

ArtPRO

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COLLABORATORS

| | | | |
|---------------|---|------------------|------------------|
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| <i>ACTION</i> | <i>NAME</i> | <i>DATE</i> | <i>SIGNATURE</i> |
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Chapter 1

ArtPRO

1.1 ArtPRO v1.03 © 1994-1997 Frank Pagels / Defect Softworks

ArtPRO v1.03

multi-purpose graphics converter
and image processor

© 1994-1997 by Frank Pagels
Defect Softworks

~Copyright~~~~~
Copyright notes

~Disclaimer~~~~~
Warranties? No way.

~Distribution~~~~~
How to distribute

~Shareware~~~~~
About the shareware concept

~Registration~~~~~
How to register

~Author~~~~~
How to reach the author

~Overview~~~~~
Introduction and new features

~Requirements~~~~~
What's required to run ArtPRO

~Installation~~~~~
How to install ArtPRO

~Usage~
Using the interface

~Problems~
Being worked on

~History~
What happened meanwhile

~Acknowledges~
The people involved

~Todo~
What should be done

1.2 Copyright

Copyright

The entire ArtPRO package was created and is copyrighted © 1994-1997 by Frank Pagels, except for reqtools.library which is copyrighted © by Nico François and render.library which is copyrighted © by Timm S. Müller.

1.3 Disclaimer

Disclaimer

This software is provided "as-is" without any warranty, either expressed or implied. the author accepts no responsibility for damage and/or loss of data/equipment resulting from the use of this software.

1.4 Distribution

Distribution

The ArtPRO package may be redistributed freely, as long as there are no changes made to any part of this software or documentation. No parts of this package may be omitted or altered by any means except for archiving. You have to reproduce the package completely. Please refer to the list of contents for verification:

```
ArtPRO (dir)
  ALoaders (dir)
    BMP
    PCX
  Icons (dir)
    ARTProLace.info
```



```
ARTProMagicWB.info
ARTProNoLace.info
libs (dir)
  retools.library
ArtPRO
ArtPRO.guide
ArtPRO.guide.info
ArtPRO.info
libs.info
Orderform.doc
Orderform.dok
ArtPRO.info
```

Neither fees may be charged nor profits may be made by distributing this piece of software. Only a nominal fee for costs of magnetic media is acceptable, whereby the amount of US \$3 or DM 4,- must not be exceeded for a disk containing ArtPRO.

1.5 Shareware

Shareware

ArtPRO is shareware. You're requested to register if you use ArtPRO frequently. First of all this helps to ensure further development. Second, registered users will get a private keyfile along with the latest version available, and finally, you'll be able to use ALL the features provided by ArtPRO without limitations.

Limitations for non-registered users

- No requester for customized sprite control-word calculations
- No screenmode lock
- Registration reminder pops up at startup
- The GIFANIM saver does not handle 24bit images.

The number of features reserved for registered users will grow in the future, of course.

The shareware idea behind ArtPRO is that development stays transparent to you. The earlier you register, the better your demands can be taken into account.

Last not least, updates stay free until doomsday.

1.6 Registration

Registration

To register, fill out the included registration form, bring it to paper and send it to the

author

. The registration fee is DM 20,- or US \$15 or UK £10.

Try to get a registration with other currencies if you dare. Include cash, international money order, or cheque. Coins in currencies different from German Marks cannot be accepted. Cheques are only acceptable from within Germany. Make international money orders and cheques payable to Frank Pagels.

Registered users will receive a sending by mail, including your personal keyfile and the latest ArtPRO revision. More updates are available if you send disks and additional money or stamps for postage. Updates should also be available at your local bulletin board systems and on Aminet.

1.7 Author

Author

Submit suggestions, bug reports, registrations to:

Frank (Copper) Pagels
Kolumbusring 39
18106 Rostock
FR of Germany

Phone +49 (0)381 1207938

E-Mail: frank.pagels@rostock.netsurf.de
copper.Hysteria.dssd.sub.org
Subject: ArtPRO

WWW: <http://home.pages.de/~defect>

1.8 Overview

Overview

Interchange of different file formats

ArtPRO supports a lot of different file formats, such as ILBM, GIF, TIFF, BMP, PCX, and everything that can be loaded via Datatypes. Even a variety of raw formats can be loaded and saved.

RAW conversion

Highly flexible source code generation is supported as well as binary and linkable output. Images can be saved as bitplanes, chunky and truecolor in many variations. Copperlists and sprite control-words can be generated

automatically. The AGA hardware features are extensively supported. ArtPRO even creates labels for your source code and lets you convert raw data back to images.

ArtPRO has got a configurable saver section. That's what programmers always have been looking for. Create and configure all the different raw format savers you require for your projects - with a few simple mouse clicks!

Palette and image processing

ArtPRO offers blazingly fast color reduction and rendering, palette optimization, realtime color bias (even with truecolor images), and a fully-featured palette editor.

Comfortable GUI

ArtPRO doesn't consist of an empty screen with dozens of menus, driving you berzerk with unsuitable colors and weird screen resolutions - instead, it has got an expensive GUI which can be driven by both gadgets and keyboard shortcuts. It can be configured in many ways to suit your taste.

Programmable interfaces

If you want to customize ArtPRO with a bunch of your own, special weirdo formats: Just contact the
author
to get the documentation of the external
interfaces for loaders, savers, and operators.

There's already an external third-party saver included: SNES.

1.9 System requirements

System requirements

- Amiga
- Kickstart 2.04 (v37), suggested: OS3.0 (v39)
- MC 68020 CPU
- 1-2 MB RAM (more suggested)

1.10 Installation

Installation

That's the easiest part. Just double-click on the 'Install' icon.

All steps to ensure proper functionality will be performed in the installation script. No bad hacks are getting installed, and there won't be fiddled around with your user-startup. There's no reason to risk a

installation by hand.

1.11 Usage

GUI Usage

```

~Main~Control~Panel~
~Image~Control~~~~~~
~File~Operation~~~~~
~Image~Operation~~~~~
~Brush~Operation~~~~~
~Palette~Operation~~~~~
~Selecting~a~loader~/~saver~
~Settings~Window~~~~~

```

1.12 History

History

V1.03 23.03.1997

- the render.library_020 crashed on machines without fpu --> fixed
- 24bit display with Picasso96 now possible
- Random dither implemented
- some minor changes

V1.02 16.02.1997

- "Load RAW" crashed --> fixed
 - Universal loader didn't work under Kick 2.0 --> Fixed
 - The palette editor didn't work under Kick 2.0 because I used only OS 3.0 functions :(--> Fixed
 - "Conf. Overwrite" in the Global Settings worked opposite to the intended function --> Fixed
 - After a Iconify the loader/saver names were not
-

correctly restored --> Fixed

- Documentation completely reworked
- Render.Library developer package now included to ArtPRO's distribution

V1.00 04.02.1997

- Settings window reworked and cleaned up
- Colorbias with HAM and 24bit images realtime with a preview 8/4 bit picture
- font problem with meminfo in the main window fixed
- implemented local prefs for loaders and savers
- false loading of raw HAM8 images fixed
- rendering and render control window added
- progress indicator window added
- universal loader added
- image is situated in fast memory now
- new, fantastic loader and saver management implemented
- GIF, raw rgb, and raw chunky loaders added
- TIFF, BMP, PCX, IFF support 24bit now
- CybergraphX 24/16/15 bit display implemented
- GIF and GIFANIM savers added
- tooltypes for loader & saver configs implemented
- problems with message handling fixed
- some user interface changes

V0.94 18.06.1995

- Palette Editor added.
 - TIFF loader/saver available
 - ArtPro uses now an appwindow.
 - External appicon can be changed by tooltypes.
 - Can save a image structure (only for sources)
-

- The loader/saverwindow can now handled by keyboard completely.
- Should work better on GFX cards. ;-)
- The cut-frame can now moved by mouse.
- Shortcuts for 'Add dir'/'Kill all' fixed. Also shortcut for 'Execute Operator' and 'Change ID-Mode.'
- View Pic can now exit by ESC.
- To exit while ArtPRO is iconified as window should work.
- Now there is an error message while loading IFF24.
- To exit without saving the config can reached by pressing Shift+'x' or Shift+Exit button.
- Removed a bug in autocut

V0.90 18.06.1995

- Saving RAW HAM8 produced wrong output. Fixed.
 - Ask Mask-Color didn't work 100% all the time. Problem solved hopefully.
 - The sprite control word calculation for 32 and 64 pixel wide sprites generated non-AGA control words - bug removed.
 - The "Kill" gadget shortcut had no effect - finally, it works
 - An "Info" gadget has been added to the module windows for quick reference on the loaders and savers.
 - Automatic and semi-automatic label generation implemented (assembler only so far).
 - Serious bug fixed: If you saved a brush having an odd with with one of the CHUNKY savers, the machine crashed. (Yuck)
 - Another heavy bug: Saving a link object with no object name crashed.
 - Finally, an installation script has been included to the distribution package.
 - External savers included: PCX and BMP.
-

- Pack Colors image operator included.
- The cut-frame is now kept when re-entering the control screen.
- Minor bug removed that caused problems with the control screen and screenmode promoting programs.

V0.88u 05.04.1995

- Special release for the Amiga Inside CD by UMD!
Read the ArtPRO.readme file!

V0.87 03.04.1995

- Cosmetic: "ART-Pro" changed to "ArtPRO".
- GUI completely reworked. ArtPRO now opens a font-sensitive window on the Workbench or on a public screen, or opens an own public screen. A font can be selected.
- Color-Bias screen overwork.
- The windows' positions and a locked screenmode are saved on exit now.
- External loaders included: PCX and BMP.
- The Settings section has got a "Save" and a "Save as" button now.
- "Confirm exit" included.
- Bug removed when selecting a frame NOT from upper-left to lower-right. The brush size should be correct now.
- The logo is scaled according to the window's dimensions and is rendered to a screen's palette (V37) or its sharable/obtainable pens (V39).
- The "Center Pic" option caused some problems. Believe it or not, this mighty important feature has been REMOVED.
- Few minor bugs removed.

V0.79 4.1.1995 (major bugfix)

- Parts of the guide have been rewritten for V0.78. Some passages were linked incorrectly, some were completely
-

wrong, some were malformed. Fixed.

- Saving images which have been loaded as RAW HAM6 crashed. Fixed.
- Displaying or saving images which have been loaded as RAW EHB could crash under certain circumstances. In addition to that, saving images which have been loaded as RAW-EHB led to 64color non-EHB images. Fixed.
- Iconify plus un-iconify "un-registered" ArtPRO. Solved.
- The Load-RAW screenmode requester will now keep the last selected screenmode.
- The RGB-CHUNKY-12Bit and RGB-CHUNKY-24Bit savers crashed on 68000 and 68010 based machines. This has been fixed. Now the code differentiates correctly between 68000 and 680x0 based machines for the use of optimized routines.
- Minor bugs and several Enforcer-hits removed.

V0.78 30.12.1994 (The Party 4 release)

- After cutting a brush and iconifying, ArtPRO saved the complete picture instead of the brush. Solved.
- GUI layout in the preference section changed, for the source code settings are now global and apply to all output formats.
- RAW-CHUNKY (LEFT/RIGHT) savers implemented.
- RGB-CHUNKY-12BIT and 24BIT savers implemented.
- COLOR-RAW and COLOR-IFF loaders implemented.
- First public release with a keyfile for registered users.
- Color-Bias included.
- Ask Mask-Color crashed sometimes. Fixed.
- User prompt for customized control-word calculation included to the sprite output settings. (Registered users only.)
- various minor bugs fixed.

V0.77 ... V0.70 (several internal releases)

- Screenmode lock implemented. (Registered users only)
 - ArtPRO crashed when saving an 8bit copperlist as binary. This has been fixed.
-

- Source-generator completed. ArtPRO now supports Assembler, C, Basic, E, and Pascal.

V0.641 12.11.1994 (quick update)

- ArtPRO crashed on 68000 based machines - now fixed
- ArtPRO did strange nonsense when having no directory name in the file requester! Oops...

V0.64 05.11.1994 (Coma Party Köln)

- removed a major bug - ArtPRO crashed on exit if a screenmode wasn't available/supported - now fixed
- bug in AutoCut fixed - left box edge not set correctly sometimes
- added a text field at the control screen and inside the main window, displaying a brush's width in words
- ArtPRO now saves the selected loader/saver modules to its default prefs path on exit
- now a busy-pointer appears when needed
- some minor bugfixes

V0.62 21.10.1994

- added link-object
- ArtPRO now saves its load/save paths to its default prefs paths on exit
- some bugfixes

V0.60 08.10.1994

First public release for the tool competition at the Doomsday Party.

1.13 Acknowledgements

Acknowledgements

- Thanks to Timm S. Müller alias Captain Bifat / TEK neoscientists for suggestions, testing, designing the graphical user interface, drawing the logo, writing parts of the documentation and the fantastic render.library.
-

- Thanks to Jörg "M.U.D.U." Krempien / Defect Softworks for the nice Mona Lisa icon, translating the doc into german, moral support and continuing care about the documentation.
- Thanks to Henryk "Buggs" Richter / Defect Softworks for suggestions, additional help, and testing.
- Greetings fly to:
 - Gerd Frank (the 1st registered user)
 - Exterminators (Bananen-Pfirsich-Necktar rulez :-))
 - specific: The Mad Guy, Crashlander, Zytech and the rest...
 - C U at the next Paddy!
 - TIK/Retire (nich so viel kupfern :-), thanx for help with HAM8 and the Spritecontrolwords)
 - Kengi Ben David & Mohr (Helge rulez)
 - Latte /Texxid (Das UrKelly rulez)
 - Voice /TEK alias YPNO (goile paddy!)
 - Mac ,Plex and Banana /TEK (Echoing rulez)
 - and of course all members of Defect

1.14 To Do

ToDo

There are still some features not finished yet...

- AREXX Port
- new Operators
- new Loaders & Savers
- german documentation
- LZW support for TIFF loader/saver
- better graphics card handling
- ...

1.15 Main Control Panel

Main Control Panel

There are four buttons and several text fields located in this area,

affecting global operations and displaying general information.

The status line reflects ArtPRO's current status - errors are displayed here as well as messages of any kind. At startup, you find a welcome message there.

The three text fields below inform you about the memory currently being available, seperated into 'Memory' (total), 'Chip' and 'Fast'.

```

~
      About
      ~~      ~
      Settings
      ~~      ~
      Iconify
      ~~      ~
      Exit
      ~

```

1.16 Tooltype Settings

Tooltypes

ArtPRO can be customized with a few tooltype settings.

| | |
|-------------------|---|
| APPICON=filename | the appicon to be used when ArtPRO gets iconified. Specify without '.info'. |
| LOADLIST=filename | list and configuration of loaders to be loaded at startup. Default: ENV:ArtPRO/loaderdefault.cfg |
| SAVELIST=filename | list and configuration of savers to be loaded at startup. Default: ENV:ArtPRO/saverdefault.cfg |

1.17 About

About

This one opens a stunning requester with some information about the ArtPRO revision running, the author's~address~and stuff like that.

If you're a registered user, you can activate the 'key' button for further information on your registration key.

1.18 Iconify

Iconify

As the name suggests, this leads to iconification of ArtPRO and frees as much memory as possible. ArtPRO opens a tiny window on the Workbench then, appends an AppItem to the tool menu, or leaves an AppIcon on your Workbench, depending on the selected iconification mode. (Refer to the

```
settings~section
).
```

You may also use a custom appicon. Refer to the

```
tooltypes~section
.
```

1.19 Exit

Exit

Press this button to quit ArtPRO.

On exit, ArtPRO saves the current load/savepath, window positions, the screen-lock setting and the current loader/saver to ENV:ArtPRO/. Hold down the SHIFT key while exiting, and ArtPRO will exit without saving anything of its configuration.

By default, you must confirm to exit ArtPRO. This behavior may be changed in the

```
global~settings~section
.
```

1.20 File Operation

File Operation

You find four buttons and three text fields in this area. They allow you to import and export files and they reflect which

```
loaders
and
savers
are
```

currently selected.

```
~Load~
```

```
~1~
```

```
~Save~
```

```
~2~
```

```
To enter the
```

loaders~or~savers~section
 , activate either of the tiny buttons
 at the right, labelled with '1' and '2'.

1.21 Load

Load

Press this button to open a file requester for loading an image.

You find the current loader displayed in the text field on the right. Read the~

loaders
 section for details and the available file formats.

Click the tiny button at the right labelled with '1' to enter the

loader~selection
 .

ArtPRO's main window is an appwindow, i.e. you can also drag & drop image icons on it in order to load a file.

1.22 Save

Save

Click on this button to open a file requester for saving.

You find the selected saver displayed in the text field on the right. Refer to the

savers
 ~section for details and the available formats.

Click the tiny button at the right labelled with '2' to activate the

saver~selection
 .

By default, you will be prompted to confirm overwriting files which already exist. This behaviour can be changed in the
 settings~section
 .

1.23 Image Control

Image Control

There are four buttons and four text fields located in this area. They affect the screen's resolution, display mode, and depth, and they reflect

the size and depth of the image.

```

~
~~~~~Screenmode~~~~~
      ~~
~Render/Display~
~Render~Ctrl~
~Lock~

```

1.24 Selecting a Screen Mode

Screen Mode Selection

This is the button labelled with '3' - it is located right to the text field displaying the current screen mode. It brings up a list of all screen modes available to your system. The set of screen modes offered here depends on your machine's chipset revision and on the monitors located in your Devs/Monitors system drawer.

Some screen mode modifications require rendering, e.g. a 256-color image cannot be displayed on OCS/ECS PAL-Hires.

1.25 Render / Redisplay

Render/Display

Press this button to display the current picture. If you modified the settings in the

```

render-control
section, the image will be rendered first.

```

1.26 Brush Operation

Brush Operation

In this section the selected brush operator, the current brush's dimensions and its size in bytes are displayed. There is only one brush operator available in this release of ArtPRO - 'normal cut' - and therefore the brush operation selector appears ghosted.

Select 'Execute' to cut a brush. You will then find your image with a tiny control screen at the bottom.

```

~~Control~Screen~~~
~Selecting~a~Frame~

```

```
~~~~~Grid~~~~~
```

```
~~~~~AutoCut~~~~~
```

1.27 Control Screen

Control Screen

There are three buttons and four text fields located on the brush control screen. They're labelled as follows:

- X - displays the horizontal position of the cursor, relative to the left screen border
- Y - displays the vertical position of the cursor, relative to the upper screen border
- BW - the frame's current width
- BH - the frame's current height
- Wrd - counts the frame's width in words (multiples of 16)
- (box) - indicates whether the brush width is exactly a multiple of 16. If so, the box gets highlighted.
- ~AutoCut~ - to automatically enclosure the brush at its outmost edges
- Accept - to accept a brush selection
- Cancel - to leave this section without a new brush

When the control screen annoys you: you can turn it off and on by pressing the space bar. This is also an intermediate solution for CybergraphX / Picasso 96 users.

1.28 Selecting a Frame

Selecting a Frame

Move your mouse to an appropriate location inside your picture, press the left mouse button and size the rubber frame. There's no need to keep the left mouse button pressed. Press the left mouse button once again to use the frame.

To redo that operation, press the right mouse button and select another frame. If you're satisfied with your brush selection, leave this section by either clicking the 'Accept' button.

You don't need to cut your brush at its exact borders, try the
 AutoCut
 feature after you've selected a rough frame.

After you've selected a frame, you can modify it in various ways:

- Click with the left mouse button into the frame to drag it around
- Cursor to move the frame
- SHIFT-Cursor to resize the frame at the lower-right
- ALT-Cursor to resize the frame at the upper-left

1.29 Grid

Grid

The grid's width amounts to 16 pixels. Toggle it on or off by pressing the
 'g' key.

By default, a grid is drawn. This behavior can be changed in the

settings~section

.

1.30 AutoCut

AutoCut

This feature is very handy when you have to cut a brush at its exact
 borders. The rubber frame will automatically enclosure your brush at its
 outmost edges.

This does not work with a noisy background around the object you want to
 select.

1.31 Loaders

Loaders

In this version, ArtPRO supports the following loaders:

internal loaders:

DATATYPE

~~~~~

IFF~ILBM



```
PALETTE

SCREEN
~~

RAW
~~~~~

RAW~INTERLEAVED

UNIVERSAL
external loaders:
BMP

CHUNKY

GIF

PCX

RGB~CHUNKY

TIFF
If you want to develop other loaders please contact the
author
.
```

## 1.32 BMP

BMP

Lloads Windows Bitmaps and OS/2 Bitmaps. Supports RLE4 and RLE8 compression. RLE8 is not fully tested yet. 24bit pictures are supported.

## 1.33 CHUNKY

CHUNKY

Lloads RAW chunky images, with one byte representing one pixel. Chunky maps may either be left- or right-oriented.

```
Left-oriented: Bit %76543210
 Plane %12345678
```

the most significant bit represents the lowest bitplane

```
Right-oriented: Bit %76543210
 Plane %87654321
```

the most significant bit represents the highest bitplane

---

## 1.34 DATATYPE

### DATATYPE

This loader is ArtPRO's interface to the operating system's datatypes. This loader isn't available under OS2.x.

Datatypes provide a general technique for the access to different data formats, especially to formats that are unknown to a specific application. Many datatypes (stored in SYS:Classes/Datatypes and DEVS:Datatypes) are available.

Use this loader whenever you want to load an image format that is not supported by ArtPRO.

ArtPRO does not support 24 bit datatypes.

## 1.35 GIF

### GIF

Loads a GIF (graphics interchange file format) picture. The formats GIF 87a and 89a are supported from 1 to 8 bit. Multipic is not available yet.

## 1.36 IFF ILBM

### IFF ILBM

Loads IFF ILBM (Interchange File Format / Interleaved BitMap) pictures. The first frame of IFF ANIMs is read as well. 24bit is also supported.

## 1.37 PALETTE

### PALETTE

This loader allows you to load a raw or IFF palette over a previously loaded image. This depends on the  
palette-loader's-configuration  
, as well as how  
raw color data is interpreted.

## 1.38 PCX

### PCX

Loads PCX pictures from 1 to 24 bit. This fileformat is used by PaintBrush.

---

## 1.39 RGB CHUNKY

### RGB CHUNKY

This loader loads raw RGB chunky data in either 12bit or 24bit.

## 1.40 SCREEN

### SCREEN

This loader is a screen grabber that allows you to fetch any screen being open on your system. Choose a screen when the requester pops up.

## 1.41 RAW

### RAW

This loader allows you to load standard (i.e. non-interleaved) raw bitplane data. After selecting 'Load' a requester will pop up and prompt you to specify the raw-formatted picture's width, height, depth, and display mode. The cycle gadget entitled 'Display' allows you to choose between normal, halfbright and HAM display mode. Select 'Do it' to load the raw image file. You will then be prompted to select a screen mode, and finally, the raw picture will be loaded.

## 1.42 RAW INTERLEAVED

### RAW INTERLEAVED

This loader allows you to load raw interleaved bitmap data. After selecting 'Load' a requester will pop up and prompt you to specify the raw-formatted picture's width, height, depth, and display mode. The cycle gadget entitled 'Display' allows you to choose between normal, halfbright and HAM display mode. Select 'Do it' to load the raw image file. You will then be prompted to select a screen mode, and finally, the raw picture will be loaded.

## 1.43 TIFF

### TIFF

Loads TIFF (Tag Image File Format) images from 1bit up to 24bit. Only packbit compression is supported yet.

---

## 1.44 UNIVERSAL

### UNIVERSAL

This loader tries to determine the image format automatically. ArtPRO tries to use its own loaders first, then picture class datatype.

Raw formats cannot be detected automatically.

## 1.45 LoaderPrefs Palette

### Palette Loader Configuration

- IFF - Fetch a palette from an IFF CMAP chunk.
- LoadRGB - The raw color data are interpreted as for the LoadRGB32() or LoadRGB4() functions in graphics.library. This depends on the depth setting. Use '4bit' for the LoadRGB4() format and '8bit' for the LoadRGB32() format.
- Pure - The raw color data are interpreted as 12bit or 24bit, right-justified R/G/B inside a word or a longword. Use the depth settings '4bit' for 0x0rgb, or '8bit' for 0x00rrggbb.

## 1.46 Savers

### Savers

In this version, ArtPRO supports these savers:

internal:

IFF~ILBM

PALETTE

RAW

~~

SPRITE

CHUNKY

external:

BMP

GIF

GIFANIM

PCX

TIFF

## 1.47 IFF ILBM

IFF ILBM

This saver allows you to save your current picture or brush as IFF-ILBM. Refer to the

~IFF~Saver~Prefs~

section for the available settings. 24bit is not supported yet.

## 1.48 PALETTE

PALETTE

This one saves the current picture's palette. Please refer to the

~PALETTE~Saver~Prefs~

section for the available options.

## 1.49 RAW

RAW

This one saves an image or brush in raw-bitplane format. Please refer

RAW-Saver~Prefs

~section for the available options. The width is always aligned to words (multiples of 16 pixels).

## 1.50 SPRITE

SPRITE

This will save your current brush as one or multiple hardware sprite(s). Please refer to the

SPRITE-Saver~Prefs

~section for the available options.

## 1.51 CHUNKY

---

## CHUNKY

This saver will generate raw chunky output from your current picture or brush. The following types are supported:

- 8bit left-justified chunky (bytes)
- 8bit right-justified chunky (bytes)
- 12bit truecolor chunky (words)
- 24bit truecolor chunky (longwords)

Please refer to the  
CHUNKY-Saver~Prefs  
section for further details.

## 1.52 BMP

### BMP

Saves your current image or brush as BMP (Windows Bitmap) from 1 to 24 bit. Also refer to the

BMP-Saver~Prefs  
~section.

## 1.53 GIF

### GIF

Saves an image or brush as GIF (Graphic Interchange Fileformat). The formats GIF87 and GIF89 are supported. Refer to the

GIF-Saver~Prefs  
section for the

available options.

## 1.54 GIFANIM

### GIFANIM

GIFANIM converts single frames to a GIF animation. Warning: This saver is a preliminary beta version.

First of all, you have to provide the single frames with file names that end with a number, e.g. 'Frame\_0034'.

- 1) Load the first frame (with any loader).  
If you're a registered user, you can load 24bit frames.  
In that case, enter the  
render-control~section  
now and  
render the first frame to another depth.

Note: Only 24bit frames can be rendered.

- 2) Execute the GIFANIM saver. Specify a file name.
- 3) A requester pops up.  
Specify the number of frames to process.
- 4) Another requester pops up.  
Specify the delay between the frames.

After all, the GIFANIM will be generated, according to the

GIFANIM-Saver~settings

.

## 1.55 "

PCX

This will save the current image or brush as PCX from 1 bit up to 24 bit.  
Refer to the

~PCX-Saver~Prefs~  
section for the available settings.

## 1.56 TIFF

TIFF

This saver saves an image or brush as TIFF from 1 to 24 bit. Refer to the

~TIFF-Saver~Prefs~  
section for the available options.

## 1.57 TIFF

TIFF-Saver Prefs

- |          |                                                                                            |
|----------|--------------------------------------------------------------------------------------------|
| Rendered | - save the rendered image as TIFF.                                                         |
| 24 bit   | - save the image as 24 bit TIFF.<br>HAM and HAM8 will be saved as 24 bit<br>automatically. |

## 1.58 PCX

---

## PCX-Saver Prefs

- Rendered - saves the rendered image.
- 24 bit - saves the image as 24bit TIFF.  
HAM and HAM8 will be saved as 24bit automatically.
- VGA - will save as VGA PCX with up to 8bit.  
Only available if 'Rendered' is selected.  
selected.
- EGA - will save as EGA PCX with up to 4bit.  
Only available if 'Rendered' is selected.

## 1.59 GIF

## GIF-Saver Prefs

- Save Format - GIF87a - An elder GIF standard.  
Handles interlaced mode.
- GIF89a - The newer GIF standard.  
Handles interlaced and transparency.
- Interlaced - Select for interlaced mode.
- Transparency - Select for transparent mode.  
Available only with the GIF89a format.
- Trans. color - Index of the transparency color.

## 1.60 GIFANIM

## GIFANIM-Saver Prefs

- Interlaced - Toggle between interlaced and non-interlaced  
GIFANIM mode.
- Tranparency - Select for transparency mode.
- Trans. color - Color index of the transparent color.

## 1.61 BMP

## BMP-Saver Prefs

- Rendered - Saves the redered picture.
-



- 24 bit - Will save the current picture in 24bit.  
HAM and HAM8 pictures will saved as 24bit  
automatically.

## 1.62 CHUNKY

### CHUNKY-Saver Prefs

Save Format

Source Format

~Output~~~~

~Type~~~~~

~Language~

~~Width~

~Byte~Type~

~RGB~Type~

~Indent~

~Line~Entries~

## 1.63 CHUNKY

### Chunky Type

- Byte - This will save chunky bytes, with one pixel representing one pixel, either left or right justified. This can be specified with the

Byte~Type  
cycle gadget.

- RGB - This will generate 12bit or 24bit tricolor output, with one pixel represented by either a word or a longword. This can be specified with the

RGB~Type  
cycle gadget.

## 1.64 CHUNKY

### Byte Type

Here you can select the chunky byte's bit justification.

```
left: %12345678
right: %87654321
```

Each digit represents its corresponding bitplane. Left justification is rather unconventional, it is mainly used for fast assembler chunky-to-bitplane conversions via cascades of ADD/ADDX opcodes. With this format there's no need to shift the chunkies to the left when converting less than 8 bitplanes.

## 1.65 CHUNKY

### RGB Type

Specify the RGB chunky type here.

```
12bit: 0x0RGB words 2 bytes per pixel
24bit: 0x00RRGGBB longwords 4 bytes per pixel
```

## 1.66 Sprite

### SPRITE-Saver Prefs

Save Format

Source Format

~Output~

~Ctrl.~Words~

~Language~

~~Width~

~Colors~

~Width~~~~~~

~Indent~

~Labels~

~Line~Entries~

## 1.67 Sprite Colors

### Number of Colors

Here you can adjust the number of colors for the sprite conversion. Choose between 4 or 16 colors.

The Amiga customchip hardware supports sprites in either 4 or 16 colors. For using 16 colors, a sprite pair of two 4colored sprites has to be 'attached'. Attaching means, the positions of the attached sprite-pair have to be identical, and the attach-bit of at least the second (odd) sprite has to be set.

Using ArtPRO, there's no need to bother. Just select 16 colors, and your brush selection is interpreted accordingly. If you select the

```
control~word~calculation
, even the attach-bit will be set automatically.
```

## 1.68 Sprite Control Words

### Control Words

Hardware sprites require so-called control words at their beginning. These control words contain all the information needed for the sprite display, such as horizontal and vertical start positions, vertical stop position, and the attach-bit mentioned in the~

```
colors~section
. ArtPRO supports sprite
```

control words in four ways: None, Empty, Auto, or Prompt. Use the cycle gadget to adjust one of these.

- None     ArtPRO doesn't care about control words. They will be omitted.
- Empty    ArtPRO includes control words at the beginning of the sprite datalists, but they're empty, i.e. set to zero.
- Auto     ArtPRO includes sprite control words containing ALL the information needed for proper display. The control word calculation will be performed as follows:
  - VerticalStart     = raster line \$2c + brush's top edge inside your picture
  - VerticalStop      = raster line \$2c + brush's top edge + brush's height
  - HorizontalStart   = DMA start \$80 + brush's left edge inside your picture
- Prompt    ArtPRO will bring up a requester for a customized control word calculation when saving one or multiple sprites. Here you can adjust the VerticalStart and HorizontalStart values as well as the image-relative brush coordinates.

The latter two settings can be extremely useful for you, if you're one of those hardware programmers who use static sprites for complex screen layouts. Experienced programmers will have noticed that the values used with the 'Auto' setting apply to standard non-overscan screens. Use the 'Prompt' setting if these don't fulfill your needs.

## 1.69 Labels

### Labels

Labels are implemented for assembly-language source code generation only. Adjust this switch to either 'Auto' or 'Prompt' for automatic or semi-automatic label generation.

When a brush is wider than 16/32/64 pixels, it has to be divided into multiple data segments. If you select 'Auto', each segment will be labelled 'Sprite<n>:'. If you select 'Prompt', a requester shows up before saving. You can enter the label name and the starting index there. Use 'Create' to use this definition for a single sprite, or 'Create all' to use it for all sprites with the index increasing automatically.

## 1.70 Sprite Width

### Width

Adjust the sprite width here. Choose between 16, 32, or 64 pixels. Note: The OCS/ECS hardware does not support sprites wider than 16 pixels.

## 1.71 RAW

### RAW-Saver Prefs

Save Format

Source Format

~Output~~~~

~BlitWord~

~Language~

~Width~

~ ~

~Indent~

~Line~Entries~

Options:

Interleaved        - generate interleaved bitplanes.

- Mask - create a mask. If you save in non-interleaved mode, this mask consists of one bitplane. In interleaved mode, the masking bits appear in all bitplanes.
- Ask - Normally, all colors different from color zero are taken into account when a mask is generated. With this option enabled, you will be prompted to enter a single, specific mask color instead.
- Image Structure - In source mode, saves the image or brush as an image structure (struct Image, intuition.library).

## 1.72 Blitword

### Blitword

You can adjust this cycle gadget to 'None', 'Left', or 'Right'. For shifted blitting, you may wish to add extra words at either the left or right side, whereby the brush will be enlarged by one word (16 pixels) in width.

## 1.73 IFF ILBM

### IFF ILBM-Saver Prefs

Options:

not packed - uncompressed ILBM

RLE packed - RunLength (CmpByteRun1) compression

## 1.74 PALETTE

### PALETTE-Saver Prefs

Save Format

Source Format

~Output~

~

~Type~

~Language~

~Width~

~

~~

~Indent~

~Line~entries~

Depth - use this cycle to set the palette's resolution. This can be either 4bit or 8bit.

## 1.75 Type

### Palette Type

- Copper - generates a hardware copperlist. If the depth setting is adjusted to 4bit, the copperlist will be of the OCS/ECS type. With depth set to 8bit, an AGA copperlist will be created.
- LoadRGB - generates a palette in LoadRGB4() or LoadRGB32() format (graphics.library). This depends on the setting of the depth gadget. 4bit generates the LoadRGB4() format, 8bit generates a LoadRGB32() palette.
- Pure - generates a raw palette in either 4bit (0x0rgb) or 8bit (0x00rrggbb), depending on the depth setting.

## 1.76 Output

### Output

Specify the output type with this cycle gadget:

- Source - generates source code.
- Binary - generates binary (raw, pure) data.
- Link - generates a linkable object. Before saving, a requester shows up. Specify an external label definition and the type of memory there.

## 1.77 Sourceformat

### Language

Here you can select the programming language you want to generate source code for. Available languages are Assembler, C, Pascal, E, and Basic.

---

## 1.78 Width

### Width

Adjust the desired data width for the source code generation here.

- Bytes - save as bytes (8bit)
- Words - save as words (16bit)
- Longs - save as longwords (32 bit)

## 1.79 Indent

### Width

Adjust the desired data width for the source code generation here.

- Bytes - save as bytes (8bit)
- Words - save as words (16bit)
- Longs - save as longwords (32 bit)

## 1.80 Output

### Output

Specify the palette output type with this cycle gadget:

- Source - generates source code.
- Binary - generates binary (raw, pure) data.
- Link - generates a linkable objects. A requester will show up before saving. Specify a label and the type of memory there.
- IFF - generates an IFF file with a CMAP chunk.

## 1.81 Line Entries

### Line Entries

Enter the number of entries to appear in a single line of source code. If you enter 0 here, a line will be filled up completely. Note: Not all editors can handle lines with extreme lengths.

---

## 1.82 Display Picture

Display Picture

With this switch enabled, any picture will be displayed right after loading.

## 1.83 Draw Grid

Draw Grid

Activate this switch if you want a grid to be drawn when you select a frame for cutting a brush.

## 1.84 Overwrite

Confirm Overwrite

Activate this switch if you want to confirm overwriting files.

## 1.85 Image Operation

Image Operation

Image operators implemented to ArtPRO so far:

```
~Pack~Colors~~~~~
```

## 1.86 Settings Window

Settings Window

```
~Global~Settings~
```

```
~System~
```

## 1.87 Global Settings

Global settings

```
~Display~Picture~~~~~
```

---



```
~Draw~Grid~~~~~~
~Confirm~Exit~~~~~~
~Confirm~Overwrite~~~
~Autosave~Palette~~~~
```

## 1.88 Autosave Palette

### Autosave Palette

Activate this switch if you want to automatically save a picture's palette along with the image.

The file name will be the same as for the image, with an appropriate extension added, such as .asm for assembler source code.

## 1.89 Iconify Mode

### Iconify Mode

ArtPRO offers three different ways of iconification - AppItem, AppIcon, and Window. You can adjust your preferred mode here. An AppItem named 'ArtPRO' will be appended to the Workbench's tool menu, an appicon will be put somewhere on your Workbench, or a tiny window will be opened.

To re-enter ArtPRO, select the menu item, double-click the appicon or click the zip gadget in the tiny window's title bar.

You can use a custom AppIcon. Refer to the  
iconify~section  
for details.

## 1.90 Adjust Palette

### Adjust Palette

This button is available for custom screens only. A palette requester will pop up for you to adjust the screen colors.

## 1.91 Palette Operation

### Palette Operation

Palette operators implemented to ArtPRO so far:

---

~Color-Bias~

~~Palette~~~

## 1.92 Color Bias

### Color Bias

Color-Bias is a great tool for global palette adjustments. Select the color-bias palette operator to enter your current picture with a tiny control screen at its bottom. Press the right mouse button to switch the control screen on and off.

This control screen contains six sliders, entitled 'Color', 'Bright', 'Contrast', and 'R'/'G'/'B'. In addition to these, you find three buttons at the right, labelled 'Use', 'Keep', and 'Cancel'.

Moving a slider to the left will reduce a value, moving it to the right will increase it. The color bias palette modification will be performed real-time.

Press the 'Use' button to leave this section with the new palette. If you select 'Cancel', you abort the Color-Bias operator and undo all changes. Select 'Keep' to re-adjust the slider knobs to zero with the current settings. Press the 'Color', 'Bright', 'R'/'G'/'B' etc. buttons to re-adjust the associated value to zero.

## 1.93 Confirm Exit

### Confirm exit

Activate this switch if you want to confirm exiting ArtPRO.

## 1.94 Quick Reference

### Quick Reference

Global Settings

System Settings

~Autosave~Palette~~

~Adjust~Palette~

~Confirm~Exit~~~~~

~Font~~~~~

~Confirm~Overwrite~

~Iconify~~~~~

~Display~Picture~~~

~Screen~/~Set~~~

~Draw~Grid~~~~~

~Tooltype~Settings~  
Loaders

Savers

~BMP~~~~~

~BMP~~~~~

~CHUNKY~~~~~

~CHUNKY~~~

~DATATYPE~~~~~

~GIF~~~~~

~GIF~~~~~

~GIFANIM~~

~IFF~ILBM~~~~~

~IFF~ILBM~

~PALETTE~~~~~

~PALETTE~~

~PCX~~~~~

~PCX~~~~~

~RAW~~~~~

~RAW~~~~~

~RAW~INTERLEAVED~

~SPRITE~~~

~RGB~CHUNKY~~~~~

~TIFF~~~~~

~SCREEN~~~~~

~TIFF~~~~~

~UNIVERSAL~~~~~

## 1.95 Font

Font

Select your favourite Font here.

## 1.96 Pack Colors

Pack Colors

This image operator will find and eliminate double and unused colors from an image's palette. A requester will pop up and inform you about how many double and unused entries have been found.

If your image contains redundant palette entries, ArtPRO asks if you wish to compress the palette. The 'Pack Colors' feature won't work with HAM and EHB pictures.

## 1.97 Palette Editor

Palette editor

Enter the Palette operator for modifications of an image's palette.

ArtPRO will open a screen with the image and two control areas at the bottom. One of these contains the image's palette, the other several buttons. The image screen will autoscroll if the image is larger than the visible area. (The image has to be activated, i.e. clicked somewhere.) You can toggle the control area on and off by clicking the right mouse button.

There are max. 28 palette entries visible at the same time. Move the slider to scroll inside the image's palette. The range (from - to) is displayed on the right side of the slider.

To activate a palette entry for modification, just click on it so that it appears recessed. The selected entry will be once again displayed at the bottom of the control screen in a larger field.

~RGB~

~Copy~

~Spread~

~Swap~

```

 R -----
~Remap~

~Sort~

~Pick~
 G ----- sliders -----
B ----- Okay Undo Reset
```

Okay To leave the palette editor with the new palette.

Undo To undo the last change

Reset To reset the palette completely

## 1.98 Pick

Pick

Use this button to pick a color from the image. The pointer changes to a syringe. Press the left mouse button when the needle points to the color to pick.

## 1.99 Copy

Copy

Use 'copy' for duplicating a color entry. After pressing the button, select a destination color entry.

## 1.100 Swap

Swap

Use the swap button for swapping two color entries. After pressing the button, select a second entry.

## 1.101 Remap

Remap

Use this button to adapt your image to the new palette. This implies a complete rerendering.

---

## 1.102 Spread

### Spread

Use the 'spread' button for creating a smooth color range. First, select the initial color. After pressing the button, select a destination color entry.

## 1.103 Sort

### Sort

After pressing the 'sort' button a selector pops up. Choose the sort direction, either from dark to light or light to dark.

## 1.104 Color Model

### RGB

Use the cycle button to choose either of these color systems:

|     |                |     |                |
|-----|----------------|-----|----------------|
| RGB | R - Red        | CMY | C - Cyan       |
|     | G - Green      |     | M - Mangenta   |
|     | B - Blue       |     | Y - Yellow     |
| HSV | H - Hue        | YUV | Y - Luminance  |
|     | S - Sateration |     | U - Colorvalue |
|     | V - Value      |     | V - Colorvalue |
| YIQ | Y - Luminance  |     |                |
|     | I - Colorvalue |     |                |
|     | Q - Colorvalue |     |                |

## 1.105 Screen / Set

### Screen / Set

Use the cycle gadget to select either of these screen modes:

|              |                                                                                                                                |
|--------------|--------------------------------------------------------------------------------------------------------------------------------|
| Workbench    | For ArtPRO to open its windows on the Workbench. The 'Set' gadget is disabled in Workbench mode.                               |
| PublicScreen | For ArtPRO to open its windows on a public screen that is currently open on the system. Select a screen with the 'Set' gadget. |
| CustomScreen | For ArtPRO to open an own public screen for its windows. Select a screen mode with the 'Set' gadget.                           |

---

### 1.106 System Settings

#### System settings

These settings apply to ArtPRO's system interface.

```

~Iconify~~~~~
~Font~~~~~
~Screen~/~Set~~~
~Adjust~Palette~

```

### 1.107 Lock

#### Lock

Use this checkmark to lock the selected screen mode. When you load another image, ArtPRO will try to keep the screen mode that you've adjusted before.

This feature is reserved for registered users. Refer to registration

.

### 1.108 Render Control

#### Render Control

Rendering means: an image gets converted to another screen mode, depth, color-system, or resolution. A consequence may also be that an image has to be reduced to less colors. ArtPRO offers blazingly fast and effective color reduction and rendering.

```

~~~~~Mode~~~~~
~~~~~Colors~~~~~
~~~
Custom Palette
~~~~~Colors~Used~~~~~
~~~~~First~Color~~~~~
~~~~~Sort~~~~~
~~~~~Dither~~~~~

```

```
~~~~~Amount~~~~~  

~~~Use~~~  
  
~~~Render~~~  

~~~Cancel~~~
```

## 1.109 Use

Use

Press this button to confirm your render-control settings and to leave this section. The image is not (yet) rendered.

## 1.110 Render

Render

The image will be rendered with the options and settings you made in the render-control section. After all, the rendered image will be (re)displayed.

## 1.111 Cancel

Cancel

Press this button to forget the changes you made to the render-control settings, and to leave this section.

## 1.112 Dither Type

Dither Type

Here you can adjust the dither type and amount you want the image to be rendered with. Dithering helps to preserve the color information of an image.

none - The image will be rendered without dithering.

Floyd-Steinberg - The image will be rendered with the Floyd-Steinberg algorithm. A dither amount is not required.

Dither amount - This gadget is not available yet.

---



## 1.113 Render Mode / Colors

### Render Mode / Colors

Use the cycle gadget to choose the color model:

- Palette - Normal color-table lookup mode
- HAM8 - Amiga-specific color mode: HAM8 (Hold-and-Modify) with (virtually) 18bit truecolor resolution. This mode requires a native AGA screen mode.
- HAM6 - Amiga-specific color mode: HAM6 (Hold-and-Modify) with (virtually) 12bit truecolor resolution. This mode requires a native OCS/ECS/AGA screen mode.
- EHB - Amiga-specific color mode: 32 colors normal palette lookup, 32 colors with half the brightness of the first 32 colors. (Extra Half-Brite) This mode requires a native OCS/ECS/AGA screen mode.

Use the slider to adjust the number of colors. It is only available with the 'Palette' color mode.

## 1.114 Custom Palette

### Custom Palette

Activate this checkmark in order to create a 'custom' palette with extended flexibility.

#### Colors Used

This slider determines how many colors are actually used.  
Notes: In HAM6 and HAM8 mode, this number determines how many 'base colors' will be created. In EHB mode this value applies to the first 32 colors of the palette. Their half-bright equivalents will be used, too.

#### First Color

This slider determines the first color index to appear in the rendered image.

## 1.115 Sort Mode / Order

### Sort Mode / Sort Order

A palette may be sorted by a specific criteria and in a specific direction.

---

- Sort Mode:

- None - do not sort at all.
- Brightness - sort palette entries by brightness.
- Saturation - sort palette entries by color intensity.
- Popularity - sort palette entries by the number of pixels that they represent.
- Representation - sort palette entries by the number of histogram entries that they represent.
- Significance - sort palette entries by their optical significance for the human eye.

The last three modes do not only apply to the palette, but also to the image itself. Especially the 'Significance' mode might be of highest interest for programmers. If you ObtainBestPen() a palette in that order, you get excellent results, even with low OBP\_Precision - you avoid wasting valuable palette entries for less significant colors!

- Sort Order:

Choose between 'high to low' and 'low to high'. In this context, high means 'more of the given effect'.

## 1.116 Loader / Saver Selection

### Loader / Saver selection

This section consists of a window containing a list with either the available

loaders  
or  
savers  
.

- Accept and Operate - leave this section with the selected loader / saver, and use it immediately. The same effect has a double-click on a loader / saver.
  - Okay - just leave this section. The selected loader / saver won't be used immediately.
  - Cancel - just leave this section. Forget the selected loader / saver.
  - Load - Load another list of loaders / savers.
-

Save - Save the current list of loaders / savers.

If you want to customize the list, refer to the loaders / savers

configuration~section

.

## 1.117 Loader / Saver Configuration

Loader / Saver configuration

Config - enter a loader's or saver's configuration window.

Clone - create a duplicate of the selected loader / saver.

Add - add a new basic loader / saver type.

Erase - remove the selected entry from the list.

Up - move the selected entry up one line.

Down - move the selected entry down one line.

Each loader / saver may have an individual name. It can be entered in the text gadget under the list. This name should somehow reflect the configuration of your loader / saver, e.g. 'Palette 8bit Asm', or 'RAW Intl. Mask', 'GIFANIM transp.' or maybe 'MainSprite', 'TextureMapping2', etc.

If you're engaged in different projects (image processing, programming the OS, games, or demos), create separate lists for your different tasks.

You can tell ArtPRO which list to load at startup. Please refer to the

tooltypes~section

.

## 1.118 Known Problems

Known Problems

ArtPRO is not yet designed to work with 24bit datatypes. This is currently being worked on. I have ordererd a PicassoIV board to fix this and other problems :)

According to some bug-reports reqtools.library might be a troublemaker, especially under Kickstart 2.x. Try another version if you encounter any problems, and please contact

me

immediately.

One user reported problems with the drag&~drop feature. Please contact

me

if this occurs with your configuration.

The CybergraphX graphics card driver is not fully compatible to the native Amiga screenmodes. Overlapping screens cannot use different palettes simultaneously, and the Picasso96 driver system doesn't even support overlapping screens. ArtPRO wasn't originally intended to handle this. This problem occurs when cutting brushes, in the palette editor, and with the color-bias editor. Intermediate solutions are to switch the control-screens on and off. This workaround isn't satisfying, though. A new brush operator, palette editor, and color-bias editor is under development.

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