

NAME

rt pict - generate a RADIANCE picture or layered image using rtrace

SYNOPSIS

rt pict -n nproc [-o[vrxlLRXnNsmM] out_dir][-d ref_depth/unit][rt pict options][@file] octree

DESCRIPTION

Rtpict is a script that generates a picture from the RADIANCE scene given in *octree* and sends it to the standard output, or to a file specified with the *-o* option. Most options and defaults are the same as *rpict(1)*, although a few switches are silently ignored. Options incompatible with multi-processing can generate an error.

The *rtrace(1)* tool is called with *vwrays(1)* to perform the actual work. This enables the *-n* option for multiprocessing on platforms that support it. If the *-n* option is not specified or is set to 1, then *rpict* is called directly. There is no benefit in setting the number of processes to anything greater than the number of virtual cores available on your machine. Also, it is very important to set the *-af* option if an irradiance cache is being generated; otherwise, your speed-up will be far from linear.

If the *-o* option has additional characters corresponding to output types from *rtrace*, it must be followed by the name of a directory that either exists or will be created to contain image layers, one per output type. The supported types are listed below, and do not include types that are useless or have no convenient representation. The table below shows the correspondence between output type and file name in the specified directory:

v	radiance.hdr
r	r_refl.hdr
x	r_unrefl.hdr
l	d_effective.dpt
L	d_firstsurf.dpt
R	d_refl.dpt
X	d_unrefl.dpt
n	perturbed.nrm
N	unperturbed.nrm
s	surface.idx
m	modifier.idx
M	material.idx

Different encodings are associated with different data types. Color data (from the 'v', 'r', and 'x' types) will be converted to a flat RGBE picture by *pvalue(1)*. Distances (from the 'l', 'L', 'R', and 'X' types) will be converted to a 16-bit representation by *rdepth(1)*, and the *-d* option should be used to assign the reference (median) depth and world units, which applies to the overall scene. Surface normals (from the 'n' and 'N' types) will be converted to a 32-bit representation by *rnorm(1)*. Finally, identifiers (from the 's', 'm', and 'M' types) will be converted to a 16-bit index format by *rident(1)*.

If the *-i* option is used to turn on irradiance output, then the picture associated with the 'v' type will be renamed *irradiance.hdr* and some other output types become irrelevant (i.e., 'r', 'x', 'R', and 'X'). If one or more of the associated output files already exists in the destination directory, an error will be printed and the command will abort.

EXAMPLES

To render a scene with four processes:

```
rt pict -n 4 -vf mypers.vf -ab 1 -af scene.amb scene.oct > scene_pers.hdr
```

To render radiance, first surface distance, and normals in a layered image:

```
rt pict -n 8 -vf fish.vf @render.opt -ovLn fisholay scene.oct
```

RTPICT(1)

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SEE ALSO

getinfo(1), mkpmap(1), oconv(1), pfilt(1), pvalue(1), rad(1), rcode_depth(1), rcode_norm(1),
rcode_ident(1), rcrop(1), rpiece(1), rpict(1), rsplit(1), rtrace(1), rvu(1), vwrays(1)