

akMPEG

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REVISION HISTORY

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Chapter 1

akMPEG

1.1 akMPEG_Documentation

akMPEG V3.01 (21.9.1999)

- SHAREWARE -

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A PerSuaSiVe SoftWorX PRODUCT.

Needs Kickstart V3.x
GUI created with StormWizard 2.0

Actively supports PowerPC (TM) via powerUP (TM)
and ppc.library (or -emulation V0.6b+)

<Commercial> BTW: What is SViewII ? </Commercial>

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Please visit:

WWW Support Site
<http://www.ar-kleinert.de> (AWeb-II)

Simon Edward's Image Engineer WWW Site
<http://www.amigaworld.com/support/imageengineer/>
(Image Processing program produced by Simon Edwards)

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You will receive a personal KEYFILE.
See registration form for details.

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1.4 distribution

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The REGISTERED version of akMPEG MUST NOT be redistributed.
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1.5 purpose

akMPEG is a program that has been designed to play MPEG animations on CyberGfx or compatible systems with a 68030 or greater CPU. Recommended is at least a 68030-50 or 68040-25 CPU.

There are PPC versions available as well (040+PPC or 060+PPC).

It allows several ways to replay animations:

- in an overlay window on any kind of CyberGfx screen
(requires cgxvideo.library and a graphics card capable of Overlay)

- in a normal window on any kind of a 16/24 bit deep CyberGfx screen
- on a 16/24 bit deep CyberGfx screen (auto-selection)
- on a 8 bit deep AGA or CyberGfx screen (requires OS 3.1)

Please note, that conventional color 8 bit screen or window displays (CyberGfx or AGA) are not supported due to speed reasons (the window of the 24 bit player simply will stay empty).

Using the juggling-gigs.mpg animation from the Aminet CDs (showing Urban Mueller juggling with haddisks) on a CyberStormPPC system equipped with 68040-25 and PPC604e-180 the following results have been achieved with akMPEG 2.60:

800x600 8/16/24 Bit CyberGfx WB Screen (CV64/3D):

mpOV	9.222222 FPS	040-25	(sometimes 9.576923)
PPCmpOV	62.250000 FPS	PPC604e-180	(sometimes 83.000000)

Own screen (24/8 Bit CV64/3D)

mp24sc	5.533333 FPS	040-25	(sometimes 5.659091)
PPCmp24sc	41.500000 FPS	PPC604e-180	(sometimes 49.800000)
mp8sc	10.375000 FPS	040-25	(constantly)
PPCmp8sc	83.000000 FPS	PPC604e-180	(sometimes 124.500000)

Display disabled

If display has been disabled completely, the V2.60 values for PPC oszilate between 83 and 124.5 FPS (no idea, why) and the 68k delivers ~10.4 FPS for Overlay/Gray and ~6 FPS for any 24 Bit display.

So, if you have a faster/slower graphics card, you may estimate the max. possible FPS rate from these values.

Basically it shouldn't matter whether the original or the emulation ppc.library is being used. I've been extensively using both without problems, while the numbers above have been taken with the original.

NOTE: MPEG files with audio part are not supported - yet.

There's MPEG-1 (ISO/IEC IS 11172-2) video bitstreams and MPEG-2 ISO/IEC DIS 13818-2.

Currently the player only supports video streams without audio parts, thus no "MPEG system" animations.

1.6 installation

Even if you use the supplied Installer-Script, you should read the following notes. If you do not own the standard Installer-Program you should read them even more carefully and follow the instructions given.

Note: Should after starting the installer script appear an error message "Can't find program 'Installer'" (or similar), you have to enter the correct path to your Installer program via the Workbench menu Icon/Information.
Please do also not forget, to obtain and install SuperView-Library !

If you own a KeyFile, place it to "S:", or place it elsewhere and change the environment variable "KEYPATH" to the corresponding directory.

The SuperView-Library has to be obtained and installed seperately, anyway !

Needed Workbench Resources

HardDisk-Users won't perhaps have to install any additional Workbench Resources to their HardDisk.

Disk-Users will have to copy the following libraries into their "LIBS:"-Directory, if these not already do reside in ROM (may depend on the version of the operating system):

- gadtools.library V37+ (V39 versions recommended;
- asl.library V37+ it's really time to upgrade
- utility.library V37+ to OS 3.1)
- workbench.library V37+
- icon.library V37+

Users of OS V2.04 or greater should also install the following libraries:

- amigaguide.library V34+
 (please avoid using V34 - it's known to cause problems)

Other needed Resources

You will also need to have the following libraries installed (compare system requirements):

- cybergraphics.library V40+
- cgxvideo.library V41+ (only for Overlay-Support)

GUI has been designed with StormWizard 2.0, so this program needs "wizard.library" V37+ (you can find a copy on Aminet under "biz/haage/WizardLibrary.lha").

For PowerPC support (optional modules) the following libraries are needed:

- ppc.library V45+ (V46+ recommended)

For asynchronous IO the following library is needed:

- asyncio.library V39+

Note, that only the 68k players will make use of asyncio.library and that normal dos.library calls will be done, if it can't be found. With PPC player, we try to achieve IO speedup in a different way.

1.7 updatenote

General

~~~~~

Although the akMPEG archive does contain most of the needed parts, you might wish to get updates sometimes.

The newest version usually can be found on Aminet under  
Aminet:gfx/show/akMPEG2.LHA

## 1.8 usage

The GUI is quite self-explaining:

- PPC support can be switched on or off (when available)
- B- and P-Frames may be skipped (default is "do not skip")
- looping is possible (default is "only play once")
- 16 bit overlay, 24 bit window, 24 bit screen  
and 8 bit screen (gray) display is possible

The MPEG players are external programs, that are run asynchronously. So it is possible to play more than one animation at once. Or utilize PPC and 68k at the same time. However, it is not possible to open more than one overlay window at once (all except the first one will show "Please wait..." until the resources again are free).

One may also start the external player tools from Shell (PPC version is named similarly, with "PPC" as prefix).

The syntax can be requested by starting with "?" as the only parameter. It's the same for both programs:

```
akmp [-display=(ov|24|24sc|8sc)] [-nop -nob]
      [-pubscr=pubscreenname] [-loop] anim.mpg
```

Replay can be aborted via the player windows' close-gadget  
- the gadget is present in the on-screen replay modes as well, although it may not be visible there (click at upper left corner).

Unless "loop" is specified, the animation only will be played once. With "loop", it will be played "endless" (well, until someone hits the close-gadget).

Example display parameters for different replay modes:

---

```
(PPC) akmp -display=ov anim.mpg      Overlay
(PPC) akmp -display=24 anim.mp       16/24 Bit Window
(PPC) akmp -display=24sc anim.mpg    16/24 Bit Screen
(PPC) akmp -display=8sc anim.mpg     8 Bit grayscale Screen (requires OS 3.1 !)
```

Unless specified otherwise, "ov" is the default setting for display.

That's it :-)

#### Tooltypes

-----

```
DEF_DIR      default directory
PUBSCR_OV    public screen name for overlay window display (mpOV)
PUBSCR_24    public screen name for 16/24 bit window display (mp24)
```

#### Overlay Support

-----

With an installed cgxvideo.library you can make use of the overlay feature of any graphics cards that supports overlay (through this library, that is).

The CV64/3D supports video overlay, unless the driver's MULTIMEDIAMEM setting has been changed, so that the 1 MB of texture/overlay memory is being utilized for conventional display. One overlay "window" at a time is possible.

With the BVision/PPC (which perhaps also applies to the CyberVision/PPC) it has been reported, that adding the tooltype VPLAYER=DESTRUCTIVE to the BVision Monitor Driver will enable overlay support through cgxvideo.library, at least with CyberGraphX V4.1 (the commercial release).

It's highly recommended to make use of overlay when available, since it will allow for fastest and smoothest replay on your respective card.

## 1.9 evaluationrestr

This is the evaluation version of akMPEG, which is SHAREWARE.

- in the unregistered version, MPEGs show vertical stripes when being replayed (except with the grayscale player)
- registered version shows filename instead of Copyright

MPEGs with black vertical stripes may look "darkened" compared to normal replay (I'd assume that's an optical effect).

## 1.10 history

V3.01 (21.9.99):

- fixed a few typos in the docs
- added info on how to use overlay with the Permedia cards BC- and CV-PPC (-> Jonathan Hart)
- updated system requirements; since there's actually no FPU code included (everything's eliminated by the preprocessor) there's no reason why akMPEG shouldn't even run on a 680LC040; we also compiled for 68030 now, so that 030-50 users are no longer "excluded" here (this shouldn't affect 040 performance anyhow)
- Aminet release

#### V3.00 (12.9.99):

- 68k and PPC: merged the four single players into one; this saves quite some space and results in a smarter setup; added new "-display" option to change the "output device"
- fixed problem with uninitialized return code (no effect with old code)
- PPC: fixed problem with IDCMP setup (no effect with old code)
- small changes everywhere :-)

#### V2.75 (9.9.99):

- added "LOOP" mode (-> Georg Rottlaender)
- in case internal MPEG stream creation did fail, the 68k version would not have released its MPEG filehandle
- unreleased version

#### V2.70 (8.9.99):

- spaces in MPEG paths did cause trouble (-> Tom Lively)
- added 3 new tooltypes (-> Tom Lively)
- (hopefully) fixed all remaining holes in error handling; in two (rare) cases we just would have exit()'ed without closing the display window and releasing the resources (-> Jonathan Hart)
- 68k: now making use of asyncio.library V39+ if present. Normal dos.library calls will be done, otherwise.
- PPC: we try to achieve IO speedup in a different way.
- GUI now does PPC auto-detection: if a PPC is present, the PPC players automatically become default. This also initializes ppc.library and its LoadSeg patch if not already done during system startup.
- Aminet release

#### V2.60 (3.9.99):

- small optimizations
  - huge speedup of overlay display (CV64/3D et al) (thanks to Frank Mariak for the hint)
  - fixed installer icon tooltype entries
-

(-> Jon Peterson)

V2.54 (2.9.99):

- PPC: better DCT code speeds up the others a little bit; it seems that 41.5 FPS somehow is a barrier, because they all end up there (perhaps the bottleneck is in the display hardware now again)

V2.53 (1.9.99):

- we calculate a little bit sloppier now in the 24 bit RGB modes (7th digit after decimal point, actually ;) and this gives us a few more FPS for these two players - not just on the 68k but also on the PPC...
- added speed measurement numbers, using the (not so big) juggling-gigs.mpg animation - if anyone likes to do comparisons, he should use this animation with other players; because of its size it also should help to minimize bandwidth effects (Z2/Z3 or PPC bus)

V2.52 (31.8.99):

- small changes
- Aminet release

V2.51 (22.8.99):

- PPC version no longer crashes on non-MPEG files; 68k version handles this case smarter as well now (-> Georg Rottländer)
- there was some debugging code left (slowdown ?)
- note: MPEGs with header 000001BA can't be played (only normal, with 000001B3). They do no longer crash, but unless explicite support has been implemented, you can't play these (-> initial hint by Georg Rottländer)
- MPGGUI now remembers path name (from previous selection) (-> Georg Rottländer)

V2.50 (21.8.99):

- added "mp24sc" and "mp8sc" screen replayers
- fixed a few things

V2.03 (21.8.99):

- the two 68k programs no longer are background programs, however all the four programs now are run asynchronously; this definitely is the better choice
  - used new MPGGUI design, as created by Georg Rottländer
  - fixed registration form (-> Georg Rottländer)
  - "?" via CLI no longer results in an (additional) "file not found" (-> Georg Rottländer)
  - 24 bit PPC version now reduces 68k calls by increasing internal buffers; not done for the 68k version, since there wasn't any
-

- significant difference
- there's now a close-gadget and the possibility to stop animation playing
- reduced IDCMP overhead (useful on PPC side ?)

#### V2.02 (20.8.99):

- there still was a major bug in the MPEG code (all versions); caused strange effects (looking like shadows, double images, ...). Noticed this on bigger animations the first time. Sorry!
- fixed version strings
- fixed docs

#### V2.01 (20.8.99):

- the GUI had a problem with spaces in path names and thus wouldn't have been able to start the MP players fromout a RAM disk

#### V2.00 (20.8.99):

- added PPC support
- added "-pubscr=name" option
- fixed a few minor things
- fixed PubScr release problem
- the external .wizard file of the GUI was missing
- 680x0 version now requires FPU

#### V1.00 (19.8.99):

- first release, not yet with PPC support

## 1.11 correspondence

\*\* General PerSuaSiVe SoftWorX WWW Support Site is <http://wdo.de/ark/>  
 \*\* - actually redirected to <http://www.ar-kleinert.de>

|                                             |                     |
|---------------------------------------------|---------------------|
| You may reach me the following way.         |                     |
| Send bug-reports, money or whatever to:     |                     |
| -----                                       |                     |
| * SuperView Development & Registration *    |                     |
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|                                             |                     |
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|                                             |                     |
| Until 16 Sep 99                             | As With 17 Sep 99   |
| Andreas R. Kleinert                         | Andreas R. Kleinert |
| Sandstrasse 1                               | Am Kornberg 48      |
| D-57072 Siegen                              | D-57076 Siegen      |

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EMail:

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When reporting any bugs, please don't forget to include a detailed description of the bug and tell me, if it is reproduceable or not. Please also mention the version number of akMPEG you used and describe your system configuration (Amiga model 500/.../4000T-060, Kickstart/OS, RAM, HardDisk, special configurations).

## 1.12 thanks

Thanks go to (in order of appearance ;-)

=====

(some of these people did register, others did make suggestions/bug reports - how about you ?)

- |                    |                |                 |
|--------------------|----------------|-----------------|
| - Georg Rottländer | - Frank Mariak | - Don Paul      |
| - Tom Lively       | - Jon Peterson | - Jonathan Hart |
| - Wilhelm Bumes    |                |                 |