

AMP

COLLABORATORS

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REVISION HISTORY

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Chapter 1

AMP

1.1 AmiDog's Movie Player - The Movie Player for your PPC Amiga!

AmiDog's Movie Player v2.03 (010826)

Copyright 1998-2001 Mathias "AmiDog" Roslund

Introduction	- What is this?
Requirements	- What does it require?
Features	- What can it do?
Installation	- How to install?
Usage	- How do I use it?
DVD	- Which DVDs can be played?
FAQ	- Have someone asked this?
Shareware	- What does this mean?
Disclaimer	- Who's responsible?
Known bugs	- Are there any known bugs?
History	- What's new?
Future	- What will be added?
Contact	- How to contact me?

Visit the homepage at <http://www.amidog.com/amp/>

1.2 AmiDog's Movie Player - Introduction

This is a Movie Player for Amigas equiped with a PPC board.

I started writing this in november 1998 since there were no MPEG players for PPC which had good AGA support. And as you can see, the AGA support is probably one of the best in any movie player for the Amiga.

This product is released as Shareware, which means that you can freely use it for a period of 30 days, but then you must send the author a small fee.

Now start the player and enjoy the speed of your PPC board!

1.3 AmiDog's Movie Player - Requirements

Hardware:

- * Amiga 1200/3000/4000 with a PowerPC board
- * 16 MB RAM
- * OS 3.0

Software:

- * WarpUP v4.0
- * CGFX v3 or later for CGFX support

1.4 AmiDog's Movie Player - Features

AMP currently support the following multimedia types:

- * MPEG1/2 video with sound (optional) and automatic frameskip.
- * MP2/MP3 audio streams.
- * AC3 streams, both standalone and embedded in MPEG2 streams.
- * (S)VCD, CD-i and DVD.

The features include:

- * Fast AGA support with 8 HAM modes and optional triple buffering
- * CGFX support with optional triple buffering.
- * Audio playback using audio.device or AHI.
- * CLI interface using ReadArgs or MUI GUI.
- * Window support on any depth CGFX and AGA screens.
- * Overlay support using cgxvideo.library.

1.5 AmiDog's Movie Player - Installation

Just copy it to any place on your HD.

The keyfile you get when you register should either be placed in the same directory as the AMP executable or in the S: assign.

1.6 AmiDog's Movie Player - Usage

* General usage

- QUIT AMP by pressing ESC or closing the window.
 - SEEK by either using the slider in window mode,
or press key 0-9 which will seek to 0-90% of the movie.
-

- PAUSE by pressing SPACE, resume by pressing ENTER.
- Switch between window and fullscreen with Right/Left Amiga + ENTER.

* Starting AMP from Workbench

Just doubleclick the AMP-GUI icon.

* Starting AMP from CLI

Remember to increase the stack to 500k to be on the safe side.

Then start AMP this way: AMP <moviefile> <options>

IMPORTANT: There are three reserved moviefile names, these are vcd, cdi and dvd, using ANY of these will cause AMP to scan your device and act properly, thus there is no need to specify the reserved name for the type you want to play!

The following commandline options are supported:

REQ/S : use an ASL requester to get the screenmode (def: BestMode).
PAL/S : use PAL Lores (def: BestMode).
HIPAL/S : use PAL Hires Laced (def: BestMode).

GRAY/S : Gray output (def: color).
HAM/S : HAM output (def: color).

HAMDEPTH/N : HAM depth (6 or 8 bitplanes, def: 8).
HAMWIDTH/N : HAM width (1, 2 or 4 HAM pixels per RGB pixel, def: 2).
HAMHQ/S : HAM high quality (def: normal quality).
HALF/S : half height (PAL only) (def: off).

GRAYDEPTH/N : Gray depth (4, 6 or 8 bitplanes, def: 8).
LOWCOLOR/S : 8bit CGFX (used for BestMode).
HIGHCOLOR/S : 16/15bit CGFX (used for BestMode).
TRUECOLOR/S : 24/32bit CGFX (used for BestMode).

WINDOW/S : use a window on Workbench for playback (def: off).
DEBUG/S : use this if you have problems and send me the output (def: off).
VERBOSE/S : gives additional information while/after playing (def: off).
OVERLAY/S : enable CGFX overlay support (def: off).
STEREO/S : play and decode stereo audio (def: off).
NOVIDEO/S : no video playback, only audio.
NOAUDIO/S : no audio playback, only video.

DEVICE/K : device of the CD/DVD for VCD/CD-i/DVD playback (def: atapi. ←
device).
UNIT/N : unit of the CD/DVD for VCD/CD-i/DVD playback (def: 2).
AHI/S : use AHI instead of audio.device (def: off).
TRIPLE/S : enable triple buffering (def: off).
FILTER/S : turn on audio filter (def: off).
READALL/S : read the entire movie to memory before playing (def: off).
DIVISOR/N : audio frequency divisor (1, 2 or 4, def: 2).

1.7 AmiDog's Movie Player - DVD

:: NOT encrypted ::

(PAL-2) Hälsoresan - En Smal Film Av Stor Vikt (1999, Swedish)
(PAL-2) Astrix & Oblix contre César (1999)

:: Encrypted ::

* (PAL-2) Ace Ventura: When Nature Calls (1995)
* (PAL-2) Blue Streak (1999)
* (PAL-2) Chicken Run (2000)
* (PAL-2) Lady and the Tramp II: Scamp's Adventure (2001)
* (PAL-2) Never Say Never Again (1983)
* (PAL-2) Tarzan (1999, Disney)
* (PAL-2) Wallace & Gromit (2001)
* (PAL-2) World Is Not Enough, The (1999)

:: Notes ::

I've tested all DVDs I've got, and they all work more or less, that is, if the main title (i.e. the movie) works, then I'll consider it working. There may or may not be some titles on the DVDs which do not work.

- Does not work
* Works
Not encrypted (i.e. Works)

All names are taken from www.imdb.com whenever possible.

PAL-2 means PAL region 2.

1.8 AmiDog's Movie Player - FAQ

What are these settings for?

HAM Width
HAM Quality
Half

1.9 AmiDog's Movie Player - FAQ - HAM Width

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To understand this you must first know the basics about how HAM modes work. I'm not an expert on this, and just before christmas last year (1998), I didn't know much at all. Anyway, here goes.

On a HAM screen a pixel is either one from the 16/64 colors in the palette or a "finetuned" version of the pixel next to the left, that is, you can modify one of the three color components Red, Green, or Blue (RGB). Two bits per pixel is used to determine if "finetune" or palette color should be used. That is why a

HAM6 screen is 6bit but only gives you a 16 color palette (4bit).

This means that to get one specific RGB value, you must either make sure that it's one of the 16/64 colors in the palette, or you must use three (3) pixels on screen to achieve the correct RGB values. This is why AMP supports different HAM widths.

As you might know, there are no 3-width screenmodes available, for example, there are 320*256 (1-width), 640*256 (2-width) and 1280*256 (4-width) for PAL. So to be able to get the right RGB value, one must use a screen which is four (4) times as wide as it is high. Since one then will get the right RGB value, these screens are often called 12bit/18bit since you get 4/6bit per RGB component and there are a total of three components per pixel ($2^{(4+4+4)}=2^{12}=12\text{bit}$, $2^{(6+6+6)}=2^{18}=18\text{bit}$).

The major let down by using 4-width is that it only works on PAL/NTSC/HighGFX and that it's terribly slow. That's where the 1-width and 2-width modes come in. They try to achieve the best possible quality with less pixels.

The 1-width and 2-width uses a simple but very efficient theory about in which order the RGB components should be changed to get the best quality while only changing one or two of them per pixel.

AMP can play just about any movie in any HAM width mode, but if the image is too big it will be cropped and you will only see the middle of the image.

1.10 AmiDog's Movie Player - FAQ - HAM Quality

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Please read the text about HAM Width first if not already done.

The only HAM width which has a high quality mode is the 1-width one. When using high quality AMP will use a predefined palette as well as using the normal "finetuning". For each pixel, AMP will calculate something called "color distance" to determine if it should use one of the 16/64 colors in the palette, or "finetuning". This ofcourse makes it slower, but the quality is much better.

1.11 AmiDog's Movie Player - FAQ - Half

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Half is only supported with PAL, so you must use the PAL/HIPAL argument as well. This setting will force AMP to only display every second line of the image by using a screen

which is half the height of normal. This will be quite a bit faster, but the image will get a bit blocky, although it's not too annoying when being viewed on a TV.

Half works with both HAM, 8bit color and gray.

1.12 AmiDog's Movie Player - ShareWare

After your free trial period of 30 days, if you decide to keep using AMP you must register. There are two ways to register AMP, just choose the one you prefer.

1. Online registration through Reg.Net, just point your browser at:
<https://secure.reg.net/product.asp?ID=8311>
2. Put 15 USD, 10 UKP, 30 DM, 100SEK or equal amount of any other currency in an envelope and send it to:

Mathias Roslund
Sveav. 2b, nb
S-702 14 Orebro
Sweden

NOTE1: Cheques are NOT accepted since it's very expensive to cash them.

NOTE2: I need your name and e-mail address to be able to send you your keyfile !

1.13 AmiDog's Movie Player - Disclaimer

Remember! You use this piece of software at your own risk!
I can never be held responsible for any sort of damage caused to your software or hardware by the use of this product!

1.14 AmiDog's Movie Player - Bugs

* None known.

There might be unknown bugs, so you use it at your own risk!

1.15 AmiDog's Movie Player - Contact

Bugreports, suggestions, comments or anything else you may want to contact me about can preferably be sent by e-mail to:

amp@amidog.com

You may however also contact me by normal mail:

Mathias Roslund
 Sveav. 2b, nb
 S-702 14 Orebro
 Sweden

1.16 AmiDog's Movie Player - Future

- * Add FLI/FLC/AVI/QT/NSF support again.
- * ...

1.17 AmiDog's Movie Player - History

- v2.03 - 010826
- Added 24bit BGR/GRAY renderer, it's 27% faster than 32bit ARGB with the same quality! ↔
 - Added new CSS-key extraction code, made all DVDs I have work.
 - Rewrote the motion compensation routines, and thereby increased the MPEGV decoder speed ↔
 from 42.3fps to 48.4fps, a 14% speedup.
 - Rewritten the audio.device routines, these are completely free from any context switches ↔
 what so ever. I really hope this will remove the audio.device related crashes.
 - Wrote generic requester routines, just as ugly as the DVD ones, but now also used for ↔
 VCD and CD-i playback.
 - Added OS9 (CD-i) and ISO9660 (VCD) filesystem parsers.
 - Using the 56KHZAUDIO env-variable, one can now get 44100Hz playback through audio.device. ↔
 - Changed VCDDEVICE, VCDUNIT to DEVICE, UNIT. Removed VCDTRACK.
 - Added pause (SPACE, ENTER to continue) and window<->screen switch (L-/ ↔
 RAMiga + ENTER).
 - The window title now contain filename and video size.
 - GUI: Updated to work with the new AMP executable.
- BETA - 010630
- Small MPEGV decoder optimization, 2% faster.
 - Fixed bug with BestMode and AGA only systems.
 - Fixed ASL bug. ASL of some reason report the wrong width/height if one uses ↔
 the OK button rather than doubleclicking on a screenmode.
 - Replaced the CGFX BestMode with my own implementation, AMP should no longer ↔
 choose a PC mode or too small screen.
 - Fixed the bug giving a gray border around the image using >8bit CGFX.
 - Fixed gray not working on CGFX when using the GUI.
 - Added OK buttons to the DVD requesters making them somewhat more ↔
 intuitive.
- BETA - 010618
- MPEGV decoder optimizations, 13% faster for color and 45% faster for gray ↔

- New more general and faster C2P routines for AGA playback.
 - UDF parsing, DVD authentication, CSS key extraction and CSS decryption ←
added.
 - Added autodetection of DVD, CD-i and VCD disks.
 - Rewritten and optimized all renderers, small difference for gray, 4-5% ←
for
15/16/32bit and 103% for 8bit (CGFX). 8bit playback on AGA is 34% faster ←
for
fullscreen and 140% faster for half height. All HAM modes are 10%+ faster ←
.
 - DVD subtitle decoding has been added and appears to be working correctly.
 - Removed FLIC decoder and NOSPEEDHACK option. Renamed SLORES to HALF and ←
added
HIPAL, Hires PAL option.
 - Added experimental (non-working) Picasso PiP support (PIP), need to fix ←
this one.
 - An unlimited number of AMPs can now be run simultaneous (instead of just ←
one).
 - Changed the 15/16/32bit/HAM renderers to use the same fixed point format ←
as with
AMP1 and the AMP2 previews, should give better quality (I hope).
- v2.02 - 010216
- GUI: Will now check for the presence of a VCD before trying to play it.
 - GUI: If the VCD has more than one track, the GUI will ask which to play.
 - GUI: Bumped version to v1.02 due to the changes.
 - 16bit output now is 16bit again and not 15bit as with previous AMP2 ←
releases.
 - Optimized the VCD code somewhat, improving playback speed with almost ←
10%.
 - Fixed the crash on exit bug in the MPEGV decoder.
- v2.01 - 010106
- AMP used to free two never allocated signals, fixed.
 - GUI: Now works when started from a partition with a space in the name.
 - GUI: Added a version string to the .cfg file and placed it in S:.
 - GUI: Added DEVS: as default path for the device drivers.
 - GUI: Bumped version to v1.01 due to the changes.
- v2.00 - 001229
- First official AMP2 release.
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