the craters is based on a power law which results in many more small craters than large ones. The number of craters of a given size varies as the reciprocal of the area as described on pages 31 and 32 of Peitgen and Saupe[1]; cratered bodies in the Solar System are observed to obey this relationship. The formula used to obtain crater radii governed by this law from a uniformly distributed pseudorandom sequence was developed by Rudy Rucker.

High resolution images with large numbers of craters often benefit from being piped through pnmsmooth. The averaging performed by this process eliminates some of the jagged pixels and lends a mellow ``telescopic image'' feel to the overall picture.

OPTIONS

`-number n` Causes `n` craters to be generated. If no `-number` specification is given, 50000 craters will be generated. Don't expect to see them all! For every large crater there are many, many more tiny ones which tend simply to erode the landscape. In general, the more craters you specify the more realistic the result; ideally you want the entire terrain to have been extensively turned over again and again by cratering. High resolution images containing five to ten million craters are stunning but take quite a while to create.

`-height height`

Sets the height of the generated image to `height` pixels. The default height is 256 pixels.

`-width width`

Sets the width of the generated image to `width` pixels. The default width is 256 pixels.

`-xsize width`

Sets the width of the generated image to `width`

pixels. The default width is 256 pixels.

`-ysize height`

Sets the height of the generated image to height pixels. The default height is 256 pixels.

-gamma factor

The specified factor is used to gamma correct the graymap in the same manner as performed by pnmgamma. The default value is 1.0, which results in a medium contrast image. Values larger than 1 lighten the image and reduce contrast, while values less than 1 darken the image, increasing contrast.

All flags can be abbreviated to their shortest unique prefix.

BUGS

The -gamma option isn't really necessary since you can achieve the same effect by piping the output from pgmcrater through pnmgamma. However, pgmcrater performs an internal gamma map anyway in the process of rendering the elevation array into a graymap, so there's no additional overhead in allowing a user-specified gamma.

Real craters have two distinct morphologies. pgmcrater simulates only small craters, which are hemispherical in shape (regardless of the incidence angle of the impacting body, as long as the velocity is sufficiently high). Large craters, such as Copernicus and Tycho on the Moon, have a 'walled plain' shape with a cross-section more like:

```

      /\
_____/  \_____/  \_____/  \_____/  \_____/

```

Larger craters should really use this profile, including the central peak, and totally obliterate the pre-existing terrain.

SEE ALSO

pgm(5), pnmgamma(1), pnmsmooth(1)

- [1] Peitgen, H.-O., and Saupe, D. eds., The Science Of Fractal Images, New York: Springer Verlag, 1988.

AUTHOR

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pgmcrater(1)

AMIGA (15 October 1991)

pgmcrater(1)

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PLUGWARE! If you like this kind of stuff, you may also enjoy ``James Gleick's Chaos--The Software'' for MS-DOS, available for \$59.95 from your local software store or directly from Autodesk, Inc., Attn: Science Series, 2320 Marinship Way, Sausalito, CA 94965, USA. Telephone: (800) 688-2344 toll-free or, outside the U.S. (415) 332-2344 Ext 4886. Fax: (415) 289-4718. ``Chaos--The Software'' includes a more comprehensive fractal forgery generator which creates three-dimensional landscapes as well as clouds and planets, plus five more modules which explore other aspects of Chaos. The user guide of more than 200 pages includes an introduction by James Gleick and detailed explanations by Rudy Rucker of the mathematics and algorithms used by each program.

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1.75 pgmedge

pgmedge(1)

AMIGA (04 February 1990)

pgmedge(1)

NAME

pgmedge - edge-detect a portable graymap

SYNOPSIS

pgmedge [pgmfile]

DESCRIPTION

Reads a portable graymap as input. Outlines the edges, and writes a portable graymap as output. Piping the result through `pgmtopbm -threshold` and playing with the threshold value will give a bitmap of the edges.

The edge detection technique used is to take the Pythagorean sum of two Sobel gradient operators at 90 degrees to each other. For more details see "Digital Image Processing" by Gonzalez and Wintz, chapter 7.

SEE ALSO

`pgmenhance(1)`, `pgmtopbm(1)`, `pgm(5)`, `pbm(5)`

AUTHOR

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1.76 pgmenhance

pgmenhance(1)

AMIGA (13 January 1989)

pgmenhance(1)

NAME

pgmenhance - edge-enhance a portable graymap

SYNOPSIS

pgmenhance [-N] [pgmfile]

DESCRIPTION

Reads a portable graymap as input. Enhances the edges, and writes a portable graymap as output.

The edge enhancing technique is taken from Philip R. Thompson's "xim" program, which in turn took it from section 6 of "Digital Halftones by Dot Diffusion", D. E. Knuth, ACM Transaction on Graphics Vol. 6, No. 4, October 1987, which in turn got it from two 1976 papers by J. F. Jarvis et. al.

OPTIONS

The optional -N flag should be a digit from 1 to 9. 1 is the lowest level of enhancement, 9 is the highest, The default is 9.

SEE ALSO

pgmedge(1), pgm(5), pbm(5)

AUTHOR

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1.77 pgmhist

pgmhist(1)

AMIGA (28 February 1989)

pgmhist(1)

NAME

pgmhist - print a histogram of the values in a portable
graymap

SYNOPSIS

pgmhist [pgmfile]

DESCRIPTION

Reads a portable graymap as input. Prints a histogram of
the gray values.

SEE ALSO

pgmnorm(1), pgm(5), ppmhist(1)

AUTHOR

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1.78 pgmkernel

pgmkernel(1)

AMIGA (10 December 1992)

pgmkernel(1)

NAME

pgmkernel - generate a convolution kernel

SYNOPSIS

pgmkernel [-weight w] width [height]

DESCRIPTION

Generates a portable graymap array of size width x height (or width x width if height is not specified) to be used as a convolution file by pnmconvol. The data in the convolution array K are computed according to the formula:

$$K(i,j) = 1 / (1 + w * \text{sqrt}((i-\text{width}/2)^2 + (j-\text{height}/2)^2)$$

where *w* is a coefficient specified via the `-weight` flag, and *width* and *height* are the X and Y filter sizes.

The output PGM file is always written out in ASCII format.

OPTIONS

The optional `-weight` flag should be a real number greater than -1. The default value is 6.0.

BUGS

The computation time is proportional to *width* * *height*. This increases rapidly with the increase of the kernel size. A better approach could be using a FFT in these cases.

SEE ALSO

`pnmconvol(1)`, `pnmsmooth(1)`

AUTHOR

Alberto Accomazzi (alberto@cfa.harvard.edu).

1.79 pgmnoise

`pgmnoise(1)`

AMIGA (16 November 1993)

`pgmnoise(1)`

NAME

pgmnoise - create a graymap made up of white noise

SYNOPSIS

pgmnoise width height

DESCRIPTION

Creates a portable graymap that is made up of random pixels with gray values in the range of 0 to PGM_MAXMAXVAL (depends on the compilation, either 255 or 65535). The graymap has a size of width * height pixels.

SEE ALSO

pgm(5)

AUTHOR

Copyright (C) 1993 by Frank Neumann

1.80 pgmnorm

pgmnorm(1)

AMIGA (28 February 1989)

pgmnorm(1)

NAME

pgmnorm - normalize the contrast in a portable graymap

SYNOPSIS

pgmnorm [-bpercent N | -bvalue N] [-wpercent N | -wvalue N]
[pgmfile]

DESCRIPTION

Reads a portable graymap as input. Normalizes the contrast by forcing the lightest pixels to white, the darkest pixels to black, and linearly rescaling the ones in between; and produces a portable graymap as output.

OPTIONS

By default, the darkest 2 percent of all pixels are mapped to black, and the lightest 1 percent are mapped to white. You can override these percentages by using the -bpercent and -wpercent flags, or you can specify the exact pixel values to be mapped by using the -bvalue and -wvalue flags. Appropriate numbers for the flags can be gotten from the pgmhist tool. If you just want to enhance the contrast, then choose values at elbows in the histogram; e.g. if value 29 represents 3% of the image but value 30 represents 20%, choose 30 for bvalue. If you want to lighten the image, then set bvalue to 0 and just fiddle with wvalue; similarly, to darken the image, set wvalue to maxval and play with bvalue.

All flags can be abbreviated to their shortest unique prefix.

SEE ALSO

pgmhist(1), ppmnorm(1), pgm(5)

AUTHOR

Partially based on the fbnorm filter in Michael Mauldin's "Fuzzy Pixmap" package.

Copyright (C) 1989 by Jef Poskanzer.

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1.81 pgmoil

pgmoil(1)

AMIGA (11 January 1991)

pgmoil(1)

NAME

pgmoil - turn a portable graymap into an oil painting

SYNOPSIS

pgmoil [-n N] [pgmfile]

DESCRIPTION

Reads a portable graymap as input. Does an "oil transfer", and writes a portable graymap as output.

The oil transfer is described in "Beyond Photography" by Holzmann, chapter 4, photo 7. It's a sort of localized smearing.

OPTIONS

The optional -n flag controls the size of the area smeared. The default value is 3.

BUGS

Takes a long time to run.

SEE ALSO

pgmbentley(1), ppmrelief(1), pgm(5)

AUTHOR

Copyright (C) 1990 by Wilson Bent (whb@hoh-2.att.com)

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(printed 3/1/94)

1.82 pgmramp

pgmramp(1)

AMIGA (24 November 1989)

pgmramp(1)

NAME

pgmramp - generate a grayscale ramp

SYNOPSIS

pgmramp -lr|-tb | -rectangle|-ellipse width height

DESCRIPTION

Generates a graymap of the specified size containing a black-to-white ramp. These ramps are useful for multiplying with other images, using the pnmarith tool.

OPTIONS

-lr A left to right ramp.

-tb A top to bottom ramp.

-rectangle
A rectangular ramp.

-ellipse
An elliptical ramp.

All flags can be abbreviated to their shortest unique prefix.

SEE ALSO

pnmarith(1), pgm(5)

AUTHOR

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1.83 pgmtexture

pgmtexture(1)

AMIGA (22 Aug 1991)

pgmtexture(1)

NAME

pgmtexture - calculate textural features on a portable graymap

SYNOPSIS

pgmtexture [-d d] [pgmfile]

DESCRIPTION

Reads a portable graymap as input. Calculates textural features based on spatial dependence matrices at 0, 45, 90, and 135 degrees for a distance d (default = 1). Textural features include:

- (1) Angular Second Moment,
- (2) Contrast,
- (3) Correlation,
- (4) Variance,

- (5) Inverse Difference Moment,
- (6) Sum Average,
- (7) Sum Variance,
- (8) Sum Entropy,
- (9) Entropy,
- (10) Difference Variance,
- (11) Difference Entropy,
- (12, 13) Information Measures of Correlation, and
- (14) Maximal Correlation Coefficient.

Algorithm taken from:

Haralick, R.M., K. Shanmugam, and I. Dinstein. 1973.
Textural features for image classification. IEEE
Transactions on Systems, Man, and Cybernetics, SMC-
3(6):610-621.

BUGS

The program can run incredibly slow for large images (larger than 64 x 64) and command line options are limited. The method for finding (14) the maximal correlation coefficient, which requires finding the second largest eigenvalue of a matrix Q, does not always converge.

REFERENCES

IEEE Transactions on Systems, Man, and Cybernetics, SMC-
3(6):610-621.

SEE ALSO

pgm(5), pnmcut(1)

AUTHOR

Copyright (C) 1991 by Texas Agricultural Experiment Station,
employer for hire of James Darrell McCauley.

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1.84 pgmtofs

pgmtofs(1)

AMIGA (18 May 1990)

pgmtofs(1)

NAME

pgmtofs - convert portable graymap to Usenix FaceSaver(tm)
format

SYNOPSIS

pgmtofs [pgmfile]

DESCRIPTION

Reads a portable graymap as input. Produces Usenix
FaceSaver(tm) format as output.

FaceSaver is a registered trademark of Metron Computerware
Ltd. of Oakland, CA.

SEE ALSO

fstopgm(1), pgm(5)

AUTHOR

Copyright (C) 1991 by Jef Poskanzer.

pgmtolispm(1)

AMIGA (06 March 1990)

pgmtolispm(1)

NAME

pgmtolispm - convert a portable graymap into Lisp Machine format

SYNOPSIS

pgmtolispm [pgmfile]

DESCRIPTION

Reads a portable graymap as input. Produces a Lisp Machine bitmap as output.

This is the file format read by the tv:read-bit-array-file function on TI Explorer and Symbolics lisp machines.

Given a pgm (instead of a pbm) a multi-plane image will be output. This is probably not useful unless you have a color lisp machine.

Multi-plane bitmaps on lisp machines are color; but the lisp image file format does not include a color map, so we must treat it as a graymap instead. This is unfortunate.

SEE ALSO

lispmtopgm(1), pgm(5)

BUGS

Output width is always rounded up to the nearest multiple of 32; this might not always be what you want, but it probably is (arrays which are not modulo 32 cannot be passed to the Lisp BITBLT function, and thus cannot easily be displayed on the screen).

No color.

AUTHOR

Copyright (C) 1991 by Jamie Zawinski and Jef Poskanzer.

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1.86 pgmtopbm

pgmtopbm(1)

AMIGA (26 July 1988)

pgmtopbm(1)

NAME

pgmtopbm - convert a portable graymap into a portable bitmap

SYNOPSIS

```
pgmtopbm [-floyd|-fs|-threshold [-hilbert [-dither8|-d8|-  
cluster3 [-c3|-cluster4|-c4 [-cluster8|-c8] [-value val] [-  
clump size] [pgmfile]
```

DESCRIPTION

Reads a portable graymap as input. Produces a portable bitmap as output.

Note that there is no pbmtopgm converter, because any pgm program can read pbm files automagically.

OPTIONS

The default quantization method is boustrophedonic Floyd-Steinberg error diffusion (-floyd or -fs). Also available are simple thresholding (-threshold); Bayer's ordered dither (-dither8) with a 16x16 matrix; and three different sizes of 45-degree clustered-dot dither (-cluster3, -cluster4, -cluster8). A space filling curve halftoning method using the Hilbert curve is also available. (-hilbert);

Floyd-Steinberg will almost always give the best looking results; however, looking good is not always what you want. For instance, thresholding can be used in a pipeline with the pnmconvol tool, for tasks like edge and peak detection. And clustered-dot dithering gives a newspaper-ish look, a useful special effect.

The -value flag alters the thresholding value for Floyd-Steinberg and simple thresholding. It should be a real number between 0 and 1. Above 0.5 means darker images; below 0.5 means lighter.

The Hilbert curve method is useful for processing images before display on devices that do not render individual pixels distinctly (like laser printers). This dithering method can give better results than the dithering usually done by the laser printers themselves. The -clump flag alters the number of pixels in a clump. This is usually an

integer between 2 and 100 (default 5). Smaller clump sizes smear the image less and are less grainy, but seem to lose some grey scale linearity. Typically a PGM image will have to be scaled to fit on a laser printer page (2400 x 3000 pixels for an A4 300 dpi page), and then dithered to a PBM image before being converted to a postscript file. A printing pipeline might look something like: `pnmscale -ysize 2400 3000 image.pgm | pgmtopbm -hil | pnmtops -scale 0.25 > image.ps`

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pgmtopbm(1)

AMIGA (26 July 1988)

pgmtopbm(1)

All flags can be abbreviated to their shortest unique prefix.

REFERENCES

The only reference you need for this stuff is "Digital Halftoning" by Robert Ulichney, MIT Press, ISBN 0-262-21009-6.

The Hilbert curve space filling method is taken from "Digital Halftoning with Space Filling Curves" by Luiz Velho, Computer Graphics Volume 25, Number 4, proceedings of SIGGRAPH '91, page 81. ISBN 0-89791-436-8

SEE ALSO

`pbmreduce(1)`, `pgm(5)`, `pbm(5)`, `pnmconvol(1)`, `pnmscale(1)`, `pnmtops(1)`

AUTHOR

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(printed 3/1/94)

1.87 pgmtoppm

pgmtoppm(1)

AMIGA (11 January 1991)

pgmtoppm(1)

NAME

pgmtoppm - colorize a portable graymap into a portable
pixmap

SYNOPSIS

pgmtoppm colorspec [pgmfile]
pgmtoppm colorspec1-colorspec2 [pgmfile]
pgmtoppm -map mapfile [pgmfile]

DESCRIPTION

Reads a portable graymap as input. Colorizes it by multiplying the the gray values by specified color or colors, and produces a portable pixmap as output.

If only one color is specified, black in the pgm file stays black and white in the pgm file turns into the specified color in the ppm file. If two colors (separated by a dash) are specified, then black gets mapped to the first color and white gets mapped to the second.

The color can be specified in five ways:

- o A name, assuming that a pointer to an X11-style color

names file was compiled in.

- o An X11-style hexadecimal specifier: `rgb:r/g/b`, where `r` `g` and `b` are each 1- to 4-digit hexadecimal numbers.
- o An X11-style decimal specifier: `rgbi:r/g/b`, where `r` `g` and `b` are floating point numbers between 0 and 1.
- o For backwards compatibility, an old-X11-style hexadecimal number: `#rgb`, `#rrggb`, `#rrrgggbbb`, or `#rrrrggggbbbb`.
- o For backwards compatibility, a triplet of numbers separated by commas: `r,g,b`, where `r` `g` and `b` are floating point numbers between 0 and 1. (This style was added before MIT came up with the similar `rgbi` style.)

Also, the `-map` flag lets you specify an entire colormap to be used. The mapfile is just a ppm file; it can be any shape, all that matters is the colors in it and their order. In this case, black gets mapped into the first color in the map file, and white gets mapped to the last.

SEE ALSO

`rgb3toppm(1)`, `ppmtopgm(1)`, `ppmtorgb3(1)`, `ppm(5)`, `pgm(5)`

AUTHOR

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1.88 pi1toppm

`pi1toppm(1)`

AMIGA (19 July 1990)

`pi1toppm(1)`

NAME

`pi1toppm` - convert an Atari Degas .pil into a portable pixmap

SYNOPSIS

`pi1toppm [pilfile]`

DESCRIPTION

Reads an Atari Degas .pil file as input. Produces a portable pixmap as output.

SEE ALSO

`ppmtopil(1)`, `ppm(5)`, `pi3topbm(1)`, `pbmtopi3(1)`

AUTHOR

Copyright (C) 1991 by Steve Belczyk (seb3@gte.com) and Jef
Poskanzer.

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1.89 pi3topbm

pi3topbm(1)

AMIGA (11 March 1990)

pi3topbm(1)

NAME

pi3topbm - convert an Atari Degas .pi3 file into a portable
bitmap

SYNOPSIS

pi3topbm [pi3file]

DESCRIPTION

Reads an Atari Degas .pi3 file as input. Produces a portable bitmap as output.

SEE ALSO

pbmtopi3(1), pbm(5), piltoppm(1), ppmtopil(1)

AUTHOR

Copyright (C) 1988 by David Beckemeyer (bdt!david) and
Diomidis D. Spinellis.

1.90 picttoppm

picttoppm(1)

AMIGA (29 November 1991)

picttoppm(1)

NAME

picttoppm - convert a Macintosh PICT file into a portable pixmap

SYNOPSIS

picttoppm [-verbose] [-fullres] [-noheader] [-quickdraw] [-fontdirfile] [pictfile]

DESCRIPTION

Reads a PICT file (version 1 or 2) and outputs a portable pixmap. Useful as the first step in converting a scanned image to something that can be displayed on Unix.

OPTIONS

-fontdir file

Make the list of BDF fonts in ``file'' available for use by picttoppm when drawing text. See below for the format of the fontdir file.

-fullres

Force any images in the PICT file to be output with at least their full resolution. A PICT file may indicate that a contained image is to be scaled down before output. This option forces images to retain their sizes and prevent information loss. Use of this option disables all PICT operations except images.

-noheader

Do not skip the 512 byte header that is present on all PICT files. This is useful when you have PICT data that was not stored in the data fork of a PICT file.

-quickdraw

Execute only pure quickdraw operations. In particular, turn off the interpretation of special PostScript printer operations.

-verbose

Turns on verbose mode which prints a whole bunch of information that only picttoppm hackers really care about.

BUGS

The PICT file format is a general drawing format. picttoppm does not support all the drawing commands, but it does have full support for any image commands and reasonable support for line, rectangle, polygon and text drawing. It is useful for converting scanned images and some drawing conversion.

Memory is used very liberally with at least 6 bytes needed

for every pixel. Large bitmap PICT files will likely run your computer out of memory.

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picttoppm(1)

AMIGA (29 November 1991)

picttoppm(1)

FONT DIR FILE FORMAT

picttoppm has a built in default font and your local installer probably provided adequate extra fonts. You can point picttoppm at more fonts which you specify in a font directory file. Each line in the file is either a comment line which must begin with ``#'`` or font information. The font information consists of 4 whitespace spearated fields. The first is the font number, the second is the font size in pixels, the third is the font style and the fourth is the name of a BDF file containing the font. The BDF format is defined by the X window system and is not described here.

The font number indicates the type face. Here is a list of known font numbers and their faces.

0	Chicago
1	application font
2	New York
3	Geneva
4	Monaco
5	Venice
6	London
7	Athens
8	San Francisco
9	Toronto
11	Cairo
12	Los Angeles
20	Times Roman
21	Helvetica
22	Courier
23	Symbol
24	Taliesin

The font style indicates a variation on the font. Multiple variations may apply to a font and the font style is the sum of the variation numbers which are:

1	Boldface
2	Italic
4	Underlined
8	Outlined

16 Shadow
32 Condensed
64 Extended

Obviously the font definitions are strongly related to the Macintosh. More font numbers and information about fonts can be found in Macintosh documentation.

SEE ALSO

Inside Macintosh volumes 1 and 5, `ppmtopict(1)`, `ppm(5)`

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`picttoppm(1)`

AMIGA (29 November 1991)

`picttoppm(1)`

AUTHOR

Copyright 1993 George Phillips

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(printed 3/1/94)

1.91 pjtoppm

pjtoppm(1)

AMIGA (14 July 1991)

pjtoppm(1)

NAME

pjtoppm - convert an HP PaintJet file to a portable pixmap

SYNOPSIS

pjtoppm [paintjet]

DESCRIPTION

Reads an HP PaintJet file as input and converts it into a portable pixmap. This was a quick hack to save some trees, and it only handles a small subset of the paintjet commands. In particular, it will only handle enough commands to convert most raster image files.

REFERENCES

HP PaintJet XL Color Graphics Printer User's Guide

SEE ALSO

ppmtopj(1)

AUTHOR

Copyright (C) 1991 by Christos Zoulas.

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(printed 3/1/94)

1.92 pktopbm

pktopbm(1)

AMIGA (6 August 1990)

pktopbm(1)

NAME

pktopbm - convert packed (PK) format font into portable
bitmap(s)

SYNOPSIS

pktopbm pkfile[.pk] [-c num] pbmfile ...

DESCRIPTION

Reads a packed (PK) font file as input, and produces
portable bitmaps as output. If the filename "-" is used for
any of the filenames, the standard input stream (or standard
output where appropriate) will be used.

OPTIONS

-c num

Sets the character number of the next bitmap written to num.

SEE ALSO

pbmtopk(1), pbm(5)

AUTHOR

Adapted from Tom Rokicki's pxtopk by Angus Duggan
<ajcd@dcs.ed.ac.uk>.

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(printed 3/1/94)

1.93 pnm

pnm(5)

AMIGA (27 September 1991)

pnm(5)

NAME

pnm - portable anymap file format

DESCRIPTION

The pnm programs operate on portable bitmaps, graymaps, and pixmaps, produced by the pbm, pgm, and ppm segments. There is no file format associated with pnm itself.

SEE ALSO

anytopnm(1), fitstopnm(1), giftopnm(1), rasttopnm(1),
tiffstopnm(1), xwdtopnm(1), pnmtops(1), pnmstorast(1),
pnmtotiff(1), pnmtowd(1), pnmarith(1), pnmcat(1),
pnmconvol(1), pnmcrop(1), pnmcut(1), pnmdepth(1),
pnmenlarge(1), pnmfile(1), pnmtofits(1), pnmflip(1),
pnmgamma(1), pnmindex(1), pnminvert(1), pnmmargin(1),
pnmnoraw(1), pnmpaste(1), pnmrotate(1), pnmscale(1),
pnmshear(1), pnmsmooth(1), pnmtile(1), ppm(5), pgm(5),
pbm(5)

AUTHOR

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1.94 pnmalias

pnmalias(1)

AMIGA (30 April 1992)

pnmalias(1)

NAME

pnmalias - antialias a portable anymap.

SYNOPSIS

```
pnmalias [-bgcolor color] [-fgcolor color] [-bonly] [-fonly]
          [-balias] [-falias] [-weight w] [pnmfile]
```

DESCRIPTION

Reads a portable anymap as input, and applies anti-aliasing to background and foreground pixels. If the input file is a portable bitmap, the output anti-aliased image is promoted to a graymap, and a message is printed informing the user of the change in format.

OPTIONS

-bgcolor colorb, -fgcolor colorf

set the background color to colorb, and the foreground to color to colorf. Pixels with these values will be anti-aliased. by default, the background color is taken to be black, and foreground color is assumed to be white. The colors can be specified in five ways:

- o A name, assuming that a pointer to an X11-style color names file was compiled in.
- o An X11-style hexadecimal specifier: rgb:r/g/b, where r g and b are each 1- to 4-digit hexadecimal numbers.
- o An X11-style decimal specifier: rgbi:r/g/b, where r g and b are floating point numbers between 0 and 1.
- o For backwards compatibility, an old-X11-style hexadecimal number: #rgb, #rrggbb, #rrrgggbbb, or #rrrrggggbbbb.
- o For backwards compatibility, a triplet of numbers separated by commas: r,g,b, where r g and b are floating point numbers between 0 and 1. (This style was added before MIT came up with the similar rgbi style.)

Note that even when dealing with graymaps, background and foreground colors need to be specified in the fashion described above. In this case, background and foreground pixel values are taken to be the value of

the red component for the given color.

-bonly, -fonly

Apply anti-aliasing only to background (-bonly), or foreground (-fonly) pixels.

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pnmalias(1)

AMIGA (30 April 1992)

pnmalias(1)

-balias, -falias

Apply anti-aliasing to all pixels surrounding background (-balias), or foreground (-falias) pixels. By default, anti-aliasing takes place only among neighboring background and foreground pixels.

-weight w

Use w as the central weight for the aliasing filter. W must be a real number in the range $0 < w < 1$. The lower the value of w is, the "blurrier" the output image is. The default is $w = 1/3$.

SEE ALSO

pbmtext(1), pnmsmooth(1), pnm(5)

AUTHOR

Copyright (C) 1992 by Alberto Accomazzi, Smithsonian Astrophysical Observatory.

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1.95 pnmarith

pnmarith(1) AMIGA (26 August 1993) pnmarith(1)

NAME

pnmarith - perform arithmetic on two portable anymaps

SYNOPSIS

pnmarith -add|-subtract|-multiply| pnmfile1 pnmfile2

DESCRIPTION

Reads two portable anymaps as input. Performs the specified arithmetic operation, and produces a portable anymap as output. The two input anymaps must be the same width and height.

The arithmetic is performed between corresponding pixels in the two anymaps, as if maxval was 1.0, black was 0.0, and a linear scale in between. Results that fall outside of [0..1) are truncated.

The operator -difference calculates the absolute value of pnmarith -subtract pnmfile1 pnmfile2, i.e. no truncation is done.

All flags can be abbreviated to their shortest unique prefix.

SEE ALSO

pbmmask(1), pnmpaste(1), pnminvert(1), pnm(5)

AUTHOR

Copyright (C) 1989, 1991 by Jef Poskanzer. Lightly modified
by Marcel Wijkstra <wijkstra@fwi.uva.nl>

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1.96 pnmcat

pnmcat(1)

AMIGA (12 March 1989)

pnmcat(1)

NAME

pnmcat - concatenate portable anymaps

SYNOPSIS

```
pnmcat [-white|-black] -leftright|-lr [-jtop|-jbottom]  
pnmfile pnmfile ...  
pnmcat [-white|-black] -topbottom|-tb [-jleft|-jright]  
pnmfile pnmfile ...
```

DESCRIPTION

Reads portable anymaps as input. Concatenates them either left to right or top to bottom, and produces a portable anymap as output.

OPTIONS

If the anymaps are not all the same height (left-right) or width (top-bottom), the smaller ones have to be justified with the largest. By default, they get centered, but you

can specify one side or the other with one of the -j* flags. So, -topbottom -jleft would stack the anymaps on top of each other, flush with the left edge.

The -white and -black flags specify what color to use to fill in the extra space when doing this justification. If neither is specified, the program makes a guess.

All flags can be abbreviated to their shortest unique prefix.

SEE ALSO
pnm(5)

AUTHOR
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1.97 pnmcomp

pnmcomp(1) AMIGA (21 February 1989) pnmcomp(1)

NAME
pnmcomp - composite two portable anymap files together

SYNOPSIS
pnmcomp [-invert] [-xoffN] [-yoffN] [-alphagmfile] overlay
[pnm-input] [pnm-output]

DESCRIPTION

Reads in a portable any map image and put a overlay upon it, with optional alpha mask. The `-alpha pgmfile` allows you to also add an alpha mask file to the compositing process, the range of max and min can be swapped by using the `-invert` option. The `-xoff` and `-yoff` arguments can be negative, allowing you to shift the overlay off the top corner of the screen.

SEE ALSO
pnm(5)

AUTHOR
Copyright (C) 1992 by David Koblas (koblas@mips.com).

1.98 pnmconvol

NAME

pnmconvol - general MxN convolution on a portable anymap

SYNOPSIS

pnmconvol convolutionfile [pnmfile]

DESCRIPTION

Reads two portable anymaps as input. Convolves the second using the first, and writes a portable anymap as output.

Convolution means replacing each pixel with a weighted average of the nearby pixels. The weights and the area to average are determined by the convolution matrix. The unsigned numbers in the convolution file are offset by $-\text{maxval}/2$ to make signed numbers, and then normalized, so the actual values in the convolution file are only relative.

Here is a sample convolution file; it does a simple average of the nine immediate neighbors, resulting in a smoothed image:

```
P2
3 3
18
10 10 10
10 10 10
10 10 10
```

To see how this works, do the above-mentioned offset: $10 - 18/2$ gives 1. The possible range of values is from 0 to 18, and after the offset that's -9 to 9. The normalization step makes the range -1 to 1, and the values get scaled correspondingly so they become $1/9$ - exactly what you want. The equivalent matrix for 5x5 smoothing would have maxval 50 and be filled with 26.

The convolution file will usually be a graymap, so that the same convolution gets applied to each color component. However, if you want to use a pixmap and do a different convolution to different colors, you can certainly do that.

SEE ALSO

pnmsmooth(1), pnm(5)

AUTHOR

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1.99 pnmcrop

pnmcrop(1)

AMIGA (25 February 1989)

pnmcrop(1)

NAME

pnmcrop - crop a portable anymap

SYNOPSIS

pnmcrop [-white|-black] [-left] [-right] [-top] [-bottom]
[pnmfile]

DESCRIPTION

Reads a portable anymap as input. Removes edges that are the background color, and produces a portable anymap as output.

OPTIONS

By default, it makes a guess as to what the background color is. You can override the default with the -white and -black flags.

The options -left, -right, -top and -bottom restrict cropping to the sides specified. The default is to crop all sides of the image.

All flags can be abbreviated to their shortest unique prefix.

SEE ALSO

pnmcut(1), pnm(5)

AUTHOR

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1.100 pnmcut

pnmcut(1)

AMIGA (21 February 1989)

pnmcut(1)

NAME

pnmcut - cut a rectangle out of a portable anymap

SYNOPSIS

pnmcut x y width height [pnmfile]

DESCRIPTION

Reads a portable anymap as input. Extracts the specified rectangle, and produces a portable anymap as output. The x and y can be negative, in which case they are interpreted relative to the right and bottom of the anymap, respectively.

SEE ALSO

pnm(5)

AUTHOR

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1.101 pnmdepth

pnmdepth(1) AMIGA (12 January 1991) pnmdepth(1)

NAME

pnmdepth - change the maxval in a portable anymap

SYNOPSIS

pnmdepth newmaxval [pnmfile]

DESCRIPTION

Reads a portable anymap as input. Scales all the pixel values, and writes out the image with the new maxval. Scaling the colors down to a smaller maxval will result in some loss of information.

Be careful of off-by-one errors when choosing the new maxval. For instance, if you want the color values to be five bits wide, use a maxval of 31, not 32.

SEE ALSO

pnm(5), ppmquant(1), ppmdither(1)

AUTHOR

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1.102 pnmenlarge

pnmenlarge(1) AMIGA (26 February 1989) pnmenlarge(1)

NAME

pnmenlarge - read a portable anymap and enlarge it N times

SYNOPSIS

pnmenlarge N [pnmfile]

DESCRIPTION

Reads a portable anymap as input. Replicates its pixels N times, and produces a portable anymap as output.

pnmenlarge can only enlarge by integer factors. The slower but more general pnmscale can enlarge or reduce by arbitrary factors, and pbmreduce can reduce by integer factors, but only for bitmaps.

If you enlarge by a factor of 3 or more, you should probably add a `pnmsmooth` step; otherwise, you can see the original pixels in the resulting image.

SEE ALSO

`pbmreduce(1)`, `pnmscale(1)`, `pnmsmooth(1)`, `pnm(5)`

AUTHOR

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1.103 **pnmfile**

`pnmfile(1)`

AMIGA (9 January 1991)

`pnmfile(1)`

NAME

`pnmfile` - describe a portable anymap

SYNOPSIS

`pnmfile [pnmfile] ...`

DESCRIPTION

Reads one or more portable anymaps as input. Writes out short descriptions of the image type, size, etc. This is mostly for use in shell scripts, so the format is not particularly pretty.

SEE ALSO

pnm(5), file(1)

AUTHOR

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1.104 pnmflip

pnmflip(1)

AMIGA (25 July 1989)

pnmflip(1)

NAME

pnmflip - perform one or more flip operations on a portable
anymap

SYNOPSIS

pnmflip [-letright|-lr] [-topbottom|-tb] [-transpose|-xy]
[-rotate90|-r90|-ccw] [-rotate270|-r270|-cw] [-
rotate180|-r180] [pnmfile]

DESCRIPTION

Reads a portable anymap as input. Performs one or more flip
operations, in the order specified, and writes out a
portable anymap.

OPTIONS

The flip operations available are: left for right (-
letright or -lr); top for bottom (-topbottom or -tb); and
transposition (-transpose or -xy). In addition, some canned
concatenations are available: -rotate90 or -ccw is
equivalent to -transpose -topbottom; -rotate270 or -cw is
equivalent to -transpose -letright; and -rotate180 is
equivalent to -letright -topbottom.

All flags can be abbreviated to their shortest unique
prefix.

SEE ALSO

pnmrotate(1), pnm(5)

AUTHOR

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1.105 pnmgamma

pnmgamma(1)

AMIGA (12 January 1991)

pnmgamma(1)

NAME

pnmgamma - perform gamma correction on a portable anymap

SYNOPSIS

pnmgamma value [pnmfile]

pnmgamma redvalue greenvalue bluevalue [pnmfile]

DESCRIPTION

Reads a portable anymap as input. Performs gamma correction, and produces a portable anymap as output.

The arguments specify what gamma value(s) to use. A value of 1.0 leaves the image alone, less than one darkens it, and greater than one lightens it.

SEE ALSO

pnm(5)

AUTHOR

Copyright (C) 1991 by Bill Davidson and Jef Poskanzer.

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1.106 pnmhistmap

pnmhistmap(1) AMIGA (25 October 1993) pnmhistmap(1)

NAME

pnmhistmap - draw a histogram for a PGM or PPM file

SYNOPSIS

pnmhistmap [-black] [-white] [-max N] [-verbose] [pnmfile]

DESCRIPTION

Reads a portable anymap as input, although bitmap (PBM) input produces an error message and no image. Produces an image showing a histogram of the color (or gray) values in the input. A graymap (PGM) input produces a bitmap output. A pixmap (PPM) input produces pixmap output with three overlaid histograms: a red one for the red input, a green one for the green input, and a blue one for the blue input. The output is fixed in size: 256 pixels wide by 200 pixels high.

OPTIONS

-black

Ignores the count of black pixels when scaling the histogram.

-white

Ignores the count of white pixels when scaling the histogram.

The -black and -white options, which can be used separately or together, are useful for images with a large percentage of pixels whose value is zero or 255, which can cause the remaining histogram data to become unreadably small. Note

that, for pixmap inputs, these options apply to all colors; if, for example, the input has a large number of bright-red areas, you will probably want to use the `-white` option.

`-max N`

Force the scaling of the histogram to use N as the largest-count value. This is useful for inputs with a large percentage of single-color pixels which are not black or white.

`-verbose`

Report the progress of making the histogram, including the largest-count value used to scale the output.

All flags can be abbreviated to their shortest unique prefix.

BUGS

Assumes `maxval` is always 255. Images with a smaller `maxval` will only use the lower-value side of the histogram. This can be overcome either by piping the input through `"pnmdepth 255"` or by cutting and scaling the lower-value side of the

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`pnmhistmap(1)`

AMIGA (25 October 1993)

`pnmhistmap(1)`

histogram. Neither is a particularly elegant solution.

Should allow the output size to be specified.

SEE ALSO

`pgmhist(1)`, `ppmhist(1)`, `pgm(5)`, `ppm(5)`

AUTHOR

Wilson H. Bent. Jr. (whb@usc.edu).

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1.107 pnminindex

pnminindex(1) AMIGA (9 January 1991) pnminindex(1)

NAME

pnminindex - build a visual index of a bunch of anymaps

SYNOPSIS

pnminindex [-size N] [-across N] [-colors N] [-black] pnmfile
...

DESCRIPTION

This script makes small versions of a bunch of anymaps, adds labels, and concatenates them together into a collage.

OPTIONS

-size

Controls how big each image becomes; the default is 100x100.

-across

Controls how many images are in each row; the default is 6.

-colors

Controls how many colors the final index gets quantized to, if quantization is necessary; the default is 256.

-black

Controls the color of the padding between the images; normally it's white and the labels are black lettering on white background, but the -black flag reverses this.

SEE ALSO

pnmscale(1), pnmcat(1), pbmtext(1), ppmquant(1), pnm(5)

BUGS

It's very slow.

It's a csh script. Csh scripts are not portable to System V. Scripts in general are not portable to non-Unix environments.

AUTHOR

Copyright (C) 1991 by Jef Poskanzer.

1.108 pnminvert

pnminvert(1)

AMIGA (08 August 1989)

pnminvert(1)

NAME

pnminvert - invert a portable anymap

SYNOPSIS

pnminvert [pnmfile]

DESCRIPTION

Reads a portable anymap as input. Inverts it black for white and produces a portable anymap as output.

SEE ALSO

pnm(5)

AUTHOR

Copyright (C) 1989 by Jef Poskanzer.

1.109 pnmmargin

pnmmargin(1)

AMIGA (9 January 1991)

pnmmargin(1)

NAME

pnmmargin - add a border to a portable anymap

SYNOPSIS

pnmmargin [-white|-black|-color colorspec] size [pnmfile]

DESCRIPTION

Reads a portable anymap as input. Adds a border of the specified number of pixels, and produces a portable anymap as output.

OPTIONS

You can specify the border color with the -white, -black, and -color flags. If no color is specified, the program makes a guess.

SEE ALSO

pnm(5)

BUGS

It's a script. Scripts are not portable to non-Unix environments.

AUTHOR

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1.110 pnmnlfilt

pnmnlfilt(1)

AMIGA (5 February 1993)

pnmnlfilt(1)

NAME

pnmnlfilt - non-linear filters: smooth, alpha trim mean, optimal estimation smoothing, edge enhancement.

SYNOPSIS

pnmnlfilt alpha radius [pnmfile]

DESCRIPTION

This is something of a swiss army knife filter. It has 3 distinct operating modes. In all of the modes each pixel in the image is examined and processed according to it and its surrounding pixels values. Rather than using the 9 pixels in a 3x3 block, 7 hexagonal area samples are taken, the size of the hexagons being controlled by the radius parameter. A radius value of 0.3333 means that the 7 hexagons exactly fit into the center pixel (ie. there will be no filtering effect). A radius value of 1.0 means that the 7 hexagons exactly fit a 3x3 pixel array.

Alpha trimmed mean filter. (0.0 <= alpha

The value of the center pixel will be replaced by the mean of the 7 hexagon values, but the 7 values are sorted by size and the top and bottom alpha portion of the 7 are excluded from the mean. This implies that an alpha value of 0.0 gives the same sort of output as a normal convolution (ie. averaging or smoothing filter), where radius will determine the "strength" of the filter. A good value to start from for subtle filtering is alpha = 0.0, radius = 0.55 For a more blatant effect, try alpha 0.0 and radius 1.0

An alpha value of 0.5 will cause the median value of the 7 hexagons to be used to replace the center pixel value. This sort of filter is good for eliminating "pop" or single pixel noise from an image without spreading the noise out or smudging features on the image. Judicious use of the radius parameter will fine tune the filtering. Intermediate values of alpha give effects somewhere between smoothing and "pop"

noise reduction. For subtle filtering try starting with values of $\alpha = 0.4$, $\text{radius} = 0.6$. For a more blatant effect try $\alpha = 0.5$, $\text{radius} = 1.0$.

Optimal estimation smoothing. ($1.0 \leq \alpha$)

This type of filter applies a smoothing filter adaptively over the image. For each pixel the variance of the surrounding hexagon values is calculated, and the amount of smoothing is made inversely proportional to it. The idea is that if the variance is small then it is due to noise in the image, while if the variance is large, it is because of "wanted" image features. As usual the radius parameter controls the effective radius, but it is probably advisable to leave the radius between 0.8 and 1.0 for the variance calculation to be meaningful. The alpha parameter sets the

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pnmnlfilt(1)

AMIGA (5 February 1993)

pnmnlfilt(1)

noise threshold, over which less smoothing will be done. This means that small values of alpha will give the most subtle filtering effect, while large values will tend to smooth all parts of the image. You could start with values like $\alpha = 1.2$, $\text{radius} = 1.0$ and try increasing or decreasing the alpha parameter to get the desired effect. This type of filter is best for filtering out dithering noise in both bitmap and color images.

Edge enhancement. ($-0.1 \geq \alpha \geq$

This is the opposite type of filter to the smoothing filter. It enhances edges. The alpha parameter controls the amount of edge enhancement, from subtle (-0.1) to blatant (-0.9). The radius parameter controls the effective radius as usual, but useful values are between 0.5 and 0.9. Try starting with values of $\alpha = 0.3$, $\text{radius} = 0.8$.

Combination use.

The various modes of pnmnlfilt can be used one after the other to get the desired result. For instance to turn a monochrome dithered image into a grayscale image you could try one or two passes of the smoothing filter, followed by a pass of the optimal estimation filter, then some subtle edge enhancement. Note that using edge enhancement is only likely to be useful after one of the non-linear filters (alpha trimmed mean or optimal estimation filter), as edge enhancement is the direct opposite of smoothing.

For reducing color quantization noise in images (ie. turning .gif files back into 24 bit files) you could try a pass of the optimal estimation filter (alpha 1.2, radius 1.0), a pass of the median filter (alpha 0.5, radius 0.55), and possibly a pass of the edge enhancement filter. Several passes of the optimal estimation filter with declining alpha values are more effective than a single pass with a large alpha value. As usual, there is a tradeoff between filtering effectiveness and loosing detail. Experimentation is encouraged.

References:

The alpha-trimmed mean filter is based on the description in IEEE CG&A May 1990 Page 23 by Mark E. Lee and Richard A. Redner, and has been enhanced to allow continuous alpha adjustment.

The optimal estimation filter is taken from an article "Converting Dithered Images Back to Gray Scale" by Allen Stenger, Dr Dobb's Journal, November 1992, and this article references "Digital Image Enhancement and Noise Filtering by Use of Local Statistics", Jong-Sen Lee, IEEE Transactions on Pattern Analysis and Machine Intelligence, March 1980.

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pnmnlfilt(1)

AMIGA (5 February 1993)

pnmnlfilt(1)

The edge enhancement details are from pgmenhance(1), which is taken from Philip R. Thompson's "xim" program, which in turn took it from section 6 of "Digital Halftones by Dot Diffusion", D. E. Knuth, ACM Transaction on Graphics Vol. 6, No. 4, October 1987, which in turn got it from two 1976 papers by J. F. Jarvis et. al.

SEE ALSO

pgmenhance(1), pnmconvol(1), pnm(5)

BUGS

Integers and tables may overflow if PPM_MAXMAXVAL is greater than 255.

AUTHOR

Graeme W. Gill graeme@labtam.oz.au

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1.111 pnmnoraw

pnmnoraw(1) AMIGA (8 January 1991) pnmnoraw(1)

NAME

pnmnoraw - force a portable anymap into plain format

SYNOPSIS

pnmnoraw [pnmfile]

DESCRIPTION

Reads a portable anymap as input. Writes it out in plain (non-raw) format. This is fairly useless if you haven't

defined the PBPLUS_RAWBITS compile-time option.

SEE ALSO
pnm(5)

AUTHOR
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(printed 3/1/94)

1.112 pnmpad

pnmpad(12 Dec 1990)

AMIGA

pnmpad(12 Dec 1990)

NAME

pnmpad - add borders to portable anymap

SYNOPSIS

pnmpad [-white|-black] [-l#] [-r#] [-t#] [-b#] [pnmfile]

DESCRIPTION

Reads a portable anymap as input. Outputs a portable anymap with extra borders of the sizes specified. The colour of the borders can be set to black or white (default black).

SEE ALSO

pbmmake(1), pnmpaste(1), pbm(5)

AUTHOR

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1.113 pnmpaste

pnmpaste(1)

AMIGA (21 February 1991)

pnmpaste(1)

NAME

pnmpaste - paste a rectangle into a portable anymap

SYNOPSIS

pnmpaste [-replace|-or|-and |-xor] frompnmfile x y
[intopnmfile]

DESCRIPTION

Reads two portable anymaps as input. Inserts the first anymap into the second at the specified location, and produces a portable anymap the same size as the second as output. If the second anymap is not specified, it is read from stdin. The x and y can be negative, in which case they are interpreted relative to the right and bottom of the anymap, respectively.

This tool is most useful in combination with pnmcut. For instance, if you want to edit a small segment of a large image, and your image editor cannot edit the large image, you can cut out the segment you are interested in, edit it, and then paste it back in.

Another useful companion tool is pbmmask.

The optional flag specifies the operation to use when doing the paste. The default is -replace. The other, logical operations are only allowed if both input images are bitmaps. These operations act as if white is TRUE and black is FALSE.

All flags can be abbreviated to their shortest unique prefix.

SEE ALSO

pnmcut(1), pnminvert(1), pnmarith(1), pnm(5), pbmmask(1)

AUTHOR

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1.114 pnmrotate

pnmrotate(1)

AMIGA (12 January 1991)

pnmrotate(1)

NAME

pnmrotate - rotate a portable anymap by some angle

SYNOPSIS

pnmrotate [-noantialias] angle [pnmfile]

DESCRIPTION

Reads a portable anymap as input. Rotates it by the specified angle and produces a portable anymap as output. If the input file is in color, the output will be too, otherwise it will be grayscale. The angle is in degrees (floating point), measured counter-clockwise. It can be negative, but it should be between -90 and 90. Also, for rotations greater than 45 degrees you may get better results if you first use pnmflip to do a 90 degree rotation and then pnmrotate less than 45 degrees back the other direction

The rotation algorithm is Alan Paeth's three-shear method. Each shear is implemented by looping over the source pixels and distributing fractions to each of the destination pixels. This has an "anti-aliasing" effect - it avoids jagged edges and similar artifacts. However, it also means that the original colors or gray levels in the image are modified. If you need to keep precisely the same set of colors, you can use the -noantialias flag. This does the shearing by moving pixels without changing their values. If you want anti-aliasing and don't care about the precise colors, but still need a limited *number* of colors, you can run the result through ppmquant.

All flags can be abbreviated to their shortest unique prefix.

REFERENCES

"A Fast Algorithm for General Raster Rotation" by Alan Paeth, Graphics Interface '86, pp. 77-81.

SEE ALSO

pnmshear(1), pnmflip(1), pnm(5), ppmquant(1)

AUTHOR

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1.115 pnmscale

pnmscale(1)

AMIGA (12 January 1991)

pnmscale(1)

NAME

pnmscale - scale a portable anymap

SYNOPSIS

```
pnmscale s [pnmfile]
pnmscale -xsize|-width|-ysize| -height s [pnmfile]
pnmscale -xscale|-yscale s [pnmfile]
pnmscale -xscale|-xsize|-width s -yscale|-ysize|-height s
[pnmfile]
pnmscale -ysize x y [pnmfile]
pnmscale -pixels n [pnmfile]
```

DESCRIPTION

Reads a portable anymap as input. Scales it by the specified factor or factors and produces a portable anymap as output. If the input file is in color, the output will be too, otherwise it will be grayscale. You can both enlarge (scale factor > 1) and reduce (scale factor < 1).

You can specify one dimension as a pixel size, and the other dimension will be scaled correspondingly.

You can specify one dimension as a scale, and the other dimension will not be scaled.

You can specify different sizes or scales for each axis.

You can use the special `-ysize` flag, which fits the image into the specified size without changing the aspect ratio.

Or, you can use the `-pixels` flag, which fits the image into the specified number of pixels without changing the aspect ratio.

All flags can be abbreviated to their shortest unique prefix.

If you enlarge by a factor of 3 or more, you should probably add a `pnmsmooth` step; otherwise, you can see the original pixels in the resulting image.

SEE ALSO

`pbmreduce(1)`, `pnmenlarge(1)`, `pnmsmooth(1)`, `pnm(5)`

AUTHOR

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1.116 pnmshear

`pnmshear(1)`

AMIGA (12 January 1991)

`pnmshear(1)`

NAME

`pnmshear` - shear a portable anymap by some angle

SYNOPSIS

`pnmshear [-noantialias] angle [pnmfile]`

DESCRIPTION

Reads a portable anymap as input. Shears it by the specified angle and produces a portable anymap as output. If the input file is in color, the output will be too, otherwise it will be grayscale. The angle is in degrees (floating point), and measures this:

```

+-----+ +-----+
|       | | \      \
|  OLD  | | \  NEW  \
|       | | an\     \

```



```

+-----+ |gle+-----+
If the angle is negative, it shears the other way:

```

```

+-----+ |-an+-----+
|      | |gl/      /
|  OLD  | |e/  NEW  /
|      | | /      /
+-----+ +-----+

```

The angle should not get too close to 90 or -90, or the resulting anymap will be unreasonably wide.

The shearing is implemented by looping over the source pixels and distributing fractions to each of the destination pixels. This has an "anti-aliasing" effect - it avoids jagged edges and similar artifacts. However, it also means that the original colors or gray levels in the image are modified. If you need to keep precisely the same set of colors, you can use the `-noantialias` flag. This does the shearing by moving pixels without changing their values. If you want anti-aliasing and don't care about the precise colors, but still need a limited `*number*` of colors, you can run the result through `ppmquant`.

All flags can be abbreviated to their shortest unique prefix.

SEE ALSO

`pnmrotate(1)`, `pnmflip(1)`, `pnm(5)`, `ppmquant(1)`

AUTHOR

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1.117 pnmsmooth

`pnmsmooth(1)`

AMIGA (13 January 1991)

`pnmsmooth(1)`

NAME

`pnmsmooth` - smooth out an image

SYNOPSIS

`pnmsmooth [pnmfile]`

DESCRIPTION

Smooths out an image by replacing each pixel with the average of its nine immediate neighbors. It is implemented as a simple script using pnmconvol.

SEE ALSO

pnmconvol(1), pnm(5)

BUGS

It's a script. Scripts are not portable to non-Unix environments.

AUTHOR

Copyright (C) 1989, 1991 by Jef Poskanzer.

pnmtile(1)

AMIGA (13 May 1989)

pnmtile(1)

NAME

pnmtile - replicate a portable anymap into a specified size

SYNOPSIS

pnmtile width height [pnmfile]

DESCRIPTION

Reads a portable anymap as input. Replicates it until it is the specified size, and produces a portable anymap as output.

SEE ALSO

pnm(5)

AUTHOR

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1.119 pnmtoddif

pnmtoddif(1)

AMIGA

pnmtoddif(1)

Name

pnmtoddif - Convert a portable anymap to DDIF format

Syntax

pnmtoddif pnmtoddif [-resolution x y] [pnmfile [ddiffile]]

OPTIONS

resolution x y The horizontal and vertical resolution of the output image in dots per inch. Defaults to 78 dpi.

pnmfile The filename for the image file in pnm format. If this argument is omitted, input is read from stdin.

ddiffile The filename for the image file to be created in DDIF format. If this argument is omitted, the ddiffile is written to standard output. It can only specified if a pnmfile is also specified.

DESCRIPTION

pnmtoddif takes a portable anymap from standard input and converts it into a DDIF image file on standard output or the specified DDIF file.

pbm format (bitmap) data is written as 1 bit DDIF, pgm format data (greyscale) as 8 bit greyscale DDIF, and ppm format data is written as 8,8,8 bit color DDIF. All DDIF image files are written as uncompressed. The data plane organization is interleaved by pixel.

In addition to the number of pixels in the width and height dimension, DDIF images also carry information about the size that the image should have, that is, the physical space that a pixel occupies. PBMPLUS images do not carry this information, hence it has to be externally supplied. The default of 78 dpi has the beneficial property of not causing a resize on most Digital Equipment Corporation color monitors.

AUTHOR

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1.120 pnmtofits

pnmtofits(1)

AMIGA (5 Dec 1992)

pnmtofits(1)

NAME

pnmtofits - convert a portable anymap into FITS format

SYNOPSIS

pnmtofits [-max f] [-min f] [pnmfile]

DESCRIPTION

Reads a portable anymap as input. Produces a FITS (Flexible Image Transport System) file as output. The resolution of the output file is either 8 bits/pixel, or 16 bits/pixel, depending on the value of maxval in the input file. If the input file is a portable bitmap or a portable graymap, the output file consists of a single plane image (NAXIS = 2). If instead the input file is a portable pixmap, the output file will consist of a three-plane image (NAXIS = 3, NAXIS3 = 3). A full description of the FITS format can be found in Astronomy & Astrophysics Supplement Series 44 (1981), page 363.

OPTIONS

Flags -min and -max can be used to set DATAMAX, DATAMIN, BSCALE and BZERO in the FITS header, but do not cause the data to be rescaled.

SEE ALSO

fitstopnm(1), pgm(5)

AUTHOR

Copyright (C) 1989 by Wilson H. Bent (whb@hoh-2.att.com),
with modifications by Alberto Accomazzi
(alberto@cfa.harvard.edu).

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1.121 pnmtops

pnmtops(1)

AMIGA (26 October 1991)

pnmtops(1)

NAME

pnmtops - convert portable anymap to PostScript

SYNOPSIS

pnmtops [-scale s] [-turn|-noturn] [-rle|-runlength] [-dpi n] [-width n] [-height n] [-center|-nocenter] [pnmfile]

DESCRIPTION

Reads a portable anymap as input. Produces Encapsulated PostScript as output.

If the input file is in color (PPM), a color PostScript file gets written. Some PostScript interpreters can't handle color PostScript. If you have one of these you will need to run your image through ppmtopgm first.

Note that there is no pstopnm tool - this transformation is one-way, because a pstopnm tool would be a full-fledged PostScript interpreter, which is beyond the scope of this package. However, see the psidtopgm tool, which can read grayscale non-runlength PostScript image data. Also, if you're willing to install the fairly large GhostScript

package, it comes with a pstoppm script.

OPTIONS

The `-scale` flag controls the scale of the result. The default scale is 1, which on a 300 dpi printer such as the Apple LaserWriter makes the output look about the same size as the input would if it was displayed on a typical 72 dpi screen. To get one PNM pixel per 300 dpi printer pixel, use `"-scale 0.25"`.

The `-turn` and `-noturn` flags control whether the image gets turned 90 degrees. Normally, if an image is wider than it is tall, it gets turned automatically to better fit the page. If the `-turn` flag is specified, it will be turned no matter what its shape; and if the `-noturn` flag is specified, it will not be turned no matter what its shape.

The `-rle` or `-runlength` flag specifies run-length compression. This may save time if the host-to-printer link is slow; but normally the printer's processing time dominates, so `-rle` makes things slower.

The `-dpi` flag lets you specify the dots per inch of your output device. The default is 300 dpi. In theory PostScript is device-independent and you don't have to worry about this, but in practice its raster rendering can have unsightly bands if the device pixels and the image pixels aren't in sync.

The `-width` and `-height` flags let you specify the size of the

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pnmtops(1)

AMIGA (26 October 1991)

pnmtops(1)

page. The default is 8.5 inches by 11 inches.

With the `-nocenter` flag, the output is not centered on the page, i.e. it appears in the upper left corner. This is useful for programs which can include PostScript files, but can't cope with pictures which are not positioned in the upper left corner. The default is `-center` i.e. the image is centered on the page.

All flags can be abbreviated to their shortest unique prefix.

SEE ALSO

```
pnm(5), psidtopgm(1)
```

AUTHOR

```
Copyright (C) 1989, 1991 by Jef Poskanzer.  
Modified November 1993 by Wolfgang Stuerzlinger,  
wrzl@gup.uni-linz.ac.at
```

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1.122 pnmstorast

```
pnmstorast(1)          AMIGA (12 January 1991)          pnmstorast(1)
```

NAME

```
pnmstorast - convert a portable pixmap into a Sun rasterfile
```

SYNOPSIS

```
pnmtorast [-standard|-rle] [pnmfile]
```

DESCRIPTION

Reads a portable pixmap as input. Produces a Sun rasterfile as output.

Color values in Sun rasterfiles are eight bits wide, so pnmtorast will automatically scale colors to have a maxval of 255. An extra pnmdepth step is not necessary.

OPTIONS

The `-standard` flag forces the result to be in `RT_STANDARD` form; the `-rle` flag, `RT_BYTE_ENCODED`, which is smaller but, well, less standard. The default is `-rle`.

All flags can be abbreviated to their shortest unique prefix.

SEE ALSO

`rasttopnm(1)`, `pnm(5)`

AUTHOR

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1.123 pnmtosgi

pnmtosgi(1) AMIGA (29 Januar 1994) pnmtosgi(1)

NAME

pnmtosgi - convert a portable anymap to a SGI image file

SYNOPSIS

pnmtosgi [-verbatim|-rle] [-imagename Name] [pnmfile]

DESCRIPTION

Reads a portable anymap as input. Produces an SGI image file as output. The SGI image will be 2-dimensional (1 channel) for PBM and PGM input, and 3-dimensional (3 channels) for PPM.

OPTIONS

-verbatim

Write an uncompressed file.

-rle (default)

Write a compressed (run length encoded) file.

-imagename name

Write the string "name" into the imagename field of the header. The name string is limited to 79 characters. If no name is given, pnmtosgi writes "no name" into this field.

BUGS

Probably.

REFERENCES

SGI Image File Format documentation (draft v0.95) by Paul Haeberli (paul@sgi.com). Available via ftp at sgi.com:graphics/SGIIMAGESPEC.

SEE ALSO

pnm(5), sgitopnm(1)

AUTHOR

Copyright (C) 1994 by Ingo Wilken
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1.124 pnmtosir

pnmtosir(1)

AMIGA (20 March 1991)

pnmtosir(1)

NAME

pnmtosir - convert a portable anymap into a Solitaire format

SYNOPSIS

pnmtosir [pnmfile]

DESCRIPTION

Reads a portable anymap as input. Produces a Solitaire Image Recorder format.

pnmtosir produces an MGI TYPE 17 file for pbm and pgm files. For ppm, it writes a MGI TYPE 11 file.

SEE ALSO

sirtopnm(1), pnm(5)

BUGS

AUTHOR

Copyright (C) 1991 by Marvin Landis.

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1.125 pnmtotiff

pnmtotiff(1)

AMIGA (13 January 1991)

pnmtotiff(1)

NAME

pnmtotiff - convert a a portable anymap into a TIFF file

SYNOPSIS

pnmtotiff [-none|-packbits| -lzw|-g3|-g4] [-2d] [-fill] [-
predictor n] [-msb2lsb|-lsb2msb] [-rowsperstrip n] [pnmfile]

DESCRIPTION

Reads a portable anymap as input. Produces a TIFF file as output.

OPTIONS

By default, pnmtotiff creates a TIFF file with LZW compression. This is your best bet most of the time. However, some TIFF readers can't deal with it. If you want to try another compression scheme or tweak some of the other even more obscure output options, there are a number of flags to play with.

The -none, -packbits, -lzw, -g3, and -g4 options are used to override the default and set the compression scheme used in creating the output file. The CCITT Group 3 and Group 4 compression algorithms can only be used with bilevel data. The -2d and -fill options are meaningful only with Group 3 compression: -2d requests 2-dimensional encoding, while -fill requests that each encoded scanline be zero-filled to a byte boundary. The -predictor option is only meaningful with LZW compression: a predictor value of 2 causes each scanline of the output image to undergo horizontal differencing before it is encoded; a value of 1 forces each scanline to

be encoded without differencing.

By default, `pnmtotiff` creates a TIFF file with msb-to-lsb fill order. The `-msb2lsb` and `-lsb2msb` options are used to override the default and set the fill order used in creating the file.

The `-rowsperstrip` option can be used to set the number of rows (scanlines) in each strip of data in the output file. By default, the output file has the number of rows per strip set to a value that will ensure each strip is no more than 8 kilobytes long.

BUGS

This program is not self-contained. To use it you must fetch the TIFF Software package listed in the `OTHER.SYSTEMS` file and configure `PBMPLUS` to use `libtiff`. See `PBMPLUS`'s `Makefile` for details on this configuration.

SEE ALSO

`tifftopnm(1)`, `pnm(5)`

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`pnmtotiff(1)`

AMIGA (13 January 1991)

`pnmtotiff(1)`

AUTHOR

Derived by Jef Poskanzer from `ras2tiff.c`, which is Copyright (c) 1990 by Sun Microsystems, Inc. Author: Patrick J. Naughton (`naughton@wind.sun.com`).

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1.126 pnmtoxwd

pnmtoxwd(1)

AMIGA (24 September 1991)

pnmtoxwd(1)

NAME

pnmtoxwd - convert a portable anymap into an X11 window dump

SYNOPSIS

pnmtoxwd [-pseudodepth n] [-directcolor] [pnmfile]

DESCRIPTION

Reads a portable anymap as input. Produces an X11 window dump as output. This window dump can be displayed using the xwud tool.

Normally, pnmtowd produces a StaticGray dump file for pbm and pgm files. For ppm, it writes a PseudoColor dump file if there are up to 256 colors in the input, and a DirectColor dump file otherwise. The `-directcolor` flag can be used to force a DirectColor dump. And the `-pseudodepth` flag can be used to change the depth of PseudoColor dumps from the default of 8 bits / 256 colors.

SEE ALSO

`xwdtopnm(1)`, `pnm(5)`, `xwud(1)`

AUTHOR

Copyright (C) 1989, 1991 by Jef Poskanzer.

1.127 ppm

`ppm(5)`

AMIGA (27 September 1991)

`ppm(5)`

NAME

ppm - portable pixmap file format

DESCRIPTION

The portable pixmap format is a lowest common denominator color image file format. The definition is as follows:

- A "magic number" for identifying the file type. A ppm file's magic number is the two characters "P3".
- Whitespace (blanks, TABs, CRs, LFs).
- A width, formatted as ASCII characters in decimal.
- Whitespace.
- A height, again in ASCII decimal.
- Whitespace.
- The maximum color-component value, again in ASCII decimal.
- Whitespace.
- Width * height pixels, each three ASCII decimal values between 0 and the specified maximum value, starting at the top-left corner of the pixmap, proceeding in normal English reading order. The three values for each pixel represent red, green, and blue, respectively; a value of 0 means that color is off, and the maximum value means that color is maxxed out.
- Characters from a "#" to the next end-of-line are ignored (comments).
- No line should be longer than 70 characters.

Here is an example of a small pixmap in this format:

```
P3
# feep.ppm
4 4
15
0 0 0    0 0 0    0 0 0    15 0 15
0 0 0    0 15 7    0 0 0    0 0 0
0 0 0    0 0 0    0 15 7    0 0 0
15 0 15    0 0 0    0 0 0    0 0 0
```

Programs that read this format should be as lenient as possible, accepting anything that looks remotely like a pixmap.

There is also a variant on the format, available by setting

ppm(5)

AMIGA (27 September 1991)

ppm(5)

the RAWBITS option at compile time. This variant is different in the following ways:

- The "magic number" is "P6" instead of "P3".
- The pixel values are stored as plain bytes, instead of ASCII decimal.
- Whitespace is not allowed in the pixels area, and only a single character of whitespace (typically a newline) is allowed after the maxval.
- The files are smaller and many times faster to read and write.

Note that this raw format can only be used for maxvals less than or equal to 255. If you use the ppm library and try to write a file with a larger maxval, it will automatically fall back on the slower but more general plain format.

SEE ALSO

gouldtoppm(1), ilbmtoppm(1), imgtoppm(1), mtvtoppm(1),
pcxtoppm(1), pgmtoppm(1), piltoppm(1), picttoppm(1),
pjtoppm(1), qrttoppm(1), rawtoppm(1), rgb3toppm(1),
sldtoppm(1), spctoppm(1), sputoppm(1), tgatoppm(1),
ximtoppm(1), xpmtoppm(1), yuvtoppm(1), ppmttoacad(1),
ppmtoicr(1), ppmtoilbm(1), ppmtogif(1), ppmtopcx(1),
ppmtopgm(1), ppmtopil(1), ppmtopict(1), ppmtopj(1),
ppmtopuzz(1), ppmtorgb3(1), ppmtosixel(1), ppmtotga(1),
ppmtouil(1), ppmtoxpm(1), ppmtoyuv(1), ppmddither(1),
ppmforge(1), ppmhist(1), ppmmake(1), ppmplat(1),
ppmquant(1), ppmquantall(1), ppmrelief(1), pnm(5),
pgm(5), pbm(5)

AUTHOR

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1.128 ppm3d

ppm3d(1)

AMIGA (2 November 1993)

ppm3d(1)

NAME

ppm3d - convert two portable pixmap into a red/blue 3d
glasses pixmap

SYNOPSIS

ppm3d leftppmfile rightppmfile [horizontal_offset]

DESCRIPTION

Reads two portable pixmaps as input. Produces a portable
pixmap as output, with the images overlapping by
horizontal_offset

pixels in blue/red format.

horizontal_offset defaults to 30 pixels. Pixmaps MUST be
the same size.

SEE ALSO

ppm(5)

AUTHOR

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1.129 ppmbrighten

ppmbrighten(1)

AMIGA (20 Nov 1990)

ppmbrighten(1)

NAME

ppmbrighten - change an images Saturation and Value from an HSV map

SYNOPSIS

```
ppmbrighten [-n] [-s <+- saturation>] [-v <+- value>]  
<ppmfile>
```

DESCRIPTION

Reads a portable pixmap as input. Converts the image from RGB space to HSV space and changes the Value by <+- value> as a percentage. Likewise with the Saturation. Doubling the Value would involve

```
ppmbrighten -v 100
```

to add 100 percent to the Value.

The 'n' option normalizes the Value to exist between 0 and 1 (normalized).

SEE ALSO

pgmnorm(1), ppm(5)

AUTHOR

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NOTES

This program does not change the number of colors.

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1.130 ppmchange

ppmchange(1)

AMIGA (3 December 1993)

ppmchange(1)

NAME

ppmchange - change all pixels of one color to another in a portable pixmap

SYNOPSIS

ppmchange oldcolor newcolor [...] [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Changes all pixels of oldcolor to newcolor, leaving all others unchanged. Up to 256 colors may be replaced by specifying couples of colors on the command line.

The colors can be specified in five ways:

- o A name, assuming that a pointer to an X11-style color names file was compiled in.
- o An X11-style hexadecimal specifier: rgb:r/g/b, where r

g and b are each 1- to 4-digit hexadecimal numbers.

- o An X11-style decimal specifier: `rgbi:r/g/b`, where r g and b are floating point numbers between 0 and 1.
- o For backwards compatibility, an old-X11-style hexadecimal number: `#rgb`, `#rrggb`, `#rrrgggbbb`, or `#rrrrggggbbbb`.
- o For backwards compatibility, a triplet of numbers separated by commas: `r,g,b`, where r g and b are floating point numbers between 0 and 1. (This style was added before MIT came up with the similar `rgbi` style.)

SEE ALSO

`pgmtoppm(1)`, `ppm(5)`

AUTHOR

Wilson H. Bent. Jr. (whb@usc.edu) with modifications by
Alberto Accomazzi (alberto@cfa.harvard.edu)

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1.131 **ppmdim**

`ppmdim(1)`

AMIGA (16 November 1993)

`ppmdim(1)`

NAME

`ppmdim` - dim a portable pixmap down to total blackness

SYNOPSIS

`ppmdim dimfactor [ppmfile]`

DESCRIPTION

Reads a portable pixmap as input. Diminishes its brightness by the specified `dimfactor` down to total blackness. The

dimfactor may be in the range from 0.0 (total blackness, deep night, nada, null, nothing) to 1.0 (original picture's brightness).

As pnmgamma does not do the brightness correction in the way I wanted it, this small program was written.

ppmdim is similar to ppmbrighten , but not exactly the same.

SEE ALSO

ppm(5), ppmflash(1), pnmgamma(1), ppmbrighten(1)

AUTHOR

Copyright (C) 1993 by Frank Neumann

1.132 ppmdist

ppmdist(1)

AMIGA (22 July 1992)

ppmdist(1)

NAME

ppmdist - simplistic grayscale assignment for machine generated, color images

SYNOPSIS

ppmdist [-intensity|-frequency] [ppmfile]

DESCRIPTION

Reads a portable pixmap as input, performs a simplistic grayscale assignment intended for use with grayscale or bitmap printers.

Often conversion from ppm to pgm will yield an image with contrast too low for good printer output. The program maximizes contrast between the gray levels output.

A ppm input of n colors is read, and a pgm of n gray levels is written. The gray levels take on the values 0..n-1, while maxval takes on n-1.

The mapping from color to stepped grayscale can be performed in order of input pixel intensity, or input pixel frequency (number of repetitions).

OPTIONS

Helpful only for images with a very small number of colors. Perhaps should have been an option to ppmtopgm(1).

SEE ALSO

ppmtopgm(1), ppmhist(1), ppm(5)

AUTHOR

Copyright (C) 1993 by Dan Stromberg.

1.133 ppmdither

ppmdither(1)

AMIGA (14 July 1991)

ppmdither(1)

NAME

ppmdither - ordered dither for color images

SYNOPSIS

ppmdither [-dim dimension] [-red shades] [-green shades] [-blue shades] [ppmfile]

DESCRIPTION

Reads a portable pixmap as input, and applies dithering to it to reduce the number of colors used down to the specified number of shades for each primary. The default number of shades is red=5, green=9, blue=5, for a total of 225 colors. To convert the image to a binary rgb format suitable for color printers, use -red 2 -green 2 -blue 2. The maximum number of colors that can be used is 256 and can be computed as the product of the number of red, green and blue shades.

OPTIONS

-dim dimension The size of the dithering matrix. Must be a power of 2.

-red shades The number of red shades to be used; minimum of 2.

-green shades The number of green shades to be used; minimum of 2.

-blue shades The number of blue shades to be used; minimum of 2.

SEE ALSO

pnmdepth(1), ppmquant(1), ppm(5)

AUTHOR

Copyright (C) 1991 by Christos Zoulas.

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1.134 ppmflash

ppmflash(1)

AMIGA (16 November 1993)

ppmflash(1)

NAME

ppmflash - brighten a picture up to complete white-out

SYNOPSIS

ppmflash flashfactor [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Increases its brightness by the specified flashfactor up to a total white-out image. The flashfactor may be in the range from 0.0 (original picture's brightness) to 1.0 (full white-out, The Second After).

As pnmgamma does not do the brightness correction in the way I wanted it, this small program was written.

This program is similar to ppmbrighten , but not exactly the same.

SEE ALSO

ppm(5), ppmdim(1), pnmgamma(1), ppmbrighten(1)

AUTHOR

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1.135 ppmforge

ppmforge(1)

AMIGA (25 October 1991)

ppmforge(1)

NAME

ppmforge - fractal forgeries of clouds, planets, and starry skies

SYNOPSIS

ppmforge [-clouds] [-night] [-dimension dimen] [-hour hour]
[-inclination|-tilt angle] [-mesh size] [-power
factor] [-glaciers level] [-ice level] [-saturation
sat] [-seed seed] [-stars fraction] [-xsize|-width
width] [-ysize|-height height]

DESCRIPTION

ppmforge generates three kinds of ``random fractal forgeries,`` the term coined by Richard F. Voss of the IBM Thomas J. Watson Research Center for seemingly realistic pictures of natural objects generated by simple algorithms embodying randomness and fractal self-similarity. The techniques used by ppmforge are essentially those given by Voss[1], particularly the technique of spectral synthesis explained in more detail by Dietmar Saupe[2].

The program generates two varieties of pictures: planets and clouds, which are just different renderings of data generated in an identical manner, illustrating the unity of the fractal structure of these very different objects. A third type of picture, a starry sky, is synthesised directly from

pseudorandom numbers.

The generation of planets or clouds begins with the preparation of an array of random data in the frequency domain. The size of this array, the ``mesh size,`` can be set with the `-mesh` option; the larger the mesh the more realistic the pictures but the calculation time and memory requirement increases as the square of the mesh size. The fractal dimension, which you can specify with the `-dimension` option, determines the roughness of the terrain on the planet or the scale of detail in the clouds. As the fractal dimension is increased, more high frequency components are added into the random mesh.

Once the mesh is generated, an inverse two dimensional Fourier transform is performed upon it. This converts the original random frequency domain data into spatial amplitudes. We scale the real components that result from the Fourier transform into numbers from 0 to 1 associated with each point on the mesh. You can further modify this number by applying a ``power law scale`` to it with the `-power` option. Unity scale leaves the numbers unmodified; a power scale of 0.5 takes the square root of the numbers in the mesh, while a power scale of 3 replaces the numbers in the mesh with their cubes. Power law scaling is best envisioned by thinking of the data as representing the elevation of

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terrain; powers less than 1 yield landscapes with vertical scarps that look like glacially-carved valleys; powers greater than one make fairy-castle spires (which require large mesh sizes and high resolution for best results).

After these calculations, we have a array of the specified size containing numbers that range from 0 to 1. The pixmaps are generated as follows:

Clouds A colour map is created that ranges from pure blue to white by increasing admixture (desaturation) of blue with white. Numbers less than 0.5 are coloured blue, numbers between 0.5 and 1.0 are coloured with corresponding levels of white, with 1.0 being pure white.

Planet The mesh is projected onto a sphere. Values less

than 0.5 are treated as water and values between 0.5 and 1.0 as land. The water areas are coloured based upon the water depth, and land based on its elevation. The random depth data are used to create clouds over the oceans. An atmosphere approximately like the Earth's is simulated; its light absorption is calculated to create a blue cast around the limb of the planet. A function that rises from 0 to 1 based on latitude is modulated by the local elevation to generate polar ice caps--high altitude terrain carries glaciers farther from the pole. Based on the position of the star with respect to the observer, the apparent colour of each pixel of the planet is calculated by ray-tracing from the star to the planet to the observer and applying a lighting model that sums ambient light and diffuse reflection (for most planets ambient light is zero, as their primary star is the only source of illumination). Additional random data are used to generate stars around the planet.

Night A sequence of pseudorandom numbers is used to generate stars with a user specified density.

Cloud pictures always contain 256 or fewer colours and may be displayed on most colour mapped devices without further processing. Planet pictures often contain tens of thousands of colours which must be compressed with ppmquant or ppmdither before encoding in a colour mapped format. If the display resolution is high enough, ppmdither generally produces better looking planets. ppmquant tends to create discrete colour bands, particularly in the oceans, which are unrealistic and distracting. The number of colours in starry sky pictures generated with the -night option depends on

the value specified for -saturation. Small values limit the colour temperature distribution of the stars and reduce the number of colours in the image. If the -saturation is set to 0, none of the stars will be coloured and the resulting image will never contain more than 256 colours. Night sky pictures with many different star colours often look best when colour compressed by pnmdepth rather than ppmquant or ppmdither. Try newmaxval settings of 63, 31, or 15 with

pnmdepth to reduce the number of colours in the picture to 256 or fewer.

OPTIONS

-clouds Generate clouds. A pixmap of fractal clouds is generated. Selecting clouds sets the default for fractal dimension to 2.15 and power scale factor to 0.75.

-dimension dimen

Sets the fractal dimension to the specified dimen, which may be any floating point value between 0 and 3. Higher fractal dimensions create more ``chaotic'' images, which require higher resolution output and a larger FFT mesh size to look good. If no dimension is specified, 2.4 is used when generating planets and 2.15 for clouds.

-glaciers level

The floating point level setting controls the extent to which terrain elevation causes ice to appear at lower latitudes. The default value of 0.75 makes the polar caps extend toward the equator across high terrain and forms glaciers in the highest mountains, as on Earth. Higher values make ice sheets that cover more and more of the land surface, simulating planets in the midst of an ice age. Lower values tend to be boring, resulting in unrealistic geometrically-precise ice cap boundaries.

-hour hour

When generating a planet, hour is used as the ``hour angle at the central meridian.'' If you specify -hour 12, for example, the planet will be fully illuminated, corresponding to high noon at the longitude at the centre of the screen. You can specify any floating point value between 0 and 24 for hour, but values which place most of the planet in darkness (0 to 4 and 20 to 24) result in crescents which, while pretty, don't give you many illuminated pixels for the amount of computing that's required. If no -hour option is specified, a random hour angle is chosen, biased so that only

25% of the images generated will be crescents.

-ice level

Sets the extent of the polar ice caps to the given floating point level. The default level of 0.4 produces ice caps similar to those of the Earth. Smaller values reduce the amount of ice, while larger -ice settings create more prominent ice caps. Sufficiently large values, such as 100 or more, in conjunction with small settings for -glaciers (try 0.1) create ``ice balls'' like Europa.

-inclination|-tilt angle

The inclination angle of the planet with regard to its primary star is set to angle, which can be any floating point value from -90 to 90. The inclination angle can be thought of as specifying, in degrees, the ``season'' the planet is presently experiencing or, more precisely, the latitude at which the star transits the zenith at local noon. If 0, the planet is at equinox; the star is directly overhead at the equator. Positive values represent summer in the northern hemisphere, negative values summer in the southern hemisphere. The Earth's inclination angle, for example, is about 23.5 at the June solstice, 0 at the equinoxes in March and September, and -23.5 at the December solstice. If no inclination angle is specified, a random value between -21.6 and 21.6 degrees is chosen.

-mesh size

A mesh of size by size will be used for the fast Fourier transform (FFT). Note that memory requirements and computation speed increase as the square of size; if you double the mesh size, the program will use four times the memory and run four times as long. The default mesh is 256x256, which produces reasonably good looking pictures while using half a megabyte for the 256x256 array of single precision complex numbers required by the FFT. On machines with limited memory capacity, you may have to reduce the mesh size to avoid running out of RAM. Increasing the mesh size produces better looking pictures; the difference becomes particularly noticeable when generating high resolution images with relatively high fractal dimensions (between 2.2 and 3).

-night

A starry sky is generated. The stars are created by the same algorithm used for the stars that sur-

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AMIGA (25 October 1991)

ppmforge(1)

round planet pictures, but the output consists exclusively of stars.

-power factor

Sets the ``power factor'' used to scale elevations synthesised from the FFT to factor, which can be any floating point number greater than zero. If no factor is specified a default of 1.2 is used if a planet is being generated, or 0.75 if clouds are selected by the `-clouds` option. The result of the FFT image synthesis is an array of elevation values between 0 and 1. A non-unity power factor exponentiates each of these elevations to the specified power. For example, a power factor of 2 squares each value, while a power factor of 0.5 replaces each with its square root. (Note that exponentiating values between 0 and 1 yields values that remain within that range.) Power factors less than 1 emphasise large-scale elevation changes at the expense of small variations. Power factors greater than 1 increase the roughness of the terrain and, like high fractal dimensions, may require a larger FFT mesh size and/or higher screen resolution to look good.

-saturation sat

Controls the degree of colour saturation of the stars that surround planet pictures and fill starry skies created with the `-night` option. The default value of 125 creates stars which resemble the sky as seen by the human eye from Earth's surface. Stars are dim; only the brightest activate the cones in the human retina, causing colour to be perceived. Higher values of `sat` approximate the appearance of stars from Earth orbit, where better dark adaptation, absence of skyglow, and the concentration of light from a given star onto a smaller area of the retina thanks to the lack of atmospheric turbulence enhances the perception of colour. Values greater than 250 create ``science fiction'' skies that, while pretty, don't occur in this universe.

Thanks to the inverse square law combined with Nature's love of mediocrity, there are many, many dim stars for every bright one. This population relationship is accurately reflected in the skies

created by ppmforge. Dim, low mass stars live much longer than bright massive stars, consequently there are many reddish stars for every blue giant. This relationship is preserved by ppmforge. You can reverse the proportion, simulating the sky

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as seen in a starburst galaxy, by specifying a negative sat value.

-seed num Sets the seed for the random number generator to the integer num. The seed used to create each picture is displayed on standard output (unless suppressed with the **-quiet** option). Pictures generated with the same seed will be identical. If no **-seed** is specified, a random seed derived from the date and time will be chosen. Specifying an explicit seed allows you to re-render a picture you particularly like at a higher resolution or with different viewing parameters.

-stars fraction

Specifies the percentage of pixels, in tenths of a percent, which will appear as stars, either surrounding a planet or filling the entire frame if **-night** is specified. The default fraction is 100.

-xsize|-width width

Sets the width of the generated image to width pixels. The default width is 256 pixels. Images must be at least as wide as they are high; if a width less than the height is specified, it will be increased to equal the height. If you must have a long skinny pixmap, make a square one with ppmforge, then use pnmcut to extract a portion of the shape and size you require.

-ysize|-height height

Sets the height of the generated image to height pixels. The default height is 256 pixels. If the height specified exceeds the width, the width will be increased to equal the height.

All flags can be abbreviated to their shortest unique prefix.

BUGS

The algorithms require the output pixmap to be at least as wide as it is high, and the width to be an even number of pixels. These constraints are enforced by increasing the size of the requested pixmap if necessary.

You may have to reduce the FFT mesh size on machines with 16 bit integers and segmented pointer architectures.

SEE ALSO

pnmcut(1), pnmdepth(1), ppmdither(1), ppmquant(1), ppm(5)

[1] Voss, Richard F., ``Random Fractal Forgeries,`` in

ppmforge(1)

AMIGA (25 October 1991)

ppmforge(1)

Earnshaw et. al., Fundamental Algorithms for Computer Graphics, Berlin: Springer-Verlag, 1985.

[2] Peitgen, H.-O., and Saupe, D. eds., The Science Of Fractal Images, New York: Springer Verlag, 1988.

AUTHOR

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PLUGWARE! If you like this kind of stuff, you may also enjoy ``James Gleick's Chaos--The Software'' for MS-DOS, available for \$59.95 from your local software store or directly from Autodesk, Inc., Attn: Science Series, 2320 Marinship Way, Sausalito, CA 94965, USA. Telephone: (800) 688-2344 toll-free or, outside the U.S. (415) 332-2344 Ext 4886. Fax: (415) 289-4718. ``Chaos--The Software'' includes a more

comprehensive fractal forgery generator which creates three-dimensional landscapes as well as clouds and planets, plus five more modules which explore other aspects of Chaos. The user guide of more than 200 pages includes an introduction by James Gleick and detailed explanations by Rudy Rucker of the mathematics and algorithms used by each program.

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1.136 ppmhist

ppmhist(1)

AMIGA (03 April 1989)

ppmhist(1)

NAME

ppmhist - print a histogram of a portable pixmap

SYNOPSIS

ppmhist [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Generates a histogram of the colors in the pixmap.

SEE ALSO

ppm(5), pgmhist(1)

AUTHOR

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(printed 3/1/94)

1.137 ppmmake

ppmmake(1)

AMIGA (24 September 1991)

ppmmake(1)

NAME

ppmmake - create a pixmap of a specified size and color

SYNOPSIS

ppmmake color width height

DESCRIPTION

Produces a portable pixmap of the specified color, width, and height.

The color can be specified in five ways:

- o A name, assuming that a pointer to an X11-style color names file was compiled in.
- o An X11-style hexadecimal specifier: `rgb:r/g/b`, where `r` `g` and `b` are each 1- to 4-digit hexadecimal numbers.
- o An X11-style decimal specifier: `rgbi:r/g/b`, where `r` `g` and `b` are floating point numbers between 0 and 1.
- o For backwards compatibility, an old-X11-style hexadecimal number: `#rgb`, `#rrggb`, `#rrrgggbbb`, or `#rrrrggggbbbb`.
- o For backwards compatibility, a triplet of numbers separated by commas: `r,g,b`, where `r` `g` and `b` are floating point numbers between 0 and 1. (This style was added before MIT came up with the similar `rgbi` style.)

SEE ALSO

`ppm(5)`, `pbmmake(1)`

AUTHOR

Copyright (C) 1991 by Jef Poskanzer.

1.138 ppmmix

`ppmmix(1)`

AMIGA (16 November 1993)

`ppmmix(1)`

NAME

ppmmix - blend together two portable pixmaps

SYNOPSIS

ppmmix fade factor ppmfile1 ppmfile2

DESCRIPTION

Reads two portable pixmaps as input. Mixes them together using the specified fade factor. The fade factor may be in the range from 0.0 (only ppmfile1's image data) to 1.0 (only ppmfile2's image data). Anything in between gains a smooth blend between the two images.

The two pixmaps must have the same size.

SEE ALSO

ppm(5)

AUTHOR

Copyright (C) 1993 by Frank Neumann

1.139 ppmnorm

ppmnorm(1)

AMIGA (7 October 1993)

ppmnorm(1)

NAME

ppmnorm - normalize the contrast in a portable pixmap

SYNOPSIS

ppmnorm [-bpercent N | -bvalue N] [-wpercent N | -wvalue N]
[ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Normalizes the contrast by forcing the lightest pixels to white, the darkest pixels to black, and linearly rescaling the ones in between; and produces a portable pixmap as output.

Works by computing the relative grey-level of each pixel a'la ppmtopgm, and uses those values to scale the RGB levels. Note that this is different from using pgmnorm on the individual red, green, and blue greymaps (as produced by ppmtorgb3) and recombining them.

OPTIONS

By default, the darkest 2 percent of all pixels are mapped to black, and the lightest 1 percent are mapped to white. You can override these percentages by using the -bpercent and -wpercent flags, or you can specify the exact pixel values to be mapped by using the -bvalue and -wvalue flags. Appropriate numbers for the flags can be gotten from the ppmhist tool. If you just want to enhance the contrast, then choose values at elbows in the histogram; e.g. if value 29 represents 3% of the image but value 30 represents 20%, choose 30 for bvalue. If you want to lighten the image, then set bvalue to 0 and just fiddle with wvalue; similarly, to darken the image, set wvalue to maxval and play with bvalue.

All flags can be abbreviated to their shortest unique prefix.

SEE ALSO

pgmnorm(1), ppmhist(1), ppm(5)

AUTHOR

Wilson H. Bent. Jr. (whb@usc.edu), heavily based on the ppmnorm filter by Jef Poskanzer.

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(printed 3/1/94)

1.140 ppmntsc

ppmntsc(1)

AMIGA (16 November 1993)

ppmntsc(1)

NAME

ppmntsc - make a portable pixmap look like taken from an American TV

SYNOPSIS

ppmntsc dimfactor [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Dims every other row of image data down by the specified dim factor. This factor may be in the range of 0.0 (the alternate lines are totally black) to 1.0 (original image).

This creates an effect similar to what I've once seen in the video clip 'You could be mine' by Guns'n'Roses. In the scene I'm talking about you can see John Connor on his motorbike, looking up from the water trench (?) he's standing in. While the camera pulls back, the image gets 'normal' by brightening up the alternate rows of it. I thought this would be an interesting effect to try in MPEG. I did not yet check this out, however. Try for yourself.

SEE ALSO

ppm(5), ppmdim(1)

AUTHOR

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1.141 ppmpat

ppmpat(1)

AMIGA (04 September 1989)

ppmpat(1)

NAME

ppmpat - make a pretty pixmap

SYNOPSIS

ppmpat -gingham2|-g2|-gingham3| -g3|-madras|-tartan| -
poles|-squig|-camo| -anticamo width height

DESCRIPTION

Produces a portable pixmap of the specified width and height, with a pattern in it.

This program is mainly to demonstrate use of the ppmdraw routines, a simple but powerful drawing library. See the ppmdraw.h include file for more info on using these routines. Still, some of the patterns can be rather pretty. If you have a color workstation, something like ppmpat -squig 300 300 | ppmquant 128 should generate a nice background.

OPTIONS

The different flags specify various different pattern types:

-gingham2

A gingham check pattern. Can be tiled.

-gingham3

A slightly more complicated gingham. Can be tiled.

-madras

A madras plaid. Can be tiled.

-tartan

A tartan plaid. Can be tiled.

-poles

Color gradients centered on randomly-placed poles. May need to be run through ppmquant.

-squig

Squiggley tubular pattern. Can be tiled. May need to be run through ppmquant.

-camo

Camouflage pattern. May need to be run through ppmquant.

-anticamo

Anti-camouflage pattern - like -camo, but ultra-bright colors. May need to be run through ppmquant.

All flags can be abbreviated to their shortest unique prefix.

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ppmpat(1)

AMIGA (04 September 1989)

ppmpat(1)

REFERENCES

Some of the patterns are from "Designer's Guide to Color 3" by Jeanne Allen.

SEE ALSO

pnmtile(1), ppmquant(1), ppm(5)

AUTHOR

Copyright (C) 1989 by Jef Poskanzer.

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(printed 3/1/94)

1.142 ppmquant

ppmquant (1)

AMIGA (12 January 1991)

ppmquant (1)

NAME

ppmquant - quantize the colors in a portable pixmap down to a specified number

SYNOPSIS

```
ppmquant [-floyd|-fs] ncolors [ppmfile]
ppmquant [-floyd|-fs] -map mapfile [ppmfile]
```

DESCRIPTION

Reads a portable pixmap as input. Chooses `ncolors` colors to best represent the image, maps the existing colors to the new ones, and writes a portable pixmap as output.

The quantization method is Heckbert's "median cut".

Alternately, you can skip the color-choosing step by specifying your own set of colors with the `-map` flag. The mapfile is just a ppm file; it can be any shape, all that matters is the colors in it. For instance, to quantize down to the 8-color IBM TTL color set, you might use:

```
P3
8 1
255
  0  0  0
255  0  0
  0 255  0
  0  0 255
255 255  0
255  0 255
  0 255 255
255 255 255
```

If you want to quantize one pixmap to use the colors in another one, just use the second one as the mapfile. You don't have to reduce it down to only one pixel of each color, just use it as is.

The `-floyd/-fs` flag enables a Floyd-Steinberg error diffusion step. Floyd-Steinberg gives vastly better results on images where the unmodified quantization has banding or other artifacts, especially when going to a small number of colors such as the above IBM set. However, it does take substantially more CPU time, so the default is off.

All flags can be abbreviated to their shortest unique prefix.

REFERENCES

"Color Image Quantization for Frame Buffer Display" by Paul Heckbert, SIGGRAPH '82 Proceedings, page 297.

SEE ALSO

`ppmquantall(1)`, `pnmdepth(1)`, `ppmdither(1)`, `ppm(5)`

AUTHOR

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(printed 3/1/94)

1.143 ppmquantall

ppmquantall(1) AMIGA (27 July 1990) ppmquantall(1)

NAME

ppmquantall - run ppmquant on a bunch of files all at once,
so they share a common colormap

SYNOPSIS

ppmquantall ncolors ppmfile ...

DESCRIPTION

Takes a bunch of portable pixmap as input. Chooses ncolors colors to best represent all of the images, maps the existing colors to the new ones, and overwrites the input files with the new quantized versions.

Verbose explanation: Let's say you've got a dozen pixmaps that you want to display on the screen all at the same time. Your screen can only display 256 different colors, but the pixmaps have a total of a thousand or so different colors. For a single pixmap you solve this problem with ppmquant; this script solves it for multiple pixmaps. All it does is concatenate them together into one big pixmap, run ppmquant on that, and then split it up into little pixmaps again.

(Note that another way to solve this problem is to pre-select a set of colors and then use ppmquant's -map option to separately quantize each pixmap to that set.)

SEE ALSO

ppmquant(1), ppm(5)

BUGS

It's a csh script. Csh scripts are not portable to System V. Scripts in general are not portable to non-Unix environments.

AUTHOR

Copyright (C) 1991 by Jef Poskanzer.

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1.144 ppmqvga

PPMQVGA(1)

AMIGA (local)

PPMQVGA(1)

NAME

ppmqvga - 8 plane quantization

SYNOPSIS

ppmqvga [options] [input file]

DESCRIPTION

ppmqvga quantizes PPM files to 8 planes, with optional Floyd-Steinberg dithering. Input is a PPM file from the file named, or standard input if no file is provided.

Options

-d dither. Apply Floyd-Steinberg dithering to the data

-q quiet. Produces no progress reporting, and no terminal output unless an error occurs.

-v verbose. Produces additional output describing the number of colors found, and some information on the resulting mapping. May be repeated to generate loads of internal table output, but generally only useful once.

EXAMPLES

ppmqvga -d my_image.ppm | ppmtogif >my_image.gif

tgatoppm zombie.tga | ppmqvga | ppmtotif > zombie.tif

SEE ALSO

ppmquant(1)

DIAGNOSTICS

Error messages if problems, various levels of optional progress reporting.

LIMITATIONS

none known.

AUTHOR

Original by Lyle Rains (lrains@netcom.com) as ppmq256 and ppmq256fs combined, documented, and enhanced by Bill Davidsen (davidsen@crd.ge.com)

Copyright

Copyright 1991,1992 by Bill Davidsen, all rights reserved. The program and documentation may be freely distributed by anyone in source or binary format. Please clearly note any changes.

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1.145 ppmrelief

ppmrelief(1)

AMIGA (11 January 1991)

ppmrelief(1)

NAME

ppmrelief - run a Laplacian relief filter on a portable pixmap

SYNOPSIS

ppmrelief [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Does a Laplacian relief filter, and writes a portable pixmap as output.

The Laplacian relief filter is described in "Beyond Photography" by Holzmman, equation 3.19. It's a sort of edge-detection.

SEE ALSO

pgmbentley(1), pgmoil(1), ppm(5)

AUTHOR

Copyright (C) 1990 by Wilson Bent (whb@hoh-2.att.com)

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1.146 ppmshift

ppmshift (1)

AMIGA (16 November 1993)

ppmshift (1)

NAME

ppmshift - shift lines of a portable pixmap left or right by a random amount

SYNOPSIS

ppmshift shift [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Shifts every row of image data to the left or right by a certain amount. The 'shift' parameter determines by how many pixels a row is to be shifted at most.

Another one of those effects I intended to use for MPEG tests. Unfortunately, this program will not help me here -

it creates too random patterns to be used for animations.
Still, it might give interesting results on still images.

EXAMPLE

Check this out: Save your favourite model's picture from something like alt.binaries.pictures.supermodels (ok, or from any other picture source), convert it to ppm, and process it e.g. like this, assuming the picture is 800x600 pixels:

```
# take the upper half, and leave it like it is
pnmcut 0 0 800 300 cs.ppm >upper.ppm
```

```
# take the lower half, flip it upside down, dim it and
distort it a little
```

```
pnmcut 0 300 800 300 cs.ppm | pnmflip -tb | ppmdim 0.7 |
ppmshift 10 >lower.ppm
```

```
# and concatenate the two pieces
```

```
pnmcats -tb upper.ppm lower.ppm >newpic.ppm
```

The resulting picture looks like the image being reflected on a water surface with slight ripples.

SEE ALSO

```
ppm(5), pnmcut(1), pnmflip(1), ppmdim(1), pnmcats(1)
```

AUTHOR

Copyright (C) 1993 by Frank Neumann

1.147 ppmspread

ppmspread(1)

AMIGA (16 November 1993)

ppmspread(1)

NAME

ppmspread - displace a portable pixmap's pixels by a random amount

SYNOPSIS

```
ppmspread amount [ppmfile]
```

DESCRIPTION

Reads a portable pixmap as input. Moves every pixel around a bit relative to its original position. amount determines by how many pixels a pixel is to be moved around at most.

Pictures processed with this filter will seem to be somewhat dissolved or unfocussed (although they appear more coarse than images processed by something like pnmconvol).

SEE ALSO

ppm(5), pnmconvol(1)

AUTHOR

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1.148 ppmtocad

ppmtocad(1) AMIGA (10 October 1991) ppmtocad(1)

NAME

ppmtocad - convert portable pixmap to AutoCAD database or slide

SYNOPSIS

ppmtocad [-dxb] [-poly] [-background colour] [-white] [-aspect ratio] [-8] [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Produces an AutoCAD (Reg.) slide file or binary database import (.dxb) file as output. If no ppmfile is specified, input is read from standard input.

OPTIONS

-dxb An AutoCAD binary database import (.dxb) file is written. This file is read with the DXBIN command and, once loaded, becomes part of the AutoCAD geometrical database and can be viewed and edited like any other object. Each sequence of identical pixels becomes a separate object in the database; this can result in very large AutoCAD drawing files. However, if you want to trace over a bitmap, it lets you zoom and pan around the bitmap as you wish.

-poly

If the -dxb option is not specified, the output of ppmtocad is an AutoCAD slide file. Normally each row of pixels is represented by an AutoCAD line entity. If -poly is selected, the pixels are rendered as filled polygons. If the slide is viewed on a display with higher resolution than the source pixmap, this will cause the pixels to expand instead of appearing as discrete lines against the screen background colour. Regrettably, this representation yields slide files which occupy more disc space and take longer to display.

-background colour

Most AutoCAD display drivers can be configured to use any available colour as the screen background. Some users prefer a black screen background, others white, while splinter groups advocate burnt ocher, tawny puce, and shocking grey. Discarding pixels whose closest AutoCAD colour representation is equal to the background colour can substantially reduce the size of the AutoCAD database or slide file needed to represent a bitmap. If no -background colour is specified, the screen background colour is assumed to be black. Any AutoCAD colour number may be specified as the screen

background; colour numbers are assumed to specify the hues defined in the standard AutoCAD 256 colour

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ppmtoacad(1)

AMIGA (10 October 1991)

ppmtoacad(1)

palette.

-white

Since many AutoCAD users choose a white screen background, this option is provided as a short-cut. Specifying -white is identical in effect to -background 7.

-aspect ratio

If the source pixmap had non-square pixels, the ratio of the pixel width to pixel height should be specified as ratio. The resulting slide or .dxb file will be corrected so that pixels on the AutoCAD screen will be square. For example, to correct an image made for a 320x200 VGA/MCGA screen, specify -aspect 0.8333.

-8 Restricts the colours in the output file to the 8 RGB shades.

All flags can be abbreviated to their shortest unique prefix.

BUGS

AutoCAD has a fixed palette of 256 colours, distributed along the hue, lightness, and saturation axes. Pixmapes which contain many nearly-identical colours, or colours not closely approximated by AutoCAD's palette, may be poorly rendered.

ppmtoacad works best if the system displaying its output supports the full 256 colour AutoCAD palette. Monochrome, 8 colour, and 16 colour configurations will produce less than optimal results.

When creating a .dxb file or a slide file with the -poly option, ppmtoacad finds both vertical and horizontal runs of identical pixels and consolidates them into rectangular regions to reduce the size of the output file. This is effective for images with large areas of constant colour but it's no substitute for true raster to vector conversion. In particular, thin diagonal lines are not optimised at all by

this process.

Output files can be huge.

SEE ALSO

AutoCAD Reference Manual: Slide File Format and Binary
Drawing Interchange (DXB) Files, ppm(5)

AUTHOR

John Walker
Autodesk SA

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ppmtoacad(1)

AMIGA (10 October 1991)

ppmtoacad(1)

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1.149 ppmtobmp

ppmtobmp(1)

AMIGA (26 Oct 1992)

ppmtobmp(1)

NAME

ppmtobmp - convert a portable pixmap into a BMP file

SYNOPSIS

ppmtobmp [-windows] [-os2] [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Produces a Microsoft Windows or OS/2 BMP file as output.

OPTIONS

-windows

Tells the program to produce a Microsoft Windows BMP file.

-os2 Tells the program to produce an OS/2 BMP file. (This is the default.)

All flags can be abbreviated to their shortest unique prefix.

SEE ALSO

bmptoppm(1), ppm(5)

AUTHOR

Copyright (C) 1992 by David W. Sanderson.

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1.150 ppmtogif

ppmtogif(1)

AMIGA (30 June 1993)

ppmtogif(1)

NAME

ppmtogif - convert a portable pixmap into a GIF file

SYNOPSIS

ppmtogif [-interlace] [-sort] [-map mapfile] [-transparent
color] [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Produces a GIF file as
output.

OPTIONS

-interlace
Tells the program to produce an interlaced GIF file.

-sort
Produces a GIF file with a sorted color map.

-map mapfile
Uses the colors found in the mapfile to create the colormap in the GIF file, instead of the colors from ppmfile. The mapfile can be any ppm file; all that matters is the colors in it. If the colors in ppmfile do not match those in mapfile, they are matched to a "best match". A (much) better result can be obtained by using the following filter in advance:

```
ppmquant -floyd -map mapfile
```

-transparent color
Mark the given color as transparent in the GIF file. The color is specified as in ppmmake(1). Note that this option outputs a GIF89a format file which might not be understood by your software.

All flags can be abbreviated to their shortest unique prefix.

SEE ALSO

giftopnm(1), ppmquant(1), ppm(5)

AUTHOR

Based on GIFENCOD by David Rowley
<mgardi@watdcsu.waterloo.edu>. Lempel-Ziv compression based on "compress".

Copyright (C) 1989 by Jef Poskanzer.

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1.151 ppmtocr

ppmtocr(1)

AMIGA (30 July 1990)

ppmtocr(1)

NAME

ppmtocr - convert a portable pixmap into NCSA ICR format

SYNOPSIS

```
ppmtoicr [-windowname name] [-expand expand] [-display
display] [-rle] [ppmfile]
```

DESCRIPTION

Reads a portable pixmap file as input. Produces an NCSA Telnet Interactive Color Raster graphic file as output. If ppmfile is not supplied, ppmtoicr will read from standard input.

Interactive Color Raster (ICR) is a protocol for displaying raster graphics on workstation screens. The protocol is implemented in NCSA Telnet for the Macintosh version 2.3. The ICR protocol shares characteristics of the Tektronix graphics terminal emulation protocol. For example, escape sequences are used to control the display.

ppmtoicr will output the appropriate sequences to create a window of the dimensions of the input pixmap, create a colormap of up to 256 colors on the display, then load the picture data into the window.

Note that there is no icrtoppm tool - this transformation is one way.

OPTIONS

- windowname name
Output will be displayed in name (Default is to use ppmfile or "untitled" if standard input is read.)
- expand expand
Output will be expanded on display by factor expand (For example, a value of 2 will cause four pixels to be displayed for every input pixel.)
- display display
Output will be displayed on screen numbered display
- rle
Use run-length encoded format for display. (This will nearly always result in a quicker display, but may skew the colormap.)

EXAMPLES

To display a ppm file using the protocol:

```
ppmtoicr ppmfile
```

This will create a window named ppmfile on the display with the correct dimensions for ppmfile, create and download a

ppmtoicr(1)

AMIGA (30 July 1990)

ppmtoicr(1)

colormap of up to 256 colors, and download the picture into the window. The same effect may be achieved by the following sequence:

```
ppmtoicr ppmfile > filename
cat filename
```

To display a GIF file using the protocol in a window titled after the input file, zoom the displayed image by a factor of 2, and run-length encode the data:

```
giftopnm giffile | ppmtoicr -w giffile -r -e 2
```

BUGS

The protocol uses frequent fflush calls to speed up display. If the output is saved to a file for later display via cat, drawing will be much slower. In either case, increasing the Blocksize limit on the display will speed up transmission substantially.

SEE ALSO

ppm(5)

NCSA Telnet for the Macintosh, University of Illinois at Urbana-Champaign (1989)

AUTHOR

Copyright (C) 1990 by Kanthan Pillay
(svpillay@Princeton.EDU), Princeton University Computing and Information Technology.

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1.152 ppmtolbm

ppmtolbm(1)

AMIGA (31 October 1993)

ppmtolbm(1)

NAME

ppmtolbm - convert a portable pixmap into an ILBM file

SYNOPSIS

```
ppmtolbm [-maxplanes|-mp N] [-fixplanes|-fp N] [-ham6|-ham8]
[-dcbits|-dcplanesrg [-normal|-hamif|-hamforce -dcif|-dcforce|-cmaponly]
[-ecs|-aga] [-compress|-nocompress] [-cmethd type] [-mapppmfile] [-savemem] [ppmfile]
```

DESCRIPTION

Reads a portable pixmap as input. Produces an ILBM file as output. Supported ILBM types are:

Normal ILBMs with 1-16 planes.

Amiga HAM with 3-16 planes.

24 bit.

Color map (BMHD + CMAP chunk only, nPlanes = 0).

Unofficial direct color.

1-16 planes for each color component.

Chunks written:

BMHD, CMAP, CAMG (only for HAM), BODY (not for colormap files) unofficial DCOL chunk for direct color ILBM

OPTIONS

Options marked with (*) can be prefixed with a "no", e.g. "-nohamif". All options can be abbreviated to their shortest unique prefix.

-maxplanes | -mp n

(default 5, minimum 1, maximum 16) Maximum planes to write in a normal ILBM. If the pixmap does not fit into <n> planes, ppmtolbm writes a HAM file (if -hamif is used), a 24bit file (if -24if is used) or a direct color file (if -dcif is used) or aborts with an error.

-fixplanes | -fp n
(min 1, max 16) If a normal ILBM is written, it will have exactly <n> planes.

-hambits | -hamplanes n
(default 6, min 3, max 16) Select number of planes for HAM picture. The current Amiga hardware supports 6 and 8 planes, so for now you should only use this values.

-normal (default)
Turns off -hamif/-24if/-dcif, -hamforce/-24force/-dcforce and -cmaponly. Also sets compression type to

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ppmtoilbm(1)

AMIGA (31 October 1993)

ppmtoilbm(1)

byterunl.

-hamif (*)

-24if (*)

-dcif (*)
Write a HAM/24bit/direct color file if the pixmap does not fit into <maxplanes> planes.

-hamforce (*)

-24force (*)

-dcforce (*)
Write a HAM/24bit/direct color file.

-dcbits | -dcplanes r g b
(default 5, min 1, max 16). Select number of bits for red, green & blue in a direct color ILBM.

-ecs (default)
Shortcut for: -hamplanes 6 -maxplanes 5

-aga
Shortcut for: -hamplanes 8 -maxplanes 8

-ham6
Shortcut for: -hamplanes 6 -hamforce

-ham8
Shortcut for: -hamplanes 8 -hamforce

-compress (*) (default)

-cmethod none|byterun1
Compress the BODY chunk. The default compression method is byterun1. Compression requires building the ILBM image in memory; turning compression off allows stream-writing of the image, but the resulting file will usually be 30% to 50% larger. Another alternative is the -savemem option, this will keep memory requirements for compression at a minimum, but is very slow.

-map ppmfile
Write a normal ILBM using the colors in <ppmfile> as the colormap. The colormap file also determines the number of planes, a -maxplanes or -fixplanes option is ignored.

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ppmtoilbm(1)

AMIGA (31 October 1993)

ppmtoilbm(1)

-cmaponly
Write a colormap file: only BMHD and CMAP chunks, no BODY chunk, nPlanes = 0.

-savemem
See the -compress option.

BUGS

HAM pictures will always get a grayscale colormap; a real color selection algorithm might give better results. On the other hand, this allows row-by-row operation on HAM images, and all HAM images of the same depth (no. of planes) share a common colormap, which is useful for building HAM animations.

REFERENCES

Amiga ROM Kernel Reference Manual - Devices (3rd Ed.)
Addison Wesley, ISBN 0-201-56775-X

SEE ALSO

ppm(5), ilbmto ppm(1)

AUTHORS

Copyright (C) 1989 by Jef Poskanzer.
Modified October 1993 by Ingo Wilken
(Ingo.Wilken@informatik.uni-oldenburg.de)

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1.153 ppmtomap

ppmtomap(1)

AMIGA (11 August 1993)

ppmtomap(1)

NAME

ppmtomap - extract all colors from a portable pixmap

SYNOPSIS

ppmtomap [-sort] [-square] [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Produces a portable pixmap as output, representing a color map of the input file. All N different colors found are put in an Nx1 portable pixmap. This color map file can be used as a mapfile for ppmquant or ppmtogif.

OPTIONS

-sort

Produces a portable pixmap with the colors in some sorted order.

-square

Produces a (more or less) square output file, instead of putting all colors on the top row.

All flags can be abbreviated to their shortest unique prefix.

WARNING

If you want to use the output file as a mapfile for ppmtogif, you first have to do a ppmquant 256, since ppmtomap is not limited to 256 colors (but to 65536).

SEE ALSO

ppmtogif(1), ppmquant(1), ppm(5)

AUTHOR

Marcel Wijkstra (wijkstra@fwi.uva.nl).

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1.154 ppmtomitsu

ppmtomitsu(1)

AMIGA (29 Jan 1992)

ppmtomitsu(1)

NAME

ppmtomitsu - convert a portable pixmap to a Mitsubishi

S340-10 file

SYNOPSIS

```
ppmtomitsu [-sharpness val] [-enlarge val] [-media string]
            [-copy val] [-dpi300] [-tiny] [ppmfile]
```

DESCRIPTION

Reads a portable pixmap as input and converts it into a format suitable to be printed by a Mitsubishi S340-10 printer, or any other Mitsubishi color sublimation printer.

The Mitsubishi S340-10 Color Sublimation printer supports 24bit color. Images of the available sizes take so long to transfer that there is a fast method, employing a lookuptable, that ppmtomitsu will use if there is a maximum of 256 colors in the pixmap. ppmtomitsu will try to position your image to the center of the paper, and will rotate your image for you if xsize is larger than ysize. If your image is larger than the media allows, ppmtomitsu will quit with an error message. (We decided that the media were too expensive to have careless users produce misprints.) Once data transmission has started, the job can't be stopped in a sane way without resetting the printer. The printer understands putting together images in the printers memory; ppmtomitsu doesn't utilize this as pnmcat etc provide the same functionality and let you view the result on-screen, too. The S340-10 is the lowest common denominator printer; for higher resolution printers there's the dpi300 option. The other printers also support higher values for enlarge eg, but I don't think that's essential enough to warrant a change in the program.

-sharpness 1-4

'sharpness' designation. Default is to use the current sharpness.

-enlarge 1-3

Enlarge by a factor; Default is 1 (no enlarge)

-media A, A4, AS, A4S

Designate the media you're using. Default is 1184 x 1350, which will fit on any media. A is 1216 x 1350, A4 is 1184 x 1452, AS is 1216 x 1650 and A4S is 1184 x 1754. A warning: If you specify a different media than the printer currently has, the printer will wait until you put in the correct media or switch it off.

-copy 1-9

The number of copies to produce. Default is 1.

ppmtomitsu(1)

AMIGA (29 Jan 1992)

ppmtomitsu(1)

-dpi300

Double the number of allowed pixels for a S3600-30 Printer in S340-10 compatibility mode. (The S3600-30 has 300 dpi).

-tiny

Memory-safing, but always slow. The printer will get the data line-by-line in 24bit. It's probably a good idea to use this if your machine starts paging a lot without this option.

REFERENCES

Mitsubishi Sublimation Full Color Printer S340-10
Specifications of Parallel Interface LSP-F0232F

SEE ALSO

ppmquant(1), pnmscale(1), ppm(5)

BUGS

We didn't find any - yet. (Besides, they're called features anyway :-) If you should find one, my email-adress is below.

AUTHOR

Copyright (C) 1992, 93 by S.Petra Zeidler, MPIfR Bonn,
Germany. (spz@specklec.mpifr-bonn.mpg.de)

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1.155 ppmtopcx

ppmtopcx(1)

AMIGA (09 April 1990)

ppmtopcx(1)

NAME

ppmtopcx - convert a portable pixmap into a PCX file

SYNOPSIS

ppmtopcx [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Produces a PCX file as output.

SEE ALSO

pcxtoppm(1), ppm(5)

AUTHOR

Copyright (C) 1990 by Michael Davidson.

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(printed 3/1/94)

1.156 ppmtopgm

ppmtopgm(1)

AMIGA (23 December 1988)

ppmtopgm(1)

NAME

ppmtopgm - convert a portable pixmap into a portable graymap

SYNOPSIS

ppmtopgm [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Produces a portable graymap as output. The quantization formula used is $.299 r + .587 g + .114 b$.

Note that although there is a pgmtoppm program, it is not necessary for simple conversions from pgm to ppm, because any ppm program can read pgm (and pbm) files automagically. pgmtoppm is for colorizing a pgm file. Also, see ppmtorgb3 for a different way of converting color to gray.

QUOTE

Cold-hearted orb that rules the night
Removes the colors from our sight
Red is gray, and yellow white
But we decide which is right
And which is a quantization error.

SEE ALSO

pgmtoppm(1), ppmtorgb3(1), rgb3toppm(1), ppm(5), pgm(5)

AUTHOR

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(printed 3/1/94)

1.157 ppmtopi1

ppmtopi1(1)

AMIGA (19 July 1990)

ppmtopi1(1)

NAME

ppmtopi1 - convert a portable pixmap into an Atari Degas
.pil file

SYNOPSIS

ppmtopi1 [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Produces an Atari Degas
.pil file as output.

SEE ALSO

piltoppm(1), ppm(5), pbmtopi3(1), pi3topbm(1)

AUTHOR

Copyright (C) 1991 by Steve Belczyk (seb3@gte.com) and Jef
Poskanzer.

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1.158 ppmtopict

ppmtopict(1)

AMIGA (15 April 1990)

ppmtopict(1)

NAME

ppmtopict - convert a portable pixmap into a Macintosh PICT file

SYNOPSIS

ppmtopict [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Produces a Macintosh PICT file as output.

The generated file is only the data fork of a picture. You will need a program such as mcvert to generate a Macbinary or a BinHex file that contains the necessary information to identify the file as a PICT file to MacOS.

Even though PICT supports 2 and 4 bits per pixel, ppmtopict always generates an 8 bits per pixel file.

BUGS

The picture size field is only correct if the output is to a file since writing into this field requires seeking backwards on a file. However the PICT documentation seems to suggest that this field is not critical anyway since it is only the lower 16 bits of the picture size.

SEE ALSO

picttoppm(1), ppm(5), mcvert(1)

AUTHOR

Copyright (C) 1990 by Ken Yap <ken@cs.rochester.edu>.

1.159 ppmtopj

ppmtopj(1)

AMIGA (13 July 1991)

ppmtopj(1)

NAME

ppmtopj - convert a portable pixmap to an HP PaintJet file

SYNOPSIS

```
ppmtopj [-gamma val] [-xpos val] [-ypos val] [-back
dark|lite] [-rle] [-center] [-render
none|snap|bw|dither|diffuse|monodither|monodiffuse|clusterdither| ←
monoclusterdither]
[ppmfile]
```

DESCRIPTION

Reads a portable pixmap as input and converts it into a format suitable to be printed by an HP PaintJet printer.

For best results, the input file should be in 8-color RGB form; i.e. it should have only the 8 binary combinations of full-on and full-off primaries. You could get this by sending the input file through ppmquant -map with a map file such as:

```
P3
8 1
255
0 0 0      255 0 0      0 255 0      0 0 255
255 255 0  255 0 255  0 255 255  255 255 255
```

Or else you could use use ppmdither -red 2 -green 2 -blue

OPTIONS

-rle	Run length encode the image. (This can result in larger images)
-back	Enhance the foreground by indicating if the background is light or dark compared to the foreground.
-render alg	Use an internal rendering algorithm (default dither).
-gamma int	Gamma correct the image using the integer parameter as a gamma (default 0).
-center	Center the image to an 8.5 by 11 page
-xpos pos	Move by pos pixels in the x direction.
-ypos pos	Move by pos pixels in the y direction.

REFERENCES

HP PaintJet XL Color Graphics Printer User's Guide

SEE ALSO

pnmdepth(1), ppmquant(1), ppmdither(1), ppm(5)

BUGS

ppmtopj(1)

AMIGA (13 July 1991)

ppmtopj(1)

Most of the options have not been tested because of the
price of the paper.

AUTHOR

Copyright (C) 1991 by Christos Zoulas.

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(printed 3/1/94)

1.160 ppmtopjxl

PPMTOPJXL(1)

AMIGA (14 March 1991)

PPMTOPJXL(1)

NAME

ppmtopjxl - convert a portable pixmap into an HP PaintJet XL PCL file

SYNOPSIS

```
ppmtopjxl [-nopack] [-gamma <n> ] [-presentation] [-dark]
[-diffuse] [-cluster] [-dither] [-xshift <s> ] [-yshift <s>
] [-xshift <s> ] [-yshift <s> ] [-xsize|-width|-xscale <s> ]
[-ysize|-height|-yscale <s> ] [ppmfile]
```

DESCRIPTION

Reads a portable pixmap as input. Produces a PCL file suitable for printing on an HP PaintJet XL printer as output.

The generated file is not suitable for printing on a normal PrintJet printer. The -nopack option generates a file which does not use the normal TIFF 4.0 compression method. This file might be printable on a normal PaintJet printer (not an XL).

The -gamma option sets the gamma correction for the image. The useful range for the PaintJet XL is approximately 0.6 to 1.5.

The rendering algorithm used for images can be altered with the -dither, -cluster, and -diffuse options. These options select ordered dithering, clustered ordered dithering, or error diffusion respectively. The -dark option can be used to enhance images with a dark background when they are reduced in size. The -presentation option turns on presentation mode, in which two passes are made over the paper to increase ink density. This should be used only for images where quality is critical.

The image can be resized by setting the `-xsize` and `-ysize` options. The parameter to either of these options is interpreted as the number of dots to set the width or height to, but an optional dimension of `'pt'` (points), `'dp'` (decipoints), `'in'` (inches), or `'cm'` (centimetres) may be appended. If only one dimension is specified, the other will be scaled appropriately.

The options `-width` and `-height` are synonyms of `-xsize` and `-ysize`.

The `-xscale` and `-yscale` options can alternatively be used to scale the image by a simple factor.

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PPMTOPJXL(1)

AMIGA (14 March 1991)

PPMTOPJXL(1)

The image can be shifted on the page by using the `-xshift` and `-yshift` options. These move the image the specified dimensions right and down.

SEE ALSO
ppm(5)

AUTHOR
Angus Duggan

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(printed 3/1/94)

1.161 ppmtopuzz

ppmtopuzz(1)

AMIGA (22 August 1990)

ppmtopuzz(1)

NAME

ppmtopuzz - convert a portable pixmap into an X11 "puzzle" file

SYNOPSIS

ppmtopuzz [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Produces an X11 "puzzle" file as output. A "puzzle" file is for use with the puzzle program included with the X11 distribution - puzzle's - picture flag lets you specify an image file.

SEE ALSO

ppm(5), puzzle(1)

AUTHOR

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(printed 3/1/94)

1.162 ppmtorgb3

ppmtorgb3(1)

AMIGA (10 January 1991)

ppmtorgb3(1)

NAME

ppmtorgb3 - separate a portable pixmap into three portable
graymaps

SYNOPSIS

ppmtorgb3 [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Writes three portable graymaps as output, one each for red, green, and blue.

The output filenames are constructed by taking the input filename, stripping off any extension, and appending ".red", ".grn", and ".blu". For example, separating lenna.ppm would result in lenna.red, lenna.grn, and lenna.blu. If the input comes from stdin, the names are noname.red, noname.grn, and noname.blu.

SEE ALSO

rgb3toppm(1), ppmtopgm(1), pgmtoppm(1), ppm(5), pgm(5)

AUTHOR

Copyright (C) 1991 by Jef Poskanzer.

1.163 ppmtosixel

ppmtosixel(1)

AMIGA (26 April 1991)

ppmtosixel(1)

NAME

ppmtosixel - convert a portable pixmap into DEC sixel format

SYNOPSIS

ppmtosixel [-raw] [-margin] [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Produces sixel commands (SIX) as output. The output is formatted for color printing, e.g. for a DEC LJ250 color inkjet printer.

If RGB values from the PPM file do not have maxval=100, the RGB values are rescaled. A printer control header and a color assignment table begin the SIX file. Image data is written in a compressed format by default. A printer control footer ends the image file.

OPTIONS

-raw If specified, each pixel will be explicitly described in the image file. If -raw is not specified, output will default to compressed format in which identical adjacent pixels are replaced by "repeat pixel" commands. A raw file is often an order of magnitude larger than a compressed file and prints much slower.

-margin

If -margin is not specified, the image will be start at the left margin (of the window, paper, or whatever). If -margin is specified, a 1.5 inch left margin will offset the image.

PRINTING

Generally, sixel files must reach the printer unfiltered. Use the `lpr -x` option or `cat filename > /dev/tty0?`.

BUGS

Upon rescaling, truncation of the least significant bits of RGB values may result in poor color conversion. If the original PPM maxval was greater than 100, rescaling also reduces the image depth. While the actual RGB values from the ppm file are more or less retained, the color palette of the LJ250 may not match the colors on your screen. This seems to be a printer limitation.

SEE ALSO

ppm(5)

AUTHOR

Copyright (C) 1991 by Rick Vinci.

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(printed 3/1/94)

1.164 ppmtotga

ppmtotga(1)

AMIGA (28 October 1991)

ppmtotga(1)

NAME

ppmtotga - convert portable pixmap into a TrueVision Targa file

SYNOPSIS

ppmtotga [-mono|-cmap|-rgb] [-norle] [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Produces a TrueVision Targa file as output.

OPTIONS

-mono

Forces Targa file to be of type 8 bit monochrome.
Input must be a portable bitmap or a portable graymap.

-cmap

Forces Targa file to be of type 24 bit colormapped.
Input must be a portable bitmap, a portable graymap or a portable pixmap containing no more than 256 distinct colors.

-rgb Forces Targa file to be of type 24 bit unmapped color.

-norle

Disables run-length encoding, in case you have a Targa reader which can't read run-length encoded files.

All flags can be abbreviated to their shortest unique prefix. If no file type is specified the most highly constrained compatible type is used, where monochrome is more constrained than colormapped which is in turn more constrained than unmapped.

BUGS

Does not support all possible Targa file types. Should really be in PNM, not PPM.

SEE ALSO

tgatoppm(1), ppm(5)

AUTHOR

Copyright (C) 1989, 1991 by Mark Shand and Jef Poskanzer.

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(printed 3/1/94)

1.165 ppmtouil

ppmtouil(1)

AMIGA (31 August 1990)

ppmtouil(1)

NAME

ppmtouil - convert a portable pixmap into a Motif UIL icon file

SYNOPSIS

ppmtouil [-name uilname] [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Produces a Motif UIL icon file as output.

If the program was compiled with an rgb database specified, and a RGB value from the ppm input matches a RGB value from the database, then the corresponding color name mnemonic is printed in the UIL's colormap. If no rgb database was compiled in, or if the RGB values don't match, then the color will be printed with the #RGB, #RRGGBB, #RRRGGBBB, or #RRRRGGGGBBBB hexadecimal format.

OPTIONS

-name

Allows you to specify the prefix string which is printed in the resulting UIL output. If not specified, will default to the filename (without extension) of the ppmfile argument. If -name is not specified and no ppmfile is specified (i.e. piped input), the prefix string will default to the string "noname".

All flags can be abbreviated to their shortest unique prefix.

SEE ALSO

ppm(5)

AUTHOR

Converted by Jef Poskanzer from ppmtoxpm.c, which is
Copyright (C) 1990 by Mark W. Snitily

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(printed 3/1/94)

1.166 ppmtoxpm

ppmtoxpm(1)

AMIGA (Tue Apr 9 1991)

ppmtoxpm(1)

NAME

ppmtoxpm - convert a portable pixmap into an X11 pixmap

SYNOPSIS

ppmtoxpm [-name <xpmname>] [-rgb <rgb-textfile>] [<ppmfile>]

DESCRIPTION

Reads a portable pixmap as input. Produces X11 pixmap (version 3) as output which can be loaded directly by the XPM library.

The -name option allows one to specify the prefix string which is printed in the resulting XPM output. If not specified, will default to the filename (without extension) of the <ppmfile> argument. If -name is not specified and <ppmfile> is not specified (i.e. piped input), the prefix string will default to the string "noname".

The -rgb option allows one to specify an X11 rgb text file for the lookup of color name mnemonics. This rgb text file is typically the /usr/lib/X11/rgb.txt of the MIT X11 distribution, but any file using the same format may be used. When specified and a RGB value from the ppm input matches a RGB value from the <rgb-textfile>, then the corresponding color name mnemonic is printed in the XPM's

colormap. If -rgb is not specified, or if the RGB values don't match, then the color will be printed with the #RGB, #RRGGBB, #RRRGGBBB, or #RRRRGGGGBBBB hexadecimal format.

All flags can be abbreviated to their shortest unique prefix.

For example, to convert the file "dot" (found in /usr/include/X11/bitmaps), from xbm to xpm one could specify

```
xbmtopbm dot | ppmtoxpm -name dot
```

or, with a rgb text file (in the local directory)

```
xbmtopbm dot | ppmtoxpm -name dot -rgb rgb.txt
```

BUGS

An option to match the closest (rather than exact) color name mnemonic from the rgb text would be a desirable enhancement.

Truncation of the least significant bits of a RGB value may result in nonexact matches when performing color name mnemonic lookups.

SEE ALSO

ppm(5)

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ppmtoxpm(1)

AMIGA (Tue Apr 9 1991)

ppmtoxpm(1)

XPM Manual by Arnaud Le Hors lehors@mirsa.inria.fr

AUTHOR

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This tool was developed for Schlumberger Technologies, ATE Division, and with their permission is being made available to the public with the above copyright notice and permission

notice.

Upgraded to XPM2 by

Paul Breslaw, Megasoft SA, Zurich, Switzerland
(paul@mecazh.uu.ch)

Thu Nov 8 16:01:17 1990

Upgraded to XPM version 3 by

Arnaud Le Hors (lehors@mirsa.inria.fr)

Tue Apr 9 1991

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(printed 3/1/94)

1.167 ppmtoyuv

ppmtoyuv(1)

AMIGA (25 March 91)

ppmtoyuv(1)

NAME

ppmtoyuv - convert a portable pixmap into an Abekas YUV file

SYNOPSIS

ppmtoyuv [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Produces an Abekas YUV file as output.

SEE ALSO

yuvtoppm(1), ppm(5)

AUTHOR

Marc Boucher <marc@PostImage.COM>, based on Example Conversion Program, A60/A64 Digital Video Interface Manual, page 69.

Copyright (C) 1991 by DHD PostImage Inc.

Copyright (C) 1987 by Abekas Video Systems Inc.

ppmtoyuvsplit(1) AMIGA (9 September 1993) ppmtoyuvsplit(1)

NAME

ppmtoyuvsplit - convert a portable pixmap into 3 subsampled raw YUV files

SYNOPSIS

ppmtoyuvsplit basename [ppmfile]

DESCRIPTION

Reads a portable pixmap as input. Produces 3 raw files `basename.Y`, `basename.U` and `basename.V` as output. These files are the subsampled raw YUV representation of the input pixmap, as required by the Stanford MPEG codec. The subsampling is done by arithmetic mean of 4 pixels colors into one. The YUV values are scaled according to CCIR.601, as assumed by MPEG.

SEE ALSO

`mpeg(1)`, `ppm(5)`

AUTHOR

Copyright (C) 1993 by Andre Beck. (`Andre_Beck@IRS.Inf.TU-Dresden.de`)

Based on `ppmtoyuv.c`

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(printed 3/1/94)

1.169 psidtopgm

psidtopgm(1)

AMIGA (02 August 89)

psidtopgm(1)

NAME

psidtopgm - convert PostScript "image" data into a portable graymap

SYNOPSIS

psidtopgm width height bits/sample [imagedata]

DESCRIPTION

Reads the "image" data from a PostScript file as input.
Produces a portable graymap as output.

This is a very simple and limited program, and is here only because so many people have asked for it. To use it you have to manually extract the readhexstring data portion from your PostScript file, and then give the width, height, and bits/sample on the command line. Before you attempt this, you should at least read the description of the "image" operator in the PostScript Language Reference Manual.

It would probably not be too hard to write a script that uses this filter to read a specific variety of PostScript image, but the variation is too great to make a general-purpose reader. Unless, of course, you want to write a full-fledged PostScript interpreter...

SEE ALSO

pnmtops(1), pgm(5)

AUTHOR

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1.170 pstopnm

pstopnm(1)

AMIGA (28 December 92)

pstopnm(1)

NAME

pstopnm - convert a PostScript file into a portable anymap

SYNOPSIS

```
pstopnm [-forceplain] [-help] [-llx s] [-lly s] [-landscape]
[-portrait] [-nocrop] [-pbm | -pgm | -ppm] [-urx s] [-ury s]
[-verbose] [-xborder n] [-xmax n] [-xsize f] [-yborder f]
[-ymax n] [-ysize n] psfile[.ps]
```

DESCRIPTION

Reads a PostScript file as input. Produces portable anymap files as output. This program is just a useful shell script that runs GhostScript to render a PostScript into one or more pnm files. Pstopnm will create as many files as the number of pages in the Postscript document. If the input file is named psfile.ps, the name of the files will be psfile001.ppm, psfile002.ppm, etc.

The program maps a rectangular portion of the PostScript document into an image file according to the command line options. The selected area will always be centered in the output file, and may have borders around it. The image area to be extracted from the PostScript file and rendered into a portable anymap is defined by four numbers, the lower left corner and the upper right corner x and y coordinates. These coordinates are usually specified by the BoundingBox comment in the PostScript file header, but they can be overridden by the user by specifying one or more of the following flags: -llx, -lly, -urx, and -ury. The presence and thickness of a border to be left around the image area is controlled by the use of the flags -xborder and -yborder. If BoundingBox parameters are not found, and image area

coordinates are not specified on the command line, default values are used. Unless both output file width and height are specified via the `-xsize` and `-ysize` flags, the program will map the document into the output image by preserving its aspect ratio.

OPTIONS

- `-forceplain`
forces the output file to be a plain (i.e. not "raw") portable anymap.
- `-help`
prints the command syntax.
- `-llx bx`
selects bx as the lower left corner x coordinate (in inches).
- `-lly by`
selects by as the lower left corner y coordinate (in

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pstopnm(1)

AMIGA (28 December 92)

pstopnm(1)

inches).

- `-landscape`
renders the image in landscape mode.
 - `-portrait`
renders the image in portrait mode.
 - `-nocrop`
does not crop the output image dimensions to match the PostScript image area dimensions.
 - `-pbm -pgm -ppm`
selects the format of the output file. By default, all files are rendered as portable pixmaps (ppm format).
 - `-urx tx`
selects tx as the upper right corner x coordinate (in inches).
 - `-ury ty`
selects ty as the upper right corner y coordinate (in inches).
-

-verbose
prints processing information to stdout.

-xborder frac
specifies that the border width along the Y axis should be frac times the document width as specified by the bounding box comment in the PostScript file header. The default value is 0.1.

-xmax xs
specifies that the maximum output image width should have a size less or equal to xs pixels (default: 612).

-xsize xs
specifies that the output image width must be exactly xs pixels.

-yborder frac
specifies that the border width along the X axis should be frac times the document width as specified by the bounding box comment in the PostScript file header. The default value is 0.1.

-ymax ys
specifies that the maximum output image height should have a size less or equal to ys pixels (default: 792).

-ysize ys

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pstopnm(1)

AMIGA (28 December 92)

pstopnm(1)

specifies that the output image height must be exactly ys pixels.

BUGS

The program will produce incorrect results with PostScript files that initialize the current transformation matrix. In these cases, page translation and rotation will not have any effect. To render these files, probably the best bet is to use the following flags:

```
pstopnm -xborder 0 -yborder 0 -portrait -nocrop file.ps
```

Additional flags may be needed if the document is supposed to be rendered on a medium different from letter-size paper.

SEE ALSO

gs(1), pstofits(1)

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AUTHOR

Alberto Accomazzi, WIPL, Center for Astrophysics.

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(printed 3/1/94)

1.171 qrttoppm

qrttoppm(1)

AMIGA (25 August 1989)

qrttoppm(1)

NAME

qrttoppm - convert output from the QRT ray tracer into a
portable pixmap

SYNOPSIS

grttoppm [qrtfile]

DESCRIPTION

Reads a QRT file as input. Produces a portable pixmap as output.

SEE ALSO

ppm(5)

AUTHOR

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1.172 rasttopnm

rasttopnm(1) AMIGA (13 January 1991) rasttopnm(1)

NAME

rasttopnm - convert a Sun rasterfile into a portable anymap

SYNOPSIS

rasttopnm [rastfile]

DESCRIPTION

Reads a Sun rasterfile as input. Produces a portable anymap as output. The type of the output file depends on the input file - if it's black & white, a pbm file is written, else if it's grayscale a pgm file, else a ppm file. The program tells you which type it is writing.

SEE ALSO

pnmtorast(1), pnm(5)

AUTHOR

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1.173 rawtopgm

rawtopgm(1)

AMIGA (15 June 1993)

rawtopgm(1)

NAME

rawtopgm - convert raw grayscale bytes into a portable graymap

SYNOPSIS

rawtopgm [-headerskip N] [-rowskip N] [-tb|-topbottom]
[width height] [imagedata]

DESCRIPTION

Reads raw grayscale bytes as input. Produces a portable graymap as output. The input file is just grayscale bytes. If you don't specify the width and height on the command line, the program will check the size of the image and try to make a quadratic image of it. It is an error to supply a non quadratic image without specifying width and height. The maxval is assumed to be 255.

OPTIONS

-headerskip

If the file has a header, you can use this flag to skip over it.

-rowskip

If there is padding at the ends of the rows, you can skip it with this flag. Note that rowskip can be a real number. Amazingly, I once had an image with 0.376 bytes of padding per row. This turned out to be due to a file-transfer problem, but I was still able to read the image.

-tb -topbottom

Flips the image upside down. The first pixel in a pgm file is in the lower left corner of the image. For conversion from images with the first pixel in the upper left corner (e.g. the Molecular Dynamics and Leica confocal formats) this flips the image right. This is equivalent to rawtopgm [file] | pnmflip -tb .

BUGS

If you don't specify the image width and height, the program

will try to read the entire image to a memory buffer. If you get a message that states that you are out of memory, try to specify the width and height on the command line. Also, the -tb option consumes much memory.

SEE ALSO

pgm(5), rawtoppm(1), pnmflip(1)

AUTHORS

Copyright (C) 1989 by Jef Poskanzer.

Modified June 1993 by Oliver Trepte, oliver@fysik4.kth.se

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1.174 rawtoppm

rawtoppm(1)

AMIGA (06 February 1991)

rawtoppm(1)

NAME

rawtoppm - convert raw RGB bytes into a portable pixmap

SYNOPSIS

rawtoppm [-headerskip N] [-rowskip N] [-rgb|-rbg|-grb |
-gbr|-brg|-bgr] [-interpixel|-interrow] width height
[imagedata]

DESCRIPTION

Reads raw RGB bytes as input. Produces a portable pixmap as output. The input file is just RGB bytes. You have to specify the width and height on the command line, since the program obviously can't get them from the file. The maxval is assumed to be 255. If the resulting image is upside down, run it through pnmflip -tb .

OPTIONS

-headerskip

If the file has a header, you can use this flag to skip over it.

-rowskip

If there is padding at the ends of the rows, you can skip it with this flag.

-rgb -rbg -grb -gbr -brg -bgr

These flags let you specify alternate color orders. The default is -rgb.

-interpixel -interrow

These flags let you specify how the colors are interleaved. The default is `-interpixel`, meaning interleaved by pixel. A byte of red, a byte of green, and a byte of blue, or whatever color order you specified. `-interrow` means interleaved by row - a row of red, a row of green, a row of blue, assuming standard rgb color order. An `-interplane` flag - all the red pixels, then all the green, then all the blue - would be an obvious extension, but is not implemented. You could get the same effect by splitting the file into three parts (perhaps using `dd`), turning each part into a PGM file with `rawtopgm`, and then combining them with `rgb3toppm`.

SEE ALSO

`ppm(5)`, `rawtopgm(1)`, `rgb3toppm(1)`, `pnmflip(1)`

AUTHOR

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1.175 `rgb3toppm`

`rgb3toppm(1)`

AMIGA (15 February 1990)

`rgb3toppm(1)`

NAME

`rgb3toppm` - combine three portable graymaps into one portable pixmap

SYNOPSIS

`rgb3toppm redpgmfile greenpgmfile bluepgmfile`

DESCRIPTION

Reads three portable graymaps as input. Combines them and produces one portable pixmap as output.

SEE ALSO

`ppmtorgb3(1)`, `pgmtoppm(1)`, `ppmtopgm(1)`, `ppm(5)`, `pgm(5)`

AUTHOR

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1.176 sgitopnm

sgitopnm(1)

AMIGA (29 Januar 1994)

sgitopnm(1)

NAME

sgitopnm - convert a SGI image file to a portable anymap

SYNOPSIS

sgitopnm [-verbose] [SGIfile]

DESCRIPTION

Reads an SGI image file as input. Produces a PGM image for a 2-dimensional (1 channel) input file, and a PPM image for a 3-dimensional (3 or more channels) input file.

OPTIONS

-verbose

Give some information about the SGI image file.

BUGS

Probably.

REFERENCES

SGI Image File Format documentation (draft v0.95) by Paul
Haeberli (paul@sgi.com). Available via ftp at
sgi.com:graphics/SGIIMAGESPEC.

SEE ALSO

pnm(5), pnmtosgi(1)

AUTHOR

Copyright (C) 1994 by Ingo Wilken
(Ingo.Wilken@informatik.uni-oldenburg.de)

1.177 sirtopnm

sirtopnm(1)

AMIGA (20 March 1991)

sirtopnm(1)

NAME

sirtopnm - convert a Solitaire file into a portable anymap

SYNOPSIS

sirtopnm [sirfile]

DESCRIPTION

Reads a Solitaire Image Recorder file as input. Produces a portable anymap as output. The type of the output file depends on the input file - if it's an MGI TYPE 17 file, a pgm file is written. If it's an MGI TYPE 11 file, a ppm file is written. The program tells you which type it is writing.

BUGS

SEE ALSO

pnmtosir(1), pnm(5)

AUTHOR

Copyright (C) 1991 by Marvin Landis.

1.178 sldtoppm

sldtoppm(1)

AMIGA (10 October 1991)

sldtoppm(1)

NAME

sldtoppm - convert an AutoCAD slide file into a portable pixmap

SYNOPSIS

```
sldtoppm [-adjust] [-dir] [-height|-ysize s] [-info] [-lib|-Lib name] [-scale s] [-verbose] [-width|-xsize s] [slidefile]
```

DESCRIPTION

Reads an AutoCAD(Reg.) slide file and outputs a portable pixmap. If no slidefile is specified, input is read from standard input. The ppmdraw library is used to convert the vector and polygon information in the slide file to a pixmap; see the file ppmdraw.h for details on this package.

OPTIONS

-adjust

If the display on which the slide file was created had non-square pixels, when the slide is processed with sldtoppm and the -adjust option is not present, the following warning will appear:

Warning - pixels on source screen were non-square.

Specifying -adjust will correct image width to compensate.

Specifying the -adjust option causes sldtoppm to scale the width of the image so that pixels in the resulting portable pixmap are square (and hence circles appear as true circles, not ellipses). The scaling is performed in the vector domain, before scan converting the objects. The results are, therefore, superior in appearance to what you'd obtain were you to perform the equivalent scaling with pnmscale after the bitmap had been created.

-dir The input is assumed to be an AutoCAD slide library file. A directory listing each slide in the library is printed on standard error.

-height size

Scales the image in the vector domain so it is size pixels in height. If no -width or -xsize option is specified, the width will be adjusted to preserve the pixel aspect ratio.

-info

Dump the slide file header on standard error,

displaying the original screen size and aspect ratio among other information.

-lib name

Extracts the slide with the given name from the slide

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sldtoppm(1)

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library given as input. The specified name is converted to upper case.

-Lib name

Extracts the slide with the given name from the slide library given as input. The name is used exactly as specified; it is not converted to upper case.

-scale s

Scales the image by factor s, which may be any floating point value greater than zero. Scaling is done after aspect ratio adjustment, if any. Since scaling is performed in the vector domain, before rasterisation, the results look much better than running the output of sldtoppm through pnmscale.

-verbose

Dumps the slide file header and lists every vector and polygon in the file on standard error.

-width size

Scales the image in the vector domain so it is size pixels wide. If no -height or -ysize option is specified, the height will be adjusted to preserve the pixel aspect ratio.

-xsize size

Scales the image in the vector domain so it is size pixels wide. If no -height or -ysize option is specified, the height will be adjusted to preserve the pixel aspect ratio.

-ysize size

Scales the image in the vector domain so it is size pixels in height. If no -width or -xsize option is specified, the width will be adjusted to preserve the pixel aspect ratio.

All flags can be abbreviated to their shortest unique prefix.

BUGS

Only Level 2 slides are converted. Level 1 format has been obsolete since the advent of AutoCAD Release 9 in 1987, and was not portable across machine architectures.

Slide library items with names containing 8 bit (such as ISO) or 16 bit (Kanji, for example) characters may not be found when chosen with the -lib option unless sldtoppm has been built with character set conversion functions appropriate to the locale. You can always retrieve slides from libraries regardless of the character set by using the

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AMIGA (10 October 1991)

sldtoppm(1)

-Lib option and specifying the precise name of library member. Use the -dir option to list the slides in a library if you're unsure of the exact name.

SEE ALSO

AutoCAD Reference Manual: Slide File Format, pnmscale(1), ppm(5)

AUTHOR

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1.179 spctoppm

spctoppm(1)

AMIGA (19 July 1990)

spctoppm(1)

NAME

spctoppm - convert an Atari compressed Spectrum file into a portable pixmap

SYNOPSIS

spctoppm [spcfile]

DESCRIPTION

Reads an Atari compressed Spectrum file as input. Produces a portable pixmap as output.

SEE ALSO

sputoppm(1), ppm(5)

AUTHOR

Copyright (C) 1991 by Steve Belczyk (seb3@gte.com) and Jef Poskanzer.

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1.180 spottopgm

spottopgm (1L)

AMIGA

spottopgm (1L)

NAME

spottopgm - convert SPOT satellite images to Portable
Greymap format

SYNTAX

spottopgm [-1|2|3] [Firstcol Firstline Lastcol Lastline]
inputfile

OPTIONS

-1|2|3 Extract the given colour from the SPOT image. The colours are infra-red, visible light and ultra-violet, although I don't know which corresponds to which number. If the image is in colour, this will be announced on standard error. The default colour is 1.

Firstcol Firstline Lastcol Lastline

Extract the specified rectangle from the SPOT image. Most SPOT images are 3000 lines long and 3000 or more columns wide. Unfortunately the SPOT format only gives the width and not the length. The width is printed on standard error. The default rectangle is the width of the input image by 3000 lines.

DESCRIPTION

Spottopgm converts the named inputfile into Portable Greymap format, defaulting to the first color and the whole SPOT image unless specified by the options.

INSTALLATION

You must edit the source program and either define BIG_ENDIAN or LITTLE_ENDIAN, and fix the typedefs for uint32_t, uint16_t and uint8_t appropriately.

BUGS

Currently spottopgm doesn't determine the length of the input file; this would involve two passes over the input file. It defaults to 3000 lines instead.

Spottopgm could extract a three-color image (ppm), but I didn't feel like making the program more complicated than it is now. Besides, there is no one-to-one correspondence between red, green, blue and infra-red, visible and ultra-violet.

I've only had a limited number of SPOT images to play with, and therefore wouldn't guarantee that this will work on any other images.

AUTHOR

Warren Toomey wkt@csadfa.cs.adfa.oz.au

SEE ALSO

The rest of the Pbmplus suite.

1.181 sputoppm

sputoppm(1)

AMIGA (19 July 1990)

sputoppm(1)

NAME

sputoppm - convert an Atari uncompressed Spectrum file into
a portable pixmap

SYNOPSIS

sputoppm [spufile]

DESCRIPTION

Reads an Atari uncompressed Spectrum file as input.
Produces a portable pixmap as output.

SEE ALSO

spctoppm(1), ppm(5)

AUTHOR

Copyright (C) 1991 by Steve Belczyk (seb3@gte.com) and Jef
Poskanzer.

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1.182 tgatoppm

tgatoppm(1)

AMIGA (26 August 1989)

tgatoppm(1)

NAME

tgatoppm - convert TrueVision Targa file into a portable
pixmap

SYNOPSIS

tgatoppm [-debug] [tgafilename]

DESCRIPTION

Reads a TrueVision Targa file as input. Produces a portable
pixmap as output.

OPTIONS

-debug

Causes the header information to be dumped to stderr.

All flags can be abbreviated to their shortest unique
prefix. Should really be in PNM, not PPM.

SEE ALSO

ppmtotga(1), ppm(5)

AUTHOR

Partially based on tga2rast, version 1.0, by Ian J.
MacPhedran.

Copyright (C) 1989 by Jef Poskanzer.

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1.183 tifftopnm

tifftopnm(1) AMIGA (13 January 1991) tifftopnm(1)

NAME

tifftopnm - convert a TIFF file into a portable anymap

SYNOPSIS

tifftopnm [-headerdump] tiff file

DESCRIPTION

Reads a TIFF file as input. Produces a portable anymap as output. The type of the output file depends on the input file - if it's black & white, a pbm file is written, else if it's grayscale a pgm file, else a ppm file. The program tells you which type it is writing.

OPTIONS

-headerdump

Dump TIFF file information to stderr. This information may be useful in debugging TIFF file conversion problems.

All flags can be abbreviated to their shortest unique prefix.

SEE ALSO

pnmtotiff(1), pnm(5)

BUGS

This program is not self-contained. To use it you must

fetch the TIFF Software package listed in the OTHER.SYSTEMS file and configure PBMPPLUS to use libtiff. See PBMPPLUS's Makefile for details on this configuration.

AUTHOR

Derived by Jef Poskanzer from tif2ras.c, which is Copyright (c) 1990 by Sun Microsystems, Inc. Author: Patrick J. Naughton (naughton@wind.sun.com).

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1.184 xbmtoxbm

xbmtoxbm(1)

AMIGA (31 August 1988)

xbmtoxbm(1)

NAME

xbmtoxbm - convert an X11 or X10 bitmap into a portable bitmap

SYNOPSIS

xbmtoxbm [bitmapfile]

DESCRIPTION

Reads an X11 or X10 bitmap as input. Produces a portable bitmap as output.

SEE ALSO

pbmtoxbm(1), pbmtox10bm(1), pbm(5)

AUTHOR

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1.185 ximtoppm

ximtoppm(1)

AMIGA (25 March 1990)

ximtoppm(1)

NAME

ximtoppm - convert an Xim file into a portable pixmap

SYNOPSIS

ximtoppm [ximfile]

DESCRIPTION

Reads an Xim file as input. Produces a portable pixmap as output. The Xim toolkit is included in the contrib tree of the X.V11R4 release.

SEE ALSO
ppm(5)

AUTHOR
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xpmtoppm(1)

AMIGA (16 August 1990)

xpmtoppm(1)

NAME

xpmtoppm - convert an X11 pixmap into a portable pixmap

SYNOPSIS

xpmtoppm [xpmfile]

DESCRIPTION

Reads an X11 pixmap (XPM version 1 or 3) as input. Produces a portable pixmap as output.

KNOWN BUGS

The support to XPM version 3 is limited. Comments can only be single lines and there must be for every pixel a default colorname for a color type visual.

SEE ALSO

ppmtoxpm(1), ppm(5)

XPM Manual by Arnaud Le Hors lehors@mirsa.inria.fr

AUTHOR

Copyright (C) 1991 by Jef Poskanzer.

Upgraded to support XPM version 3 by

Arnaud Le Hors (lehors@mirsa.inria.fr)

Tue Apr 9 1991

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1.187 xvminitoppm

xvminitoppm(1) AMIGA (14 December 1993) xvminitoppm(1)

NAME

xvminitoppm - convert a XV "thumbnail" picture to PPM

SYNOPSIS

xvminitoppm [xvminipic]

DESCRIPTION

Reads a XV "thumbnail" picture (a miniature picture generated by the "VisualSchnauzer" browser) as input. Produces a portable pixmap as output.

SEE ALSO

ppm(5), xv(1)

AUTHOR

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1.188 xwdtopnm

xwdtopnm(1)

AMIGA (11 January 1991)

xwdtopnm(1)

NAME

xwdtopnm - convert a X11 or X10 window dump file into a portable anymap

SYNOPSIS

xwdtopnm [xwdfile]

DESCRIPTION

Reads a X11 or X10 window dump file as input. Produces a portable anymap as output. The type of the output file depends on the input file - if it's black & white, a pbm file is written, else if it's grayscale a pgm file, else a ppm file. The program tells you which type it is writing.

Using this program, you can convert anything on an X workstation's screen into an anymap. Just display whatever you're interested in, do an xwd, run it through xwdtopnm, and then use pnmcut to select the part you want.

BUGS

I haven't tested this tool with very many configurations, so there are probably bugs. Please let me know if you find any.

SEE ALSO

pnmtoxwd(1), pnm(5), xwd(1)

AUTHOR

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1.189 ybmtopbm

ybmtopbm(1)

AMIGA (06 March 1990)

ybmtopbm(1)

NAME

ybmtopbm - convert a Bennet Yee "face" file into a portable bitmap

SYNOPSIS

ybmtopbm [facefile]

DESCRIPTION

Reads a file acceptable to the face and xbm programs by Bennet Yee (bsy+@cs.cmu.edu). Writes a portable bitmap as output.

SEE ALSO

pbmtoybm(1), pbm(5), face(1), face(5), xbm(1)

AUTHOR

Copyright (C) 1991 by Jamie Zawinski and Jef Poskanzer.

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1.190 yuvsplittoppm

yuvsplittoppm(1) AMIGA (26 August 93) yuvsplittoppm(1)

NAME

yuvsplittoppm - convert a Y- an U- and a V-file into a portable pixmap.

SYNOPSIS

yuvsplittoppm basename width height [-ccir601]

DESCRIPTION

Reads three files, containing the YUV components, as input. These files are basename.Y, basename.U and basename.V . Produces a portable pixmap on stdout.

Since the YUV files are raw files, the dimensions width and height must be specified on the command line.

OPTIONS

-ccir601

Assumes that the YUV triplets are scaled into the smaller range of the CCIR 601 (MPEG) standard. Else, the JFIF (JPEG) standard is assumed.

SEE ALSO

ppmtoyuvsplit(1), yuvtoppm(1), ppm(5)

AUTHOR

Marcel Wijkstra <wijkstra@fwi.uva.nl>, based on ppmtoyuvsplit.

1.191 yuvtoppm

yuvtoppm(1)

AMIGA (25 March 91)

yuvtoppm(1)

NAME

yuvtoppm - convert Abekas YUV bytes into a portable pixmap

SYNOPSIS

```
yuvtoppm width height [imagedata]
```

DESCRIPTION

Reads raw Abekas YUV bytes as input. Produces a portable pixmap as output. The input file is just YUV bytes. You have to specify the width and height on the command line, since the program obviously can't get them from the file. The maxval is assumed to be 255.

SEE ALSO

ppmtoyuv(1), ppm(5)

AUTHOR

Marc Boucher <marc@PostImage.COM>, based on Example Conversion Program, A60/A64 Digital Video Interface Manual, page 69.

Copyright (C) 1991 by DHD PostImage Inc.

Copyright (C) 1987 by Abekas Video Systems Inc.

1.192 zeisstopnm

zeisstopnm(1)

AMIGA (15 June 1993)

zeisstopnm(1)

NAME

zeisstopnm - convert a Zeiss confocal file into a portable
anymap

SYNOPSIS

zeisstopnm [-pgm | -ppm] [zeissfile]

DESCRIPTION

Reads a Zeiss confocal file as input. Produces a portable
anymap as output. The type of the output file depends on
the input file - if it's grayscale a pgm file, else a ppm
file will be produced. The program tells you which type it
is writing.

OPTIONS

-pgm Force the output to be a pgm file.

-ppm Force the output to be a ppm file.

SEE ALSO

pnm(5)

AUTHOR

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