

**NAME**

pfilt - filter a RADIANCE picture

**SYNOPSIS**

**pfilt** [ **options** ] [ **file** ]

**DESCRIPTION**

*Pfilt* performs anti-aliasing and scaling on a RADIANCE picture. The program makes two passes on the picture file in order to set the exposure to the correct average value. If no *file* is given, the standard input is read.

- x** *res*      Set the output x resolution to *res*. This must be less than or equal to the x dimension of the target device. If *res* is given as a slash followed by a real number, the input resolution is divided by this number to get the output resolution. By default, the output resolution is the same as the input.
- y** *res*      Set the output y resolution to *res*, similar to the specification of the x resolution above.
- p** *rat*      Set the pixel aspect ratio to *rat*. Either the x or the y resolution will be reduced so that the pixels have this ratio for the specified picture. If *rat* is zero, then the x and y resolutions will adhere to the given maxima. Zero is the default.
- c**            Pixel aspect ratio is being corrected, so do not write PIXASPECT variable to output file.
- e** *exp*      Adjust the exposure. If *exp* is preceded by a '+' or '-', the exposure is interpreted in f-stops (ie. the power of two). Otherwise, *exp* is interpreted as a straight multiplier. The individual primaries can be changed using *-er*, *-eg* and *-eb*. Multiple exposure options have a cumulative effect.
- t** *lamp*     Color-balance the image as if it were illuminated by fixtures of the given type. The specification must match a pattern listed in the lamp lookup table (see the *-f* option below).
- f** *lampdat* Use the specified lamp lookup table rather than the default (*lamp.tab*).
- 1**            Use only one pass on the file. This allows the exposure to be controlled absolutely, without any averaging. Note that a single pass is much quicker and should be used whenever the desired exposure is known and star patterns are not required.
- 2**            Use two passes on the input. This is the default.
- b**            Use box filtering (default). Box filtering averages the input pixels corresponding to each separate output pixel.
- r** *rad*      Use Gaussian filtering with a radius of *rad* relative to the output pixel size. This option with a radius around 0.6 and a reduction in image width and height of 2 or 3 produces the highest quality pictures. A radius greater than 0.7 results in a defocused picture.
- m** *frac*     Limit the influence of any given input pixel to *frac* of any given output pixel. This option may be used to mitigate the problems associated with inadequate image sampling, at the expense of a slightly blurred image. The fraction given should not be less than the output picture dimensions over the input picture dimensions ( $x_o*y_o/x_i/y_i$ ), or blurring will occur over the entire image. This option implies the *-r* option for Gaussian filtering, which defaults to a radius of 0.6.
- h** *lvl*      Set intensity considered "hot" to *lvl*. This is the level above which areas of the image will begin to exhibit star diffraction patterns (see below). The default is 100 watts/sr/m<sup>2</sup>.
- n** *N*        Set the number of points on star patterns to *N*. A value of zero turns star patterns off. The default is 0. (Note that two passes are required for star patterns.)
- s** *val*      Set the spread for star patterns to *val*. This is the value a star pattern will have at the edge of the image. The default is .0001.
- a**            Average hot spots as well. By default, the areas of the picture above the hot level are not used in setting the exposure.

**ENVIRONMENT**

RAYPATH directories to search for lamp lookup table

**FILES**

/tmp/rt??????

**AUTHOR**

Greg Ward

**SEE ALSO**

getinfo(1), ies2rad(1), pcompos(1), pflip(1), pinterp(1), pvalue(1), protate(1), rad(1), rpict(1), ximage(1)