

PNG-Box

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WRITTEN BY		December 19, 2022	

REVISION HISTORY

NUMBER	DATE	DESCRIPTION	NAME

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Chapter 1

PNG-Box

1.1 PNG-Box_Documentation

PNG-Box V3.10 (5.9.1998)

- SHAREWARE -

© 1997-98 by Andreas Ralph Kleinert. All rights reserved.

A PerSuaSiVe SoftWorX PRODUCT.

Needs Kickstart V2.04. Kickstart release 3.x compatible.
GUI created with StormWizard 2.0

Actively supports PowerPC (TM) via powerUP (TM)
and ppc.library.

<Commercial> BTW: What is SViewNG ? </Commercial>
<Commercial> Already tested PMPro ? </Commercial>

REGISTER NOW

Copyright

Disclaimer

Distribution

The program's purpose

How to install it

Free algorithms...

PNG: successor of GIF

...and free speech !

68020-68060, PPC

Where to obtain Updates from

How to use it

Evaluation restrictions

Correspondence

Thanks

Version-History

PowerPC (powerUP) support

What can be expected ?

— // —
Only \X/ Amiga makes it possible.

Please visit:

PNG-Box Support Site
<http://www.amigaworld.com/support/png-box/>

SuperView WWW Sites
http://home.t-online.de/home/Andreas_Kleinert/
<http://www.amigaworld.com/support/sview/>

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

1.2 copyright

The program PNG-Box in this version and its documentation files are (C)opyright 1997-98 by Andreas R. Kleinert. All rights reserved.

The right of using this program is granted to you by paying the SHAREWARE-fee of 25 DEM (15 US\$) [email shipment], respectively 30 DEM (20 US) [snail mail shipment] to the author.

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

PNG-Box makes use of SuperView-Library, which is (C)opyright 1993-98 by Andreas R. Kleinert and comes separately. It has its own distribution and usage conditions. Read carefully.

This software is based in part on the png reference library (including libpng and zlib), which allows being used e.g. for freely distributable and commercial programs.

libpng:

libpng 1.0.2
Copyright (c) 1995, 1996 Guy Eric Schalnat, Group 42, Inc.

Copyright (c) 1996, 1997 Andreas Dilger
Copyright (c) 1998 Glenn Randers-Pehrson

zlib:

zlib 1.1.2
(C) 1995-1998 Jean-loup Gailly and Mark Adler

Some of the mentioned names or products above may be copyrighted by companies or trademarks of companies.

Should any of the listed terms and clauses within this document not be valid in conjunction with the law of certain countries this does not affect the validity of the other clauses.

1.3 disclaimer

The author takes no responsibility for any results of the use of this program.
This software is provided "AS IS" and there is no warranty of any kind, so that you use this software at your own risk.

The author reserves the right to discontinue development of the program.

1.4 distribution

Registered users which paid the SHAREWARE-fee get the rights described on the registration form.

The REGISTERED version of PNG-Box MUST NOT be redistributed.
The Distribution of Keyfiles is FORBIDDEN.

The following only applies to the unregistered evaluation (EL) version of PNG-Box:

The program PNG-Box in this version is freely distributable (SHAREWARE). You may copy it, if the copyright notice is left intact and all of its parts are included in the distribution.
This program must not be included in commercial packages or commercial program collections without my written permission.
This program must not be sold in any way, but it is allowed to take a nominal fee including the costs for copying.

This program may be put on public domain disks or included in public domain disk libraries.

Special permission hereby goes to Fred Fish's AmigaLib-Disks and the german series (in alphabetical order):
AmigaSzene, BerndsPD, FRANZ, GPD, SaarAG, TAIFUN and TIME.

This program may also be distributed via electronic mail and may be put into mailboxes as long as the redistribution conditions are

respected in all points.

By using or distributing this program you automatically agree to all of the above conditions and terms.

1.5 PowerPC (powerUP) support

PNG-Box includes a PPC native PNG **saver** module - which is really extremely fast - that can only be utilized fromout the registered version ("PNG-Box.elf" won't be loaded and used unless you've registered PNG-Box and installed your personal keyfile).

Besides that, there are several PPC modules available for use with SuperView-Libray, which PNG-Box utilizes for **loading** graphics:

Concept: loadable PPC-Modules for use with ppc.library V45+

The most time-consuming routines of certain modules of SuperView-Library have been ported to native PowerPC code and perhaps will profit a lot from the presence of an installed powerUP system.

These "native modules" are located in a new subdirectory of LIBS: called "svppc/", with subdirectories for each of SuperView-Library's module types.

If any "native modules" are present, these will be used whenever applicable. Should none of these modules be available, then this does not matter, since the plain 68k code (which may be optimized for a certain 68k CPU, though) will be used instead (fallback option).

Note, that SuperView-Library's native modules won't replace any of the existing libraries or modules as such - they only do supply specialized routines in native code for certain tasks.

When running any PowerPC code, you should have made sure, that there's enough RAM on the powerUP board available - at least in an A4000 the RAM interface from the CPU card (e.g. A3640) to the mainboard is so slow, that even a 68040 could not access Fast RAM with full speed, so possibly a PowerPC would suffer from the same problem.

You should take care, that there's still enough "fast" Fast RAM available, even if all the libraries and code have been loaded: usually the graphics are loaded at last - a 1024x768 graphics in 24 Bit will just take 2.4 MB and in a dithered version again around 790 K.

If there's enough "fast" Fast RAM available, you can expect high speed increases with most basic operations, especially when internal representation conversions do take place.

(See the documentation of the single modules for further information.

PowerUP support usually is marked separately, on top of the module documentation.)

Availability

NONE OF THE PPC MODULES ARE FREEWARE - THEY WON'T APPEAR ON AMINET.

52 modules (+/-) are made available in a special powerUP PPC plugin module package, which e.g. can be bought by registered SuperView/SViewNG users or will be included with some commercial programs.

Also, there will follow some PPC modules, which will only be available for exclusive shipment with some commercial programs (as also are the concerned SV modules).

This is high end software, and its development must be financed - so you have to pay for it to help ensuring further development.

The following modules are available right now:

```

svdrivers (dir)
svoperators (dir)
  24BitToHam_ham6.svm          24BitToHam_ham6quick.svm
  24BitToHam_ham8.svm          24BitToHam_ham8quick.svm
  AnyTo24Bit_HAM.svm           Dither24Bit_floyd.svm
  Dither24Bit_ordered.svm      HilbertDither256_code.svm
  OptimizePalette_code.svm     PaletteDither_code.svm
  RotateFree_24.svm            RotateFree_8.svm
  Scale50_Double.svm           Scale50_Half.svm
svobjects (dir)
  24BitToHam_ham6.svm          24BitToHam_ham6quick.svm
  24BitToHam_ham8.svm          24BitToHam_ham8quick.svm
  BMP_Decode.svm               BMP_Encode.svm
  BMP_Plain.svm                DEEP_Decode24.svm
  HJG_Efdpef.svm               HJG_Fmdpef.svm
  ILBM_c2p_24.svm              ILBM_CBR_Decode.svm
  ILBM_CBR_Encode.svm          ILBM_p2c_24.svm
  JPEG_code.svm                PBM_Decode.svm
  PBM_Encode.svm               PCD_yuv.svm
  PCX_Decode24.svm             PCX_Decode4.svm
  PCX_Decode8.svm              PCX_Encode24.svm
  PCX_Encode4.svm              PCX_Encode8.svm
  PICT_code.svm                PNG_code.svm
  RGB8_Decode.svm              RGB8_Encode.svm
  Targa_Decode1.svm            Targa_Decode16.svm
  Targa_Decode24.svm           Targa_Decode8.svm
  TIFF_code.svm                WPG_Decode1.svm
  WPG_Decode4.svm              WPG_Decode8.svm
svsupport_c2p.svm              svsupport_p2c.svm

```

PLEASE NOTE, THAT NUMBER AND KIND OF THE PPC MODULES ARE SUBJECT TO CHANGES.

Picture Manager professional (PMPro) V5 already does include these modules, plus additionally the following exclusive PPC plugins (for SVOperators that also are exclusive to PMPro):

```

libs/svppc/svoperators
  Blur_24.svm                Convolve_24.svm
  DitherFix24_Floyd.svm     EdgeDetect_Plain.svm
  ScaleFree_24.svm          ScaleFree_8.svm
  Sharpen_24.svm

```

PLEASE NOTE, THAT NUMBER AND KIND OF THE PPC MODULES ARE SUBJECT TO CHANGES.

Where to obtain from ?

The PPC plugin modules basically already are part of Picture Manager professional V5 (or any upgrade from earlier versions).

Additionally, the (non-exclusive) PPC modules also can be ordered by registered (as well as newly registering) users of SuperView/SViewNG or ImageEngineer.

For details, please see the registration form coming with SViewNG.

1.6 purpose

PNG-Box is a program that has been designed to write PNG files for WWW usage as easily as possible.

It can read any file format SuperView-Library does support and can make a PNG file out of it (see USAGE section for details):

- support of external Fileformat-Libraries (SVObjects):
- IFF-ACBM - Windows,OS/2 BMP - PNM (PBM,PGM,PPM)
- IFF-ILBM - JPEG (JFIF v6) - IMG (GEM Graphics)
- IFF-DEEP - PhotoCD - WPG (WP Bitmaps)
- IFF-FAXX - TIFF - MacPaint MAC
- IFF-PBM - PCX - EPS (Header/PS)
- IFF-RGB8 - Atari Degas - C64 (Koala, Doodle)
- IFF-YUVN - Windows Icon - CDR-Previews
- QRT/POV Raytrace - Mac PICT-2 - SGI
- SVG - Targa - Pictor/PCPaint
- SunRaster - UtahRLE - PNG
- FBM - XWD - Amiga Icons (WB/Magic/New)
- IFF-RGFX - TIM - CVP (passphoto)

as well as all OS3-Datatypes and 24 Bit DataTypes (picture.datatype V43).

Many formats with 24 Bit-Support.
Reads XPK- and PP20-packed data via Unpack.svobject.

Writes C-Sourcecode in chunky/RGB notation.

Together with external third party programs also the following file formats seamlessly can be embedded:

File Format	needs program	also needs support for
- AMF	MetaView	(ILBM)
- DXF/AutoCAD (tm)	MetaView	(ILBM)
- FIG	AmiFIG	(Postscript)
	or: MetaView	(ILBM)
- CGM	GPlot	(Postscript)
	or: MetaView	(ILBM)
- IFF-DR2D	MetaView	(ILBM)
- IFF-DRSD	MetaView	(ILBM)
- Limbo	Limbo 4.0	(PNM)
- Postscript (TM)	Ghostscript	-
- WPG-Vector	MetaView	(ILBM)
- WMF	MetaView	(ILBM)

- support of external periphel devices (DEVICE-access SVOjects):
 - Scanner (scanner.device of ScanQuix)

1.7 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 have to copy the following libraries to your "LIBS:"-Directory (plus SVObjects, SVDDrivers and SVOperators):

- superview.library V19+ (newer versions recommended,
- superviewsupport.library V11+ check Aminet)

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 V44+ (newer version recommended,
check ftp.phase5.de)

1.8 updatenote

General

~~~~~

Although the PNG-Box 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/conv/PNG-Box.LHA

SuperView-Library can be found under Aminet:gfx/show/SViewNG.lha

## 1.9 usage

The GUI is quite self-explaining:

You can load SuperView-Library support formats from:

- disk
- clipboard
- specific devices (Scanner, etc.)

and save these as PNG files with the following options:

- progression on/off
  - transparency on/off (and set a color ranged 0..maxcolors)
  - compression 0..9
-

The GUI will display some useful information about the work being done, there are also some useful menu entries.

That's it :-)

## 1.10 evaluationrestr

This is the evaluation version of PNG-Box, which is SHAREWARE.

- it ticks down a 30 seconds counter in the "annoy" requester at startup
- the PPC native PNG save module ("PNG-Box.elf") can't be utilized

## 1.11 history

Please note the following:

- There did occur problems with V36.126 of wizard.library, so you might wish to upgrade to V37.127 or higher (see Aminet:gfx/show/SViewNGWiz.lha). There's also a V39.101 available now - ask Haage and Partner.

V3.10 (5.9.98):

- optimized PNG saver the same way as the loader in akPNG (smaller, faster)
- credit card online registration via RegNet now is possible. Some special Offers have been set up for you, some of which are derived from the usual Discount list. Please have a look!

V3.02 (14.8.98):

- upgraded to zlib 1.1.3
- slightly changed PPC startup code
- stripped PPC ELF module

V3.01 (30.7.98):

- loading of the PPC module always failed. Fixed. (-> Georg Rottlaender)

V3.00 (8.7.98):

- new registration fee: 30 DM (mail), 25 DM (email)
  - added PPC native - very fast - PNG saver module, called "PNG-Box.elf" (located in PROGDIR:  
It will only work for registered users, though.
  - you already did know, that the PPC modules for SuperView-Library of course also will speed up loading graphics into PNG-Box,
-

- didn't you ? See [http://home.t-online.de/home/Andreas\\_Kleinert/sviewppc.htm](http://home.t-online.de/home/Andreas_Kleinert/sviewppc.htm)
- please make sure to upgrade to superview.library V21.4 or higher, as coming with SViewNG 7.70 or higher (not required, though)
  - hey, did you already know, that the newest versions of Navigator and Internet Explorer do support PNG natively now ?

## V2.62 (2.7.98):

- added info on new, permanent Shareware discount (bundling) offer
- fixed some nasty bugs and typos in the docs and updated certain sections
- updated every appearance of Georg Rottlaender's email address in this document...

## V2.61 (27.6.98):

- fixed GUI's size display gadgets (-> Christian Beck)
- upgraded to libpng 1.0.2

## V2.60 (7.6.98):

- there was a small bug in writing PNGs: files with 1..256 colors always would have been written as 8 bit (256 color) files, resulting in slightly bigger file sizes with 1..128 color graphics. Now you may save some more bytes... (-> Christian Beck)
- updated docs
- updated Simon's ImageEngineer URL information
- updated info on PPC modules
- typo: V2.50/2.51 was released in 1998, not 1997 ;)

## V2.51 (11.4.98):

- fixed problem with About window remaining open (-> Darcy Baston)
- finally fixed problem with unreleased file handle ('object in use'): if the source file wasn't a GIF, there would have been a handle left that would never have been freed (-> Darcy Baston)
- fixed a small memory leak (same context, but with any file type)

## V2.50 (31.3.98):

- upgraded to libpng 1.0.1 and zlib 1.1.2, which should fixed some bugs and improve overall speed
- small changes
- updated docs and information on PPC modules
- please make sure to upgrade to superview.library V21+ (not required, though)

## V2.10 (20.12.97):

- GUI design (again) improved by Georg Rottlaender
-

<Georg.Rottlaender@home.ivm.de> under use of a  
'NewIcon' graphics by Philip Vedovatti  
<vedovatt@u.washington.edu> - included with kind permission  
by the 'Team NewIcons'

- updated docs
- added explicit mention of ppc.library
- updated powerUP information
- updated libpng and zlib (same as akPNG 43.130)

V2.06 (24.9.97):

- small fix: transparency slider offered a range 0..256,  
now (correctly) 0..255  
(-> Georg Rottlaender)
- small fix for ppc.library usage (pre-opening)
- there's now a PNG-Box homepage under  
<http://www.amigaworld.com/support/png-box/>
- updated docs and .readme

V2.05 (10.9.97):

- release version

V2.04 (7.9.97): [ internal beta version ]

- more GUI changes

V2.03 (7.9.97): [ internal beta version ]

- removed 'hide' menu item

V2.02 (6.9.97): [ internal beta version ]

- some more changes to the GUI  
(-> Georg Rottlaender <Georg.Rottlaender@home.ivm.de>)
- and more

V2.01 (6.9.97): [ internal beta version ]

- used Wizard-GUI with lots of improvements done by  
Georg Rottlaender <Georg.Rottlaender@home.ivm.de>
- SuperView 7.21/18.2 is out now, and re-loading of  
transparency information (of paletted PNG pictures  
with only one color being fully transparent) does  
work correctly with it

V2.00 (4.9.97): [ internal beta version ]

- now using wizard.library for supplying a fontsensitive  
and resizable GUI
- \*writing\* of PNG's interlacing scheme and  
\*reading\* \_and\_ \*writing\* of PNG's transparency scheme  
DID NOT WORK CORRECTLY !

For reading (re-importing):

Please also watch out for bug-fixed versions of  
akPNG.datatype (> 43.96) and SuperView-Library (> 7.20/18.1)

---

- task priority now 0, as usual
- etc.

## V1.50 (28.8.97):

- recompiled with SAS/C 6.58
- jumped from libpng 0.90 to 0.96
- updated docs
- superview.library V18+ required
- etc.

## V1.40 (23.2.97):

- stupid: save size check was broken
- fixed various things
- debugged handling of 2..256 color pictures:  
make sure that you at least have PNG.svobject V4.9  
installed (coming with SViewFix580.lha or any library  
version greater than V16.1)

## V1.30 (13.2.97):

- added support for superview.library V16+ transparency feature  
(GfxBuffer version V3) - transparent colors will be recognized  
and reflected on the GUI, just like with GIF before
- bugfix: transparent color could only be changed via keyboard,  
not mouse (argh!)
- remaining lock on source GIF file would not have been unlocked  
(transparency-extension check)

## V1.20 (5.2.97):

- fixed transparency writing
- transparency checkbox toggled progressive mode as well (oops)
- added "extension mode (checkbox), where extensions source file  
names will be changed to ".png" automatically, if present  
(-> Philippe Duchenne)
- fixed transparency slider control
- added automatic transparency recognition for GIF files - if  
a GIF file had been loaded by an external loader or datatype  
it will again be scanned for transparency information and the  
GUI will reflect this (transparency gad is checked and color is set)  
(-> Philippe Duchenne)
- for all non-GIFs transparency settings will be reset always (yet)
- updated pnglib sources to V0.90

## V1.10 (20.1.97):

- GUI now with better font-sensitivity  
(-> Patrik Nydensten)

## V1.00 (18.1.97):

- first release
-

## 1.12 correspondence

PNG-Box Support Site  
<http://www.amigaworld.com/support/png-box/>

```

|   You may reach me the following way.
|   Send bug-reports, money or whatever to:
|-----|
|   * SuperView Development & Registration *
|   * DRAFU Development & Registration *
|   * Image Engineer Registration Site Europe *
|
|           PerSuaSiVe SoftWorX
|
|           Andreas R. Kleinert
|           Sandstrasse 1
|           D-57072 Siegen
|           Germany, Europe
|
| Any snail mail to the old address will still be routed.
|
|           Phone: +49-271-22869 also FAX + AM
|
|           Weekdays after 18.00h.
|
|   When calling via phone you may leave a message,
|   if I'm not available - but don't expect me
|   calling back to USA, Australia, ... since
|   german phone rates are HIGHLY expensive.
|-----|

```

EMail:

Please only send binaries after you have asked me and I did confirm your request - my postbox is not unlimited in size.

\* Do not send binaries via Fido or Fido-Gates ! \*

```

- Fido   Andreas Kleinert 2:2457/350.18
- Usenet
          ARK@superview.ftn.neckar-alb.de   (Fido-Gate)
          Andreas_Kleinert@t-online.de     (T-Online)
          ARK@News.wwbnet.de               (Z-Netz)
          ARK@amigaworld.com               (AmigaWorld)

```

- If nothing else works, try one of these public Fido-Usenet gateways:

In Germany:  
 Andreas\_Kleinert@p18.f350.n2457.z2.fido.sub.org

From USA or elsewhere:  
 Andreas\_Kleinert@p18.f350.n2457.z2.fidonet.org



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 PNG-Box you used and describe your system configuration (Amiga model 500/.../4000T-060, Kickstart/OS, RAM, HardDisk, special configurations).

## 1.13 Making use of 680x0 CPUs

Basically, this program does run with a plain 68000 CPU.

But if you do own an 68020/030+68881/882 FPU or 68040/060+FPU, or maybe a dual processor board with PPC, you may wish to make use of the extra horse power.

### PPC Support

=====

1. With CyberStorm PPC cards, it may make sense to make use of the "SetFastAvec" and "Set60nsMode" (SetMemMode) tools, which should speed up the system performance somewhat, i.e. by addressing your RAM with 60ns instead of 70ns access time...
2. Make sure, that you have a lot of RAM on the accelerator, so that the PPC isn't forced to make accesses to the slow motherboard RAM.
3. This program does make use of "ppc.library". So: Make sure, that you a) don't have "powerpc.library" installed or b) have a version of "powerpc.library" installed, which does not conflict with "ppc.library". Don't install ppc.library without having a PPC board plugged in.
4. Read the corresponding FAQ pages for more information on PPC support and configuration.

### 68020/030+68881/882 FPU and 68040/060+FPU Support

=====

Usually, Amiga OS' mathieeee-Libraries do automatically manage the coprocessor support, but for some reasons, these libraries are not used with this datatype:

- they can't be shared between processes
- they are not actually optimized for 68040/060+FPU as with OS 3.1

Unfortunately, the used FFP libraries don't support an FPU at all.

But there's a solution: it is strongly suggested, to use some of the available math-library replacements and/or patches from Aminet.

1. FMath by Martin Berndt, for example does replace all of them:
  - mathieeedoubbas.library
  - mathieeedoubtrans.library

- mathieeesingtrans.library
- mathtrans.library

It is strongly recommended to install V40.6 or a newer version from Aminet (Aminet:util/libs/FMath406.LHA).

2. FFPpatch by Jess Sosnoski additionally patches some functions of mathffp.library to use 68881/2 instructions. It currently makes use of some mathtrans.library functions for FFP/IEEE conversion and thus does require FMath as well. (There's a 'ffptest' program included, so that you can test, whether it improves speed or makes it worse.)

It is strongly recommended to install V1.7beta or a newer version from Aminet (Aminet:util/boot/ffppatch.lha).

On a A4000 with A3640 (68040-25) running FMath, it gave the following results:

[ before ]

```
mathffp.library speedtest
© 1997 Jess Sosnoski
```

| Test Name  | Time in Seconds |
|------------|-----------------|
| SPAbs ()   | took: 0.79 sec  |
| SPNeg ()   | took: 0.80 sec  |
| SPAdd ()   | took: 1.38 sec  |
| SPSub ()   | took: 1.31 sec  |
| SPMul ()   | took: 1.87 sec  |
| SPDiv ()   | took: 2.05 sec  |
| SpFlt ()   | took: 0.76 sec  |
| SpFix ()   | took: 1.04 sec  |
| SpFloor () | took: 1.09 sec  |
| SpCeil ()  | took: 1.99 sec  |

[ after ]

```
mathffp.library speedtest
© 1997 Jess Sosnoski
```

| Test Name  | Time in Seconds |
|------------|-----------------|
| SPAbs ()   | took: 0.52 sec  |
| SPNeg ()   | took: 0.48 sec  |
| SPAdd ()   | took: 1.06 sec  |
| SPSub ()   | took: 1.05 sec  |
| SPMul ()   | took: 1.06 sec  |
| SPDiv ()   | took: 1.32 sec  |
| SpFlt ()   | took: 0.49 sec  |
| SpFix ()   | took: 0.77 sec  |
| SpFloor () | took: 0.82 sec  |
| SpCeil ()  | took: 1.73 sec  |

3. This one has nothing to do with the FFP libraries, but since there's also a bug in mathieeesingbas.library (which

resides in ROM), you should install a patch for that:

- best solution is a newer SetPatch Version V43.x  
(available from ftp.amiga.de somewhere in "/pub/")
  - if SetPatch V43 does not work with your OS version,  
you should try for example "SetMathPatch"  
(coming e.g. with GhostScript)
4. This one has nothing to do with the FPU, but if you do own a 060 and OS 3.0 you should perhaps consider to install "Mult64Patch", which claims to implement the 64 bit integer functions UMult64/SMult64 utility.library V39+ (which have to be software emulated on the 060) two times faster than the patches done by 68060.library and four times faster than the trap emulation. A speed test program is included.

It is strongly recommended to install the newest version from Aminet (Aminet:util/boot/Mult64Patch.lha).

If you do own a CyberStorm 060 board, just ignore what I said before and follow the instructions given in the 68060-Library documentation.

## 1.14 thanks

Thanks go to (in order of appearance ;-)

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

- Roman Patzner (RomIcons)            - Patrik Nydensten            - Philippe Duchenne  
- Christian Hoklas                    - Georg Rottlaender         - Jon Peterson

Credits go to Georg Rottlaender <Georg.Rottlaender@home.ivm.de>  
for improving my Wizard GUI and making it more user-friendly.

Beta Testers:

- Patrik Nydensten    - Philippe Duchenne    - Christian Hoklas  
- Georg Rottlaender   - Jon Peterson         - Christian Beck

## 1.15 About PNG - successor of GIF

PNG is the successor of the GIF file format. Other than GIF it is completely free of patent claims and has been designed with free data exchange in mind. Drop GIF for PNG - free algorithms are as important as free speech on the internet:

GIF is obsolete - you neither should use nor support it any longer. If you are doing WWW design, use PNG and JPEG instead. It's important !

For more information on PNG (pronounce: PiNG) for example look at:

- [1] PNG specification (AmigaGuide format)  
-> [Aminet:docs/hyper/PNG-guide.lha](http://Aminet:docs/hyper/PNG-guide.lha)
  - [2] PNG WWW homepage  
-> <http://www.cdrom.com/pub/png/>
  - [3] PNG upgrade tools like gif2png  
-> [Aminet:gfx/conv/gif2png-0.6.lha](http://Aminet:gfx/conv/gif2png-0.6.lha)
  - [4] programs capable of PNG, like PPaint, SuperView,  
or PNG-Box, etc.
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