CYBERVISION64

64 Bit - Grafikbeschleunigerkarte für den Amiga 3000 / 4000

Anwenderhandbuch

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64 Bit - Graphics Accelerator Board for Amiga 3000 / 4000

Users Manual

April 1995

CYBERVISON 64

Graphics Accelerator for Amiga 3000 / Amiga 4000

User Manual

1st Edition April 1995

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1. Introduction

We would first like to thank you for choosing the CYBERVISION64 for the A3000/A4000. You are now the owner of a high quality, mature product, which has not only been tested in extensive trials prior to being brought onto the market, but which also reflects many years of experience in the development of peripherals for the Amiga, especially in the planning of expansion systems.

A lot of money has been spent not only in developing and refining this graphics card but also in the production of the devices and the development of the software. This level of expenditure guarantees that the CYBERVISION64 system will meet the highest requirements of quality, security, compatibility and performance. We hope that this product will provide you with countless hours of trouble-free operation.

We would ask you to complete and return the registration card accompanying this product. This will enable us to keep you informed of any future expansions or updates to the CYBERVISION64 system and of other developments for the Amiga. It will also provide us with important feedback allowing us to develop products for the Amiga which you as a user actually want. Please take a few days to complete your assessment and to establish your first impressions of how the CYBERVISION64 system functions in your AMIGA. Your opinion as to its performance in practice is very important to us.

phase 5 digital products, early 1994

1a With your Health in Mind

The graphics card and the monitor are the visual link between you the user and your computer. Graphics cards and monitors should be considered one unit and you should spare no expense when purchasing them as a poor monitor can cause irreparable damage to your health even when using the best graphics cards. When buying a monitor you should not only check the performance data, but also that it has been tested to British Standards and that, as a minimum, it satisfies the MPR-II standard relating to radiation emissions.

A balanced team of monitor and graphics card not only looks very impressive but is also good for your health !

2. Scope of Supply

The CYBERVISION64 is supplied with several small accessories and documentation/software. At this point you should check that you have the following items:

- The CYBERVISION64 graphics card
- A diskette containing the installation software
- A connector cable approx. 30cm long
- A registration card
- This manual

If you are missing any of these items please contact our Technical Support Centre and we will arrange for a replacement item to be despatched.

3. System Requirements

The CYBERVISION64 works in any Zorro III bus module slot for plug-in cards in the Amiga 3000/4000. You will need Kickstart 3.x to operate the software, and your computer should have more than 2MB Fastram. Ideally it should have at least 4 MB but there is no upper limit. It is possible to use your CYBERVISION64 with a 15kHz monitor, e.g. to record animations with a video device, but this would not make optimum use of the capabilities of your CYBERVISION64. We recommend a 17" monitor with 56kHz line frequency but if you really want to use the power of your CYBERVISION64, a 20" monitor at up to 86kHz is preferable.

Minimum Configuration

- Amiga 3000 or 4000 with 68EC030
- a free Zorro III bus plug-in slot
- 2MB Fastram
- Kickstart 3.0
- Colour monitor with 15kHz line frequency

Recommended Configuration

- Amiga 3000 or 4000 with 68040 or better
- a free Zorro III bus plug-in slot
- 4MB Fastram
- Kickstart 3.1
- 17" colour monitor with 56kHz line frequency

4. 64 Bit - The Foundation for Graphics Cards

Hardly any other module for the Amiga is available on the market in such great variety. The heart of a graphics card is the graphics processor: the most important component and the greatest difference between the cards available. For many applications the graphics card is just as important as the computer CPU. Expensive interfaces and fast animations demand greater performance from the graphics card.

High class graphics cards work with 64 bit bus widths. The advantages of a 64 bit processor are often not evident as the Zorro III Amiga bus only operates with 32 bit. At this point it would be beneficial to identify the differences between the individual components that are linked via the bus, i.e. the CPU and the graphics card. The CPU sends the graphics commands via the 32 bit wide bus to the graphics card. 64 bit graphics cards can process these commands in double width. This is logical as the commands issued by the processor contain less data than they produce when executed. The bus width plays a subordinate role with traditional applications (text processing, table calculations), as most commands (drawing lines / filling areas) are processed by the graphics processor. Large bit widths are mostly required by multi-media applications and DTP, where the CPU is particularly busy and a wider bus ensures fast data exchange.

64 bit graphics cards also allow the graphic memory to be configured to 4MB, which guarantees acceptable colour depth even in high resolutions. Graphics cards with 2MB used to be adequate but modern multimedia and graphics applications now demand much more !

The graphics processor is capable of 1280x1024 resolution even at acceptable refresh rates (70 Hz) and with a minimum of 8 bit producing 256 colours. Modern graphics processors, such as the Trio64 from S3 which has been used on your CYBERVISION64, provide the user with all these benefits.

5. Resolutions, Colour Depth, Frequencies

Before you change the default settings or the monitor type, please read through this chapter.

Line frequency, refresh rate, band width and colour depth are common terms that every computer user has heard but may not fully comprehend.

Line Frequency: This defines how many times per second the electron rays must overwrite the screen from left to right and back. The return ray is darker and is, therefore, not visible to the observer. The line frequency is the product of the number of lines displayed (e.g. 768) and the number of non-interlaced displays (70), i.e. 53.76 kHz, to which the synchronisation lines must be added, resulting in approx. 54.5kHz.

Refresh Rate: This value is also known as the vertical frequency and is the frequency with which the segments of a monitor picture are written over each other. At a resolution of 1024x768 this value should be at least 70Hz.

Band Width: This defines the transmission rate of electronic circuits boards. In the field of video band width is used to describe the frequency in which the pixels follow on from each other. The higher the line/refresh frequency, the higher the band width must be to process them. Good quality monitors have a band width of around 100mHz. It is always important to use high quality VGA cable with high band widths, as the normal low cost cable significantly impairs the picture quality above 70mHz. Modern graphics processors have band widths of 130mHz.

Colour Depth: This defines how many visible colours can be simultaneously displayed on your screen. High colour depths require high band widths for the graphics processor, as a 24 bit screen requires three times more graphics data than an 8 bit screen. The following section shows how to set up the necessary graphics memory for the various resolutions and colour depths of the CYBERVISION64.

Resolution	Colour Depth	Memory	Resolution	Colour Depth	Memory
640 x 480	256 (8 bit)	2MB	1024 x 768	256 (8 bit)	2MB
640 x 480	32K (16 bit)	2MB	1024 x 768	32K (16 bit)	2MB
640 x 480	16M (24 bit)	2MB	1024 x 768	16M (24 bit)	4MB
800 x 600	256 (8 bit)	2MB	1280 x 1024	256 (8 bit)	2MB
800 x 600	32K (16 bit)	2MB	1280 x 1024	32K (16 bit)	4MB
800 x 600	16M (24 bit)	2MB	1280 x 1024	16M (24 bit)	2MB

Advice

Not all monitors are suitable for the full use of your CYBERVISION64 ! The CYBERVISION64 is a modern graphics accelerator for your Amiga, which likewise requires a modern monitor. Your CYBERVISION64 is capable of producing frequencies (vertical / horizontal frequencies), that were not even within the capabilities of specialist CAD graphics cards two years ago.

You must consult your monitor's instruction manual if you want to use the Monitor Type or CyberMode. Modern monitors are mostly protected against overload but do not depend on this !

In the directory prefs (dir)
env-archive (dir)
CyberGraphics (dir)
cybervision (dir)

you will find the "monitor-xxkHz" file, where xx means the selected line frequency of your monitor. If you chose the default monitor type when installing the CYBERVISION64 software, 31kHz will appear in place of xxkHz.

If you have a monitor that supports a higher line frequency, you can select another monitor type, but ensure that the chosen line frequency does not exceed that of the monitor (e.g. if your monitor supports 60 kHz please select Monitor-54kHz).

A list of the default monitors available will be displayed during installation. You should only ever select a default monitor that does not exceed the capabilities of your monitor.

If you have lost or mislaid the manual for your monitor, please contact the manufacturer of the device. They will certainly be able to help you and provide you with the necessary technical data.

ATTENTION!

You must never change the monitor parameters without knowing the precise data, as this will cause damage to your monitor !!!!

6. The Concept - Introducing a Graphics Card

The CYBERVISION64 satisfies the most demanding requirements on performance and system conformity because of its combination of an extremely fast 32 bit Zorro3 interface, a 64 bit wide graphics controller and exceptional software.

Based on the highly integrated graphic chip Trio64 from the renowned manufacturers S3, which integrates an expensive graphics processor, a complex 64 bit wide Blitter as well as a highly efficient 24 bit converter for D/A conversion, the CYBERVISION64 can offer a video band width of 135 MHz. It will, therefore, support a variety of resolutions in True Color, High Color and 256 colours. The CYBERVISION64 32 Bit Zorro3 interface is highly optimised and allows transmission rates from the AMIGA main memory to the graphic memory of up to 16 MByte/sec (using fast CPU cards) - an exemplary rate that sets new standards. Data transfers within the CYBERVISION64 video memory are executed by the 64 Bit Blitter at speeds above 100 MByte/sec, practically in an imperceptible amount of time, resulting in extremely fast shifting operations, for example.

Another special feature of the CYBERVISION64 is its hardware support of Planar-to-Chunky Conversion which, with AMIGA graphics cards, often takes up most of the time required for emulation and representation of the AMIGA modes. The emulation and representation of AMIGA modes and especially the representation of 8 bit graphics are considerably accelerated without overloading the processor. The ability to manipulate the sorting of Alpha-R-G-B values within a transmitted 32 bit data word, without a delay and in any way, is probably unique and allows very high speeds to be achieved in true colour display and emulations.

Complementing this efficient hardware is excellent CyberGraphics driver software which fully utilises the performance of the card for unusual system conformities. The CyberGraphics screen modes are installed via the CyberGraphics monitor files, are available via normal ASL-Requester (e.g. in screen mode in PREFS) as "normal" system resolutions, and for common applications operating under OS3.0 or 3.1 require no additional driver. Working with CYBERVISION64 becomes a real pleasure. By supporting many functions, such as draggable screens or virtual screens that can be considerably larger than the actual screen resolution and within which you can scroll much like within an AMIGA Superbitmap, the CYBERVISION64 achieves an extraordinary Look-and-Feel that is difficult to differentiate from the original AMIGA resolution. For the first time it is possible to use Workbench in 24 bit without compromising on the speed. With 4MB graphics memory, screens are draggable even in high colour, so that you do not see a difference compared with Amiga standard graphics.

Naturally, the CYBERVISION64 has an expansion bus through which additional cards such as JPEG or MPEG cards can directly access the fast video memory making the CYBERVISION64 suitable for future developments.

The combination of the attention that has been paid to necessary details, such as slipped through AMIGA video signal and integrated, loss-free electronic switching, default-monitor-timing on system start-up or simple expansion of the 2MB version to 4MB with common memory modules, with the usual high quality of phase 5 products will be able to satisfy even the most demanding user.

Numerous drivers make it possible to use applications such as ADPRO, PHOTOGENICS, AMAXIV, XIPAINT, SCALA and others on the CYBERVISION64 even in high colour depths. Even larger animations in 24 bit pose no problems for your CYBERVISION64. We are constantly working on the development of new drivers.

7. Hardware Installation

The CYBERVISION64 graphics card is to be installed into the free Zorro3 slot on the Amiga 3000/4000. The installation of the card is relatively simple, but if you prefer your dealer can install it for a small charge.

Installing the CYBERVISION64 Graphics Card

1. Switch your computer off.

2. Disconnect all cables from your computer (monitor, mouse, keyboard, other interfaces, etc.).

3. Remove the screws that secure the casing cover. On the A3000 there are two at the bottom of each side of the casing and one in the middle on the back. On the A4000 there are only two screws that secure the casing cover, on the back of the casing on the right and left.

4. Carefully remove the casing cover. On the A4000 you simply lift it off and on the A3000 you pull it forward. For further information, please consult your Amiga User Manual.

5. Identify a free Zorro3 slot. On both computers the Zorro3 slots are on a board that sits vertically on the main board. Expansion cards are inserted horizontally from the left side. If you have problems identifying the Zorro3 slots please consult you Amiga User Manual.

6. Remove the cover plate from the chosen slot. The cover plate is held on by one screw. To make later operations easier, remove the screw completely, even if you can remove the cover plate it only partly unscrewed.

7. Discharge any static charge from your body by simultaneously touching the Amiga casing and the CYBERVISION64.

8. Remove the CYBERVISION64 from the antistatic packaging and place it in the slot you have chosen.

9. Now line up the back edge with the guide rail. The card should now be parallel to the plug-in contacts of the Zorro slot.

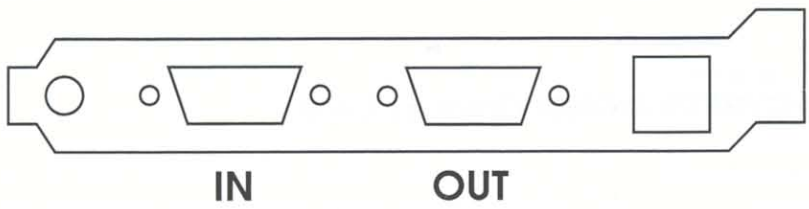
10. Press the card into the slot, by pressing on the top of the card with your thumbs whilst supporting your fingers on the metal frame. If the card is correctly installed, you should only see a small part of the gold connector contact in the expansion connector. If the expansion slot has never been used before you may need to use more effort, but please do not use excessive force.

11. Attach the card cover plate with the screw that you removed from the empty slot.

12. Close up the Amiga casing.

Connecting the Monitor

Connect the monitor to the VGA port marked OUT on the CYBERVISION64. If a standard monitor is in the foreground the port marked IN loops the original AMIGA signal through the CYBERVISION64.

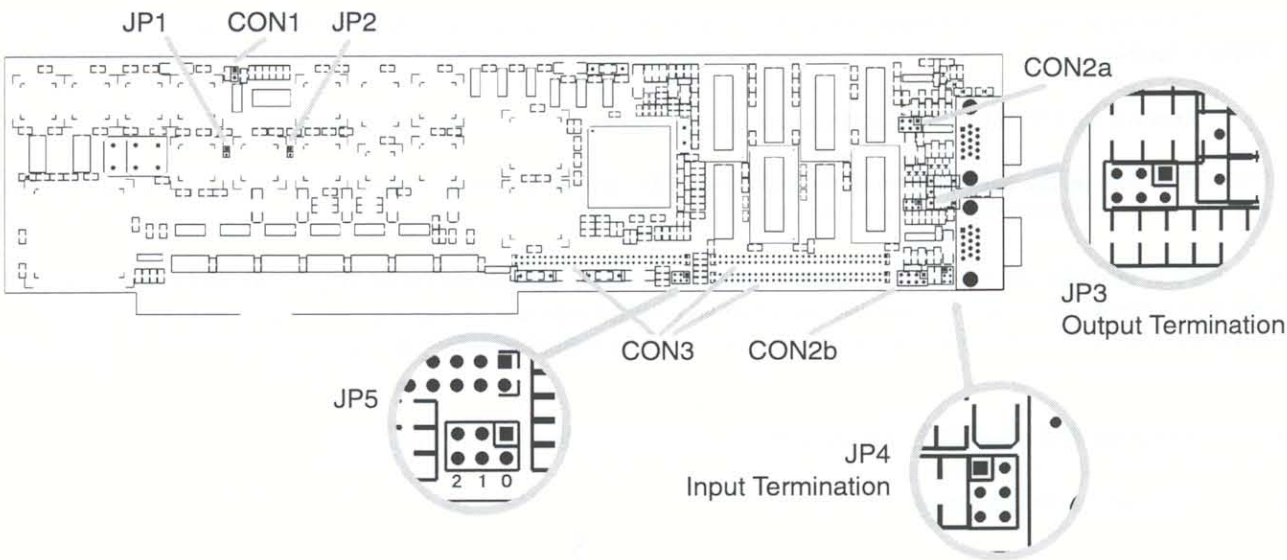


To do this, connect the Amiga monitor output to the port marked IN on the CYBERVISION64. The conversion takes place automatically when the screen changes. The CYBERVISION64 passes the unaltered signal from the port marked IN to the port marked OUT. It is also possible, therefore, to use a Flicker Fixer or Scanlinedoubler with no problems.

As the CYBERVISION64 does not process the signal at the input port itself, but passes it on unchanged to the output, any other signal sources that satisfy the VGA standard can be looped through the CYBERVISION64.

The square opening is provided for later expansions.

Jumper Settings and Additional Terminals



JP1	RESERVED	Standard setting open
JP2	RESERVED	Standard setting open
JP3	Output termination 75 Ohm	Standard setting open
JP4	Input termination 75 Ohm	Standard setting closed
JP5	RESERVED	Standard setting open
CON1	Diagnosis LED	For factory test purposes only
CON2a/2b	Video mode port	Port for SVHS module
CON3	Expansion	Port for CYBERVISION64 expansion module

JP1 - Slow Buster Mode

For Amiga 3000 / Amiga 4000 with Buster revisions older than 11, graphics output may get mixed up. This Jimper configures the CYBERVISION64 to operate in an old Buster compatible mode. The Jumper has only function for CYBERVISION64 with serial numbers of 81xxxxx.

JP3 - Output Termination 75 Ohm

Monitors that comply with the VGA standard terminate the signal lines with 75 Ohm. If, however, the monitor does not work with the corresponding terminating value, the 75 Ohm termination required for the VGA output can be produced on the graphics card itself by enabling this jumper.

JP4 - Input Termination 75 Ohm

The input signals are terminated with 75 Ohm to comply with the VGA standard. If, however, a signal source with this termination does not function correctly, the terminating resistor can be switched off by disabling this jumper.

ATTENTION!

The settings of the jumpers marked RESERVED cannot be altered.

CON2a/2b - Video Module Port

This port is used to plug in the video encoder for SVHS.

CON3 - Expansion

The expansion port will be used for future expansion of the CYBERVISION64.

8. Software Installation

The installation of the software does not require any system specific experience.

ATTENTION!

Please make sure you read Chapter 5 "Resolutions, Colour Depth, Frequencies" if you want to use another monitor type as the default !

After inserting the installation diskette, double click with the mouse on the diskette icon to open it. Now double click on the diskette to start the installation program. The installation is performed completely automatically. When prompted for the monitor type you are using, click on the button corresponding to the maximum line frequency of your monitor. You will find this in the monitor user manual.

During installation, the following files will be copied into the appropriate directories:

devs (dir)
- monitors (dir)
  - CyberVision
  - CyberVision.info

libs (dir)
- gtlayout.library
- cybergraphics.library
- cyberintuition.library
- cyberlayers.library

prefs (dir)
- env-archive (dir)
  - cybergraphics (dir)
    - CyberVisionMonitor
    - cybervision (dir)
      - Monitor-xxkHz

The programs perform the following tasks:

Monitor Files

CyberVision This is the CYBERVISION64 monitor driver, it contains the basic functions for addressing the graphics card and is the link between the hardware and software.

Libraries

cybergraphics.library
cyberintuition.library
cyberlayers.library This section of the software represents the intuition emulation that makes your CYBERVISION64 communicate with intuition. Each change to your screen will be analysed by these libraries and "translated" for your CYBERVISION64.

gtlayout.library This library produces the functions required for the monitor definition available.

Environment Variables

CyberVisionMonitor This environment variable communicates the monitor definition to be used to the intuition emulation.

Monitor-xxkHz This environment variable contains all monitor specific settings. These are resolution, colour depth, line frequency.

HIDE15BIT
1 This variable removes the 15 bit mode from the Requester screen mode for Workbench, as this mode cannot be correctly managed by Workbench.
0 The 15 bit mode is displayed.

HIRESCRSR
1 The mouse pointer will be shown in high resolution
0 The mouse pointer will be shown in normal resolution

CVMode

This program produces its own monitor definition files. It is divided into two sections. The first section defines the threshold values of the monitor and the second configures the resolution. Activate the "Monitor Specification" icon to open the window for defining the monitor threshold values.

Monitor Specification

You can enter the names for monitor definition files under the entry "Name". All settings you make are then saved under this name. The values for band width, vertical frequency and horizontal frequency are normally defined in the monitor documentation. The values for the horizontal and vertical synchronisation are unfortunately not always contained in the documentation. You should only change the default values if you know the exact values for your monitor. It may be advisable to contact the monitor manufacturer if you have any queries.

All values that can be defined here are taken as absolute values with the relevant units stated.

Resolutions

When you have changed the monitor parameters, the resolutions available must be changed accordingly. Chose a resolution from the list and select "Change" to set the values valid for this resolution.

All values for the horizontal settings relate to multiples of pixels. The values for vertical frequencies relate to display lines. CVMode prevents you setting values that are outside the threshold values set in the monitor parameters. When setting the horizontal value, please note that when you change the horizontal frequency on many multi-scan monitors, this causes resynchronisation of the monitor.

NewMode

NewMode directs programs to a CYBERVISION64 mode if they do not allow the user to select a screen mode. The documentation for this program is found on the diskette supplied as an AmiGuide file. This program is installed by activating the installation program.

9. Troubleshooting

Advice

It is not possible to operate the CYBERVISION64 with the Commodore processor card, if the processor card is operated with any other than the original frequency of 25MHz. Overclocking the CPU board causes the Zorro3 bus to malfunction. We recommend installing a Buster11 for error free functioning of the CYBERVISION64.

Despite successful installation of the software, the CyberVision Screen is not displayed in the Screenmode program !

If your CYBERVISION64 does not function correctly, despite the software being installed correctly, please check that the following files are present:

devs (dir)
- monitors (dir)
  - CyberVision
  - CyberVision.info

libs (dir)
- gtlayout.library
- cybergraphics.library
- cyberintuition.library
- cyberlayers.library

prefs (dir)
- env-archive (dir)
  - cybergraphics (dir)
    - CyberVisionMonitor
    - cybervision (dir)
      - Monitor-xxkHz

Please check that the xx corresponds to the maximum line frequency selected !!!!

If a file is missing, please repeat the software installation or copy the file(s) from the installation diskette into the corresponding directory.

After opening the CyberVision screen, the computer crashes with a guru message !

Many users run Systempatches on their Amiga to receive the benefit of new features. Unfortunately these "patches" may cause the intuition emulation to malfunction. You should, therefore, deinstall these programs before using your CYBERVISION64.

10. Guarantee

Advanced Systems & Software provides the registered user of this CYBERVISION64 with a 12 month parts and labour guarantee, commencing on the date of purchase. During the period of this guarantee we will remedy all defects either by exchange or repair, at our discretion, which are due to material or manufacturer's defects. Execution of the rights under this guarantee in no way affects the period of the guarantee.

The guarantee specifically excludes claims for damage caused by external influences or improper use, and in particular unauthorised repairs. Modifications to the hardware, of any type, automatically invalidates any rights to claim under this guarantee.

The guarantee also specifically excludes claims for operational defects of the CYBERVISION64 or other devices connected in / to the AMIGA after the system has been altered (such as fitting new expansion cards), if it cannot be proved beyond doubt that a technical defect of the CYBERVISION64 is causing the fault. This also expressly includes any changes to the AMIGA hardware which have been carried out by the Commodore company by way of repairs, subsequent improvements or system updates.

Furthermore we accept no liability for defects or damage to devices other than the CYBERVISION64, nor for losses of data, which were or seem to have been directly or indirectly linked with the installation of the CYBERVISION64. For memory modules supplied, the guarantee of the respective manufacturer applies exclusively.

11. Guarantee Claims, Returns

Guarantee claims and other technical inquiries should be made direct to our Support Service. Please contact:

In North America:

Advanced Systems&Software
International Group
1329 Skiles
Dallas, TX 75204
Phone: 214-821-7776
Fax: 214-821-3464

In Germany:

phase 5 digital products
Homburger Lanstrasse 412
60433 Frankfurt

Phone: (069) 5488144
Fax: (069) 5481845
BBS: (069) 542461

In all other countries please contact our distributors or your dealer.

Goods may only be returned after prior consultation with and authorisation by our Support Department. You will be given a Return Material Authorisation (RMA) number which must be clearly marked on the goods returned. Returns cannot be accepted for which postage has not been paid.

If no defect is found on an authorised return a processing fee of USD 30.00 or DM 50,00 will be charged. If a defect is found which is not covered by the guarantee then the processing fee will be charged as well as an additional repair fee, dependant on the defect.

No liability can be accepted for damage during transit due to unsatisfactory packaging when returning devices. Always use the original packaging when returning a CYBERVISION64 and also a sturdy outer packing (e.g. post office parcel) and if necessary padding (e.g. newspaper).

Appendix A
Software Driver for CYBERVISION64

AdPro Saver

This is a saver for Art Department Pro by Elastic Reality. This has so far only been tested with Version 2.5 of AdPro and could cause problems with other versions.

Maxon Cinema4D Output Module

There is not much to be said about this module. It is copied into the libs: directory by the installer script and can be found under einemaausgabe.library. Consult the Maxon Cinema Manual to find out how this module works. It was successfully tested with Version 2.0 of Cinema4D.

ImageFX Render Module

This module was produced by Uwe Roehm. Once again, many thanks for the module and the following description:

This is a render module for ImageFX and the CyberGraphics RTG system. It allows the main buffer of ImageFX to output to a Hi or TrueColor CyberGraphics screen. It is possible to scroll using the cursor keys within a large picture, or if there is sufficient memory, an autoscrolling screen can be opened. If you are operating ImageFX alone on a Hi or TrueColor screen you can even output the main buffer in a window (more details on installation).

There are two versions of the render module, that are compiled for the MC68000 or the MC68030. You can differentiate between them by the extensions .000 or .030.

You can set the CyberGraphics render module as usual via the "Render...." button in the ImageFX configuration window. You must start ImageFX in Workbench mode on a Hi or TrueColor screen if you want to render in a window on the ImageFX panel screen. A "normal" 256 colour screen is not sufficient. Because of the present limitations of Workbench screen mode and the configuration of ImageFX you must proceed as follows:

1 Open a PublicScreen in a 15, 16 or 24 bit CyberGraphics Mode. There are various PublicScreen Managers to help with this.

2. Set the ToolTypes WORKBENCH and PUBSCREEN in the ImageFX icon by giving PUBSCREEN the name of the screen already opened.

3. Start up ImageFX and change to the PublicScreen (it is not automatically brought the foreground)

4. The render button should now be selectable in a window of the CyberGraphics render module panel. You can change the position and size of the window and save them in the ImageFX Preferences.

User Interface

The CyberGraphics render module user interface contains the following five elements:

Module:	To select another render module
Output Format:	You can output the buffer in a separate CyberGraphics screen ("Render in new CyberGraphics screen") or a window on the ImageFX panel screen ("Render in window on panel screen"). Output in a window is only possible and selectable if ImageFX runs on a HiColor screen (more details on installation).

Display Mode: If you want to view the output in a CyberGraphics screen, you can select the screen mode using this cycle gadget. All Hi and TrueColor resolutions can be selected. The render module automatically presets the suitable resolution.

Render: Displays the picture in the main buffer on a separate screen or window, dependant on the settings of the display mode and the output format (Shortcut: r)

Close: Closes the window / screen (shortcut: c)

Scrolling

You can scroll within pictures that are larger than the output screen or window using the cursor keys. Pressing the cursor keys on their own scrolls pixel by pixel whilst pressing them simultaneously with SHIFT scrolls by 10 pixels and with CTRL by a screen or window. An output screen can be autoscrolling, if sufficient memory is available, so that you can scroll using the mouse.

Preferences

The render module saves the position and size of the render window in the ImageFX Preferences, as well as the output format (window or screen).

Photogenics Saver

This saver allows Photogenics projects to be viewed on a 15/16/24 bit screen.

PhotoWorx Display Driver

This driver was produced by the PhotoWorx author themselves and therefore poses no problems.

Real3D External Screen Module

This driver is an external output module for Real3D. Select the cybergfx_r3d.library as the output library in the external screen/Settings. A CyberGraphics screen will open if you now select the external screen/Open. You can now select the resolution using Set modes.