{ewc D2HTools, D2H_256Color, WELCOME.BMP}

This online Help gives you an insight to our company and current product line and all related topics. It contains tips and tricks from the SPEA ExpertLine (Hotline) and gives you listings of the latest software drivers.

Simply click on the topic which you require information about!

General information about SPEA

Products

Support & Software Drivers

Manuals

Release: CD1195.2

The '95 Prodinfo Team

Online Help:	Andy von Treuberg
Contributions:	Anja Hantke, Bärbel Ost, Volker Teupel, Hermann Eiden
Additional Software:	*Start program:* Peter Kirst *Flicplayer:* Birgit Biberger *Install:* Martin Liebich
Quality Assurance:	Franz Poeller, Peter Kirst, Volker Delfs, Bonka Roustcheva, Axel Topp

Thanks also to all those of the SPEA team who aren't listed but made other important contributions to this product!

Release: CD1195.2

General Information about SPEA Software AG

Company address
(business hours, tel/fax)

General Information about SPEA Software AG
(history, objectives, markets, strategy, products ...)

SPEA Software AG offers a wide palette of support services to give you help and advice on any technical questions you may have when using SPEA products. Whether you want to keep your software up to date or just want to inform yourself about new developments, you'll find that SPEA Software AG is able to give you the support you need.

SPEA Mailbox (BBS), CompuServe, Internet
(Information and the most current software - per modem)

SPEA SoftwareUpdates - SPEA Superdisc
(Information and the most current software - per CD)

SPEA ExpertLine
(the Quality Hotline)

Products

What's hot? - The latest SPEA products!

Graphic Boards

Multimedia Boards

Software-Products

Graphic Boards

Classic Graphic Boards (Windows Accelerators):

V7-MIRAGE P-32
V7-MIRAGE P-64

Graphic Boards with Video Acceleration:

V7-VEGA VIDEO
New: V7-MIRAGE VIDEO
New: V7-MIRAGE P-64V TURBO
New: V7-MERCURY P-64V
New: V7-MERCURY P-64V ERGO

Highend Graphic Boards:

V7-STORM PRO
New: FIRE GL

Additional Information:

Recommended board combinations

Multimedia Boards

Video Boards:

V7-VEGA VIDEO
New: V7-MIRAGE VIDEO
New: V7-MIRAGE P-64V TURBO
New: V7-MERCURY P-64V
New: V7-MERCURY P-64V ERGO

MPEG Playback Boards:

SPEA SHOWTIME PLUS
New: SPEA PLAY IT

Capture Boards:

New: SPEA-CRUNCH IT

Soundboards:

New: SPEA-MEDIA XTC

TV Boards:

New: V7-MIRAGE VIDEO TV

Software Products

Add-on Software:

3D-Win	3D-Viewer for all Windows accelerator boards
BigFocus 13/Win	Hardware independant driver for AutoCAD for Windows-Rel. 13
3D-World	Animations and 3D effects with: AutoCAD/3D Studio under DOS and Windows
V7-SyncFix Package	Dualscreen systems with a SPEA fixed-frequency monitor

Overview of current Software Drivers:

Software-Status

Sales Information

SPEA-Distributors DISTRIEX
Official SPEA PricelistPRICELIST

Software Status

Graphic Boards:

(a) SPEA-V7 Series - Drivers & Utilities

V7-MIRAGE series
V7-MERCURY series
V7-VEGA series, V7-STORM PRO, Software Development Tools

Overview of applications supported

(b) SPEA Graphiti Series - Drivers & Utilities

Overview for all Graphiti boards

Overview of applications supported

Multimedia Products:

V7-media fx
SPEA SHOWTIME PLUS
Boards with video functions

New update source: SPEA CD

Information about new developments and product improvements at SPEA as well as the latest software releases and user documentation is available via the SPEA CD, which is **updated on a monthly basis.** The CD can be obtained from your retailer or national distributor.

SPEA Support

SPEA Software AG offers a wide palette of support services to give you help and advice on any technical questions you may have when using SPEA products. Whether you want to keep your software up to date or just want to inform yourself about new developments, you'll find that SPEA Software AG is able to give you the support you need.

SPEA Mailbox (BBS), CompuServe, Internet
(Information and the most current software - per modem)

SPEA SoftwareUpdates - SPEA Superdisc
(Information and the most current software - per CD)

The latest tips from the SPEA-ExpertLine

SPEA ExpertLine
(the Quality Hotline)

Overview of current Software Drivers:

Software-Status

SPEA ExpertLine Tips

We have collected the latest tips from the SPEA ExpertLine for you here. Simply click on the topic that interests you!

SPEA Graphiti Series

(Painter/Gallery/Flash/FGA/HiLite/FIRE)

System configuration
AutoCAD
CAD gen.
Windows

SPEA V7 Series + Multimedia Products

(V7-VEGA ..., V7-MIRAGE ..., V7-MERCURY ..., V7-STORM PRO)
(V7-media fx, SPEA SHOWTIME PLUS)

System configuration
AutoCAD
CAD gen.
Windows
Windows 95
OS/2
Drivers gen.
V7-media fx
SPEA-SHOWTIME PLUS

Manuals for SPEA Products

The manuals for all the current graphic boards (except the Graphiti series boards) and other SPEA products can be found in the DOCS directory on the SPEA CD. These files are in WinWord 6.0 format and can be read and then printed by clicking on the corresponding board or option below (Microsoft's WordViewer is then started).

Important Note - Please Read!
Please note that not all the manuals have been updated to reflect the fact that software installation can now be run from the SPEA CD without leaving Windows (some still describe the installation from diskettes). To install SPEA software from the SPEA CD, simply start the program SPEA.EXE from the root directory of the CD and click on the option 'Start the installation of the software ...'
We expect to update all manuals with the next version of the SPEA CD.

Manuals (click to select)

V7-VEGA VIDEO
V7-VEGA PRO

V7-MIRAGE (ISA/VL)
V7-MIRAGE P-32
V7-MIRAGE P-64
V7-MIRAGE P-64 V
V7-MIRAGE VIDEO

V7-MERCURY P-64
V7-MERCURY P-64 V

SPEA SHOWTIME PLUS
SPEA PLAY IT
SPEA CRUNCH IT

V7-STORM PRO
SPEA FIRE GL

SPEA MEDIA XTC
Voyetra Software for the SPEA MEDIA XTC

SPEA BigFocus 13

SPEA 3D-World

What's HOT ?!! - New SPEA Products

Here they are - the latest SPEA products to get excited about!

Graphic Boards with Video Acceleration:
V7-MIRAGE VIDEO

Capture Boards:
SPEA-CRUNCH IT

Soundboards:
SPEA-MEDIA XTC

old prices call was to nuprices bmp and with keyword pricelst

General Informationen about SPEA Software AG

Company Address:

SPEA Software AG
Moosstrasse 18
D-82319 Starnberg
Germany

Telephone/Fax:

Tel: 0 81 51 / 26 60 (Switchboard)
Intl: +49 81 51 / 26 60
Fax: +49 81 51 / 21 25 8

Modem:

See BBS

Business Hours:

Mon. - Fri. 9:00 - 12:00
13:00 - 16:00 (Fri. up to 15:00)

SPEA Mailbox (BBS) / CompuServe / Internet

- Product and Service Information
- Help files from the Technical Support Group
- Software Updates
- Optional Software not included in the Standard Delivery Scope of a Board

SPEA uses the most modern online information services to extend the availability of SPEA software to its customers. By using these services SPEA is internationally available, around the clock!

Online Services

SPEA Mailbox (BBS)
Partner Mailboxes
SPEA in CompuServe
SPEA on the Internet

SPEA Mailbox

SPEA customers and products users have 24-hour modem access to our Bulletin Board system, the SPEA Mailbox, via the following telephone numbers:

SPEA Mailbox:	
+49 8151 / 1 29 21	**(... 28.800 baud)**
+49 8151 / 26 62 41	(... 14.400 baud)
+49 8151 / 2 11 96	(... 19.200 baud, Zyxel)
+49 8151 / 7 80 01	(ISDN)

Please note that in the time between approx. 04:00 to 04:15 the Mailbox is shut down for servicing purposes. The mailbox can not be accessed in this time.

Important: - the Mailbox contains the most current software released to distribution. **Drivers, which have not been released to general distribution are not available to every user in the Mailbox.** Special drivers and preliminary versions are available to registered beta testers for testing purposes. Software released to the general public can be found in the respective Releases area, as soon as it is released.

- the **Mailbox is self-explanatory and simple to use.** In order to simplify your use of the Mailbox, we have installed a guide in the Infothek area which explains the structure of our mailbox and helps you move around in it. You can download the guide by entering the following key sequence; : B: Infothek, F: Download. Important explanations and information can be found in the content lists of the individual areas.

- As an alternative to the SPEA Mailbox, you can divert to one of our partner mailboxes which contain the most current software from SPEA. These are distributed in Germany, Austria, Switzerland and England.

Technical Information

Limits:
- daily copying limits: 150 min. or 6 MB data
- distributors and special customers have special daily data (MB) and time limits.

About the packing software used to create the files on offer:
The software has almost all been packed with LHA 2.13 (some with Pkzip) as self-extracting files. When unpacking, a README file will be created which explains the precise steps necessary to install the unpacked files.

Data compression (MNP5, V.42bis)
- if you experience problems, deactivate this option at your end. Virtually all the data available via the mailbox has already been packed. Using data compression may therefore cause delays due to continual attempts to pack the software (pointless as already packed).

Modem Settings:

Speed:	9,600 - 28.800 baud
8N1:	8 data bits, no parity, 1 stop bit
Terminal emulation:	ANSI.BB. Also: TTY if you deactivate the ANSI display in the Mailbox (Main menu, Configuration, ANSI display). Windows 3.1 Program TERMINAL: 'DEC VT-100 (ANSI)'.
Dataflow:	Hardware Handshaking (RTS/CTS) - NOT: Software-Handshaking (Xon/Xoff)!

Data compression:	OFF (the files are already packed)
File transmission protocol	(communication between both modems)
	- Zmodem (highly recommended)
	- Ymodem, Ymodem -G
	- Ymodem, Ymodem -G
	- Xmodem, Xmodem /1k, Xmodem /1k -G

The configuration and quality of your modem determine the stability of the connection made to the SPEA Mailbox and are decisive for downloading data successfully. Please prepare the configuration of your modem properly according to the instructions in your modem manual.

Notes for ISDN Users:
To use the ISDN line, please take note of the following:

- Use a terminal program which supports ISDN (e.g. shareware TERMINAT v1.50, available in the SPEA Mailbox under 'Download deposited file')
- Do not use the software supplied with the ISDN board which can - for example - allow you to login to a remote system and move around in its file structure!
- Load a FOSSIL driver (e.g. CFOS, available in the SPEA Mailbox under 'Download deposited file')
- Select FOSSIL or ISDN as the COM parameter in your terminal program
- Use ANSI as your terminal emulation
- Dial+49 8151-78001.
- Use Zmodem as your transfer protocol (8k blocks if possible).

General Tips on downloading Data:

The data in the mailbox is virtually all in packed format (as SFX files, self-extracting). When you download files, you are copying software that would otherwise be distributed on disk. For this reason you should proceed as follows:

a) Data download into a directory that *already exists* on your hard disk (e.g. C:\DOWNLOAD).
b) Put a formatted disk in your floppy disk drive (e.g. B:)
c) Unpack the file(s), e.g. DATA.EXE onto the disk, e.g. with the following command:
DATA B:
d) After this you can read or print the README file on the disk. Install the software according to the instructions you will find there.

Contents of the SPEA-Mailbox:
Check the software status page for the latest tables and information.

SPEA-Mailbox Tutorial (quick introduction)

Tips when using the Mailbox

Possible Problems - when contacting the Mailbox

P: I can't get a 28.800 connection..
A: It is possible that the modems automatically reduce the transmission rate due to bad lines or connections until they find a lower speed that is more stable. It can help to call again later when the telephone lines are not overloaded.

P: As soon as I get a connect message the connection is interrupted.
A: - check the basic modem settings already described above.

P: As soon as I get a connect message I only see AT commands or mixed characters on the screen.
A: - the modem was initializing when the connection was made! Redial the modem.
- it is possible that a bad telephone line or other connections can cause problems. The best thing to

do is try the connection again, possibly at a later time when the lines are not so overloaded.
- characters appear in batches? Check whether a telephone charge counter is connected - ist impulses can cause interference.

P: Special characters (e.g. menu frames, lines etc.) dont look right - they are shown as letters or other symbols.

A: Select ANSI.BBS as your terminal emulation (see basic settings above). Note: ANSI.SYS must also be loaded in your PC (via CONFIG.SYS). See basic settings above.
- If you are using the Windows TERMINAL.EXE program in Windows 3.x:
None of the terminal emulations offered by this software show special characters properly. In order to use this software despite this select 'DEC VT-100 (ANSI)'. This setting causes any special characters (menu frames, lines etc.) to be replaced by letters. It is still possible to work within the Mailbox despite the display. If you want to see the menus properly you must use another program!

Possible Problems - when downloading Data

P: Download refuses to work: the transmission doesnt start (error message no files to send).

A: - You are in the wrong file area (check the current area at the top right of the Mailbox menu). The software therefore cant find the desired file (e.g. if you want to download the Windows driver update for the FIRE board - WIN_FIRE.EXE - but you are in the AutoCAD area). Use the option B Contents of the current file area to see all the files available there.
- You entered an incorrect file name
- The protocol you selected does not match that set for your modem. If you selected Z-modem in your terminal program then you must enter the same option in the Mailbox!
- Some modems and certain transfer protocols (e.g. Xmodem) demand that after you have entered S to start the transmission you proceed by confirming the receipt of the data in your terminal software. This is usually done by selecting the corresponding menu option or by pressing a key (normally PageDown). You are then asked to enter the name of the file and the drive before beginning the transfer. Tip: always use the same name and extension for the file to be downloaded as stated in the Mailbox.
- Check that the download directory (target) really exists and that enough space is available. Especially important for network users: check that you have write rights!

P: Download unsuccessful: transmission is terminated.

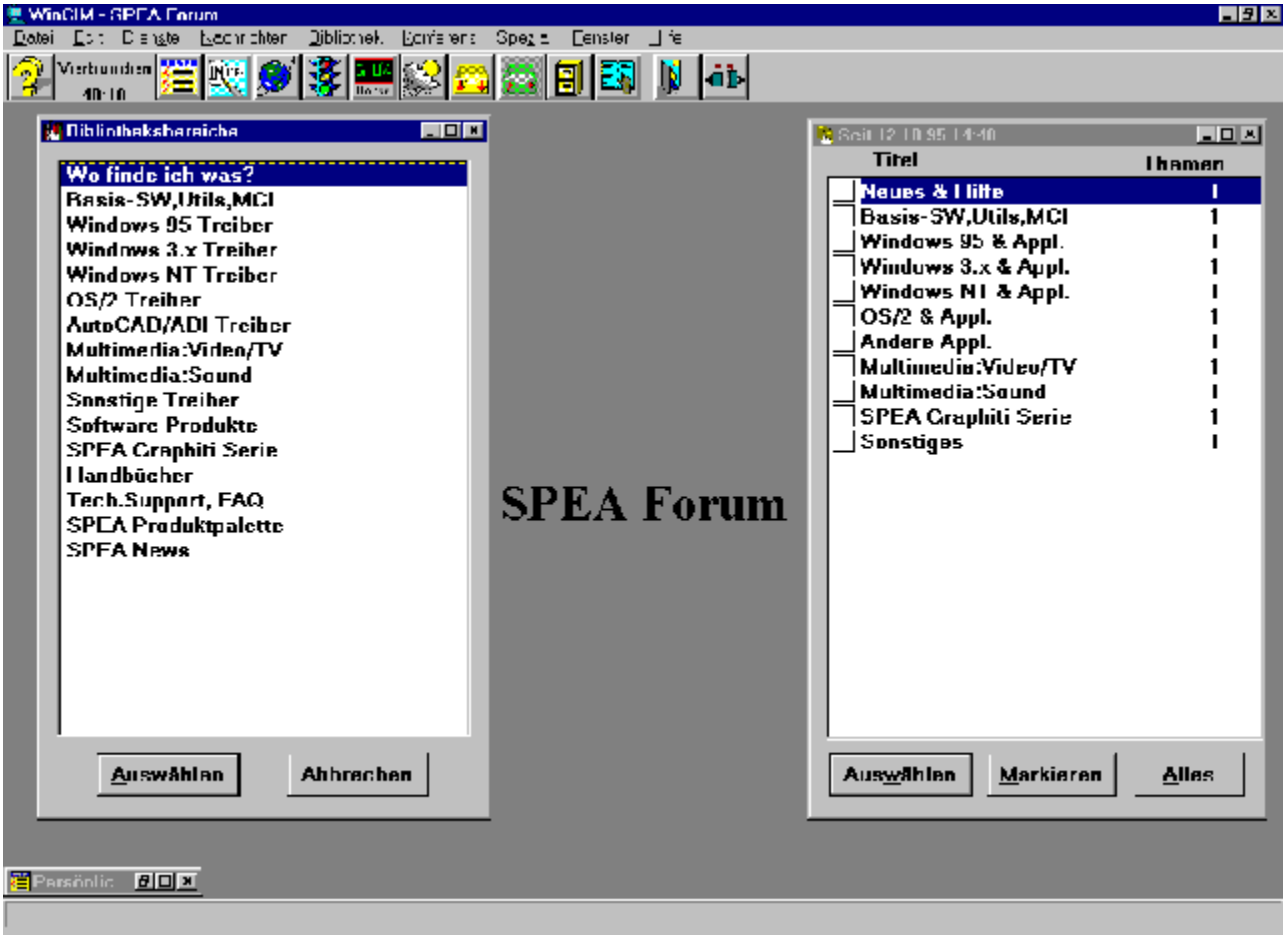
A: - The protocol set for your modem is not that same as that selected in the SPEA Mailbox.
- Select Hardware Handshaking (RTS/CTS) as the flow protocol for your modem (see above).
- Deactivate data compression (MNP5, V42.bis) - virtually all the data on the BBS is already packed so that further compression is useless. Further compression can cause problems or at least time delays!
- Check the I/O components in your system as these are decisive for the data transmission rates within your system. Use COMTEST (in the Mailbox) to check COM1 and COM2 and to see which UART component your system has. Older components such as 8250 /16450 permit baud rates up to 9600 bits/sec. If you are using a HighSpeed modem, a corresponding I/O component should be in use! (e.g. UART 16550, which permits bit rates of 38400 or 57600 bits/sec.

CompuServe

The new SPEA Forum in CompuServe is accessed with the command:

GO SPEA

The forum is currently organized in the following way:



Internet

The Internet services are available on the following WWW home page:

http://www.vobis.de/bbs/firmen/spea

SPEA ExpertLine - The Quality Hotline!

- Technical Product Assistance
- Tips and technical Information

Dear SPEA Customer!

It is the objective of SPEA's Support Team to ensure that you are able to install and use your SPEA hardware and software with a minimum of effort. If - despite our efforts - you should still experience problems, please proceed as follows:

1) check the manual again to make sure that you have correctly installed the product
2) read the latest Tips and Tricks from the SPEA-ExpertLine. The most common mistakes and workarounds are compiled here for your use.

If you should still have problems with your hardware or software, then it is possible to contact the SPEA ExpertLine. Questions about SPEA products which users outside of Germany may have are best directed to local retailers or the national representative. If this should not suffice, you can consult the SPEA ExpertLine with its extensive service offers via the following fax number:

+49 8151 / 21 258

SPEA SoftwareUpdates - the most current software waiting for you!

SPEA is constantly updating and developing its software products and offers its customers the possibility to keep their software up-to-date. Software updates are available from the SPEA Mailbox, partner mailboxes, CompuServe and on the SPEA CD.

For further information on the SPEA CD contact your national distributor.

Other possibilities of obtaining software updates:
Updates can also be copied from the SPEA Mailbox by modem. This service is available 24 hours a day, 365 days a year. For more information see SPEA Mailbox SPEA Mailbox.

New:
We can now offer most of our current software via CompuServe and the Internet - see SPEA Mailbox SPEA Mailbox.

General Information about SPEA Software AG

A Company, its Products, Markets and Strategies

Starnberg in Bavaria is home to one of the world's leading companies in the field of PC graphics systems - SPEA Software AG. It was here that company founder Ulrich Seng and his team began their remarkable success story in 1986. With a small but ambitious team, SPEA's story began at a time when personal computers were still virtually disregarded when it came to more demanding software applications and most professional computer-aided development work. This situation was to change quite rapidly. The company's corporate philosophy, to transfer mid-range computer performance to the PC with intelligent graphics systems, gained increasing acceptance. In addition to the mass markets, the PC has now conquered even highly complex application fields, such as CAD (computer aided design), DTP (desk-top publishing) and, most recently, desktop video. The market for high performance computer graphics continues to expand at a rapid rate. Intelligent graphics systems are not just used by engineers, architects and designers; the commercial market and even private users now demand user-friendly, high quality ergonomic graphics systems. The development of SPEA, as it is known to insiders, has been correspondingly meteoric. It has had its share of innovative boosts which have characterised the computer scene over the past ten years or so, and can be considered a flagship for high tech German engineering.

Today, SPEA is one of Europe's leading suppliers of PC graphics systems, and looks set to become as much of a driving force in the multimedia sector. SPEA's claim to technological leadership is the result of constant research and development activities relating to hardware and software. Some 40 % of its staff are involved in this area. In order to remain adaptable, particularly in view of its fast, persistent growth, SPEA has always deliberately avoided establishing its own production capacity. High quality standards are ensured by reputable production partners such as Intel (Ireland) and Siemens (Augsburg), as well as various companies in Asia. SPEA's marketing, sales and support activities extend throughout Europe. In Germany, distribution is implemented via major computer retailers such as Escom and Vobis, numerous distributors and selected systems houses, as well as a SPEA subsidiary in England.

SPEA started at the top - to begin with, it was exclusively involved in high-end graphics hardware and software for vertical applications such as those in the CAD market. In this sector, the company supplied (and still does) applications such as AutoCAD by Autodesk which offered users very high performance and a wide range of facilities, but which push conventional personal computers to the limits of their capacity when it comes to fast, high resolution graphics. SPEAs graphics boards increase speed and improve the quality of graphics output. The core elements of these graphics systems are a special graphics processor, high speed memory and specially developed software drivers.

Today, SPEA, as a full liner, offers graphics systems and software ranging from Windows accelerators - for horizontal applications and private users - to high-end CAD graphics boards with RISC (reduced instruction set computing) processors. In addition, SPEA supplies extra software packages for leading CAD applications, multimedia sound and video boards.

SPEA and the History of PC Graphics

SPEA's success is closely related to the advances in the capacity of electronic components over the past ten years. These have permanently increased system performance whilst at the same time, cutting prices dramatically. The principle driving forces in terms of hardware include the Intel microprocessors (8086, 80286, 80386, 80486, Pentium), the expansion of memory density (from 256,000 bits initially to 16 million bits today) and the capacity of hard disks (from less than 50 MB to over 1 GB). On the basis of this, software has also developed quite phenomenally - from pure text reproduction and fiddly keyboard commands to graphic, intuitive user interfaces operated with a mouse. This is a cycle in which cause and effect converge - improvements in hardware and software both enable and necessitate improvements in graphics portrayal on the screen.

The more PC systems move away from simple text applications towards complex graphics and even moving video images, the greater the data volumes and the requirements made on the processor, memory and bus (a type of data highway) become. By way of comparison, a graphic image requires 500 times more data for transmission than a comparable piece of text. When PC applications developed, not only from text to graphics, but also from black-and-white to colour and from low to high resolution, it became necessary to extend the capabilities of the graphics card integrated in every PC. The first graphics cards had a simple microchip, a little logic and a small memory.

In electronic terms, this is now ancient history. Modern graphics cards integrate a complex, specially developed microcontroller or microprocessor, sophisticated logic modules and a large memory. The best of these, such as SPEA graphics systems, are supplied with specially developed software, known as the driver, which combines virtually all system components - the base PC, the graphics card and the application software - in a single unit and enables the application programs to be portrayed on the screen at the appropriate speed. With the appropriate high-end graphics systems, 3D designs, for example, can now be shaded, manipulated, visualised and animated virtually in real time. Sophisticated driver software such as the AutoCAD display list driver BigFocus by SPEA goes beyond mere acceleration of the graphics and actually adds new functions to the applications to make the work of the designer or engineer easier - such as opening windows, tool boxes etc.

The following chronological list of graphics standards, which come and go over the years depending on innovations and market resonance, clearly shows the leaps which PC graphics development has made:

MDA (Monochrome Display Adapter) - 720x350 pixels, 14 MHz, black/white.
CGA (Color Graphics Adapter) - 320x200 pixels, 16 MHz, colour.
Hercules - 740x400 pixels, 25 MHz, colour.
EGA (Enhanced Graphics Adapter) - 640x350 pixels, 25 MHz, colour.
VGA (Video Graphics Adapter) - 640x480 pixels, 28 MHz, colour.
SVGA (Super VGA) - 800x600 and 1024x768 pixels, 45 MHz, colour.
AVGA (Advanced VGA) - 1024x768 and 1280x1024 pixels, 64 to 110 MHz, colour.
HR (High Resolution) - 1280x1024 and 1600x1280 pixels, 135 to 260 MHz, colour.

Whilst at the beginning of the Nineties, for example, many users had to be content with the VGA card integrated into the PC, today, most PCs have SVGA or AVGA capabilities. Particularly demanding users require high resolution or even more. There is also a growing need for additional capabilities, such as video in television quality (25 frames/sec.), including true colour capability and special video tuning.

The core of any modern graphics card is the integrated special graphics processor. Early chips of this type could just about manage black and white texts. Today's specialised graphics controllers offer a choice of 16.7 million colours to portray images in photographic quality, known as TrueColor. Whilst earlier graphics cards contained a large number of components, progress in microelectronics now means that many components can be combined into one - a single IC (integrated circuit) now incorporates the functions of the so-called graphics processor, the bus logic, RAMDAC (look-up table) and the clock synthesiser.

SPEA uses special graphics accelerators from reputable semi-conductor companies such as Avance Logic, S3, Weitek and Tseng Laboratories. On the basis of this hardware, SPEA then develops special software drivers. This is where its accumulated expertise of many years comes into play. These SPEA drivers are the main reason why SPEA graphics cards have scored top marks in numerous independent tests. Its drivers, covering all common applications in various different branches, of which the best-known are BigFocus for AutoCAD, BigMicro for MicroStation and BigWin for Windows, are developed using state-of-the-art software development methods. This includes modular structure and portability from one SPEA graphics card to another. The extensive software libraries developed by SPEA over the years and their constant maintenance and refinement are a decisive competitive advantage, as has been proved countless times.

The company made a name for itself with its patented picture-within-a-picture technique. It has

repeatedly raised ergonomic standards, and gained a reputation amongst design professionals, not only with its broad range of powerful drivers, but also with 3D graphics cards based on an Intel (i860) RISC processor. SPEA was one of the first EDP companies in the world to integrate this Intel processor into its products.

As if this were not enough, the pace of innovation in the graphics sector is constantly accelerating, and has stepped up particularly since last year. This is illustrated by the numerous new products launched by SPEA in the past 12 months alone. The company's product range now comprises numerous new graphics accelerator boards for three different bus systems (systems with the leading bus system of the future, PCI, are unmatched in their performance spectrum), as well as others exhibited at CeBIT 1994, not to mention high-end graphics systems, a multimedia sound board, various multimedia AVI/MPG accelerators and two stand-alone software packages. Expansion of SPEA's product range is continuing at a rapid rate, incorporating new technology in line with innovations and market requirements. One particularly interesting area is that of interactive 3D systems, where SPEA already has a decisive lead over possible competitors.

The Graphics Market

The market for PC graphics systems is as diverse as the requirements of PC users. At the bottom end are cheap, low performance cards (less than DM 150) which merely enable the PC to portray text and simple graphics and are used for non-graphic DOS applications. The middle category covers Windows accelerator boards up to the DM 500 range which support the Windows operating system for general Windows applications. At the top end, there are a range of high performance graphics boards which are priced accordingly (up to DM 5,000 or so) for complex applications in the CAD, DTP and 3D sectors and virtual reality. Market statistics supplied by the American company Jon Peddie & Associates indicate that some 20.4 million high-end graphics boards were sold world-wide in 1993, compared with 37.9 million PCs sold. The forecasts for super-powerful graphics cards such as those marketed by SPEA are particularly optimistic - their market share of around 3 percent in 1993 is predicted to increase to more than 50 percent by 1996, particularly as users are becoming increasingly demanding and applications require more and more graphics power.

Customers and Applications

Up to 1994 SPEA sold more than 400,000 boards complete with software and more than 60,000 monitors. An increasing number of OEMs are integrating SPEA products into their systems or using them for in-house development, as shown by the following examples.

The leading manufacturers of mechanical CAD and graphics software, Autodesk of California, used the SPEA Graphiti FIRE to develop its Cyberspace Development Toolkit program and recommends this graphics system to development engineers working with the Autodesk Toolkit. Intel, a leading microprocessor and PC sub-system manufacturer from Oregon, offers the SPEA V7 MERCURY in combination with its Pentium motherboard. The German company debis, which markets CAD systems for the automotive industry, has incorporated SP3D, the SPEA 3D software library, into the CAD systems used by development engineers at Daimler Benz. The Dutch company Renderstar, which specialises in photorealistic rendering and visualisation, uses the SPEA Graphiti FIRE to render complex designs for sophisticated tasks.

The end-users of SPEA products cover a wide spectrum, including architects, developers, designers, engineers, scientists and students in small and large companies and institutions, and, of course, normal computer users wishing to upgrade their PC for one reason or another.

Distribution and Marketing

SPEA sells a large proportion of its products via indirect distribution channels, such as OEMs, distributors and resellers. The aim is to constantly expand this close-knit network of distribution partners, supported

by its own sales and marketing team. SPEA currently markets its products via some 25 OEM partners and 25 distributors and resellers in Europe and the Near East. Some of these partners offer in-house training and support services to end-users.

SPEA is ideally equipped for the international markets, particularly as many of its partners are active throughout Europe or even throughout the world.

Service and Support

SPEA offers comprehensive support and service to its partners and end-users, as this is an essential requirement for optimum use of its products and maximum customer satisfaction. OEMs, VARs, distributors and resellers receive detailed technical support. One particular feature worth mentioning is the SPEA ExpertLine, an innovative support concept for both end-users and members of the trade, offering expert advice.

Product maintenance at SPEA is another important indicator of optimum customer care. For example, up-to-date Windows and CAD drivers are still available for the first graphics boards developed by SPEA. Purchase of a reasonably priced starter board entitles the user to the same extensive services as users of high-end boards, including permanent driver updates following once-off registration. This is supplemented by generous guarantee periods - up to three years.

Information from the Press Conference 2/95

Munich, February 2nd, 1995
”SPEA runs Multimedia” - that was the motto of this recent press conference. The company from Starnberg is pushing ahead in the booming multimedia market on all product category levels, as can be seen from the list of new products and the new SPEA business division.

The products being presented today extend SPEA's product palette for multimedia applications drastically. The very successful SPEA SHOWTIME PLUS board now has a partner for digital video recording, an overlay board and a series of video accelerators covering a wide performance spectrum. Even the latest high-end 3D CAD board incorporates the multimedia future in its hardware. Obviously SPEA has added its own specialities to these products: TrueColor video and graphics acceleration for the price of a standard VGA board no longer break waves in this dynamic market.

Companies that make multimedia products so tempting to buy - such as SPEA does - should also offer the corresponding multimedia titles. SPEA now does this with the MediaGallery Games Division, which is celebrating its premiere at the CeBIT trade show.

Awards for SPEA Products

{ewc D2HTools, D2H_256Color, AWARDS.BMP}

Glossary

ANSI: American National Standards Institute.

ASCII: American Standards Committee on Information Interchange. A standard used by IBM and compatible computers to represent numbers and characters in binary form.

Aspect ratio
The ratio of an image or screen display's height to its width. Images will be become distorted if forced into a different aspect ratio. For example, a height to width ratio of 3:4 or width to height ratio of 4:3 is the aspect ratio.

Analog Display: A monitor that uses variable color control voltages to display a very large number of colors but requires very few inputs.

Authoring Systems
Authoring systems are used to create multimedia applications. They combine existing presentation information (texts, images and sound) and control the flow of these during the multimedia show. The dialogue with the user is controlled with this software. The individual information must have already been created and saved with special programs.

AUTOEXEC.BAT: A batch file that directs the activities performed by the computer during system startup.

AVI
Audio **V**ideo **I**nterleaved. AVI files are the standard format for digital video films on PCs.

Bandwidth
The required capacity for the data volume and transmission rate.

BIOS: Stands for Basic Input-Output System. Code in your computer's ROM (Read Only Memory) that provides the power-on self test and other operating functions.

BitBlock Transfer
Bit-aligned block transfer. Transfer of a rectangular array of pixel information from one location in a bitmap to another.

Bitmap
1. Digital representation of an image in which bits are mapped to pixels
2. Block of memory used to hold raster images in a device-specific format

Booting/Booting Up: Starting the computer. There are two types. Warm Booting is accomplished by simultaneously pressing the CTRL/ALT/DEL keys and can occur only when the computer is running. A cold boot requires activation of the ON/OFF switch.

Brightness
The brightness of an image is determined by the amount of light emitted by it. No light (black) therefore means 'no brightness', whereas pure white light menas 'maximum brightness'.

CD-I
Compact **D**isc **I**nteractive. A technique developed by Philips in order to playback games, films and music videos on a CDI player.

CD-ROM
High-density medium to store digital data. CD-ROMs have read-only status. There are different CD-ROM formats:

YellowBook: conventional CD-ROM format
GreenBook: used for linear video, this is typical for CD-I's (see below)
WhiteBook: used for Digital Video VideoCDs.

CGA: The IBM Color Graphics Adapter.

Channel Number
A MIDI device can have three connections - MIDI-In, MIDI-Out and MIDI-Through. The last is used to pass on data group information without changing it. This enables the user to cascade several devices. To select a particular device, the MIDI information is passed on to an identifying channel number from 1 to 16.

Cinepak
Software-Codec. Makes fast decoding possible. Good image quality possible as long as the image dimensions are not increased. The video encoding process is time-consuming.

Clipping
Removing parts of display elements that lie outside a defined boundary (usually a window).

CODEC
Compressor / Decompressor, responsible for the compression and decompression of image data.

Color Display: A type of monitor capable of displaying information in color. It is often called an RGB (red, green, blue) monitor, referring to the signals needed to drive it.

Color Palette Conversion
Conversion of video data from the YUV color model into the RGB color model, or v.v.

CONFIG.SYS: An ASCII file that is created to provide the computer with special information about applications and hardware.

Contrast
The contrast of an image is the difference between light and dark. A contrast-intensive image is one in which contains strong transitions from light to dark. A contrast-weak image contains transitions that are hardly noticeable.
DAC
Digital-to-analog converter.

Data Transfer Rate
The data transfer rate describes the amount of data transferred to or from the storage medium (e.g. hard disk) per second. Each data storage medium has a specific data transfer rate which it can handle. Typical values are:
- old hard disks 300 KB/s
- new hard disks 600 KB/s
- standard CD-ROM drives 150 KB/s
- DoubleSpeed CD-ROM drives 300 KB/s

DCI
Display **C**ontrol **I**nterface. An interface defined by the Intel and Microsoft corporations, which enables enhanced graphics performance due to direct access to the video memory.

Default Mode: The capabilities, resolutions and display mode the system operates with when you start your computer.

Digital Display: Also called TTL. A type of monitor that switches signals ON or OFF to determine display color. Types of digital displays include the IBM Enhanced Color Display or Monochrome Display.

Display Area
Rectangular portion of the physical display screen in which information is visibly displayed; does not include the border area.

Digital Video
Digital videos contain optical information bitwise in a file.

Display Memory
Area of memory (or number of electronic components) used to hold the graphics image output to the video monitor.

DIP Switch: Dual Inline Package switch; a series of tiny, two position switches which allow users to select and change options on computer boards, printers, and other peripherals.

DRAM
Dynamic Random Access Memory: Fast memory chips on-board used for display memory.

Driver: Part of a software program that interacts with a particular piece of equipment in your computer system (i.e. video boards, printers, and keyboards). Drivers are often loaded by your config.sys at system boot.

Dropped Frames
The images of a video which are not displayed or recorded when replaying (resp. recording).

EEPROM: Electrically eraseable programmable read only memory; used to replace DIP switches and jumpers on new graphics boards like the V7-MERCURY.

EGA: The IBM Enhanced Graphics Adapter.

EMS: Enhanced Memory Specification. Originally developed to break the DOS 640K limit, it is now used as a general term for types of add-in memory.

EPS (Encapsulated PostScript)
EPS is a device-independant file format, which contains all the information required to reproduce an image directly on a PostScript printer or to use it in suitable applications. A small header section contains the data of the image als a TIFF-format file so that applications that can not display PostScript data directly can still obtain an impression of the file contents.

Enhanced Color Display (ECD): The IBM Enhanced Color Display capable of 640 x 350 resolution.

Expansion Board: A device used to expand a computer's capability.

Expansion Slot: An electrical connection within the computer used for the addition of expansion Boards.

Fill-in Images
When video data is being saved onto a CD-ROM (during manfacturing) the images are normally 'polstered' with fill-in images so that each video file completely uses the assigned 2KB area. This ensures a constant data rate and a smoother playback appearance. The file size is not changed by doing this.

Fixed Frequency Monitor: An analog monitor which can only sync to a very narrow range of scan frequencies.

Frame
Single video image.

Framegrabber
If an overlay board (see below) also contains a realtime video digitizer (= frame grabber), then the user can capture a random frame from the video sequence being replayed and can save this onto his hard disk.

Frame Rate
Number of images shown per time unit. Software videos have a fixed frame rate. When playing back the actual frame rate achieved can differ to the rate defined in the video considerably.

fps
frames **p**er **s**econd. Measurement unit for the frame rate.

General MIDI
The MIDI Association's MIDI Song File standard has established itself as the General MIDI standard for the exchange of MIDI music data between different PC systems.

GIF (Graphics Interchange Format)
A graphics file format developed by CompuServe to enable the device-independant exchange of images between systems. GIF-format files can be up to 64MB in size with color information up to 256 colors (8 bits). GIF files do not contain information about the image resolution.

Greyscales
A greyscale image consists of different shades of grey (like a black-and-white photograph). This normally menas that 254 different greyscales plus black and white (= 256) are used.

Hardware Cursor
The cursor's movements and display are controlled by the accelerator chip. This means that the CPU only has to pass the mouse co-ordinates to the graphics board, reducing the CPU's workload.

Hardware Clipping
Clipping is done at a hardware level (making it much faster).

Hercules Graphics Card (HGC): A video adapter that provides bit mapped single color graphics.

Hexadecimal Notation: A base-16 numbering system that uses numbers and letters. The hexadecimal sequence begins: 1 2 3 4 5 6 7 8 9 A B C D E F, then 10, 11 etc.

Horizontal Frequency: The rate at which a monitor displays each scan line. Usually measured in kilohertz (kHz).

Image Compression
Technique used to reduce the volume of data in digital image and video files.

I/O Port: Input/Output port. An address used to access a hardware device.

INDEO
Intel Vi**deo**. Compression technique developed by Intel. Gives good quality but requires a high level of processing work to decompress.

Indexed 16 and 256 Color Images
Indexed color images contain a color table in the file. This table lists all the colors that could be used in the file. An indexed 16-colour image contains a table with 16 colour entries (4 bits) whereas an indexed 256 colour image 256 colours are listed (8 bits).
Other colors can be simulated in a way similar to using greyscales in a black-and-white image, by simply positioning the pixels in varying densities. The eye then sees color mixtures that are not actually in the color table.

You can transform images into indexed color images in order to load them into programs such as Windows Paintbrush, or just to see them on monitors that can only display 256 or 16 colors.

Interlaced Display: A monitor that refreshes every other scan line every other pass of the screen. A non-interlaced monitor refreshes the entire screen (every scan line) every pass of the screen.

Interleave
A technique used to organize audio and video data so that every audio data segment is followed by video data, e.g. AVAVAV.....

Interrupt Request (IRQ): Signal used by a device, such as a mouse, to inform the CPU that it is present and functioning.

Jumper: A small plastic plug that fits over a pair of pins. When the plug straddles two pins it makes an electrical connection. The computer makes decisions based on whether the connection is made or not. A group of jumper pins is called a jumper block.

JPEG
A new compressed file format industry standard developed by the Joint Photographic Experts Group. It enables compression ratios up to 100:1 (original file size to compressed file size). A new feature of this standard is that it is device-independant. These files can be replayed using any application that supports this format. JPEG differs from the LZW compression method in that it works without quality loss. This means that some of the original data is lost during the compression phase. In order to surpass this visual effect JPEG compression attempts to 'lose' information which is less important to the human eye. Use this format if you don't have much memory space available or if you are processing very large image files.

Keyframe
Technique used to compress video data whereby certain frames are defined as 'keyframes' and are fully saved during compression. The video data of the frames between two keyframes are only partially stored. During decompression the 'partial frames' use the information stored in the keyframes.

Line Drawing
This is a hardware function of the graphics processor chip. Only the starting and ending co-ordinates of a line are supplied by the CPU. The rest of the work drawing the line is then done by the graphics processor.

MDA: The IBM Monochrome Display Adapter.

MIDI
Musical **I**nstrument **D**igital **I**nterface. A serial interface used to link computers, synthesizers and other electronic sound generating devices.

M-JPEG
Motion **JPEG**. A codec (see above), which is especially suited to video processing. Hardware decompression is strongly recommendable for this.

Monochrome Display: Monitor that displays information in one color only; sometimes called a black & white display.

MPC
Multimedia **PC**. This trademark is intended to help consumers when purchasing hardware and software (similar to the VHS symbol used in the video product market).

MPEG
Motion **P**icture **E**xpert **G**roup. The compression method known as MPEG 1 is suited to digital video playback. A hardware decompressor is necessary.

MT-32
The MIDI module MT-32 created by Roland.

Multi-frequency Monitor: A type of monitor that supports a wide range of horizontal scanning frequencies and vertical refresh frequencies. This type of monitor accepts inputs from many different video display adapters.

NTSC
National **T**elevision **S**tandards **C**ommittee. The committee responsible for the definition of the north american television standard (with the same name). NTSC creates 30 images per second.

Overlay Boards
Overlay boards are able to digitize video images being input in realtime, to synchronize the data with the random segment of the screen and to show both images (incoming video signal and background screen image) simultaneously on the PC's monitor. The result is a window showing a video film which is placed over a background (e.g. a Windows application).

Non-interlaced Display: A non- interlaced monitor refreshes the entire screen (every scan line) every pass of the screen.

PAL
Phase **A**lternation **L**ine. PAL is the television standard used in Germany and Great Britain. The video signals are transformed into 25 images per second.

Palette: A selection of colors from which to choose. The V7-MERCURY provides as many as 16.7 million simultaneous colors from a palette of 16.7 million. This capability is sometimes referred to as TrueColor. It is believed that the human eye can discern no more than 16.7 million colors.

PCX (PC Paintbrush)
This file format was developed by Zsoft Corporation for PC Paintbrush, one of the first computer drawing programs. It is the standard format for many scanners and drawing programs. Some versions of the PCX format don't contain any information about the resolution of the image.

Peripheral Equipment: Auxiliary equipment connected to a computer (e.g. monitor, printer, keyboard, etc.).

Pixel: Short for picture element; the smallest field displayed on the monitor; could be compared to the dots which form images in photos printed in newspapers. Also called pel.

Polygon Fill
A special hardware (chip) routine used to fill polygons with pixel information.

Primary Display: The monitor that is active when you power on your system.

PS/2 Display Adapter: The IBM VGA board for Industry Standard Architecture (AT bus) computers.

RAM: Random Access Memory; memory that can be read from and written to.

RGB 8Color
RGB8 color file types are 3 bit types in which each pixel can have one of 8 colors. The RGB8 color images are automatically transformed into indexed 16 color images whereby the 8 colors are retained but space for further 8 colors is created. It is not possible to transform an existing file into an RGB8 color file type.

RGB True Color

RGB stands for red - green - blue. All the colors that are used in this file are created additively mixing parts of the three basic colors. The parts of the three basic colors can be varied in 256 steps. If you mix all these colors together a total of 16.7 million possible color combinations is attainable (3x8 bits = 24 bits, 2 to the power of 24 = 16.7 million). As the human eye can not tell the differences between color hues from about this level, such an image is termed 'True Color', i.e. 'as in real life'.

RGB Color Model
Monitors use additive mixing of the three basic colors red, green and blue to create images on the screen with an infinite number of colors. Image data is therefore processed via data for RGB color combinations. The combinations of the three basic colors create a color model whose origin is the colour black and the opposite value is the color white.

Resolution: Number of pixels displayed on the monitor. The higher the resolution, the crisper and sharper the images appear.

ROM: Read Only Memory; memory space in your computer for storing permanent operating instructions.

Sampling Depth
Describes the number of bits used for each sampled value of the sound input. 8 bits are suitable for microphone recordings, 16 bits give higher quality but require twice the memory storage space.

Sample Frequency
If the data bandwidth is fixed then the incoming signal to a processing unit can be assigned to a whole number (value). The quantity of such values (samples) that can be taken per second is referred to as the sample rate or frequency.

Sampling Rate
Analogue accustic signals are digitized by the analogue/digital converter (ADC) on your sound or video board. The ADC component samples the audio signal in extremely short time intervals and stores the measured values. The number of sampled values per second is the 'sampling rate'. The usual rate for a low-quality recording of speech is 11.025 kHz. Better quality speech recordings or low-quality music recordings are sampled at 22.05 kHz. CD quality is attained at 44.1 kHz.

Saturation
The saturation refers to the purity of a color. A color with a high saturation value is optically very intensive. A color with a low saturation value appears weak (i.e. with less color content).

Scaling
Transformation of image data to different sizes.

Secondary Display: The monitor connected to the graphics card that is co-resident with another card/monitor in your computer system. Is not active upon booting your system.

Sound Files
The most common file type for sound files under Windows are WAV files.

Sync: The stable condition that exists when two repetitive events maintain a constant time relationship; your monitor is in sync with the signals from your board when the display is correct and stable.

Terminate and Stay Resident (TSR): Programs that are run once then remain in memory in order to be activated by a sequence of key strokes or a 'hotkey.' It is possible that a TSR may take up too much memory and cause conflicts with other programs.

TIFF (Tagged Image File Format)
This format was developed by Aldus and Microsoft in order to promote the use of desktop scanners and DTP systems. Uncompressed TIFF files are hardware and software-dependant, however there are

different incompatible compression methods. Select this format for the maximum compatibility with other applications and to improve the compression level.

TGA (Targa)
Developed by the company True Vision especially for ist true color video boards (especially the Targa board), this is a format preferred by many specialists.

TrueColor: The ability to display 16.7 million simultaneous colors. It is believed that the human eye can discern no more than 16.7 million colors. See 'palette'.

Variable Frequency Display (VFD): A monitor that is capable of displaying a wide range of resolutions through it's ability to sync to a wide range of horizontal and vertical scan frequencies.

Vertical Frequency: The rate at which the monitor screen is refreshed. Usually measured in hertz (Hz).

VGA: The IBM Video Graphics Adapter.

Video CD
The VideoCD specification was published in 1993 by JVC, Matsushita, Sony and Philips as the so-called 'Whitebook' standard. Using this up to 74 minutes of digital video compressed with the MPEG 1 technique can be stored on a CD. The image resolution is 352 x 240 pixels and 30 frames per second for the NTSC standard and 532 x 288 pixels at 25 fps for PAL.

Video Keying
This term refers to the process of mixing two video and computer graphics signals.

Video Connector: The standard 15-pin monitor output connector located on the SPEA-V7 board..

Video Electronics Standards Association (VESA): industry-wide consortium organized to standardize graphic modes.

VRAM
Special (dual-ported) memory chips (Video Random Access Memory) used on high-performance boards for display memory.

Wait State
Clock period inserted into a memory cycle in order to permit accesses of slower memories and slower memory-mapped devices.

YUV Color Palette
The image information of individual frames is comprised of a brightness part and 2 color parts. The color part is calculated by evaluating the difference to the brightness value. This method was first utilized in television technology.

YUV Signal
A video signal that is comprised of a brightness part (luminescence Y) and two color parts (chrominance U and V). Due to the characteristics of the human eye, it is enough to transfer the color parts with a lower resolution. This mixture is technically achieved by only evaluating 2 chrominance signals U and V compared with the 4 values calculated for the luminescence. This results in statements in the format 4:2:2. Other constellations are possible.

Zooming
Increased display of an image section.

V7-media fx - Games Configurations / Spielekonfigurationen

Game/ Spiel / Software	Publisher/Verlag	Version	V7-media fx Mode	Game Mode
3D Dinosaur Tour	Knowledge Adventures		GM	No Option
688 Attack Sub	Electronic Arts		FM	Adlib
7th Guest	Virgin		GM	Soundcanvas
Aces of the Pacific	Dynamix	1.2	FM	Soundblaster
Adventures	Deep River		GM	Windows Drivers
Adventures of Willy Beamish	Dynamix		GM	No Option
Alone in the Dark	I-Motion		FM	
Amazon gardens of Eden	Access		MT32	Music - MT32, Sound - Soundblaster
Ambush at Sorinor	Mindcraft		GM	Soundblaster compatible
An Introduction to Classical Music	Attica		GM	Windows Drivers
B 17 Flying Fortress	Microprose	2.0	MT32	Roland Lapc-1
Bard's Tale III	Electronic Arts		MT32	Roland
Battle Chess	Interplay		FM	
Battles of Destiny	QQP		FM	No Sound Option
Betryal at Kronder	Dynamix	1.01	GM	
Birds of Prey	Electronic Arts		MT32	MT32
Blake Stone	Apogee		FM	Soundblaster
Blue Force	Tsunami	1.1 0	GM	Sound FX - Soundblaster, Music - External GM
Caeser	Impressions		FM	Soundblaster
Carriers at War	SSI		FM	No option
Castles	Interplay	1 .0	MT32	Roland
Castles II	Interplay		GM	General MIDI
Castles of Dr. Brain	Sierra	1.1	MT32	Music - MT32, Sound - Soundblaster
Centurion	Electronic Arts		MT32	Start with <centurio mt>
Champions of Krynn	SSI		MT32	
Chessmaster 3000	Software Toolworks	1.0.4	FM	Digital audio- Soundblaster
Chessmaster 3000 MPC edition	Software Toolsworks		MPC	
Chuck Yeager's Air Combat	Electronic Arst		FM	Soundblaster?
Civilization	Microprose		MT32	
Comanche: Maximum Overkill	Nova Logic		MT32	Music- MT32 Soud- Soundblaster
Comanche:Maximum Overkill CD-ROM	Nova Logic		MT32	Music- MT32 Soud- Soundblaster
Conan the Crimmerian	Virgin		MT32	Roland MT32
Conquered Kingdoms	QQP		FM	Adlib (start program with command <cc a>)
Crusaders of the Dark Savant	Sir Tech		FM	Music- Roland Lapc-1 Sound- Soundblaster
Cuckoo Zoo	Electronic Arts		FM	
Cyber Empire	SSI		FM	Soundblaster
Dagger of Amon Ra	Sierra	1 .0	GM	Music- General Midi Speach- Soundblaster
Dark Queen of Krynn	SSI		MT32	Roland
Darksun	SSI		GM	Sound FX - Thunderboard, Music - GM
Daughter of Serpents	Milenium		GM	No Sound Option
Day of the Tenticle	Lucas Arts		FM	Soundblaster
Death Knights of Krynn	SSI		MT32	LAPC
Deja Vu I	ICOM		GM	Windows
Deja Vu II	ICOM		GM	Windows
Dennis Miller's That's News to Me	iLaugh		GM	Windows Drivers
Doom	iD	1.2	GM	Music- General MIDI Sound- Soundblaster
DUNE (CD-ROM)	Virgin		MT32	MT + SB ?
Ecoquest CD	Sierra		GM	No Sound Option
Elvira II: The Island of Cerberus	Accolade		MT32	Roland MT32
Empire Deluxe	New World Computing		MT32	Sound - SB and Compatibles, Music - Roland

Eric the Unready	Legend	1 .0	MT32	Music- MT32 Sound- Soundblaster
Eye of the Beholder	SSI		FM	Soundblaster
Eye of the Beholder II	SSI		FM	Soundblaster
Eye of the Beholder III	SSI		MT32	Soundblaster/MT32
F-117 A	Microprose		MT32	Roland
F-15 Strike Eagle III	Microprose		MT32	Roland MT-32
F14 Fleet Defender	Microprose		GM	Music- GM Sound- Soundblaster
Falcon 3.0	Spectrum Holobyte		GM	Sound Blaster
Flight Simulator 5	Microsoft	5.0	FM	Soundblaster
Front Page Sports Football	Dynamix	1.02	FM	Soundblaster
Frontier Elite II	Konami		GM	Roland LAPC-1
Gateway	Legend	1.1	FM	No Option <gate blaster>
Gateway to the Savage Frontier	SSI		FM	Soundblaster
Global Effect	Electronic Arts		MT32	Roland
Goblins	Coktel Vision	1 .0	FM	Soundblaster
Grand Slam Bridge	Electronic Arts		GM	No Sound Option Soundblaster will be used
Great Naval Battle	SSI		MT32	Roland Lapc-1
Gunship 2000	Microprose		MT32	Roland
Hard Nova	Electronic Arts		MT32	Roland MT32
Hardball III	Accolade		MT32	Music - Roland MT32, Sound - Soundblaster
Heart of China	Dynamix	1 .0	MT32	Roland Lapc-1
Heroes of the 357th	Electronic Arts		FM	No option
Hong Kong Mahjong Pro	Electronic Arts		MT32	Music- Roland Voice- Soundblaster
Hoyle Book of Games	Sierra	1.0	MT32	Music- MT32 Sound Adlib
Inca	Sierra		MT32	Music- MT32 Sound- Soundblaster
Incredible Machine	Sierra	1.0	MT32	Roland LAPC -1
Indianna Jones and the Fate of Atlantis	Lucas Arts		MT32	
Iron Helix	Spectrum Holobyte		GM	Windows
Island of Doctor Brain	Sierra	1 .0	MT32	Music - MT32, Sound - Soundblaster
Jack Nicklaus Championship Golf	Accolade		FM	Soundblaster
Jones in the Fast Lane MPC	Sierra	1.0	MT32	Music- Roland MT32 Speech- CD audio
King's Quest VI	Sierra	1.0	GM	Music- General Midi Speech- Soundblaster
Lakers vs. Celtics	Electronic Arts		MT32	MT32 <bball mt32>
Leather Goddesses of Phobos 2	Infocom	1 .0	MT32	Music - Roland LAPC Sound - Soundblaster
Legacy Realm of Terror	Microprose		MT32	Roland and Soundblaster
Legends of Valour	SSI		MT32	Roland
Lemmings I,II, Christmas	Psygnosis		FM	Soundblaster
Links	Access		GM	Windows Drivers
Links 386 Pro	Access		FM	Soundblaster
LOOM	Lucas Film Games		FM	Adlib <loom a>
Lord of the Rings CD-ROM	Interplay		FM	Soundblaster
Lost Admiral	QQP		FM	Pc Speaker
Lost Files of Sherlock Holmes	Electronic Arts		MT32	Music- Roland Sound- Soundblaster
Mad Dog McCree CD-ROM	American Laser Games		FM	No Option
Day of the Tenticle CD	Lucas Arts		FM	Music- Soundblaster Sound- Soundblaster
Mantis CD-ROM	Microprose		FM	
Mario Teaches Typing	Interplay		MT32	
Martian Memorandum	Access		MT32	Music- Roland Lapc-1 Sound- Soundblaster
Master of Orion	Microprose		MT32	Music- MT32 Sound- Soundblaster
Maelstrom	Merit Software	1.1	FM	Ablib?
Mech Warrior	Activision		FM	
Megafortress	Three Sixty	1.1	FM	Autodetect
Megarace CD	Software Toolworks		FM	Music - Soundblaster, Sound - Soundblaster

Microcosm CD	Psycosis		MT32	Music- Roland MT32 Sound- Soundblaster
Might and Magic III	New World Computing		MT32	Music- Roland Sound- Soundblaster
Mixed Up Mother Goose CD-ROM	Sierra		MT32	
Monkey Island 2 Le Chuck's Revenge	Lucas Arts		MT32	Roland <monkey r>
MS Arcade	Microsoft		GM	Windows Drivers turn on Secondary Wave device
Multi Media Audobon's Mammals	CMC		GM	No option
Multi Media Encyclopedia	Software Toolworks		GM	Windows Drivers
Myst	Broderbund	1	GM	Windows -must turn on Secondary Wave device
NFL Football	Konami		MT32	Music- MT32 Sound- Soundblaster
NFL Video Football	Konami		FM	Soundblaster
Oceans Below CD	The Software Toolworks		GM	No Sound Option
Opus and Bill Brain Savers	Delrina		GM	Windows Drivers
Pacific Strike	Origin		GM	Music-General MIDI Sound- Soundblaster
Pacific War	SSI		MT32	Roland LAPC-1
Perfect General	QQP		FM	PC Speaker
Pga Tour Golf	Electronic Arts		GM	Roland MT32
Playmaker Football	Broderbund		MT32	Roland MT32
Police Quest 1	Sierra		FM	Soundblaster
Police Quest 3	Sierra	1 .0	FM	Soundblaster
Pool of Radiance	SSI		GM	PC speaker
Populous	Electronic Arts		MT32	Roland MT32
Populous II	Electronic Arts		FM	Sound- Soundblaster
Power Monger	Electronic Arts		FM	Soundblaster
Prince of Persia	Broderbund		MT32	Music- MT32 Sound- Soundblaster
Prince of Persia 2	Broderbund		GM	Music - General Midi, Sound - Soundblaster
Privateer	Origin		GM	Sound - General Midi, Speech - Soundblaster
Prophcey	SSI		FM	Soundblaster
Prophecy of the Shadow	SSI		MT32	Music- MT32 Sound- Soundblaster
Putt Putt Join's the Parade CD-ROM	Humongous Entertainment		FM	Soundblaster
Quest for Glory III	Sierra	1.0	GM	Music- General Midi Sound- Soundblaster
Rags to Riches	Interplay		MT32	Soundblaster with MT32
Railroad Tycoon	Microprose		MT32	Roland MT32 Midi board
Rampart	Electronic Arts		MT32	Music- MT32 Sound- Soundblaster
Realms	Virgin		MT32	Roland
Rebel Assault CD-ROM	Lucas Arts		FM	
Red Baron	Dymanix	1.0	MT32	Roland
Red Storm Rising	Microprose		FM	Adlib
Renaissance Masters	E. Books		GM	Windows Drivers
Return of the Phantom CD-ROM	Microprose		MT32	Music - Roland MT32, Sound - Soundblaster
Rex Nebular	Microprose		MT32	Music- Roland MT32/Lapc-1 Sound- Soundblaster
Space Quest I	Sierra	2.0	MT32	Roland MT32 with Soundblaster
Savage Empire	Origin	2.1	MT32	Roland MT32
Seal Team	Electronic Arts		GM	Music- Roland Sound Canvis Sound- Soundblaster
Secret of Monkey Island	Lucas Arts		FM	
Secret Weapons of the Luftwaffe CD-ROM	Lucas Arts		FM	No Option
Seven Cities of Gold Commerative Edition	Electronic Arts		FM	Soundblaster
Shadowgate	ICOM		FM	Windows Drivers
Sherlock Holmes II CD	ICOM		GM	Windows Drivers
Sim City 2000	Maxis		GM	Music- General Midi Sound- Sound

Sim Life	Maxis		GM	No Sound Option
Solitare's Journey	QQP		MT32	Music- Roland MT32 Sound- Soundblaster
Space Quest IV MPC	Sierra		MT32	Music - Roland MT32, Speech - Soundblaster
Space Quest V	Sierra	1.0	MT32	Music - Roland MT32, Sound - Soundblaster
Space Shuttle - CD-ROM	Software Tool Works		FM	
Spear of Destiny	ID-Software		FM	Soundblaster
Spectre	Velocity		FM	Soundblaster
Speed CD	Knowledge Adventure		FM	Soundblaster
Spell Jammer - Pirates of Realmspace	SSI	2nd	FM	Soundblaster
Spellcasting 301: Spring Break	Legend		MT32	Music- MT32 Sound- Soundblaster
Spirit of Exclibur CD	Virgin		MT32	Roland Synth.
Star Control 2	Accolade		FM	No Sound Option
Star Legions	Mind craft	1 .0	FM	Adlib - no voices
Star Trek 25 th Aniversary	Interplay		MT32	Music- Roland Lapc-1 Sound- Soundblaster
Star Wars Chess	Software Toolworks		GM	No Option
Starflight 2	Electronic Arts		GM	PC Speaker
Street Fighter II	Capcom		GM	Roland and Sound Blaster
Strike Commander	Origin		MT32	
Stunt Island	Disney		MT32	Music - MT32, Sound - Soundblaster
Syndicate	Electronic Arts		FM	Soundblaster
Tetris Classic	Spectrum Holobyte		MT32	Windows Drivers
The Elder Scrolls: Arena	Bethesada	1.04	GM	Soundscape
The Perfect General	QQP		FM	Soundblaster
The Two Towers	Interplay		MT32	Music- MT32 Sound- Soundblaster
Theater Of War	Three-Sixty		MT32	Roland MT32
Tony LaRussa Baseball II	SSI	1 .0	MT32	Music - Roland MT32, Sound - Soundblaster
Tornado	Spectrum Holobyte		FM	
Turbo Science	Sierra		MT32	Roland MT32
Ultima I,II,III	Origin		GM	PC speaker only
Ultima Underworld	Origin		MT32	Music- MT32 Speech- Soundblaster (yes)
Ultima Underworld II	Origin		MT32	
Ultima VII Part II Serpent Isle	Origin		MT32	
Ultima VII The Black Gate	Origin		MT32	
Ultrabots	Electronic Arts		MT32	Music- MT32 Sound- Soundblaster
Uninvited	ICOM		GM	Windows Drivers
Unlimited Adventures	SSI		MT32	MT32 with Soundblaster
Unnecessary Roughness	Accolade	1.02	MT32	Roland LAPC-1
V for Victory - Market Garden	Three-Sixty		FM	No Option
V for Victory Velikye Luki	Three-Sixty		FM	No Option
V for Victory: Utah Beach	Three-Sixty		FM	No Option
Veil of Darkness	SSI		FM	CMS Soundblaster
Warlord II	Strategic Studies Group		MT32	MT32 and Soundblaster
Warlords	SSG		FM	No sound?
Where in America's Past is Carmen Sandiego	Broderbund		MT32	Music - Roland MT32, Sound - Soundblaster
Where in Space is Carmen Sandiego?	Broderbund		GM	Music - General Midi, Sound - Soundblaster
Where in the World is Carmen Sandiego	Broderbund		MT32	Music - Roland MT32, Sound - Soundblaster
Where in Time is Carmen Sandiego	Broderbund		FM	No Option, game supports PC speaker only
Wing Commander	Origin		MT32	Roland MT32/Lapc-1
Wing Commander 2	Origin	1	MT32	Roland MT32/Lapc-1

Deluxe Edition CD-ROM				
Wing Commander Academy	Origin		MT32	Music- Roland Lapc-1 Sound-Soundblaster
Wing Commander II	Origin		FM	Music- Roland MT32 Speach-Soundblaster (yes)
Wolfenstein 3D	iD		FM	Soundblaster
World Atlas	Software Toolworks		GM	Windows Drivers
World Circuit	Microprose	1 .04	FM	Soundblaster
World Tartems?	Electronic Arts		MT32	MT32
X-Wing	Lucas Arts		GM	General MIDI music with Soundblaster Sound
Maniac Mansion	Lucas Arts		GM	PC Speaker
Indianna Jones and the Last Crusade	Lucas Arts		FM	Adlib <indy a>
Life Styles of the Rich and Famous Cookbook	Comptons New Media	1.03.05	FM	Windows Drivers
High Command	Three-Sixty		FM	No Option
Discover Space	Broderbund		GM	Music- General Midi Sound-Soundblaster
Putt Putt's Funpack	Humongus Entertainment		FM	Soundblaster
Playroom	Broderbund		FM	Soundblaster
Mixed Up Fairy Tales	Sierra		MT32	Music- Roland Sound- Soundblaster
Kings Quest V CD	Sierra	1.03.05	MT32	Music- MT32 Sound Fx- Soundblaster
Harpoon Second Edition	Three-Sixty	1.31	FM	Adlib
Imperium	Electronic Arts		MT32	Roland MT32
KGB	Virgin		MT32	Roland MT32
Leisure Suit Larry V	Sierra	1.0	MT32	Roland MT32 with CMS Soundblaster
Stellar 7	Dynamix/Sierra		GM	CD Audio/Music
Legend at Kyrandia	Westwood		MT32	Roland MT32
Lost Secrete of the Rain forest	Sierra	1.0	MT32	Music- Roland MT32 Audio-Soundblaster
Lexi Cross	Interplay		MT32	Roland
Leisure Suit Larry I	Sierra	2.1	MT32	Roland MT32 with CMS Soundblaster
Kid Pix	Broderbund	1.0	FM	Soundblaster
Kid Cuts	Broderbund	1.0	FM	Soundblaster
Show and Tell	Digispeach		FM	Soundblaster
Fatty Bear's Birthday Suprise	Humongous Entertainment		FM	Soundblaster
Silent Service II CD	Microprose		MT32	Roland Lapc-1
Goblins II	Sierra	1.03	FM	Soundblaster
Earl Weaver Baseball 2	Electronic Arts		MT32	Roland
Super Tetris	Spectrum Holobyte		MT32	Roland and Soundblaster
The Summoning	SSI	1.00	MT32	Roland Lapc-1
Tree House	Broderbund		FM	Soundblaster
Zoo Keeper	Davidson		FM	Adlib
Living Books: The Tortus and the hare	Broderbund		GM	No Option
Bane of the Cosmic Forge	Sir-tech		FM	Soundblaster
Where in the USA is Carmen Sandiago	Broderbund	1.0	GM	Music- General Midi Digital-Soundblaster
The Animals CD	Software toolworls		GM	Windows Drivers
Shuttle	Origin		MT32	Roland MT32
Champions of Krynn	SSI		MT32	Roland MT32
Dennis Miller: That's News to Me	iLaugh		GM	Windows Drivers
Power Chords	Howling Dog Systems		GM	Windows Drivers
Audio View	Voyetra	1.5	GM	Windows drivers

V7-MIRAGE P-64

{ewc D2HTools, D2H_256Color, V7MIP64.BMP}

64 bit Windows-Accelerator

High-resolution Windows accelerator for top-level Windows performance.
Ideal for both professional (CAD, Graphics, DTP) and private applications.
Especially impressive: the board gives 50% more performance compared to 32 bit DRAM boards.

General Information:

State-of-the-art 64 bit graphics processor technology
Compatible to VGA, SuperVGA and VESA standards
TrueColor (16,77 million colors simultaneously) at 800 x 600 pixels, 72 Hz non-interlaced
HiColor (65.536 colors simultaneously) at 1280 x 1024 pixels, 75 Hz non-interlaced
- other video modes, see below
Powersaving via VESA Poewermanagement support (DPMS, only in connection with a corresponding monitor)
EPA Green PC Support
State-of-the-art PCI and VL bus design
Documentation in 4 languages
Made in Europe for SPEA
3 Jahre guarantee

Hardware:

S3 Vision864 (PCI or VL-Bus) graphics processor with the following characteristics:

- 64 bit graphics processing
- 64 bit internal memory access
- Industry standard local bus support
- Hardware graphics cursor
- Hardware with Bit-Block-Transfer (BitBLT)
- Hardware clipping
- Line Draw + Image transfer
- 32 bit PCI Version 2.0 compatible
- 32 bit VESA local bus interface

Display memory: (DRAM) 2 Mbyte
Serial EEPROM for extended video modes
VESA-compatible Feature connector

Software:

Extensive SPEA Superdisk (software) see current software
Menu driven installation software in 4 languages
User-friendly configuration tools

Software drivers available: see Supported applications
Software updates per modem via SPEA Mailbox

V7-STORM PRO

{ewc D2HTools, D2H_256Color, V7STORM.BMP}

The V7-STORM PRO is the ideal solution for all professionals who cannot afford to compromise when it comes to TrueColor processing and resolution. With this high-end Windows accelerator, you can achieve TrueColor mode at a resolution of 1280 x 1024 pixels. The V7-STORM PRO incorporates the Weitek graphics processor Power 9100 and has 4 Mbyte VRAM image memory.

The maximum resolution of the V7-STORM PRO ranges to 1600 x 1200 pixels with 256 colours and HighColor (65,526 colours), with an ergonomic 75 Hz image refresh rate. The maximum image refresh rate is 100 Hz. TrueColor portrayal with 1280 x 1024pixels satisfies even the most exacting standards, at an ergonomic image refresh rate of 80 Hz. The card is available for PCs with a PCI bus (version 2.0) or VESA local bus.

As it is excellent value for money, the V7-STORM PRO will appeal to a broad market for high-end applications in the DTP, CAD and image processing sectors: with its performance, it is particularly suitable for image processing up to 1280 x 1024 pixels and for complex CAD and graphics applications up to 1600 x 1200 pixels.

General Information:

State-of-the-art 64 bit graphics processor technology
Compatible to VGA, SuperVGA and VESA standards
TrueColor (16,77 million colors simultaneously) at 1280 x 1024 pixels, 60-90 Hz non-interlaced
HiColor (65.536 colors simultaneously) at 1600 x 1200 pixels, 65-80 Hz non-interlaced
Powersaving via VESA Powermanagement support (DPMS, only in connection with a corresponding monitor)
EPA Green PC Support
State-of-the-art PCI and VL bus design
Documentation in 2 languages
Made in Europe for SPEA
3 Jahre guarantee

Hardware:

Weitek P9100 (PCI or VL bus) VRAM high-performance graphics processor with the following characteristics:

- 64 bit graphics processing
- 64 bit internal memory access
- 64-Bit RAMDAC Support up to 200 Mio. pixel/s
- Industry standard local bus support
- Hardware graphics cursor
- Hardware with Bit-Block-Transfer (BitBLT)
- Hardware clipping
- Line Draw + Image transfer
- 32 bit PCI Version 2.0 compatible
- 32 bit VESA local bus interface

4 MByte VRAM (VideoRAM)
IBM 525, 220 MHz RAMDAC, enabling refresh rates of at least 75 Hz in every display mode
Serial EEPROM for extended video modes
VESA-compatible Feature connector

Software:

Extensive SPEA Superdisk (software) see current software
Menu driven installation software in 4 languages
User-friendly configuration tools

Software drivers available: see Supported applications
Software updates per modem via SPEA Mailbox

Video Modes

Resolution	Colors	Line Frequency (kHz)	Refresh Rate (Hz, ni)
640 x 480	256	31,5 - 52,5	60 - 100
640 x 480	64k	31,5 - 52,5	60 - 100
640 x 480	16,7 mill.	31,5 - 52,5	60 - 100
800 x 600	256	37,9 - 64,0	60 - 100
800 x 600	64k	37,9 - 64,0	60 - 100
800 x 600	16,7 mill.	37,9 - 64,0	60 - 100
1024 x 768	256	48,4 - 80,9	60 - 100
1024 x 768	64k	48,4 - 80,9	60 - 100
1024 x 768	16,7 mill.	48,4 - 80,9	60 - 100
1280 x 1024	256	64,0 - 95,9	60 - 90
1280 x 1024	64k	64,0 - 95,9	60 - 90
1280 x 1024	16,7 mill.	64,0 - 79,1	60 - 75
1600 x 1200	64k	...	65 - 80

V7-MIRAGE P-32

{ewc D2HTools, D2H_256Color, V7MIP32.BMP}

The Trio32 Board

High-resolution accelerator for Standard Windows Applications.
Ideal for both professional and private applications.

General Information:

32 bit graphics processor technology
Compatible to VGA, SuperVGA and VESA standards
TrueColor (16,77 million colors simultaneously) at 640 x 480 pixels, 60 Hz non-interlaced
HiColor (65.536 colors simultaneously) at 800 x 600 pixels, 75 Hz non-interlaced
- other modes, see below
Powersaving via VESA Powermanagement support (DPMS, only in connection with a corresponding monitor)
EPA Green PC Support
State-of-the-art PCI bus design
Documentation in 4 languages
Made in Europe for SPEA
3 years guarantee

Hardware:

S3 Trio32 (PCI bus) graphics processor with the following characteristics:

- 32 bit graphics processing
- 32 bit internal memory access
- Industry standard local bus support
- Hardware graphics cursor
- Hardware with Bit-Block-Transfer (BitBLT)
- Hardware clipping
- Line Draw + Image transfer
- 32 bit PCI Version 2.0 compatible

1 MByte DRAM
Optional:
VESA DDC Monitor Communications Support

Software:

Extensive SPEA Superdisk (software) see current software
Menu driven installation software in 4 languages
User-friendly configuration tools

Software drivers available: see Supported applications
Software updates per modem via SPEA Mailbox

Video Modes:

Resolution	1 MB	max. Dotclock (Mhz)	Line Rate (KHz)	Vertical Refresh (Hz)
640 x 480 x 256	x	40	48	90 ni
640 x 480 x 64K	x	40	48	90 ni
640 x 480 x 16.7M 24b	x	25	31	60 ni
800 x 600 x 256	x	50	48	75 ni
800 x 600 x 256	x	72	64	100 ni
800 x 600 x 64K	x	50	48	75 ni
1024 x 768 x 16	x	80	60	75 ni

1024 x 768 x 256	x	80	60	75 ni
1152 x 870 x 256	x	80	62	70 ni
1280 x 1024 x 16	x	135	78	75 ni

SPEA SHOWTIME PLUS

{ewc D2HTools, D2H_256Color, V7SHOWT.BMP}

High-Performance Multimedia Accelerator with an integrated MPEG-1 Decoder

MPEG-1 and Video Playback in TrueColor and high Resolution
Support for next Generation Games
Film Playback in VideoCD™ Format
High-resolution Graphics Acceleration
Live Video Input (PAL, NTSC / S-VHS and Composite Video) and Video Digitalizing (Single Frame or Video Sequences)
SPEA MediaStation: intuitive and simple to use Video Control Software
PCI 2.0 or VL-Bus Board
DPMS Power-Management
Simple, Jumperless Installation (Feature Connector not needed)

Hardware Features

- 1280 x 1024 pixels at 256 colors and an ergonomic refresh rate of 75 Hz
- 1024 x 768 pxels at High Colour (16 bits - 65536 colors) at 75 Hz refresh rate
- 800 x 600 pixels at True Colour (24 bit - 16.7 million colors)
- Tseng W32p graphics processor with BitBLT, clipping and graphics cursor
- 2 MB DRAM and 135 MHz RAMDAC
- PCI 2.0 or VL-Bus
- VESA DPMS PowerManagement

MPEG Video
- MPEG 1 standard digital video playback
- High Colour / True Colour playback
- Guaranteed frame rate of 30 fps (NTSC) or 25 fps (PAL)
- Output 16 x 16 up to 720 x 576 pixels, scalable, fullscreen or in a window

Audio
- 16-Bit Stereo, 44,1 kHz
- MPEG Audio Layer I and II
- Line Output to 3.5 mm stereo jackplug for connection to active loudspeakers or a sound board

Live Video Input
- Y/C or Composite Video Input (PAL, NTSC)
- S-VHS Video Input socket
- Output in Realtime (30 fps, NTSC, 25 fps PAL)
- Output 16 x 16 up to 720 x 576 pixels, scalable, fullscreen or in a window
- For external video sources: TV Tuner, Videorecorder (VCR) or Camcorder

Video-Skalierung and -Beschleunigung
- Scaling of digital video such as MPEG or Video for Windows and live video
- Tseng Viper video processor for interpolation scaling
- Output mixed or fullscreen (according to VGA mode) from 16 x 16 up to 720 x 576 software scalable
- Realtime output and maximum frame rate from any analogue or digital source
- High quality scaling with interpolation in both X and Y directions
- Graphics window can overlap during playback (key bit)

SPEA Movie Bus
- Bidirectional digital Video Bus
- TrueColor transfer at maximum resolution

- Enables connection of hardware codecs, e.g. a Motion JPEG compression board

Software-Eigenschaften

- SPEA Superdisk see ~~current software~~ with
- Microsoft Windows 3.1x driver
- Drivers for Video for Windows
- MCI Windows driver for MPEG audio and video
- VideoCD driver for DOS and Windows
- Driver configuration
- SPEAenergy power management software
- SPEA MediaStation intuitive and simple control software
- OS/2 drivers for graphics

- Optional Driver Software:
  - WindowsNT
  - AutoCAD
  - 3D-Studio
  - MicroStation

Software Drivers available: siehe Applications Supported
Software Updates per Modem: SPEA Mailbox

System Requirements

IBM 386 or better (or other 100% compatible)
4 MB RAM
DOS 5.0 or higher
Microsoft Windows 3.1x
1 free PCI or VL slot

Compatibility

- 100% compatible to VGA, SVGA and VESA standards
- Compatible to ET 4000

Video Modes

Resolution	Colors	Line Freq. (kHz)	Refresh Rate (Hz)	Modes with Video Playback
640 x 480	256	31,5 - 48,0	60 - 90	
640 x 480	65.536	31,5 - 48,0	60 - 90	x
640 x 480	16,7 mill..	31,5 - 48,0	60 - 90	x
720 x 576	16,7 mill..	45,0	75	x
800 x 600	256	37,9 - 57,9	60 - 90	
800 x 600	65.536	37,9 - 57,9	60 - 90	x
800 x 600	16,7 mill..	37,9 - 45,3	60 - 92	x (up to 60 Hz refresh rate)
1024 x 768	256	49,0 - 60,3	60 - 75	
1024 x 768	65.536	49,0 - 59,5	60 - 75	x
1280 x 1024	256	64,4 - 79,8	60 - 75	

SPEA PLAY IT

{ewc D2HTools, D2H_256Color, V7PLAYIT.BMP}

MPEG and Video Playback Add-on ISA-Board

- **MPEG Video and Audio Decompression Hardware**
- **MPEG, VideoCD playback at fullscreen or a window**
- **Hardware accelerated scaling and interpolation**
- **65536 colours up to 1024 x 768 bpp with 75 Hz refresh rate**
- **Feature Connector and VGA Loop through connectors**
- **Simple, jumperless installation**
- **ISA bus add-on board**

Hardware

Video scaling and acceleration
Trident TVP 9510 video processor for hardware accelerated scaling and interpolation of digital videos
Display resizeable to full screen or a window
Support of foreground windows on overlapping video playback
High quality scaling through interpolation in X and Y direction

MPEG Video
Full compliance with MPEG-1 standard
High quality playback with 65536 colours (High Colour) up to 1024 x 768 pixels
30 fps (NTSC), 25 fps (PAL) frame rate

Audio
Audio-playback with 16-bit Stereo and 44.1 kHz sampling rate
MPEG audio layer I and II
Audio out to 3.5 mm mini phone jack

SPEA Movie Bus
True Colour Digital Video Bus
External Hardware Interface, e.g. for the SPEA CRUNCH IT, the SPEA MJPEG compression board

Display Modes
Depends on the installed graphics board

Resolution	Colours	Refresh Rate
640 x 480	65.536	up to 100 Hz
800 x 600	65.536	up to 100 Hz
1024 x 768	65.536	up to 75 Hz

Software

SPEA Superdisk with:
Driver for Video for Windows
MPEG MCI Windows driver
SPEA MediaStation easy to use control software
SPEA PlayTune easy to use display optimizing software

Extensive SPEA Superdisk (software) see current software
Menu driven installation software in 4 languages
User-friendly configuration tools

Software drivers available: see Supported applications
Software updates per modem via SPEA Mailbox

System requirements

IBM 386 or better or 100% compatibles
4 MB RAM
DOS 5.0 or higher
Microsoft Windows 3.1 or higher
1 free ISA slot
A recommended SPEA VGA graphics board, see: SPEA compatiblity list for the SPEA PLAY IT

Service & Support

3 years warranty
free software updates via SPEA BBS or CompuServe
Technical support through SPEA Expert Line

Compatibility List for the SPEA PLAY IT with SPEA Graphics Boards

Resolution	**VEGA**	**VEGA**	**VEGA**	**VEGA PLUS**	**VEGA PLUS**	**VEGA PRO**	**VEGA VIDEO**	**MIRAGE**	**MIRAGE**	**MIRAGE**	**MIR**
BUS Version	ISA	ISA	VL	PCI	VL	PCI	PCI	ISA	ISA	VL	VL
BIOS Version	2.00I	4.00I	3.00 4.00	1.16	1.04	5.2	5.04	4.04b	4.10 rev.11A01	GENDAC 5.01, 5.02	CHI BIO
640*480*256	60	60, 72	60	60, 72, 75	60, 72, 75	60, 75	60, 72, 75	60, 73, 86, 91	-	60, 72, 86	60,
800*600*256	56, 60, 70	56, 60, 70	56, 60, 72	56, 60, 72, 75	56, 60, 72, 75	60, 75	56, 60, 72, 75	57, 61, 70	-	61, 72	60,
1024*768*256	60, 70, 72	60, 70	60, 70, 72	60, 70	-	60, 70, 75	-	60, 70, 71, 72	-	-	60,

Resolution	**MIRAGE P-64**	**MIRAGE P-64**	**MIRAGE P-64**	**MIRAGE P-64**	**MERCURY**	**MERCURY Lite**	**MERCURY PRO**
BUS Version	PCI	VL	PCI	PCI	ISA	PCI	ISA
BIOS Version	3.06 AT&T	3.04 AT&T	4.02 SDAC	5.02 Trio 64	4.01	1.03	
640*480*256	60, 73, 86, 100	60, 73, 86, 100	61, 73, 86, 100	61, 72, 75	60, 73, 86, 100	60, 73, 86, 91	60, 73, 85
800*600*256	61, 73	61, 73	61, 73	56, 60, 72, 75	-	57, 61, 73, 91	-
1024*768*256	60, 72, 76	-	-	60, 72, 75	-	60, 71, 76	-

Not compatible are: Storm Pro, Vega Pro VL, Mercury VL,Mirage P64 Trio (Bios 5.0x) VL, Mirage ISA BIOS 4.10
VGA mode only Mercury P-64 PCI,

- : at this resolution video playback is not possible
: resolution with minor quality reduction (jitter, color key visible..)
The number at the table indicates the refresh rate at the specific resolution.
Between BIOS subversions of a board (e.g. 4.xx and 4.yy), generally no difference in the function appear.
The SPEA PLAY IT runs with VRAM boards only at standard VGA Mode.

SPEA CRUNCH IT

{ewc D2HTools, D2H_256Color, V7CRUN2.BMP}

Digital 'Videorecording' with MJPEG Realtime Compression

The SPEA CRUNCH IT board is one of the first digital video recording boards that can offer excellent quality recordings. The board offers data compression and decompression in the Motion JPEG format and transforms your PC into a high-quality video studio. Recording animations and video clips as well as professional off line video editting are simple with this product. A number of professional multimedia applications can also be used with the SPEA CRUNCH IT.

The SPEA CRUNCH IT integrates the Zoran M-JPEG Codec which compresses images in realtime in the M-JPEG format. The realtime digitalizing (encoding) of images from virtually any video input signal source (such as a VCR or Laserdisk) in PAL or NTSC format is conducted in TrueColor. The size of the digitalized images can be changed and stretches from 320x240 pixels for NTSC resolution up to 768x576 for PAL. The SPEA CRUNCH IT has two video inputs (SVHS and Composite) and two outputs. YUV format 4:2:2 is available.

Compression rates up to 20:1 can be set and changed to enable compression either without quality loss or at high speed, according to the demands of the user. The compressed video sequences which are saved onto the hard disk can be processed as required. A special feature of the SPEA CRUNCH IT is the variable setting of the datastream (up to 128k/sec.) which enables the user to avoid so-called 'JPEG peaks'.

The compressed images or video sequences that have been processed by the custom SPEA interface software can be transferred to a VCR (video recorder) or television via the video out connections. In addition to this - and this is a special feature of the SPEA CRUNCH IT - it is possible to pass the data to an installed SPEA SHOWTIME PLUS board via the digital SPEA Movie Bus and to display it on the PC monitor in this way or to process it there.

The SPEA CRUNCH IT can be used with all the standard editting software systems such as Adobe Premiere, Splice etc.

Important! - In order to replay these demo files, you must have already installed MPEG player software (e.g. XING) or hardware.

Technical Data

- **TrueColour Realtime Video Digitizer**
- **Full PAL or NTSC frame rate (25 resp. 30 frames per second)**
- **Resolutions up to 768x576 (PAL) or 640 x 480 (NTSC)**
- **Standard YUV format (4:2:2)**
- **Variable compression rate**
- **Variable data stream to hard disk**

- **3 x Video In (Y/C, Composite)**
- **2 x Video Out (Y/C, Composite)**
- **SPEA MovieBus**

Hardware

- ZORAN ZR 36050/055 Motion JPEG Controller
- Realtime digitalizing in YUV format
- Display format variable from 320 x 240 to 768 x 576
- Digitalizing at full frame rate, i.e. with
- 50 half-frames (25 frames) with PAL and
- 60 half-frames (30 frames) with NTSC
- Video inputs
  2 Composite Video (FBAS)
  1 Y/C (S-VHS, Hi8)
- Video outputs
- Monitoring during digitalizing
- Output of MJPEG sequences to video
- Outputs:
  1 Composite (FBAS and
  1 Y/C (S-VHS, Hi-8)
- SPEA Movie Bus (YUV-Bus) for video data transmission to the SPEA Showtime Plus and other multimedia boards with the SPEA Movie Bus
- Variable compression rates from 1:8 to 1:100 at full resolution
- Bit rate control for constant data streams without JPEG peaks
- Brightness, contrast and focus etc. correction possible

Software

- Software Dynamics Video Maestro video editting software, incl. title generator and morphing module
- CeQuadrat Pixelshrink MPEG-1 encoding software
- Compatible to common video editting software, e.g. Adobe Premiere
- Driver for Video for Windows and Video for Windows® 95

Extensive SPEA Superdisk (software) see current software
Menu driven installation software in 4 languages
User-friendly configuration tools

Software drivers available: see Supported applications
Software updates per modem via SPEA Mailbox

V7-VEGA VIDEO

{ewc D2HTools, D2H_256Color, V7VEGVID.BMP}

32-Bit TrueColour Video and Graphics Acceleration

High Resolution	**1024 x 768 Graphics Resolution with 256 colors**
	1024 x 768 TrueColor Video Playback
High Performance	**32-Bit Avance ALG2302 chip set**
	VideoWizard ALG1301 Video Accelerator
High Flexibility	**Playback of all popular Video Formats**
	MPEG- and AVI compatible
High Functionality	**Integrated Video Playback**

Important! - In order to replay these demo files, you must have already installed MPEG player software (e.g. XING) or hardware.

Video Features

- Video acceleration for Multimedia (up to 30 fps)
- Video acceleration with True Color at 1024 x 768 possible
- ALG1301 VideoWizard (110 MHz CLKDAC)
- Playback of all popular video formats
    - MPEG
    - Motion JPEG
    - Video for Windows
    - CinePack
    - Indeo
    - QuickTime for Windows
- Video-CD Plug and Play
- Integrated Multimedia Hardware Support
    - Colour palette conversion
    - Soft scaling
    - Horizontal Zoom

Hardware Features

- High-resolution graphics accelerator
- 1 MByte DRAM video memory
- 16,7 mill. colours at 640 x 480 pixels and 60 Hz
- Flicker-free 75Hz at 1024 x 768 pixels and 256 colours
- PCI 2.0 Bus version
- Avance ALG2302 graphics processor
    - 24 bit graphics processing
    - Hardware graphics cursor
    - Hardware-Bit-Block Transfer (BitBlt)

- Hardware supported line drawing and polygon fills
- EPA Green PC Support
- VESA Power management (DPMS)
- compatible to VGA, SuperVGA and VESA standards

Software:

Extensive SPEA Superdisk (software) see current software
Menu driven installation software in 4 languages
User-friendly configuration tools

Software drivers available: see Supported applications
Software updates per modem via SPEA Mailbox

Display Modes

Resolution	Colours	Refresh rates (Hz)
1024x768	256	75
1024x768	16	75
800x600	256	75
800x600	64K	60
800x600	16	75
640x480	16,7 mill.	60
640x480	64K	75
640x480	256	75

Compatibility

- compatible to VGA, SuperVGA and VESA standards
- DCI specification
- MPEG 1

Recommendations for Video Playback

- for 30fps: 486 processor, better: Pentium
- CD speed x2, better x4
- Windows 3.1
- Video for Windows 1.1D

V7- MERCURY P-64V

{ewc D2HTools, D2H_256Color, V7MEP64V.BMP}

64 bit TrueColour Video and Graphics Acceleration

High Resolution	**1280 x 1024 at 75 Hz**
High Performance	**64-Bit S3 Vision968**
High Flexibility	**2 MB VRAM upgradable to 4 MB**
High Functionality	**TrueColour acceleration**
	Integrated Video Playback

Hardware Features

- High-resolution graphics and video accelerator
- High-speed VRAMs implemented
- High-resolution, 1280 x 1024 pixels (256 colours) and 75 Hz
- TrueColour at 800 x 600 pixels and 90 Hz
- PCI 2.0 version
- S3 Vision968 high-performance graphics processor
    - 64-bit graphics processing
    - 64-bit video memory interface
    - Hardware graphics cursor
    - Hardware Bit Block Transfer (BitBLT)
    - Hardware supported Line Draw + Image transfer and filling of polygonen and ellipses
- Green PC Support - VESA Power management
- Prepared for DDC (Display Data Channel)
- Compatible to VGA, SuperVGA and VESA standards

- Integrated hardware multimedia support
  - scaling and acceleration for Video for Windows (Indeo, CinePak)
  - bilinear scaling for an video image up to 4 times larger
    (e.g. at 2 MB VRAM up to 1024 x 768 pixels and 64k colours)
  - Dithering
  - Colour palette conversion

Software:

Extensive SPEA Superdisk (software) see current software
Menu driven installation software in 4 languages
User-friendly configuration tools

Software drivers available: see Supported applications
Software updates per modem via SPEA Mailbox

- Documentation in 4 languages

Additional SPEA ergonomic display modes

Resolution 1 MB	2 MB	Colours	Horizontal freq. (kHz)	Refresh rate (Hz ni)
640 x 480	640 x 480	256	48	90
640 x 480	640 x 480	64 K	48	90
640 x 480	640 x 480	16,7 mio.	38	73
-	640 x 480	16,7 mio.	50	95
800 x 600	800 x 600	256	58	90
800 x 600	800 x 600	64 K	38	60

-	800 x 600	64 K	64	100
-	800 x 600	16,7 mio.	48	72
1024 x 768	1024 x 768	256	60	75
-	1024 x 768	256	81	100
-	1024 x 768	64 K	64	80
1152 x 870	1152 x 870	256	64	70
-	1152 x 870	256	77	86
1280 x 1024	1280 x 1024	16	64	60
-	1280 x 1024	256	78	75

FIRE GL

{ewc D2HTools, D2H_256Color, FIRE.BMP}

High-end 3D CAD Board with the Dual-Processor Concept

SPEA Software AG continues its high-end 3D graphic boards success story with a new chapter. Despite the leading presence of SPEA in the mass market of Windows graphics and multimedia boards, SPEA - which grew up in the market of professional high-end boards - has pushed ahead with its developments in this professional sector too. After the success of the i860-based SPEA FIRE board for ISA systems which enjoyed a product lifetime three times longer than that of comparable boards and has come to be the most successful 3D graphics adapter, SPEA has now introduced the new SPEA FIRE GL. The advanced high demands on the host PC are now available on the market: faster and more powerful PC's. SPEA's experience in the fields of complex electronic components and hardware technology in the 3D field have been effectively put to use at the top end of the PC graphics system performance spectrum.

The SPEA FIRE GL is based on a dual-processor concept which uses two of the currently most powerful chips available on one board. The board is thus predestined for demanding high-end 2D and 3D CAD applications, for the fields of architecture, DTP, rendering, simulation, animation and visualization, i.e. for both the horizontal and vertical markets. The SPEA FIRE GL integrates one of the fastest 64 bit VRAM Windows accelerators (the Vision 968 from S3) and the GLiNT 300SX from 3D Labs, a special processor designed for CAD applications which has an extremely high vector graphics performance. The user therefore profits from both fields; the calculation and processing of graphics data and the display of the same under a GUI.

Not just the dual processor concept is new; the PCI bus is also used as a data highway with virtually no limitations on data transfer. Whereas the previous FIRE board and VGA board were physically separate units, the FIRE GL links the two processors (Vision968 and GLiNT) via an internal high-speed bus.

The SPEA FIRE GL is not just a high-performance board for CAD and 3D applications, it is also well-suited to demanding Windows applications - a big advantage for the FIRE GL when you consider that CAD under Windows is a current trend for the future. Even OS/2, Windows NT and Windows 95 users will profit from this new board.

The highly complex GLiNT 300SX chip which serves as a co-processor was especially developed for 3D CAD applications and is also used in workstations. It combines 3D graphics acceleration in workstation quality and high-level 2D performance. Its 64 bit pipeline architecture is the central 3D processing unit of the FIRE GL and accelerates all 3D rendering operations including flat and Gouraud shading, Z buffering, antialiasing and alpha blending.

The SPEA FIRE GL also offers other new features over the previous FIRE board due to the use of S3's Vision968 chip and 8 MB VRAM. The Vision968 is a VRAM-based multimedia accelerator for video and graphics output. This 64 bit processor offers, amongst other things, general graphics acceleration operations such as BitBlock transfer and rectangle fills. The Vision968 can handle two 32 bit operations, four 16 bit operations or eight 2 bit operations in just one clock cycle. All in all it has a powerful architecture and extremely fast video memory access.

Resolutions up to 1600x1200 pixels and TrueColor at 1280x1024 with hardware-supported double-buffering are enabled. The CAD users especially will appreciate the use of the double-buffering system: using two memories the image display is built up in the background and thus enables a fast transition from one image to another - a vital factor for the smooth flow of images during animation sequences.

To add to this, the FIRE GL can use from 8 MB to 12 MB local DRAM for special onboard data handling which is necessary to give the high performance needed for texture-wrapping, rendering or raytracing.

The Windows aspect of the FIRE GL is covered by the Vision968 chip. The board is compatible to all the corresponding standard software drivers and enables the use of drivers which are the product of a long-term co-operation between SPEA and S3. The use of this new high-end board also opens the door to numerous standard software interfaces such as HOOPS and 3DR via the compatibilty of the FIRE GL to OpenGL.

The decisive advantage of the board is SPEA's software: SPEA's own interface software SP3D is put to use with the FIRE GL. All the software tools and drivers which were available for the FIRE board until now can also be used with the FIRE GL; including software such as BigFocus for AutoCAD, BigMicro for MicroStation and the SPEA 3D-World software package. A large number of applications from other vendors - such as those offered by Vibrant - which are based on SP3D can also be used with this board. The integration into the wide world of CAD is perfect.

Technical Data

The Complete Solution for demanding CAD, Visualisation and Animation
Top Functionality
- **Windows/Windows NT/Windows® 95 Support**
- **Tuned for the most popular CAD applications**

Leading Edge Hardware Technology
- **Dual processor 2D and 3D Graphics System**
- **PCI bus Support**

High performance Graphics
- **State-of-the-art GUI Accelerator**
- **3D Rendering Coprocessor**

Hardware - 3D Acceleration

- 3Dlabs GLINT 300SX Rendering Processor
- 64-bit hyper-pipelined architecture
- 300K Gouraud shaded, depth buffered triangles/s
- Fast frame buffer and Z-buffer clear
- Anti-aliasing
- Supports advanced modes : double-buffering, stereo and overlays
- Accelerates OpenGL, HOOPS, SP3D and other 3D API´s
- 8 Mbyte local Memory - expandable to 12 Mbyte
- Point, line, rectangle and
- polygon primitives in Hardware
- Vertex level interface

Hardware - 2D Acceleration

- 64-bit S3 Vision968 GUI Accelerator
- 220 MHz Pixelclock
- 8 Mbyte high speed Video memory (VRAM)
- Multimedia ready through S3 Multimedia extensions
- Integrated Video Acceleration

Software & Miscelleanous

- 100 % OpenGL compatible
- SPEA 3D Software drivers for AutoCAD and MicroStation
- Third party applications based on SP3D
- GUI Support : Windows 3.1, Windows 95 and Windows NT
- Multi-lingual documentation

- Software Updates via SPEA BBS or CompuServe
- 3 years warranty

Video Modes

Resolution	Colors	Line Frequency (KHz)	Refresh Rate (Hz)
640 x 480	256 / 64k / 16.7 mill.	31,5 - 84,0	60 - 160
800 x 600	256 / 64k / 16.7 mill.	37,9 - 114,6	60 - 160
1024 x 768	256 / 64k / 16.7 mill.	48,4- 129,4	60 - 160
1280 x 1024	256 / 64k / 16.7 mill.	65,0 - 127,0	60 - 120
1600 x 1200	256 / 64k	76,5 - 104,9	60 - 82

SPEA MEDIA XTC

{ewc D2HTools, D2H_256Color, MEDIAXTC.BMP}

High-Quality WaveTable Soundboard

Wavetable technology for natural sounds
128 Wavetable sounds, 32 simultaneous voices, 16 individual MIDI channels
4 MB Wavetable sounds, compressed in 1 MB ROM
Simultaneous playback of two 16 bit stereo samples
Simultaneous recording and playback of one 16 bit stereo sample each
Simultaneous playback of 16 bit stereo samples and MIDI sounds
16 bit stereo sampling and playback with up to 44,1 kHz sampling rate
General MIDI, SoundBlaster™ 2.0, V7-media fx, Soundscape, MT32™, MPU 401 and MPC 3 compatible
Plug & Play, simple, jumperless installation

Hardware

Professional Multimedia
16 bit A/D and D/A conversion
Sample rate of 11 kHz up to 44,1 kHz
Simultaneous playback of two 16 bit stereo samples
Simultaneous recording and playback of one 16 bit stereo sample each
Simultaneous playback of 16 bit stereo samples and MIDI sounds
General MIDI and MPC 3 compatible
Interrupt-free recording and playback
TV tuner internal audio input

Professional Music
128 ENSONIQ® Wavetable sounds
32 simultaneous voices
Natural, instrument specific sound progression (ADSR)
Variable tremolo (LFO, 0...30 Hz)
16 individual variable MIDI channels
Industrial standard UART MIDI interface
General MIDI compatible
4 MB Wavetable sounds, compressed in 1 MB ROM

Entertaining Games
Soundblaster, MT 32, ENSONIQ® Soundscape and General MIDI compatible
Joystick connection

V7-midi box - Optional
External MIDI adapter for SPEA Media XTC and compatibles
MIDI IN and OUT connections, 2 Joystick connections
Incl. 2 MIDI cable and adapter box
SPEA XTC, V7-media fx, Sound Blaster, Sound Blaster Pro compatible

Software

Extensive Windows Software Package
Midisoft Recording Session Plus™
Midisoft Recording Session is a sequencer program, with which you can interactively compose. This means that you can record and replay MIDI notes in realtime whilst simultaneously displaying the notes. In addition, you can integrate digital voices or instruments as WAVE files in MIDI songs.

Audiostation™
Audiostation transforms your PC into a stereo system. You can set up mixer channels, play songs from your CD-ROM drive and record or play .WAV, .VOC and MIDI files with perfect sound quality.

WinDAT™
Windows Digital Audio Transport (WinDAT) is a Windows application used to record, edit and playback digital audio files.

MIDI Orchestrator™
You can use the MIDI Orchestrator to record MIDI files and play them back via the SPEA Media XTC with very natural sound and top quality.

SuperJAM! Jr.™
The simplest way to create professional music Different musical styles with fantastic rhythms can be composed in an incredibly simple way. SuperJAM! Jr. allows you to play music without even picking up an instrument !

Technical Specifications

Digital Recording and Playback:

Sampling rates:	44.1 Hz, 22.05 kKz, 11.025 kHz
Sampling depth:	16 and 8 bit linear serial Sigma-Delta mono or stereo up to the maximal sampling rate

Stereo Mixer:

Inputs:	Synthesizer output, PCM output, CD Line external input , CD Line internal input , TV Tuner internal input, Modem internal input, microphone input
Output:	Line out to 3.5 mm jackplug
Volume control:	0 dB up to -62 dB in 2 dB steps, variable by software
Freq. range:	20 - 20.000 Hz +/- 1 dB
Signal-to-noise:	>85 dB

MIDI Synthesizer:
Wavetable Synthesizer from ENSONIQ®
128 Ensoniq Wavetable Sounds
32 simultaneous voices
16 MIDI simultaneous channels, individually variable
4 MB compressed sounds in 1 MB ROM

MIDI/Joystick Port:
MIDI Interface (optional V7-midi box with MIDI In and Out) and IBM Standard Joystick Port

Compatibility:

V7-media fx
Soundscape
Sound Blaster™
General MIDI
MT 32
MPU 401
DOS/Windows™ 3.1 and Windows® 95
MPC 3

System Requirements:

IBM 386 or higher (or 100% compatible)
4 MB RAM
1 ISA slot (16 Bit)
DOS 6.0 or higher
Windows 3.1, Windows® 95 or higher

Service & Support

3 year warranty
No charge software updates via SPEA Mailbox or CompuServe
Technical support via SPEA ExpertLine

V7-MIRAGE VIDEO

{ewc D2HTools, D2H_256Color, MIRVIDEO.BMP}

The new modular High-Performance Multimedia Accelerator with an optional MPEG-Decoder Module

Features

- **High-Resolution Graphics-Acceleration up to 1280 x 1024, 75 Hz**
- **High Performance Graphics Accelerator with 2 MB EDO DRAM**
- **PCI Version 2.0 Bus**
- **DPMS Power Management**
- **Simple jumperless installation**
- **OPTIONAL MPEG Module Add-on:**
  TrueColour, High-Resolution Hardware
  MPEG Video and Audio Playback
  SPEA MovieBus

Important! - In order to replay these demo files, you must have already installed MPEG player software (e.g. XING) or hardware.

Hardware

1280 x 1024 pixels with 256 colours at 75 Hz ergonomic display mode
1024 x 768 pixels with High Colour (16 bit - 65536 colours) at 85 Hz display mode
800 x 600 pixel with TrueColour (24 bit - 16.7 mio. colours) at 85 Hz display mode
S3 Trio64V+ graphics processor & 135 MHz DAC
2 MByte EDO DRAM
32 bit PCI 2.0 Bus Version
VESA Power Management Support
Scaling of digital Video like MPEG or Video for Windows
hardware double buffering
Chromakey, Colorkey and Sprite support
supports MPEG software playback

Software

SPEA basic software:
Driver for Windows 95 and Windows 3.1x
SPEAview Displaymanagement Software
SPEAenergy Power Management Software
SPEAtune Monitorkonfigurations Software
SPEA MediaStation easy to use control software
NT and OS/2 graphics driver
optional available: BigFocus DOS/Windows: high performance displaylist driver for AutoCAD

OPTIONAL MPEG MODUL:
simple plug in MPEG hardware decoder:

S3 Scenic/MX2 Video/Audio Decoder
full compliance with MPEG-1 Standard
playback of VideoCD, Karaoke CD
True Colour Playback
30 fps (NTSC), 25 fps (PAL) sustained frame rate
Output 16x16 to 1024x768 resizable, fullscreen or in a window
Output in realtime and maximum framerate from any analog or digital source
High quality scaling
Support of foreground windows on overlapping video playback
Simultaneous display of graphics and video of different color depth

Audio
16-Bit Stereo, up to 44.1 kHz
MPEG Audio Layer I and II
Line level to 3,5 mm mini phone jack
Hook up to powered speakers or soundcard

SPEA Movie Bus
True Colour Digital Video Bus
External Hardware Interface, eg. Motion JPEG board

Additional Software for the MPEG Module
MCI Windows driver for hardware MPEG audio and video
CD Media Maestro LE presentation software
CD Media Styler SE Authoring Software
CD with MPEG Videoclips

System Requirements

IBM 486 or better or other 100% compatibles
4 MB RAM
MS Windows 95 or DOS 5.0 or higher and Windows 3.1x
1 free PCI Slot
No other active VGA or SVGA compatible graphics accelerator in the PC

Compatibility

100% compatible with VGA, SVGA and VESA Standard
White Book 2.0 / 1.1compatible
with MPEG Modul: MultimediaPC 3 compatible

Service & Support

3 years warranty
free Software updates via SPEA BBS and CompuServe (GO SPEA)
Technical support through SPEA Expert Line

Display modes

Resolution	Colours Line	Frequency (kHz)	Refresh Rate (Hz)	Modes with video (with optional MPEG Modul)
640 x 480	256	31.5 - 52.5	60 - 100	*
640 x 480	65.536	31.5 - 52.5	60 - 100	*
640 x 480	16.7 Mill	31.5 - 52.5	60 - 100	*
800 x 600	256	35.2 - 64.0	56 - 100	*
800 x 600	65.536	37.9 - 64.4	60 - 100	*
800 x 600	16.7 Mill.	37.9 - 56,6	60 - 85	*

1024 x 768	256	49.0 - 80.9	60 - 100	*
1024 x 768	65.536	49.0 - 68.7	60 - 85	*
1280 x 1024	256	64.4 - 79.8	60 - 75	

V7-MIRAGE VIDEO TV

{ewc D2HTools, D2H_256Color, MIRVIDTV.BMP}

The new modular High-Performance Multimedia Accelerator with TV-Receiver on-board and an optional MPEG Decoder

Starnberg, 16th October 1995. The SPEA V7-MIRAGE VIDEO TV for PCI bus computers is a high-performance multimedia board that combines a 64 bit, high-end graphics accelerator with essential multimedia features like video scaling and MPEG-1 hardware playback. It is therefore ideal for both professional and home multimedia applications - a compact component which enables a normal PC to be upgraded to a multimedia computer in accordance with the latest MPC3 specifications. Typical uses are VideoCD playback, interactive video games, multimedia presentations, interactive education systems and multimedia information and sales terminals. With this new multimedia board SPEA is targeting, in the first instance, the demanding home-user market.

The modularity of the SPEA V7-MIRAGE VIDEO TV is of particular interest and gives the user the choice of either buying the MPEG module at the same time as the multimedia accelerator, or purchasing just the basic board with high-resolution graphics accelerator as well as on-board TV tuner and live video input, and upgrading it when necessary with the hardware MPEG decoder.

Equipped with the latest S3 Trio64V+ graphics and video processor, the SPEA V7-MIRAGE VIDEO TV has 2MB EDO DRAM, and offers resolutions up to 1280 x 1024, egonomic refresh rates and high functionality with, for example TrueColor up to 800 x 600 resolution at a refresh rate of 75Hz and scaling of digital video such as MPEG or Video for Windows.

External video sources including video cameras or video recorders can be connected via the live video input. The output can be displayed scaled at resolutions from 16 x 16 up to 1024 x 768, full-screen or in a window, with 30fps NTSC or 25fps PAL.

The PAL TV tuner permits cable connections with Videotext on frequencies channel 2 (48.25 Mhz) to channel 69 (855.25 MHz).

The optional MPEG module is a plug-in hardware MPEG decoder and is integrated as the core of the Scenic/MX2 video/audio decoder from S3. It is specialised in scaled video playback, either fullscreen or in a scalable window, and, independently of the Windows resolution, in TrueColor. Furthermore, this decoder makes realtime MPEG playback possible with true 25 images/sec. in PAL format and 30 images/sec. for NTSC videos.

Using SPEA's realtime video digitizer - the SPEA CRUNCH IT - which can be connected direct to the SPEA V7-MIRAGE VIDEO TV using the bi-directional SPEA Movie-Bus, digital and MPEG-1 videos can be created. Direct control is via the SPEA V7-MIRAGE VIDEO TV.

The V7-MIRAGE VIDEO TV is, incidentally, a real "plug and play" board: it has neither jumpers nor feature connectors. In contrast with daughter boards that are combined with feature connectors, there are no problems with restricted resolution, colour depth and refresh rates.

Features

- **High-Resolution Graphics-Acceleration up to 1280 x 1024, 75 Hz**
- **High Performance Graphics Accelerator with 2 MB EDODRAM**
- **PCI Version 2.0 Bus**
- **DPMS Power Management**
- **Simple jumperless installation**
- **TV receiver on board**
- **Video In input**

- **OPTIONAL MPEG Modul Add-on:**
  TrueColour, High-Resolution Hardware
  MPEG Video and Audio Playback
  SPEA MovieBus

Hardware

High-Performance Graphics Accelerator
1280 x 1024 pixels with 256 colours at 75 Hz ergonomic display mode
1024 x 768 pixels with High Colour (16 bit - 65536 colours) at 85 Hz display mode
800 x 600 pixel with TrueColour (24 bit - 16.7 mio. colours) at 85 Hz display mode
S3 Trio64V+ graphics processor & 135 MHz DAC
2 MByte EDODRAM
32 bit PCI 2.0 Bus Version
VESA Power Management Support
Scaling of digital Video like MPEG or Video for Windows
hardware double buffering
Chromakey, Colorkey and Sprite support
supports MPEG software playback

Live Video In
Y/C Video Input (PAL, NTSC)
Output in realtime into graphics memory (30 fps NTSC, 25 fps PAL)
16x16 to 1024x768 resizable, full screen or window
to use with VCR or Camcorder

TV PALTuner
frequency range from channel 2 (48,25 MHz) to channel 69 (855.25 MHz)
reciver for cable and terrestrial TV with Teletext

Software

SPEA basic software:
Driver for Windows 95 and Windows 3.1x
SPEAview Displaymanagement Software
SPEAenergy Power Management Software
SPEAtune Monitorkonfigurations Software
SPEA MediaStation easy to use control software
SPEA Teletext Software
NT and OS/2 graphics driver
optional available: BigFocus DOS/Windows: high performance displaylist driver for AutoCad

OPTIONAL MPEG MODUL:
simple plug in MPEG hardware decoder:

S3 Scenic/MX2 Video/Audio Decoder
full compliance with MPEG-1 Standard
playback of VideoCD, Karaoke CD
True Colour Playback
30 fps (NTSC), 25 fps (PAL) sustained frame rate
Output 16x16 to 1024x768 resizable, fullscreen or in a window
Output in realtime and maximum framerate from any analog or digital source
High quality scaling
Support of foreground windows on overlapping video playback
Simultaneous display of graphics and video of different color depth

Audio

16-Bit Stereo, up to 44.1 kHz
MPEG Audio Layer I and II
Line level to 3,5 mm mini phone jack
Hook up to powered speakers or soundcard

SPEA Movie Bus

True Colour Digital Video Bus
External Hardware Interface, eg. Motion JPEG board

Additional Software for the MPEG Module

MCI Windows driver for hardware MPEG audio and video
CD Media Maestro presentation software
CD Media Styler LE Authoring Software
CD with MPEG Videoclips

System Requirements

IBM 486 or better or other 100% compatibles
4 MB RAM
MS Windows 95 or DOS 5.0 or higher and Windows 3.1x
1 free PCI Slot
No other active VGA or SVGA compatible graphics accelerator in the PC

Compatibility

100% compatible with VGA, SVGA and VESA Standard
White Book 2.0 / 1.1compatible
with MPEG Modul: MultimediaPC 3 compatible

Service & Support

3 years warranty
free Software updates via SPEA BBS and CompuServe (GO SPEA)
Technical support through SPEA Expert Line

Display modes

Resolution	Colours Line	Frequency (kHz)	Refresh Rate (Hz)	Modes with video (with optional MPEG Modul)
640 x 480	256	31.5 - 52.5	60 - 100	*
640 x 480	65.536	31.5 - 52.5	60 - 100	*
640 x 480	16.7 Mill	31.5 - 52.5	60 - 100	*
800 x 600	256	35.2 - 64.0	56 - 100	*
800 x 600	65.536	37.9 - 64.4	60 - 100	*
800 x 600	16.7 Mill.	37.9 - 56,6	60 - 85	*
1024 x 768	256	49.0 - 80.9	60 - 100	*
1024 x 768	65.536	49.0 - 68.7	60 - 85	*
1280 x 1024	256	64.4 - 79.8	60 - 75	

V7-MIRAGE P-64V TURBO

{ewc D2HTools, D2H_256Color, MIRP64TU.BMP}

64 bit TrueColour Video and Graphics Acceleration

High Resolution	**1280 x 1024 at 75 Hz**
High Performance	**64-Bit S3 Vision868**
High Flexibility	**2 MB EDO DRAMs on-board**
High Functionality	**TrueColour acceleration**
	Integrated Video Playback

Hardware Features

- High-resolution Windows accelerator
- Available as 2 MB version **(HighSpeed EDO DRAMs)**
- High-resolution, 1280 x 1024 pixels (256 colours) and 75 Hz
- TrueColour at 800 x 600 pixels and 72 Hz
- PCI 2.0 version
- S3 Vision868 high-performance graphics processor
    - 64-bit graphics processing
    - 64-bit video memory interface
    - Hardware graphics cursor
    - Hardware Bit Block Transfer (BitBLT)
    - Hardware supported Line Draw + Image transfer and filling of polygonen and ellipses
- Green PC Support - VESA Power management
- Prepared for DDC (Display Data Channel)
- VESA Feature Connector
- Integrated multimedia support
  - scaling and acceleration for Video for Windows (Indeo, CinePak)
  - bilinear scaling for an video image up to 4 times larger
    (e.g. up to 1024 x 768 pixels and 64k colours)
  - Dithering
  - Colour palette conversion

Software:

Extensive SPEA Superdisk (software) see current software
Menu driven installation software in 4 languages
User-friendly configuration tools

Software drivers available: see Supported applications
Software updates per modem via SPEA Mailbox

Additional SPEA ergonomic display modes

Resolution	Colours	Horizontal freq. (kHz)	Refresh rate (Hz ni)
640 x 480	256	48	90
640 x 480	64 K	48	90
640 x 480	16,7 mio.	38	73
640 x 480	16,7 mio.	50	95
800 x 600	256	58	90
800 x 600	64 K	38	60
800 x 600	64 K	64	100
800 x 600	16,7 mio.	48	72
1024 x 768	256	60	75

1024 x 768	256	81	100
1024 x 768	64 K	64	80
1152 x 870	256	64	70
1152 x 870	256	77	86
1280 x 1024	16	64	60
1280 x 1024	256	78	75

Compatibility

- Compatible to VGA, SuperVGA and VESA standards

V7- MERCURY P-64V ERGO

{ewc D2HTools, D2H_256Color, MERPERG.BMP}

64 bit TrueColour Video and Graphics Acceleration

High Resolution	**1600 x 1200 at 82 Hz**
High Performance	**64-Bit S3 Vision968**
High Flexibility	**2 MB VRAM upgradable to 4 MB**
High Functionality	**TrueColour acceleration**
	Integrated Video Playback

Preliminary Specifications

Hardware Features

- High-resolution graphics and video accelerator
- High-speed VRAMs implemented
- High-resolution, 1600 x 1200 pixels (HighColor) and 82 Hz
- TrueColour at 800 x 600 pixels and 160 Hz (2 MB)
- Video memory upgradable to 4 MB, making 16.7 million colors (TrueColor) at 1280 x 1024 and 120 Hz available.
- PCI 2.0 version
- S3 Vision968 high-performance graphics processor
    - 64-bit graphics processing
    - 64-bit video memory interface
    - Hardware graphics cursor
    - Hardware Bit Block Transfer (BitBLT)
    - Hardware supported Line Draw + Image transfer and filling of polygons and ellipses
- Green PC Support - VESA Power management
- Prepared for DDC (Display Data Channel)
- Conforms to CE standard
- Compatible to VGA, SuperVGA and VESA standards

- Integrated hardware multimedia support
  - scaling and acceleration for Video for Windows (Indeo, CinePak)
  - bilinear scaling for an video image up to 4 times larger
    (e.g. at 2 MB VRAM up to 1024 x 768 pixels and 64k colours)
  - Dithering
  - Colour palette conversion

Software:

Extensive SPEA Superdisk (software) see current software
Menu driven installation software in 4 languages
User-friendly configuration tools

Software drivers available: see Supported applications
Software updates per modem via SPEA Mailbox

- Documentation in 4 languages

Video Modes

Resolution	Colors	Horizontalfreq. (KHz)	Refresh Rate (Hz) ni

640x480	256/64k/16,7 mill.	38 - 84	72 - 160
800x600	256/64k/16,7 mill.	38 - 101	60 - 160
1024x768	256/64k	48 - 130	60 - 160
1024x768	16,7 mill.*	48 - 96	60 - 120
1280x1024	256/64k*/16,7 mill.*	65 - 127	60 - 120
1600x1200	256/64k*	76 - 105	60 - 82

* Only with 4 MB

SPEA 2085 MS Monitor

53 cm (20") Autoscan digitally controlled color monitor
For universal graphics use

Picture Tube
53 cm (20") Black-Trinitron-Farbröhre
0,31 mm pixel pitch (trio-pitch)
Active display area:
360 mm x 270 mm (W x H) - aspect ratio 4:3
343 mm x 274 mm (W x H) - aspect ratio 5:4
Fullscan
Antireflex coated surface

Resolution:
640 x 480 up to 1280 x 1024 pixels

Frequency Range:
Horizontal 29 - 85 kHz
Vertical 50 - 150 kHz

Connections:
5 x BNC (75 Ohm)

Mains Voltage:
90 - 132 VAC/198 - 264 VAC
50 - 60 Hz (automatic switching)

Controls:
On/Off switch, contrast, brightness, control function with LED display for:
- centering, image size, image distortion (horizontal cushion effect), convergence, color temperature (9300°, 6500° or 5000° Kelvin), Powersaving display

Ergonomics Certificates:
- TCO 1992
- TÜV Ergonomie
- MPR II
- ISO 9241-3

EMI:
- FCC Class A
- DOC Class B
- BZT Class B (VDE 0871 B)

Safety:
- IEC-950 (TÜV GS)
- UL 1950
- CSA C22.2 No. 950
- NEMKO
- DEMKO

Emission:
- PTB-Röntgenverordnung
- DHHS
- DNHW

Display Modes:
10 default preset display modes
10 user display modes

Delivery Scope:
Monitor, signal cables, mains cable, documentation in 5 languages

V7-SyncFix Package - Protecting your Investment in SPEA Fixed-Frequency Monitor

Are you or your customers still using a high-quality fixed frequency monitor from the SPEA GDM 1950 or GDM 1963 series?

Most manufacturers regard these as obselete and won't support them in connection with the latest generation of graphic boards. This is not the case with SPEA!

SPEA now offers the V7-SyncFix package as an optimal solution to obtaining more performance and functionality with Windows, AutoCAD or MicroStation 4.x and 5.x without you having to invest in a completely new system. The most costly component - your fixed-frequency monitor - with 1280 x 1024 pixels and refresh rates up to 75 Hz, can still be used with these applications. A combination using two modern V7-MERCURY P-64 graphics boards gives you access to the latest BigFocus AutoCAD display list driver, MicroStation 4.x and 5.x drivers and of course, Windows drivers. These have all been trimmed to operate efficiently with the SPEA-V7 hardware.

You're not only protecting your investment - you're also gaining more performance and functionality for the next years with the graphic boards of the next generation.

The V7-SyncFix package consists of:

- 2x V7-MERCURY P-64 boards
- V7-SyncFix Software, with
  - BigFocus driver for AutoCAD DOS, dual screen configuration
  - BigFocus driver for AutoCAD for Windows
  - BigMicro MicroStation 4.x and 5.x drivers, dual screen configuration
  - BigWin driver for Windows 3.x, 1280 x 1024 with 256 colors
  - Installation software
  - RGB cable, 15-pin Sub-D connector to 5xBNC
  - Documentation

Requirements:

SPEA GDM 1950 or SPEA GDM 1963 series monitor

Note:
The V7-SyncFix software is only available in the package described above!

3D-World - Your Software for the 3rd Dimension

3D-World is an additional software package for SPEA V7-MERCURY series boards. It includes:

- a 3D-Viewer for AutoCAD (DOS)
- a 3D-Viewer for AutoCAD for Windows
- a 3D-Viewer for MicroStation 5.0
- a Animations-Previewer for 3D-Studio

and contains an extended 3D functionality. 3

3D-World is intended for all CAD users with 3D requirements as can be found in the fields of architecture, construction and design, and for 3D-Studio users who are involved with product design or industrial film products (e.g. animated video clips).

3D-Viewer Examples: (FLIC-Files)

Note: FLIC files can only be played back if your display is using 256 colors

Features:

(1) 3D-Viewer for AutoCAD 12 (DOS/Windows) and MicroStation:
- Photorealistic 3D
- Extensive Online-Hilfe
- Completely inegrated in AutoCAD
- Creation of FLIC animations
- Realististic shading
- handles AutoCAD 12 constructions
- data manipulation via SPEA icons
- various shading possibilities: Flat, Gouraud or Phong
- Hidden line removal
- reads light sources from AutoCAD
- construction layers can be switched on or off within the 3D-Viewer
- return of data to AutoCAD
- display can be saved *.GIF- or *.PCX format files for later processing

(2) Animation Previewer for 3D-Studio:
- Animations can be checked during the design phase (up to 800 x 600 in TrueColor in Flat, Gouraud or Phong shading)
- Animation preview, in high-resolution and TrueColor (with light sources)
- High-speed rendering in HighColor and TrueColor (up to 800 x 600 in TrueColor)
- completely integrated in 3D-Studio - can also be started from the DOS prompt!

System Requirements:

- PC with 486 (33 Mhz) or Pentium processor
- 16 Mbyte RAM highly recommended
- SPEA graphics board from the V7-MERCURY series

Delivery Scope:

- 3D-Viewer software
- Animation previewer software
- Easy-to-use installation software
- Dongle (hardware lock)
- Documentation (English/German)

Updates will be made available via BBS.

3D-Win - 3D-Viewer under Windows

3D-Winis a part of SPEA's 3D-World software package. It is a 3D software package which runs under Windows and can be used for presentational purposes, for the visualisation and animation of construction data from AutoCAD or any other PC-CAD systems which can export files in DWG or DXF formats. SPEA 3D-Win is a compact stand-alone package which can be universally used, independant of SPEA graphic boards or AutoCAD and which can be run like any other Windows application. The software package can be used with most common Windows accelerator boards on the market.

3D-Win places all the features of the SPEA 3D Viewer at your disposal under Windows. Just as the 3D Viewer for DOS, 3D-Win is based on SP3D, SPEA's own software library for 3D applications. The user can quickly and simply manipulate data used in 3D constructions.

SPEA 3D-Win offers various shading possibilities for 3D constructions such as Flat, Gouraud and Phong shading. Online rotations on all 3 axes (X, Y and Z) can be executed by mouseclick without the need for additional peripheral equipment. Objects can be enlarged, reduced and moved at random. SPEA 3D-Win also allows layers to be switched on or off, light sources can be imported from the CAD application and the construction can be animated. It is also possible to create animation sequences with 3D-Win. This is done by defining a camera position and movement path. The movement of the camera along the path (WALK) can then be saved in a FLIC file and can later be played back using a FLIC player or other suitable animation programs.

The most important aspects of SPEA 3D-Win are the impressive and realistic 3D display of objects, the calculation and display (virtually in real time) and the extensive online help.

SP3D - The 3D Graphics Library by SPEA
SP3D - The future 3D API Standard

Starnberg/Munich, 7. Sept. 1994 - When it comes to 3D graphics for PCs, there is hardly a company on the international scene which has as much expertise and know-how as SPEA. A total of about 100 man-years concentrated 3D development research and work at the high tech companys location in Starnberg speak for themselves. The topline product from Southern Bavaria is the graphics library SP3D, which has yet to find a comparable competitor and is becoming increasingly popular with many international manufacturers.

The software library which was originally developed for the Intel i860-based SPEA Graphiti FIRE graphics board has now been ported onto Windows.

SP3D is currently the only high level API (Application Programming Interface) which not only spans the field of software (as a purely software solution, with a host-based software library) but also for which specific hardware implementations exist (e.g. SPEA Graphiti FIRE, 3D processor SPEA Sharc).

A constantly growing number of key-player companies are showing a great deal of interest in SPEAs SP3D as a support platform for their own products. Intels 3D graphics interface IGL for example, was developed on the basis of SP3D. Numerous CAD systems based on SP3D include software packages from companies such as Nemetschek, Ziegler Informatics, Tebis and Vibrant Graphics.

SP3D is constantly pushing forward into the new world of multimedia, especially in the fields of Virtual Reality and video games. Autodesk uses SPEA SP3D for the development of ist Cyberspace Development Toolkit program. Other SP3D users include Sense 8 - the manufacturer of the VR developemnt toolkit World Toolkit, VREAM with their VR development system VRCreator and MicroGreen with their VR development toolkit NAVIGATOR. Via companies such as these SPEA is present in a large segment of the Virtual Reality market because over 100 companies in the multimedia/games branch (from the USA to Japan and Singapore) use these toolkits for their products. "As a german manufacturer, we are proud to be able to set an international standard in both the professional CAD sector and the Virtual Reality market said Uli Seng, Director at SPEA Software AG.

Also significant is the fact that the US chip manufacturers have recognized the importance of SP3D. Our contractual partner Cirrus Logic is soon to be joined by other manufacturers in using SP3D. SPEA is currently in negociation with other chip manufacturers.

SP3D's Highlights

SPEA's in-house developed graphics library SP3D permits programmers for applications in the fields of 3D CAD, visualization, virtual reality and interactive 3D graphics to tune and customize high-performance applications for standard PC's. SP3D is characterized by a clear structure and its intuitive nature which make it simple to integrate 3D functionality in existing software architectures or applications being developed. The unique nature of the graphics interface: it is universally designed for all computers, regardless of speed performance and is therefore ideal for the development of horizontal applications for the mass-market.

With the current purely software version of SP3D applications developers can use the full power of the most modern CPU's such as Intel's Pentium. Also, since SP3D has been ported onto Microsoft Windows, SP3D has opened up a new perspective in price/performance as a single API.

The algorithms and operations supported by the software include flat and gouraud shading for trapeziums, triangles and lines, 2D and 3D line drawing, Z buffer comparisons during rendering and the most modern texture modulation techniques for triangles.

Co-operation, Commitments

Starnberg/Munich, 7. Sept. 1994 - numerous international firms have declared their support and intended use of SPEA's SP3D 3D graphics library.

Co-operation with Vibrant Graphics - a solid piece of Software

Vibrant Graphics Inc., Austin/Texas and SPEA Software AG have signed a contract to co-operate in the field of 3D CAD. The first product of this venture will be a new software driver package for Autodesk's products AutoCAD and 3D Studio, expected in Fall of this year.

This new product, to be marketed by Vibrant, is based on the individual strengths of both companies in the fields of software engineering. Vibrant Graphics, a well-known manufacturer of graphic board software, adds its wide quantum of software know-how to the deal. SPEA puts its year-long experience in 3D graphics into the venture. In an exemplory co-operation in the field of development work, SPEA's 3D Viewer for AutoCAD and the Animation Previewer for 3D Studio are being integrated into Vibrant's software drivers. The result will be a new collective software driver which can be used by AutoCAD and 3D Studio users, regardless of the graphics board installed in the system.

Uli Seng, Director at SPEA Software AG commented on this venture with the words "We are very enthusiastic about the co-operation with Vibrant, a recognized software driver specialist. An additional positive effect for SPEA is the fact that Vibrant has a strong market presence not only on the american market, but also in Asia, opening new perspectives for us".

SPEA has gained a strong co-operation partner in Vibrant Graphics, who have exclusively specialized themselves in the development and sale of software drivers. The company was formed in 1989, is located in Austin/Texas and has remained in the field of CAD software drivers. Vibrant Graphics offer a series of high-performance graphics drivers for DOS. The company's main products are Soft Engine for AutoCAD under DOS and Liquid Speed for 3D Studio V3.x The driver specialist markets its products directly and indirectly via distributors in the USA, Canada, Europe, Japan, Korea, Taiwan, Australia and New Zealand.

Autodesk's new Version of the Cyberspace Development Kit is based on SP3D

The Windows release of the Cyberspace Developers Kit by Autodesk, Sausolito/California, supports SPEA's SP3D API. Kevin Yurica, Product Manager for Multimedia at Autodesk, commented this decision with the following words, "SPEA SP3D is an important API for the new release of the CDK, not only because it yields high rendering performance on new graphics hardware, but because it also offers high compatibility to the widely installed base of the SPEA Graphiti FIRE. Asides the high software rendering performance, SP3D offers a direct means to 3D graphics acceleration on the hardware. Apart from this, our customers demand flexibility and hardware support for accelerated 3D graphics. SPEA offers both".

Directly from the USA - Press Release from Cirrus Logic Inc:

"Cirrus Logic and SPEA announce strategic partnership to bring high performance 3D graphics capability to the PC market"

Cirrus Logic and SPEA will work together to provide a very high performance 3D solution for the PC market. Cirrus Logic has introduced the GD5470/71/72 chipset for high performance 3D graphics on PC ´s. This chipset contains all the components necessary to implement a VGA compatible PCI board for windows and 3D rendering acceleration. The GD5470 is a 3D rendering engine together with a high performance GUI accelerator. The 5471 are the PCI interface with VGA controller and the truecolor RAMDAC respectively.

SPEA has long been a leader in the 3D PC market with hardware and software solutions. SPEA´s 3D development environment and 3D graphics library, SP3D is widely used by software developer´s in the CAD and virtual reality markets. It provides a very rich development environment and forms the basis for a number of CAD and VR applications in the market today.

The co-operation will consist of Cirrus Logic and SPEA working together to provide rendering acceleration optimized for SPEA´s SP3D graphics library. The combination of the SP3D graphics library and the new Cirrus Logic chipset will enable the introduction of the cost effective 3D acceleration hardware for the many applications currently using SP3D as the underlying 3D graphics technology.

One of the biggest issues facing the 3D market right now is the pace at which hardware accelerated 3D applications will emerge. The combination of the Cirrus Logic chipset and SPEA´s SP3D graphics library will play a major role in ensuring these applications emerge in a timely fashion.

"We are very excited about working with SPEA on this program", said Doug Bartek, President of Cirrus Logic, User Interface Company, "They have proven technological expertise in the 3D PC market and will play a significant role as 3D functionality emerges on the desktop over the coming years".

VREAM supports SP3D API by SPEA

VREAM, Chicago/Illinois, the manufacturer of Virtual Reality development systems for consumer applications, has announced that it intends to support SPEA's SP3D graphics interface with a view to future 3D products by SPEA. Edward R. LaHood, President of VREAM: "We see this as a strategy to permit Virtual Reality applications, developed with our software, to be used on a wide basis of high-performance graphics boards". VREAM is the manufacturer of the Virtual Reality development system VRCreator, which will be available in a Windows version from the 4th quarter of 1994.

MicroGreen extends SP3D user to Windows Platform

MicroGreen, Gainesville/Florida, the manufacturer of the Virtual Reality development system NAVIGATOR, has announced that it will extend its Windows version of its software for the use of the SP3D graphics library. This software is expected to be available from the end of 1994. Millard E. Pate, President of MicroGreen Inc.: "We have had excellent results from the use of SP3D and are excited about the new graphics hardware from SPEA".

3D-Win - 3D-Viewer under Windows

3D-Win is a 3D Viewer software package for any Windows accelerator board. It is an impressive software package which can be used for presentational purposes and for the visualisation and animation of construction data from AutoCAD or any other PC-CAD systems which can export files in DWG or DXF formats.

3D-Win places all the features of the SPEA 3D Viewer at your disposal under Windows. Just as the 3D Viewer for DOS, 3D-Win is based on SP3D, SPEA's own software library for 3D applications. The user can quickly and simply manipulate data used in 3D constructions.

SPEA 3D-Win offers various shading possibilities for 3D constructions such as Flat, Gouraud and Phong shading. Online rotations on all 3 axes (X, Y and Z) can be executed by mouseclick without the need for additional peripheral equipment. Objects can be enlarged, reduced and moved at random. SPEA 3D-Win also allows layers to be switched on or off, light sources can be imported from the CAD application and the construction can be animated. It is also possible to create animation sequences with 3D-Win. This is done by defining a camera position and movement path. The movement of the camera along the path (WALK) can then be saved in a FLIC file and can later be played back using a FLIC player or other suitable animation programs.

The most important aspects of SPEA 3D-Win are the impressive and realistic 3D display of objects, the calculation and display (virtually in real time) and the extensive online help.

3D-Viewer Examples: (FLIC-Files)

Note: FLIC files can only be played back if your display is using 256 colors

Click here to see the 3D-Win online help
Click on 'Prodinfo' in the titlebar to return to this help.

Features:

- Board and CAD application independant of 3D Viewer under Windows
- Photorealistic 3D
- Extensive online help
- Creation of FLIC animations
- Realististic shading
- DWG and DXF- (AutoCAD) construction data import
- Manipulation of data via SPEA icons
- Different shading possibilities: Flat, Gouraud or Phong
- Hidden line removal
- Light source import from AutoCAD
- Construction layers can be switched on/off in 3D-Win

Delivery Scope:

- 3D-Win software
- Easy-to-use installation software
- Documentation (English/German)

Updates will be made available via BBS.

BigFocus 13/Win - the *hardware-independant* BigFocus for AutoCAD for Windows Rel. 13

BigFocus 13/Win is SPEA's well known DLD driver for AutoCAD for Windows Rel. 13, but in a hardware-independant version! If you are using a graphics board fitted with an S3 or Weitek P9100 graphics processor then you will be pleased with the performance boost up to a factor of 10.

Press:

CAD User 8+9/95:
"For years SPEA's BigFocus driver for AutoCAD has set the standard in the entire AutoCAD world"

Click here to see the BigFocus 13/Win online help
Click on 'Prodinfo' in the titlebar to return to this help.

Features:

- High performance combined with numerous useful functions
- simple to use and learn
- very stable driver
- simple installation and configuration
- fast dynamic zoom
- Bird's-Eye overview window with zoom area memory
- spyglass lense with integrated zoom
- integrated Config tool with programmable function keys and digitizer buttons
- icons, text window and Bird's-Eye can be moved to a separate screen (DoubleScreen package)
- detailled online help

Delivery Scope:

- BigFocus 13/win software
- Easy-to-use installation software
- Documentation (English/German)

Updates will be made available via BBS.

What you always wanted to know about Dual-Screen Configurations but were never able to find out . . . until now!

SPEA Software AG supports the installation and configuration of multiple screen systems with 2 packages: DoubleScreen DOS/Win and DoubleScreen CAD.

- DoubleScreen DOS/Win
For:
- Windows
- AutoCAD (DOS/Windows)
- MicroStation

Contains:
- 2x V7-MERCURY P-64 boards (either 2xPCI or 2xVL)
- DoubleScreen disk
  incl. SPDUAL (installation and setup of the secondary board/monitor)
- DoubleWin disks
  BigWin single screen Windows driver and DoubleWin (driver for 'CinemaScope' Windows)

- DoubleScreen CAD
For:
AutoCAD (DOS)

Contains:
- V7-STORM PRO + V7-MIRAGE P-64 boards (either 2xPCI or 2xVL)
- SPEA DoubleScreen software package containing:
  DoubleScreen disk
  incl. SPDUAL (installation of the secondary board)
  BigFocus for AutoCAD disk
  Enhanced driver for AutoCAD, for the V7-MIRAGE P-64
  3D-Viewer disk for the V7-STORM PRO board

These offer the users of these products the possibility and advantages of particularly large screen workspaces or the chance to free up workspace from utilities such as icons or overview windows which would otherwise cover a part of a construction on the screen. Depending on the operating system being used (DOS, Windows) and the software application (AutoCAD, MicroStation) a number of configurations are possible.

Overview :

1 ***Dual Screen*** - The drawing on one side, text or icons on the other

2 ***Double Screen*** - Graphics, as far as the eye can see

3 ***Driver Software*** - No software, no action

- 3.1 DoubleWin for Windows v3.1x
- 3.2 ***Virtual Screen*** - I spy what you dont!
- 3.3 BigFocus12 for AutoCAD (DOS)
- 3.4 BigMicro for MicroStation v5.x

4 ***V7-SyncFix*** - what a mix : a multiscan and a fixed-frequency monitor

5 *Installation and Configuration* - whats to do?

6 *Software Updates* - the latest software, for you !

1 ***Dual Screen*** **- The drawing on one side, text or icons on the other**

In a configuration that we refer to as a *Dual Screen* system, the graphics monitor displays the drawing or construction being worked on, whilst the other, additional monitor displays text or elements that belong to the workspace or desktop, such as icons or an overview.

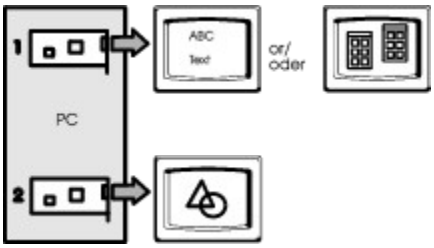


Fig. 1a: Dual Screen Configuration:

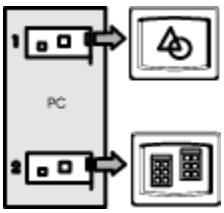


Fig. 1b: Dual Screen Configuration:

The entire display area of the graphics monitor is therefore free for the display of the drawing being processed. Icons, overview windows or text windows which would otherwise disturb the user can now be deposited on the second monitor. Working in this environment remains simple for the user; the cursor is switched from one screen to the other at the press of a key.

Dual Screen configurations can be installed for AutoCAD and MicroStation under DOS with the SPEA DoubleScreen packages.

The monitor connected to the primary board shows the icons or text, the monitor connected to the secondary board displays the drawing.

The VGA unit on the primary board must be activated, on the secondary board it must be deactivated.

2 *Double Screen* - Graphics, as far as the eye can see

With a *Double Screen* configuration it is possible to double the width of the visible desktop by stretching it across two monitors. In this configuration, both monitors are functionally equal and comprise a single unit for the drawing or working area.

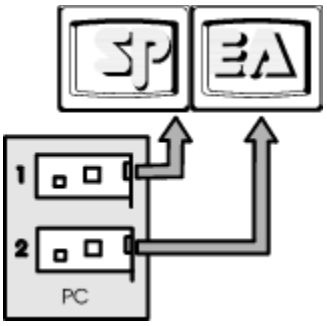


Fig. 2 : Double Screen Configuration

Doubling the desktop permits the user to work more effectively in a clearer environment. For example, when working with a spreadsheet application (e.g. Excel) twice as many columns can be simultaneously shown as on one monitor, or you could simultaneously use two applications under Windows in full screen mode, running one on each monitor. It goes without saying, that the cursor can simply be moved across the entirer desktop from one monitor to the other by just moving it in the desired direction.

Double Screen solutions can be installed with the SPEA DoubleScreen DOS/Win package and Windows. *Double Screen* is therefore available for all applications that run under Windows (e.g. AutoCAD for Windows).

3 *Driver Software* - no software, no action

In order to be able to use software applications in a dual monitor configuration, it is necessary to not only fulfill the hardware requirements already described, but also to have the necessary driver software (and, in some cases, utility software).

SPEA offers the corresponding software support for AutoCAD (DOS/Windows), MicroStation (DOS) and Windows.

3.1 Windows v3.1x

SPEA supports the *Double Screen* solution for Windows and all applications that run under Windows. This requires the following driver software :

SPEA DoubleWin Driver

SPEAs DoubleWin driver is a part of the DoubleScreen DOS/Win package and is available via the usual distribution channels and our diskette UpdateService (1). The price of this product can be taken from the current pricelist
The Dual Screen Disk, which contains additional programs, required to install a dual monitor system, is included in the delivery scope of the DoubleScreen DOS/Win package.

3.2 *Virtual Screen* - I spy what you cant

The *Double Screen* solution under Windows doesnt require both monitors to use the same resolution.

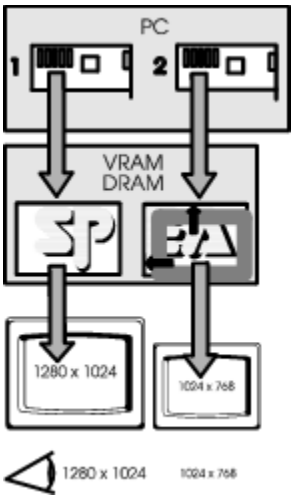


Fig. 3 : Virtual Screen Configuration

It is possible to use a smaller resolution on the monitor connected to the secondary board than that used on the primary monitor. The video memory of the secondary board still contains an image that has the same resolution as the primary board. However, the secondary monitor only shows a part of the whole image (which corresponds to the selected resolution). If the user moves the mouse to the edge of the visible area on the secondary monitor, then the visible area is effectively moved across the whole image, held in the video memory, to show those regions of the image not previously seen.

Virtual Screen is included in the DoubleWin driver for 256 colors (8 bit).

(1) See section 6. Software Updates

3.3 AutoCAD (DOS)

As already described above, it is possible to install a *Dual Screen* system for AutoCAD (DOS). This requires the following software :

SPEA BigFocus12 Display List Driver for AutoCAD

This driver is included in the delivery scope of the DoubleScreen package and can be obtained free of charge via our Mailbox system or ordered from our disk UpdateService (1).

"Dual Screen Disk"

This driver is included in the delivery scope of the DoubleScreen package and can be obtained free of charge via our Mailbox system or ordered from our disk UpdateService (1). It includes additional software required for the installation of a dual monitor system.

Note:
The display output to the primary and secondary monitors can be swapped by simply setting the environment variable SWAPBOARD (SET SWAPBOARD=ON).

3.4 MicroStation v5.0 (DOS)

MicroStation (DOS) enables both *Dual* and *Double Screen* systems (Intergraph universally uses the term Dual screen for both systems in the MicroStation documentation). The following software is required :

SPEA BigMicro Driver for Intergraph MicroStation

This diskette is included in the standard delivery scope of the DoubleScreen DOS/Win package and can also be ordered from our UpdateService (1).

"Dual Screen Disk"

This diskette is included in the standard delivery scope of the DoubleScreen packages and can also be ordered from our UpdateService (1). It includes additional software required for the installation of a dual monitor system.

Note:
The use of certain parameters when calling MicroStation determines how the monitors are used during the MicroStation session (see description in the manual of your board).

(1) See section 6. Software Updates

4. *V7-SyncFix Package* - what a mix : a multiscan and a fixed-frequency monitor

The *V7-SyncFix Package* from SPEA enables you to protect your investment in a fixed-frequency monitor whilst enabling you to use the advantages of the latest graphics technology - in both hardware and software.

The *V7-SyncFix Package* contains 2 V7-MERCURY P-64 graphics boards and the corresponding V7-SyncFix software.

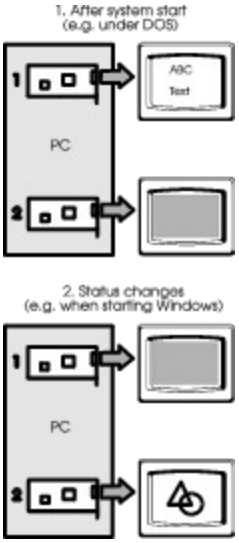


Fig. 4.1 :
V7-SyncFix system under DOS

1 = V7-MERCURY P-64 and
multiscan monitor
2 = V7-MERCURY P-64 and
fixed-frequency monitor (2)

(2) The following fixed-frequency monitors are supported
SPEA GDM 1950,
GDM 1963, GDM 1963E
and GDM 1963 HE

Fig. 4.2:
V7-SyncFix system under Windows

The V7-SyncFix software includes drivers for Windows, AutoCAD (DOS) and MicroStation (DOS). This gives the following display characteristics for these operating systems and software applications :

	Primary Board : *V7-MERCURY P-64*	*Secondary Board: V7-MERCURY P-64*	*Res.*	*Colors*
DOS	Text	deactivated		
Windows	deactivated	graphics	1280x1024	256
AutoCAD	Text or icons	graphics	1280x1024	256
MicroStation	Text or graphics	graphics	1280x1024	256

The *V7-SyncFix Package* can be obtained via the usual distribution channels. The price can be found in the current pricelist.

5. *Installation & Configuration* - whats to do ?

Detailled instructions and information concerning the installation and configuration of dual monitor systems can be found in the DoubleScreen manuals as well as in the README files of the individual drivers.

6. *Software Updates* - the latest software, for you !

Software, which is optionally available - i.e. not a part of the standard delivery scope of the graphics board, or updates - can be obtained from the SPEA Mailbox, CompuServe and the Internet.

SPEAs Partner Mailboxes

SPEA Mailbox:
+49 8151-12921 (up to 28800 Baud, 10 lines)
+49 8151-266241 (up to 14400 Baud, 5 lines)
+49 8151-21196 (Zyxel modem)
+49 8151-78001 (ISDN)

In order to make our software updates available (via modem download) to other customers, SPEA has set up an efficient mailbox network in different locations. These offer the software for the SPEA-V7 series. Software for the Graphiti series is only offered in selected mailboxes. SPEA works closely with the operators of these mailboxes to ensure that they always have the latest software on offer. These mailboxes are a good alternative to the main SPEA Mailbox location in Starnberg, which is still available to you 24 hours a day, as usual under the numbers stated above.
The following table shows you the different sub-mailboxes and states the products supported there ('x' = all software, '(x)' = only GDC basic software, Win 3.x1 drivers, AutoCAD drivers): (SPEA Graphiti series only)

Germany:

City	Mailbox	V7-Series	Graphiti Series	How do I reach the mailbox?	Where are the SPEA drivers?
Aachen	VOBIS Mailbox Support System	**x**	**(x)**	**02405 - 940 47** **02405 - 958 33 (v.34, as GAST)** **02405 - 410 331 (ISDN)**	(3) Software Forum (4) Firmenforum (4) SPEA
Bonn	Mailbox Diamant	**x**	**(x)**	**02236 - 841 209 (Zyxel, 19200)**	(F) File Bereich (F) File Area command oriented: B SPEA
Soest	Actebis Support BBS	**x**		**02921 - 73 016** **02921 - 940 071 (ISDN)**	(F) Filebereich (B) Bereich wechseln (3) Graphikkarten
Berlin	Mailbox ARCO	**x**		**030 - 326 50 51** **030 - 326 00 159 (ISDN)**	(F) Firmen Updates: (G) SPEA
Dortmund	DPK Box Dortmund	**x**		**02301 - 914 111 (19200 Baud)** **02301 - 914 112 (ISDN)**	(D)ateien (B)ereich (?) for selection list
Finsterwalde	Mailbox by RCS GmbH	**x**		**03531 - 30823**	(S) SPEA Software (W) Select area
Minden	Support Mailbox by ITB GmbH	**x**		**0571 - 956 17 19**	(F) File-Bereich (A) Area-Auswahl Area 22,23,24
Heppenheim	ESCOM Support BBS	**x**		**06252- 709 650/651 (v.34)** **06252- 709 6400 (ISDN)**	(F) Firmen Dateibereich (5) SPEA
Frankfurt / Main	Support Mailbox by KR Elektronik	**x**		**069 - 97 88 71 50**	(D) Dateien (A) Area (18) SPEA Treiber
Olching	Support Mailbox by MERISEL	**x**	**x**	**08142 - 29 14 42** **08142 - 29 14 41 (2400 Baud)**	(1) Hardware (1) Grafikkarten (3) / (4) Graphiti / V7 Serie
Vaterstetten	IWT Mailbox by AutoCAD Magazin	**x**	**(x)**	**08106 - 35 01 99**	(A) AutoCAD Magazin (A) Display files *.* für Liste

International:

City	Mailbox	V7-Series	Graphiti Series	How do I reach the mailbox?	Where are the SPEA drivers?
Switzerland - Sirnach	Support Mailbox by Walter Elektronic AG	**x**	**x**	**0041-73-26 42 07 (Zyxel, 19200)**	As SPEA Mailbox in Starnberg
Austria - Vienna	Support Mailbox by MERISEL	**x**	**x**	**0043-1-616 9797 96 (9600 Baud)** **0043-1-616 9797 95 (2400 Baud)**	As MERISEL-Mailbox in Olching, see above

Austria - Vienna	Support Mailbox by ELSAT	**x**	**x**	**Anmeldung: Tel. 0043-1-86644 502**	
CompuServe:					
SPEA Forum		**x**	**x**	**GO SPEA**	with drivers and updates for all SPEA products

SPEA Software on the Internet: WWW page: http://www.vobis.de/bbs/firmen/spea

SPEA V7 Serie: Treiberliste **Stand: 13.10.95**
SPEA V7 Series: Driver List **Status: 13.10.95**

Inhalt / Contents:

1. V7-VEGA Series, V7-STORM PRO

	V7-VEGA	V7-VEGA PLUS	V7-VEGA PRO	V7-STORM PRO
	(ISA / VL)	*(PCI / VL)*	*(PCI / VL)*	PCI / VL
3D Studio 1.0 / 2.0 (ADI)	lu	---	---	---
3D Studio 3.0 / 4.0	hst	---		hst
AutoCAD 10	mb	---	mb	---
AutoCAD 11 (ADI)	lu	---	mb	mb
AutoCAD 12 DOS über ADI (vom Chiphersteller)	lu	lu	mb	hst
AutoCAD 12/13 DOS - BigFocus	---	---	---	lu
AutoCAD 12 Windows - BigFocus	---	---	---	lu
AutoCAD 13 Windows - BigFocus 13/Win	t&r	t&r	t&r	lu
AutoCAD f. Windows (allg.)	lu	lu	lu	lu
AutoShade 1.0 / 2.0 (ADI)	lu		---	
AutoSketch 3.0 (für DOS)	mb		---	
CADkey 5.0 / 386		mb		
EasyCAD /2		mb		
Framework II	lu			
Framework III 3.0	lu	mb		
GEM 3.0	lu	---	mb	
LINUX (under Xfree86)	---	mb	---	
Lotus 123 2.3	lu	mb	mb	
Lotus 123 3.0 / 3.1	lu	---	mb	
Lotus Symphony 2.0	lu	mb	mb	
MicroStation 4.x (BigMicro)	---	---	---	lu
MicroStation 5.0 (BigMicro)	---	---	---	lu
OrCAD	hst	---	---	
OS/2 2.1x (2.1/2.11)	lu	mb	lu	lu
OS/2 3.0 (WARP)	hst	lu	lu	lu
Personal CAD 4.x (p-CAD)	lu	mb		
SCO UNIX v3.0	---	mb	---	
Ventura Publisher 3.0	lu	---	mb	
VersaCAD 386 / 2D	lu	mb		
Windows 3.1x - SPEA BigWin	---	---	---	---
Windows 3.1x - Chiphersteller	lu	lu	lu	lu
Windows 95	hst	lu	PCI: mb	PCI: mb
Windows NT 3.1	---	mb	mb	mb
Windows NT 3.5x	hst	mb	mb	lu
Word 5.0 & 5.5	lu		mb	
WordPerfect 5.x	lu	mb	mb	
WordPerfect 6.0			mb	
WordStar 5.5 / 7.0	lu	mb		
WordStar 2000 3.5 / 4.0	lu	mb		

Utilities				
SPEAtune	---	---	---	---
SPEAenergy	lu	lu	lu	lu
* SPEAview	---	---	---	---
* SPEAdometer	lu	---	---	---
* WinTune	---	---	---	---

Hinweis: Die in Klammern und kursiv angegebenen Karten/Busversionen sind nicht mehr in unserem Produktprogramm enthalten.
Note: The items in brackets and italic type are no longer in our product palette.

Legende:

lu	-	Software im Lieferumfang enthalten. Diese Software ist komplett auch über Mailbox sowie Diskettenversand verfügbar.
mb	-	Zwar (noch) nicht im Lieferumfang enthalten, aber einzeln in der Mailbox verfügbar.
(mb)	-	Demnächst in der Mailbox verfügbar.
(kein Eintrag)	-	Kein SPEA Treiber verfügbar, evtl. wird Karte / Chip vom SW-Hersteller unterstützt. Bitte beim SW-Hersteller erkundigen.
---	-	Definitiv kein Treiber verfügbar.
dv	-	Nicht im Lieferumfang, aber auf Wunsch über Diskettenversand verfügbar.
(dv)	-	Demnächst auf Wunsch über Diskettenversand verfügbar.
hst	-	Nicht im Lieferumfang, da Treiber für den entsprechenden Chip direkt von Software-Hersteller mit der Applikation angeboten wird.
*	-	Auf der Windows-Treiber Diskette bzw. Im Windows-Treiber Paket enthalten.

Legend:

lu	-	Software included in delivery scope. This software is also available complete via Mailbox and Disk UpdateService.
mb	-	Not (yet) included in delivery scope, but individually available via the Mailbox.
(mb)	-	Pending availability in the Mailbox
dv	-	Not included in delivery scope, but can be ordered on disk.
(dv)	-	Pending delivery on disk by order.
hst	-	Not in delivery scope as driver, for the corresponding chip comes from the manufacturer and is offered with the application.
(no entry)	-	Driver not (yet) available. It is possible that a driver will be made available or that board/chip will be supported by software manuafcturer.
---	-	Driver will not be made available.
*	-	Included on the Windows driver disk, resp. in Windows driver package.

2. V7-MIRAGE Series

	V7-MIRAGE *(ISA / VL)*	**V7-MIRAGE P-64 VL / PCI**	**V7-MIRAGE P-32 *(VL)* / PCI**
3D Studio 1.0 / 2.0 (ADI)	lu	lu	lu
3D Studio 3.0 / 4.0	hst	hst	
Allplan 500 (Nemetschek) 10.0	hst	---	---
Allplan 500 (Nemetschek) 10.1	hst	hst (**)	---
AutoCAD 10	---	---	---
AutoCAD 11/12 DOS - (ADI Treiber von Chiphersteller)	lu	lu	lu
AutoCAD 12/13 DOS - (SPEA BigFocus)	mb	2 MB: mb	---
AutoCAD 12 für Windows - (SPEA BigFocus)	mb	2 MB: mb	---
AutoCAD 13 für Windows - (SPEA BigFocus 13/Win)	t&r	t&r	t&r
AutoCAD für Windows - allg.	BigWin	BigWin	BigWin
AutoDesk 3.0 f. DOS	---	---	---
AutoShade 2.x (ADI)	lu	lu	lu
CADkey 5.0 / 386	lu	mb	---
CADkey 7.0	hst	hst	---
CADvance 3.51	lu	mb	---
DataCAD 4.06	lu	mb	---

Generic CADD 5.0 & 6.0	lu	mb	---
Lotus 123 2.3	lu	mb	---
Lotus Symphony 2.0	lu	mb	---
MicroStation 4.x (BigMicro)	lu	lu	lu
MicroStation 5.0 (BigMicro)	lu	lu	lu
Open Desktop ODT 2.0	mb	---	---
OS/2 2.1x	lu	lu	lu
OS/2 3.0 (WARP)	lu	lu	lu
SCO Unix	mb	---	---
Solaris	mb	monitors upto 64 kHz:mb **	---
SPIRIT 5.6	hst	hst ***	
VersaCAD 386 / 2D	lu	mb	---
Windows 3.1x SPEA BigWin	lu	lu	lu
Windows 95 - SPEA BigWin95	lu	lu	lu
Windows NT 3.1 (BigWin NT)	mb	mb	---
Windows NT 3.5x (BigWin NT)	mb	mb	mb
Word 5.0	lu	mb	---
WordPerfect 5.1	lu	mb	---
Utilities			
SPEAtune	lu	lu	lu
SPEAenergy	lu	lu	lu
* SPEAview	lu	lu	lu
* SPEAdometer	---	---	---
* WinTune	---	lu **	lu

Für V7-MIRAGE P-64 V siehe Übersicht 'SPEA Graphikkarten mit Video-Funktion'!
For the V7-MIRAGE P-64 V see SPEA Graphic Boards with Video Functions!

Hinweise:
- Die in Klammern und kursiv angegebenen Karten/Busversionen sind nicht mehr in unserem Produktprogramm enthalten.
- Note: The items in brackets and italic type are no longer in our product palette.

Legende:

lu	-	Software im Lieferumfang enthalten. Diese Software ist komplett auch über Mailbox sowie Diskettenversand verfügbar.
mb	-	Zwar (noch) nicht im Lieferumfang enthalten, aber einzeln in der Mailbox verfügbar.
(mb)	-	Demnächst in der Mailbox verfügbar.
(kein Eintrag)	-	Kein SPEA Treiber verfügbar, evtl. wird Karte / Chip vom SW-Hersteller unterstützt. Bitte beim SW-Hersteller erkundigen.
---	-	Definitiv kein Treiber verfügbar.
dv	-	Nicht im Lieferumfang, aber auf Wunsch über Diskettenversand verfügbar.
(dv)	-	Demnächst auf Wunsch über Diskettenversand verfügbar.
hst	-	Nicht im Lieferumfang, da Treiber für den entsprechenden Chip direkt von Software-Hersteller mit der Applikation angeboten wird.
*	-	Auf der Windows-Treiber Diskette bzw. Im Windows-Treiber Paket enthalten.
* *	-	Dieser Treiber ist nur für die V7-MIRAGE P-64 Karten mit dem Graphikchipsatz S3 Vision864 verfügbar..
* * *	-	Dieser Treiber ist nicht für V7-MIRAGE P-64 Karten mit BIOS 4.0x oder Trio64 Chipsatz verfügbar..

Legend:

lu	-	Software included in delivery scope. This software is also available complete via Mailbox and Disk UpdateService.
mb	-	Not (yet) included in delivery scope, but individually available via the Mailbox.
(mb)	-	Pending availability in the Mailbox
dv	-	Not included in delivery scope, but can be ordered on disk.
(dv)	-	Pending delivery on disk by order.
hst	-	Not in delivery scope as driver, for the corresponding chip comes from the manufacturer and is offered with the application.
(no entry)	-	Driver not (yet) available. It is possible that a driver will be made available or that board/chip will be supported by software manuafcturer.
---	-	Driver will not be made available.
*	-	Included on the Windows driver disk, resp. in Windows driver package.
* *	-	This driver is only available for the V7-MIRAGE P-64 boards with the S3 Vision864 chip.
* * *	-	This driver is not available for the V7-MIRAGE P-64 boards with BIOS 4.0x or Trio chipset..

3. V7-MERCURY Series

	V7-MERCURY *(ISA,VL PCI)*	**V7-MERCURY Lite** *(PCI)*	**V7-MERCURY Pro** *(ISA / VL)*	**V7-MERCURY P-64** *(VL / PCI)*
3D Studio 1.0 / 2.0 (ADI)	lu	lu	lu	lu
3D Studio 3.0 / 4.0	hst	hst	hst	hst
Allplan 500 (Nemetschek) 10.0	hst	---	hst	
Allplan 500 (Nemetschek) 10.1	hst	---	hst	hst
AutoCAD 10	---	---	---	---
AutoCAD 11/12 DOS (ADI) (Chiphersteller)	lu	lu	lu	lu
AutoCAD 12/13 DOS - (SPEA BigFocus)	lu	---	lu	lu
AutoCAD 12 für Windows - (SPEA BigFocus)	lu	---	lu	lu
AutoCAD 13 für Windows - (SPEA BigFocus)	lu	t&r	lu	lu
AutoCAD f. Windows - allg.	BigWin	BigWin	BigWin	BigWin
AutoDesk 3.0 f. DOS	---	---	---	---
AutoShade 2.x (ADI)	lu	lu	lu	lu
CADkey 5.0 / 386	lu	lu	lu	mb
CADkey 7.0	hst	hst	hst	hst
CADvance 3.51	lu	lu	lu	mb
DataCAD 4.06	lu	---	---	mb
Generic CADD 5.0 & 6.0	lu	lu	lu	mb
Lotus 123 2.3	lu	lu	lu	mb
Lotus Symphony 2.0	lu	lu	lu	mb
MicroStation 4.x (BigMicro)	lu	lu	lu	lu
MicroStation 5.0 (BigMicro)	lu	---	lu	lu
Open Desktop ODT 2.0	---	---	---	---
OS/2 2.1x	lu	lu	lu	lu
OS/2 3.0 (WARP)	lu	lu	lu	lu
SCO Unix	mb	---	---	---
Solaris	all MS monitors:mb	---	monitors upto 81 kHz:mb	---
interaktives UNIX mit Festfrequenzmonitor	ISA: for SPEA 1950/63/63HE:mb	---	---	---
SPIRIT 5.6	hst	hst	hst	hst
VersaCAD 386 / 2D	---	---	---	mb
Windows 3.1x SPEA BigWin	lu	lu	lu	lu
Windows 95 SPEA BigWin95	lu	lu	lu	lu
Windows NT 3.1 (BigWin NT)	mb	mb	mb	mb
Windows NT 3.5x (BigWin NT)	mb	mb	mb	mb
Word 5.0	lu	lu	lu	mb
WordPerfect 5.1	lu	lu	lu	mb
Utilities				
SPEAtune	lu	---	lu	lu
SPEAenergy	lu	lu	lu	lu
* SPEAview	lu	lu	lu	lu
* SPEAdometer	lu	---	lu	---
* WinTune	lu (ab BIOS 4.00)	---	lu	lu

Für V7-MERCURY P-64 V siehe Übersicht 'SPEA Graphikkarten mit Video-Funktion'!
For the V7-MERCURY P-64 V see SPEA Graphic Boards with Video Functions

Legende:

lu	-	Software im Lieferumfang enthalten. Diese Software ist komplett auch über Mailbox sowie Diskettenversand verfügbar.
mb	-	Zwar (noch) nicht im Lieferumfang enthalten, aber einzeln in der Mailbox verfügbar.
(mb)	-	Demnächst in der Mailbox verfügbar.
(kein Eintrag)	-	Kein SPEA Treiber verfügbar, evtl. wird Karte / Chip vom SW-Hersteller unterstützt. Bitte beim SW-Hersteller

erkundigen.

--- - Definitiv kein Treiber verfügbar.
dv - Nicht im Lieferumfang, aber auf Wunsch über Diskettenversand verfügbar.
(dv) - Demnächst auf Wunsch über Diskettenversand verfügbar.
hst - Nicht im Lieferumfang, da Treiber für den entsprechenden Chip direkt von Software-Hersteller mit der Applikation angeboten wird.
***** - Auf der Windows-Treiber Diskette bzw. Im Windows-Treiber Paket enthalten.

Legend:

lu - Software included in delivery scope. This software is also available complete via Mailbox and Disk UpdateService.
mb - Not (yet) included in delivery scope, but individually available via the Mailbox.
(mb) - Pending availability in the Mailbox
dv - Not included in delivery scope, but can be ordered on disk.
(dv) - Pending delivery on disk by order.
hst - Not in delivery scope as driver, for the corresponding chip comes from the manufacturer and is offered with the application.
(no entry) - Driver not (yet) available. It is possible that a driver will be made available or that board/chip will be supported by software manuafcturer.
--- - Driver will not be made available.
***** - Included on the Windows driver disk, resp. in Windows driver package.

4. SPEA Graphic Boards with Video Playback Feature
4. SPEA Graphikkarten mit Video-Abspielfunktionen

	SPEA SHOWTIME PLUS PCI / VL	**V7-VEGA VIDEO PCI / *(VL)***	**V7-MIRAGE P-64 V (Turbo) PCI / *(VL)***	**V7-MERCURY P-64 V PCI / (*VL*)**	**V7-MIRAGE VIDEO (TV) PCI**
3D Studio 1.0 / 2.0 (ADI)	---		lu	lu	(lu)
3D Studio 3.0 / 4.0	hst		hst	hst	
AutoCAD 10	---	---	---	---	---
AutoCAD 11/12 DOS über ADI (vom Chiphersteller)	mb	---	lu	lu	(lu)
AutoCAD 12/13 DOS - (SPEA BigFocus)	---	---	mb	lu	(mb)
AutoCAD 13 für Windows - (SPEA BigFocus 13/Win)	t&r	t&r	t&r	lu (ab CD 11/95)	t&r
AutoCAD f. Windows (allg.)	lu	lu	lu	lu	(lu)
AutoShade 1.0 / 2.0 (ADI)			lu	lu	(lu)
AutoSketch 3.0 (für DOS)	---	---	---	---	---
MicroStation 4.x (BigMicro)	---		lu	lu	---
MicroStation 5.0 (BigMicro)	---		lu	lu	---
OS/2 2.1x (2.1/2.11)	hst	---	---	---	---
OS/2 3.0 (WARP)	hst	lu	lu	lu	(lu)
Windows 3.1x - SPEA BigWin	---	---	lu	lu	(lu)
Windows 3.1x - Chiphersteller	lu	lu	---	---	---
Windows 95	lu	lu	lu	lu	(lu)
Windows NT 3.1	---	---	---	---	---
Windows NT 3.5x	lu	mb	mb	mb	(mb)
Utilities					
SPEAtune	---	---	lu	lu	(lu)
SPEAenergy	lu	lu	lu	lu	(lu)
* SPEAview	---	---	lu	lu	(lu)
* SPEAdometer	---	---	---	lu	---
* WinTune	---	---	---	---	---

Legende:

lu - Software im Lieferumfang enthalten. Diese Software ist komplett auch über Mailbox sowie Diskettenversand verfügbar.
mb - Zwar (noch) nicht im Lieferumfang enthalten, aber einzeln in der Mailbox verfügbar.
(mb) - Demnächst in der Mailbox verfügbar.

(kein Eintrag)	-	Kein SPEA Treiber verfügbar, evtl. wird Karte / Chip vom SW-Hersteller unterstützt. Bitte beim SW-Hersteller erkundigen.
---	-	Definitiv kein Treiber verfügbar.
dv	-	Nicht im Lieferumfang, aber auf Wunsch über Diskettenversand verfügbar.
(dv)	-	Demnächst auf Wunsch über Diskettenversand verfügbar.
hst	-	Nicht im Lieferumfang, da Treiber für den entsprechenden Chip direkt von Software-Hersteller mit der Applikation angeboten wird.
*	-	Auf der Windows-Treiber Diskette bzw. Im Windows-Treiber Paket enthalten.

Legend:

lu	-	Software included in delivery scope. This software is also available complete via Mailbox and Disk UpdateService.
mb	-	Not (yet) included in delivery scope, but individually available via the Mailbox.
(mb)	-	Pending availability in the Mailbox
dv	-	Not included in delivery scope, but can be ordered on disk.
(dv)	-	Pending delivery on disk by order.
hst	-	Not in delivery scope as driver, for the corresponding chip comes from the manufacturer and is offered with the application.
(no entry)	-	Driver not (yet) available. It is possible that a driver will be made available or that board/chip will be supported by software manuafcturer.
---	-	Driver will not be made available.
*	-	Included on the Windows driver disk, resp. in Windows driver package.

Sonstige SPEA Multimedia Produkte
Other Multimedia Products

	V7-media fx	SPEA MEDIA XTC	SPEA CRUNCH IT	SPEA PLAY IT	MPEG Modul für V7-MIRAGE VIDEO (TV)
DOS	lu	lu	---	---	
Windows 3.x	lu	lu	lu	lu	(lu)
Windows 95	---	lu	lu	lu	(lu)
Windows NT	---		---	---	
OS/2	---	---	---	---	

Superdisks, Drivers & Utilities that are available via the SPEA Mailbox

Status as of 20.11.95 ***(changes to last release 13.10.95 are marked)***

V7-VEGA Series, V7-STORM PRO:

Print in landscape format! / Im Querformat ausdrucken!

	V7-VEGA ISA	V7-VEGA VL	V7-VEGA PLUS PCI	V7-VEGA PLUS VL	V7-VEGA PRO PCI	V7-VEGA PRO VL	V7-STORM PRO PCI	V7-STORM PRO VL	
File Area Windows & Video Playback									
Windows 3.1x	CL:		Avance: Disk 0295.7 with:		Trident: * Disk 0595.5		Weitek: *		* These drivers also ru
8 bit, 16 bit, 24 bit	v1.43 - 0894.4		v1.50f/2.0 - 0694/1094		0395.4		v2.21 - 0295.2		
V7-SETUP	v1.50 - 0793		v2.21 - 1094		v2.24 - 1294		v2.33 - 0295		
SPEAdometer	v1.00 - 0793		---		---		-----		
Windows 95	(use CL 542x drivers		Avance Logic:		for PCI bus only:		for PCI bus only:		
8 bit, 16 bit, 24 bit	from Win 95)		0695		1095		ß-1095		
File Area Win NT & OS/2									
Windows NT	NT 3.1: --		NT 3.1: v1.1 - 0594		NT 3.1:1294.1		NT 3.1: v1.00 - 0994		* Driver is available wi
	NT 3.5: *		NT 3.5: v2.50 - 0595.1		NT 3.5: **		NT 3.5: v3.00 - 0495.3		** Use the Win NT 3.1
OS/2	OS/2 2.1x: v1.32b - 0893		OS/2 2.1x: 1094.6		OS/2 2.1x & 3.0:		OS/2 2.1x & 3.0:		* V7-VEGA IAS/VL & V
	OS/2 3.0: *		OS/2 3.0: 0295.7		0595.5		v2.0 - 0495.3		
File Area Other Applications									
AutoCAD 10	ADI driver - 1192		---		(on Add-on disk)		---		
AutoCAD 11 / 12	TURBODLD 1.0 - 0893		ACAD 12 only: on SD		(on Add-on disk)		v3.0.6. - 0794		
AutoCAD DOS 12/13, WIN 12 BigFocus	---		---		---		***v13.8 - 0795.5 (2D only)***		
AutoCAD 13 WIN: BigFocus13/Win	(v1.00 - 0595.1)*		(v1.00 - 0595.1)*		(v1.00 - 0595.1)*		v1.00 - 0595.1		* Not free for this boar
3D Studio 1.0 / 2.0	TURBODLD 1.0 - 0893		---		---		---		
AutoShade 2.0									
MicroStation 4.03x	---		---		---		(on BD)*		(*) =Disk Utilities & Va
MicroStation 5.0	---		---		---		(on BD)*		(*) =Disk Utilities & Va
SCO Unix v3.0	---		v4.2 - 0295		---		---		No hotline support!
Xfree86 under LINUX	---		1294		---		---		No hotline support!
Various DOS Drivers - 'Add-on disk' (not in the delivery scope)	(on BD)		0894.1		1294.1		---		For the list of supporte support!
File Area Utilities									
SPEAenergy				v1.49 - 0595.9					
V7HFREQ	---		---		---		v1.31 - 1194		
VESA Emulation	**---**		**---**		---		v1.42 - 1094		
CLMODE	CLMODE v2.20 - 1092		---		---		---		v2.20: for refresh rate
	CLMODE v2.30 - 0393								
File Area Basis Disk									
Superdisk	0993.4		0295.7		0595.5		0994.1 (*)		(*) =Disk Utilities & Va

Soundboards
Drivers & Utils that are available in SPEA's Mailbox

	V7-media fx		SPEA MEDIA XTC
	1st Layout: 1193.1/1293.2/0694.1/0395.2 FCC ID FODSWFX 1000	2nd Layout: 0494.3/0694.4/0395.5 FCC ID LF7SS2016	
Superdisk (Win 3.x, DOS,..)	0495.3 (files FX10495x.EXE)	0495.6 (files FX20495x.EXE)	***1095.1***
Windows 95	***1195.1***		***1195.2***
Windows NT	**---**	***Win NT 3.51: 1195.1***	
OS/2 3.0	---	***1195.1***	

SPEAs Product Information for Windows (german/english): ***Rel. CD1195.2***

SPEA V7-MIRAGE Series - Drivers & Utilities that are available via the SPEA Mailbox

Print in landscape format! / Im Querformat ausdrucken!

Status as of 20.11.95
(changes to last release 20.10.95 are *marked*)

	V7-MIRAGE		V7-MIRAGE P-64 (**)		V7-MIRAGE P-32		
	ISA	VL	PCI	VL	PCI	VL	
File Area Windows & Video Playback							
Windows 3.1x	BigWin		BigWin		BigWin		* WinTune not available
8 bit, 16 bit, 24 bit	v3.20 - 1095		v3.20 - 1095		v3.20 - 1095		
V7-SETUP	v2.57 - 1095		v2.57 - 1095		v2.57 - 1095		
SPEAview	v2.44 - 0695		v2.49 - 1095		v2.44 - 0695		
WinTune	---		(v2.20 - 0994)*		---		
Windows 95	BigWin95		BigWin95		BigWin95		* WinTune not available
8 bit, 16 bit, 24 bit	v1.20 - 1095.2		v1.20 - 1095.2		v1.20 - 1095.2		
V7-SETUP	v2.57 - 1095		v2.57 - 1095		v2.57 - 1095		
SPEAview	v2.4 - 0695		v2.4 - 0695		v2.4 - 0695		
WinTune	---		(v2.20 - 0994)*		---		
Windows 3.1 - S3 driver	S3: v1.3 - 0494		--		---		
File Area Win NT & OS/2							
Windows NT 3.1			BigWinNT 2.01 (***)				For V7-MIRAGE with available yet.
8 bit			v2.01 - 1194				
V7SETNT			v1.04 - 1194				
Windows NT 3.5x			BigWinNT 3.02				For V7-MIRAGE VL v MIRVLNT.EXE is also
8, 16, 24 bit			v3.02 - 0295.3				
V7SETNT			v1.2 - 0295				
OS/2 2.1x, OS/2 3.0	BigBlue		BigBlue		***BigBlue***		
8, 16, 24 bit	v2.07 - 1095.6		v2.07 - 1095.8		***v2.08 - 1095.3***		
V7SETOS2	v1.22 - 1095		v1.22 - 1095		***v1.22 - 1095***		
File Area Other Applications (CAD,..)							
ADI (3DS 1/2, AutoShade, ACAD 11/12)			(on BD)				
3D-WIN - 3D Viewer for Windows			(v1.4 - 0795.2)*				* Not free for this boa
3D Studio 3.0 / 4.0	SPEA drivers are already contained in 3DS Vibrant Config Menu						Before starting 3DS l
AutoCAD DOS 12/13 & WIN 12: BigFocus	v12.22 - 0594.3		2 MB only:		---		
			v13.16/v13.00 - 0995.4				
AutoCAD 13 WIN / WIN NT 3.5:			***(BigFocus 13/Win:v2.1 - 1095.4)****				* Not free for this boa
MicroStation 4.03x - BigMicro	(v2.27 - on BD)		(v2.27 - on BD)		(v2.27 - on BD)		
MicroStation 5.0x - BigMicro	(v2.37 - on BD)		(v2.37 - on BD)		(v2.37 - on BD)		
LINUX, XFREE,..	Information files: info about supported boards: xfree.txt, linux.mir (**)				---		No hotline support!
SCO UNIX	S3: v3.0 - 1292		---		---		
Solaris	for all monitors:		for monitors upto 64 kHz		---		V7-MIRAGE P-64 PC
	MIR_PMI.EXE (19-05-94)		MIP_PMI.EXE (28-06-94) (**)				
Various DOS Drivers (CADkey, WordPerfect 5.x, Word and others)	(on Basis Disk)*		1094		---		For list of available dr bbs ! For these driver
File Area Utilities							
SPEAenergy	v1.49 - 0595		v1.52 - 0795				DPMS Software for V monitor
S3TEST	(v1.43 - on BD)		(v1.50 - on BD)		(v1.40 - on BD)		
SPEAtune	(v2.25 - 0595 - on BD)		(v2.33 - 1095 - on BD)		(v2.17 - 0295 - on BD)		
SPEA VESA Mode Emulation	V7MIRVBE.EXE v1.12		V7MIPVBE.EXE v1.13		(V7MIPVBE.EXE v1.13 - on BD)*		
BIOS Updates (RAMBIOS)	BIOS_3.07.EXE		---		---		RAM BIOS for monito
	BIOS_401.EXE						RAM BIOS , as a bug for BIOS 3.05/3.07 IS
Fix Utilities Efix	EFIX.EXE v1.2				---		fixes the SPEAtune p
IDEFIX	IDEFIX.EXE v1.01 - 0794				---		eeprom identification
V7HFREQ.COM	(3.17 - on BD)		(3.17 - on BD)		(3.15 - on BD)		higher refresh rates a
File Area Basis Disk							
Disk "Utilities & Various DOS Drivers"	0595.5		1095.1		***1095.3***		Disk: Utilities & Varoi

"- on BD": Driver/tool is avaiable on current Basis disk.
** For V7-MIRAGE P-64 V refer table 'Graphics Boards with video function'
*** Drivers have NOT been tested and released for V7-MIRAGE P-64 with S3 trio64 chip.

SPEA V7-MERCURY Series - Drivers & Utilities that are available via the SPEA Mailbox

Status as of **20.11.95**

(changes to last release 20.11.95 are *marked*)

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		V7-MERCURY		V7-MERCURY PRO		V7- MERCURY PCI		V7-MERCUR
		ISA	VL	ISA	VL	PCI	Lite PCI	PCI
File Area Windows & OS/2								
Windows 3.1x		BigWin		BigWin		BigWin	BigWin	BigW
	8 bit, 16 bit, 24 bit	v3.20 - 1095		v3.20 - 1095		v3.20 - 1095	v3.20 - 1095	v3.20
	V7-SETUP	v2.57 - 1095		v2.57 - 1095		v2.57 - 1095	v2.57 - 1095	v2.57 -
	SPEAdometer	v2.0 - 0595		v2.0 - 0595		v2.0 - 0595	-	-
	SPEAview	v2.44 - 0695		v2.44 - 0695		v2.44 - 0695	v2.44 - 0695	v2.44 -
	WinTune	(v2.20 - 0994)*		v2.20 - 0994		(v2.20 - 0994)*	-	v2.20 -
Windows 95		BigWin95		BigWin95		BigWin95	BigWin95	BigW
	8 bit, 16 bit, 24 bit	v1.20 - 1095.2		v1.20 - 1095.2		v1.20 - 1095.2	v1.20 - 1095.2	v1.20 -
	V7-SETUP	v2.57 - 1095		v2.57 - 1095		v2.57 - 1095	v2.57 - 1095	v2.57 -
	SPEAdometer	v2.0 - 0595		v2.0 - 0595		v2.0 - 0595	-	-
	SPEAview	v2.44 - 0695		v2.44 - 0695		v2.44 - 0695	v2.44 - 0695	v2.44 -
	WinTune	(v2.20 - 0994)*		v2.20 - 0994		(v2.20 - 0994)*	-	v2.20 -
Windows NT 3.1 - BigWinNT	8 bit V7SETNT				v2.01 - 1194 v1.04 - 1194			
Windows NT 3.5x - BigWinNT	8, 16, 24 bit V7SETNT				v3.02 - 0295.3 v1.2 - 0295			
OS/2 2.1x and 3.0 - BigBlue	8, 16, 24 bit V7SETOS2	v2.07 - 1095.5 1.22 - 1095		v2.07 - 1095.5 1.22 - 1095		v2.07 - 1095.5 1.22 - 1095	v2.07 - 1095.4 1.22 - 1095	v2.07 - 1 1.22 -
File Area Other Applications (CAD,..)								
3D-WIN - 3D Viewer for Windows					(v1.4 - 0795.2)			
3D-World II				rel. 0395.6			---	rel. 03
3D Studio 1.0 / 2.0, AutoShade 2.0				(ADI 4.2 v2.1 - on BD)				(ADI 4.2 v2.
3D Studio 3.0 / 4.0				SPEA drivers are already contained in 3DS Vibrant Config Menu				
AutoCAD DOS 12/13 & WIN 12: BigFocus				v13.16 (DOS) / 13.00 (12 WIN) - 0995.4			---	v13.16 / 13.
AutoCAD 13 Win / WinNT 3.5: BigFocus 13/Win				***v2.1 - 1095.4***			---	***v2.1 - 1***
MicroStation 4.03x - BigMicro				v2.24 - 0994.4			---	(v2.27 -
MicroStation 5.0x - BigMicro				v2.37 - 0595.3			---	(v2.37 -
LINUX, XFREE,..				Information files with information which boards are supported: xfree.txt, linux.mer				
SCO UNIX		S3: v3.0 - 1292						
Solaris		for all monitors: MER_PMI.EXE (17-08-94)		for monitors upto 81 kHz: V7MPROXW.EXE (24-05-94)				
Interactive UNIX with fixed frequency monitors		for SPEAs GDM 1950/63/63 HE: V7MERXW .EXE						
Various DOS Drivers (CADkey, WordPerfect 5.x, Word and others)		(on BD)		(on BD)		(on BD)		129
File Area Utilities								
SPEAenergy					v1.52 - 0795			
S3TEST				(v.36 - on BD)				(v1.43 -
SPEAtune		(v1.20 - on BD)		(v1.20 - on BD)		(v1.20 - on BD)	---	(v2.29 -
SPEA VESA Mode Emulation		V7MERVBE.EXE v1.12		V7PROVBE.EXE v1.12		V7ME2VBE.EXE v1.12	V7LITVBE.EXE v1.12	V7MEPVI v1.1
Add. Fonts for TopCAD / BigFocus 12				FNT_TOPC.EXE / FONTS_BF.EXE				
FIX Utilities	VGAfix	VGA_FIX						
	Efix				EFIX.EXE v1.2			
	V7HFreq			V7HFREQ.COM v1.31 - 1194				(v3.17 -
	IDEFIX				IDEFIX.EXE v1.01 - 0794			
File Area Basis Disk (= BD)								
Disk "Utilities & Various DOS Drivers"		0694.6		0694.3		0694.6	0694.2	079

"- on BD": on Basis Disk 'Utilities & Various DOS Drivers'

** For V7-MERCURY P-64 V refer table 'Graphics Boards with video function'

SPEA Graphiti Series - Superdisks, Drivers & Utilities that are available in the SPEA Mailbox - Status as of 11.10.95 (changes to last release 29.5.95 are *marked*)

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	Hitachi Boards		FGA		FIRE	GX	HiLite-Series			
	Painter,Gallery	Flash1	FGA	FGA2			HiLite	HiLite 1024	HiLite MCA	HiLite Pro
Superdisk (compl.)	0393.7	0493.7	0294.2		0894.6	0294.2	0894.8		0294.7	0894.8
GDC SW (part of the sd):										
GDC Basis SW package	0393.7	0493.7	0294.2		0294.5	0294.2	0294.7		0793.6	0294.7
Font Files						0293				
Monitor Files	0493		0493		0793.4 / 0593.3 / 0393	0493			0793.6	
Font Editor						0590				
SPEAtools:										
SPEAplay			0992		v1.05 - 1192	v1.05 - 1192	0992			
SPEAimagePro			0992, ß - v3.1 0- 0393		v3.11 - 0893	0992	0992, ß - v3.1 0- 0393			ß - v3.1 0-
SPEAcamera	0891		1092, ß - v3.1 - 0393		v3.1 - 0893	1092	1092, ß- v3.1 - 0393			ß- v3.1 - 0
SPEAime	v1.3 - 1092		v1.3 - 1092		v1.3 -1092	v1.3 -1092	v1.3 - 1092			
Applications:										
Windows 3.1x	0992		8 bit v2.45 - 0894		8 bit v.2.45 - 0894 24 bit v2.45 -0894	8 bit v2.45 - 0894	8 bit v2.45 - 0894 24 bit v2.45 - 0894			
3D-WIN	---		SPSETUP v2.3 - 0593 ***(v1.4 - 0795.2)***		SPSETUP v2.3 - 0593 ***v1.4 - 0795.2***	SPSETUP v2.3 - 0593 ***(v1.4 - 0795.2)***	SPSETUP v2.3 - 0593 ***(v1.4 - 0795.2)***			
AutoCAD11/12 ("old" BigFocus)	v8.2.8 - 0393 (v8.2.4-1092.1)		v8.2.7 - 0293, (v8.2.3 - 1092.1)		v8.2.8 - 0393 (v8.2.4-1092)	v8.2.8 - 0393	v8.2.7 - 0293, (v8.2.3 - 1092.1)			
AutoCAD DOS 12/13 - BigFocus	-		***v13.8 - 0795.6***		v13.00 - 0495.6		***v13.8 - 0795.6***			
AutoCAD Win 12 - BigFocus	-		***v13.0 - 0795.6***		v12.22 - 0594.5		***v13.0 - 0795.6***			
AutoCAD Win 13 - BigFocus 13/Win	-					***v1.3 - 0795.2***				
ADIREND AutoShade 2.0 3D Studio 3/4 AutoSketch 3.0	0691 (only 3DS 2.0/3.0)		v3.13 - 0694 3DS 4.0: v3.13.1 - 0795		v3.13- 0694 / v2.0-1293	v3.13 - 0694 / v2.0-1293	v3.13 - 0694 3DS 4.0: v3.13.1 - 0795			
Animator Pro 1.0			v4.02 - 0293		v4.02 - 0293		v4.02 - 0293			
CADdy 8.0			v3.09 - 0393		v3.09 - 0393	v3.09 - 0393	v3.09 - 0393			
CADdy 9.0/10.0			**		SPDRIVER v2.14 - 0893		**			
CADKEY 3.51	0492									
CADVANCE	1092									
EPLAN 4.0x / 4.1	4.1 v2.4 - 0294		v2.4 0293 / 0893				v2.4 - 0293 / 0893			
FASTCAD ab 2.0	0390									
GEM 3.0/3.1	1290									
Generic CADD 5.0 & 6.0	v1.1 - 0992		v1.2 - 0693				v1.2 - 0693			
MicroStation 4.03x MicroStation 5.0x p-CAD 3.0/4.0	v2.34 - 0894.2 0989		v2.34 - 0894.2		v2.22 - 0794.3 v2.37 - 0595.3 / 3DV v1.60		v2.34 - 0894.2			
PC DRAFT 4.x			v3.05 - 0193				v3.05 - 0193			
Personal Designer 4.0/4.1	0990									
PointLine 8.0	v1.3 - 1092		v1.5 - 1192				v1.5 - 1192			
RenderStar	v??? - 1092									
SPIRIT 4.5	5.14 - 0593.3		5.14 - 0593.3		5.14 - 0593.3	5.14 - 0593.3	5.14 - 0593.3			
VersaCAD 5.3/5.4	v??? - 0192									
Sonstiges:										
TIGA 2.01 TIGA 2.05 TIGA 2.20			1190 0792 v2.00 - 0693				1190 0792 v2.00 - 0693			
SPDRIVER - Modul	1092		v2.01 - 1092		v2.11 - 0193		v2.01 - 1092			
SPDRIVER Development Toolkit	v2.01 - 1292.7		v2.01 - 1292.7				v2.01 - 1292.7			
SP3D Toolkit Host Slave SP3D Toolkit for MS Windows					v5.3 - 0594.5 v5.3 - 0594.6					
VGA Chip Software:										
Windows Driver and CLMODE			CL: v1.3 - 0593							CL:1.3, 0593

SPEA Graphiti Series: Supported Applications **Date: 18.3.93**

List of applications that are supported by SPEA drivers.

PGF - Painter/Gallery/Flash
HiL - HiLite
FGA - FGA860-4/HE
GX - GX-Option
FIRE - FIRE

DIR. - DIRECT Driver
TIGA - TIGA Driver
DISPL - DISPLAYLIST Driver
D/T - DIREKT/TIGA Driver
X - Available
V - in Preparation
* - HiLite and HiLite 1024 only

Software	Developer	Graphics-Controller					Available from	
		PGF	HiL	FGA	GX	FIRE	SPEA	Developer
>>> CAD and Graphics Software Driver <<<								
3D Studio 1.0	Autodesk	DIR.	DIR.	DIR.	DIR.	DIR.	X	
3D Studio 2.0	Autodesk	DIR.	DIR.	DIR.	DIR.		X	
ACAD Graph Lumina	ACADGraph	---	TIGA	TIGA	---	---		X
Alldesign	Nemetschek	DIR.	DIR.	DIR.	---	DIR.		X
Allfem	Nemetschek	DIR.	DIR.	DIR.	---	DIR.		X
Allplan	Nemetschek	DIR.	DIR.	DIR.	---	DIR.		X
Allplot	Nemetschek	DIR.	DIR.	DIR.	---	DIR.		X
Animator Pro	Autodesk	---	DIR.	DIR.	DIR.	DIR.	X	
APC	ACI	DIR.	DIR.	DIR.	DIR.	DIR.		X
ARC+ 6.2	ACA/cadresys	---	TIGA	TIGA	---	---	X	
ARC+ 6.2	ACA/cadresys	---	DISPL	DISPL	---	---		X
ARCAD 6.05F	software haltern	DIR.	---	---	---	---		X
AutoCAD for Windows	Autodesk	V	V	V	V	V	X	
AutoCAD 10.0/386	Autodesk	---	DISPL	DISPL	DISPL	---	X	
AutoCAD 11.0	Autodesk	DISPL	DISPL	DISPL	DISPL	DISPL	X	
AutoCAD 12.0	Autodesk	DISPL	DISPL	DISPL	DISPL	DISPL	X	
AutoShade 2.0	Autodesk	DIR.	DIR.	DIR.	DIR.	DIR.	X	
AutoSketch 3.0	Autodesk	DIR.	DIR.	DIR.	DIR.	DIR.	X	
BGI	DeskWare Products	DIR.	DIR.	DIR.	DIR.	DIR.		X
BW Design 1.0	BW International	---	TIGA	TIGA	---	---	X	
CADArt	CAD&ART	---	---	---	DIR.	DIR.		X
CADDEX	CONDAT	DIR.	---	---	---	---		X
CADdy 8.0	ZIEGLER-Informatics	DISPL	---	---	---	---		X
CADdy 8.0	ZIEGLER-Informatics	---	DISPL	DISPL	DISPL	DISPL	X	
CADkey 3.51/ 4.0/5.0	CADKEY	DIR.	TIGA	TIGA	---	---	X	
CADVANCE	ISICAD	DIR.	TIGA	TIGA	---	---	X	
CAE	Klöckner & Möller	DIR.	---	---	---	---		X
CMOL	Getec	DIR.	DIR.	DIR.	---	---		X
COLORCAM	LPKF	DIR.	---	---	---	---		X
COMMAND	ISICAD	DIR.	---	---	DIR.	---	X	
COMPASS CNC	COMPASS	DIR.	---	---	---	---		X
CONDOR	SOFA	DIR.	TIGA	TIGA	---	---		X
CS-APC	CSI Computer Service	DIR.	D/T	D/T	DIR.	---		X
CS-CADY	CSI Computer Service	DIR.	D/T	D/T	---	---		X
CS-FEBA	CSI Computer Service	DIR.	D/T	D/T	---	---		X

DC/CAD	Design Computation	---	TIGA	TIGA	---	---		X
Diamo 1.5	RIB/RZB	DIR.	---	---	---	---		X
Diamo 2.0	RIB/RZB	---	DIR.	---	---	---		X
Drawbase	microway	DIR.	TIGA	TIGA	---	---		X
EasyCAD 2.67	Evolution/Löst & Meiniger	DIR.	TIGA	TIGA	---	---		X
E-Control	SOFA	DIR.	TIGA	TIGA	---	---		X
ELPRO	DAT-rhv	---	DIR.	DIR.	---	---		X
ELTIME	HOS Computersysteme	DIR.	TIGA	DIR.	---	---		X
EPLAN 4.03	Wiechers & Partner	DIR.	TIGA	DIR.	---	---	X	
FOTO 3D	Howland & Partner	DIR.	DIR.	DIR.	DIR.	DIR.		X
FRESCO_T	SOFT-TECH	---	---	---	DIR.	DIR.		X
Generic CADD 5.0	Autodesk	DIR.	DIR.	DIR.	DIR.	---	X	
GEO-graf 5.0	HHK Datentechnik	DIR.	TIGA	TIGA	---	---		X
HIGH-PACK	CONDAT	DIR.	---	---	---	---		X
i860 TIGA	DeskWare Products	---	---	---	---	V		X
IFESCAD	Mücke Software	DIR.	TIGA	TIGA	---	---		X
isb cad	Glaser	---	TIGA	TIGA	---	---		X
IMAGE-PRO	Media Cybernetics	---	TIGA	TIGA	---	---		X
LogoCAD	Logotec	DIR.	TIGA	TIGA	---	---		X
MASTERCAM	CNC Software	DIR.	TIGA	TIGA	---	---		X
ME 10	Hewlett-Packard	---	TIGA	TIGA	---	---	X	
MEGACAD	Kirschbaum Software	---	TIGA	TIGA	---	---		X
Micado	Gerkhardt	DIR.	---	---	---	---	X	
MICROFE	mb Programme	---	---	DIR.	---	---		X
MicroStation 4.03	Intergraph	DIR.	D/T	D/T	DIR.	DIR.	X	
MIRAGE	Zenographics	---	TIGA	TIGA	---	---		X
NC-PEPS 2	Camtek	DIR.	---	DIR.	---	---		X
OrCAD	OrCAD L.P.	---	TIGA	TIGA	---	---		X
p-CAD 3.0/4.0	p-CAD	DIR.	---	---	---	---	X	
PC-DRAFT								
prof. 2.x	DAT-rhv	---	---	---	---	---		X
prof. 3.0	DAT-rhv	---	DISPL	DISPL	---	---		X
prof. 4.0	DAT-rhv	---	DISPL	DISPL	---	---	X	
Pictures by PC	Schott Datensysteme	DIR.	TIGA	TIGA	---	---		X
PointLine CADD								
Rel. 7.5/8.0	PointLine	DIR.	DIR.	DIR.	V	V	X	
PROCAD	mb Programme	---	---	DIR.	---	---		X
RenderStar	Modern Medium	DIR.	D/T	D/T	DIR.	---		X
RIBCON 10.2	RIB/RZB	DIR.	---	---	---	---		X
RIBCON 11.1	RIB/RZB	DIR.	DIR.	DIR.	DIR.	DIR.		X
RIO VISTA	AT&T	---	TIGA	TIGA	---	---		X
ROBOBUILD	Robocom	---	TIGA	TIGA	---	---		X
ROBOCAD 2.0	Robocom	---	TIGA	TIGA	---	---		X
ROBOCAD-DEVELOPER	Robocom	---	TIGA	TIGA	---	---		X
ROBOCAD-DRAFTSMAN	Robocom	---	TIGA	TIGA	---	---		X
ROBOSOLID 2	Robocom	---	TIGA	TIGA	---	---		X
RUPLAN	debis Systemhaus	DIR.	---	---	---	---		X
SCAD	abacus	---	DIR.	---	---	---		X
SEPP-CAD	abacus	---	DIR.	---	---	---		X
SIS CAD-M	STAEDTLER MARS	DIR.	---	---	---	---		X
SPIRIT 4.5	SOFT-TECH	DISPL	DISPL	DISPL	DISPL	DISPL		X
SPRE	abacus	---	DIR.	---	---	---		X
STRAKIT	DICAD	DIR.	DIR.	DIR.	---	---		X
STRAKON	DICAD	TIGA	TIGA	TIGA	---	---		X
STUR-CAD	abacus	---	DIR.	---	---	---		X
TIGA 2.05	Texas Instruments	---	TIGA	TIGA	---	---		X

TIGA 2.2	Texas Instruments	---	TIGA	TIGA	---	---		X
TOPAS Pro-Mod./ Anim.	AT/T	---	TIGA	TIGA	---	---		X
top-CAD 7.x	Seto Systems/SPEA	DIR.	D/T	D/T	D/T	DIR.		X
UniCAD	Hochtief	---	DIR.*	DIR.	---	---		X
VersaCAD 6.0	Prime Computer	DIR.	---	---	---	---	X	
WellCAM	CCS	DISPL	---	---	---	---	X	X
WellCAM-E	CCS	DISPL	---	---	---	---		X
WellCAM-M	CCS	DISPL	---	---	---	---		X
Windows	Microsoft	DIR.	DIR.	DIR.	DIR.	DIR.	X	
XoftWare TIGA/DOS	AGE	---	TIGA	TIGA	---	---		X
ZEICON	RIB/RZB	DIR.	DIR.	DIR.	---	---		X

>>> Windows Driver <<<

MS Windows 3.0/3.1 (256 colors)	Microsoft	DIR.	D/T	D/T	DIR.	DIR.	X	
MS Windows 3.0/3.1 (True color)	Microsoft		D/T			DIR.	X	

>>> Examples of supported applications under Windows <<<

AutoCAD for Windows	Ami & Ami prof.
ClickArt	CORELDRAW
Excel	Micrografx Designer
Micrografx Graph plus	INSTICT
NewWave	Optimar Bildverarbeitung
PageMaker	Pixie
PC View	PhotoStyler
Robotalk	Roboter Office
SUPERBASE	Windows Draw
WinWord	Ventura Publisher
Wingz	Aldus Persuasion and more...

-end-

Superdisks, Drivers & Utilities that are available via the SPEA Mailbox
SPEA Graphics Boards with Video Functions

Print in landscape format! / Im Querformat ausdrucken!

Status as of 20.11.95
(changes to last release 23.10.95 are *marked*)

	SHOWTIME PLUS	V7-VEGA VIDEO	V7-MIRAGE P-64 V	V7-MERCURY P-64 V
File Area Windows & Video Playback				
Windows 3.1x	Tseng: *	***Avance Logic:***	BigWin	***BigWin***
8 bit, 16 bit, 24 bit	0795.6	***v1.6 - 0995.3***	v3.20 - 1095	***v3.20 - 1195***
V7SETUP	v2.53 - 0795	***v2.53 - 0795***	v2.57 - 1095	***v2.57 - 1095***
SPEAview	---	***---***	v2.49 - 0995	***v2.49 - 0995***
SPEAdometer	---	***---***	---	***v2.0 - 0595***
Windows 95	Update: Up-0895	***Avance Logic: ****	BigWin95	BigWin95
8 bit, 16 bit, 24 bit	0895	***v1.10 - 0995.3***	v1.20 - 1095.2	v1.20 - 1095.2
V7SETUP	v3.00 - 0895	***v2.53 - 1095***	v2.58 - 1095	v2.58 - 1095
SPEAview	---	***---***	v2.49 - 0995	v2.49 - 0995
MediaStation (on Basis Disk)	v2.26 - 0795.6	***v2.29 - 1095***	v2.26 - 0895	v2.26 - 0795
MS Video for Windows (on Basis Disk)	v1.1e - 0595.4	v1.1e	v1.1e - 0495.1	v1.1e - 0795
Xing Player Update		v1.1p	v1.1p	v1.1p
File Area Win NT & OS/2'				
Windows NT 3.5x	NT 3.5: 0595	NT 3.5: v2.50 - 0595.1	BigWinNT	BigWinNT
			v3.10 - 0995	v3.10 - 0995
OS/2 3.0	(use drivers 'ET4000' which are offered in OS/2!)		BigBlue	***BigBlue***
8, 16, 24 bit		v1.7 - 0995.2	v2.07 - 1095.2	***v2.07 - 1195.2***
V7SETOS2		v1.19 - 0795	v1.22 - 1095	***v1.22 - 1095***
others	OS/2 3.0: patch 0695*			
File Area Other Applications (CAD,..)				
3D Studio 1.0 / 2.0	---			
AutoShade 2.0	---		(ADI 4.2 v2.2 - on Basis Disk)	(ADI 4.2 v2.2 - on Basis Disk)
AutoCAD 11/12 DOS	v2.0 - 0495 *			
AutoCAD 12/13 DOS & 12 WIN: BigFocus	---	---	v13.16 DOS/ v13.00 WIN - 0995.4 (2 MB only)	***v13.8 DOS/ v13.00 WIN - 0795.3***
AutoCAD 13 Win / Win NT -		***(BigFocus 13/Win - v2.1 - 1095.4)****		
3D Studio 3.0 / 4.0	Tseng drivers are already contained in 3DS Vibrant Config Menu	---	SPEA drivers are already contained in 3DS Vibrant Config Menu	
MicroStation 4.0x - BigMicro	---	---	---	---
MicroStation 5.0x - BigMicro	---	---	---	---
File Area Utilities	---			
SPEAenergy			v1.52 - 0795	
S3-TEST	---	---	(v1.43 - on Basis Disk)	(v1.43 - on Basis Disk)
SPEAtune	---	---	(v2.33 - on Basis Disk)	(v2.33 - on Basis Disk)
SPEA VESA Mode Emulation	---	---	V7MIPVBE.EXE (v1.13 - on Basis Disk)	
V7HFREQ.COM		---	(v3.37 - on Basis Disk)	(v3.37 - on Basis Disk)
File Area Basis Disk				
Disk "Utilities & Various DOS Drivers"	Basic Installation: 0795.6	***0995.3***	0995.3	***1195.4***

Multimedia Add-on Products - Current Disk Release Version:

SPEA Crunch It	0795.2
SPEA Play It	0695.1