

**JPEG-Box**

COLLABORATORS

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REVISION HISTORY

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# Chapter 1

## JPEG-Box

### 1.1 JPEG-Box\_Documentation

JPEG-Box V2.25 (1.1.1999)

- SHAREWARE -

© 1998-99 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 SViewII ? </Commercial>

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Copyright  
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Distribution  
The program's purpose  
How to install it  
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:

WWW Support Site  
<http://wdo.de/ark/> (AWeb-II)

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 JPEG-Box in this version and its documentation files are (C)opyright 1998-99 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 U\$) [email shipment], respectively 30 DEM (20 US) [snail mail shipment] or equivalent (e.g. in Euro) to the author.

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

JPEG-Box makes use of SuperView-Library, which is (C)opyright 1993-99 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 work of the Independent JPEG Group.

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

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

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

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

The program JPEG-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

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

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

\*\*\*\*\*

Concept: loadable PPC-Modules for use with ppc.library V45+ (17.11.98)

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

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

54 modules (+/-) are made available in a special powerUP PPC plugin module package, which e.g. can be bought by registered SuperView/SViewNG/SViewII 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
Blur_24.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	Sharpen_24.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) V5.5 already does include these modules, plus additionally the following exclusive PPC plugins (for SVOperators that also are exclusive to PMPro):

libs/svppc/svoperators	
Convolve_24.svm	DitherFix24_Floyd.svm
EdgeDetect_Plain.svm	ScaleFree_24.svm
ScaleFree_8.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 V5.5 (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/SViewII. or ImageEngineer.

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

## 1.6 purpose



JPEG-Box is a program that has been designed to write JPEG (JFIF) files for WWW usage as easily as possible.

It can read any file format SuperView-Library does support and can make a JPEG 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-RGBN	- Spectrum ZX	- TIM
- IFF-RGFX	- XWD	- FBM
- IFF-YUVN	- Windows Icon	- CDR-Previews
- QRT/POV Raytrace	- Mac PICT-2	- SGI
- SVG	- Targa	- Pictor/PCPaint
- SunRaster	- UtahRLE	- PNG
- CVP (passphoto)	- Amiga Icons (WB/Magic/New)	

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 periphral devices (DEVICE-access SVObjects):

- 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      V22+
- superviewsupport.library V13+

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)

## 1.8 updatenote

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General

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Although the JPEG-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/JPEG-Box.LHA

SuperView-Library can be found under  
Aminet:gfx/misc/SvII-#?.lha

## 1.9 usage

The GUI is quite self-explaining:

You can load SuperView-Library supported formats from:

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

and save these as JPEG (JFIF) files with the following options:

- progression on/off
- compression 0..100 (attention: "0" means BIGGEST compression !)

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 JPEG-Box, which is SHAREWARE.

- it ticks down a 30 seconds counter in the "annoy" requester at startup
- the PPC native JPEG save module ("JPEG-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 may wish to upgrade to V37.127 or higher (see Aminet:gfx/misc/SvII-WIZ.lha). There also are newer versions available, but obviously not on Aminet - ask Haage and Partner or check their latest demo version releases.

V2.25 (1.1.99) :

- updated docs, new year maintenance, etc.
- 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!
- there's again a newer wizard.library version than V40.101 available under <http://www.haage-partner.com>

V3.23 (28.11.98) :

- now asks before overwriting existing files (optional)
- removed old logfile code
- adjusted version requirements
- reworked docs
- bumped version to illustrate equality to PNG-Box' state of development

V1.02 (16.11.98) :

- PPC I/O speedup

V1.01 (17.10.98) :

- gadget text mentioned wrong extension (.png instead of .jpg)
- added modified GUI, with nicer JPEG 'icons'  
(-> graphics composed and added by Georg Rottlaender)
- made sure, that the progress bar ends at 100% always when saving  
(in 68k mode, sometimes 97% or something like this was possible)  
(-> Jon Peterson)
- updated docs

V1.00 (2.10.98) :

- first release

## 1.12 correspondence

```
** General PerSuaSiVe SoftWorX WWW Support Site is http://wdo.de/ark/  
** - actually redirected to http://home.t-online.de/home/Andreas\_Kleinert/
```

```
|      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.        |
|_____|

```

#### E-Mail:

Please send binaries via `ARK@News.wwbnet.de`, and keep them smaller than 16 KB - otherwise ask before. Please think twice before sending them - my postbox is not unlimited in size.

★ Do not send binaries via Fido or Fido-Gates ! ★

```

- Fido   Andreas Kleinert 2:2457/350.18
- Usenet
  >>>   Andreas_Kleinert@t-online.de      (T-Online)
        ARK@News.wwbnet.de                (Z-Netz)
        Andreas_Kleinert@gmx.de           (GMX)

```

(note, that mail sent to @gmx.de currently will be forwarded to @t-online.de - so, as long as it works, try to address the latter directly)

- 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 JPEG-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.

However, 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.

There are certain configuration options, special libraries and/or patches available, so you perhaps should investigate into that issue a little bit deeper - but carefully.

#### PPC Support

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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. Newer versions allow to do these settings fromout the card's bootmenu. If you get random crashes, step back to 70ns.
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. If you get random crashes, make sure you followed the installation instructions, and did not configure SIMMs of different vendors for a 64 bit access bank.
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" (V7 is said to work together with ppc.library). Don't install ppc.library without having a PPC board plugged in. Always make use of the newest 68040/68060.library plus ppc.library - as available under ftp.phase5.de or Aminet.
4. Read the corresponding FAQ pages for more information on PPC support and configuration - especially note, that a keyfile is required for fully functional PPC support within this datatype.

#### 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 are certain patches available on Aminet, to speed up FPU support in general, add FPU support for the FFP libraries

or in general allow more efficient use of the 040/060 CPUs, e.g. by avoiding unnecessary emulation of missing instructions through 68040/68060.library.

Make sure, that those patches don't conflict with certain versions of the 680x0 libraries or even are part of these already. If you've carefully read the docs you may wish to check out the following solutions:

#### 1. Fix bugs within the math libraries

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:

- a) best solution is a newer SetPatch Version V43.x (available from ftp.amiga.de somewhere in "/pub/")
- b) if SetPatch V43 does not work with your OS version, you should try for example "SetMathPatch" (coming e.g. with GhostScript - see Aminet:gfx/show)

Those patches may conflict with some math library replacements - it seems to be logically, that a completely rewritten replacement library of course does not need to be patched any further. At least not for the same bugs...

#### 2. Patching the math#? libraries for better (or introducing) FPU support:

- a) - FMath V40.6   Aminet:util/libs/FMath406.LHA  
    - FFPPatch     Aminet:util/boot/ffppatch.lha
- b) - HSMathLibs   Aminet:util/libs/HSMathLibs\_040.lha  
                  Aminet:util/libs/HSMathLibs\_060.lha
- c)   various other patches from the "util" area of Aminet

With the 68040/68060.libraries of p5, according to their docs, further patches of the math libraries are not recommended - however may work nevertheless.

#### 3. General 040/060 speedup

For automatic speedup on 68020+ systems, this datatype makes use of utility.library.

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 of 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.

That program can be found under Aminet:util/boot/Mult64Patch.lha

- however, it may already be obsolete for newer versions of your 68060.library. Do the speed check, then decide.

## 1.14 thanks

Thanks go to (in order of appearance ;-)

=====

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

- Roman Patzner (RomIcons)                      - Georg Rottlaender

Credits go to Georg Rottlaender <Georg.Rottlaender@home.ivm.de> for improving my original PNG-Box Wizard GUI and making it more user-friendly, plus for some changes to the JPEG-Box GUI.

Beta Testers:

- Georg Rottlaender                                      - Jon Peterson