

**Picasso96**

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# Chapter 1

## Picasso96

### 1.1 Picasso96 Documentation

Picasso96

A software system for Amiga graphics cards

~ Introduction ~

Hardware requirements

Compatibility

Installation

Usage

Configuration

Developer documentation

Authors

Distribution

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### 1.2 Introduction

Introduction to Picasso96

Picasso96 is a modular and system friendly software environment for many different Amiga graphics cards. Its main intentions are to provide a solution which is as system and software compatible as possible, transparent and reliable. To be that compatible, only the really necessary functions were patched. This results in very high

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level of compatibility.

Another feature of the Picasso96 system is the ability to use several graphics cards at the same time, even cards of the same type.

## 1.3 Hardware requirements

Hard- and software requirements

Mandatory for the use of Picasso96:

- \* Kickstart 3.0 (V39),
- \* Motorola MC68020 processor or better,
- \* at least one of the following cards
  - :
  - CyberVision 64, CyberVision 64/3D, Domino, Merlin, oMniBus, Picasso II, Picasso II+, Picasso IV, Piccolo, Piccolo SD64, Pixel 64, Retina BLT Z3, Spectrum 24/28 or an UAE (the Amiga emulator) installation with M68020 and Picasso96 support.

Why are these requirements mandatory?

- \* Kickstart 3.0 is needed because Picasso96 is installed as system friendly as possible using features only Kickstart 3.0 provides.
- \* A 68000 processor is not supported because it does not offer enough computing power to use a graphics card (larger displays need more computation - it would get unbearable slow). Therefore, parts of the code have been especially written for the MC68020.
- \* The above mentioned cards are those which are supported by June 1998. Others can be adapted on request soon.

optional, advised:

- \* a hard disk,
- \* some extra RAM,
- \* a (state-of-the-art) VGA monitor.

## 1.4 Supported Cards

Supported Cards

CyberVision 64:

The CyberVision is a quite attractive modern card featuring a S3 Trio 64 chip and ZorroIII bus interface. The driver has initially been developed by Michael Teske, who also did the CyberVision 64 support for NetBSD.

CyberVision 64/3D:

The CyberVision is a modern card featuring a S3 ViRGE chip and autosensing ZorroII/III bus interface.

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**Domino:**

The Domino is a quite old system, too, which consists of a ZorroII card and a ISA VGA card on its back. It uses a HiColor15-DAC.

**Merlin:**

The Merlin is a ZorroII/III graphics card using a Tseng ET4000W32 and a TrueColor DAC. It offers some features the Amiga has, too: it has a hardware sprite with three independent colors and a fast blitter with three sources.

**oMniBus:**

The oMniBus VGA system consists of a ZorroII to ISA-Bus bridge and a ISA-VGA card. Currently supported VGA cards are those based on a Tseng ET4000AX or Tseng ET4000W32 VGA controller and a Sierra S11483 HiColor15-DAC, a Sierra S15025 TrueColor-DAC or a Music MU9C4910 TrueColor-DAC. Other DACs probably work in CLUT (palette oriented) mode, but will probably fail to display Hi- and TrueColor modes. The oMniBus is quite old and not state-of-the-art, but offers rather good picture quality.

**Picasso II/III+:**

The Picasso II is a ZorroII graphics card using a Cirrus GD5426 or GD5428. It is quite common. The PicassoII+ is a redesign of the Picasso II.

**Piccolo:**

The Piccolo is a ZorroII/III graphics card using a Cirrus GD5426, too. The developers of this card (and the Spectrum) decided to exchange the signal lines for the red and green components of the RGB signal. This leads to the fact, that the Piccolo (and the Spectrum) offer a RGB true color mode whereas the Cirrus chip normally only offers a BGR mode. I guess, this was done because the EGS system, which is often used with these cards, needs RGB.

**Piccolo SD64:**

The Piccolo SD64 is a ZorroII/III graphics card using a Cirrus GD5434. This is a 64 bit controller offering high graphics performance. The card is quite similar to the Piccolo and the Spectrum. The driver has been developed by Niels Knoop.

**Pixel 64:**

Like the Piccolo SD64, the Pixel 64 uses the Cirrus GD5434. This board has been designed to work with the Ateobus A1200 expansion system by Ateo Concepts.

**RetinaBLT Z3:**

The RetinaBTL Z3 uses a very powerful graphics processor with a versatile blit engine. Unfortunately it comes without an automatic monitor switch which makes using it a bit inconvenient. A driver for this card is currently being developed.

**Spectrum 24/28:**

The Spectrum is very similar to the Piccolo (read notes above).

Not supported Cards

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Retina Z2:

This is a quite old card which does only support segmented memory accesses which is not supported by Picasso96 for speed reasons. So, this card will probably never be supported.

## 1.5 Compatibility

What kind of software will work with Picasso96?

All programs that handle their graphics using standard system calls and do not modify the graphics memory directly bypassing the operating system.

Direct software support for applications is available namely for:

- \* 'Art Department Professional' (by ASDG),
- \* Photogenics (by Almathera),
- \* ShapeShifter (Apple Macintosh emulator by Christian Bauer),
- \* XiPaint (24bit paint program by Thomas Dorn and Herbert Beilschmidt).

Further modules are being developed.

Programs using the CyberGraphics API or the vilintuisup.library work with Picasso96, too, e.g. CyberWindow or ShowGIF.

## 1.6 Installation

### Installation of Picasso96

To install Picasso96 you simply have to use the supplied install script. The software will then be installed automatically.

Attention!

Before installing Picasso96 you will have to disable or remove your previously used graphics card software, if any. We regret that there is no way to use different graphic card software systems at the same time.

Please consult the documentation of your software about disabling or uninstalling.

If you use the old Picasso software, then you will have to do this:

- \* Remove the file named Picasso from the Devs:Monitors or WBStartup directory.
- \* Remove the file village.library from the Expansion or Libs directory.

If you use CyberGraphX, do this:

- \* Remove all CyberGraphX card drivers from Devs:Monitors or WBStartup.
-

Picasso96 drivers for application programs

The Picasso96 application drivers and their individual install scripts can be found in the Drivers directory of the distribution or in your Picasso96 home directory if you choose to install them there. Please install them individually.

The Picasso96 files

## 1.7 The Picasso96 files

The Picasso96 software system

To be able to use Picasso96, some files will have to be installed and configured for your system.

NOTE:

The subdirectory Picasso96 is mandatory!

These files will be installed by the installation script:

```
Libs:Picasso96API.library
Libs:Picasso96/emulation.library
Libs:Picasso96/rtg.library
Devs:Picasso96Settings

SYS:Classes/datatypes/picture.datatype

Prefs/Picasso96Mode
Prefs/Picasso96Mode.info
```

Depending on what kind of graphics card(s) you use one or more of these files:

```
Devs:Monitors/PicassoIV          or the name(s) of your card(s)
Devs:Monitors/PicassoIV.info

Libs:Picasso96/CyberVision.card
Libs:Picasso96/CVision3D.card
Libs:Picasso96/Domino.card
Libs:Picasso96/Merlin.card
Libs:Picasso96/oMniBus.card
Libs:Picasso96/PicassoII.card
Libs:Picasso96/PicassoIV.card
Libs:Picasso96/Piccolo.card
Libs:Picasso96/PiccoloSD64.card
Libs:Picasso96/Pixel64.card
Libs:Picasso96/RetinaBLT.card
Libs:Picasso96/Spectrum.card
```

Depending on which kinds of VGA graphics chips are used:

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Picasso II(+), Piccolo and Spectrum 24/28 need:

LIBS:Picasso96/CirrusGD542X.chip

Piccolo SD64 and Pixel 64 need:

LIBS:Picasso96/CirrusGD5434.chip

Picasso IV needs:

LIBS:Picasso96/CirrusGD5446.chip

CyberVision 64 needs:

LIBS:Picasso96/S3Trio.chip

CyberVision 64/3D needs:

Libs:Picasso96/S3ViRGE.chip

Domino and oMniBus:

LIBS:Picasso96/TsengET4000.chip

Merlin and oMniBus:

LIBS:Picasso96/TsengET4000W32.chip

Retina BLT Z3 needs:

Libs:Picasso96/NCR77C32BLT.chip

A test program:

Picasso96/Debug/CheckBoards

Picasso96/Debug/CheckBoards.info

These guide files:

Picasso96/Picasso96\_deutsch.guide

Picasso96/Picasso96\_deutsch.guide.info

Picasso96/Picasso96\_english.guide

Picasso96/Picasso96\_english.guide.info

Application drivers:

The

ADPro

driver:

ADPro/Savers2/Picasso96

Photogenics

driver:

Drivers/Photogenics/data/GIO/Picasso96.gio

The

ShapeShifter

video driver:

Drivers/ShapeShifter/Video Drivers/Picasso96

XiPaint

driver:

Drivers/XiPaint/libs/xout\_g.library

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## 1.8 Picasso96 usage

Usage of the Picasso96 system

After installing Picasso96 and rebooting, simply select one of the new screenmodes for your WorkBench and other programs which can use them.

If you experience problems with Picasso96, use the CheckBoards utility to see whether your board has been identified and configured properly. If this is the case and you do not get any DisplayID's at all, you should try using Picasso96Mode to attach an existing setting to your board. Please start Picasso96Mode, select a setting in the upper left listview gadget and select the menu "Attach Setting to" to configure this setting to use your graphics card. Quit Picasso96Mode using the "Save" button and reboot your Amiga.

## 1.9 Configuration

Configuration of Picasso96

There are two ways to configure Picasso96:

~The tool types of the monitor files

Picasso96Mode

## 1.10 Tool types

The tool types of the monitor files

The monitor files, which will be installed in Devs:Monitors and get the name of their graphics card for easier identification have tool type values for their individual configuration:

BoardType: mandatory, selects the type of the board (e.g. PicassoIV)

IgnoreMask: optional, speeds up certain blitter functions on the boards using Cirrus VGA chips. But be warned: this mode is not entirely compatible to the native Amiga graphics system and may produce incorrect results.

If you want Picasso96 to scroll equally fast with the PicassoII as the old software did, you will have to set this tool value to 'Yes'!

Defaults to 'No'.

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BorderBlank: optional, switches screen border (default: like system).

BigSprite: optional, when set to 'Yes', the sprite will be rendered twice as big as normal.

SettingsFile: optional, defaults to 'DEVS:Picasso96Settings'.

SoftSprite: optional, if set to 'Yes' then use software sprite in all modes.

DisplayChain: optional, if set to 'No', the original Amiga signal will not be switched through when active. Useful for systems with more than one monitor and graphics boards. Defaults to 'Yes'.

## 1.11 Picasso96Mode

Picasso96Mode: the Picasso96 configuration program

Picasso96Mode is used for adjusting and creating display modes. It is completely GUI driven.

In the upper right corner you can see four drag-and/or-drop boxes which allow you to:

- \* create a new object (can be setting, resolution or mode depending on which listview you drop it into),
- \* copy an object to the internal clipboard for later use,
- \* duplicate an object and
- \* delete an object.

You can drag any item in each of the list views by clicking on it and leaving the list view to the left or right while holding the left mouse button pressed.

Before you can display any mode you have to use the menu to attach the current setting to a specific card.

In order to activate a resolution or mode you have to double click using the mouse into the listview at the position of the object. If you double click once again, the resolution or mode is made inactive again. Only active resolutions and modes are visible for the rest of the system.

To edit a mode, you have to click on the "Edit" gadget which will bring up a test display using the current mode. You now can change the display using the cursor keys:

- \* change the view position (using only the cursor keys),
- \* make the border smaller or wider (when also pressing a SHIFT key) or
- \* change the size of the display area (when also pressing an ALT key); this will be necessary quite often.

The gadget "Test" shows a geometrical test display with the difference that you cannot change the mode. This is primarily used to adjust your monitor.

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Finally, you should save the changed configuration and reboot, to use the changed settings.

## 1.12 Picture DataType

Picture DataType

The original V40 picture datatype does only support planar and therefore is not usable with chunky screens. The picture.datatype in the distribution solves this problem and supports the v43 extensions.

## 1.13 Art Department Professional

Picasso96 ADPro driver

"The Art Department Professional" is supported via a saver which can be controlled via command line arguments. The template is: "TRUE/S,HI/S,R=RENDERED/S,B=BOARD/N,AUTO/S".

TRUE: allow only 24 bit TrueColor modes,  
HI: allow only 15 and 16 bit HiColor modes,  
RENDERED: allow only 256 color CLUT modes,  
BOARD: use only specific board. Parameter is board number,  
AUTO: automatic mode selection, i.e. no user interaction.

Installation: copy Picasso96 to the "Savers2" directory of your ADPro home directory.

## 1.14 FliP96

FliGRF FLI and FLC anim player

FliP96 is a FLI and FLC anim player that (only) supports the Picasso96 software.

FliP96 supports these command line arguments:  
FILE/M,DISK/S,RAM/S,ONCE/S

FILE: file name(s) of the anim(s) to play,  
DISK: play from disk (slower),  
RAM: play from RAM (faster, default),  
ONCE: play anim only once (default: loop mode).

Installation: copy FliP96 anywhere you like (preferably a directory in your shell command path).

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## 1.15 XiPaint

XiPaint driver

The TrueColor paint program XiPaint is supported by means of a so-called output library. Due to changes in internal XiPaint structures this version only works with XiPaint 3.2 or better.

XiPaint is available from:

Thomas Dorn  
Kerpengasse 69  
1210 Wien  
Austria  
EMail: tdorn@xipaint.co.at  
Fido: 2:310/98.0

Installation: copy the library to the libs directory of your XiPaint home directory.

## 1.16 ShapeShifter

ShapeShifter

The Apple Macintosh emulator ShapeShifter is supported by a video driver. ShapeShifter V3.1 or better is required. The 256 color modes work with all kinds of graphics cards, but the modes 'Thousands of colors' and 'Millions of colors' are only possible with the Picasso IV or the CyberVision 64. The TrueColor mode support for the Picasso IV is currently still in development.

ShapeShifter is available on AmiNet in the misc/emu directory or directly from:

Christian Bauer  
Max-Planck-Str.60  
55124 Mainz  
Germany  
EMail: cbauer@iphcip1.physik.uni-mainz.de

Installation:

Copy the file ShapeShifter/Picass96 to the "Video Drivers" directory within your ShapeShifter home directory. Choose Picasso96 as external video driver.

## 1.17 PhotoGenics

PhotoGenics driver

For PhotoGenics (from Almathera) exists a saver module. It has been checked with PhotoGenics 1.2 only, but should work with other versions, too.

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Installation:

Simply copy Picasso96.gio to PHOTOGENICS:data/GIO.

## 1.18 emulations.library

Support for other graphic card software systems

The enclosed emulation.library is a special library providing support for foreign standards like the CyberGraphX or vilintuisup.library applications programming interface (API) which is used to create true color displays with Intuition (e.g. ImageFX, Photogenics or CyberWindow).

Many programs relying on the documented library functions only should work without any problems. Those assuming a certain internal structure and representation of data within the library are likely to fail (e.g. picture.datatype V43 from Ralph Schmidt).

Installation: simply copy the emulation.library to LIBS:Picasso96

## 1.19 Developer support

You want to support Picasso96 with your own software?

The developer archive can be found on the Picasso96 home page

<http://picasso96.home.pages.de/>  
alias

<http://picasso96.cogito.de/>

If you have no Internet access,

I

could send you the  
current archive.

Please send me a mail if you develop any driver which uses Picasso96 directly so that I know about it. If possible, send me a complete and working set of your application for testing purposes. Thank you!

## 1.20 Authors

Who created Picasso96?

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Germany  
EMail: [tabt@studbox.uni-stuttgart.de](mailto:tabt@studbox.uni-stuttgart.de) (prefered)

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WWW: <http://wwwcip.rus.uni-stuttgart.de/~etk10317/>  
IRC: [tabt@#AmigaGer](irc://freenode.net/#AmigaGer)

and

Alexander Kneer  
Masurenweg 6a  
89233 Neu-Ulm Pfuhl  
Germany  
EMail: available on request, please contact Tobias Abt first!

Drivers:  
CyberVision64 and S3Trio64: Michael Teske  
PiccoloSD64 and CirrusGD5434: Niels Knoop

Translations:  
italian: Mario Dell'Oca

## 1.21 Distribution

How can you get Picasso96?

Picasso96 is ShareWare. The ShareWare fee is DM 30 or US \$20. Please send the money cash or via international money order to:

Kneer & Abt GbR.  
Masurenweg 6a  
89233 Neu-Ulm Pfuhl  
Germany

Please understand that we can't send individual acknowledge letters due to the high amount of work involved, but we will you send a short email if you want. If you also want the latest Picasso96 and developer archive on disk, send additional DM 6 or US \$4. Don't forget to supply your name and address.

You can find Picasso96 on the Internet at the Picasso96 WWW home page :  
<http://picasso96.home.pages.de/>  
alias  
<http://picasso96.cogito.de/>

or in the AmiNet e.g.:  
<ftp://uni-stuttgart.de:/pub/systems/amiga/aminet/gfx/board/Picasso96.lha>

Please send bug reports for the AnyWare version to:  
[tabt@studbox.uni-stuttgart.de](mailto:tabt@studbox.uni-stuttgart.de) (due to the fact that I am the only one to read and answer those emails, I can not guarantee that I will find the time to reply to every mail sent to me...)

If you have any trouble with Picasso96:  
send email to the Picasso mailing list, I hope you will find a helpful soul... Please, do not write directly to me, I am reading the mailing list, too, and am very busy...  
If you are interested in joining the Picasso mailing list, send an email with "Help" in the body to [majordomo@ninemoons.com](mailto:majordomo@ninemoons.com). If you simply

want to subscribe, send "subscribe Picasso" instead.

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