

SoftCinema

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COLLABORATORS

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Chapter 1

SoftCinema

1.1 SoftCinema

SoftCinema V0.9
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Movie/animation player for the Amiga with PowerPC processor.

Currently supported formats:

QuickTime Movie (QT/MOV)
QuickTime VR (QTVR/MOV)
Video for Windows (AVI)

Introduction	What the hell is that?
Features	Who requested fountain?
Requirements	Do I need a pc?
Installation	Where I should put it?
Usage	Keyboard not found. Press F1 to continue.
Registration	Money, Money, Money, must be funny, In a rich man's world...
Authors	Someone is still developing for Amiga?
History	What has been.
MUQ	FAQ.

1.2 Introduction

SoftCinema is a Movie/Animation player for Amiga computer equipped with PowerPC processor. This program is SHAREWARE, which means, that you should register it to take advantage of all options. It is also early version. If you decide to register, I will get proof, that my work has sense, and I will get motivation for future improvements.

Unregistered version plays only first 30s of animation.

If you are viewing QuickTimeVR file, camera rotation is limited.

But it is enough to see what it can do for you.

I would like to thanks all the people who has already registered SoftCinema and who has send me bug reports, or suggestions.

1.3 Features

This is an early version. It means that only a bit of things I am planning to implement is actually implemented.

Program can be started from both CLI and Workbench.

Animation can be played in window opened on public screen, or on full screen (full screen is available for AGA only right now).

This program uses AGA, or a graphics card under CyberGFX control.

SoftCinema can also play audio tracks, using AHI.

Actually following movie formats are supported:

QuickTime Movie (.qt, .mov)

QuickTime VR (.qtvr, .mov)

Video for Windows (.avi)

Actually supported codecs (compression formats)

QT Video

Apple Video	(RPZA)	16 bit
Radius Cinepak	(CVID)	8/16/24/32 bit
CCITT H.263	(H263)	24 bit
Intel Indeo 3.1	(IV31)	24 bit !
Intel Indeo 3.2	(IV32)	24 bit !
Intel Raw YUV	(YVU9)	24 bit !
Intel Indeo 4.1	(IV41)	24 bit !
Intel Indeo 5.0	(IV50)	24 bit !
Microsoft Video 1	(MSVC/CRAM/WHAM)	8/16 bit
Apple Graphics	(SMC)	8 bit
Apple Animation	(RLE)	8/16 bit
Photo JPEG	(JPEG)	8/24 bit
Motion JPEG A	(MJPA)	8/24 bit
Motion JPEG B	(MJPB)	8/24 bit

QT Audio

Uncompressed PCM	(raw)	MONO/STEREO	8/16 bit
Uncompressed signed PCM	(TWOS)	MONO/STEREO	8/16/32 bit
IMA ADPCM 4:1	(IMA4)	MONO/STEREO	16 bit

AVI Video

Radius Cinepak	(CVID)	8/16/24/32 bit
----------------	--------	----------------

```
CCITT H.263      (H263)      24 bit
Intel Indeo 3.1   (IV31)      24 bit !
Intel Indeo 3.2   (IV32)      24 bit !
Intel Raw YUV     (YVU9)      24 bit !
Intel Indeo 4.1   (IV41)      24 bit !
Intel Indeo 5.0   (IV50)      24 bit !
Microsoft Video 1 (MSVC/CRAM/WHAM) 8/16 bit
Photo JPEG        (JPEG)      8/24 bit
Rainbow Runner JPEG (DMB1)     8/24 bit
Motion JPEG       (MJPG)      8/24 bit
```

AVI Audio

```
WAVE PCM          (0x0001) MONO/STEREO 8/16 bit
Microsoft ADPCM   (0x0002) MONO/STEREO 16 bit
a-LAW             (0x0006) MONO/STEREO 16 bit
DVI/IMA ADPCM     (0x0011) MONO/STEREO 16 bit
```

Those are codecs, which I could test (I got movies compressed with those codecs) If you got movie which can not be played or is played wrong, please contact me. Please do not send me files without confirm !!!

1.4 Requirements

Hardware:

Amiga with PowerPC board.
AGA Chipset or graphics card running under CyberGFX control.
8 MB of memory.

Software:

AmigaOS 3.0+
CGFX v3+ (if you got graphics card).
PowerUP v46+ or ppc.lib emulation for WarpOS.
(SC requires latest emulation library, which is 0.7b)
AHI v4+ for sound.
If you are using AGA, I suggest to install FBlit
(available on aminet).

1.5 Instalation

Simple copy all files from this archive to any place on your HD.

If you are still using AGA chipset, I suggest you to install FBlit. You can find this program on any aminet site. But do not add SoftCinema to the list of programs in FBlit prefs program. SoftCinema is automagically using FBlit features, if FBlit is installed pn your system. As you will see, FBlit will make SoftCinema to run almost twice faster.

ATTENTION! I do not take any responsibility for damages caused by FBlit. Please contact FBlit author in this case.

You should also download codec libraries for XAnim (compiled for LinuxPPC) and after decrunching place it in codecs/ directory. You can get those libraries from any XAnim mirror site, for example:

<http://xanim.resnet.gatech.edu/linuxELFppc.html>
<http://xanim.va.pubnix.com/linuxELFppc.html>

You will need tar and gzip programs (from GeekGadgets) or untgz program from Aminet, or any similiar program to decrunch those files.

Tested libraries:

name: Intel YVU9 and Indeo 3.2 Decompression for AVI and Quicktime
archive: vid_iv32_2.1_linuxELFppc.tgz
file after decrunching: vid_iv32_2.1_linuxELFppc.xa size: 111544

name: Intel Indeo 4.1 Decompression for AVI and Quicktime
archive: vid_iv41_1.1_linuxELFppc.tgz
file after decrunching: vid_iv41_1.1_linuxELFppc.xa size: 205232

name: Intel Indeo 5.0 Decompression for AVI and Quicktime
archive: vid_iv50_1.0_linuxELFppc.tgz
file after decrunching: vid_iv50_1.0_linuxELFppc.xa size: 98588

Please pay attention at decompressed file sizes.
If the size is different (ie 512 bytes), it was probably decompressed wrong. There is program called untgz on aminet, which can do the decompression for you. Please do not use following decompressors: PPCUnTGZ.lha and PPCUnTGZWOS.lha, because those programs works wrong.

Following libraries also works with SoftCinema:

CCITT H.263 Video Decompression for AVI
Radius Cinepak Video Decompression for AVI and Quicktime

But the same codecs are implemented internally, so there is no need to use them. I repeat, DO NOT INSTALL THIS TWO FILES, IF INTERNAL CINEPAK AND H263 CODECS WORKS FINE.

However, if you encounter any problems with movie compressed with this 2 codecs, install those libraries, and see what will happen (copy it to codecs directory, it will replace internal codec). Please also inform me about yours problems.

Other libraries available on XAnim home page were not tested, because I don't have any movies using those compressions. If you got movies that are compressed with those codecs, please contact me.

You have to know, that author of XAnim does not allow to use those codecs with other programs than XAnim, and that this is illegal. I have decided to use this codecs because there is no other way to support them (their authors does not releases their sources). If you think that this is inmoral, simple do not install those codecs.

You have been warned. Choice is up to you.

1.6 Usage

SoftCinema can be started from both CLI and Workbench.

Starting SoftCinema from CLI:

Template:

```
FILE,GRAY/S,COLOR/S,DITHER/S,FULLSCREEN/S,HAM8/S,HAM8DITHER/S,  
FULLRATE/S,NOAUDIO/S,NOVIDEO/S,NODIRECTGFX/S,NOFASTGFX/S,AUTOPLAY/S,  
AUTOEXIT/S,LOOP/S,NOGUI/S,VERBOSE/S
```

Description:

FILE/A

File name (with full path) of movie to play. If no filename is specified, ASL requester will popup.

FULLSCREEN/S

Play animation on own screen. Right now it works only on AGA. Default off (animation in window on public screen, usually WorkBench).

GRAY/S,COLOR/S,DITHER/S,HAM8/S,HAM8DITHER/S

Those parameters are for AGA only, and describes how should be the hi-true-color mode emulated. Only one of those switches can be used at one time. Default is GREY. Last two parameters are only for FULLSCREEN mode.

NOAUDIO/S

If file contains audio track, it will not be played. By default sound is enabled.

NOVIDEO/S

If file contains video track, it won't be shown. If there is audio track available, you will hear sound.

FULLRATE/S

This switch will cause movie to be played at full rate available on your hardware (limited only by CPU power, and graphics chipset). All frames will be displayed (no frames will be skipped, in other words). By default frame rate is taken from stream. Also FULLRATE switches audio off.

NODIRECTGFX/S

If this parameter will be specified, a fast direct video access routines will be switched off, and WritePixelFormat() will be used. Fast direct cgfx routines are used by default, if you find any problems with it, use this option to switch it off.

Also note that only the following pixel formats are supported right now:

PIXFMT_RGB15

PIXFMT_RGB16
PIXFMT_ARGB24

When SoftCinema prints:
Unsupported pixel format: x

Then your screen uses different pixel format, that this 3 listed above.
I will add another conversion routines later, if there will be any
interest in this...

NOFASTGFX/S
Another option that will switch off faster gfx card support.
Default on, use thin in case of problems (random freezes, or similiar).

AUTOPLAY/S
Animation will start directly after it has been loaded, without waiting
for user action.

AUTOEXIT/S
Program will exit immediately after movie is over.

LOOP/S
Loops animation. By default SoftCinema stops at end of movie
and waits for user action.

NOGUI/S
If you run SoftCinema in FULLSCREEN mode, no GUI will be shown.
Usefull with AUTOPLAY. Of course GUI can be shown using right mouse button.

VERBOSE/S
This switch will cause that additional information will be printed in
CLI.

Starting SoftCinema from WorkBench:

Just double-click on SoftCinema icon.

Available tooltypes:

FILE=nazwa pliku
GRAY
COLOR
DITHER
FULLSCREEN
HAM8
HAM8DITHER
FULLRATE
NOAUDIO
NOVIDEO
NODIRECTGFX
NOFASTGFX
AUTOPLAY
AUTOEXIT
LOOP
NOGUI
VERBOSE

Their meaning is the same as the CLI parammetters.

After running SoftCinema, window or screen will be opened.
On bottom border you will see some gadgets for program control.

```
[+-----] [>] [^]
```

Slider is used for movie seeking.
Right arrow gadget is used to play/pause movie.
Up arrow gadget is used for new movie selection (EJECT)
Close gadget closes window.

If you are viewing QuickTime VR files there will be no slider and PLAY/STOP gadget.

If you running SoftCinema with FULLSCREEN option you can open/close control pane using right mouse button.

Program can be also controled via keyboard:

```
SPACE - PLAY/STOP  
ENTER - EJECT  
ESC - EXIT  
- - zoom out  
+ - zoom in
```

If you are viewing QuickTime VR files SPACE key (PLAY/PAUSE) does not work, but there are additional keys:

```
kursor keys or  
left mouse button and mouse movement over window  
- camera rotation  
, - increase FOV (FieldOFView)  
. - decrease FOV (FieldOFView)
```

As usual, for PPC programs, you should set stack to at least 100Kb. SoftCinema is not that stack hungry, like the "famous" fastest PPC program ;), and does not requires Megabytes of stack.

In case of error a message will be shown (also if movie format can not be recognized). Some errors are only shown as a number - it will be changed soon.

1.7 Registration

Registration fee is 15\$, 15EU, 30DM or equal amount in other currency. If you live in Poland you should read polish guide - there is special offer for people from Poland.

If you want to register, you should fill register form (register_form.eng) and send it to me via email, or printed in envelope. Please include all information about yourself - those

informations will be used only for users evidence.

Additionally you can register great MPEG movie player created by Sebastian Jędruszkiewicz - Frogger. If you will register both programs at the same time, you will pay only 40DM for both programs (instead of 60DM)

The only way to pay for SoftCinema is sending money in envelope.

After I will receive your money, I will send you personal key file via email. Please make a copy of this key, and of course do not redistribute it.

1.8 Authors

SoftCinema was made by:

Jacek Cybularczyk (noe@webnet.pl)

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POLSKA

Testing, english docs translation, and other help:

Sebastian Jędruszkiewicz (bjsebo@jota.wi.tuniv.szczecin.pl)

Special thanks for Kyle Broflovsky :-)

All icons comes from GlowIcons (c)1998 by Matt Chaput.

Maybe someone will draw some icons for me? Preety please...;)

1.9 History

09.06.1999 Every saga has a beginning...

...

10.07.1999 First frame :-) was decoded... QuickTime Cinepak
GRAY, saved on disk.

...

18.09.1999 V0.5 First public release...

26.09.1999 V0.6 Fixed PCM stereo playing.

Implemented frame skipping.

Fixed AVI indexing (microsoft? Buuuuu...)

Fixed QT audio track recognizing.

Added Microsoft Video 1 (MSVC/CRAM/WHAM) codec,

16 bit version only.

Unregistered version now playing 30 seconds of movie.

- 15.11.1999 V0.7 Added GUI (Amiga type for now).
Added Microsoft ADPCM audio codec (for AVI).
Added Microsoft Video 1 8-bit (MSVC/CRAM/WHAM) codec.
Added Apple Graphics (SMC) video codec (for QT).
Added Apple Animation 8/16-bit (RLE) video codec (for QT).
Added IMA4 stereo decompression (now working :-)
Added FBlit internal support.
Added ToolTypes and Workbench startup.
Minor fixes in QT parser.
Speedup some functions.
All is more stable.
- 23.12.1999 V0.8 Added Photo JPEG video codec.
Added Motion JPEG A video codec.
Added Motion JPEG B video codec.
Added Rainbow Runner video codec.
Added a-LAW audio codec.
Added DVI/IMA ADPCM audio codec.
Fast direct CGFX video access routines.
Scalable output on AGA machines.
Keyboard control.
Asynchronous disc reading.
Some other changes, and bugfixes.
- 10.01.2000 V0.8a Mostly small bugfixes.
SC will now work correct under WOS ppc.lib emul.
- 01.03.2000 V0.9 Added support for QuickTime VR (only panorama so far).
Fixed AHI deinit code.
Added support for AVI Motion JPEG codec (MJPG).
New CLI/WB arguments/tooltypes.
Some other fixes.

1.10 Most usual questions

First of all: Please read documentation!! A lot of questions shows, that their authors have not readed guide. I am not writting the guide for myself.

1. Q: When will new Venus Art demo be available?

A: ??? Oh, yes Venus Art. Venus Art is a past. That is why we changed name to Total Vision. No more demos. End.
Finito. Ende. Fin. Kaniec filma.

2. Q: I havent downloaded codecs from XAnim home page, and movies compressed with Intel Indeo 5 does not works. Is it MCP fault?

A: No, it is your fault. You have not readed docs.
Please read This.

3. Q: I've got 060 and I think that this CPU should be enough fast for playing movies. Will SoftCinema be available for 68k processors?

A: I did not planned such a version. And I am still not planing doing that. There are already available players for 68k. Besides that SoftCinema is optimized on algorithm level for PPC.

4. Q: Why are you supporting this fu..ink powerup system? What about WarpOS version? WOS is the future. And WOS is better in everything.

A: Because we dont want to spent hundred \$ for StormC? Wos version will be available one day, when I get rid of more importants problems. Right now it is working under emulation, so I dont see a problem here.

5. Q: Why this program is so slow? 603@200 is faster than 040@25 by a factor of 11, so ciname should be faster that Moodiv by a factor of 11.

A: Sure. maybe 111? Benchmarks are good to show pC users that you got a fast CPU, this has nothing to do with real speed. Remember about the fact, that all system is running on 68k, so all system call (and this is done a couple of times per animation frame) is causing a big slowdown. SoftCinema recompiled for LinuxPPC is twice as fast as Amiga version (running on the same computer). Besides, current Amiga architecture (slow memory, slow graphics cards - usually slow gfx memory access, no L@ caches) do not allow to use all PPC speed. We will wait for p5 G3/G4 cards, then we will know more. And you have to know that we got MCP750 and Altivec dokumentation already ;))

6. Q: Because for windows, linux and mac movie players are available for free (distributed with system), I think that SoftCinema should be also available for free...

A: Sure, I also want all programs to be available for free. Question should be send to actual OS producers (H&P) not to me.

And one more. This Q was asked only once, but it made me laugh so here is the answer ;)

Q: Is there a possibility to buy a license for using XAnim codecs?

A: Sure. Why dont you write this by yourself? All you guys can do is cut & paste some code from XAnim. I had to write XAnim DLL's loader by myself (Xanim is using standard linux kernel functions to load and use shared libraries), so you can do it also (if you are good enough).

1.11 QuickTime VR

What is QTVR?

QuickTime VR is a special QuickTime Movie format, which allow you to watch scene in interactive mode. There are two types of QTVRs: VR "Panorama" lets you rotate camera, so you can watch what is going around you. Usually camera is placed in room or other interested place. Additionally you can zoom camera to take a close look at things that are interesting to you. Second VR type is "Object". There is one Object you can rotate on any angle (camera is static) and watch it from any side you want.

Additionally both VR types can have hot-spots, a place which let you move to another location, for example another room.

In current SoftCinema version you can watch only Panorama files, (QT API wersja 1.0, 2.1, 3.0 i 4.0), Support for Objects and HotSpots will be added soon...