

NAME

`glrad` - render a RADIANCE scene using OpenGL

SYNOPSIS

`glrad` [`-w`] [`-b`] [`-s`] [`-S`] [`-v view`] `rfile` [`VAR=value ..`]

DESCRIPTION

Glrad renders a Radiance scene description in OpenGL. Its syntax and behavior is similar to *rad(1)* with the `-o` option, where the output device is assumed to be an X11 server with GLX extensions.

The `-w` option turns off warnings. The `-s` option tells *glrad* to run *rad* silently, not echoing *oconv(1)* command. The `-b` option turns off back face visibility (i.e., enables back face culling). This is equivalent to the `-bv` option of *rpict(1)* and *rvu(1)*. The `-S` option turns on full-screen stereo for displays that support it. (Be sure to run */usr/gfx/setmon(1)* or its equivalent to set STR_TOP or STR_BOT, first.) The `-v` option may be used to specify a starting view, either by symbolic name as entered in the *view* assignments in *rfile*, or by a complete view specification, enclosed in quotes. If no view is specified, then the first standard view from *rfile* is used to start.

Variables permitted in *rfile* are described in the *rad* manual page. Additional or overriding assignments may be given on the command line following *rfile*.

The view is controlled via the mouse and simple one-character commands, listed below:

(mouse) Modify the current view. The mouse is used to control the current view in the following ways:

CONTROL	MOUSE ACTION
(none) left	Move forward towards cursor position
(none) right	Move backward away from cursor position
(none) middle	Rotate in place (usually safe)
(none) wheel-up	Zoom in on current position
(non) wheel-dn	Zoom out around current position
shift left	Orbit left around cursor position
shift right	Orbit right around cursor position
shift middle	Orbit skyward
cntl middle	Orbit earthward

For all movements but rotating in place, the cursor must be placed over some bit of visible geometry, otherwise the program has no reference point from which to work. It is best to just experiment with these controls until you learn to fly safely in your model. And if you run into trouble, the 'l' command is very useful. (See below.)

- '+' Zoom in on the current cursor position.
- '-' Zoom out from the current cursor position.
- 'l' Return to the last saved view. Each time a new command changes the current view, the last view is saved, and may be recalled with this command. Multiple uses of the same command (e.g., rotation, zoom) will save only the view before the first such command. This way, it is easy to get back to where you were before a sequence of view changes.
- 'h' Fix the head height. All mouse-controlled view motions will be adjusted so that the head height does not change (where vertical is determined by the current view up vector).
- 'H' Release the head height, allowing it to change again during mouse-controlled movements.
- 'v' Print the current view parameters to the standard output. This is useful for finding out where you are, or for saving specific views in a keyframe file for animations or returning to later.
- 'V' Append the current view to the original *rfile*. This view will be unnamed, but can be referred to by number or the user may add a name later with a text editor. The current view number becomes the last standard view. (See the 'n' and 'p' commands, below.)

- 'n' Go to the next standard view stored in *rfile*. If the last view is currently displayed, then cycle to the first one.
- 'p' Go to the previous standard view stored in *rfile*. If the first view is currently displayed, then cycle to the last one.
- 'q' Quit *glrad*. This is the normal way to exit the program.

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BUGS

It would be nice if *glrad* set the appropriate video format for stereo viewing automatically, but the process is different on different systems and there is no single, sure-fire way to do it for all systems. On systems that do not support stereo extensions, the program may be compiled with the `-DNOSTEREO` option, which will avoid undefined symbol errors.

SEE ALSO

`chmod(1)`, `getinfo(1)`, `ls(1)`, `objview(1)`, `oconv(1)`, `ps(1)`, `rad(1)`, `animate(1)`, `rhcopy(1)`, `rho(1)`, `rpict(1)`, `rtrace(1)`, `rvu(1)`, `setmon(1)`