

akPNG_Documentation

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WRITTEN BY		July 1, 2022	

REVISION HISTORY

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Chapter 1

akPNG_Documentation

1.1 akPNG : Documentation

akPNG.datatype V43.95

'Sojourner' Release

- Mars mission started
on Independence Day, July 4th

- licenseable SHAREWARE -

© 1996-97 by Andreas Ralph Kleinert. All rights reserved.

A PerSuaSiVe SoftWorX PRODUCT.

Needs Kickstart V3.x

Release Date : 12.08.1997

Please consider registration - usually less than 1% of the
users of a program do register. That's not much.

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

Copyright

Disclaimer

Distribution

Payment

Usage and Notes

Free algorithms...

PNG: successor of GIF

...and free speech !

Problems

68020-68060

Prefs

Correspondence

Thanks

Version-History

_ //

Only \X/ Amiga makes it possible!

Please visit:

WWW Support Site
<http://www.amigaworld.com/support/akpng/> (AWeb-II)

The CHAOS theory:

"Like finding that bloody butterfly whose flapping wings cause all these storms we've been having lately and getting it to stop." (see "Witches Abroad" by Terry Pratchett)

Ahm...well:

...and thanks for all the fish.

1.2 copyright

The akPNG.datatype in this version and its documentation files are (C)opyright 1996-97 by Andreas R. Kleinert. All rights reserved.

The right of using this program is granted to you by paying the SHAREWARE-fee of 15 DEM (10 U\$) or equivalent to the author, or by being a owner of a Shareware program or commercial software, whose authors did avoid that for the users of their software (see below).

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 beta 6 - version 0.96
Copyright (c) 1995, 1996 Guy Eric Schalnat, Group 42, Inc.
Copyright (c) 1996, 1997 Andreas Dilger

zlib:

zlib 1.0.4

(C) 1995-1996 Jean-loup Gailly and Mark Adler

Installer batch file makes use of a special version of Roger Hågensen's "AmigaT" utility, which has been included with his kind permission. "akT" may only be used and distributed together with this datatype, but "AmigaT" is Freely Distributable FreeWare and © Msi Software 1996 (eMail: Msi Software - msi@sn.no, WWW: <http://www.sn.no/~msi/>)

akDT_Installer by Robert C. Reiswig ©1996-1997.

If you wish to use any part of this installer you must ask. May not be integrated/placed into any other package! Changes, suggestions or problems: akDatatype@vgr.com

Some of the mentioned names or products within this or other documents may be copyrighted by companies or trademarks of companies or persons.

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

The akPNG.datatype 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 MAY be included in commercial packages or commercial program collections without my written permission, nevertheless it must not be sold commercially as a single program.

WHEN being included with commercial or Shareware programs I hereby demand to receive a free copy of the final program - after you did so, the users of your program no longer need to pay the Shareware fee to me (they still may, if they like to support development).

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

domain disk libraries - when being distributed that way, it is allowed to take a nominal fee including the costs for copying, without considering that as "commercial" in the above mentioned sense.

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 payment

You may send cash money in an envelope, euro-cheques, or just transfer the 15 DEM (10 U\$) shareware fee to the following account (mention your name): Deutsche Bank Siegen, BLZ 46070090 Kto. 0298174

No foreign cheques, please (euro-cheques or DM-cheques are ok).

1.6 Usage and so on

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 ! ↔

Usage

Just install the datatype files to their appropriate directories, and copy the akPNGPrefs command to SYS:Prefs/Datatypes (optionally).

Please make sure, that there is a directory available, where temporary data can be stored. There must be an assignment called "VMEM:" to this directory (just like with SuperViewLibrary and akJFIF-dt).

If there's enough RAM available, VMEM: won't be used.

Do not assign it to "T:" if it is somewhere on a Ram-Disk (that's why T: is not used by default) - just create a safe place for it.

Program information

akPNG.datatype is a new
PNG

datatype, which is based on the latest PNG sources (zlib V1.0.4, libpng 1.0 beta 6 - version 0.96).

So it does support 8 Bit color mapped files (colorspace expanded to 8 bit per component always) and True color files (24/48 Bit, alpha channel ignored, 48 Bit 16:16:16 cut down to 24 Bit 8:8:8).

So the following types of PNG images (all valid ones) should be imported in the described way:

Bit depths	Interpretation
1,2,4,8,16	pixels are grayscaled samples
8,16	pixels are R,G,B triple samples
1,2,4,8	pixels are palette indices

(plus variations with - here ignored - alpha channel)

With V39-V42 picture.datatype it either produces (upto) 256 color palette-based or HAM6/8 output (256 colors exported unmodified, 24 Bit data either dithered or converted to HAM6/HAM8) with Ralph Schmidt's picture.datatype V43 24 Bit may be done unmodified (the same applies to Picasso96's picture.datatype V43).

You must use the included preferences program for best configuration.

akPNG.datatype is
 SHAREWARE
 , the future depends on YOU.

1.7 Problem fields

More datatypes ?

On Aminet:util/dtype/ you can also find akJFIF, akLJPG, akSVG and the co-production FAXX (with GPSofT) datatype.

No V43 with AGA ?

There's a V43 picture.datatype coming with the Picasso96 RTG package (on Aminet), which works with plain AGA, too.

Crashes ?

The first reason for a crash often is stack size. Not enough stack size. IIPrefs/WBPatterns has this problem, and others as well. Checking this and/or using FastIIPrefs (the replacement) is recommended.

No write support ?

Sorry, there won't be write support (DTM_WRITE method), since I think, that datatypes are mainly a system for data exchange and not to do the job of existing conversion utilities.

Why are "interlaced" image files not displayed progressively ?

Because picture.datatype's API (upto V43) relies on complete bitmaps to be returned by a datatype of subclass "picture". Unfortunately the datatype cannot:
 - supply many small bitmaps, one for each line

- give control back to picture.datatype during reading a file
- write into an existing, given bitmap

(to just supply some possible considerations how to solve this problem), so there currently is no way of displaying images progressively.

Odd screenmode selection

graphics.library's BestModeID function isn't so well designed. Try Patching to a better one, e.g. with Aminet:util/sys/ModeP.lha

Transparency (esp. Browsers)

There have been many bug reports, where people told me, that the transparency features (you know, many web pages do contain "PNG" graphics with one color being transparent, thus just equal to the background color) did not work at all.

All I can say about is, that at my current state of information this is not my fault.

The transparency information as such definitely is being read correctly, and there is only one necessary step to be done - it needs to be passed to picture.datatype by setting a special flag in the BitMapHeader structure:

```
bmhd->bmh_Masking      = mskHasTransparentColor;
bmhd->bmh_Transparent = (UWORD) ((WORD)trans);
```

With pic-dt V43 there once also was a (now obsolete) special flag for that, but we don't use it (tested it, though):

```
PDTA_TransRemapPen, (LONG)bmhd->bmh_Transparent
```

It seems, that neither pic-dt V39/40 nor V43 do interpret that flag correctly in neither mode (with remapping or without).

Theoretically, there are two possible ways for a program (e.g. a browser) to handle a datatype graphics:

```
let picture.datatype do it
```

- load it
- attach it to a screen/window and tell it where to appear in which size; allow remapping to the screen's colors

=> in this case, picture.datatype would have to manage the transparency handling and replace the transparent color's colormap entry with the corresponding screen color's values BEFORE remapping to the screen.

It's SUBJECT TO THE PICTURE-DATATYPE.

```
do it yourself
```

- load it
- get it without remapping
- remap and display it by yourself, also handle transparency by yourself

=> thus transparency won't be handled by the datatype at all.

It's SUBJECT TO THE BROWSER.

Obviously both ways don't work with the current release, although I've been told, that an other datatype does the job correctly. Funny enough, the author did tell me, that he did program it the same way as I did.

Well, all I can say is: send any further bug-reports plus the explanation above to your Browser vendor or Pic-Datatype supplier. Can't do anything more about that, until someone tells me, where my assumptions are wrong (but I am not going to screw up the OOP datatypes concept just because of that and do the remapping just rightly to a possibly given screen by myself).

Progressbar and programs (esp. Browsers)

Please note, that the (optional) progress bar will either open on a windows's screen as specified via `pr_WindowPtr`, or on the default Public Screen, thus if your favoured Web Browser does not set `pr_WindowPtr` or does not declare its screen as default pub screen, that's not my fault. `PDTA_Screen` will be checked first, as well - but usually this won't work at all.

Unknown datatypes (V43)

If your datatypes stop working (unknown file format), please don't blame me, but at first check, whether you've still installed an already expired beta version of `picture.datatype V43...`

1.8 Making use of 680x0 CPUs

This program works WITHOUT any FPU, BUT...

If you do own an 68020/030+68881/882 FPU or 68040/060+FPU you may wish to make use of these.

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 `mathtrans.library` does not 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 V1.4beta or a newer version from Aminet (Aminet:util/boot/ffppatch.lha).

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.

1.9 correspondence

WWW Support Site

<http://www.amigaworld.com/support/akpng/> (AWeb-II)

(try <http://193.203.162.219/>, if you can't connect)

PNG Homepage: <http://www.wco.com/~png/>

```

|   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
|                   +49-271-22838
|
|           Weekdays after 17.00h.
|
|           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. 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
          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

```

1.10 thanks

Thanks go to (in order of appearance ;-)

=====

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

```

- Ingo Jürgensmann      - Thomas Boerkel      - Andreas Mixich
- Robert Wahnsiedler   - André Laemmer       - Edwin H. Bielawski

```

- Matteo Tenca	- Jan Skypala	- Adrian Demarais
- Ludwig Berndt	- Roger Hågensen	- Dipl.Phys.Carl-Rudolph Naefe
- Dr. Rainer M. Herold	- Thomas Steinbichler	- Jörn Krüger
- Bodo Thevissen	- Helge Thorsten Kautz	- Thomas Nolte
- Harry W. Turner II	- A. P. Suggitt	- Mat Bettinson
- Vulture	- Dr. Greg Perry	- Stephen Bridges
- Philippe Duchenne	- Jure Dolanec	- Tom Lively
- Alexander Fichtner	- Magnus Holmgren	- Max Headroom
- Ian Barclay	- Marc-Tell Volkmann	- Christian Beck
- Torbjörn Aronsson	- Jürgen Haage	- Michael C. Battilana
- Milco Veljanoski	- Robert S. Puffer	- Jérôme Lovy
- Dirk Busse	- Armin H. Pöhlmann	- Karl-Heinz Ostertag
- Joel Alvim	- Per Jonsson	- Les Morgan
- Roland Mainz	- Robert C. Reiswig	- Dave Sparks
- Andreas Kramer		

Thanks also must go to:

- ...the DOpus team, namely Dr. Greg Perry
- ...the StormC/Wizard team, namely Jürgen Haage and Markus Nerding
- ...the Cloanto team
- ...the people on the DTA (Datatypes) Mailing List on Amiga World and the people of the "Datatypes Replacement Project" in general

This datatype also has been quite often quite high in the Aminet charts, so there hopefully soon will be many registered users... :-)

1.11 prefs

akPNGPrefs

akPNGPrefs is the Preferences Program for akPNG.datatype.

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").

Icon by Detlef Winkler (same as SVPrefs.info)

The global settings will be written to ENV: (and maybe also ENVARC:) into a preferences file called "Datatypes/akPNG.prefs".

OPTIONAL

----- task specific settings files -----

Settings specific to different caller programs may be created by copying the global settings from "Datatypes/akPNG.prefs" to an optional task-related prefs file called

"Datatypes/akPNG.prefs_Tasks/TaSkNaMe"

where "TaSkNaMe" means the name of the program as e.g. shown by a system monitor (for obvious reasons, this does work best with workbench programs, which don't require name patterns as some CLI programs might do, like for example "CLI(3):Work:Browsers/XWebber").

So, with AWeb for example, you would just edit your global settings file and then do the following:

```
MakeDir ENV:Datatypes/akPNG.prefs_Tasks
Copy ENV:Datatypes/akPNG.prefs ENV:Datatypes/akPNG.prefs_Tasks/AWebIP"
```

[... and the same for ENVARC: ...]

After that, AWeb will ignore the global settings and fetch its own from the given file.

(Currently you can't edit them locally, sorry - but for e.g. AWeb it should be simple to manage that via ARexx by just including an appropriate script to AWeb's ARexx menu).

You can do the following settings:

- 1) V43_MODE=(NO_DITHERING|V40_DITHERING)
- 2) V40_24BIT_MODE=(DITHER_ORDERED|HAM_OUTPUT)
- 3) V40_DEPTH=(3..8)
- 4) HAM_MODE=(HAM6|HAM8)
- 5) INTERLEAVED_BM8
- 6) PROGRESSBAR=(ON|OFF)
- 7) CUSTOM_MODES

That's mostly self-explaining, but as an example, here are the default settings and a short explanation:

```
V43_MODE=NO_DITHERING
V40_24BIT_MODE=DITHER_ORDERED
V40_DEPTH=8
HAM_MODE=HAM6
INTERLEAVED_BM8=ON
PROGRESSBAR=ON
```

General Explanation of Options

=====

1) V43_MODE

```
NO_DITHERING: does output 24 Bit data when running pic-dt V43
V40_DITHERING: switches to V40 mode settings when running pic-dt V43
```

2) V40_24BIT_MODE (when running picture datatype V40 or V43 in V40 mode)

```
DITHER_ORDERED: does ordered dithering of 24 Bit data
HAM_OUTPUT: does convert 24 Bit data to HAM6/8
```

3) V40_DEPTH

When dithering to a palette (so: when in V40 mode and ordered dithering being selected) the number of palette colors, which is 256 by default, may be reduced here (e.g. on ECS systems).

Valid depth values are 3..8 (which results in 16..256 colors, easily calculated by 2^{depth}).

4) HAM_MODE

HAM6: generates HAM6 output for 24 Bit graphics, when running V39-42
 HAM8: generates HAM8 output for 24 Bit graphics, when running V39-42

Note, that HAM8 is native to AGA machines and thus may cause difficulties with graphic boards and won't work with OCS/ECS Amigas. With HAM6 and graphic boards also problems may occur.

5) INTERLEAVED_BM8

ON: will output interleaved bitmaps upto 256 colors
 OFF: will output normal bitmaps (BMF_CLEAR only) - you may switch interleaved mode off for specific programs, which cannot handle it, or when AllocBitmap() has been patched for chunky modes by a graphics card software or e.g. EGSPPlus

Note: There's no need for BMF_DISPLAYABLE, don't rely on it.

6) PROGRESSBAR

ON: pop up percentage display
 OFF: do not pop up percentage display

7) CUSTOM_MODES (hidden option)

When the keyword CUSTOM_MODES is set, only viewmodes out of the standard set will be generated:

- LowRes (320x200/256)
- HighRes (640x200/256)
- SuperHighRes (1280x200/256)
- LowRes Lace (320x400/512)
- HighRes Lace (640x400/512)
- SuperHighRes Lace (1280x400/512)

When CUSTOM_MODES=0x##### (e.g. CUSTOM_MODES=0x00000000) is set, the specified hexadecimal viewmode ID will be used always.

1.12 history

There's a Datatype Developers Mailing List (DTA) running now. If you are a datatypes programmer and want to join, please contact me for further information or ask info@amigaworld.com (Bodo)

History

=====

V43.95 (12.08.97) : - recompiled with SAS/C V6.58

V43.92 (28.07.97) : - updated docs
 - updated 680x0 info
 - updated akDT_Installer by Robert C. Reiswig
 (-> Robert C. Reiswig, akDatatype@vgr.com)

- recompiled prefs program with StormC V3.0
 - fixed possible, `_small_` memory leak within progress window's msg handling
- V43.91 (04.07.97) :
- fixed "memory loss on LibInit failure" bug
 - added new akT V43.70
(-> Roger Hâgensen)
 - since after the CUSTOM_MODE addition, the bestmode routine looked quite ugly and was somewhat redundant. Fixed.
 - updated scripts
(-> done by Roger Hâgensen)
 - progress bar: replaced two Forbid/Permit by semaphore
 - removed another (unnecessary) Forbid/Permit pair
 - some `__saves` were missing
 - `__inlined CalcProgressPos()`
(not time-critical)
- V43.90 (24.06.97) :
- V43.81 should had been available as binary-only fix archive "akFix4381.lha" together with the other datatypes, only.
Upload did not succeed
(-> a zillion people did report V43.80 bug)
 - added akDT_Installer by Robert C. Reiswig
(-> Robert C. Reiswig, akDatatype@vgr.com)
 - added note about mathffp.library patch program 'ffppatch" (Aminet:util/boot/)
- V43.81 (16.06.97) :
- new dispatcher code either still is buggy, only works with V45 or has been implemented wrongly. Anyway: V43.80 was messed up, better use V43.81 !!
- V43.81 (14.06.97) :
- SetPatch 43.6 is on ftp.amiga.de
Get it!
 - CUSTOM_MODES now (optionally) accepts a fixed hex value as viewmode settings
(-> Joel Alvim)
 - protection bits now correctly set
(-> Per Jonsson)
 - updated class dispatcher
(-> Roland Mainz)
- V43.75 (27.05.97) :
- HAM indicator seems to have been broken since some releases (viewmode field, HAM_KEY)
 - added new viewmode generation routine, especial for HAM modes, which takes care of AGA HAM capabilities and PAL/NTSC
 - aspect ratio fields of BitMapHeader structure now are filled according the selected viewmode
 - added new akT V43.70
(-> Roger Hâgensen)
- V43.70 (17.05.97) :
- upgraded to libpng 1.0 beta 6 - version 0.96, which has been said to fix some serious bugs
-

- like: - bug with <8bpp images introduced in 0.95
 - 256-color transparency bug
 - etc.
- detected a makefile bug, which might have caused only the 68000 version to have been upgraded to V0.95 in 43.60. The others perhaps were still V0.90 based ?!
- added hidden prefs option, which generates all viewmodes out of the standard set (-> Joel Alvim):
 - LowRes (320x200/256)
 - HighRes (640x200/256)
 - SuperHighRes (1280x200/256)
 - LowRes Lace (320x400/512)
 - HighRes Lace (640x400/512)
 - SuperHighRes Lace (1280x400/512)
 (-> Joel Alvim)

- V43.61 (04.05.97) : - minor changes

- V43.60 (20.04.97) : - upgraded to libpng 1.0 beta 5 - version 0.95
- updated email list
- updated docs

- V43.50 (30.03.97) : - in the prefs, "24 Bit" was "Dithering" and vice versa (V43_MODE)
- (-> Milco Veljanoski)

- V43.40 (13.03.97) : - due to problems with the (global and custom) startup the prefs program did only run from CLI/Shell, not WB. Could not explain that at first, fixed now.
- (-> Tom Lively, Torbjörn Aronsson, Max Headroom, Ian Barclay, Marc-Tell Volkmann, Christian Beck)
- note, that a copy of wizard.library also can be obtained from: Aminet:gfx/show/SViewNGWiz.lha (library only)
- redone with StormWizard 2.0
- etc.
- there is a certain likelihood, that this version does either become:
 - most stable so far
 - nearly rock-solid
 - rock-solid
 - buggy as hell
 [please mark :->]

- V43.30 (03.03.97) : - now does recognize bit_depth / num_palette differences and consequently reduces color depth for 2..256 color pictures, when necessary (saves some more (chip) memory and bandwidth, already should have been in last release)
- now, finally the GUI of the prefs program has been re-designed with StormWizard, so this program needs "wizard.library" V37+ (you can find a copy in the StormC Demo archive or the Wizard Demo package on Aminet under "biz/demo/StormWIZARD1_0.lha"). Note, that the GUI still is not very sophisticated, but at least sizeable and font-sensitive now.
- prefs program now developed/compiled with

StormC 2.x

- if no new bugs appear, this one is quite-final now. You can REGISTER now.

- V43.27 (23.02.97) :
- MAJOR REVISION
 - there's now a global BestModeID() patch available as Aminet:util/sys/ModeP.lha
 - there were problems with 16 Bit grayscale images (-> Magnus Holmgren)
 - the 16 Bit bug was a side effect of a wrongly handled pixel_depth check, thus perhaps it would have happened with other bit_depth 16 images as well
 - removed some misinterpretable information on 16 bit (highcolor) modes, which are not allowed with PNG, with the exception of 16 Bit grayscale images (-> Magnus Holmgren)
 - added an overview table of valid PNG depth combinations (referring to the specification)
 - re-introduced "wm32 magic fix"
 - __inline'd HAM code also, now
 - there were "memory losses" under specific conditions (below is what I found out) (-> Magnus Holmgren)
 - under low memory conditions there might have appeared even more memory loss, since setjmp'ing of the PNG sources did cause some high level allocations not to be delocated - this mainly did concern the non-V43 modes
 - gfx mode selection now a little bit more AGA sensitive, ModeP patch still recommended, though
 - tested compatibility by viewing Willem van Schaik's "PNG Test Suite" in V40 ordered dithering 8 Bit mode (<http://www.wco.com/~png/pngsuite.html>). When there is enough (chip) memory, all pictures seem to be handled and displayed correctly (now). On the page there are samples for all types of images (depth combinations) as mentioned in the PNG Suite Documentation. If you find anything not displayed correctly, though: please tell me. Note, that gamma correction is not applied (no need to mention).
 - 2..128 color images no longer imported as 256 color images (2 still as 4, though), this also saves (chip) memory... (-> Roger Hågensen, various)
 - fixed bug in reading 24 Bit + alpha channel images in V40 HAM8 or ordered dither mode (HAM6 worked fine)
 - added some notes to the docs
 - most stable version so far; nearly rock-solid
- V43.26 (15.02.97) :
- skipped V43.16-25
 - fixed installer script's "copy 040 version" bug (-> Philippe Duchenne, Tom Lively)
 - added special note about interlaced files and progressive display, since some people
-

- still did not get it right
 - superview.ftn.sub.org will be replaced by ftn.neckar-alb.de until 22.2.97
 - there was a bug in interlaced reading, which caused isolated black pixels (at end of 8x8 matrix) with some graphics - this did not appear in V43 mode for some reason, and was not so obviously detectable in V40 HAM-mode (-> Vulture)
 - temporary storage management should be somewhat faster now, since the top-level access functions now also have been `__inline'd` (only concerns interlaced graphics)
 - rewrote docs
 - removed charts
- V43.15 (05.02.97) : - V43.14 did screw up. Recompiled.
- checking for PNG_INFO_tRNS to recognize transparency
- V43.14 (04.02.97) : - now using libpng 1.0 beta 4 - version 0.90
- V43.13 (30.01.97) : - there were not much registrations yet.
HAVE YOU CONSIDERED TO REGISTER ?
(spending lots of hours a week on this stuff)
- improved error handling
 - now explicitly checks `DTA_SourceType == DTST_FILE`
 - forgot to bump version
 - a "Prefs/Datatypes.info" was missing (-> Roger Hâgensen)
 - temporary file management was buggy (no crash, but incorrect output for some kinds of images) (-> Vulture)
 - temporary storage management was extremely slow, because it did use files always and did not make use of buffered I/O:
 - temporary storage access has been capsuled into four intelligent functions, which select the buffer medium automatically (`T_Open`, `T_Close`, `T_Read`, `T_Write`)
 - now only switches to file mode, when there is not enough RAM available for buffering (basically like with akJFIF's VMEM: handling)
 - now uses buffered I/O when in "file" mode (adjusted to needs by appropriate `SetVBuf` call)
 - temporary storage would have aquired stack even if not active and unused (256 bytes)
 - uses less stack space when in "ram" mode (another 256 bytes, temporarily used)
 - should solve interlaced problems, as well (removed the corresponding "problems" section)
 - added new akT version by Roger Hâgensen
 - a `pr_WindowPtr` of -1 was not recognized as NULL ptr (-> Dr. Greg Perry)
- V43.12 (25.01.97) : - reworked docs
- added new installer script and special "akT" version of AmigaT tool by Roger Hâgensen
-

- (thanks, Roger).
 - prefs program moved from sys:prefs to sys:prefs/datatypes (-> Roger Hâgensen)
 - would always have exported 256 colors in V40 8 Bit mode
 - minimum bitmap depth set to 4 (compare akGIF)
 - various small changes to the code
 - now, in a first attempt, checks PDTA_Screen with highest pri for where to open the progress window - only works, when always remapping to the same screen (e.g. some web browsers) (-> Mat Bettinson)
 - note: get and install SetPatch 43.4 or 43.5
- V43.11 (15.01.97) : - installer script was faulty (-> Harry W. Turner II)
- added "http://193.203.162.219" info (-> Harry W. Turner II)
 - tmp files would not have been deleted from VMEM:
 - guide now is interactive and connects URLs to AWeb-II if available
- V43.10 (09.01.97) : - added new installer script and "AmigaT" tool by Roger Hâgensen (thanks, Roger). Only slightly modified script.
- added script icon (using IconX), may nevertheless still be started from shell (-> Roger Hâgensen)
 - added directory icon (-> Roger Hâgensen)
 - added note about new homepage
 - completely rewrote docs
 - added "PNG := successor of GIF" note, and explained, that free algorithms are as free as free speech on the internet
- V43.9 (01.01.97) : - reworked docs
- added ordered dithering support for V40 mode (16..256 colors)
 - now allows to run it in V40 mode even with picture-datatype V43, thus HAM6/8 output becomes possible
 - (hopefully) fixed progressive reading, when in V40 HAM6/8 mode, also applied the same fix to ordered dithering: in this case a temporary file must be created at VMEM:
 - added support for task-specific settings (private settings for specific programs)
 - added "transparency" note. Please read.
 - now using zlib 1.0.4
 - 8 Bit only:
now by default uses interleaved bitmaps, which should fix the remaining problems with small sized bitmaps and/or distorted bitmap borders. Can be switched off.
-

- V43.8 (17.12.96) : - installer script now asks for CPU type and selectively installs the single datatype versions (-> first version worked out by Roger Hâgensen)
- now using libpng 1.0 beta 3 - version 0.89
- now using zlib 1.0.3
- slightly reduced size (about 4 K each)
- better compiler optimization on pnglib (esp. 040/060)
- better compiler optimization on zlib (esp. 040/060)
- using new libpng API
- less PNG bugs (libpng)
- interlaced (progressive) 24 Bit graphics under pic-dt V40 would have caused distorted HAM6/8 display. Now just "bad".
- V43.7 (7.12.96) : - updated/changed docs
- did not create correct mode ID for HAM6 display
- fixed possible memory leak on temporary memory allocation error
- V43.6 (30.11.96) : - updated/changed docs
- fixed small bug (GadTools)
- fixed CTRL-C problem (IBrowse) (-> Matteo Tenca)
- V43.5 (24.11.96) : - progress bar now treated like requester. Now will check pr_WindowPtr before trying to open on (default) pubscreen (-> Edwin H. Bielawski)
- added special fix for AWeb 2.1, which has pr_WindowPtr correctly set, but does let the Datatype operations do by an "AWebIP" task, which has not. Thus when being called by "AWebIP" we now refer to the pub screen "AWeb" instead of fiddling with pr_WindowPtr
- V43.4 (23.11.96) : - progress bar window no longer auto activated (-> André Laemmer)
- when called by IPrefs (e.g. for WBPatterns), a progress bar will never pop up
- did not correctly read interlaced (progressive) PNGs (-> Andreas Mixich)
- on missing picture.datatype V39, prefs program would have claimed about missing V40 (-> Robert Wahnsiedler)
- now exports transparency information (256 color graphics only)
- V43.3 (12.11.96) : - completely recompiled with SAS/C V6.57
- added 68030, 68040 and 68060 version (-> Ingo Jürgensmann)
- there was a broken version of V43.2 (3.11.96) (in parts still labeled as V43.1) which unfortunately went on Aminet, but hopefully had been
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- overwritten by the right version later on
- added doc section about 680x0 CPUs and FPU's. Please follow the instructions given and use the FMath patches, also SetPatch 43. The latest version floating around was SetPatch V43.5 - which is currently not on ftp.amiga.de, but maybe available elsewhere
- progress bar did display "akJFIF" instead of "akPNG"
- changed PubScreen behaviour of progress bar (-> Thomas Boerkel)

V43.2 (3.11.96) : - bugfixes

V43.1 (1.11.96) : - first release (with V43 support)

1.13 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
- [2] PNG WWW homepage
-> <http://www.wco.com/~png/>
- [3] PNG upgrade tools like gif2png
-> Aminet:gfx/conv/gif2png-0.6.lha
- [4] programs capable of PNG, like PPaint, SuperView,
or
 PNG-Box
 , etc.

1.14 PNG-Box - WWW tool for PNG writing

PNG-Box

- SHAREWARE -

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A PerSuaSiVe SoftWorX PRODUCT.

Program information

Now you can easily switch from XXX to PNG !

PNG-Box loads graphics files via SuperView-Library and allows to convert these to PNG (PiNG) file format for WWW usage with several WWW-specific options to be set:

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

The GUI will show you compression efficiency (byte sizes) and display various other useful information. It's style guide conform and may be controlled by keyboard, as well.

See Aminet:gfx/conv/PNG-Box.LHA for download.