Pstopnm User Manual

pstopnm

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NAME

pstopnm - convert a PostScript file to a PNM image

SYNOPSIS

pstopnm [**-stdout**] [**-forceplain**] [**-help**] [**-dpi=***dpi*] [**-xsize=***pixels*] [**-ysize=***pixels*] [**-xborder=***frac*] [**-yborder=***frac*] [**-landscape**] [**-portrait**] [**-nocrop**] [**-pbm** |**-pgm** |**-ppm**] [**-llx=***s*] [**-lly=***s*] [**-urx=***s*] [**-ury=***s*] [**-verbose**] [**-xmax=***pixels*] [**-ymax=***pixels*] *psfile*[**.ps**] <?makeman .SH OPTION USAGE ?>

Minimum unique abbreviation of option is acceptable. You may use double hyphens instead of single hyphen to denote options. You may use white space in place of the equals sign to separate an option name from its value.

DESCRIPTION

This program is part of Netpbm.

pstopnm reads a PostScript file as input and produces PBM, PGM, or PPM images as output. This program simply uses GhostScript to render a PostScript file with its PNM device drivers. If you don't have GhostScript installed or the version you have installed was not built with the relevant PNM device drivers, **pstopnm** will fail. You can see if you have the proper environment by issuing the command `gs --help`. If it responds and lists under "Available Devices" **pbm**, **pbmraw**, **pgm**, **pgmraw**, **pnm**, **pnmraw**, **ppm**, or **ppmraw**, you're in business.

pstopnm uses the value of the **GHOSTSCRIPT** environment variable as the file name for the Ghostscript program. If **GHOSTSCRIPT** is not set, **pstopnm** searches your **PATH** for a regular file named **gs**. If it doesn't find one, it assumes Ghostscript is in the file **/usr/bin/gs**.

pstopnm does not use the Netpbm libraries to generate the output files, so may not be entirely consistent with most Netpbm programs.

psfile[**.ps**] is the name of the input file. **pstopnm** will add the **ps** to the end of the name you specify if no file exists by the exact name you specify, but one with added does. Use **-** to indicate Standard Input.

If you use the **-stdout** option, **pstopnm** outputs images of all the pages as a multi-image file to Standard Output. Otherwise, **pstopnm** creates one file for each page in the Postscript document. The files are named as follows: If the input file is named **psfile.ps**, the name of the files will be **psfile001.ppm**, **psfile002.ppm**, etc. The filetype suffix is **.ppm**, **.pgm**, or **.pbm**, depending on which kind of output you choose with your invocation options. If the input file name does not end in **.ps**, the whole file name is used in the output file name. For example, if the input file is named **psfile.old**, the output file name is **psfile.old001.ppm**, etc.

Note that the output file selection is inconsistent with most Netpbm programs, because it does not default to Standard Output. This is for historical reasons, based on the fact that the Netpbm formats did not always provide for a sequence of images in a single file.

Each output image contains a rectangular area of the page to which it pertains. See the Dimensions section for details on what part of the input image goes into the output image and how big it is in the output and

what borders and margins are in the output image.

It has been reported that on some Postscript Version 1 input, Ghostscript, and therefore **pstopnm**, produces no output. To solve this problem, you can convert the file to Postscript Version 3 with the program **ps2ps**. It is reported that the program **pstops** does not work.

Dimensions

This section describes what part of the input image gets used in the output and the dimensions of the output, including borders and background.

Note that an output image is associated with a single input page. **pstopnm** starts by taking a rectangular area from the input page. That is called the subject image.

pstopnm may add borders to the subject image to form what is called the bordered subject image.

pstopnm places the bordered subject image in the center of the output image and clips the edges as necessary to fit the computed output image size.

The location of the subject image in the Postscript input page 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 DSC statement (a Postscript comment) in the PostScript file, but they can be overridden by the user by specifying one or more of the following options: **-llx**, **-lly**, **-urx**, and **-ury**.

The presence and thickness of a border to be added to the subject image to form the bordered subject image is controlled by the options **-xborder** and **-yborder**. If **pstopnm** does not find a BoundingBox statement in the input, and you don't specify image area coordinates on the command line, **pstopnm** uses default values. If your input is from Standard Input, **pstopnm** does not use the BoundingBox values (due to the technical difficulty of extracting that information and still feeding the file to Ghostscript), so you either have to specify the image area coordinates or take the default.

The output image size is a confusing thing. In a Postscript file, things have spatial dimensions. For example, a particular line may be 3 centimeters long. A Postscript printer is supposed to print the line 3 centimeters long, using however many pixels that takes, without regard to how big the sheet of paper on which it is printing is. In a PNM image, by contrast, there is no spatial dimension; there are only pixels. You might have a line that is 100 pixels long, but the PNM image says nothing about how long that line should be on a printed page.

pstopnm fills the role of a Postscript printer. The PNM image is a virtual printed page. **pstopnm** must determine how many pixels it will use in the output image to represent an inch of input image, which is the "output device resolution." Think of it as the number of dots per inch the virtual printer prints on the virtual page.

The simplest thing is for you to tell **pstopnm** exactly what output device resolution to use, using the **-dpi** option. If you say for example **-dpi=300** and the bordered subject image is 2 inches by 2 inches, the PNM output will be 600 pixels by 600 pixels.

Or you can set the output image dimensions with **-xsize** and **-ysize**. For example, if you say **-xsize=1000 -ysize=1000** and the bordered subject image is 2 inches by 2 inches, the output image is 1000 by 1000 pixels, with each pixel representing 1/500 inch of input image.

If you specify one of **-xsize** and **-ysize** and not the other, **pstopnm** defaults the other such that the output image has the same aspect ratio as the bordered subject image.

If you specify neither the output size nor the output device resolution, **pstopnm** does some weird computation which exists mainly for historical reasons:

If you specify **-nocrop**, **pstopnm** uses the values of **-xmax** and **-ymax** for the output image dimensions. These default to 612 and 792 pixels, respectively.

The final case, the default, is where you don't specify any size or resolution options of **-nocrop**. This is the most complicated case. In this case, **pstopnm** first chooses an output device resolution that would generate the number of pixels indicated by **-xmax** and **-ymax** from the bordered subject image. Then, based on that resolution, it chooses an output image size that is just large enough to accomodate the subject image (no borders). Remember (above) that **pstopnm** trims the edges of the bordered subject image to fit the

computed output size.

OPTIONS

-forceplain forces the output file to be in plain (text) format. Otherwise, it is in raw (binary) format. See **pbm**, etc.

-llx=*bx*selects *bx* as the lower left corner x coordinate (in inches) on the Postscript input page of the subject image. See the Dimensions section.

-lly=*by*selects *by* as the lower left corner y coordinate (in inches) on the Postscript input page of the subject image. See the Dimensions section.

-landscaperenders the image in landscape orientation.

-portraitrenders the image in portrait orientation.

-nocrop This option causes **pstopnm** to make the output image exactly the dimensions of the bordered subject image. By default, **pstopnm** makes the output image the dimensions specified by **-xmax** and **-ymax**. See the Dimensions section.

-pbm

-pgm

-ppm selects the format of the output file. By default, all files are rendered as portable pixmaps (ppm format).

-stdoutcauses output to go to Standard Output instead of to regular files, one per page (see description of output files above). Use **pnmsplit** to extract individual pages from Standard Output.

-urx=*tx*selects *tx* as the upper right corner x coordinate (in inches) on the Postscript input page of the subject image. See the Dimensions section.

-ury=*ty*selects *ty* as the upper right corner y coordinate (in inches) on the Postscript input page of the subject image. See the Dimensions section.

-verboseprints processing information to stdout.

-xborder=*frac* specifies that the left and right borders added to the subject image are to be *frac* times the subject image width. The default value is 0.1. See the Dimensions section.

-xmax=*xmax*specifies that the output image is to be *xmax* pixels wide. The default is 612. See the Dimensions section.

-xsize=*xsize*specifies that the output image is to be *xsize* pixels wide. See the Dimensions section.

-yborder=*frac*specifies that the top and bottom borders added to the subject image are to be *frac* times the subject image height. The default value is 0.1. See the Dimensions section.

-ymax=*ymax*specifies that the output image is to be *ymax* pixels high. The default is 792. See the Dimensions section.

-ysize=*ysize*specifies that the output image is to be *ymax* pixels high. See the Dimensions section.

-dpi=*dpi*specifies the output device resolution, in dots per inch, of the Postscript printer that **pstopnm** simulates. This is the number of PNM pixels **pstopnm** generates for each inch of image. See the Dimensions section.

This option was new in Netpbm 10.21 (March 2004).

LIMITATIONS

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 options:

```
pstopnm -xborder 0 -yborder 0 -portrait -nocrop file.ps
```

Additional options may be needed if the document is supposed to be rendered on a medium different from

letter-size paper.

SEE ALSO

gs, **pnmtops**, **psidtopgm**, **pbmtolps**, **pbmtoepsi**, **pnmsplit**, **pstofits**

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