

Frogger

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Chapter 1

Frogger

1.1 Frogger - Ultimate MPEG Player

Frogger - Ultimate MPEG Player
v1.57 (20-04-2000)

Introduction
Requirements
Features

Registration

Installation
Usage
VideoCD
PSX Movies and Audio

Speed

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Frogger home page:
<http://www.amiga.pl/frogger>

1.2 Introduction

Frogger is the ultimate MPEG video player, with MPEG-2 layer support. Frogger was originally released by Miloslaw Smyk (thorgal@wfmh.org.pl), recently, the development has been taken over by Sebastian Jedruszkiewicz (bjsebo@jota.wi.tuniv.szczecin.pl)

The MPEG1/2 decoder is based on mpeg2decode

created by MPEG Software Simulation Group.

Frogger is now shareware. Please read [Registration](#), to get idea about registering.

1.3 Requirements

Hardware:

- Amiga (68k or PPC)
- a CD-ROM for VideoCD playback
- 4 MB RAM (or was it 8?)

Software:

- ppc.library 46+ (PPC version).
- AHI for sound.
- CGFX v3+ for CGFX display.
- cgxvideo.library for overlay support.
- some mpegs to play ;)
- ppc.library emulation v0.7c, if you are using WOS.

1.4 Features

- video layer 1/2 decoding.
- Audio layer I, II and III decoding.
- Fast video & audio playback.
- Intelligent frame skipping.
- Overlay support.
- Fast C2P for AGA.
- Direct CGFX video memory access routines.
- Asynchronous disk reading.
- Video scaling on both CGFX and AGA.
- Support for reading VideoCD disks.
- Support for PSX movie and audio files.

1.5 Installation

No install script was made - just copy the executable file and guide wherever you want.

Note that there are 4 executables:

for 030,040,060 and PPC processor. Just pick the one that match your configuration. Note that Frogger needs frog.library to run. You can place it in libs: or just keep it in the directory where frogger is installed.

1.6 Usage

Frogger can be started from both CLI and icon. It requires big stack, I assume 100000 will satisfy. The PPC version is not that stack hungry, I believe 16000 will be enough.

I suggest to use setmemmode program to switch your memory to 60ns, like this:

```
setmemmode 60ns.
```

You could also try set (CYBER | BLIZZ)68KNOPRECHARGE and (CYBER | BLIZZ)PPCNOPRECHARGE, but it may not work with some ram.

You can also switch memory to 60ns using PPC boot menu.

!IMPORTANT!

If you are using WOS, and ppc.lib emulation, it can happen that system will show you that Frogger.PPC is not executable. This is because if ppc.lib is not in memory, system cannot load elf programs. Please install "InstallPPCLib" (refer to InstallPPCLib.readme for instruction). It will load ppc.lib into memory, and will not allow to flush it from memory.

Options:

TEMPLATE:

```
FILE, SCREEN/S, MODEID/K, NOAUDIO/S, NOVIDEO/S, DISPLAY/K
FULLSCREEN=FS/S, LOOP/S, FPS/N, FORCESTEREO/S, AUDIO8/S
VERBOSE/S, NOSKIP/S, MODEBYNAME=MBN/K, AHIUNIT/N,
BESTMODEID=BMID/S, QUALITY/S, VCDDEVICE/K, VCDUNIT/N,
SCALE/N, OVERSCAN/S, VOLUME/N, PUBSCREEN/K, PSXCD/S
```

FILE:

mpeg file to play. if no file is specified, asl will popup.
If you pass text VIDEOCD as filename, Frogger will read data from videocd disk. Read more here.

SCREEN:

open window on pubscreen. default to open on WB.

MODEID:

specify modeid for SCREEN or FULLSCREEN. this can be either decimal value (ie. 123456) or hexadecimal value (ie. 0x123abc)
Hexadecimal value can be passed as 0xnumber or \$number.

NOAUDIO:

turn audio off in files that have got audio track. By default Frogger will try to find if there is audio track available, and will decode audio if audio was found.

NOVIDEO:

Disables displaying of decoded frames. It means that video is actually decompressed, output UYV is converted to user requested format (grey, RGB, CLUT), but the output is not displayed on

screen or window. It may be used to measure how much time Frogger spends in display function, or to see how slow AGA is ;)

DISPLAY:

specify display method. by default Frogger will use color dithering (8, hi or true color, depending on depth of selected screen).

Display methods available:

VPLAYER - use cgxvideo.library video overlay feature.

VPLAYERGREY - use cgxvideo.library video overlay feature, grey.

VPLAYER can be used only on gfx card that supports hardware YUV -> RGB conversion. cgxvideo.library supports only CV3D card, but it also works on BVisionPPC/CVisionPPC. Please read chapter Overlay for info about using overlay on such a card.

Note that from version 1.41, vlayer can be also used with ↵

FULLSCREEN

parameter. Output will be scaled to fit whole screen (aspect will be preserved), But no zoomout/zoomin is possible. If you really ↵ need

zooming with this option enabled let me know, I will try to do something about it.

P96 - use the PIP feature of P96 RTG system. It works like VPLAYER option, only instead of using cgxvideo.library p96 system is used.

P96GREY - same like P96, but in grey.

GREY - greyscale output.

FILE - store images in iff files. Asl will pop up, to let you select base file name. Small window will be opened, and you will be informed about actual frame processed. output filename looks like this:
<basename>.xxxxxx, where base name is name you have selected in asl, and x is frame number (in 6 digit format, ie ↵
000001,000002,
etc).

? - will show you briefly information about available display types.

FULLSCREEN:

play mpeg in fullscreen mode (instead of window). Works on both CGFX and AGA. AGA display is limited to 256 colors, CGFX display support all pixel formats (except 8bpp=256c mode) available in cybergfx.library.

FULLSCREEN can be also used with VPLAYER display type, as long as your hardware supports vlayers.

LOOP:

Loops animation.

FPS:

limit fps. default to use frame rate from stream, any number to limit fps.

FORCESTEREO:

force audio track to be played in stereo. Default to mono, as it is much faster.

AUDIO8:

by default Frogger plays audio in 16 bits per sample mode. AUDIO8 will turn on 8 bits per sample decoding (lower quality, less cpu power required, may cause problems with synchronization).

VERBOSE:

turn on warning and other messages printing. default off. Also prints information about video & audio streams, frame per seconds , skipped frames etc. This option merges the old VERBOSE and STATS.

NOSKIP:

By default, Frogger skips some frames (if needed) to achieve frame rate from stream. NOSKIP will force Frogger to display all frames, without skipping. This is not very usefull with mpegs that have got audio track (there will be no synchronization). Also Frogger will try to display video at maximum possible frame rate, So you can use this switch for testing purposes. From v1.51, NOSKIP turns audio decoding off.

MODEBYNAME:

This parameter let you select screenmode by passing its name. like: MBN="Pal:Low Res"
Note that name must match exactly name that is displayed in asl (you can see what names are available using Sys:prefs/ScreenMode program)

AHIUNIT:

Let you specify AHI unit used for audio playing. Default is 0, you can select one of following numbers: 0 1 2 and 3.

VCDDEVICE:

Specifies device to use for direct reading videocd disk. Default is atapi.device

VCDUNIT:

Unit, on which you got your cd drive connected to Amiga. Default 1.

OVERSCAN:

Works on AGA only. If used, Frogger will open screen with overscan, if movie resolution is bigger that selected screen resolution. By default output will be scaled to fit screen size. With OVERSCAN opened screen will have the same size as mpeg, and can be scrolled with mouse.

VOLUME:

Sets initial volume for audio decoding. should be beetwen 0 and 64. Volume can be also controlled during playback using '[' and ']'

keys.

PUBSCREEN

Specify pubscreen name to open window on. default to open on Workbench. ie. PUBSCREEN DOPUS.1
Do not use with SCREEN option. user either PUBSCREEN or SCREEN (or FULLSCREEN).

PSXCD

If you want to watch PSX movies directly from PSX cd, you have to use this option. Unfortunately the auto recognition routines that was included in previous release doesn't worked, thats why this option has been added.

Other options does not work at the moment. Or works, but may cause problems. Do not use them.

ToolTypes:

All options available from CLI, are also available as tooltypes. Take a look at Frogger.info, all tooltypes are already there, just choose options you like.

Menu:

Options available from menu, are also available as key shortcuts. See keyboard section for explanation. Note that not all options from menu may work, as it is ot finished.

Keyboard:

ESC - Quit.
ESC - Quit.
+ - Zoom movie in.
- - Zoom Movie out.
O - Open new MPEG file.
SPACE - Play/Pause movie.
ENTER - Eject Movie (Open new MPEG file).
[- decrease volume.
] - increase volume.

Only in windowed mode:

RAMiga + Q - Quit.
RAMiga + 1 - Set size to 50 %.
RAMiga + 2 - Set size to 100 %.
RAMiga + 3 - Set size to 200 %.
RAMiga + 4 - Set size to screen size.
RAMiga + 0 - Open new MPEG file.

GUI:

Gui is right now available only in windowed mode.
- Slider seeks into movie. Works also with audio enabled.

- Eject gadget (up arrow) - open new movie.
- Play gadget (right arrow) - Play/Pause movie.

Other:

- Window close gadget quits Frogger.
- Frogger window is now an AppWindow. You can drop files that you want to play on it,

Some words about cgfx fullscreen mode:

You can select any mode you want (as long as the pixel format is supported). When selected screen size is smaller than mpeg size, output will be scaled to fit screen size. When mpeg size is smaller than screen size, output is not scaled. In both cases you can scale output with '+' and '-' keys. Aspect ratio is preserved, when scaling is made.

Scaling also works on AGA (only in PPC version)

1.7 Bugs

- CTRL-C handling in PPC version does not work. I had to choose between working tooltypes or working CTRL-C handling. I choose tooltypes...
- when 68k version is started from icon an output CLI window appears, and you have to press enter to continue.
- Dunno if the tooltypes in WOS version works or not, Please let me know.
- WOS version started from WB will probably crash.
- WOS version decodes PSX movie wrong. This is strange, because the same code is used in both PUP and 68k version and it works fine...

bug reports should be sent to:

Sebastian Jedruszkiewicz
bjsebo@jota.wi.tuniv.szczecin.pl

1.8 Authors

Frogger was originally created by Miloslaw Smyk

Now it is being developed by:

Sebastian Jedruszkiewicz
(bjsebo@jota.wi.tuniv.szczecin.pl)
main programming.

and

Przemyslaw Gruchala
additional programming,
68k assembler optimized routines.
(sensei@box43.gnet.pl)

and

Rafal Sanda
new VideoCD reading routines.
(rafal@lodz.pdi.net)

Please also look at our new service: Mailing List.

1.9 Future

- GUI (partially done)
- better audio - video synchronization
- support for HTTP:// protocol.
- CDI support.
- and lot more. My TODO list is growing, unfortunately
There is only 24 hours per day in Poland...
- AppIcon.

1.10 History

I've lost history file from 1.0 to 1.3.0,
only a quick brief:

- added sound, overlay, recompiled with egcs, 68k version
compiled with gcc, some optimizations in ppc asm, some
optimizations in 68k asm (done by Przemyslaw Gruchala),
asynchronous disk reading and more...

v1.3.1

- Sound on/off from menu now works.
- New AsyncIO routines. Does not requires asyncio.library anymore.
This is experimental feature, so please be careful with asyncio option.
Asynchronous reading is now done completly on PPC side.
- Support for videocd and cdi (experimental). Those files starts with
RIFF????CDXA. If you got such a movies please check if it can be displayed
using Frogger. Please contact me if it does not work with your files.
- 68k version available again.

v1.3.2:

- Completly new audio routines. much faster, and with some additional
features (like forcing to mono, or 8 bits per sample decoding).
based on mpg123 player sources.
 - fixed bug which caused Frogger to crash when decoding last sequence
picture.
-

(v1.3.3 and 1.3.4 not released)

v1.3.5:

- Audio is now played from 'Frogger Audio' task, which means that audio decoding is independent from video decoding. This gives almost smooth audio playback, now the only thing missing is synchronization between audio and video decoders.
- New timing routines, and picture skipping routines. Small mpeg (160x120) are now played synchronized with audio track, and almost without picture skipping.
- Added VERBOSE option. Annoying errors will be shown only if this option is enabled. ←
- Fixed bug in audio decoder. Now stereo audio track should be played properly.
- At last removed the sound delay at start!
- 68k version does not work on 030+FPU. I will fix it, in future.
- FULL switch has been renamed to FULLSCREEN=FS. It does work on cgfx but only with pixel format ARGB (24 bpp) RGB16 (16bpp) and LUT8 (256 colors). It also supports grey display. I will add support for more pixel formats soon. BTW: It seems that fullscreen 8bpp color mode is faster than windowed vlayer! Strange...
- Movies with width not 16 dividable were played wrong. Fixed.

v1.3.6:

- AGA Fullscreen support. only 256 colors mode is working right now. HAM modes soon.
- fixed dithering of MPEG-2 interlaced streams (or whatever it is called).
- fixed args reading, so now MODEID can be passed as decimal (ie. 135168) or hexadecimal (ie. 0x21000) number.
- fixed some small bugs in display code.

v1.3.7:

- fixed frame rate calculation, and audio synchronization.
- fixed video overlay support. Output should be now bilinear filtered, when window is scaled. ←
- added AGA fullscreen grey support.
- fixed audio routines. no more strange sounds, or 2x faster audio decoding.
- in fullscreen cgfx mode, movie can now be scaled using keyboard.
- added scalable window output on AGA (Przemyslaw Gruchala).
- added fullscreen support in 68k version (Przemyslaw Gruchala).
- fixed bug in window display code, that caused crash on AGA, when selected screen was smaller than mpeg size (Przemyslaw Gruchala).
- Frogger can now automagically detects audio tracks.
- Fixed bug that caused crash when file name was misspelled.
- Fixed vlayer support. No more strange stripes on WB, when using vlayer on screen.
- added size scaling from menu (and keyboard).
- fixed AGA full screen output.
- added scalable output in AGA fullscreen mode.
- created Frogger.guide.

v1.3.8:

- fixed audio track detection.
 - added FORCEAUDIO, in case the autodetection fails.
 - fixed writepixelarray() code. mpegs with size not 32 dividable should be displayed correctly.
-

- fixed AGA window display code (PPC version)
- added tooltypes support (Przemyslaw Gruchala, only 68k version)
- fixed AGA fullscreen display in 68k version (Przemyslaw Gruchala)

v1.3.9:

- fixed enforcer hit in window display code.
- fixed yuv->8bpp conversion in 68k version (Przemyslaw Gruchala)
- fixed enforcer hit, which appears when end of stream has been reached.
- fixed overlay support.
- some functions has been written in ppc assembler, minor speed increase.
- fixed bug in audio decoder (joint-stereo layerII was decoded wrong).
- modeid can now be passed as \$number (MODEID \$21000, or MODEID 0x21000 or MODEID 135168).
- fixed tooltype support in PPC version.
- BUFSIZE parameter now works.
- Added Vlayer clear code. When frogger is started second time in a row, window should be cleared, and will not contains previous movie last frame. Also optimized a bit vlayer conversion routine.
- Added ALLFRAMES switch.
- optimized audio decoding a bit.

v1.4

- Audio is now also readed by asyncio routines, which means that ASYNCIO is forced to true when audio is detected or forced. Also buffer size is set to 256000 when audio decoding is used. User can force it to bigger size, but smaller size will be ignored.
 - Changed FROCEMONO to FORCESTEREO. Mono is used by default, because it is much faster, and gives smooth playback even on high bitrated mpegs.
 - Added BGR24 pixel format in cgx fullscreen mode.
 - Fixed audio problem: on some mpegs audio was not played, even if there was valid audio track. now it should be ok.
 - Fixed again audio detecting routine, now audio should be detected correct in every mpeg. If not - contact me ASAP.
 - Added BGR16PC and BGR24 pixel formats. Some pixel formats are available only in PPC version, I will make conversion routines for every CPU, and every pixel format one day...
 - Fixed problems with opening new mpeg (menu->Open item).
 - GUI!!! Only in windowed mode, but it is a good start ;)
 - fixed problems with multiple video sequences.
 - some other small changes and bug fixes.
 - removed fps 0 feature.
 - added RGB15 pixel format.
 - fixed frame skipping. Frogger skipped too many frames - ok my fault. Now should be ok.
 - optimized vlayer again. result? dead2intro.mpg (176x112 allframes): 84,5 fps, previous version: 70fps. Not bad, huh?
 - applied the same changes to cgx fullscreen and: 84 vs 78 (in 256 colors mode).
 - optimized grey output in 8bpp fullscreen mode. (107 fps on the above mentioned mpg).
 - next day: even faster grey output. 116 vs 107 (still the same mpg). Added this feature to AGA display as well as cgfx 8bpp display.
-

- fixed bug, which caused crash on exit in PPC version.
- fixed slider functions, It now works ok (you can seek to any position you want) ←
but there are other problems I will fix later.
- Added FBlit support (Przemyslaw Gruchala).
- Added MODEBYNAME parameter. Can be used for specifying modeid by name. Sometimes fails to work (Przemyslaw Gruchala).
- fixed version string as requested by some people. also added version string to Frogger.guide.

v1.41

- At least fixed the bug that caused Frogger to exit in a middle of StarWars Episode I. Now I can watch the whole film ;)
- fixed bug with 'O' hotkey (open movie in fullscreen mode).
- added custom asyncio routines in 68k version. asyncio.library is not needed anymore.
- Added vlayer support in fullscreen mode!
- fixed MODEBYNAME parameter. (Przemyslaw Gruchala).
- scaling routines rewritten from scratch. Previous version caused a lot of problems. Should be stable now.
- fixed problems with mpegs without valid end of stream code.
- Loop option now works.
- Frogger does not exit at end of the movie now. It waits for user action. So you can select next movie. This can be turned off with AUTOEXIT parameter.
- Enabled overlaying in 8bpp mode again. It does not work on BVision/CVision. on other cards that supports overlaying it should work.
- Added FILE dither type. Instead of displaying frames are saved in iff 24bpp files.
- fixed audio synchronization routines. Introduced new bug in audio decoding: in small mpegs audio is skipped, and the whole synchronization stops working.
- fixed stats. no more '-3 frames skipped'.
- removed ASYNCIO parameter. ASYNCIO is now always used.
- optimized YUV->RGB conversion in 68k version (Przemyslaw Gruchala).
- Added sound decoding in 68k version.

v1.42

- I made a very stupid bug in 1.41, sorry for that. Asyncio routines should work now without problems.
- Optimized cache clearing in context switching. Replaced several CACHE_FLUSHALL with CACHE_FLUSHNO, which speeds PPC version a bit.
- recompiled 68k version. Due to the fact that sound causes a lot of problems it is disabled in 68k version. I know I promised to deliver Frogger with sound support in 68k version, but I just don't have time...

v1.43

- Optimized asyncio routines, by replacing memcpy routines with two buffers and simple buffer swap operation.
 - fixed and optimized timer routines.
 - AsyncIO task is now properly closed when new mpeg file is opened.
 - Frame rate is now set to 29.970, if there is no valid frame rate information in stream.
 - Asl requester now remember file path.
-

- Sound was played only once, when LOOP was used. Fixed.
- Added BG16PC pixel format in 68k version.
- Optimized grey dithering. Only luminance channel is decoded if user requested grey output. This gives about twice faster decoding in grey. 68k users will benefit from that ;)
- changed default bufer sizes to: 16384 (when there is no audio track) and 32768 when audio track is detected. This gives much smoother playback.
- fixed Amiga+4 hot key, window is resized now to screen_height - 1.
- New parametter: AHIUNIT, let you specify your preferred AHI unit. default is still 0.
- Optimized video decoding a bit, by using a faster memset replacement.
- changed ALLFRAMES to NOSKIP. This is better name for that switch, I think. Also changed DITHER keyword to DISPLAY.
- Cleaned the code a bit. Removed unused functions, executable size is smaller.
- Optimized VLAYERGREY conversion routine (1-2%).
- BUFSIZE, FPS, and AHIUNIT parametters were wrong converted, when Frogger was started from icon. Fixed.
- New switch: NOVIDEO.
- Optimized IDCT in 68k version.
- Fixed PLL calculation in timer routines.
- Added P96 display.
- I have just discovered, that Frogger fails to find valid audio track in some movies. In that case try to increase BUFSIZE (65536 or even more). It will be fixed in next version. Also I had to disable audio preloading, so it may be not enough data to start audio in the same time as video is started. In this case use AUDIO16 and/or FORCESTEREO, so the audio buffer will be filled faster, and the sound will be less delayed.

v1.44

- fixed an enforcer hit in options parsing routine.
- fixed a bug in block decoding routine. It does not caused "bad things" but it is better to have it working as it should.
- IDCT is performed on blocks that really needs it. average 10 to 30% of blocks in movies does not requires IDCT calculation. Even more in grey mode.
- New Frogger icon, for OS3.5 by Patrick Beerhorst.
- New Frogger drawer icon, by Przemyslaw Gruchala.
- Fixed bug which caused recoverable alert at end of movie. I tried to free memory that was already free.
- Added possibility to query for available display types. Frogger DISPLAY ? will print short info about available types.
- added pattern filtering to asl requester. (mpg|mpeg|dat)
- The files saved when using FILE display type is actually basename_x.iff not basename.x, as I wrote before. Sorry for that.

v1.45

- Optimized yuv-rgb conversion in hi and true color mode.
 - CGFX fullscreen routines has been reworked. They are much faster now. The speed increase is noticable only in RGB15, RGB16 and ARGB32 pixel formats, other may be slower. New conversion routines for other pixel formats soon.
 - Talking about the speed: there is new section in this guide, with speed tests. Take a look.
 - Fixed bug with too small BUFSIZE. Audio track should be now
-

properly recognized in all streams. A minus: BUFSIZE parameter is not working anymore.

- Merged STATS and VERBOSE options together.
- Enabled audio preloading.
- Asyncio routines has been optimized a bit.
- Audio decoder has been optimized. AUDIO16 has been changed to AUDIO8 and by default audio is decoded in 16 bits per sample. 16bps decoding is now almost as fast as 8bps.

v1.47

- 68k version does not need FPU any more.
- Fixed XING streams frame rate calculation.
- FORCESTEREO tooltype did not worked. Fixed.
- Fixed some enforcer hits.
- Added audio decoding in 68k version. It is slow. Very slow.
- Optimized video decoder. Video is decoded about 1-4% faster.
- Reworked audio routines.
- Frogger now works under wos, thanks to new ppc.library emulation. You will need 0.7a, which is available on Frank Wille home page. The one from aminet (0.7) can cause problems when audio is disabled. Because of some incompatibility with PLL calculation in original and emulated ppc.library, I also made a quick workaround to make timer routines works under emulation.
- recompiled everything with gcc 2.95.2.
- Reworked asyncio routines. New demultiplication routines.
- There is new program called Splitter. It splits mpeg system stream (system stream is an MPEG with audio and video tracks) into separated files.
- New C2P in PPC version, that supports scaling. Much faster on AGA machines when scaling is enabled. Those C2P was made by Jacek Cybularczyk.
- Frogger now looks for FBlit installed in your system (if you got AGA). FBlit support is enabled automagically if FBlit was found. If you got AGA, please install it, it will speed a lot of things.
- A bit faster direct CGFX routines. But they may cause problems. Please contact me in case of wrong display on CGFX.
- Two new icons (for os3.5) delivered by Pavel Narozny.
- A lot of other small changes in both video and audio decoder.
- Added support for Apple muxed MPEG Media. I found only 2 such a streams on net so far, but If you got such a files, you can now watch them using Frogger.
- Temporary removed MPEG2 support. I will enable it again, when I'll be sure that it works correctly.

v1.48

- The new C2P, that can perform image scaling, are now also used in windowed mode on AGA. the difference is HUGE.
- 68k version available.

v1.5

- Added direct VideoCD support!!! (only in PPC version).
 - There is new mailing list, dedicated to all our programs (including Frogger, VisionFX and SoftCinema). To subscribe send blank message to: tvision-subscribe@egroups.com and then follow the instructions.
 - Fixed an ugly bug in P96 display code.
 - Removed BUFSIZE, FORCEAUDIO and AUTOEXIT parameters.
-

- New parameter: FASTDIRECTCGFX. It will speed direct video memory access routines, but may be dangerous. I have not got single crash when using this option, but who knows? If there will be no problems with it reported by users, this option will be enabled by default.
- Fixed (at least I hope so) bug which caused Frogger to lock at end of some movies.
- Reworked main loop, simplified messages received code. Also I have added some new keyboard commands.
- Fixed slider code. It now 'almost' works, with sound disabled. Also Pause/Play now works.
- +/- keys can now be used also in windowed mode to scale display.
- switched to faster IDCT code in 68k version. Applied the same changes in PPC version. IDCT code is about 10% faster now, But it gives only 2-5% overall speedup.
- Replaced calls to WritePixelArray with my own fast direct routines. Also scaling is now done by CPU; ScalePixelArray calls has been removed. Windowed mode is now really fast.
- Added support for every possible pixel format supported by cybergfx. However, I have tested only some of them. in case of problems, please use VERBOSE option, send me output and (if it is possible) make me a screenshot. Almost forgot - there is no conversion for 8bpp cgfx screens. But who needs it? However, 8bpp mode works in grey. Of course 8bpp mode works on AGA machines.
- Updated Speed section.
- Switched back to old pll calculation code. Frogger now needs latest ppc.library emulation (v0.7c) if you working under WOS.
- version string is now y2k compatible ;)
- It was impossible to exit (in some movies), when LOOP was used. Fixed.
- Again I had to fix main loop, to be able to read multiple video sequences movies. It now works ok. Thanks must go to Mirosław Bagrowski, for sending me CD with such a movie.
- Changed filename format for saving iff images. it now looks like this: basename.x, where x is frame number (6 digits: 000001,000002,etc.).

1.51

- Frogger failed to recognize the RIFF streams (a vcd ripped streams) Fixed.
- Seeking with audio is now possible. May cause deadlocks, so be carefull.
- Frogger crashed when new mpeg was opened. Fixed.
- 'DISPLAY FILE' caused crash. Fixed.
- 68k version available again. 030 version will not be supported anymore. Do not ask for that. Buy better CPU.
- 68k version does not need ixemul.library anymore.
- Audio in 68k version is now decoded using the same decoder as in PPC version. This is slower, but at least it works.
- Scaling routines in grey mode were broken. Fixed.
- The same bug was in color dithering routines (when image was scaled). Fixed.
- On some VideoCDs Frogger failed to decode correct stream resolution (it was always 0x0). Fixed.
- From now on, NOSKIP turns off audio decoding.

1.52

- Ok, I made the 1.51 release too fast. There was a serious bug, which caused frogger to crash at start. I am very sorry. Please
-

forgive me...

- Frogger now shows mpeg resolution in asl requester ("Select Screen Mode (352x288)" for example), as suggested by Mirosław Bagrowski.

1.53 & 1.54

- Sometimes white stripes were visible on decoded image. Fixed. The fixed routine is now also a bit faster. (0.02%);
- Fixed several other bugs. stability has been improved.
- Fixed pen allocation handling. Pens were not released.
- New, faster demultiplication routines.
- There were enforcer hits, when frogger was started under WOS. Fixed.
- Changed window title to: "Movie: filename (widthxheight)". Blame Mirosław Bagrowski for that suggestion ;)
- Added missing YUV->8bpp conversion routine (cgfx). It has been optimized, and is also used in AGA display right now. It seems like the 8bpp mode is fastest again ;) (on cgfx of course).
- New stream recognition routine. The previous one had problems with some streams.
- 68k version crashed when stream could not be recognized. Fixed.
- fixed problems with audio decoding. Also the audio task sometimes failed to exit properly, which should not happen again.
- Applied some bugfixes and patches done by Przemysław Gruchala.
- PPC AGA memory cleanup routine was broken (mis-aligned FreeMem) Fixed.
- VideoCD reading is now supported in 68k version.
- A lot of small optimizations in video decoder. As a result video decoding is 5-10% faster (depending on options used). Check the Speed section.
- A lot of other bug fixes.
- There is new Splitter, new Argue GUI, and mpegjoin ready to download at Frogger home page.
- Last but not least: status of Frogger has been changed. Now it is shareware. See Registration .
- There will be a lot of new features added, as soon as I will find a day or two free...
- After receiving a couple of request, I decided to resurect 030 version.
- Fixed some problems that appeared on picasso running systems.
- Rafał Sanda has made a great job with the SCSI support for VideoCD option. God bless him ;)
- Frogger now needs frog.library to run. It is included.

1.55

- Seeking when playing videocd is possible now.
 - Fixed seeking code, now it works almost perfectly. However, you should be carefull with seeking, It sometimes causes deadlocks.
 - Fixed display code, to show properly mpegs with visible width different then coded width. It still does not work in fullscreen grey mode and overlay.
 - Changed hi/true color yuv->rgb conversion to faster, and also more accurate one. The image quality is now a bit better.
 - 68k version is available. Recomplied with gcc2.95.2. Thanks to the optimizations made in 1.54, it now is 2-3 fps faster. Please note, that if you got 68030 or 68040, Frogger
-

is not restricted. The shareware restrictions are applied only if you got PPC or 060 CPU.

- Enabled MPEG-2 support.
- Changed yuv-rgb conversion routines to work with MPEG-2 sequences. It still does not work correctly with interlaced streams, but at least it works, and you can watch mpeg-2 sequences.
- You can now watch DVD movies (.VOB) but you have to add NOAUDIO switch, because there is no AC3 audio decoder yet. I will add AC3 decoder soon.
- Changed asyncio routines, they shouldn't cause that much slowdown as before, when disc access is made.
- WOS version is available. The features list is the same as PUP version, but I don't know if the tooltypes in WOS version works or not.
- Changed the vlayer display code, should be a bit faster now.
- Polish guide is available.
- In case someone would like to have Frogger icon with "The Frog(tm)" in different color, there are additional colorful "The Frog(tm)" icons in Frogger archive.

1.56

- Fixed AGA display code.
- New option OVERSCAN. Enables overscan support on AGA.
- French translation of this guide is available. It was created by Thillot Lionel.
- Fixed LOOPing in 68k version.
- Fixed bug that was causing crash when videod device could not be opened.
- Mouse pointer on fullscreen is now hidden.
- Changed stream recognition routines to handle some non-standard mpeg headers.
- It is now possible to register Frogger (& SoftCinema too) online via reg.net service. It is explained on Frogger home page, and somewhere in this guide.
- Added audio volume control. Only from keyboard right now.
- Menu item "Enable Audio" now works, but only if audio was enabled at start. If it was disabled, it can not be switched during playback.
- New options: PUBSCREEN, VOLUME, FORCEMPEG, OVERSCAN. see guide section 'Usage' for more details.
- Added support for PSX movies (str, fmv) and str audio (xa,ixa). see PSX section in guide for more details.
- New frog.library version 1.3. It is required!
- There can be now a couple of Froggers running at the same time. Only one of them can decode audio.
- Optimized a bit seeking feature.

1.57

- Fixed bug in PSX movie decoder, which caused lock when audio was enabled.
 - Optimized both video & audio PSX decoder.
 - Added time synchronization in PSX movie decoder.
 - Fixed frame rate calculation in PSX movie decoder.
 - Fixed a bug in PSX video decoder, which caused lock at end of movie.
 - Fixed another bug which caused crash with some strange video resolution.
 - Added support for PSX movies in version 3.
-

- Fixed enforcer hit introduced in 1.56, related to pointer clearing on fullscreen.
- Added .STX and .MOV to file pattern in ASL requester. Some psx movies have such a extension.
- Fixed overlay support.
- Optimized a bit macroblock decoding routines (MPEG).
- Frogger can now play Playstation movies from hd.
- Frogger now shows logo and waits for user action, if no filename was given at start.
- Added new menu with PSX stuff. This include PSX CD->HD copier, CD analyzer, and CD index loader.
- FDC options has been removed, FastDirectCGFX routines are now always used.
- Started to move all errors/warning messages to requesters, instead of CLI output.
- Removed FORCEMPEG option. If you want to watch psx movies from psx cd directly, you have to use PSXCD option.
- Frogger window is now an AppWindow. You can drop file on it, and it will be played. Multiple selection dropping is not supported right now.
- Again I had to change MPEG recognition routines. I hope it now works with any MPEG file...

1.11 Overlay

What is overlay? It is a special feature of gfx card, which have got a lot of advantages:

- colorspace conversion is done by the card (more cpu power can be used for audio or video decoding) mpeg video uses YUV color space, and it has to be converted to RGB before displaying. In overlay mode this conversion is done by graphic card.
- scaling is done by graphic card. It means ,that you can (in theory) scale small window to fit whole screen without speed decreasing.
- Also when output is scaled, graphics card uses bilinear filtering to eliminate zoomed pixels.

Frogger supports overlay using cgxvideo.library. This library was designed to work with CV3D board, but it also works with BVISION/CVISION cards!!! Remember that it can be used on BV/CV only on screen with depth >= 15. On other cards (like CV3D) it works in 8bpp mode too. To use Overlay feature on CV/BV card do the following things:

- install cgxvideo.library (libs: is a good place to hold this file ;)
- in your BVISION/CVISION monitor icon add tooltype:
VLAYER=DESTRUCTIVE
- reboot.

Now you can enjoy the overlay feature. Remember that this is a hack and it may cause problems (if running on other screen than WB, some

strange stripes may appears on WB).

1.12 Thanks

I should thanks several people for help, suggestions and bug reports:

- Jacek Cybularczyk, for GUI, and some cool optimizing suggestions. Also for suggestion how to fix slider code, and the new C2P.
- Stephen Brookes (FBlit author) for suggestions about FBlit support.
- Luca 'Hexaae' Longone for Frogger icon (the new one).
- Patrick Beerhorst for the OS3.5 Frogger icon.
- Pavel Narozny for another 2 OS3.5 icons.
- Patrick Beerhorst for great Frogger home page.
- Mirosław Bagrowski, for the Armageddon CDs.
- Rafał Sanda for great job done on SCSI support for VideoCD.
- Dariusz Gawerski, for the CD with MPEG-2 sequences.
 - Thillot Lionel, for the French translation of the guide.
- and others I dont remember right now... They know ;)

1.13 Speed

Recently I have made some test, comparing Frogger to 2 other PPC mpeg players. All test were made on al200 + 64Mb + 604/200 + 040/25 + BVision. animations were played from RAM:, audio was disabled. Here is what I got.

Please note, that all test were made in fullscreen mode (AMP and Frogger), only Isis was tested using windowed mode (there is no other available ;)

clip1.mpg, size 176x112 900 frames, stream rate 30fps.

Frogger 1.54(1.5) AMP Isis

8bpp grey: 161.95 (150.09) 116.86 N/A

8bpp color: 113.39 (82.66) 76.95 49.04

15bpp: 101.06 (93.18) 75.13 62.68

16bpp: 101.32 (93.05) 75.11 62.99

24bpp:	81.63 (74.23)	67.17	46.05
Overlay:	74.65 (67.15)	N/T*	55.12

* I was unable to run this program in Overlay mode.

clip2.mpg 352x288 1500 frames, stream rate 25fps.

Frogger 1.54(1.5) AMP Isis

8bpp grey:	31.30 (28.35)	21.79	N/A
8bpp color:	21.73 (15.86)	13.91	10.46
15bpp:	19.45 (18.21)	13.79	16.07
16bpp:	19.47 (18.22)	13.78	16.02
24bpp:	15.78 (14.24)	12.41	10.87
Overlay:	17.34 (14.39)	N/T*	13.21

* I was unable to run this program in Overlay mode.

Options used:

Frogger: NOAUDIO FS FDC NOSKIP VERBOSE (+DISPLAY GREY in grey test, and
DISPLAY VPLAYER in overlay test).

Version used was 1.54

AMP: REQUESTER SPEEDHACK FRAMERATE 1 (+GRAY in grey test, and OVERLAY
in overlay test).

Version used was 1.30

Isis: SKIP was set to zero, AUDIO to mute, FRAMERATE to maximum.
FAST was set to on.

Version used was 2.12

1.14 VideoCD

<!!IMPORTANT!!>

Only VideoCD is supported at the moment. Reading CDI disks may not work.
I am working on that.

</!!IMPORTANT!!>

VideoCD is a special format of CD, a bit different than normal ISO CD. The main difference is, that on VCD disks, block size is bigger than on normal disks. On ISO cd's it is 2048, on vcd it is 2324 (error corection block is not present, and it is used for storing data, which gives more room for video & audio stream). Unfortunately there is no cd filesystem

available for Amiga, that is able to read such a cds. And that was the reason to do a direct support for such a cds.

How you can get Frogger to work with such a cds?

- 1) instead of providing a file name to read, type VIDEOCD
(Frogger VIDEOCD other_options)
- 2) if you are using different device than atapi.device for accessing CD-ROM add option VCDDEVICE your_device.device. Default is atapi.device.
- 3) if your cd drive is running on other unit than 1, add option VCDUNIT <your_unit>. Default is 1.

After a while a small window will popup, with cd contents. you will see all track available. Select the one you want to view, and click OK button. Note that usually first track is normal ISO track, and the movie is on the second track. You will see sizes (in minutes:seconds format), and you should decide which track is videocd track:

```
Track1, length 00:08
Track2, length 65:21
```

For sure the videocd track is track number 2, because i can not imagine a movie that is only 8 seconds long ;)

(As you can see, there is no track name listed in the window, as soon as I get some information how to read track name, it will be added).

Rafal Sanda has wrote SCSI support for Frogger, so it should now work on every cd-drive. If it does not work - please contact me or Rafal Sanda (rafal@lodz.pdi.net) We will try to find a solution.

I remember seeing a text somewhere on the net, that it is impossible to read videocd directly on Amiga, and also information that I should ask author of filesystem I am using for VideoCD support.
What can I say? Someone was apparently too lazy to write a couple lines of code...

1.15 Mailing List

We have just started new mailing list, dedicated to all TotalVision products (Frogger,SoftCinema,VisionFX). To join, send a blank message to

tvision-subscribe@egroups.com

(no subject, or message body needed) then follow the instructions.

You can also go to [egroups.com](http://www.egroups.com), to read old articles:

<http://www.egroups.com/lists/tvision>

1.16 Registration

Thats right - Frogger is now a shareware program. Unregistered version is limited in 3 ways:

- a) If movie is really big, you can watch only 6 minutes of the movie.
A sort of teaser ;)
- b) If movie file size is less than 20Mb, Frogger will play only 30% of it.
- c) If movie is really small (less than 756kb) Frogger will play it all.

PLEASE NOTE: If you got CPU <= 68040 (68040, 68030, 68020 68010 or 68000) the shareware restrictions are not applied. I dont think anyone will have fun watching mpegs on such a CPU ;) However, you can send me some money or some cool stuff (like CD with movies) if you like this software...

Registration fee is 30DM (15\$). I accept other currency.

To get you personal key you have to send me the money. You can send me money in envelope, or register online via reg.net:
<https://secure.reg.net/product.asp?ID=7008>
(Frogger registration)

<https://secure.reg.net/product.asp?ID=7030>
(Frogger & SoftCinema multi registration).

Ludki z Polski moga wpłacic pieniadze na konto (numer ponizej) wyslac przekazem, lub listem. Do wyboru do koloru ;)
Opłata wynosi w przypadku rejestracji z Polski jedynie 30PLN.

Moj numer konta:

Bank Pekao SA I O. Szczecin
Nr. konta: 11001366-505215-1118-111-0
Posiadacz konta: Sebastian Jędruszkiewicz

Here is my address:

Sebastian Jedruszkiewicz
ul. P.Jasienicy 4/7
70-492 Szczecin
Poland

To be able to generate a key file for you, I need following things:

Your name,
Your email address,
Country.
CPU type (PPC or 68k)

1.17 PSX movies and audio support

Please Note, that support for psx files is experimental, and may contains a lot of bugs.

Frogger has now new feature: support for psx movies (.str .fmv) and for psx audio files (.xa .ixa). Because that files are stored on cd in a way that is similiar to videocd, it is not possible to copy it to hd. Frogger can read them directly from CD.

There is new menu, with functions related to PSX movies. Right now only CD->HD works, and lets you copy psx file from cd to hd. Frogger can now also play PSX movies from HD.

How to grab files from cd:

Run frogger without any options. From PSX menu select "CD->HD" Asl will pop up - select the file on psx cd. another asl will pop up - enter file name to save psx movie. There will be a simple window with progress bar shown, you can abort this operation by clicking "Abort" gadget any time you want.

Frogger can now automagically determine device and unit of cd on which selected file is stored. You do not have to use VCDUNIT and VCDDEVICE options anymore.

Frogger can automagically determine if selected file is movie or audio data (or anything else) so you do not have to worry about it.

Video:

Str files contains usually video sequences with audio. Belive me, some of those movies are just great ;) If you want to play it with Frogger, just select the one you want to view. NOAUDIO and NOVIDEO of course works. However if you use NOVIDEO with psx movie file, only audio will be decoded. All other options works just like with mpeg files. Seeking works (much better that with mpeg ;)

Audio:

XA files may contains up to 15 different audio tracks. Right now Frogger can only play track 1, I will add menu to select track later. Seeking of course works.

Thats all. If you will find movie or audio file that can not be played (or is played wrong) please let me know. Just tell me the title of the psx game, or send me this cd ;) there is also new option in menu, for ripping PSX files from cd, and storing them on HD. In case you will find a not working file, just rip it, and send me something about 200kb.
