

# **POVRayAGA**

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<b>COLLABORATORS</b>
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<b>REVISION HISTORY</b>
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## Chapter 1

# POVRayAGA

### 1.1 Povray V2.2 Amiga Module AGA V1.0\_beta\_c (25.04.1995)

Instructions for Amiga POV-Ray Render Module  
written 1994/95 by Frank Hoffmann.  
check povlegal.doc for legal information about povray.  
compiled with SAS/C 6.55

Disclaimer  
Short Description  
Installation~&~Requirements  
Amiga module features  
Known~Amiga Port~Bugs~&~Problems  
Plans~&~TODO  
History  
Author  
Sourcecode notes

### 1.2 Disclaimer

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## 1.3 Description

This port of povray does fully integrate in the amiga workbench environment and the AGA chipset. It supports color sharing, public screens (workbench), and custom screens for ham6/8 or non shared colors. Screenmodes can be selected via screenmode requester or environment variable. The priority of the povray process can also be selected with an environment variable. The CyberGfx System is supported in a user transparent way.

This version features a simple netpbm P6 format reader, which allows saving the renderoutput and reading textures in ppm format (Heightfields are not supported).

The hame and firecracker displaymodes are not supported (because i can not test this modes).

This is an unofficial update/enhancement of the original povray distribution.

NOTE: The povrayteam is not responsible for this version/port of povray.

The original povray version is available via ftp from various sites and the aminet. You have to get it there. Without these archives there is not much use of this package.

### Usage

Use the Close Gadget or the ESC-Key to quit the display after povray has finished its rendering. To abort Rendering press CTRL-C or CTRL-D.

### Speed

Without the display option this 68040 version compiled with the sas 6.51 compiler is up to 50% faster than the original povray-team 881 version and up to 10% faster than the 040 version compiled with the gcc. In some very few cases the gcc 68040 version compiled by Holger Bettag is 2-3% faster.

Note:

This version is compiled with SAS/C 6.55, which allows more optimizations than 6.51, because some bugs of the compiler have been removed.

## 1.4 Installation & Requirements

This is an unofficial update/enhancement of the original povray distribution.

NOTE: The povrayteam is not responsible for this version/port of povray.

The original povray version is available via ftp from various sites and the aminet. You have to get it there. Without these archives there is not much use of this package.

This version of povray needs version 3.0 of the amiga operating system and a 040 processor card. (I will release a 020/881 version with the first non beta version, if requested)

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The file povrayAGA is an replacement for the povray file in the orginal distribution.

## 1.5 Amiga module features

### AMIGA DISPLAY FEATURES:

#### -dwx

Display picture in a window on a existing public screen or Workbench

-dw0 use ObtainBestPen to lock colors

-dwG use ObtainBestPen to lock greyscale colors

#### -dsx

Open a custom screen and display the picture on this screen

-ds0 open screenmode requester and use ObtainPen

-ds1 use screenmode specified in POVRAYSCREENMODEID and use ObtainPen

-ds2 use BestModeID to find a screen and use ObtainPen

-dsF use fixed grayscale palette for screen (needs 256 colors)

-dsG use ObtainPen with greyscalepixels on screen  
(screenmode requester)

#### -dpx

Open a public screen and display the picture in window on it  
(options see -dsx)

-dhx Open a custom screen and display the picture in ham6/8-mode on this screen.

-dh0 use screenmode requester to select screenmode

-dh1 use best ham mode on this machine with BestModeID

Use POVRAYHAMMODEID to select screenmode

-dh2 use best ham mode available on this machine

-dh3 force ham6

#### Note:

-dw0, -ds0/1, -dp0/1 detects cybergfx modes. So you can render on the workbench with 2^24 Colors using a True Color Screenmode. All 15,16,24 and 32 Bit Modes are supported.

#### Algorithms:

##### ham6

- same as orginal povray version

##### ham8

- derived from orginal povray version, but allocates 4\*4\*4 colorcube for the screen and select a colorregister from the colorcube if

a) a new line is started

b) the difference of the sum of the colorchannels squared are bigger than 63\*63\*3.

Additional amiga Env-Vars, first local than global.

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```
POVRAYTASKPRI
- Set task priority of povray
POVRAYSCREENMODEID
- Screenmode for display rendering in Hexcode 0x???????
  (used, if no Screenmode Requester is opened)
POVRAYHAMMODEID
- Use HAM-Screenmode for display rendering in Hexcode
  (used, if no Screenmode Requester is opened)
POVWINDOWSCREEN
- with window option (-dwx) name of public screen to open window on.
  ( default is default public screen (in most cases Workbench ))
```

## 1.6 Known bugs and problems of this port

Povray:  
none.

Amiga Display Module:

- BestModeID options do not work properly
- the -dhl option does not work at all
- not tested on enhanced chipset machines...
- bad ham quality.
- screenmode requester does not filter properly for HAM display.

## 1.7 Plans and to do

This features may or may not appear in future versions of this port. This depends on your feedback:

- oImprove PICTURE reader to allow read of datatype images!?
- oImprove PBM reader (more formats, more flexible).
- oImprove Povray to make it save in a more common amiga gfx-file format.  
(Has somebody a usable iff24 code example (not NEWIFF)?)
- ospawn a control task and create a message port:
  - let the user quit displaying by killing the window
  - support for GUI versions of povray
  - display in a window with scrollbars
- oHAM 6/8 quality improvements.

## 1.8 History

V1.0\_beta\_c

- first cybergfx support implementation

V1.0\_beta\_b

- povray can be stopped during rendering without display again.
- pbm writer/reader implemented (only P6 format).
- CTRL-C now works correct after rendering has finished

V1.0\_beta

- First beta test release.

Changes from old, povray-team version:

- displaypart of amiga.c completely rewritten to be os-friendly and to support windows, public screens and ham8
- Taskpri setable via POVRAYTASKPRI enviroment variable

## 1.9 Author contact

Contact for bug reports and suggestions:

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## 1.10 Sourcecode notes

This sourcecode was included for copyright reasons. Please do not look into it. Is is a hack! I will clean up the source for the non beta release.