Issue 7

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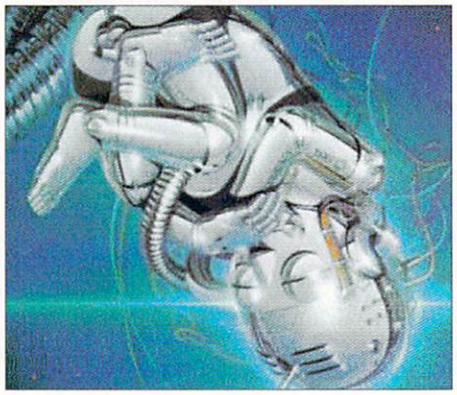

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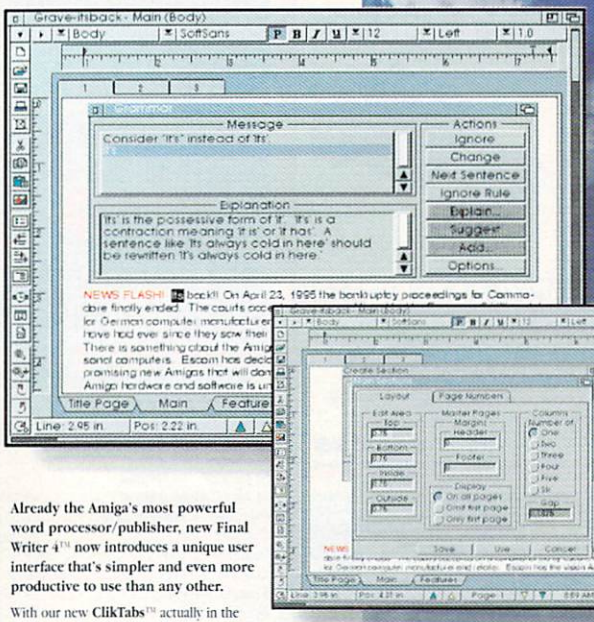

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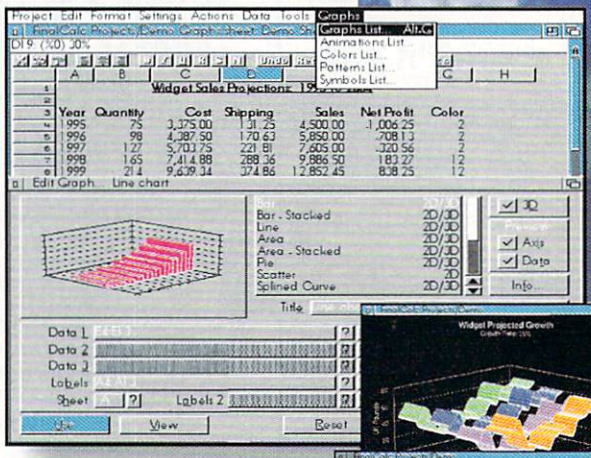

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- 2D/3D Graphs with animation
- Read and Write Lotus 1-2-3 .Wk1 files

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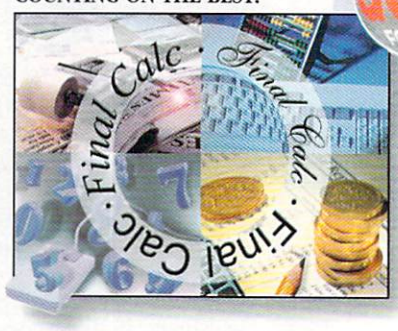

AMIGA GOLD FORMAT

Our most rec awards...

In two of the la reviews, Amig Format magazi gave their 'Gol Award' to both Final Writer 4 (which achieved 90% rating) an Final Calc (whi scored a massi 94% rating).

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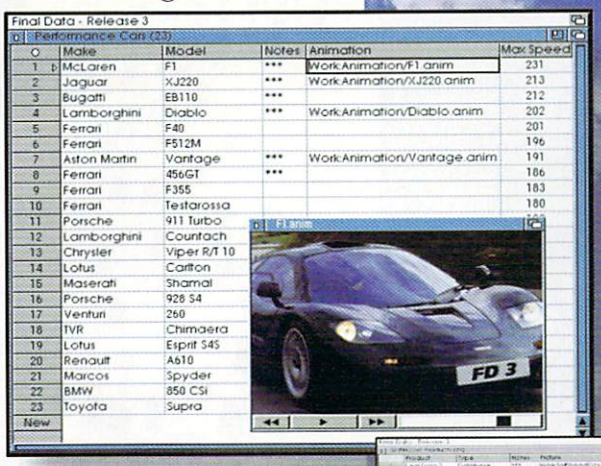
Final Data 3

Data Management... Soaring Ahead



Now in its third release, Final Data 3™ retains its ease of use and unique method of simple data definition and entry - but, now includes more advanced features!

Even first time users can produce their own personal information files immediately! As you become more familiar, you can take advantage of...

- Multiple Line Memos - enter an unlimited amount of text for each record
- Running Calculations
- An extensive Query Requester and... NEW Final Data 3 features such as...
- Hidden Columns
- Redefinition of Data (eg. from Text to a Memo column)
- Graphics, Sound and Animation (Requires the use of Datatypes found in Workbench 3.0 or above).

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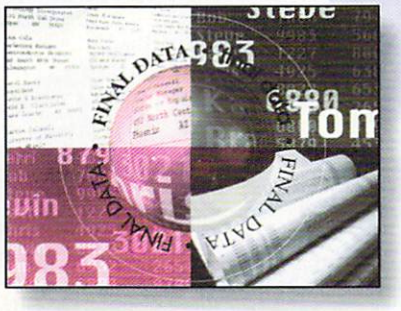

Final Data 3 for review...

Although not yet reviewed by the magazines, reports about Final Data 3 from editorial staff have been more than favourable. Look out for the results of these reviews and ratings very soon!

The SoftWood family of quality software goes from strength to strength with three new and enhanced programs that really will create a growth in productivity on your Amiga.

***Final Writer** 4 has built on the already extensive feature list of previous versions with innovations that take this great word processor into a new era. With a completely redesigned interface Final Writer is even easier to use and offers more functionality than ever before. **Final Calc** is a totally new addition to our range and redefines the way a spreadsheet should work. Already magazine editors are praising it for the way the program is fast and intuitive while offering a range of advanced features that are easily accessed by even novices to the spreadsheet world. **Final Data** 3 has undergone a major upgrade with improvements that have extended its capabilities while retaining unique, easy data entry techniques.*

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- Easy definition of columns for categories of information such as name, address, city, state, province, ZIP code phone numbers etc. - no unfamiliar commands!
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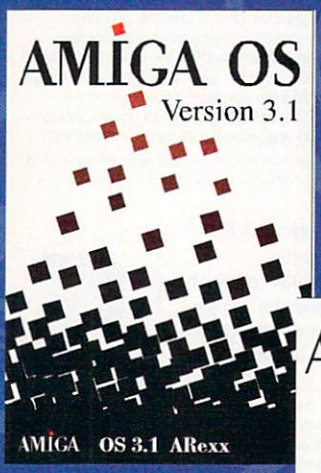

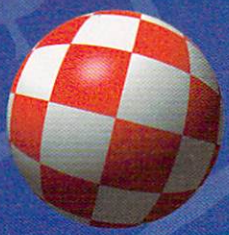

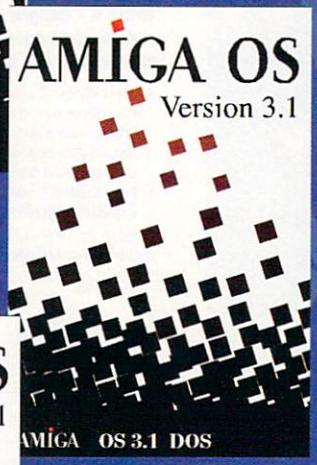

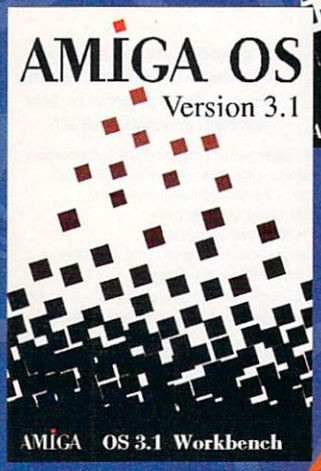

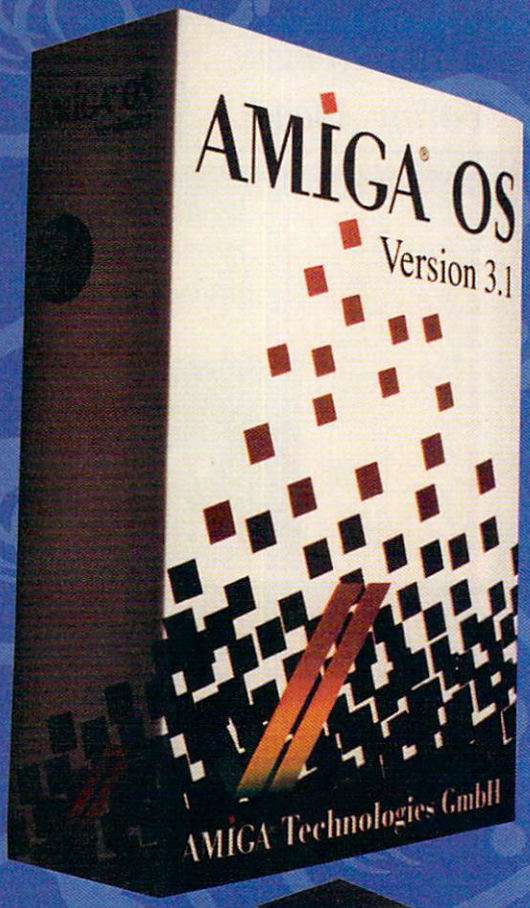

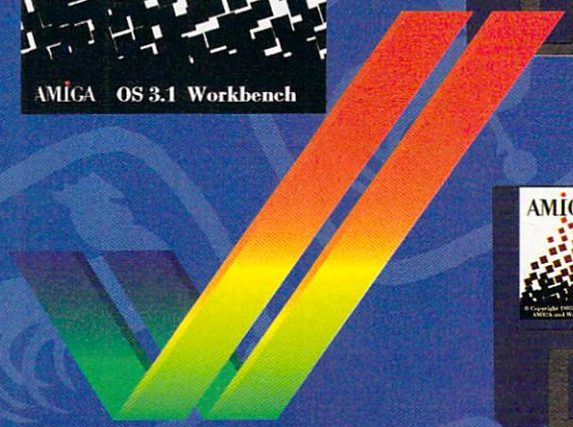

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news

By Tina Hackett

POSITIVE VIBES FROM AMIGA TECHNOLOGIES

Despite setbacks regarding the compatibility of the new Amiga drives, Amiga Technologies have announced some positive developments for the future of the Amiga.

Gilles Bourdin, Head of Public Relations for Amiga Technologies, was positive about the company's forthcoming plans and was keen to express his delight at the response to the recent Paris Amiga show held this December. He remarked: "In spite of the fact France was in chaos [because of the strikes] many people still came." It was estimated that between 3,000 and 4,000 people turned up to see, amongst other things, the new Amiga 4000 Tower with the 060 processor. Demonstrated on it was TV Paint3.6 with a Wacom Art Pad. "People were very excited by the speed of the set-up" Bourdin continued. A question and Answer session took place on the Sunday.

AT have also unveiled more on their mystery Internet package due for release in January. An exact price was not revealed although they stated that it would be below 1300 DM (around £600) and would include all the software needed to get on the Internet bundled with an A1200. This would include a PC Slot Modem, TCP/IP Stack, Web Browser, FTP program, E-mail program and IRC program. A rumour that Netscape was being ported over to the Amiga was denied. Bourdin stated: "There will be a lot of new software coming out for the Amiga soon from companies that have never developed for the Amiga before who previously work on PC and Mac products. There will be some Web Browsers of very high-quality but we are definitely not dealing with Netscape."

The A4000 Tower was on display at the recent Paris show and demonstrated TV Paint 3.6

However, another rumour doing the rounds was validated at the recent press conference in Hannover. It was believed that Apple had offered Amiga Technologies a port of QuickTime and at the conference which was attended by Executives from Apple, Germany, the deal was confirmed.

COMPATIBLITY REPLY

Following last month's report that owners of the new Amiga Magic Packs were experiencing compatibility problems, Amiga Technologies gave us their response: "We have noticed that there are some problems with games software on the new Amiga A1200's. To resolve this, we are working on a hardware solution that will be fitted at no cost to the customer, by an authorised Amiga Dealer."

They continued: "To avoid such problems in the future, we kindly encourage that software publishers make sure that the programs they develop respect the programming guidelines. Amiga Technologies will be happy to process any information requests from developers concerning this issue."

EYETECHS HAVE IT

Yorkshire based Eyetech have announced the release of their Endicor Prefs 24 bit driver for the Epson Stylus Color Printer. The Endicor driver is supplied as both an Amiga preferences driver and a standalone printing program. They offer full 24-bit printing with user definable colour correction, printing mode and resolution. From the standard Enprint printing program you can also get image scaling, positioning and rotation. The driver retails at £34.95. From what we've seen the quality is of a high standard – the pictures were from HAM-8 images at an average 700x500 pixels resolution

The print-out we saw was impressive. It was generated by the Amiga on the basic Epson Color Stylus Printer with the Endicor driver

WORLD OF AMIGA

By the time you read this the World of Amiga show will have taken place in Ontario, Canada. Billed as North America's largest Amiga Trade Show, Petro Tyschtschenko, General Manger of AT GmbH, is to open the proceedings.

The schedule for the show is to include Amiga on the Internet, Scala Multimedia Production, and PC and Macintosh Emulation. Phase 5 and Soft-Logik are among thirty exhibitors listed to take part. We'll hopefully be bringing you a full report next month.

This leads nicely on to the UK's very own World of Amiga Show which has been confirmed and will be held at the Hammersmith Novotel on the 12 and 13 April.

TALENT SCOUTS

Keep an eye out in the forthcoming months for a competition from Amiga Technologies. The competition will be aimed at bringing out fresh talented Amiga programmers and artists, and will be run over 12 months and be divided into two sections.

One is to program a demo such as a utility or game and the other is for budding artists to create something arty on the Amiga.

The competition will be open to all readers UK and overseas and the prize may be a trip to the Solectron factory in France.

Jonathan Anderson, Managing Director for the UK commented: "There are lots of talented people out there. We want them to help make the Amiga shine."

news snippets

BARGAIN GAMES

SoundScape Multimedia, a PC-based educational company, have confirmed reports that they have bought out Rasputin Software. This means that they have a surplus of ex-Rasputin stock which they can offer readers at the greatly reduced price of £9.99. The games available are Jet Strike and Clockwiser with Amiga, AGA and CD32 versions and Base Jumpers (CD32 and Amiga). For further information contact: SoundScape Multimedia, Suite 4, The Woodrow Centre, 65-66 Woodrow, London SE18 5DH. Telephone: 0181-855 3702.

BIRTHDAY CELEBRATIONS

Amiga Atlanta, Inc. are one of the oldest Amiga user groups in the United States and on Saturday 20 January they will be celebrating their10th anniversary. But they are not celebrating alone as it is also the 10th anniversary of the Amiga computer, and Amiga Atlanta, Inc are inviting Amiga users from all over the world to participate in their celebratory banquet which is being held at the Terrace Garden Inn in Atlanta.

Representatives from Amiga Technologies are expected to fly in from Germany to give the keynote address and other key Amiga figures such as Fred Fish will be there. Whilst over in Atlanta, they also suggest that visitors take in the tour of Olympic Venues!

For more information see the AAi Home Page: http://www.mindspring.com/~amigaatl; or Email lamar@mindspring.com

VIEWSONIC MOVE INTO EUROPE

ViewSonic, the second largest monitor manufacturer in the United States, are now establishing themselves in Europe with new head quarters based in Dusseldorf, Germany. ViewSonic Europe offers its own technical centre, a customer support team, sales and marketing division and financial centre. Managing Director, Michael Kommer said: "ViewSonic's European sales more than doubled in 1994, and we are quickly becoming a major force in the European market...These are exciting times for ViewSonic, and we are here in Europe to stay."

James Chu, President of the ViewSonic Corporation with Michael Kommer, Managing Director, ViewSonic Europe

TFX TO FLY

It's been months in development but Ocean have now announced that TFX is going to come out on the Amiga after all. *Amiga Computing* investigated claims that it wasn't going to be released when a disgruntled reader called us, angry at having upgraded his Amiga specifically for the forthcoming flight sim to be then told that it wasn't coming out at all. We reviewed the game back in May 1995 from the final *AmigaD* version and found it to be an excellent game with the exception of a few bugs. We were also concerned that the game would not run satisfactorily on a standard A1200 which we reported at the time.

According to a spokesman from Ocean, DID decided it wasn't good enough and despite problems with the original programmer, pressed on to make a version they were happy with. We can happily report now that the game will be released in April and we hope to bring you a re-review as soon as possible.

DID are also continuing to support the platform with another title in the pipeline. Details are sketchy at the moment but we'll bring you more as we get it.

AGA EXPERIENCE OFFER

Sadeness have announced a special offer for all owners of their AGA Experience Volume 1 CD-ROM. By returning you registration cards you will be entitled to a £5 discount of their next release, The AGA Experience Volume 2. The CD should be released around 13 March but those wanting to take up this offer must return their registration cards by 20February. Volume 1 is still available but quantity is limited. It can be obtained directly from Sadeness Software, 13 Russell Terrace, Mundesley, Norfolk, NR11 8LJ. It is priced at £17.99 which includes post and packaging. Contact them on 01263 722169.

Owners of AGA Experience Vol. 1 can get £5 off the new version

RUMOUR OF NEW AMIGA OS

Amiga Computing have heard on the grapevine of a new operating system for the Amiga. The information we have received so far is that it is not WB V4.1 and is a new third-party OS. Apparently it's written in 'C' and therefore PowerPC native. From the rumour we heard, it will 'change the way you will use your Amiga' because of a system that works with 'modules' and a language similar to ARexx. Hmm..

SPRINGFIELD OFFER AMIGA TUITION

Essex-based Springfield Multi Media have announced their latest initiative to give owners the most benefit from the new Amiga packs. The company have expanded the pack with extra memory, a L2000 genlock, and half a day of training on how to use the package.

The company commented: "Quite often new Amiga users, particularly with video in mind, are left to struggle, often buying inappropriate software and hardware and rarely obtaining the full benefit of their purchases. Our new Amiga pack represents excellent value for money by packaging it with additional memory and a superb genlock, together with our training session, to make sure the user is all set to gain immediate benefit." The complete package is available for £1,150 from Springfield Multi Media. Contact them on 01245 227588.

Extras such as tuition make the most of the machine

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news from the net

LEGAL EAGLES

City law firm Denton Hall are helping to prevent businesses suffer a pitfall from the complicated laws surrounding the Internet. They offer an on-line legal audit to ensure that the many companies that are starting to use the Internet can do so legally.

Denton Hall advise companies that it is important to monitor the Internet to ensure their corporate image is not at risk. They can offer advice on how to monitor the Internet to watch for rights infringement and defamation. They also recommend that firms giving their employees e-mail and on-line access need an internal code to regulate its use.

AA ON THE WEB

Motoring company the AA are now online with a homepage with all sorts of information for the motorist. You can now access their history, find out how to become a member, and general motoring information such as fuel prices. "The AA's presence on the Internet is expected to grow to become more interactive, with the possibility of buying AA products and services directly through the Internet, and special pages for AA members only, but we are keen to get feedback on what is wanted from such a service" said Pete Johnson, Managing Director of AA Commercial Services. The AA is at: http://ww.theaa.co.uk/theaa

HELP AT HAND

Befrienders International, the Samaritan movement worldwide, alarmed by the growing number of suicide messages from Internet users, are hoping to use the Net as a helpline.

Apparently, suicide is the third most common cause of death in men aged 16-35 who are in the highest risk group. Research has shown that most users of the Internet are male and in the younger age group and Befrienders International believe they are most at risk. The recent service by the Samaritans which offers an e-mail service to communicate with Internet users who are in crisis has shown a big demand for such a projects.

A recent conference held in London by the organisation encouraged similar schemes in other countries and languages and interest was expressed by USA, Hong Kong, Japan and Australia. Vanda Scott, Director-General of Befrienders International remarked: "It is vital that we counter the pro-suicide messages and ensure that people who need help know where they can turn for help."

The Samaritans are at:
jo@samaritans.org.

COMPUTER SOLUTION

The new workstation from Premier Developments offers increased shelf space for extra peripherals

Premier Developments, the designers of the range of Centre desktop computer workstations, have a new solution to keep your computer area as orderly as possible. Called the Premier 'MUL-T-MEDIA' , it is of the same sort of design as the Uni-Centre but is now bigger to accommodate more peripherals.

Increased shelf space on the top means that a good sized pair of speakers will also fit comfortably by the side of the monitor. The workstation is suitable for all home computers and in the case of an A600 or A1200 the extra room will also allow for the PCMCIA ported Squirrel or Overdrive to be attached.

It is available for £40.42 and can be found in most computer retail outlets. Contact Premier Developments on 01487 823684 for further details.

CENTABHOBES HELPED BY VR

If the thought of the dentists drill instils deep fear in you then worry no longer because Virtual Products have a new approach that could take the dentist-day blues away.

Virtual Products, the company behind the virtual reality headset i-glasses are now installing the headset into dentists surgeries to take the patient's mind off the treatment they're having.

The glasses allow the patient to watch 3D films or listen to music videos but because of the glasses' size and weight, the dentist can still access the patient's mouth easily.

Through the headset the patient can experience the effect of a two metre screen with stereo sound. The glasses can display 2 or 3D video, PC games and television. They are compatible with standard video output and can be connected to an Amiga, Apple or IBM PC.

Denis Premiski, Virtual Product's General Manager commented: "The i-glasses are extremely adaptable and can be applied to many different situations, with dentistry as just another application." He continued: "In this case, it provides considerable benefits to both dentist and patients, creating a relaxed environment and satisfied customers."

The i-glasses will help to alleviate patients nerves when visiting the dentist

SIX-SPEED CD-ROM AT £149

Philips' latest product is a six-speed CD-ROM drive priced at only £149. Although designed primarily for the PC, the drive can be used with the Amiga via Blittersoft's ATAPI/IDE driver. It offers a motorised, caddy-free loading mechanism, 900KB/sec data transfer rate, 128Kb memory buffer, and a seek time of less than 200ms.

Fools gold

amiga comment

Windows 95, Warp OS2, pull 'n' play, Pentiums, P6 chips, millions spent and vast fortunes in the making. The question is, does the buying public get a real bang for their buck, or simply end up engulfed in the aftershock of endless investment and upgrades?

Given the money and marketing lavished on the new breed of so called 'user friendly' PCs, it would seem there's no choice when it comes to home computing. Like a double seat on the train, you've got to get in first – stocks won't last, buy or be laughed at. The marketing pressure is intense.

There's no rest byte, the all powerful PC sits in shop fronts across the land struggling to scroll a seemingly endless stream of virtues before the eyes of any would-be investors. If you want the best you've got to pay for it. The question is, what's on sale here – the machine or the marketing?

Just six months ago a friend of mine quite rightly tired of the seemingly endless wait for the Amiga to get back on its little rubber feet. After lots of reading and research he opted for a quality PC. Even after a lot of bartering his new baby still weighed in at a hefty £1400.

Problem child

At the time this new 'all singing all dancing' sibling was the apple of his daddy's eye. Unfortunately, just six months on this rapidly ageing 486 DXII has become something of a problem child.

The Pentium is now well and truly ruling the roost, and his train spotting, acne ridden DX is rapidly becoming a computing wallflower. The glossy games that added so much attraction to the initial investment now demand a Pentium to deliver the promise so lavishly emblazoned in print and on the packaging.

Like the average hot-hatch, his former pride and joy would be lucky to generate a third of its showroom asking price out on the street. And yes, I know Amiga's depreciate as well, but the pain of depreciation is directly linked to the initial investment. And in relation to the PC, that's one area in which the Amiga certainly scores some points.

Of course, pride and poverty doesn't entertain the idea of selling up. After all 'it's still a serious machine that can run everything a Pentium can.' The point is, did he really want a serious machine, or something that could play games and still be taken seriously. Man, machine and marketing in perfect turmoil.

The question of keeping up with the Jones', Pentiums, P6s is a familiar tale across every platform, including the Amiga. However, the forgotten hero does have few distinct advantages in the dog eat dog world of the PC.

Not least of these is a generic background. Every Amiga sold has a standard architecture and although this can be expanded upon with assorted accelerators and ad-ons, the basic structure remains he same. As a consequence, developers are forced to work within predefined guidelines which in the long term benefit all.

It's true there's a fair amount of diversity within the platform as a whole, but as a general rule there is a degree of uniformity which goes a long way to combating the evolutionary frenzy that dogs the PC.

The relaunch of the A1200 may not be a technological breakthrough, but at least it offers an alternative to confusion, unnecessary expenditure, and the marketing hype that surrounds the constantly changing landscape of the PC market.

Perhaps the most important question for any would-be buyer is not which machine is the most powerful, but which is the most appropriate. The gloss and glamour of the Pentium and Microsoft marketing machine leads many to overlook the real issues.

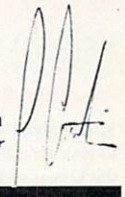
It's all too easy to fall into the dinner party bore mentality and justify your investment by reassuring yourself and others that, if you wanted too, you could run Photoshop, QuarkXpress, Microsoft Word and so on. But in the cold light of day, are you ever really likely to? – especially considering that just one of these blue chip applications could buy you an entire Amiga. Admittedly, PC games and indeed some applications are pulling away from their Amiga counterparts, but so are their prices and the cost in hardware required to run them.

The ads are glossy, the hype is at feverish pitch, but is there really a safe distance when it comes to the PC explosion?

No change

Don't get me wrong. A 100MHz Pentium with 16Mb of RAM, a quad-speed CD-ROM and 17 inch monitor is a very respectable machine. But don't expect to get much change out of £2000. And be warned – this sort of spec is rapidly becoming the entry point for a PC with more than a six month shelf live.

Contrast that against the £350 asking price for an A1200 and you have a real incentive to look long and hard at your reasoning. There are almost as many reasons for investing in a computer as there are computers on the market. However, if you are in the market, make sure you're buying the machine and not just the marketing that surrounds it. By the way, this shouldn't be a problem on the Amiga, as there isn't any... AC



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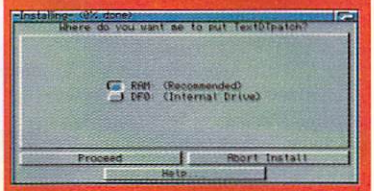
Extracting disks

Before you even think of putting the cover disks anywhere near your computer you should make sure you write protect them. By moving the black tab in the top corner of the disk, so you can see through the hole, you prevent your disks being damaged in any way. There should be no reason why the cover disks need to be written to, so even if the computer asks you to write enable the disks, don't do it.

To extract the programs off the second disk you must make sure you have booted your computer with the first cover disk, otherwise your Amiga will not be able to find the c:Installer program, and frustration will soon set in.

To extract any single archive, simply double-click its icon and follow the on-screen instructions. If you want to quickly extract the program to RAM, select the NOVICE level on the welcome screen and press proceed once on the current screen, and then again on the next. The program can then be found in your RAM disk.

You also have the option of using a floppy disk. If you pick this option, make sure you have a blank formatted disk at the ready, and if you only have one drive get ready for lots of disk swapping and a long wait.



Readers lacking a hard drive will have to stick with extracting single programs

The coverdisks

We push your brains to the limits with **multimedia** authoring and management training

GOLD SUBSCRIBER DISKS

ImageVision

Requires 3Mb RAM

Specifications

To easily run ImageVision from Workbench you need 3Mb of RAM. Unfortunately, there is no easy way around this, it's just that to get the sort of features that ImageVision provides you need a lot of RAM. Having said that, it is just possible to get ImageVision up and running on a 2Mb machine.

This will still allow you try out the program, but you will not have very much memory left over. 2Mb owners will have to do the following: after you have installed ImageVision into, say, your Work: partition, reset your machine and hold down both the mouse buttons. This brings up the Amiga's early startup menu, and here you just click on the *boot with no startup* button.

This starts your Amiga with the absolute minimum amount of stuff in memory. To run ImageVision you need to type the following.

```
assign env: envarc:
assign libs: sys:classes add
Work:ImageVision (or whichever directory your installed IV to)
assign IV_Temp: Temp
ImageVision
```

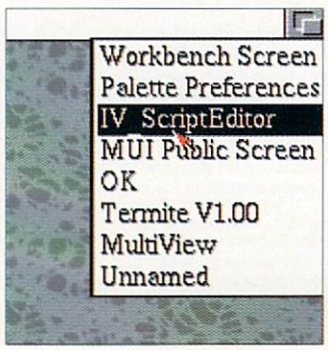
This will now start ImageVision but you will only have around 350k to play around with. To get some more memory there are a couple of other things you can do. From within ImageVision itself you should select a non-interlaced screen mode. You can also remove a couple of files from the ImageVision directory. If you select *show all files* from the Workbench menu and go into the system drawer, delete the pattern drawer and then go into the modules drawer and delete the two Mpeg module files. This save further memory when you run ImageVision. You may even want to remove the Anim modules.

Screen Menu

Author: Stuart MacKinnon
Workbench: 3.0

Screen Menu is a tiny little program that adds a well needed function to your Amiga's screen bar in the form of a new selectable menu from the screen cycle gadget, in the top right of the screen. This menu lists all the currently opened screens and by selecting one you can jump straight to it. This saves you having to individually flick through each one – if you have a lot of screens open you can end up flicking past the one you want and have to cycle through them all over again.

ScreenMenu can be started from either Workbench or the shell. There are a couple of tooltypes in the information requester that change how ScreenMenu works. **Qualifiers** can be set to on or off, and if it is on you have to press the shift key before the menu will appear. There is also a **Delay** option so that if you do not use a qualifier, you can set a short delay before the menu appears so that the screen cycle gadget can be used as normal.



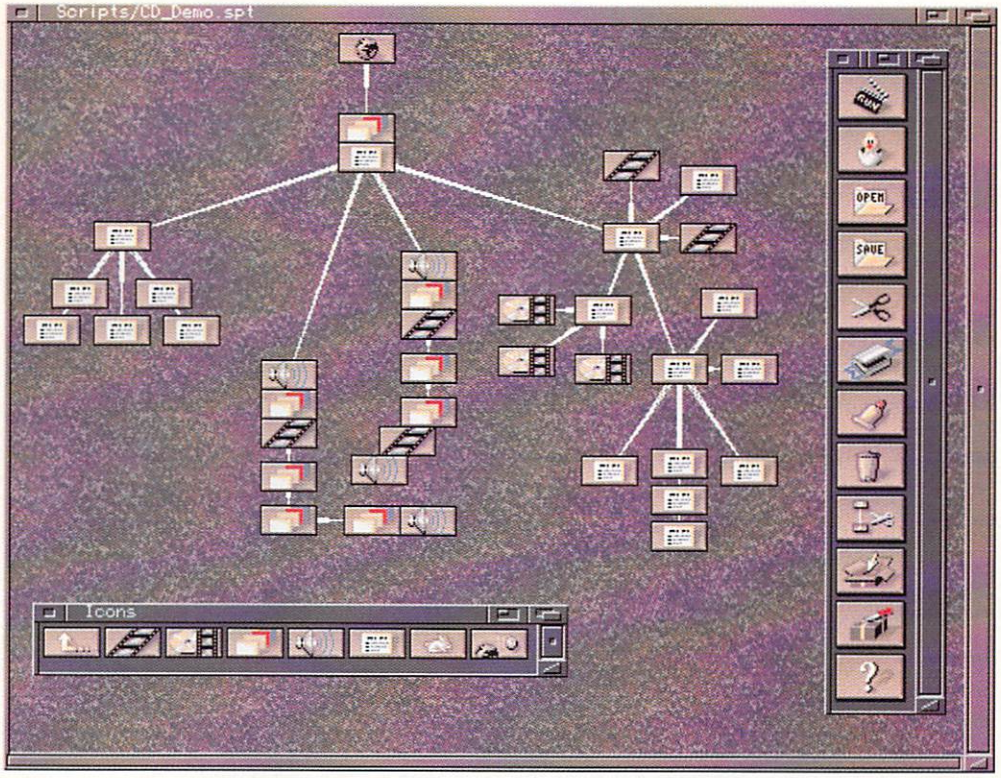
SleepyPointers

Author: Antonio Santos
Workbench: 3.0

It is amazing. We are meant to have this great multimedia computer with all its specialised custom chips to provide sprite and blitter support and what do you get to look at when you are waiting for something to finish? If you are lucky you can gorp at boring old stationary clock symbols – woopy-doo-dar.

Well SleepyPointers is to the rescue. This very well written shareware program will banish those old boring wait pointers to, well, somewhere else, and instead you can have the choice of either a lovely spinning hour glass or the classic spinning watch pointers.

To get SleepyPointers up and running just double-click on whichever style pointer you like, and if you want to run it every time you start your computer, just drop the icon into your WBStartup drawer.



ImageVision's hierarchical layout makes scripts easy to understand

FAULTY DISKS

If you should find your Amiga Computing CoverDisk damaged or faulty, please return it to:

TIB Plc, TIB House, 11 Edward Street, Bradford, W. Yorks BD4 7BH.

Please allow 28 days for delivery

IMAGEVISION

Author: ImageLab Technology
Workbench: 3.0, Hard Drive, 3Mb RAM

You have read the review, now you can try out ImageVision for yourselves in this saved disabled demo – all the functions and options of the full program are available for you to try out here.

As in the full program, you get a tutorial script that is automatically loaded. If you run this you will get a feel for what ImageVision is capable of. If you have trouble understanding any of the functions you can hit the help button and the context-sensitive AmigaGuide help will pop up, allowing you to read all about the current functions.

ImageVision has three main windows. The largest is the main script window where you construct presentations. Icons can be dragged into this from the icon window allowing you to add another section to the current script.

To link icons together after you have brought a new one onto the script window you must click on the top of the white tail that comes out of the top of each icon and drag it over to the icon you want it connected to. Menu icons are the only ones that can have more than one icon connected to it. To adjust the settings of any of the icons you should double-click on that icon. This will bring up a new requester in which you can modify any of the settings. As ImageVision internally multitasks you are able to have as many of these windows open as you like, and you can even work on more than one script at a time.

Once you have set up a script to test it, just hit the run icon in the tools window on the right of the screen. Most of the normal editing tools are available here. If you want to cut any icon connection you select the icon and then hit the cut connection icon.

INSTALLING IMAGEVISION

Author: ImageLab Technology
Workbench: 3.0, Hard Drive, 3Mb RAM

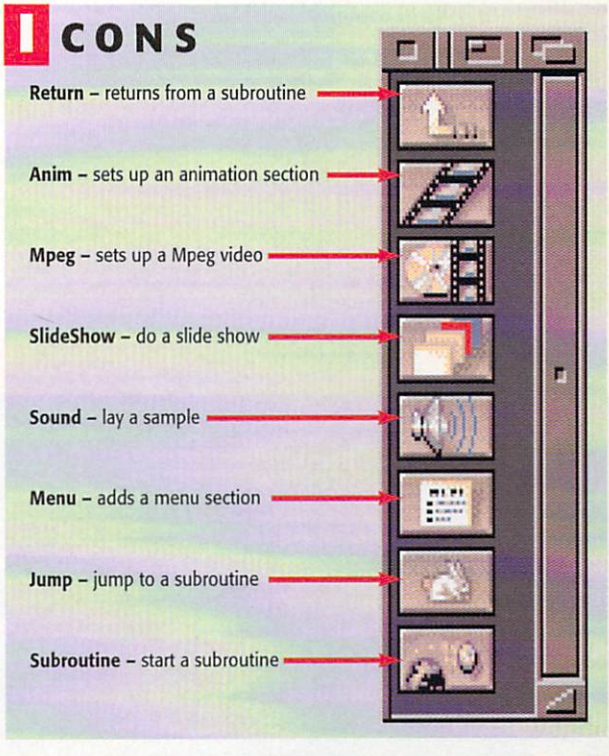
For you people lucky enough to have an AGA machine with a hard drive you will be able to try out this great program for yourselves. Installing ImageVision is very straightforward if you follow these simple instructions.

The simplest and quickest way to do this is to boot your machine with your hard drive, and once Workbench has loaded insert the first coverdisk. For this extraction process to work properly a couple of files are needed on your hard drive, namely the Amiga Installer program and Lha. If you open up the coverdisk window and double-click on the **SetUp-HD** icon this will check if you have these to program, and if not they will be copied over on to your system.

Once this has been done you can just double-click on the ImageVision icon, and either extract the program to RAM or your hard drive. After this the program needs to be actually installed onto your system, so double-click on the install icon and follow the on-screen instructions.

This is an early version of ImageVision and it can have problems with certain overscan settings, so if you find some menu buttons do not respond, try setting your PAL overscan settings to 720x275, or for DblPal to 720x550, and this should clear up any problems.

ICONS



ImageVision's good looking icons are easy to recognise

Installing Hillsea Lido demo

The easiest way to get the Hillsea Lido demo up and running is to reset your computer and then insert the second coverdisk into the internal drive. Follow the on-screen commands and when you are asked to insert a blank disk, remove the coverdisk and place a blank disk into the internal drive and hit return. Once this has finished, if you reset your machine you will be able to play Hillsea Lido from this disk.

Hard drive users will be pleased to know that the demo is hard drive installable, as is the full game. To copy the game on to your hard drive, go into Workbench and drag the Hillsea Lido game disk icon into the directory window where you wish the game's drawer to be created. Just open this drawer and double-click on the Hillsea Lido icon.

Hillsea Lido Demo – the seaside management simulator.

Author: Vulcan Software
Workbench 2.04

I thank you ladies and gentlemen. For my next trick...

Your business proposals have been approved by the local authorities and they have wished you every success with your seaside development project. You have been granted 20 metres of beach and corresponding promenade, plus full ownership of the Pier Theatre. You will have the opportunity to expand your resort up to a maximum size of 200 metres in the future. How you choose to manage your resort is entirely your concern, but the authorities maintain the right to reward or penalise you in areas that remain under their jurisdiction.

Hillsea Lido is a seaside management simulator. In effect this means you are given access to all the elements needed to turn an empty stretch of beach into a thriving resort. It sounds easy enough but the reality is far more complicated. You will need to show real flair as an entrepreneur in order to use the different elements of the game to your advantage.

Hillsea Lido is a mouse-driven game, and most of the icons in the game have two or three functions. For example, when increasing the selling price of, say, the candy floss, you can use the left mouse button to increase the total by one, the right mouse button to add ten, or both mouse buttons to add a hundred. Also, the scrolling action area can be speeded up using combinations of mouse buttons. If you are in any doubt, just experiment and you will soon find various short cuts that allow you to control the game in the way you want. The first thing you see when starting Hillsea Lido is 20 metres of empty Promenade. Behind the Promenade is your beach which can be accessed by clicking the LMB on the beach icon at the bottom of the screen. These two are known as the Action Areas and are where the results of all your decisions take place. When your resort eventually expands you will then be able to scroll left and right along its entirety by using the arrow icons at the bottom of the screen. The main icons are situated beneath the Action Areas and allow you to access the different elements of Hillsea Lido.

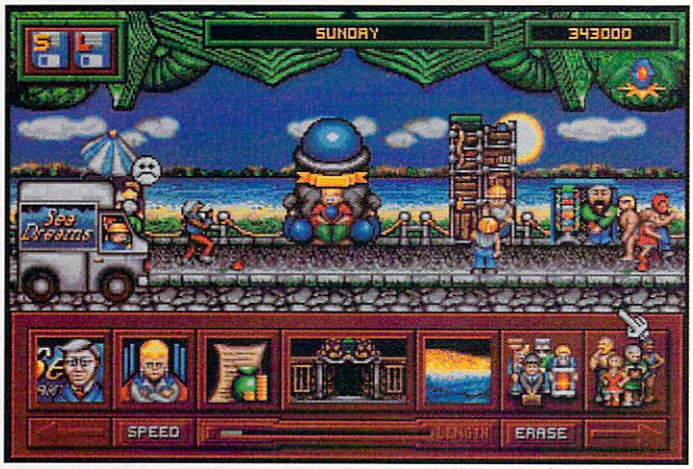
Catalogue

SeaDreams wares are displayed in a catalogue which is relevant to whether you are viewing the beach or promenade when you choose this icon. You can scroll through this catalogue of shops and facilities by clicking on the salesman's hand or the bottom of the catalogue. Each page shows you a picture and a description of the shop and facility. If you wish to buy one simply click on the pile of cash and your mouse pointer will be exchanged for a rectangle to represent the size of the shop or facility. You must then paste this rectangular scaled down representation at the bottom of the screen. If you change your mind you can click on the RMB to escape before pasting.

To purchase more land simply click on the sand mound and for more information about SeaDreams Ltd click on their logo. Once built you can click on the shop or beach hire facility in the Action Area, and use the LMB to access their individual information screens. In here you can set the price of your stock or your rides by clicking on the arrows, and you can change the commission paid to the employee in the same way.

The bleach bar is an indication of how clean your shop is, or the spanner, in the case of your beach hire facilities, indicates how safe they are. You can clean your shops by clicking on the spanner icon

What's a seaside resort without someone selling icecream?



Hillsea Lido's burger joints are slightly more imaginative looking than your local MC king

which is situated on the right of the screen. The demolish icon speak for itself.

All the different types of stock you will ever require for your promenade shops are displayed here. You can set the amount of stock you wish to order using the arrow buttons, and when you are satisfied with your order click on the sales woman who will inform you if the stock is available. If it is, the delivery truck will start off on its journey.

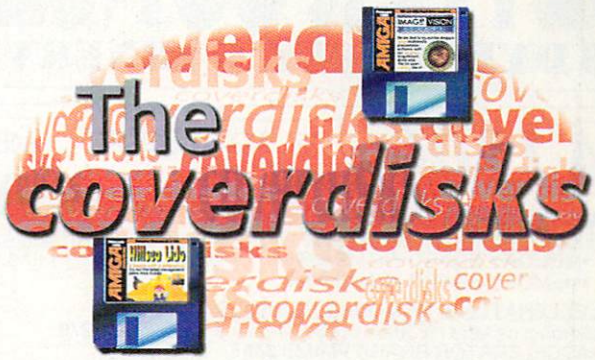
ENTERTAINMENT

You can book an act for your theatre any day of the week in readiness for the Sunday show night. Scroll through the acts by clicking on the arrows on the left of the screen, and when you have chosen one simply click on the cash and the act will be booked, the ticket price on the right of the screen changes depending on which act you choose. On Sunday night you will be automatically transported to the theatre so you can see all the people piling into it, along with all the lovely dosh you will be making.

You can hire various individuals to work on a casual basis. The left-hand side of the screen applies to the promenade and the right to the beach. Find out more information about each character with the LMB, and the hire button will do just that – hire people.

The tourist screen allows you to find out all sort of information about the people that come to visit your beach. Each tourist gives seven ratings on your beach. When they visit a shop three bars appear rating the politeness of the staff, pricing, and how clean the shops and beach are. The other four at the bottom of the screen relate to how much they want of the following: sugar, hunger, thirst and souvenirs. They will also tell you what they would like you to build next, and the customer is always right – so you'd better listen.

If you think you can save money by being a skin flint and not paying cleaning and repair bills, think again. Regular health and safety checks will fine lax beach owners over dirty or dangerous shops and rides. Once a ride has been fined, the warning never goes unless you demolish it. If you let things really slip you could even injure or poison someone, and then you will be fined even more.



INSTALLING TRITUS DEMO

After the Hillsea Lido demo has been copied onto a blank disk you will be able to do the same process for our demo version of the shareware game Tritus. Just wait until you are prompted to insert a blank disk and then hit return.

Once this has finished, if you reset your machine you will be able to play Tritus from this disk. Hard drive users will again be pleased to know that Tritus is hard drive installable. To copy the game on to your hard drive, from Workbench, open up the Tritus disk window and then drag the Tritus drawer to whichever destination drawer you want it to go in. You will then be able to open up the Tritus drawer and double-click on the cute icon. It will even quit back to the Workbench.

TRITUS DEMO

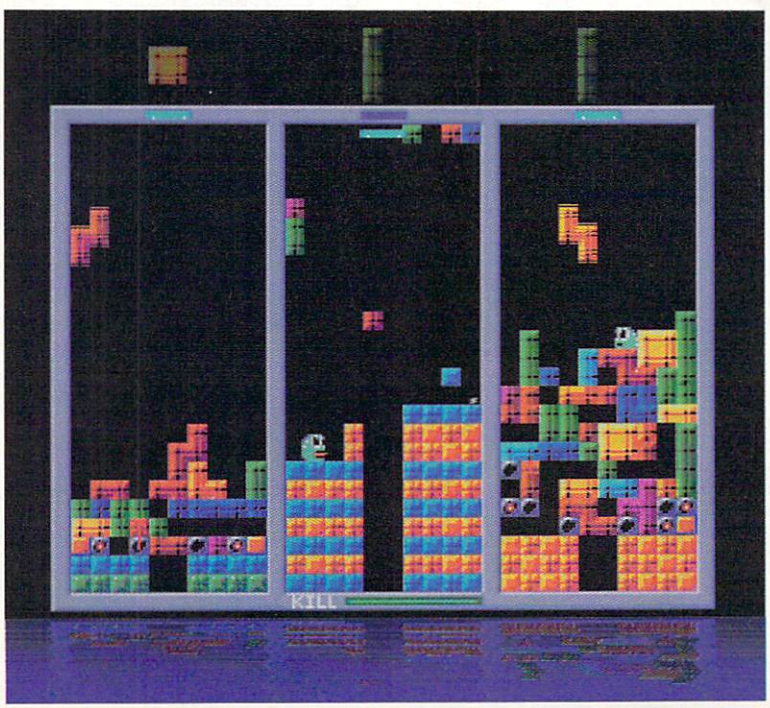
Author: Davin Pearson
Workbench 2.04

So you think you are a hard Tetris player do you? Well, as the old saying goes, you ain't seen nothing yet. Tritus is a bit of a turbo nutter, fuel-injected Tetris, a power-upped, monster-infested, multi-player, evil addictive game. Once you start you cannot stop.

Tritus is a simultaneous three-player Tetris-style game, but with a twist or two and the odd surprise up its sleeve. When you first start the game and get past the initial intro you will see three game areas with a press fire message.

Tritus can have up to three players on at once, but do not worry if you have no friends, or that no-one is around to play as the computer will take control of the remaining players. If you do play against the computer you can cheat and get a few seconds head start by quickly hitting your fire button – that is if you are the sort of person who does cheat. Once you are off the mark the idea of the game is the same as Tetris, that by filling up a full horizontal line you will remove it, but in this game doing that adds a line to your competitors' areas. If you manage to do five lines in one go, the most possible, you are congratulated with a screen shuddering thud and a flash guitar rift.

It does not stop there. Every now and again a little blue greebly will drop down everyones screen and start to eat away at your block, destroying all the hard work you have done. To stop it just drop a block on its sorry head, and watch it go squish with all its bodily fluids dribbling down the screen – mmmmm. Finally, there are other power-ups available such as giving your enemies horribly shaped blocks for a short time, or making all their blocks invisible.



Three-player action with Tritus

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The world at your fingertips

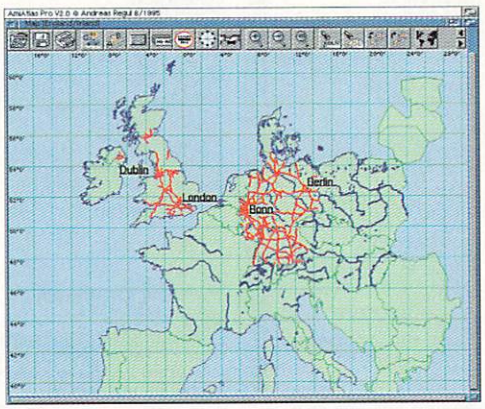
Neil Mohr longs for the wide and rolling open road and finds it with the route planner, **AmiAtlas**

Everyone knows the shortest route between two points is a straight line – the Romans knew it, look at all their old roads, dead straight. If you wanted to go anywhere back then you just got into your two horse powered chariot and let her rip down Caesar's Way, doing a cool twenty mph. Nowadays, thanks to the brilliantly planned road building policy things are not quite so easy. In fact I hear a couple of universities are thinking about starting up PhDs in trip planning.

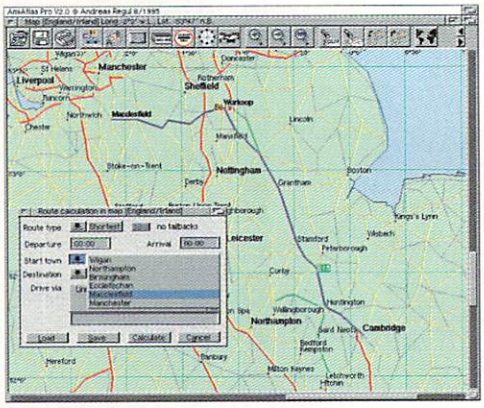
For anyone who does not have such a degree, AmiAtlas is just what you need. The only other Amiga route planning program I can think of is GBroute – that was a bit of a half hearted port of the PC program. It is also pretty old now and there really is no comparison, whatsoever, to AmiAtlas.

AmiAtlas comes on two disks that contain the main program and the normal map of Germany. As standard you only get the German map but a wide selection of European countries are available, including one for the UK and Ireland. This may not seem too helpful but if you ever venture out to Germany for a holiday, or for whatever reason, this would then be very handy.

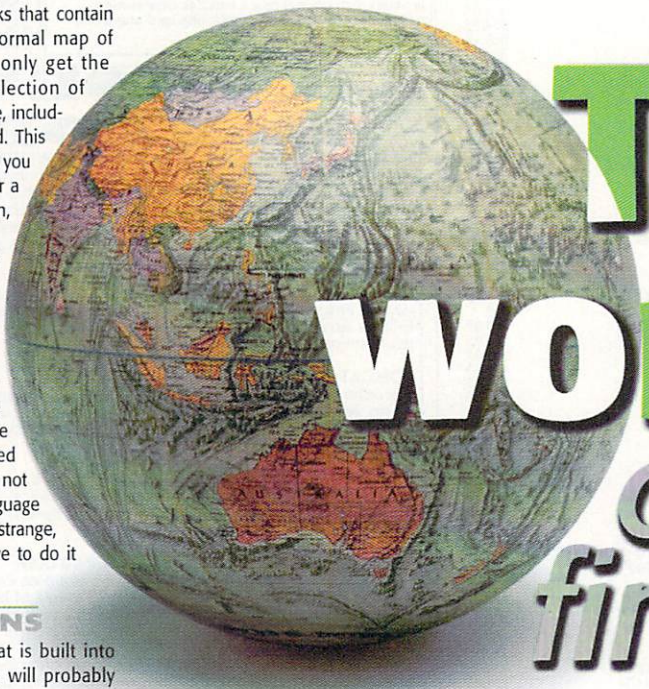
As this is a German product the first thing you have to do is change the language to English from the 'Verschiedenes' or Miscellaneous menu. Once done, all the menus and windows will appear in English. The program uses the normal locale catalogues that were introduced with Workbench 2.1 but it does not automatically detect which language you are using which is a little strange, but once done you do not have to do it again.



You can add extra maps as you go along, so potentially you could have the whole of Europe on screen



AmiAtlas's custom pop up gadget makes selecting recently used towns nice and easy



Function icons

As standard the tool dock that is built into AmiAtlas is turned off so you will probably want to turn this on as well. This gives you a lovely scrollable selection of icons at the top of the map window. From here most of AmiAtlas's functions are available.

When you first run AmiAtlas it loads up the last map you were using, and it is possible to set a start location. Therefore, every time it is run, AmiAtlas will always be centred on your chosen place. In this case you will be presented with a map of Germany.

When it comes to how you have the maps loaded, AmiAtlas is very flexible. As long as you have enough memory you can load as many maps in as you want. It is also very simple to add another map to an existing one, and you can merge maps to create a single new map file, so removing the hassle of having to load multiple maps in the first place.

Guiding your way around the map is a very simple business – you can use the cursor keys to scroll around or for larger jumps the proportional sliders are available. An elastic band zoom enables you to get a closer look at which ever roads or towns take your fancy. Even on a plain A1200 the map redraws are very quick – you will have to start twiddling you thumbs if you load both the UK and German maps and zoom right out, but then you are being a bit silly so it serves you right.

If the screen refresh is not quick enough, due to there being too many roads or towns being drawn, there is a comprehensive set of drawing tools to allow you to precisely choose what should or should not be shown on the map. From the point of view of drawing the land, things like islands and rivers can be removed, along with the ability to tell AmiAtlas not to bother colouring in the land and sea – this would also be helpful if you are running in less than16 colours.

Road mapping

AmiAtlas has a fairly straightforward way of organising the roads and towns, going from minor back roads up to motorways, and from capitals to drive through to towns. Using the Map Detail requester you can specify exactly which roads and towns should be displayed. It is also possible to show motorway cross overs and exits. Other details that can be viewed are parks, hotels and rivers. Unfortunately, the

Making it work

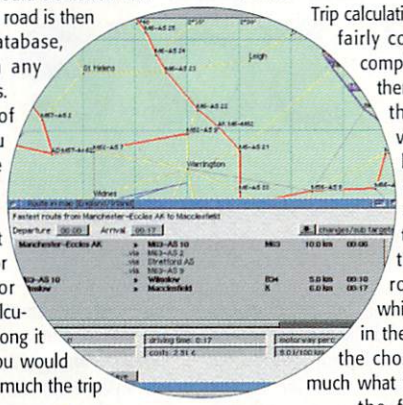
Installation of AmiAtlas is through the standard Amiga Installer so no problem there. The program and German maps are extracted from the first two disks into their own drawer and an assign has to be made in your user-startup. If you then want to install any other maps these come separately on another disk, are again installed using the Amiga installer, which is copied straight into the AmiAtlas directory into a new drawer, each country having a separate drawer

English map that comes with AmiAtlas only contains the road and towns data. Compared to the accompanying German map this is fairly sparse, as the German map has full details on hotels you can stay at. Just ask to view the hotels and a bunch of little bed symbols will appear on the German map. Click on one of them and you get a full run down on that hotel, including the full address, phone and fax numbers, how much rooms are, what you get in the rooms, what other types of functions they do, and what credit cards they take – pretty extensive I would say. The same goes for amusement parks, with AmiAtlas giving you information about how much it is to get in and what rides and attractions each park has.

If you wanted, it is possible to enter new towns and roads, so if new road routes do appear you can update the AmiAtlas map. This process is fairly painless. To add a new town you just have to click on the map where the new town should be placed. You then, using the pop up gadget, select which country and county the town should be placed in, along with which roads should run into it. The same process is used to add new roads – you can just pick the start and destination towns, along with what the road should be called and how long it is. The new road is then added to the map database, and will be used in any future route calculations.

"The main use of AmiAtlas is to help you work out the best route to take for a certain journey. AmiAtlas can work out the fastest, shortest or most pleasant way for you to go"

The main use of AmiAtlas is to help you work out the best route to take for a certain journey. In doing this AmiAtlas can work out the fastest, shortest or most pleasant way for you to go. It can also calculate how far and how long it is, how much petrol you would use and therefore how much the trip would cost you.



Once a route has been planned you can view it on the map and see all the necessary change points

The petrol and time amounts are calculated from values that you give AmiAtlas. Therefore, depending on what car you have you can change the Km/ltr value. You also need to set up the correct speed limits for motorways and dual carriageways – or euro roads as AmiAtlas refers to them. This is made a little trickier as the speeds are all in kilometres.

When it comes to setting a route, there are two ways to enter it. Either click on the start and finish location, which means that both the start and finish towns have to be in sight as you cannot scroll around once you have picked this option, or you can just enter the town names straight into the string gadgets.

A good feature here is that you can enter the start of the town name. Press return and a list of close matching town names pops up, allowing you to quickly select one of them. AmiAtlas also stores previously used names in the pop up gadgets, again allowing you to quickly select a regularly used town. You can also add stop off points to your route, in the same manner, allowing you to go via other towns.

Trip calculation is very quick – even fairly complicated ones are completed in seconds. You then get a breakdown of the route with all the various road changes, how long it takes, how much petrol you use, and you can view it on the map. When we tested it with long routes down south which a couple of people in the office regularly take, the chosen route was pretty much what they considered to be the fastest route. Coincidently, the petrol consumption and pricing was also about right.

The only real discrepancy was the amount of time the trip would take. The time calculated by AmiAtlas would normally only be around 2/3 of what the trip would actually take. For instance, it reckoned it should take me 20 minutes to get to work. Even with good traffic this figure should be more like 35 minutes, but otherwise the planned route was perfect.

As it is possible to load more than one map into AmiAtlas, you can have both the German and UK maps visible along with any others you may add. Unfortunately, you cannot plan routes from the UK to Germany as there is no French map to fill the gaps in between, and the absence of any ferry routes or a channel tunnel route would also make it a little difficult. It would be interesting to see if this would be possible if you did have the French map, and such things like ferry routes were taken into account.

The main problems with AmiAtlas all come about because it is a German product. If you were German you would not have any complaints with the program, but English people are generally different and can be a little picky about things. It is a little annoying that you have to tell it that you are working in English, and that you also need to state that you want money to be worked out in pounds. Fair enough – there are at, least, options to allow you to change the currency and language, but it would be nice if it could do this automatically.

Jargon box

Locale – an extension available since Workbench 2.1 that allows any program supporting Locale to work in, potentially any language
Catalogues – part of the locale language system. For a program to work in French it needs all the English text that is used in it to be translated and stored in a French language catalogue
Installer – someone finally realised that it might be a good idea to make installing programs onto hard drive a little easier for the user, so the Installer program was written
Dock – a term taken from the operating system NextStep used on a computer called Next. A dock is a group of icons that gives you a short cut to other functions

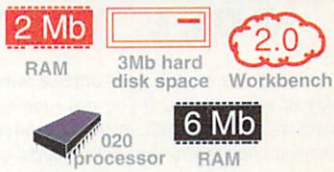
HARD TO FAULT

Any criticisms I have managed to dig up here are really very minor – things like the kilometre measurements are a little annoying, but they do not change the fact that the program is very useful. If you ignore these slight niggles, AmiAtlas is nearly flawless. If the programmer could remove the leftover foreign words and allow miles instead of Kilometres I would not be able to fault it in any way. Currently, the only other major problem is that the on-line help has not been translated, but AmiAtlas is so easy to use you do not need it.

Bottom line

REQUIREMENTS

RED *essential* **BLACK** *recommended*



PRODUCT DETAILS

Product	AmiAtlas
Developer	Andreas, RegulSteinweg, 661462, Königstein, Germany
Registration	50DM AmiAtlas Pro 30DM Uk/Other map 20DM Postage

SCORES

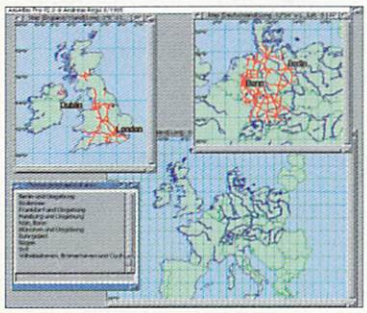
Ease of use	94%
Implementation	79%
Value For Money	90%
Overall	89%

AVAILABLE MAPS

Currently, eleven other maps other than the standard German map are available, these are:

Germany plus	Italy	Poland
France	Belgium	Hungary
Austria	United Kingdom	Czechoslovakia
Denmark	and Ireland	

A Spanish map is being worked on and a single European wide map is also being considered. All these extra maps are 30DM, apart from the extended German map which is 45DM.



Loading multiple maps is no problem for AmiAtlas

The silver screen

Frank Nord examines the latest 3D program in depth... **cue**

Ever since mankind first picked up a stick or rock and thumped it on something else in order to create something, we have been fascinated by building things with our bare hands. Our tools were at first primitive; flint replaced wood, bronze replaced flint, iron replaced bronze, but we used them to help us develop other useful things such as transport and shelter.

In recent years our cars, aeroplanes and buildings have become so complex that we use computers to help us make them instead of set squares, axes and magnifying glasses, and building things has become a more abstract process. There are people alive today who could build a complex motorcar or an office block that have never done so in the real world.

COMPUTER WORLD

Their achievements are all based in the virtual world of the computer. Even films are being made on computers with silicon actors replacing the real thing. Films like Disney's Toy Story or ITV's ReBoot are paving the way forward using the latest technology to build their worlds.

So welcome to the wonderful world of 3D according to Cinema4D. It's a new package of German origin on offer from HiSoft Systems and is a low-cost competitor to the likes of Imagine, Real 3D3 and LightWave. But before we start comparing features, let's have a look at the product. Cinema4D comes on six disks which have to be installed on a minimum of a Workbench 2.04 machine with 9Mb hard disk space, but Cinema4D definitely prefers Workbench 3 and takes advantage of the AGA chipset to the full.

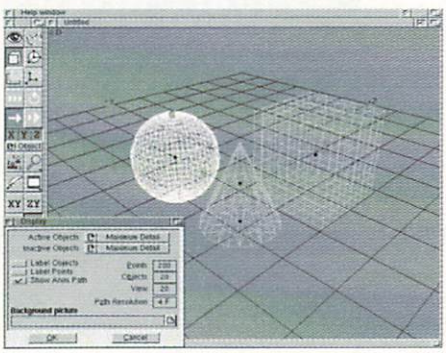
If, like me, you have an older ECS machine, but you have a graphics card, then Cinema4D will happily work on a high resolution display, but it seems that the current version isn't overly keen on chunky pixel screenmodes, so it might be best to run on a planar screen if your RTG software supports it.

Usually, the conversion is only run on screen with more than a certain number of bitplanes, so you might be able to get around it that way – the only thing you'll lose is the ability to render in a window on the Cinema4D screen as the interface itself only relies on a four colour palette. Other than that, unlike current versions of LightWave and Imagine, there are no limitations for graphics card owners and considerable advantages, the most obvious of which is the increased fineness of the vectors used to represent objects on the screen which is a definite help when your scene is getting cluttered.

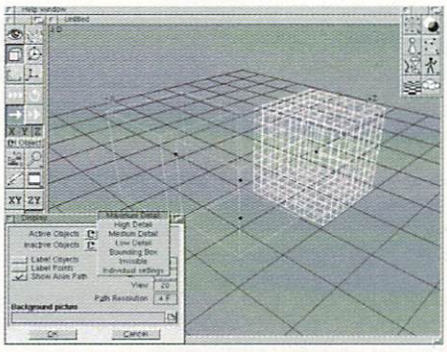
So let's have a look at the software. First impressions are very good. Here's a piece of software with a stylish grey interface, sharp looking icons in toolbox windows, and a main window which can show several

MODEL DEPT.

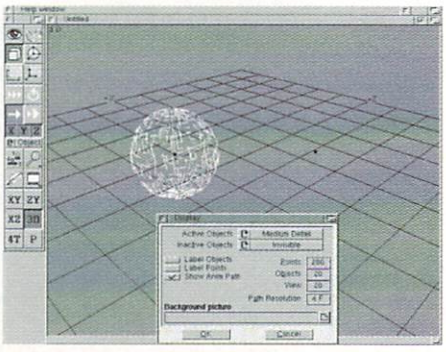
Cinema4D has a really good attitude towards the display of your models. If you are running on a slow machine (aren't we all, even if we have an '060?), you can change the way your objects get shown to speed up the display. You can separately alter the way active and inactive objects are shown in case you want full detail while you are editing an object (handy, that), but aren't too bothered by the way it looks while you are editing other objects. Cinema4D gives you a range of settings from fully visible to fully invisible, and will even start to perform automatically when your object database gets too large so that you don't end up just getting an out of memory warning (your machine crashes).



Fully visible for both active and inactive objects...

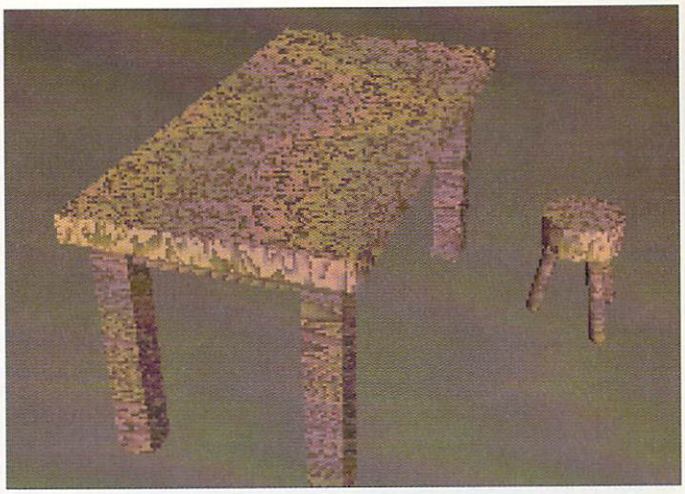


Visible selected objects, but bounding boxes for inactive ones...



Half visible active object and an invisible inactive object (have you spotted it?)

Cinema's scene contains the ready made mannequin model



Since Lightwave doesn't come with a bloke, it's just the table and stool

different views, all at once or one at a time. If you want to you can run more than one main window to give you a number of different views of your scene. To save space, your toolbox icons are actually pop-up menus which save further space by doubling up their functions. This is also a time-saving feature and one that comes in very handy.

POP-UP

The way it works is that if you select one of these pop-up options it works using the defaults set into the program, but if you are holding down the shift key or using the right mouse button to pop up the menu, releasing the mouse button over a pop-up menu item will open a dialogue window to let you alter the settings the item will use. For instance, if you choose the cube item from the 'Create primitive' pop-up menu, Cinema4D will chuck out a cube 200mm across by default. However, if you hold down the shift key while selecting the cube, you will be presented with a numeric requester in which to put the dimensions of your object.

The same principle applies to menu items as well as the pop-ups, although you are obviously restricted to using the shift key to get to the settings requesters as you are already using the right mouse button to open the menus in the first place. However, what is odd is the fact that with all this space saving, Cinema4D still offers you both a disc primitive and a cylinder object, even though you could always just extrude the disc.

The same applies for the cube and rectangle items and it does seem odd that you can only enter one dimension for a cube (side length). Okay, so a cube is supposed to have equal length sides all round, but it would be more ergonomic to allow the user to enter all the dimensions of the cube to create boxes of differing sizes more quickly than having to scale the cube in different directions to create the same effect.

This is the main problem with Cinema4D and it also plagues Imagine (to a greater extent I would say). The way the interface works isn't as fluid as it could be, forcing the user to use an awkward combination of the mouse and keyboard to achieve what she needs to. Working with a mouse is great if you are just starting out with a package – some people rely solely on their mouse skills, never touching a keyboard shortcut – but most people want their work to progress as speedily as possible, so therefore want to be able to circumvent the sometimes lengthy process of moving the mouse to and fro to go from the object to the toolbar and back to the object and so on. Cinema4D has a number of shortcuts, especially for the menu items, but needs a method by which you can select the move, scale and rotate functions more easily than by using the mouse.

"Welcome to the wonderful world of Cinema4D – a low-cost competitor to the likes of Imagine, Real3D and LightWave"

But I don't want to give you the idea that Cinema4D isn't any good. It has some absolutely superb methods of working including an object hierarchy similar to that used by Real3D. In fact, if you have used ➤

PROPS DEPT.

Cinema4D has so many ancillary features that it becomes hard to find the space to mention them all, but ones to be noted include the separate ray tracer which can be run on its own, taking advantage of all available memory (the other advantage is that versions of the ray tracer could be written to take advantage of a co-processor board like MacroSystem's DEC Alpha board or Phase5's PowerUp without the need to convert the entire package). Cinema4D also has an object converter that will read a wide variety of objects and convert for use in Cinema4D.

SFX DEPARTMENT

Just like Imagine, Cinema4D can add effects to an actor in its animation timeline window. This window is very reminiscent of Imagine's Stage editor but, unlike Imagine, its use doesn't preclude you from doing anything else. Along with the usual and pretty pedestrian explode effect, there are more impressive ones such as the pulse effect where you can alter the shape of a range of objects according to a mathematical formula, such as a sine wave.

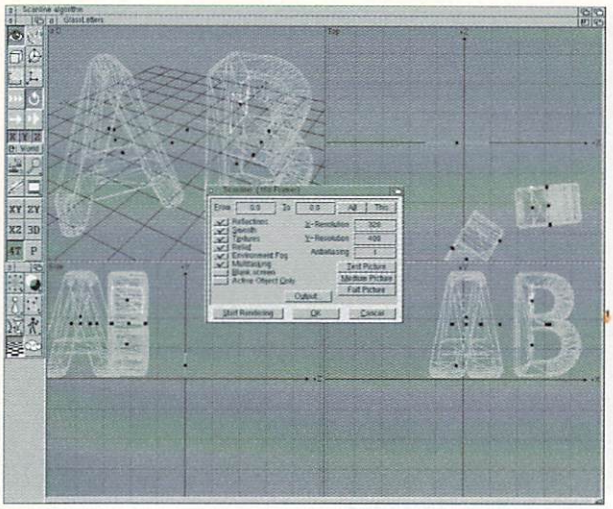
Objects pulsed in this fashion react in different ways according to whether you have chosen to include sub-objects in the wave or not, and some pretty interesting results can develop, especially since you can define a pulse for not only the size of the object but also its position and direction.

Just like almost every other 3D package I have worked with, Cinema4D allows you to morph one object into another, but, again, just like every other 3D package I have used, you have to make sure that both objects have exactly the same number of points and edges.

Cinema4D also has two other effects that I have never seen in a low-end package anywhere, and they are Vibration and Melt. Melt does exactly what you might think and is actually a bit limited in its uses. You can almost do exactly what Melt does by stretching your object vertically down to nothing over the course of your animation, while stretching it out horizontally to make it look like a puddle is being created.

Having said that, it is nice that Cinema4D provides an option to do this automatically, saving you the trouble. Of course, it doesn't do any of the funky things that Dynamation can do like melting your object so that it pours down a funnel or splits in two when melted over a knife, but then the only machines you can perform these feats on is an SGI, and if you've got the money to buy one of those, and Dynamation, then you won't be interested in Cinema4D anyway.

The last effect, and one I can think of plenty of uses for, is called Vibrate. This randomly jitters the selected object in terms of its size, position or rotation over a length of time. The effect is completely random and the only parameters you have to enter are for maximum extents of the jitter in either direction.



Preparing to render a scene in Cinema4D. Note the ability to toggle individual rendering options

➤

Real3D (particularly v1.4) and Imagine, you swiftly feel at home using Cinema4D. But Cinema4D has features such as the automatic determination of units and the ability to use maths in numeric requesters (if you can't be bothered to work out the individual lengths of the walls in a non-rectangular room this comes in very handy), the background grid gets scaled with the display and disappears if it gets too small, unlike Imagine's, and the ability (if you run your Cinema4D screen in enough colours) to be able to render in a window on the Cinema4D screen is also a nice touch.

On the minus side, Cinema4D won't work with Postscript fonts (just like old versions of Real3D, fonts have to be built by hand and are all separate objects. You are supplied with two – Helvetica and Diamond – which both look pretty similar) and has no algorithmic textures at all, so anything other than solid colours has to be scanned, grabbed or hand-painted.

Then again, Cinema4D's method of ensuring that the texture you have applied works properly is superb and gives absolute control over texturing. The way it works is that you edit a grid which overlays your object which is subject to all the same tools as the objects themselves, such as rotate, move and scale.

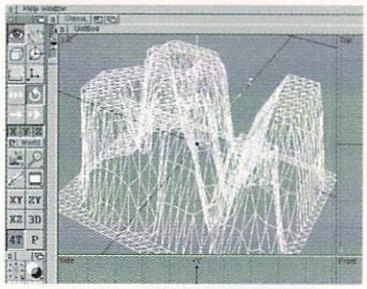
The type of grid that appears depends on the type of texture wrap you have chosen – choose a planar map and you just get a flat squarish grid, but choose cylindrical or spherical mapping and you end up with a full or partial cylinder or sphere surrounding your object. Back on the positive side, Cinema4D has a help bar which constantly comments on whatever item your pointer lingers over, and Cinema4D's requesters all check your input and won't let you leave until you enter a figure which meets the minimum or maximum criteria. Cinema4D's numeric requesters also remember what figures you last entered, saving a lot of time when building a large number of similar objects.

It also has some funky features like being able to set the light for your scene based on longitude and latitude settings, and a calendar to accurately recreate daylight, and a mathematical perturber for objects that allows you to change a ball into some sort of weird sea anemone in one easy step. AC

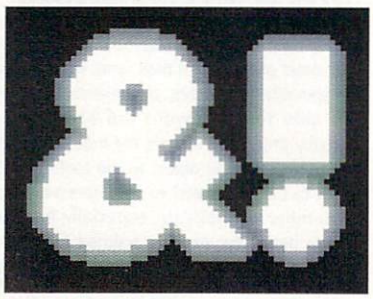
SCENERY DEPT.

As a test I tried to build a pretty simple scene in Cinema4D and compared the time it took to the same scene built in LightWave. I constructed a simple table and a milking stool using primitives and boolean operations. I surfaced the objects and rendered the scene at a low resolution. From start to finish it took me over an hour in Cinema4D, but it has to be said that I am not as familiar with the package as I am with LightWave.

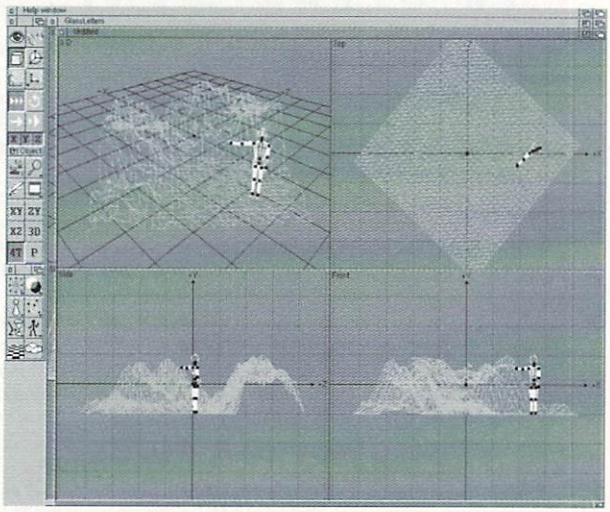
The same scene in LightWave took me about half an hour to complete (without the human model), but the important thing was that even if it had taken me the same time, it would have been easier because of the way LightWave is put together. Having said that, I also tried the same scene in Imagine 3 and it took me the same amount of time as Cinema4D, but it felt harder to create the scene and I ***am*** *familiar with Imagine.*



the &! isn't that easy to see when extruded, but it renders nicely



The original bitmap used for extrusion



Here's a preparatory layout for my rendering of Richard Burton discovering the Mountains of the Moon

WHERE ARE MY ACTORS

Cinema4D has an inverse kinematics system built in and very handily comes with a mannequin object ready to roll at the click of a button. The IK system that comes with Cinema4D doesn't have any form of constraints that would be required to stop your elbow bending backwards, but that notwithstanding is actually damn easy to use and, apart from the odd hand pointing the wrong way, is pretty accurate. Although this doesn't make character animation into something as simple as a simple thing, it certainly beats manually positioning limbs hands down and is so much faster that you'll probably end up using it all the bloody time.

IT'S A WRAP

Well, that's all we've got room for. Cinema4D is a good package that needs some tweaking to make it a great package and is certainly a competitor for Imagine. With version 3 already looming on the horizon Cinema4D looks set for a bright future.

Bottom line

REQUIREMENTS

RED *essential* **BLACK** *recommended*

PRODUCT DETAILS

Product	Cinema4D
Supplier	HiSoft Systems
Price	£199
Tel	01525 718181

SCORES

Ease of use	75%
Implementation	75%
Value For Money	85%
Overall	80%

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3.1 ROM(s) Software/Manual	$118.00/$133.00
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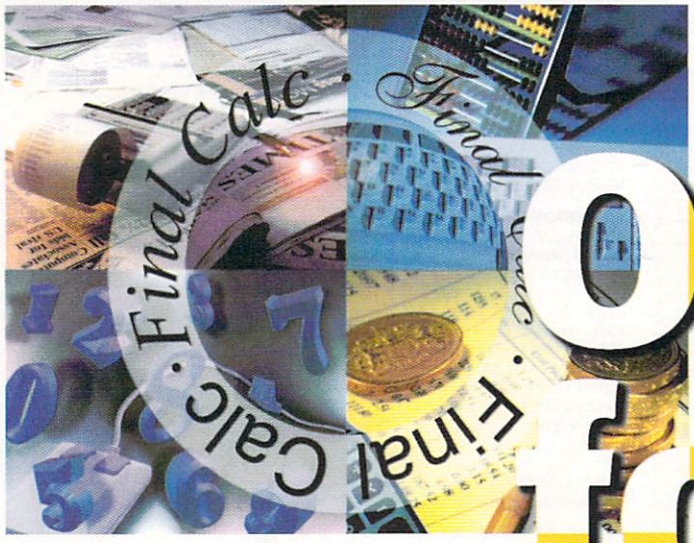


Out for the count

In **Final Calc** Softwood think they've created the spreadsheet program to beat them all. **Gareth Lofthouse** reviews

1995 was not the kindest of years for Amiga stalwarts Softwood. While the return of the Amiga to production was good news for any company in the market, the absence of any of Softwood's software from Amiga Technologies' Magic Pack must have been a worrying issue for the makers of such well known programs as Final Writer.

Worse still, arch-rivals Digita International had a virtual monopoly on the contents of the pack as far as the serious applications were concerned. While the bundle represented a reasonably good deal for the consumer, it must have made rivals wonder if continued development of their products were worthwhile. After all, how many new Amiga owners are going to buy something like Final Writer if they already have a wordprocessor supplied for free ?

Nevertheless, Final Calc has now been released after four years of development, and the initial comparison with the Magic Pack's Turbo Calc looks favourable. The question is, however, does it offer enough that's new to win a large user base of its own?

INTERFACE

To begin with that all important interface, Final Calc doesn't look quite so polished as PC industry standards like Excel and Lotus 1-2-3, but essentially the introduction of tool bars and drag and drop data manipulation follows their example in creating a user-friendly environment. As you'd expect from any professional Amiga program, you can control many functions in a variety of ways, from using drop down menus to keyboard short cuts.

Important for the beginner is Final Calc's on-line help facility. Whenever you select a command from a menu it will usually give you an explanatory option from an AmigaGuide. What's more, the instructions to be found are more helpful than the token aid you get from too many Amiga on-line help guides. Remember also that Softwood have a help forum in which you can get technical advice on Compuserve. Equally valuable for a technically daunting program like a Spreadsheet, Final Calc's good quality documentation makes it worth a few extra bob in itself. A Ring-binder containing extensive chapters on every detail of the program you could possibly want to know about really sets an example for Amiga products we can only hope is followed elsewhere. The only flaw in my view is the absense of a step-by-step tutorial, something that makes getting into the program that bit more difficult.

Fortunately, behind the glossy exterior you will find a number crunching program of immense power and flexibility. There's a comprehensive array of editing functions you'd expect – for example the ability to edit formulas and paste filenames, date strings, time formats, and cell ranges. There's also an amazing 178 maths functions with comparison and logical operators.

Final Calc uses a 'Recalc System' to calculate the value of formulas in each project. Basically, the Recalc scans through the project looking for formulas that need solving, evaluating the value of the formula in each cell, and then storing the result back into each cell. In Final Calc this all occurs auto-

FINAL DEMAND

It has to be said that the price probably precludes most casual Amiga users looking for something cheap to keep track of their personal finances. It's also a fact that this is Softwood's most demanding product as far as your Amiga's specification is concerned as well.

Though Final Data will work with 2Mb of RAM, they freely admit that to get a respectable level of functionality out of it you really need at least 3Mb. Not surprisingly, you'll also need a hard drive with 5Mb of free space since you can't run it off floppy. AmigaGuide and ARexx libraries are also highly recommended.

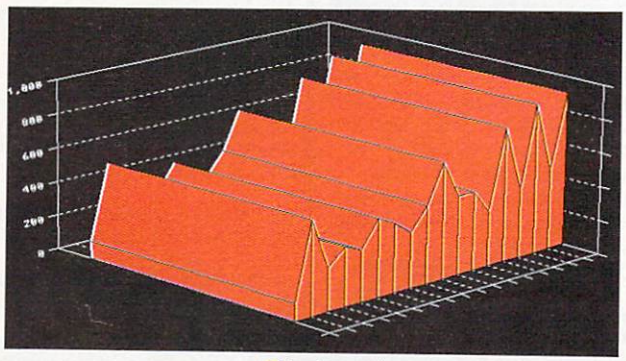
Though the requirements are fairly high, however, it's probably worth it for someone who really needs a more professional spreadsheet to work on at home.

GRABS THAT

Final Calc probably has the edge over any rival in terms of manipulative power, but its primary selling point is more likely to be its superiority in terms of data presentation.

There is an extensive variety of graphs to chose from, allowing data to be presented in numerous different ways – for example, there's stacked bar graphs, pie charts and X-Y-Z scatters. These are presented in 2D by default, but each of them can instantly be transformed into a more visually impressive 3D model at the click of a button.

Generating a graph from a range of data really is very easy, but customising it to your requirements is more of a problem. It's possible to include titles, legends and notes around the visual data, but



Graphs can be generated in 3D with countless colour options, and they should print without jagged edges

matically in the background and you can continue to work while it's happening – unless you prefer to recalculate manually, that is.

If you make a mess of the accounts, however, Softwood's program has a distinct advantage in its unlimited undo function. Final Calc keeps track of all the changes you make to a project's data, and allows you to undo any changes made up to the first change since you loaded or started the project. Even better, if you mistakenly undo one of your changes you can then redo it under the same principal.

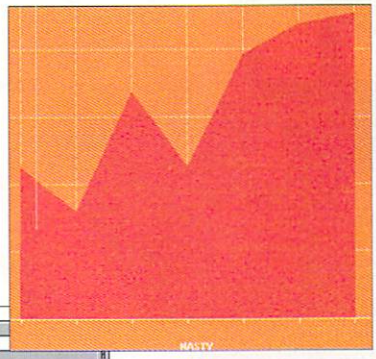
SMART PRESENTATION

As you will have gathered if you've read the section on the program's graph generating capabilities, Final Calc is heavily geared towards the smart presentation of data. With this in mind 'Outline Fonts' are used when printing in order to achieve a better quality of print from the printer. It supports Postscript Type 1 and 3 files and Macintosh ATM font files as well as Softwood font files.

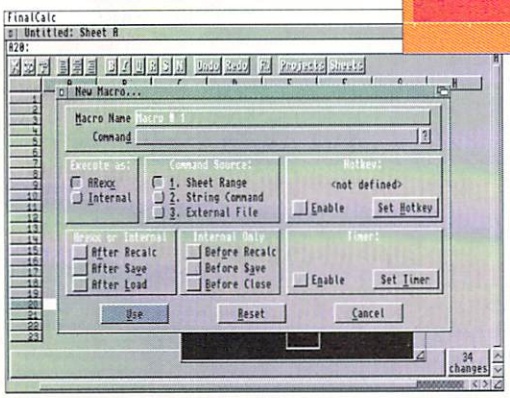
Final Calc will also prove valuable for those using industry standard Lotus 1-2-3.wk1 spreadsheet files at work, and who occasionally want to work on them on their Amiga at home, since the program supports this type of file.

More common but equally important for this type of program is the ability to implement Macros that will automate a series of operations, with obvious benefits on your productivity as a consequence. The toolkit is also a standard but necessary component of the spreadsheet, allowing users to import and export text and perform search and replace operations. A further strength is Final Calc's ability to treat data in a project range as a database.

"Still there's no doubt that spreadsheets on the Amiga have never looked so good before, and this is important if you're in the business of illustrating conclusions about a set of data."



Generating graphs in itself is easy enough, but labelling and customising them seems unnecessarily tricky at times



The spreadsheet allows Macros to be used to automate repetitive tasks

Jargon box

ARexx – A system script language that talks to programs that support it, allowing users to control one program from within another

Cell – A box in which data in the form of numbers, text or formulas is held

Formula – Performs calculations on, for example, a range of cells to come up with a total

Macro – Defines a script and how it is run, allows tasks to be automated

VERDICT

So how does it shape up against the competition? Well the good news is that Final Calc outclasses any other Amiga spreadsheet in many respects. Its range of mathematical formulas should be sufficient even for full-time accountants, and unlimited undo/redo functions and online help are the sort of functions that make daunting programs more tolerable in use.

Of course, Final Calc particularly shines because of its presentation tools. This is not just a superficial benefit either, since a range of graphs give users valuable choices over how they present their raw data. Whether animation will be worthwhile for many users or merely a gimmick is unclear, but it's worth giving people the option to experiment.

There are numerous other plus points too, like the program's support for Lotus 1-2-3.wk1 files. However, though the program can import ASCII files from Final Data, they've failed to follow Lotus's example and push Calc as part of an overall Amiga suite. For years it's been possible to generate a graph in Lotus 1-2-3 and then easily incorporate it into an AmiPro word-processor document, so it would make sense for Softwood to advocate a similar use of Final Calc and Final Writer.

Generally, I think more work needs to go into making Final Calc a more instinctive, easy program to use, though no number of pretty icons are going to make a spreadsheet the easiest type of software to get to grips with. The online help is a good start and the manual is excellent, but some functions still seem unnecessarily complicated.

Then of course there's the matter of price. Final Calc isn't cheap, but then it offers a level of professionalism that justifies it. The Amiga deserves a spreadsheet package for the more serious user, and this is certainly a good step in the right direction.

Bottom line

REQUIREMENTS

RED *essential* **BLACK** *recommended*

2 Mb RAM | hard drive | WB 2+ Workbench | 3 Mb RAM

PRODUCT DETAILS

Product	Final Calc
Supplier	Softwood
Price	£99.95
Tel	01773 836781

SCORES

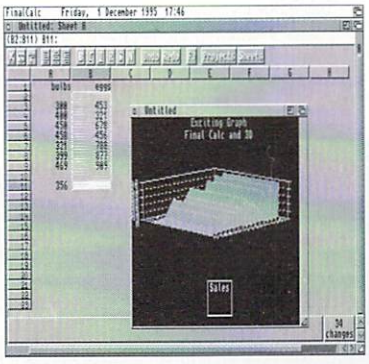
Ease of use	68%
Implementation	90%
Value For Money	85%
Overall	80%

GRAB

frankly it seemed unnecessarily tricky to get the results I anticipated. Similarly, you can alter the colours of just about everything, but again it seems like a surprisingly complex process. Of course, reading the manual properly overcomes this, but it's less user friendly in this particular respect than I had hoped for.

Still there's no doubt that spreadsheets on the Amiga have never looked so good before, and this is important if you're in the business of illustrating conclusions about a set of data.

Another breakthrough is Final Calc's ability to animate graphs so that changes through time can be displayed. This is undertaken using the Edit Animation window, and once again its not exactly child's play, so that ring-bound manual will again prove handy. Printing the graphs is pretty quick though because of its print spooler which will work on jobs in the background while you continue with your work.



Data presentation is Final Calcs forté, though its manipulative powers are also impressive

Child's play

Tina Hackett takes a look at how a museum for children is using the **Amiga** to bring interactive exhibits to life

The train pulls in to Halifax station. The walls are elaborately decorated with garish paintings and the word 'Eureka' is splashed everywhere. A noisy troop of school kids leave the train and rush down a sandy track towards an equally garish building. The venue for the day was the Eureka museum in Halifax, Yorkshire, but immediately things seemed very strange – the many children all clamouring to get in the doors all looked unusually excited about the prospect of spending the morning in a museum.

However, Eureka, as I later found out, is no ordinary museum – it's interactive and is specifically designed for even the most inquisitive of children who want to touch, explore or even kick the exhibits. As Pippa Hardcastle, Press and PR Co-ordinator for the museum told me: "The children have the opportunity for a 'hands on' experience. It makes the learning process so much easier."

The museum is divided into three sections and every one of the 350 exhibits has to be as robust and sturdy as possible – children will be children after all. The first is Me and My Body where you can play Digestion Pinball or turn the pedals to see how your skeleton works. The second is Invent, Create and Communicate where children can try their hand at broadcasting the news and lastly, Living and Working Together where, for instance, the workings of a bathroom are explained. There is also a fourth in development called Things.

NEXT GEN' KIDS

Pippa Hardcastle remarked, whilst showing me around the museum, that the children seemed to pick up on new technology far easier than their bewildered looking parents. As she spoke we saw one child take a mouse off their embarrassed technophobic parent and immediately continue operating the display.

Eureka believe it is important to reinforce this and from 10 February until 26 March they are holding a temporary exhibition called Megafun, with Computers aimed at increasing children's confidence with Information Technology. It will house 22 computer and video-based exhibits and children will be able to try things like starring in their own video, create soundscapes and cycle in a 3D city.

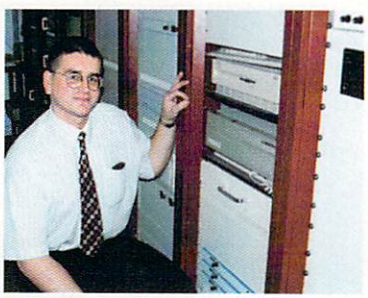
APPEARANCES

But what on earth has this got to do with the Amiga? you are probably wondering. Well, believe it or not, behind some of the high-tech exhibits and interactive displays is actually a rather humble looking Amiga. Well, two Amigas to be precise. But appearances can be deceptive because despite the Amiga being swamped by the many other forms of technological machinery that control the museum, the Amigas operate two of the most imaginative displays there.

Walk into the Bedroom section of Living and Working Together and you will find a display called Dreams, and in front of you a monitor. The inquisitive child will find that when they face the screen their image is picked up and projected onto the it – much to their delight! Three backgrounds then run together in sequence, one being balloons, the next fish, and then a 'raining cats and dogs' storm. The camera picks up the child's image, digitises it, and the Amiga 5000 puts the whole picture together. On the balloons screen, for example, the child can then move their arms to 'touch' the balloons that are flying past, and the computer system picks up on this and pops the balloon.

This innovative system is called InVideo and has been developed by American '70's singer supremo, Dean Friedman. After reaching the dizzy heights of pop stardom, Friedman turned his hand to multimedia and tailor-made the system specifically for Eureka. The project has been extremely successful and has taken off all over the world.

InVideo's Neal Fink explained the idea behind it: "It's a virtual reality system without

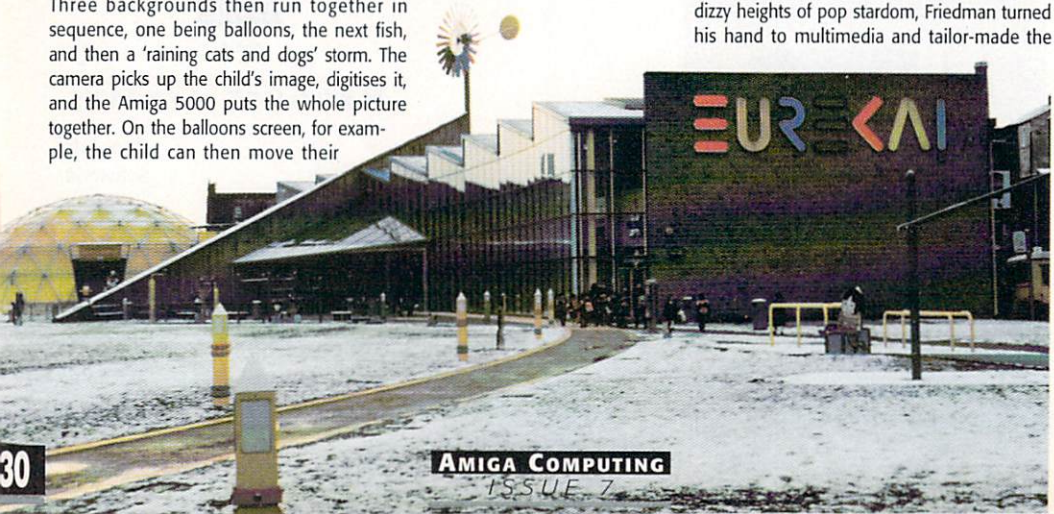


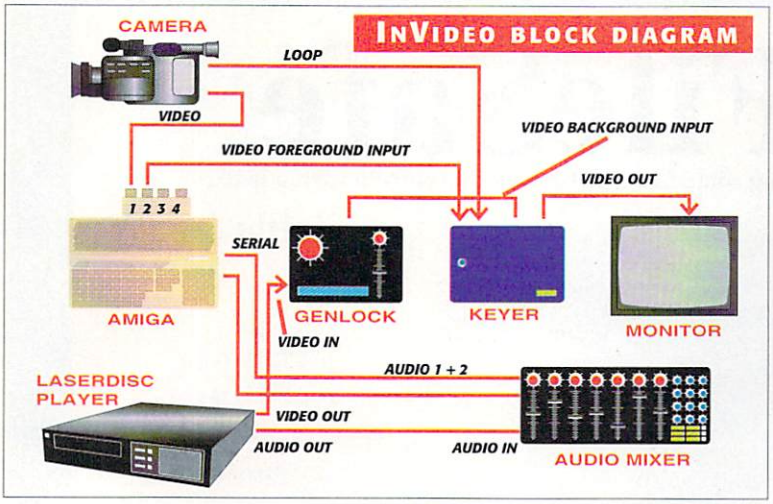
Jim Williamson explains why the Amiga is great for VR

INVIDEO AROU

After Friedman's success with the InVideo system at Eureka, the project has been developed for many other venues and other purposes. The company behind it all is called InVideo Systems, Inc and they describe their system as an "unencumbered virtual reality system which allows participants to step inside a video game and interact in real-time with animated objects."

As well as 'Dreams' they have also found the system perfect for 'Virtual Volleyball' which has been installed in the Museum of Science in Boston amongst others. It simulates the actual game of volleyball on a beach and eight players can have a go at this realistic





peripherals or goggles" Apparently this proves ideal in a what needs to be a 'child proof' museum as there are no extra peripherals or attachments for a child to damage. It also makes interacting as simple and fuss-free as possible.

The Amiga-based InVideo system can also be found downstairs in the Panasonic Theatre. Walking in to the theatre you find a huge screen in front of you with all manner of weird and colourful things cast on to it from a video projector. This time it's controlled by an A3000 and once again the InVideo system comes into its own. A camera picks up the image of the child and projects it back in full colour – unlike the Dreams exhibit which is in one colour. One exercise involves letters of the alphabet moving around the screen – the child can reach out, touch it, and it will turn into an object beginning with that letter – B, for example, turns into a butterfly. "This is great for children with disabilities" explains Hardcastle. "It gives them a chance to interact with something easily." A similar sort of thing can be done with numbers too, and helps the younger age group with number recognition and learning.

Another exercise is called AirPaint which is like a human paintbox and allows the child to pick up colours from a palette and draw them across the screen with their body.

Jim Williamson is the museum's technical manager and is very pleased with how well the Amiga system works: "If we were considering using virtual reality again we would definitely use the Amiga. It's a good reliable machine and suits the task well."

> ***"The children have the opportunity for a 'hands on' experience. It makes the learning process so much easier."***

Not related to the Amiga, but also created by Friedman, is the Music Box. Children can create tunes with different parts of the body such as walking across the musical stepping stones or sitting on each stool which then lets out a honk from one of the giant horns. Walking around, you realise just how well designed Eureka is. Each section is geared to the National Curriculum and because of the variety, each age and ability seams to be catered for.

AWARD WINNING

Eureka are certainly on to a winning formula with their lively approach to learning. Since it opened in July 1992, it has attracted over one million visitors and they hope to have this figure topping 1.5 million before Easter. Patronised by HRH The Prince of Wales, the museum has earned itself 15 top awards including the 1993 Visitor Attraction of the Year from the English Tourist Board. In 1994 they also won the National Heritage/IBM Museum of the Year award for the most imaginative use of interactive and multimedia technology. It seems that this new breed of museum is certainly in demand and people are favouring them in place of the dusty museums of the past where noise was frowned upon and touching the exhibits was definitely out of order.

If you want to see Eureka for yourself it can be found in Halifax, West Yorkshire and is situated next to the railway station. It is open daily from 10am until 5pm. Prices range from £4.50 for an adult to £3.50 for children aged 3 to 12. Contact them on 01422 330069 for more details.

ND THE WORLD

simulation. They also designed a game for Nickelodeon called Eat-A-Bug which has caught on all over the States. The idea behind it is for a child to catch one of the flies, bugs or mosquitoes and eat it without being caught by the spider or centipede.

As well as museums, amusement centres are also benefiting from the system which has the advantage over traditional VR in that it can be operated by all ages, is robust, hygienic and doesn't need someone to supervise – this is well illustrated in the Eureka museum where attendants prefer to let the children roam through at will rather than having to monitor and supervise their every move!

Communication is stressed in all sections of Eureka

The children enjoy the interactive learning aspect

The safe – children must walk through without triggering the alarm

Pippa Hardcastle demonstrates the Amiga-driven 'Dreams' exhibit

BELIEVER IN AMIGA

The Eureka museum in Halifax is not the only museum to see the virtues of an Amiga-based system. The London Transport Museum in Covent Garden is already reaping the benefits using an Amiga and CD32-based system. The CD32s provide touch screen computers which display various information such as the Underground hypermap. But what's particularly impressive is the 1938 Underground train simulator. The front window of the train has been replaced with a computer screen with graphics controlled by the Amiga 4000. Two other simulators of an 1890 and 1992 models are controlled by A2000's.

More recently, Amiga Computing covered how the London War Museum use a similar touch screen system in their building. Scala's Infochannel is used to convey information about the exhibits on to screens around the museum. There is also a Scala touch screen display used for their Civilian Dead exhibit.

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The name's **Vost, Ben Vost,** and I'm on the track of the new **James Bond** film

Premium Bond

James Bond is a name that few readers of *Amiga Computing* will be unfamiliar with. Since his very first exploits under the pen of Ian Fleming up to his latest adventures on the big screen courtesy of Pierce Brosnan, his secret agent lifestyle and fabulous gadgets have been the envy of many a fan. People discuss their favourite prop – mine is the Aston Martin that first made an appearance in Goldfinger and reappears for a short time in Goldeneye – their favourite baddie – which for me would definitely have to be Charles Gray's Blofeld – and many other topics to make the years between the films seem a little shorter.

So 1995 was the year that Bond was back and this time with a smaller budget than ever. Instead of traipsing off all over the world, most of Bond's derring do took place on soundstages and on location around Britain, some on an even smaller scale than that, as scenes like the radar dish rising out of the water were 90 per cent modelled (not in 3D – grass, trees and other vegetation are very hard to get looking realistic and the waves from the lake are practically impossible to fake in 3D). All that existed in real life was the path that Pierce Brosnan and Izabella Scorupco were walking along.

The same principle applies to the scene where Scorupco climbs out of the ruined radar tower in Siberia and wanders through the burning ruins. Only the path she took was actually real, with the remainder being created in model shops by extremely skilled craftsmen. And it is in Siberia that the Amiga's main contribution was made to the realistic and cheap completion of the film. Even with the disbanding of the Soviet Union and the availability of Russian airforce jets to perform the flying, how much do you think it would have cost the producers of Goldeneye to rent three MiG-29's (plus another to film from) for the flight past the radar tower, let alone the cost of blowing them up?

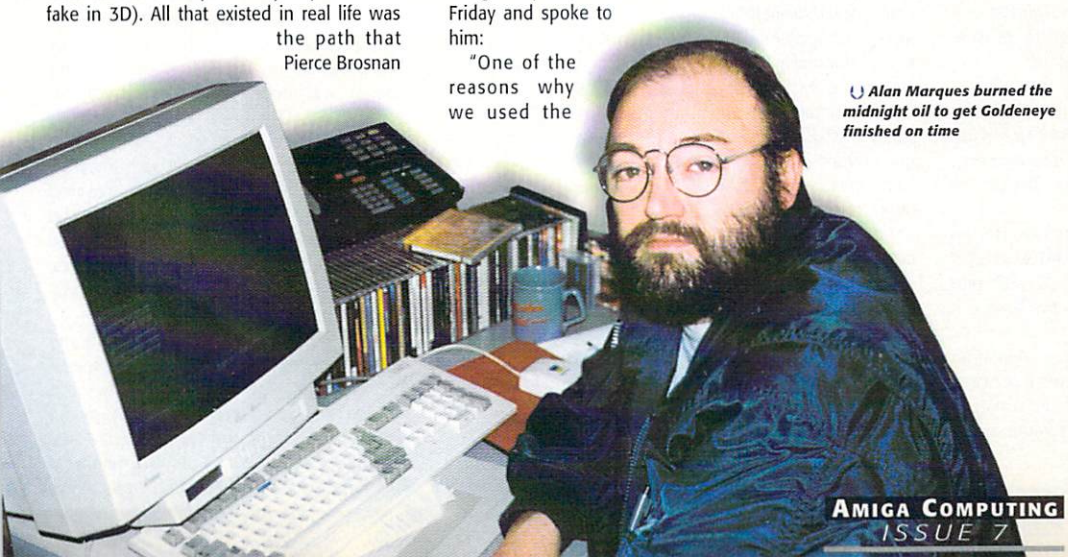
"One of the reasons why we used the Amiga on Goldeneye, or rather LightWave, is because we had used it on CyberJack. We knew it as a very, very good renderer"

Well, I don't know either, but it was obviously too much for the producers who approached Alan Marques and the Magic Camera Company to see if they could do it cheaper. You might remember Alan Marques from a feature we did last year about the use of the Amiga in another film – CyberJack – and he and the Amiga have been very busy ever since. I caught up with him last Friday and spoke to him:

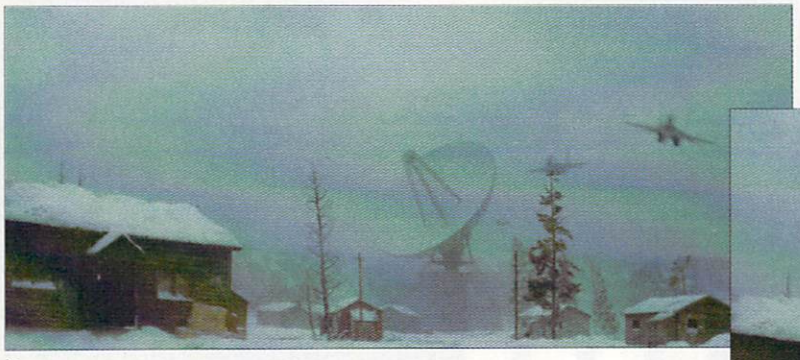
"One of the reasons why we used the Amiga on Goldeneye, or rather LightWave, is because we had used it on CyberJack. We knew it as a very, very good renderer. We were still using Wavefront as our core system for some of Goldeneye, but the Wavefront renderer isn't very good. It doesn't do motion blur or anything like that. So we had to have a system that does all that. There were these shots in Goldeneye where they wanted the MiG-29s coming from infinity – a pinpoint – and moving towards the camera, roaring over it. We have a motion control rig on M stage which we used for a lot of the shots in Goldeneye, but when you have a 2' miniature of a MiG-29 and you have a 40' motion control track, you can't get the model to a pinpoint, you can get it to about an eighth of a frame, but you just can't get it any smaller.

"So, if you're stuck in that position, the only thing you can do with the motion control rig is pick the model up as a DVE – digital video effect – i.e. stop the model at a certain point, pick it up as a cut-out, then fly the cut-out off. You probably know, though, that when you do that there is that nasty point ➤

The power behind LightWave, this Raptor was responsible for rendering the MiG frames



Alan Marques burned the midnight oil to get Goldeneye finished on time



Does this look like a CG effect to you? These three frames from the Severnaya scene show that LightWave's motion blur means realistic images

when you have to change over and invariably you'll always get a jump when that happens. So we elected, because we knew the shots were high speed and we knew that there was going to be a lot of blur, to do the shots as a CG effect.

"So basically, what we did was get a model of an F-15 off the Internet, a really cheap and nasty 400 polygon model, and did some tests with it at video resolution. We got a load of background stills of deserts and mountains and Evan (Davies – one of Alan's team) did some nice texture maps for this 400 polygon model which was very simple – the hull was literally only eight sides. We did the textures for it including the cockpit, etc. and the whole tests were done in one day.

DAWN TO DUSK

We got the model in the morning, did the texture maps the same morning, and did the three animations in the afternoon at video resolution on the backgrounds in LightWave. We did the renders of the three of them flying over the camera, rendered them all on the Raptor by five in the evening, and sent a tape up to Leavesden by the next morning and they instantly said, 'Right, do the shots CGI...'."

I asked Alan if he could have done the shots on an SGI and he said that it certainly was possible – if you had the right software, software he didn't have at the time. He also added that in his opinion, LightWave is one of the fastest renderers in the world for motion blur, ray tracing and so on.

"So we used LightWave with the F-15s. At video resolution with three F-15s, 400 polys each, full motion blur, fully ray traced shadows and reflections we were getting about a minute a frame on the Raptor. When they approved the shots they said they had three effects for us to do and they ended up using two of the shots we provided – the third was a big close–up, very nice, but they didn't use it.

"Basically, we had the three MiGs flying over the dish and another shot where they were flying over mountains. We had to get a Viewpoint model at that point because we had to have a proper MiG-29 and nobody had a MiG-29 on the Internet that was any use, so we bought Viewpoint's model for about £250. Of course, Viewpoint in this country don't have the LightWave CD-ROMs, they only have the Wavefront and other 'big boys' ones, but the nice thing was that they said it was no problem. We phoned them up and gave them a purchase order and they just e-mailed it us the next day from America, in LightWave format, uuencoded, in my binmail on CIX.

"So we downloaded it, uudecoded it and edited it. Being a Viewpoint model, one of the things we discovered with it, which you wouldn't think would happen, is that we had a lot of rendering problems with it – we couldn't figure out why, when the models at a distance displayed their wings and fins like

Goldeneye trivia

Pierce Brosnan wasn't the only actor considered for the new James Bond. Other tips for the top job included Mel Gibson, Liam Neeson, Sam Neill and, believe it or not, Hugh Grant.

Lynda LaPlant was too busy writing her new book to accept the job of writing Goldeneye's script

The name Goldeneye comes from the name of Ian Fleming's holiday home in Jamaica where he wrote the James Bond novels and stories.

A foreground Alphachannel was used so that the planes could fly behind the dish and trees

The actual 533 polygon model used in Goldeneye plain...

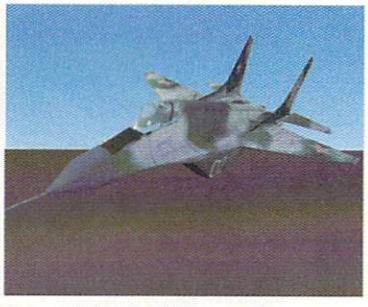
"The biggest problem we had, and the real killer because NewTek wouldn't give me a beta copy of LightWave 4, was the lack of a pixel aspect ratio setting for LightWave"

LIGHTWAVE'S MISSING BITS

Since we were on the topic of LightWave, I asked Alan what he thought of LightWave compared to the other 3D modelling packages he uses, particularly those on the SGI. On the whole, Alan is satisfied with how LightWave is turning out, but he said for film production there were definitely some things that needed improvement:

- *At the moment LightWave can only display a single one bitplane image as a background image. What LightWave really needs is a way to show an animation as a backdrop so that 3D objects moving across it can be checked for consistency.*
- *Although it is good that LightWave has now got an inverse kinematics function, it needs to have several improvements made to it, namely the ability to 'stick' part of an object to another object, like a foot to the floor or a hand to a cup, to make it really useful.*
- *Another important addition to LightWave's animation tools would be the possibility to animate a switch between targets or parent objects so that you could aim a gun at one object then move the sights onto another in the course of an animation.*
- *Still on the topic of animation tools, the way motion paths are edited in the requester leaves something to be desired. A Bézier method with handles on the control points would make more sense.*
- *One of Imagine's tools that LightWave could benefit from is the ability to 'associate' objects to one another. For instance, a rollercoaster animation with several carriages can be animated travelling along the rails in Imagine reasonably easily, with each carriage following on from the one in front, but in LightWave you would have to load the same motion path in for each carriage and work out an offset for each key frame.*

Overall, Alan believes LightWave's modeller to be pretty good but adds that there really ought to be a function that is the opposite of metaform – an intelligent polygon This would have made the process of simplifying the ViewPoint MiG-29 down from the 10,000-odd polygons it started as into the 533 polygon object it became. As it was, the original model had to be loaded into a background layer in the modeller and traced over – in essence the Magic Camera Company ended up making a whole new model.



...and fully textured

bricks , they weren't going down to fine detail – and guess what, it's converted from another format. There were a lot of single point polygons in it which, once we had searched the database and sorted it out, caused us no further problems.

"So we solved that one, got some nice texture maps on them, and animated them in LightWave over the background plate, matching the lighting to the background frame we had. On the Raptor Plus we've got, which is a 2 x MIPS4600 machine, we were rendering the three MiG-29s at about 500 polygons each for a total of 1500 polys – not much, but then we were using full-on motion blur, ray traced shadows and reflections and we were getting about six minutes a frame which was very good at 1k horizontal.

"This was the same trick we pulled on CyberJack. We never render at the resolution of a film because every time we do that the CGI is too sharp, it just doesn't even remotely fit into the background. You end up blurring the image to go into the background using filters which take time to do the work. So we do it at half resolution and blow it up.

"The biggest problem we had, and the real killer because NewTek wouldn't give me a beta copy of LightWave 4, was the lack of a pixel aspect ratio setting for LightWave. It's now in version 4, but it wasn't in 3.5. If you're doing an anamorphic film you need to have a squeezed image. Therefore, you need to be able to render an image at, say, 1k x 860 but at a pixel aspect ratio that will make the image deliberately squashed so that it would be right for anamorphic when it's stretched out.

"We couldn't do that in the version of LightWave we had, so we had to do the most bizarre renders in LightWave to get anamorphic results. We had to render twice the height, then crop it and cut it out, and then stretch it to get an anamorphic result. It was very hard, and NewTek could have helped us out, but... So we had to be 'creative' and although it was hard we managed. If you see the film I would say that nobody would ever know that they were computer models." On that point I would definitely agree with Alan.

The Magic Camera Company had nothing to do with the VDU displays that are used throughout the movie, but he concurred with my opinion that they looked like DPaint creations, and when we discussed the United Artists logo at the start of the film he said that he would be 'gobsmacked' if it wasn't done in LightWave.

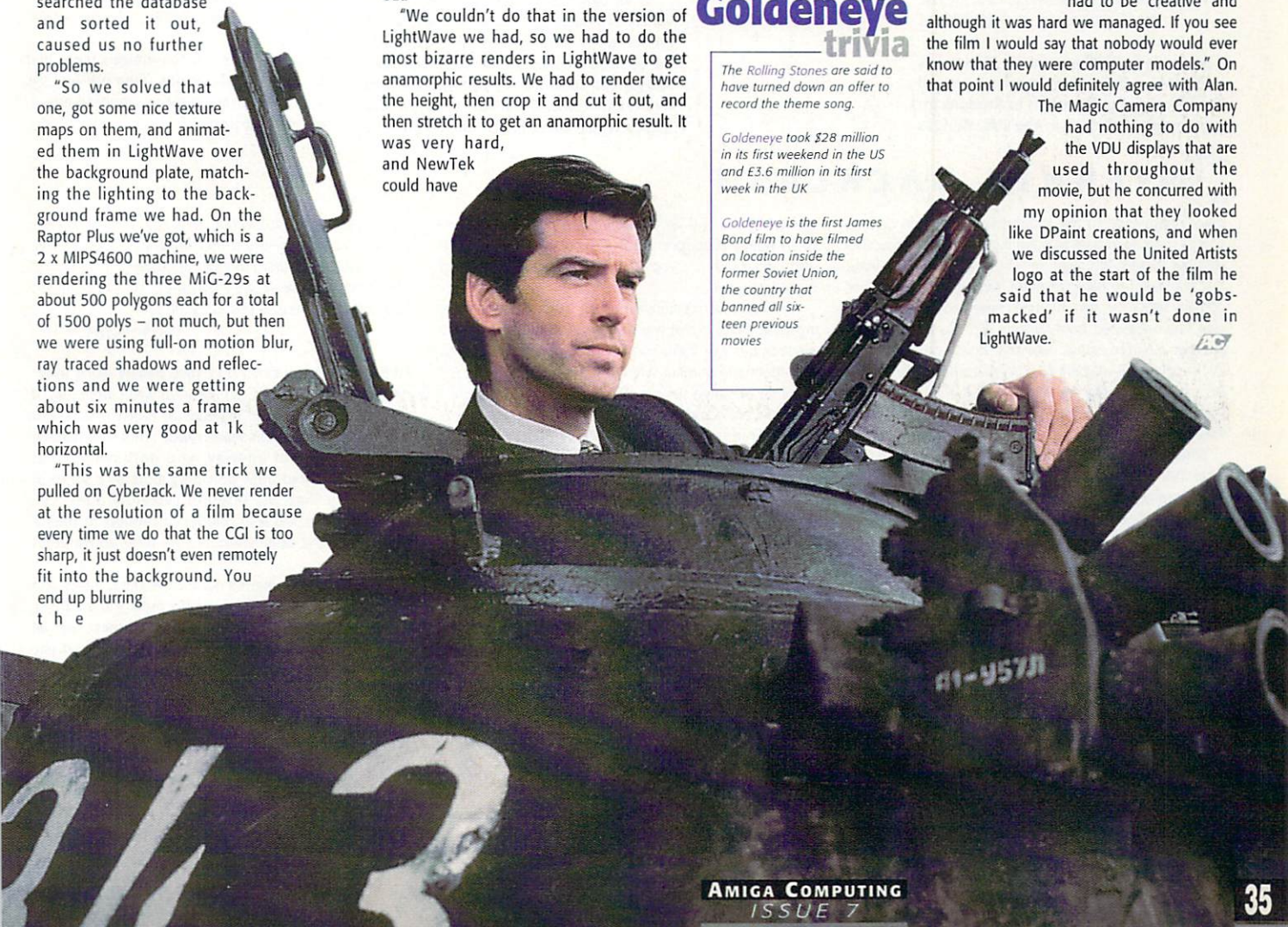
AC

Goldeneye trivia

The Rolling Stones are said to have turned down an offer to record the theme song.

Goldeneye took $28 million in its first weekend in the US and £3.6 million in its first week in the UK

Goldeneye is the first James Bond film to have filmed on location inside the former Soviet Union, the country that banned all sixteen previous movies



esp

Keep your letters coming in to **Ezra Surf** and you could be a fifty pound prize winner

Keep those letters coming! If you can't be bothered to find a bit of paper and a stamp, why not e-mail us? Simply point your mailer to: ESP@acomp.demon.co.uk There's a £50 pound prize for the best letter printed as an incentive

POTENTIAL PURCHASER?

WHAT IS ESCOM THINKING??!! Not enough interest in an A1200 here in North America? Those of us with older machines have been salivating for the last 20 months over the possibility of upgrading. I sit here typing this on my maxed out A600 (6Mb RAM, 160Mb hard drive) angered at every ad in your magazine because of the lack of support for this poor orphan (can't even get an accelerator), frustrated by too-slow-Brilliance with only 4096 colours and DREAMING of an A1200 with a 1260 Blizzard board, a CD drive and 16 million colours. Here's my credit card number – *(We didn't think we ought to print it, you know, just in case - ES)* – forward it to Escom and tell them to bill me when they have my order ready!

Would a monitor (I run in interlaced Euro36 mode not NTSC) allow me to use one of the new PAL A1200s or are there other subtler differences that would prevent me from ordering one from the UK?

And one completely unrelated thought. Your screen shots in the mag shouldn't show screens with the standard Amiga drawers and icons – they're ugly. For those of us with IBM and Mac friends that glance through our mag, it makes the Amiga look out of date.

Finally, thanks for the lifeline to us in the US.

Art McMahon, Hemet, California USA

If Amiga Technologies want Mr McMahon's credit card number, they can give me a call and I'll be glad to forward it to them. As for your monitor question, the PAL Amigas differ from the NTSC ones in only a few respects. Firstly, the UK Amigas are all shipped with a 240v transformer for power. Secondly, you would need to change the modulator and a timing chip if you wanted to use your Amiga at any time with video (including genlocks). Other than that, if you got one of the new multiscan monitors, it should work alright.

As for ugly drawers and icons, we have a variety of machines in the office and while no-one really likes the newicons approach, we do have a couple of MagicWB-equipped Amigas and some that still use the standard four colour icons. All you have to say to your friends is that they should take note of the classic simplicity of the Amiga's icons and the lack of extraneous, memory-hungry, hard drive space-wasting, multicoloured, messy, titchy icons.

INTERNET BACKLASH

What's happened to the support for the Amiga comms scene? I can appreciate that the Internet is a massive success but there is the large number of BBS sites out there that you seem to have forgotten. Almost all of the public domain sector software that gets reviewed in your magazine has originated from various BBS sites, not on the Internet. Granted, some new stuff does come from the Internet, but the majority of it originates from the private BBS scene. I know as over the last two years NFA PD/Productions have had over one hundred reviews in various magazines.

When you call a private BBS, the sysop has control over what files are available. The Internet is running wild with pornography, piracy, and files on how to blow your arms off. Once a file is on the Internet it is almost impossible to delete as the file goes to hundreds of sites within a few days. A private system is also generally used by only two or three people at a time, so the system doesn't slow down to a snail's pace on a Sunday. However, this does restrict the number of users that can connect in a 24-hour period, but to compensate for this there are hundreds of private systems around the world including many eastern bloc countries.

As far as e-mail goes, the Internet wins hands down. However, there are some really good mail networks that connect thousands of users across Europe like the Missing Link and Fidonet to name but two. Most private BBSs will support at least one of these networks.

We should like to see a small area of your magazine given over to advertise BBS sites because we feel very ignored by you and we do reach many hundreds of dedicated Amiga users every day. We organise meetings of users and stands at computer fairs, so we do do our bit for the Amiga scene.

A point worth mentioning to parents who may be reading these pages is that you shouldn't just buy your child a modem and give them an hour a day on the phone. Sit with them and monitor what they are doing as there are some very strange people out there *(people who won't use their real names for instance – ES)*. Give them some of your time – even if you don't fully understand what your child is doing you will recognise titles like 'randynurse.jpg', etc.

Well that's enough moaning. I would now like to be blunt and ask for a plug for our UK bulletin boards. All the latest issues of The Word are available and people may wish to upload their articles, etc. if they wish them to be included. All these sites are open from 8PM-8AM and are mail linked.

All speeds of modem may connect to our sites from 300 baud up as we believe a lot of people buy cheap modems for a start, and if they enjoy what they see a faster modem normally follows. We are doing our best to provide a good service to our users and most of us have invested in high-powered machines and large storage devices. We leave them running throughout the night for other people to use. All we are asking is for a little support from the magazines we buy every month.

Deck the Ripper, NFA PD

I'd just like to say that I don't like people using pseudonyms when writing in to me at *Amiga Computing*. It certainly dumped your chances of receiving the £50 prize for best letter this month (who would we make it payable to?), but anyway, you do have several good points about BBSs providing more of a sense of community than the Internet currently does. The Internet is also still a lot harder to connect to than a BBS, but by the same count it does offer an awful lot more.

As for your decrying the net for the smut, piracy and bomb-making files available on it, I think you are being a little hypocritical as the vast majority of these files all originated on BBSs. Still, we want to help support any use of Amigas and if you are feeling a little left out, it's mainly because we have to cover what's hot.

The Big Hard One	0116 266 1610	NFA HQ	28800bps
Bugged Out BBS	0116 237 5147	NFA Mail distribution site	14400bps
Warp Speed	0151 928 6610	NFA Tempest support site	33600bps
Rigsbys BBS	0153 026 0160	Independent	14400bps
The Hot Rock	0116 238 7710	Independent	14400bps

SELF HELP

I have owned my Amiga 1200 for about two years now. To start with I used it mostly for games and DPaint, but since then I have bought a hard drive, accelerator and monitor and agree that if the Amiga is to continue users must keep their machines up to date. But more importantly than that, they must also know how to use them properly. Since upgrading, my Amiga has become ten times more usable, but if I hadn't spent the time getting to know the OS, I wouldn't have got half as much benefit from the upgrades as I have.

Naturally, there will always be beginners with problems, but some of the people who write in and say that they have been Amiga users for years sound like they have never even opened a Shell window! I consider myself a complete amateur but I'm sure I would be able to answer at least half the problems you get sent just by explaining how to use 'assign'.

Why don't you help raise user competence by running a special offer on a book like BSB's Using AmigaDOS (which was what I used), and stop ACAS from getting clogged up with such simple problems.

I would also like to congratulate you on the OS comparison feature in December's *Amiga Computing* – it was very interesting and, most importantly, honest. Maybe in a future issue you'll put forward some ideas/suggestions on what we should expect from Workbench 4 (and when we can expect it)?

Finally, there has been a lot of speculation on whether the AAA chipset, which was apparently 98 per cent complete when Commodore went bust, will be used in a new Amiga. As David Pleasance said that it would be a million times better than anything anyone else had, it makes you wonder what it does and why there's any question of it not being used.

Nigel Harper, Nunburnholme, York

I quite agree, but you can't expect everyone to want to learn to use the Shell. Actually, the fact that people have to assign software points towards a deficiency in Workbench that should be addressed in future versions of the operating system.

I'm glad you liked the OS comparison feature – Frank Nord is blushing with pride even as we speak. It came easy to him, of course, as our resident operating system expert. He could have extended the article to fill ten pages if we had let him. And as for future Workbench suggestions, I hope you found his article last month as interesting as you did the comparison feature.

Lastly, it doesn't look like the AAA chipset will ever surface. Amiga Technologies are trying to work out whether to supply the Amiga with a custom chipset, or go for a more general level of compatibility with PC manufacturers and bung in a VGA-type graphics card. Even if they work out this conflict satisfactorily and in the custom chipset's favour, they would still need to do an awful lot of work with AAA to bring it up to speed.

EXPANSION ANGST

Who says that good things can't come from bad ones? With Amiga World's demise I am now blessed with your publication and I believe you are 'Numero Uno'.

I share B Nicholson's concerns in his letter in issue 4 *(English readers will have Mr Nicholson's letter in the November issue – ES)*. As an A3000 owner I have seen very little A3000 improvements available in the market (I guess Commodore got it right with this design). To go straight to the point, perhaps this time Amiga Technologies' engineers could be challenged to design a motherboard for the next generation of Amigas that would have a processor slot where the CPU would reside and would be easily upgraded but, more importantly, two video slots where one would be populated by the video display co-processors and video custom chips on a daughterboard.

Perhaps this would solve the dreaded occasions when an improved video chipset hits the market and loyal users were forced to keep up and upgrade, or stagnate with their old Amigas. Perhaps Escom could even gain by manufacturing these video processors and making them available to other video board manufacturers (maybe they will even make their way into PCs and Macs thus gaining greater exposure in the market). Make the Amiga into an open system.

I don't want to put down AGA-equipped Amigas but releasing software solely for these units actually leaves the rest of the Amiga owners out of the picture. Maybe software libraries and drivers should be produced by Amiga Technologies and provided to Amiga software developers. These patches would allow software to take advantage of the AGA chipset but also third-party video boards. Let's face it, many Amiga owners are not going to get rid of their units just to get AGA machines. They want to add peripherals (CD-ROMs, ZIP drives, etc.) they can share with another computer, while they wait for the next RISC-based Amigas to hit the market.

I sincerely wish the very best to Escom and their Amiga Technologies division. In order to maintain the loyalty of Amiga fans, Escom must show a dedication to continuously improve and aggressively advertise and market Amigas. And it's up to the users to spread the word.

Jose A Ferreira, Kingsland, Ga USA

Obviously, in the computer world it is a case of move or die. Commodore released some fine machines and the A3000 was the best of them, but that was five years ago now and it is time to get with the plan. However, as you say, it would be better for you to wait for the new PowerAmiga rather than spending money on a machine that will be obsolete in about 12 month's time.

Amiga Technologies face a difficult task over the coming year in persuading people that buying an Amiga actually makes sense. In order to overcome potential purchasers' worries about the lack of compatibility the Amiga has with other platforms, I think we will see a move to a more standardised machine, possibly without the custom graphics chipset that we have become used to, opening the way for third-party graphics cards to take over the market.

PUBLISHER PANIC

Having received your magazine for several years now I have built up a large collection of your coverdisks. One such disk I now wish to use regularly is the February 1994 coverdisk, The Publisher. In that issue of the magazine there was an offer to buy the official manual for the program, so I bought the manual and just left it on the shelf awaiting the time when I would need it.

The magazine had a serial number in it to override the built-in copy protection on the Publisher disk once it was unarchived, but, unfortunately, I seem to have lost the magazine with the number in it. Could you possibly let me have the serial number for the program so that I can install the program onto my hard drive and, more importantly, use it.

Geoff Bowell, Colne

It feels like we get a request for this serial number every three months or so, so do keep this copy of the magazine handy, just in case you might need it! Here's the number you need to unlock The Publisher: 6547495F

FINAL WORD

Just a note to ask why publishers on the Amiga don't look for cross-platform compatibility in their products. I own copies of both Final Copy and Wordworth, yet I cannot transfer files between them and my PC at work without saving out as ASCII and having to redo all my layout work.

It just seems like developers live in their own little worlds and never pay any attention to what's going on around them. If I did that in my business, I wouldn't make any money.

The computing industry is probably the only one where standards are created by competing companies which can be used industry-wide for better all-round performance, but Amiga software houses seem to ignore all of it.

R A Bryant, Shepstow

I quite agree. The lack of observation means that companies end up reinventing everything from scratch each time without paying attention to what other people are doing, meaning the Amiga loses out on some handy features like PNG or support for word processor file formats.

acas

amiga computing advice service

ACAS is the name, **trouble** shooting is the game. You've got a **problem**, then we can solve it

TROUBLE WITH A PSU

I have been an Amiga user for nearly five years, using an A500. Having seen all the really good programs that you give away on your cover disks, I am now getting an A1200 as I feel I am missing out all the time. I have two questions I hope you can help me out with.

Firstly, where can I buy a PSU plug that goes into the Amiga? I have asked all the shops in Hull, but keep being told that you cannot buy them. I would like to make my own workstation, but I need the plug for the PC PSU.

My other question is, if I buy an Apollo 1220 for the A1200, can it be turned off by some sort of command? I have been informed that some games run too fast with the accelerator in the trap door.

Peter Grainger, Hull

You want to make your own power supply unit? I personally wouldn't recommend it, unless you are 100 per cent sure as to what you are doing. There is always the risk that you are going to fry your Amiga, and normally there is not too much need for a more powerful PSU.

It is, however, possible to do and there are a number of files on Aminet that explain how to convert a PC power supply for use with an Amiga. The most important thing is, you must make sure you get all the power connections correct otherwise you will be the proud owner of one ex-Amiga.

The reason you cannot get hold of an Amiga power plug is that it is a none standard connection, being used only on Amigas. The only way you are going to get hold of one is by cutting the plug off your old Amiga PSU, and then solder the lead to the PC power supply.

It would also be advisable to double check the power output from the PSU with a multi tester, before actually connecting it to your Amiga.

As far as I know, there is no way to disable the Apollo board without actually removing it from the trap door. The only A1200 accelerators I know of that can be easily disabled are the Blizzard boards – with the 1230 you just hold down the 2 key when you reset the machine and the entire board is disabled.

Finally, I have not actually played any games that suffered from having an accelerator, and all Doom clones and flight simulators will benefit with a faster screen update.

PROTEXT PROCRASTINATOR

Since using a standard A1200 with a 40Mb hard drive, Protext v4 has obstinately refused to open its window. If intuition has been allowed to reset the Workbench screen once or more since bootup, due to any of the screen, palette or font preferences being in ENV:, Protext will refuse to open its window.

It is possible to get Protext to run by either having Workbench run in 2 colours – that makes it look really horrible – or not allowing IPrefs to run in the startup-sequence. The only other way to get Protext to work is by using a Workbench screen that is 1900 pixels wide. Protext will then open a huge window that is not at all practical to use.

Mr Churchill, Nottingham

Protext is quite an old program, and even version 4 was written with Workbench 1.3 in mind. Having said that, there really should be no problems running such an OS legal program, unless it is doing something naughty. You would normally assume, in this sort of case, that the program is at fault, but Protext is normally a very well behaved program, and version 4.3 should run under Workbench 2 without any problems.

Generally, in these situations you have to assume that the program is at fault, but as I have said you should not be having any trouble with Protext. Your first move would be to check the program tool types. From here you can normally adjust certain options to do with how a program works. In this instance, an option to get Protext to run on its own screen would be nice to try.

After that, you are only really left with trying to adjust any window settings from within the program, or it is always worth checking that some other background program or hack, as some of them can turn out to be, is not interfering with it. Other than that, it would be worth considering an upgraded to Protext 6.

REMOTE DEVICES

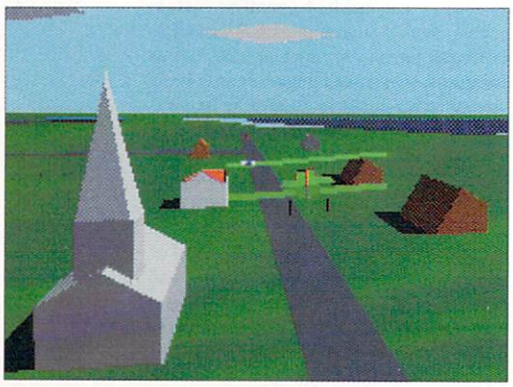
Hi, I am Diego and am writing from Argentina. I have an A1200 with 6Mb and would like to know a couple of things. I'm searching for a game that can be played over the modem, and I already have Skid Marks II, but would like to try something a bit different.

A friend of mine has bought a CD32 and saw a cable that you can plug into the A1200 and CD32 to allow you to access the CD32 with the A1200. Do you know of this cable, and does it actually work?

Diego Waisman, Buenos Aires

It is always nice to hear from one of our farther flung readers, and Argentina is pretty far flung. Games that are playable over the modem, in the Skid Marks manner, are pretty rare on the Amiga. The only one I can think of off the top of my head is Knights of the Sky by MicroProse. This is a very good World War 1 dog fighting flight sim and really zooms along on a A1200, as it was written with the A500 in mind. Other than that I cannot think of any others, and even all our game gurus were stumped.

With regard to what your friend saw, a couple of devices came out that allowed the CD32 to be connected to an A1200. This was via a serial cable and using something like serNET which lets you access the CD32 drive like any other disk from the Workbench. They work well, but the real problem with all of these is that they are generally quite slow because of the slow serial cable.



Knights of the sky, about the only other game on the Amiga that you can play over a modem

MISSING MMU

I own an Amiga 4000/030 and have been having trouble with running out of RAM when using my sound sampler and digitiser. A friend suggested I send off for a virtual memory program from a PD house.

I followed the instructions which said it will work on any Amiga with Workbench 2.x and higher, but I just simply cannot get it to work. All I can get it to do is write a 4Mb file to my hard drive and then crash. I hope you can help.

James Sergeant, Sussex

If things in life were only so simple. Unfortunately, the program instructions are lying. To use virtual memory in this way, you have to have a MMU – a memory management unit – fitted to your machine. The 030 version of the A4000 is the EC version, so has no MMU, and therefore, unfortunately, you will not be able to get the advantages of virtual memory.

acas

Do you have a problem? Do you sometimes find yourself poised over your Amiga with axe in hand, spouting profanity at the stubborn refusal of your software or hardware to behave properly?

Well, calm down and swap the axe for pen and paper, jot down your problems, along with a description of your Amiga setup, and send it off to Amiga Computing Advice Service, IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP. Alternatively, e-mail us at ACAS@acomp.demon.co.uk

A1200 ANSWERS

I am thinking of buying an A1200 later this year, but there are a number of questions I am confused about that I would like answering before I buy one. I will probably be using the Amiga for scanning and word processing applications.

1. What is the difference between 2.5 and 3.5 inch hard drives?
2. Is there really enough room to fit and install one of the above drives inside the A1200?
3. Which do you recommend – internal or external?
4. Does an IDE hard drive mean it is internal?
5. An 'Over Drive' hard drive seemed to cost less and be more convenient, and does not invalidate the Amiga's warranty by slotting straight into the PCMCIA port. Does this mean I cannot use the Squirrel interface?
6. Using SCSI CD-ROM drives on the Amiga, which CDs can I use? Philips CD-i, CD32 PC CD-ROMs?
7. How good are the graphics of the AGA chipset compared with PCs?

Andrew, a.m.h.wong1@uclan.ac.uk

It would probably have been easier just to say tell me everything you know about IDE drives and the Amiga! IDE stands for Integrated Drive Electronics, this means that the hard drive interface is built into the drive. So when it comes to fitting an IDE drive all you have to do is connect it with an IDE cable.

To answer your first two questions, 3.5 inch drives are, surprisingly, an inch wider and generally a lot larger than 2.5 inch drives. They also have a separate power supply and are quite a bit cheaper, due to them being easier to make. The A1200 was designed to take a single 2.5 inch hard drive internally, but it is possible to fit a 3.5 inch drive inside an A1200, although it is quite a squeeze and you need to get hold of a special cable to fit it.

I would opt for the internal drive, mainly because it does not take up any more desk space, and as long as the drive is fitted by an authorised dealer you will not invalidate your warranty.

The OverDrive hard drives are actually IDE mechanisms, so IDE drives do not have to be fitted internally. The main reason for the low price of the OverDrives is that they use 3.5 inch drives which are cheaper. The big draw back is that you will lose your PC slot, so you will not be able to use *any* other hardware that uses the PC slot.

In answer to question six, the Amiga can *read* any of these CDs but it can only run programs which are written for the Amiga. Therefore, you may be able to look at file on a PC CD, but you cannot run any PC programs.

It is a little difficult to directly compare AGA to a PC system. HAM modes are unique to the Amiga and can be thought of as a pseudo 24-bit display that only requires 8 bitplanes. Therefore, on a display basis AGA is equivalent to a 2Mb SVGA graphics card. Where it loses out is on screen update. If you try to run a 256 colour screen on anything but a low resolution screen then AGA starts to show the strain. If you then try a DblPAL no flicker screen in 256 colours, screen update almost grinds to a halt.

On PC systems the effects of running higher resolution modes are much less pronounced, as PC video cards use video RAM. This allows the screen to be updated by the computer, as well as being outputted to the monitor for display. The AGA chipset can only do one of these at a time, and in high resolution screens, displaying the screen takes up so much time that there are very few clock cycles left for the screen to be re-drawn.

CD QUANDARY

I want to add a CD-ROM to my A1200, but the information I am getting about CD-ROMs seems to be inconsistent. In reading letters about CD-ROMs, people seem to be having quite a bit of trouble getting them up and running.

So, my questions are: Do you have recommendations as to brands that are compatible with my system?; do I have to get drivers, since I have Workbench 3.0, from the AmiCDRom handler, or would they be included and be able to work on the Amiga when I purchase a CD-ROM?; would the Squirrel help in connecting the CD-ROM up to my system? Any other pertinent information you might have about CD-ROMs would be quite helpful to me since I am starting at 'ground zero.'

Michael Wilson, Seattle USA

I think you have got a little too worried about fitting a CD-ROM to your Amiga. The process should be, and is, very straightforward. You have probably got a little confused from other problem letters in which people are trying to add CD-ROMs to an existing SCSI board. If you already own a SCSI interface then it is necessary to get hold of the AmiCDRom handler software – this is public domain, so is readily available. The installation is very straightforward – you just have to make sure you pick the right device name for you SCSI interface and that the CD is set to the right SCSI ID. This is where people can have problems, but you just have to check in the manual what the device name is for that particular interface.

If you are starting from scratch then I would recommend the Squirrel option. You get a proper SCSI interface, and the supplied software is setup to use a CD-ROM. If you purchase the CD-ROM with the Squirrel you have a ready-to-use solution. Just install the software, which is very straightforward, and away you go.

Currently, the only real bind with Amiga CD software is CD32 incompatibility. The Squirrel comes with CD32 emulation which is pretty good, but can still fail to run some CD32 games – however, all other Amiga CDs will work fine. Hopefully, game writers producing CD software will move towards writing generic Amiga CD titles that simply act like hard drive installed games, but working from the CD.

public sector

Dave Cusick braves the northern winter to bring to you the best in Amiga PD and shareware

If the cold weather is getting you down, then there is a solution. Get yourself a nice warm mug of tea, snuggle up in a comfortable chair, and take a look at some of these low-priced lovelies. Who needs January sales? PD and shareware releases are affordable the whole year round...

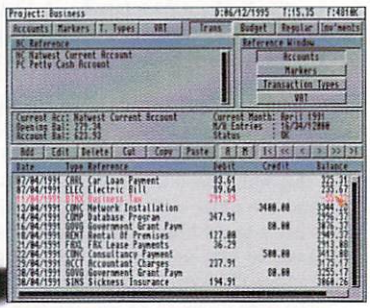
ULTRA ACCOUNTS/FINANCIAL ACCOUNTS

Programmed by:
Richard Smedley/Mark Simonetti
Available from: 17 Bit Software
Disk No: 3929

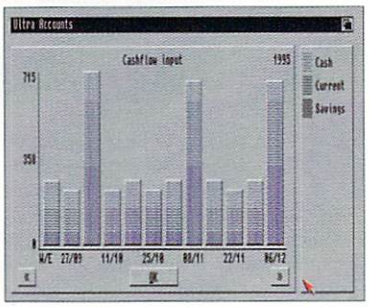
It's all very well deciding you want to organise your accounts more effectively using your Amiga, but take a look at the software that's available and you may be put off. It's not that it's not up to the job; more that you're not up to deciphering it. A good old pen and paper are far simpler...

On this disk are two excellent little programs. The first, Ultra Accounts 2.0, is joyfully easy to get up and running, and helpful documentation speeds up the process still further. The screen is uncluttered and the intuition-style interface means you'll feel at home right away. Setting up your accounts is relatively painless and then it's simply a matter of sorting out standing orders and timed events. Then you're ready to start entering day-to-day transactions. The program also features graphical analyses of transactions (either on one day, in a week, or over a month), lets you enter reminders, and keeps a log file in case you accidentally alter something and need to backtrack at a later date.

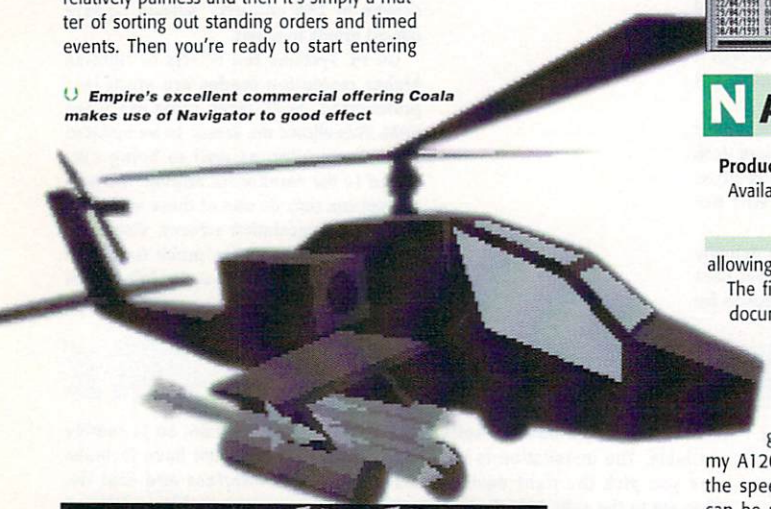
Also included is Financial Accounts 1.4, which offers pretty much everything that Ultra Accounts does, with added extras such as VAT statements and an investments portfolio. This, too, is a very capable program, so the choice between Ultra and Financial is largely a matter of personal preference. They're both shareware, and each costs a tenner to register. As usual, registration entitles you to future updates and helps persuade the author to continue to develop his or her product.



Fiscal assessments can be fun kids, thanks to Financial Accounts. You'd never guess it was written in Amos, either



Keep track of your other half's money, or something. It's the stunning Ultra Accounts



Empire's excellent commercial offering Coala makes use of Navigator to good effect

NAVIGATOR

Produced by: Michiel den Outer
Available from: 17 Bit Software
Disk No: 3927 A/B

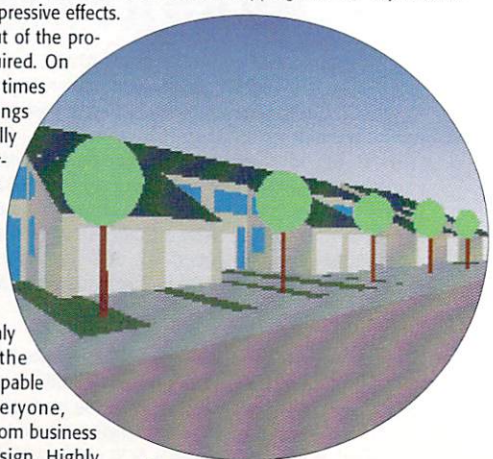
Navigator is a superb virtual reality design tool which is ideal for all manner of applications ranging from games to complex design work, where architectural plans can be 'brought to life' within a computer. It works in real time, allowing total interactivity and allowing the user to examine objects from every angle.

The first of the two disks contains a fast and effective viewing program, some rather brief documentation, and numerous examples of what can be achieved. The second disk features Navigator Titler, an excellent utility for designing flashy effects for use in videos and presentations. There's also NWipe, which allows texture mapping onto 3D objects, and can produce some really impressive effects.

To really get the most out of the programs, a fast Amiga is required. On my A1200, running at around five times the speed of a standard A500, things can be pretty jerky. This is especially true if you decide to use Hi-res, interlaced screens, or fancy texture mapping. Unfortunately, the programs use integer maths so owners of FPUs won't be at any advantage – a nippy processor and lots of FastRAM are the only solution.

Navigator is shareware, but at only a tenner a time it's well worth the money considering everything it is capable of. It has something to offer everyone, and can be put to all sorts of uses, from business to video work and even game design. Highly recommended.

Watch your titles explode, one of many impressive effects Navigator Titler has to offer



Design your own tedious suburb with Navigator

F1GP-ED V3

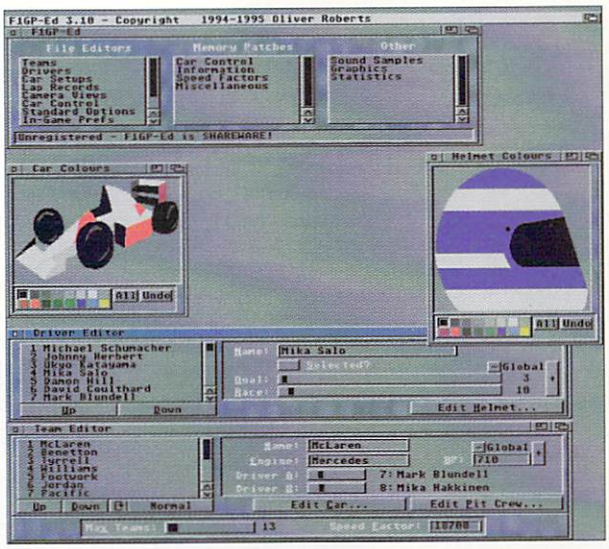
Produced by: Oliver Roberts
Available from: Aminet

Geoff Crammond's Formula One Grand Prix is quite probably the greatest computer game ever (although admittedly Sensible World Of Soccer comes quite close). The problem is that Microprose have not seen fit to update it in any way whatsoever since its original release in 1991, with the consequence that the data contained in the game is now rather out of date.

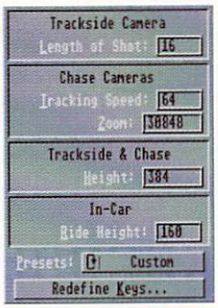
To address this problem, and to provide numerous gameplay improvements, Oliver Roberts wrote F1GP-Ed, an early version of which made its way onto an *Amiga Computing* coverdisk some time ago. It enabled the editing of team and driver names, car colour schemes and suchlike, and allowed less patient drivers to cheat by employing the driver aids even on the higher skill levels.

F1GP-Ed has since developed at a phenomenal pace. Version 3 enhances the game in numerous ways. It's now possible to edit, amongst other things, car set-ups and camera views, the lap records, and the frame rate of the display (producing smoother graphics on faster machines). There are also plenty of fancy additions: there's an optional pit-lane speed limit for added realism, plus the facility to upgrade computer car performance on various circuits, and a handy cheat whereby your car's position can be snapshotted at any point and then recalled. The latter function is extremely useful for practising tricky corners. It's also now possible to display plenty of useful information during races, such as the time difference between your car and the cars in front and behind when you cross the start/finish line. You can even change the sound effects and graphics should you feel the urge.

F1GP-Ed is shareware, with registration costing £6. Considering the hours of extra interest it can add to an already classic game, this is an absolutely essential purchase.



Edit practically every aspect of classic racer F1GP



Even the trackside camera positions can be adjusted

GLORY BOX

I want to hear from you if you have any program, whatever its purpose, which you consider worthy of review. Whether it will be freely distributable public domain, shareware or licenceware, if you feel it's of sufficient quality to merit coverage then stick it in a jiffy bag or padded envelope and send it in with all haste. Although Public Sector receives too many submissions to cover them all, I promise I'll at least look at your work – even if it's yet another Lottery program or Klondike cardset. It does make my job a lot easier though if disks are clearly labelled. Please also include a cover letter detailing the disk contents and price, and giving some basic instructions. The magic address is:

Dave Cusick, PD submissions
Amiga Computing, Media House,
Adlington Park Macclesfield
SK10 4NP

GREETINGS: A GALLERY II

Produced by: Jason Jordache
Available from: 17 Bit Software
Disk No: 3921

This is a collection of Jpeg images designed for greetings cards. The highly stylised artwork is colourful and attractive and the quality throughout is excellent.

Some of the designs have vaguely fantastical themes, whilst there is also a cute cow and plenty of abstract images. There are a couple that you perhaps wouldn't send to kiddies.

Maybe not the most useful disk in the world, but an effective way of showcasing this artist's talents.

What a charming birthday surprise

A novelty greetings card design from Jason Jordache

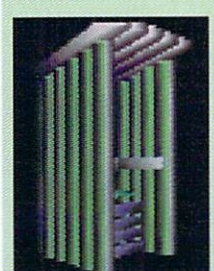
TEAR DOWN THE WALL

Produced by: Union
Available from: 17 Bit Software
Disk No: 3907

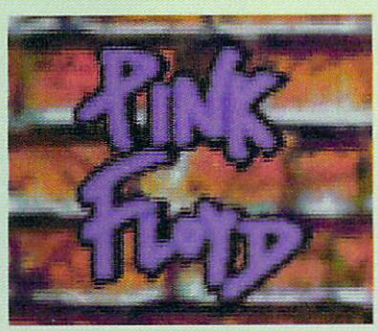
Pink Floyd's Another Brick In The Wall receives the demo treatment, with a rather scratchy sample of the song being accompanied by plenty of fairly fuzzy graphics. Don't expect Gilmour and co to perform at CD quality; knackered 70's tape-deck quality is closer to the mark. However, some quite impressive data compression has obviously gone on to squeeze this whole production onto one floppy disk, so the low sample quality is excusable. (It also probably helps avoids copyright problems...)

The visuals, if a little less than impressive in definition, are at least a little more imaginative and impressive than might be expected. They're not stunning by any stretch of the imagination, but they're passable.

Suddenly, however, Another Brick In The Wall finishes and we're catapulted into a rather average, highly predictable demo featuring texture-mapped donuts and cheesy tracker music. This bizarre turn of events is a little disappointing but unfortunately not entirely unexpected; perhaps a sad indictment of Amiga demos in 1995. There are few surprises left these days, and demo programmers don't seem to be going out of their way to hit us with them. Still, at least Tear Down The Wall includes some music that's not straight out of the Euro-cheese dance stable.



An animated 3D toilet. It's original, I suppose...



The Amiga as a means of political propaganda, perhaps? Or just the work of some bored programmer without a CD player?

CLI ZONE #1

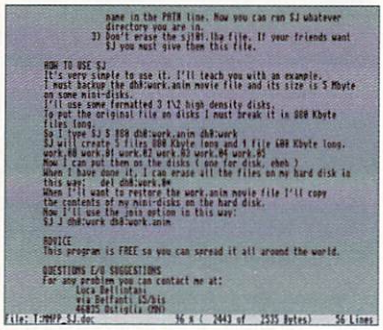
Produced by: Professional PD
Available from: Professional PD

Another compilation of handy little utilities, in the mould of the Vark disks. Most are accompanied by ReadMe files, and those which aren't are, for the most part, relatively easy to get to grips with.

There are plenty of useful inclusions: there's Cachefont, which creates a file listing everything in your Fonts drawer, allowing programs to scan its contents far more quickly; ClickNot, which stops the floppy drive from making that irritating clicking noise when there's no disk inserted; and CPalette, which brings up a palette requester on any screen.

DoubleX forces mode promotion on AGA machines, even on programs which normally refuse to be affected. Embedder is a superb AGA downgrading utility that runs as an AppIcon, so AGA-unfriendly programs can simply be dropped onto its icon and run instantly. Fakemem is for A1200 owners, and converts all but 512k of RAM into FastRAM, and apparently this makes it possible to run certain applications such as Caligari, which otherwise would refuse to run.

GIFlist displays useful information about GIF



CLI Zone: incredibly useful but not really likely to provide exciting grabs

files and can add little notes for future reference. IdleLED turns the power light into a CPU load indicator, so that it's possible to tell when your machine is working hard. Nuke is a 'secure' deletion program – it physically removes a program rather than simply telling the machine to forget about its existence. This means the file cannot later be undeleted by some curious individual.

SystemSpeed, unsurprisingly, can tell you how swift your machine is, whilst Stonecracker is a crunching utility in the Powerpacker mould which squishes programs down whilst leaving them fully executable. Snoopdos, although included in v1.5 as opposed to the vastly superior v3, should be on everyone's hard drive. It's excellent for finding out exactly why a stubborn program is refusing to work correctly.

There are many more too, although in some cases it may take a bit of work figuring out how the authors have compressed the documentation – PPmore won't recognise several ReadMe files. The chances are that long time owners will already own a fair few of these utilities, but with so many to choose from, it's a fair bet that everyone will find at least a couple of new gems.

POWEROIDS

Produced by: Matthias Bock
Available from: 17 Bit Software
Disk No: 3920

Asteroids is the sort of classic that has spawned many imitations, probably the most famous of which is Bloodhouse's Super Stardust which boasted stunning graphics and a difficulty factor which made the legendary hard Rick Dangerous games seem like a doddle.

Poweroids doesn't offer the same drop-dead gorgeous graphics – in fact, the visuals are somewhat disappointing. However, there is the added bonus of multi-player blasting action, because up to four players can participate simultaneously with a four-player adapter. If you don't own one of those little gizmos, it's at least possible to enlist the help of one chum to help destroy wave after wave of asteroids. There's also an excellent battle mode where players try to blast the living daylights out of one another.

Unfortunately though, you'll only get the chance to blast a couple of screenfuls of asteroids into oblivion with this particular version, because Poweroids is shareware. The full version, with scores more levels, costs 20DM. Somewhat strangely, Poweroids requires a 68020 and 1 meg of chip RAM, but it does multitask happily (so don't get worried if the starfield starts to fade, it's just MCP's screen saver kicking in).

Poweroids allows you to blast a friend into submission, or if you haven't got any friends, you can at least blow up some rocks

HAUNTED BY YOU

Produced by: Professional PD
Available from: Professional PD

Ali Prior has struck again. The latest in his long line of gambling prediction titles is Pro-Greyhounds. This arrived in the office in a sizeable box, accompanied by a bottle of 'Man's Best Friend', an allegedly alcoholic product which in fact turned out to be a bottle of Fruits Unlimited. The program itself features the same friendly interface as its predecessors, and whilst I won't claim to have any idea as to its effectiveness, it does have all the hallmarks of a quality product.

AMOS AGA EXTENSION

Programmed by: Michael Prince
Available from: F1 Licenceware
Disk No: F1-113

It's finally possible to display attractive AGA pictures in Amos

Let's see, the Amiga A1200 has been around for, what, three years now? And Amos, infamous for refusing to run on any new machine until a patch is released for it, has never been upgraded to take advantage of the AGA chipset. Until now, that is. Formerly available for £10 from the now deceased AmigaNuts PD, this extension can now be obtained for £3.99, and whilst it's still far from completion, it does finally offer keen Amos programmers some AGA effects.

AGA screens can now be opened, the full range of colours is now available, and a host of enhanced versions of standard Amos commands are included. There are plenty of demonstration programs too, so getting used to the new (and well documented) commands shouldn't be too much of a chore.

Fully compatible with both 'Classic' Amos and Amos Pro, this has been eagerly anticipated by many for a very long time.

SOMETHING HOT IN A COLD COUNTRY

17 Bit Software
1st Floor Offices, 2/8 Market Street, Wakefield, West Yorkshire WF1 1DH
Tel: 01924 366982
Fax: 01924 200943

F1 Licenceware
31 Wellington Road, Exeter, Devon EX2 9DU
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Ali Prior
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Overkill AGA	8		

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902–S KICK F/2.0 a3.0X sim
905–NEWICONS F/2.0X HD
913–Screen Blankers F/2.0X
946–DISK MASHER V 1.53"
947–H-D GAME INSTALL
948–CRUNCH-MANIA V 1.91"
949–ZIP & UNZIP
951–CYBERVIEW F/3.0X
973–MR HD-BACKUP F/2.0X
975–TEXTURE STUDIO F/2.0X
978–VIEWTEK F/2.0X
1003–MAGIC USER INTERFACE LHA

830–OCTAMED V2.0
844–HEAVY METAL MUSIC
846–CRAZY MEDS
852–CHURCH MUSIC
856–DOS TUTOR F/2.0x
857–TERM V4.0 DISK 1
858–TERM V4.0 DISK 2
862–CHRISTMAS CLIPART
9–ADVENTURE MAKER
10–STAR TREK #2 DISK 1
11–DISK 2 OF TREK #2

GAMES:
12–DISK 3 OF TREK #2
13–WANDERER
14–STAR TREK #3 DISK 1
15–DISK 2 OF TREK #3
21–SEALANCE SUB GM
22–YAHTZEE (3 GAMES)
24–WHEEL OF FORTUNE
44–DOWNHILL SKIING
55–ZERG D&D ADV.
62–DRIP (ARCADE GAME)
70–MISSILE COMMANDS
72–DRAGON CAVE
78–PETERS QUEST
79–MEGA BALL
80–PAC MAN+
96–TANKS/INTERFERON
103–TETRIS GAMES
114–LEMMINGS PLAYABLE
128–SPACE GAMES
136–HATE (Zaxxon clone)
137–BLACKJACK & BANDIT
147–INTREDIP (TANK)
148–BOULDER DASH
162–VIDEO POKER
176–GALACTIC WORM
191–KINGDOM AT WAR
194–SINKING ISLAND 3
240–CHESS & PACCER
245–CHECKERS
255–PINBALL
282–SYS (ARCADE)
328–WANGLE & TRIX
349–OXYD
378–DOMINOS & CARDS
398–LEGEND OF LOTHAN
403–INTRUDER ALERT
433–SCUD BUSTER +
468–LEMMINGS TRIBES PLAYABLE DEMO
492–WALKER (Playable)
463–CATACOMB (Adv)
630–KLONDIKE 2 AGA #1
631–KLONDIKE 2 DISK 2
632–KLONDIKE 2 DISK 3
940–CRAZY-8 & SOLITAIRE
941–KNIGHTQUEST 2.0X
942–AIR TAXI 2.0X – 2 Meg
950–DLX PAC-MAN ECS

GAMES:
955–BATTLE DUEL AGA
962–CYBERMAN F/1.3
964–BOWLING DEMO
907–LION KING DEMO AGA
908–ALADDIN (AGA)
673–DEFENDER
676–MECHFIGHT DISK #1
677–MECHFIGHT DISK #2
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Laser guidance

From UFOs to networks this CD collection covers **essential** programs and graphics for your Amiga. **Andy Maddock** reviews

GAMER'S DELIGHT 2

Gamer's Delight is another compilation CD courtesy of Schatzruhe, and basically it's based along the lines of the Assassins disk. This, too, is also the second in the series but there were certain flaws in the menu system then. With this CD being designed by a foreign company, the translation comes across differently.

For example, instead of platform games being referred to as 'platform games', they were referred to as 'jump and run', which in fairness is no real fault of their own, it just looks odd. The cursor to select options was a very faint colour, and straining your eyes to make out what you were going to select was imminent. Gamers Delight 2 has now made an appearance containing 1070 games from different categories. There are 70 commercial releases, so don't expect Public Domain, and an example from the 'Jump and Run' category would be 'Go Kevin Go' – sounds great. There are various other games called Gardener, Rollerball, Willi Wacker and Balls. I suppose that sums up the CD quite well.

NO CONTEST

It may not be as polished as the Assassins series, but it's different. The games may be unheard of, and they may not be of outstanding quality, but that's certainly not what you expect for £26.95.

Although the Assassins compilation is the same price, it's double the quality. I don't think there's any doubt which one you should go for.

Bottom line

PRODUCT DETAILS

Product:	Gamer's Delight 2
Supplier:	G.T.I
Price:	£26.95
Phone:	+49671 85937

SCORES

Ease of use	77%
Implementation	81%
Value For Money	81%
Overall	80%

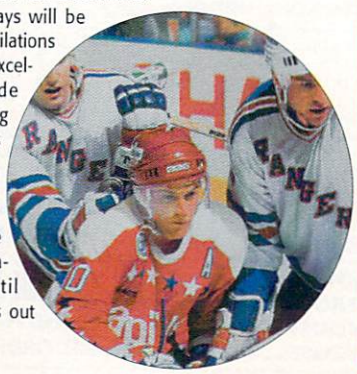
AMINET SET 2

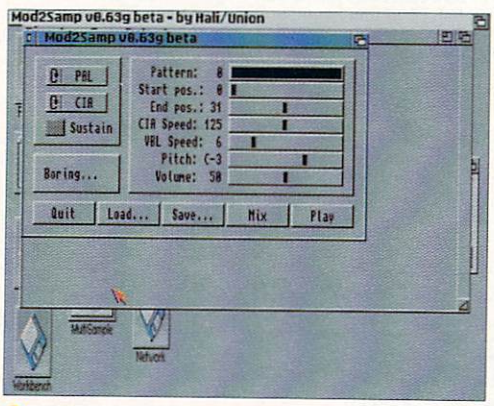
Everybody who's anybody will have seen, heard, or even used the Aminet series, either on the past CD-ROM series or via modem. All the time, people are uploading their software for use on Aminet's extremely impressive collection. Since its launch there have been nine CD-ROMs and these all contain the latest software for that time. Therefore, if you happened to own the entire lot, you would probably have the most comprehensive library of Amiga software to date.

G.T.I. are back to distribute the famous Aminet Sets, and already they are on to their second in the series. The entire package is not cheap, at £34.95, although for your money you do get four CDs absolutely packed with gorgeous goodies that were uploaded in November.

The CDs are split into categories – the first containing the utilities, documents, text and business software; the second contains pictures and graphic software, the third contains all the fun topics such as games and demos along with more utilities for use with your hardware; and the fourth and final CD is entirely dedicated to music modules, samples, and Comms software.

There is 850Mb of music modules that any music fan would gladly pay £35 for. The Aminet series is and always will be the greatest compilations to date. With its excellent AmigaGuide database allowing you to access everything, depacking and reading from a click of a button, this is *the* definitive compilation. Well, until December's comes out anyway.





Each CD is split into various categories. This is the music CD

Bottom line

PRODUCT DETAILS

Product:	Aminet Set 2
Supplier:	G.T.I
Price:	£34.95
Phone:	+49671 85937

SCORES

Ease of use	93%
Implementation	92%
Value For Money	90%
Overall	92%

ASSASSINS ULTIMATE GAMES 2

The Assassins Ultimate Games is the second in the series of CDs, following on from the immensely popular first instalment. It included all the Assassins collections packed, and ready to unpack, onto floppy disks. The first CD contained a wide variety of excellent games as well as some compilations of utilities. What made this compilation superb were the presentation and features, an excellent menu system, bootable or non-bootable as well as compatibility with the CD32.

To use the Assassins CD, all that's required is to simply click on the icons

This collection has game disks 1-120, 60 utility disks, and 70 workbench games. These are all in the usual DMS format and will need unpacking to floppy disks. You can access everything from the excellently implemented AmigaGuide database, and all the information you require will undoubtedly feature here, including compatibility with various machines.

The games contained on the CD range from shoot-'em-ups to pub quizzes, and if you're not looking for something specific then there is something here for absolutely anyone.

If you're looking for a decent CD with a whole host of PD games and utilities, Assassins is undoubtedly the best. It features an easy-to-use menu system, accompanied by some excellent presentation. There are descriptions of the games as well as information on the author, so it really does add up to being one of the most professionally presented CDs around today.

Bottom line

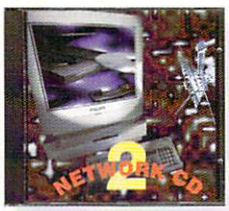
PRODUCT DETAILS

Product:	Assassins Ultimate games 2
Supplier:	weird Science
Price:	£19.95
Phone:	0116 234 0682

SCORES

Ease of use	88%
Implementation	84%
Value For Money	85%
Overall	84%

NETWORK CD 2

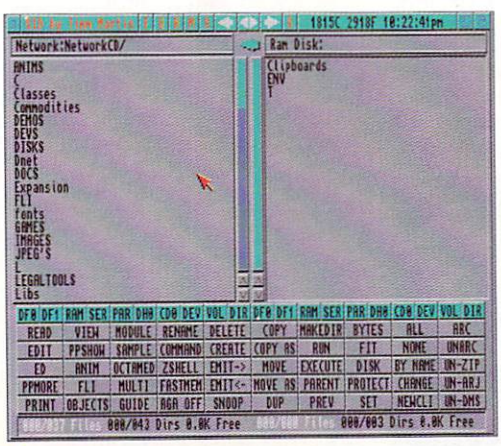


The first Network CD arrived courtesy of Weird Science some time ago, and now their latest Networking CD has finally appeared – faster and far more powerful than ever before.

The main idea is to join together the Amiga and a CD32 via a cable from the Serial or Parallel port to the Auxiliary port on the CD32. This will give your CD32 a new lease of life as a remote CD-ROM drive. As most CD drives are operated via SCSI and the PCMCIA slot, the majority tend to be quad-speed and almost instantaneous. You may be thinking that because the CD32 is only double-speed, the file exchange rate won't be particularly good. Well, you would be right, although on this Network CD there are many programs to get the most from your CD32 as well as the fastest speed.

Setting up is made even easier than before – a simple process of entering the CD, booting up the machine, waiting for it to be ready, and sending all the relevant information down the Serial cable. Then a pseudo-device entitled 'Network' will appear on your desktop. Inside here you will find a CD0 and RAM drawer, and you must remember that they are only drawers and not devices. Once this is set-up you can change the CD in CD32 because it will override the auto-reset function, then all you have to do is assign it and away you go – it's as simple as that.

What makes this one of the most delightful packages is that if you should move the mouse pointer off-screen it will simply appear to have locked up. Adding another monitor through the CD32 will reveal your mouse pointer moving swiftly around on the other monitor. Also, not only can the mouse be transferred to the other machine, but also the keyboard, as soon as you move off-screen.



The easy-to-use network CD comes complete with the SID package

IMPROVEMENTS

Depending on your machine and setup, you will have a variety of baud rates from 57,600 to 115,200, and for a standard A1200 you'd be able to get away with 76,800. There are programs such as SID, for file transfers and for viewing various formats, as well as many other Internet and access tools. You can also unpack various bootable disks to make the connection procedure even easier.

The main improvements over the first are that the CD boots in around 45 seconds, the CD32's programs can be run from the Amiga itself, the connection procedure is simplified to only a click of a button, and you also get many animations, games and images bundled on the disk to kickstart you CD-Rom usage – these can all be viewed or played through SID, so everything you could possibly think of has been included.

Anybody with a CD32 and Amiga should seriously think about getting connected. If you look at all the CD-ROMs on these very pages you will see just what you are missing out on. This is none other than an essential purchase.

Bottom line

PRODUCT DETAILS

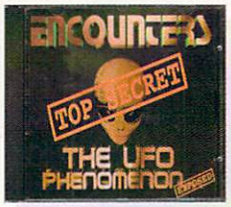
Product:	Network CD 2
Supplier:	Weird Science
Price:	£14.99 Serial Cable: £24.99
Phone:	0116 234 0682

SCORES

Ease of use	91%
Implementation	89%
Value For Money	92%
Overall	92%

Whoa! How did that get in there?

ENCOUNTERS: THE UFO PHENOMENON EXPOSED



There are so many questions about ufology that most people are either too scared to ask or too sensible. People are frightened with the unknown, and recently, although having being around for many years, aliens are beginning to steal the limelight and become more believable than ghosts. Or are they the same thing? One reputed feature of Aliens is that they can take any form! Apparently.

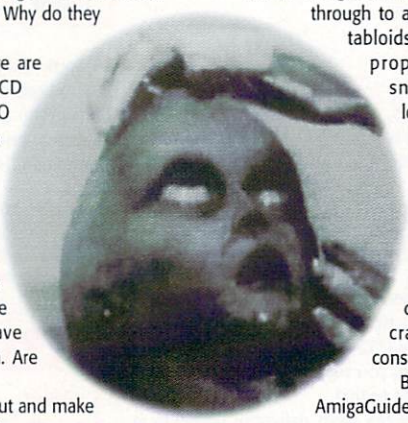
What does an Alien look like? Does the government really communicate with them? Was the Roswell incident a cover-up? Have places like Hangar 18 stored ufology? Who are the Men in Black? Why do they drive red Escorts?

All these questions and more are revealed on this brand new CD called Encounters: The UFO Phenomenon Exposed. On the rear cover it says: 'This CD contains information that NOBODY wants you to know.' And this is perfectly true. However, don't take it the wrong way, thinking they're stolen classified reports. They are merely documents people have managed to lay their hands on. Are they true? Nobody knows.

If the government did come out and make a speech to say that UFOs/Aliens existed, although there's really nothing to worry about, there would be a world panic. However, if they manage to keep it as one of those 'believe it or not' subjects, the public would have no option but to disbelieve it.

According to a document in the CD itself, there are over 70 recognised species of 'Aliens' or other beings. The most popular of species has to be the 'Greys.' These are described as being thin and spindly, have large bald heads, huge dark eyes, two dots for a nose, and a small line for a mouth. And of course they are grey.

After having read almost every document on the entire CD, I now feel as though I'm getting to know quite a bit. For instance, did you know that the government are carrying out a coverup as we speak? Well, it's called an indoctrination, and it's a plan to make you disbelieve. When a UFO sighting is reported, and it's a major one which the government can't explain, they filter it through to a popular medium – namely the tabloids. They will then blow it out of proportion – such as the 'I was snatched by Pamela Anderson look-a-like aliens!' story – so people laugh it off, and subconsciously dismiss the whole thing. Clever? I think so.



This picture is from the Roswell autopsy. It was brought to light by a music video producer. Need I say more...

This CD covers every budding ufologist's dreams as there are documents covering abductions, origins, cattle mutilations, crop circles, landings, sightings, crashed UFOs, and government conspiracies and cover-ups.

Basically, the entire CD uses an AmigaGuide and all the documents can be accessed very easily along with a series of pictures. Most of the CD is text related – 200Mb – which means there are a lot of documents. However, each category has its own pre-packed Lha file so you can instantly unpack it to your hard drive.

All the information on the CD is excellent. It gives all sorts of documents that are supposedly 'top secret' and some of the accounts of abductions will send a shiver down your spine. The whole CD covers everything to do with UFOs, especially offering explanations as to why World War 2 started! Hitler was an alien! Er, I made that up actually. It does sound like some people take it too far, but after actually reading the documents, how can you possibly not believe it? This is the case when 500,000 people have reported abductions in America and they all roughly follow the same pattern. Spooky!

If you have a keen interest in ufology or you're looking for some convincing evidence, look no further.

Bottom line

PRODUCT DETAILS

Product:	Encounters: The UFO Phenomenon
Supplier:	17 Bit Software
Price:	£19.99
Phone:	01924 366982

SCORES

Ease of use	91%
Implementation	93%
Value For Money	89%
Overall	91%

EUROCSENE 2

By now, you probably know about underground clubs and places where everyone gets together to 'join as one' and just enjoy life. No restrictions, no egotistical bigots – everybody is free to enjoy what they want to enjoy.

Euroscene is more or less an underground Amiga scene, where various Amiga users get together for parties and groupings for demo showings, music and pictures, amongst other things, and then generally talk about it afterwards – on demos. That's why you always get a certain type of text on demo scrollers which, if you haven't been to a certain venue, you won't understand. Generally, these venues are held all around the country, although mainly in Europe.

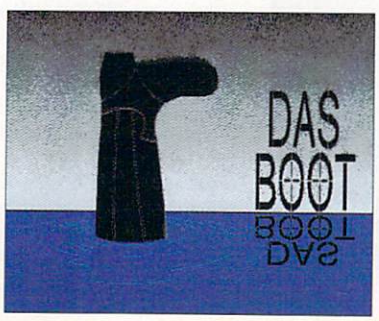
This CD contains various files from these particular get-togethers. Images, demos, music, graphics and all the relative players and views are included. The main source of all these various formats come from diskmags and if you're a keen follower of these, then they will undoubtedly inform you of various forthcoming 'bashes.'

CATEGORISATION

The categories are divided up into a listing which is sorted by the name of the group. You may recognise some of them if you have used Aminet or other compilation CDs. Most of the larger files or demos are compressed as a DMS format, although there are many ready-to-run programs and files. There are also various graphic viewers, mod players, text resources, programming guides and many other useful utilities. As you'd expect, the quality of the demo/image/module really depends on the respective quality of the group. At the moment, the Polka Brothers seem to have made a big impact of the demo scene, ranking high in the charts of many diskmags.

If you are into the demo side and getting to know other Amiga users, then Euroscene will manage to satisfy your curiosity into these underground happenings. It's certainly good value for money at £9.99.

Strange pictures are the true nature of Euroscene



Roughly translated, this means 'The Boot.' I'm good at German

Bottom line

PRODUCT DETAILS

Product:	Euroscene 2
Supplier:	Weird science
Price:	£9.99
Phone:	0166 324 0682

SCORES

Ease of use	82%
Implementation	73%
Value For Money	89%
Overall	85%

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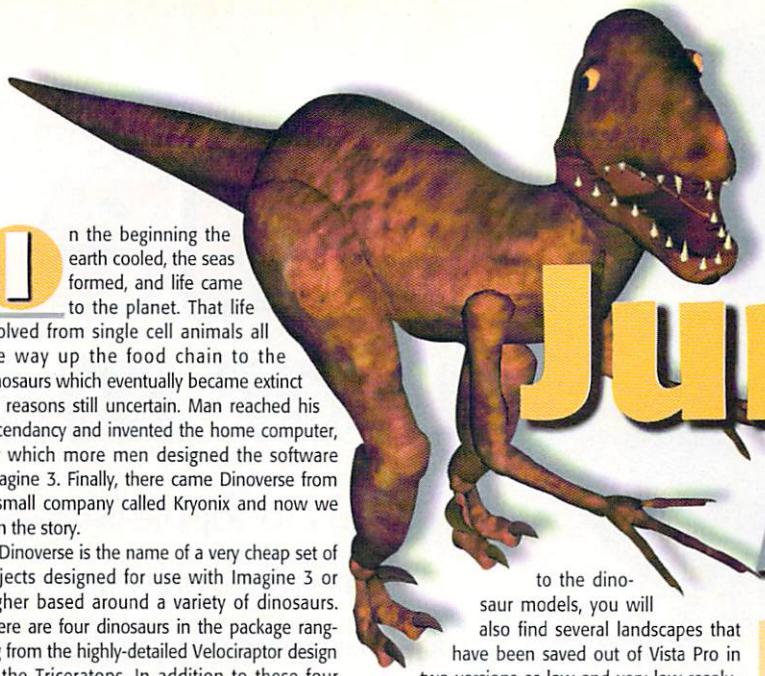


Jurassic polygons

Digital **dinosaurs** still seem to be in **vogue** even two years after the release of Jurassic Park. **Frank Nord** investigates

In the beginning the earth cooled, the seas formed, and life came to the planet. That life evolved from single cell animals all the way up the food chain to the dinosaurs which eventually became extinct for reasons still uncertain. Man reached his ascendancy and invented the home computer, for which more men designed the software Imagine 3. Finally, there came Dinoverse from a small company called Kryonix and now we join the story.

Dinoverse is the name of a very cheap set of objects designed for use with Imagine 3 or higher based around a variety of dinosaurs. There are four dinosaurs in the package ranging from the highly-detailed Velociraptor design to the Triceratops. In addition to these four familiar beasties, there is also a selection of prehistoric plants and insects, although, given the differences in scale, you might never end up using them in the same scene together.

TEXTURE MAPS

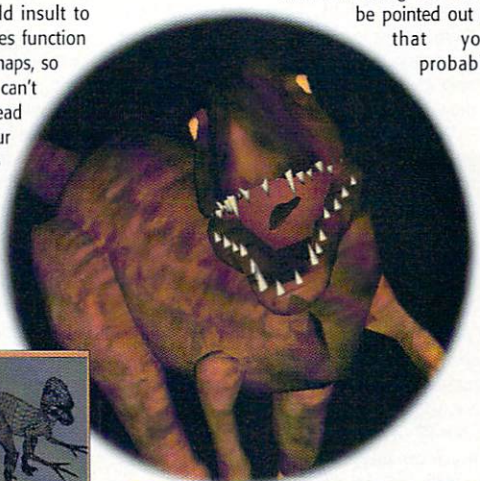
The objects themselves are not modelled in superfine detail, but certainly detail enough for whole body foreground shots, except for the velociraptor which fills a disk all by itself. The texture maps that the author has created for the models are nice, with larger-than-screen sized bitmaps for good surface detail, but there are no separate greyscale bumpmaps for that authentic pebbly skin look.

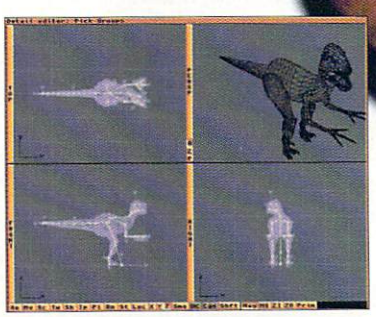
This is wholly due to Imagine's deficit when it comes to bump mapping an object with a texture. The reason for this is that Imagine 3 uses the Y-axis to determine the apparent extent of the peaks and troughs of a picture used as a bumpmap, which means that positioning and sizing a texture in three dimensions becomes an impossibility. To add insult to injury, Imagine's fairly groovy states function doesn't work properly with bumpmaps, so although you can set a state you can't lock it down. This means that instead of the bumpmap moving with your object it stays in the same place, so that your object moves through the texture. This problem is supposed to be resolved in Imagine 4, but as Kryonix supply the objects without bumpmaps, it's all much of a muchness. In addition to the dinosaur models, you will also find several landscapes that have been saved out of Vista Pro in two versions as low and very low resolution (compared to the originals) Imagine objects which would make a useful background on which to place your saurian actors.

To finish off the scene, Kryonix have provided an animated sky map with 120 frames of animation to overlay onto a cloud object as a transparency map. The sky animation is extremely subtle, so don't expect to see major changes in the sky if you use it. Also, it doesn't loop, which is a shame, so there's no use making your animations exactly 120 frames to take advantage of a loop.

The 10 disk set comes with a printed manual explaining how to install the disks (simply copy them all into a drawer and assign it accordingly) and more importantly, how to actually use the objects in Imagine. The tutorial provided is written in a sparky, clear manner and makes it easy for even the bare bones (if you'll forgive the pun) beginner to get to grips with the awkwardness that is the States function. One thing that must be pointed out is that you probably shouldn't read the manual if you are one of those people who get incensed by poor spelling. Numerous 'their's for 'there's and bizarre punctuation means that the manual has a less than professional feel to it, and I would urge Jeff (the author) to use a spell checker before he does his next print run. Things like this do make a big impression on people and can spoil a very good product. However, at a cost of only £24.99, it is hard to fault the amount of work that has gone into the truly important side of this package – the models.

AC





Kryonix Design's superb Velociraptor object with its head turned using bones

Jargon box

Bump Mapping, bumpmaps – bumpmaps are pictures without colour information (i.e. greyscale), that are used by 3D rendering programs to give the impression that an object's surface is bumpy when rendered. If you need to actually deform the surface of an object you have to use a displacement map.

States – States is a function in Imagine 3.0 and higher that allows the user to set positioning and texture information for an object. Once you have set several states you can then morph between them with this powerful and under-used feature.

FINAL WORD

The objects contained in this set are all of reasonable but not outstanding quality, but the amount of effort that has gone into creating a decent skeleton for them is easy to see. Kryonix Design deserves plenty of support for this collection and Amiga Computing awaits his collection of States-controlled aircraft.

Bottom line

REQUIREMENTS

RED *essential* | **BLACK** *recommended*

Imagine 3.x

RAM

Lots

PRODUCT DETAILS

Product	Dinoverse
Supplier	Kryonix design
Price	£24.99
Tel	01303 243845

SCORES

Ease of use	85%
Implementation	60%
Value For Money	90%
Overall	75%

See me, hear me

With aims to topple Scala MM400's reign as the supremo Amiga multimedia package, Neil Mohr discovers whether ImageVision can pull off a coup

With Amiga powered systems being used to drive powerful multimedia information systems at such places as the Cleveland police force, Colchester Zoo, hotels, petrol stations, football grounds and a multitude of other areas all over the world, and at a fraction of the cost of alternative PC systems. The Amiga has more than proved it has the capabilities to be used in such systems.

ImageVision is a new product from a company based in Sweden, and it is their intention to produce and develop ImageVision to be, at the very least, as functional as Scala MM400, if not better.

The ImageVision package comes in a very well presented double CD case. The actual disk is on the front side of the CD case with the extras CD on the other. You do not actually need a CD-ROM drive to use the program because the entire ImageVision program and basic tutorial are all compressed onto the single floppy. The CD is just there to hold a far more advanced demo script and a whole host of extras.

Some of the extras include a wide selection of excellent backdrops covering liquids, stone and some more surreal types, full-screen Mpeg animations, along with a few music modules and a lot of high-quality sound samples. These are not all installed with the ImageVision program but will, of course, still be available off the CD.

Installation is very straightforward using the standard installer, even though it does take a while. A basic installation will only require about 5Mb worth of hard drive space, while if you go for the full installation including the full CD demo script, this requires over 25Mb of hard drive space. Everything gets copied into a single directory, apart from the extra fonts and a couple of assigns that have to be added to your user-startup.

When you start up ImageVision, the first thing that strikes you is just how good looking it is. The interface even puts MUI to shame, but just because something is good looking does not particularly mean it is worth having. This thing is going to have to be quick to learn, easy to use, and feature packed if it is going to beat Scala.

The main interface consists of three basic windows – the script, tools, and icon windows. Using all three you can easily and quickly construct complex multimedia presentations. For each script you are working on there is a single script window. A start icon will always be the first icon you have and from this start point you drag in new icons, each icon relating to the action you want to take place at that point in the script.

Jargon box

Multimedia – something the Amiga was doing 10 years ago. Multimedia is a buzz word thought up by some marketing man to make PCs and Windows sound a good idea. The true meaning is anything that can convey more than one media type, i.e. sound, text and graphics.

Mpeg – short for Motion Picture Expert Group, this is a way of storing video footage in a much smaller amount of space than normal methods. To decompress Mpeg video footage requires a lot of processing power, and normally only a special decompression chip can achieve TV standard picture quality.

Construction

The actual Script construction is done in a tree-style format, with parent icons in the tree having 'child' icons connected from them. As this is meant to represent the linear sequence that the presentation will take, only menu icons are allowed to have more than one 'child' connection.

With a menu icon, each of its child icons would represent a possible selection in that menu. All the others have to be connected in the sequence they should appear in. To connect one icon to another, every icon has a small white tail coming out of the top of it, and you just grab this and drag it to the icon you want to connect it to. The two icons will then be linked in the tree.

caption required

Once icons have been dragged from the icon's window into the script window they can be moved around, selected, cut, pasted, and if you double-click on them you can configure the various aspects of that type of icon. To help distinguish between similar icon types in the script window, each icon can be given a name that is shown in the screen title bar when you place the mouse over it.

This way of constructing the script is excellent. It is possible to see the form that the presentation will take straight away, and it is very easy to change the flow of a presentation. I was a little concerned at first that a large script would become unwieldy because the tree could become quite large, but to prevent this ImageVision has a couple of tools to help you organise the script into sections.

The first are the group and ungroup functions which help you package a selected area of icons into a single group icon on the script

Graphics editor

This built-in part of ImageVision is where you can construct your various menu screens. If you double-click on any menu icon in the script window you can gain access to the graphics editor from the menu's requester.

The graphics editor seems to have been designed with the basic assumption that you will be using a background graphic which will then have your various menu choices on top of that. This is because most of the tools available are geared towards laying out and presenting blocks of text over a background screen. Having said that, you are able to load in brushes over your background and scale these to any size you wish and move them to any position.

The main tool box available on the editor's screen allows you to change the appearance of the on-screen text in a variety of ways. You are able to choose what font the text should appear as, whether it should be freely positioned or formatted with left/right justification or centred. Along with these, you can also add drop shadows, background colour, text fill colour, or apply a bevelled effect to the text, all of which can take their colour from a scrollable colour selection at the bottom of the requester.

Once text has been entered you are free to move it anywhere on the screen you want using the mouse, or enter another section of text which you can then apply with a different set of effects. Any of the current available colours can also be changed by hitting the edit button, and this then pops up one of those newish Amiga colour wheel gadgets, allowing you to choose a new colour.

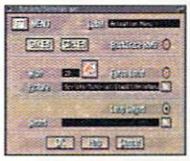
BEAUTIFUL BUTTONS

Seven icon types are available at the moment, and each one has different properties, allowing you to perform different effects in presentations or to help organise the script.

Sound

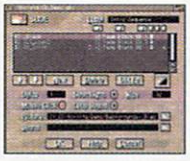
You have the ability to play any datatype sample – as standard this if the IFF 8SVX format. The only real options you have are to add a fade to the end of the sample. A cycle gadget allows you to control how the sample icon works, either playing the sample until it finishes or the user stops it. A more helpful option is the 'async play' which allows you to play a sample and for the script to continue, so you could play an animation along with the sample, or whatever action icons you place after the sample icon. You would then use either a sample icon set to stop or stop all to end the original sample.

Menu



A menu icon is the only one that can have more than one link from it, and each link from the icon represents a possible selection in that menu. From the menu requester you can gain access to the click and graphic editors where menu buttons are created and changed. You can also specify the type of wipe you want to bring the menu onto the screen with. A sample can be played along with the menu, and you can say if the right mouse button should take the user back to the last menu.

SlideShow



Adding a slide show icon will allow you to place a slide show into your presentation. Using a file requester, you can add single or multiple pictures to the requester. For each slide you can specify the amount of time it should be displayed for, what, if any, sample should accompany it, and what type of wipe should be used to bring it onto the screen. As ImageVision supports Datatypes, you can load any type of picture that you have the datatype for.

Animation

ImageVision has support to play standard IFF Anim 5/8 and CDXL, and it will also play an Mpeg card if you have one. Both use separate requesters with none Mpeg animations, allowing you to choose a background picture and also a screen offset. Mpeg options are a little more limited, with only the option to have the sound turned off, and Mpeg play is controlled similarly to sound samples

CLICK EDITOR

Also available from a menu icon's requester, the click editor is where you add the actual active areas to buttons or hot spots on each menu screen. When you first run the click editor for any one menu, you are presented with whatever graphic design you have drawn up for that menu, along with a list view requester with all the possible menu selections for that screen.

The possible selections are to go back to the previous menu from the current one, and normally this is made possible by pressing the right mouse button anywhere on the screen, and the others will be all the child nodes from that icon. These are all listed in the 'Action' list view requester.

To make an area of the screen 'selectable' you have to first mark out the area that you want the user to have to click on for any one menu selection. This is done by using one of four tools provided by ImageVision. Currently, buttons can take four shapes – either rectangular, circular, ellipse, or a complex polygon shape. The polygon shape allows you to define any outline shape using any number of straight lines, so with only a little patience it is possible to build up some quite complex button shapes.

Jargon box

Music Modules – a way of storing music. Invented years ago for use with an old Amiga program, tracker modules have been with us ever since. The PC has now got the most advanced tracker programs, such as Scream Tracker, a tracker that allows up to 32 channels. There is, however, an Amiga player available.

Datatypes – an object-oriented extension to AmigaDOS. A program supporting Datatypes can load any file you have a DataType for.

MUI – Magic User Interface, a completely object-oriented set of libraries that allow the user to tailor almost every aspect of a MUI program's interface to their own tastes.

Scala MM400 – an extremely powerful multimedia program, capable of producing very complex interactive presentations. Used all over the world for all manner of information tasks.

"I was a little concerned at first that a large script would become unwieldy because the tree could become quite large, but to prevent this ImageVision has a couple of tools to help you organise the script into sections"

window. This will help you tidy up the look of your scripts. When a section of the script has been tested, select all the icons, hit the group option, and you will be left with a single group icon. This can be given a name in the normal way so you know what it is at a later date.

The other tools are the jump, subroutine and return icons which allow you to create a new section of the script away from the rest. By adding a jump icon where the new section should go and then adding a subroutine icon, you are able to create part of the script away from the rest of it. The return icon then forces the script to return back to the parent icon of the original jump command.

This all adds up to a highly intuitive, easy-to-use interface with which it is a doddle to quickly knock up impressive and easy-to-use presentations. However, in its current form even the authors admit ImageVision is not currently on a par with Scala, but it is their firm intentions to make it so.

The program has been written in a modula form so new icons can be added at any time, therefore making the program easy to extend. ImageVision also has the advantage of being a good deal cheaper than MM400.

In terms of features, Scala currently has the advantage, but with ImageVision's superb easy-to-use interface, and if the authors can keep regularly adding to ImageVision, Scala could be faced with a very strong competitor.

AC

WIPES AND FADES

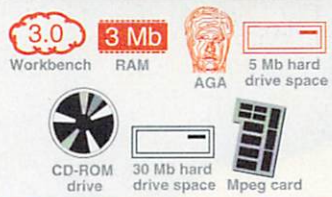
Compared to Scala there is only a paltry number of wipes and fades available. The scroll gadget to the right of them, however, suggests that there could be future additions here. The wipes currently available are fade to black/white and background, slide up/down, bounce up/down, cover up/over, and card up/down. Wipes can be applied between sections in the script, so menus can be gracefully disposed of, and in the slide shows, with different wipes being applied to each picture.

Only twelve wipes are currently available, but more should come in the future

Bottom line

REQUIREMENTS

RED *essential* **BLACK** *recommended*



PRODUCT DETAILS

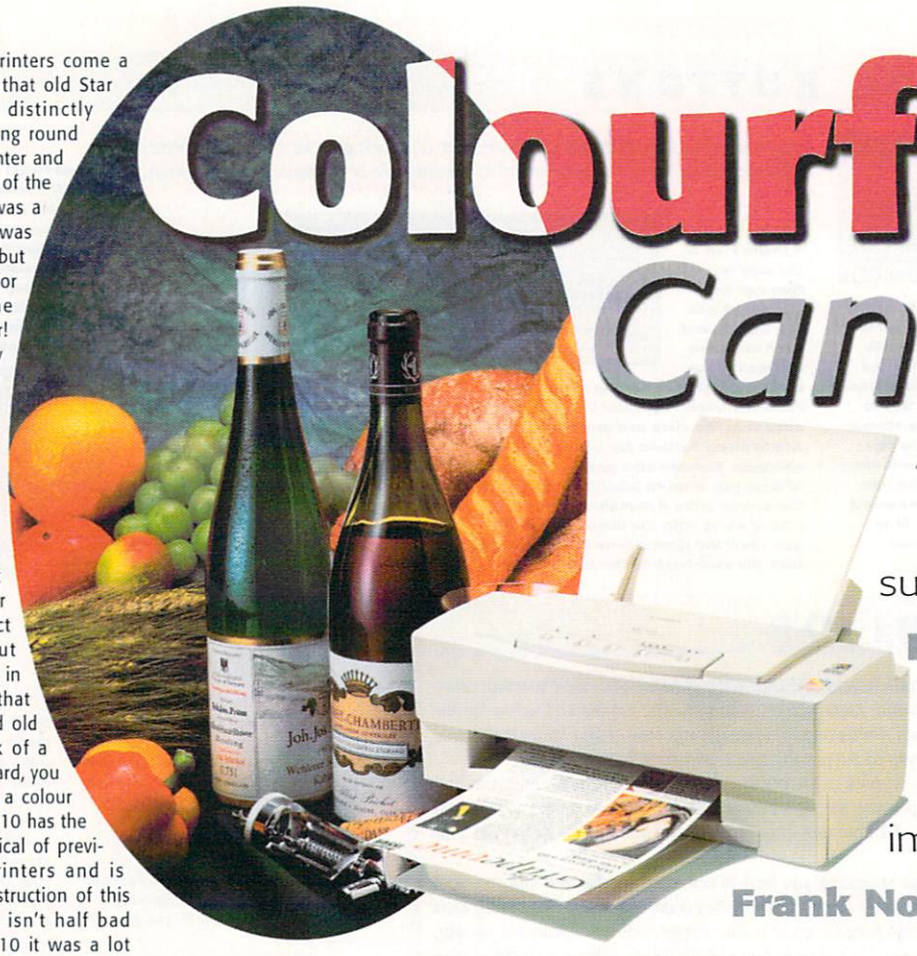
Product	ImageVision
Supplier	BlitterSoft
Price	£149.95
Tel	01908 061466

SCORES

Ease of use	95%
Implementation	82%
Value For Money	89%
Overall	90%

Colourful Canon

A new inkjet printer to supersede the **BJC600**, but is it a significant improvement? **Frank Nord** finds out

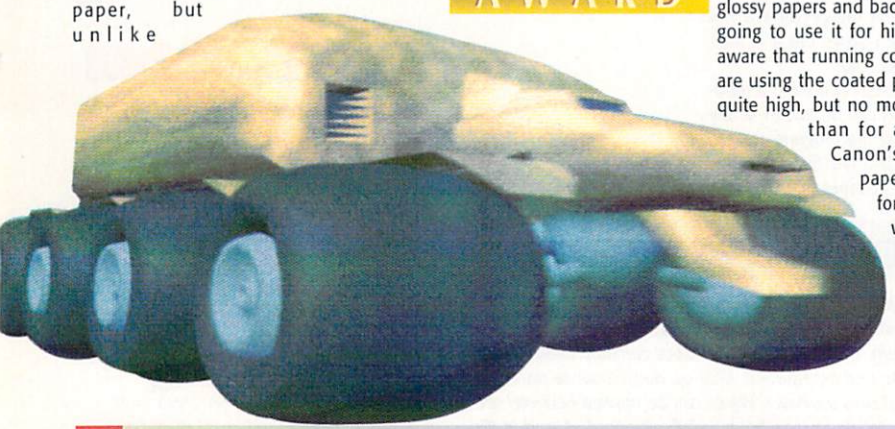


Crikey, haven't printers come a long way since that old Star LC-10? I can distinctly remember passing round colour output from that printer and pointing out the excellence of the reproduction. Okay, so it was a bit murky and, yes, there was some evidence of banding, but look, c-o-l-o-u-r printouts for only £75 more than the mono version of the printer! No, don't print too many pictures that have yellow in them 'cos the yellow band on the ribbon gets all messed up and yellow comes out more like a bilious green, but hey, who uses yellow anyway?

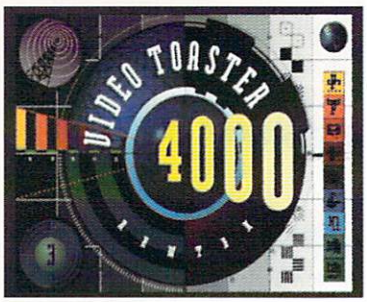
And when I got my Canon BJ10e, wow! Print quality technically superior to a laser printer, compact and bijou, fantastic. But Canon's new baby is as far in advance of the BJ10e as that was in advance of that sad old Star. Apart from the lack of a Postscript interpreter on board, you could almost mistake it for a colour proofing machine. The BJC610 has the small footprint innately typical of previous Canon bubblejet printers and is beautifully styled. The construction of this beautifully styled printer isn't half bad either. When I had my BJ10 it was a lot more rickety and plasticky than this one is, although Canon still haven't been able to get rid of the customary grinding noises as the print head gets cleaned.

Like most other bubblejets you really only get the best results on special coated paper, but unlike some other inkjets currently on the market, you can print on standard copier bond with the BJC610. Canon can also supply you with a variety of specialist papers and films to meet your needs such as transparencies, glossy papers and back print film. If you are going to use it for high-quality DTP do be aware that running costs, particularly if you are using the coated paper, are going to be quite high, but no more so for the BJC610 than for any similar printer. Canon's own brand coated paper goes for £22 ex VAT for 200 sheets, but you will probably be able to find third-party papers cheaper.

Canon has retained the cartridge mechanism that was present on the BJC600 where you have a print head and four separate cartridges for the inks – one black cartridge that can be double the size of the others, and one each of a cyan, magenta



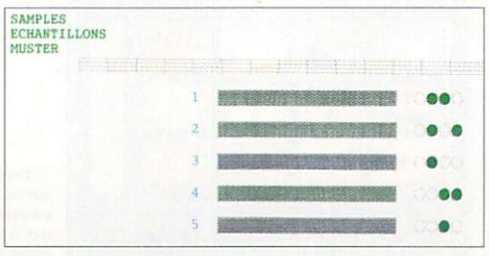
LightWave renders printout nicely too

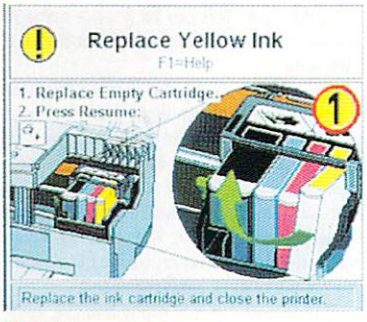


A familiar image gets the Canon treatment

SELF TEST

Because the BJC610 is such a high resolution machine it is difficult to make sure that the print head is optimally aligned when it comes out of the box. To remedy this, Canon have a handy little self-test function that prints out bars onto a sheet of paper along with instructions on what to do. Simply choose the bar that looks the most solid and make the lights light up in the right combination and voilà, you've just set your print head correctly. It is features like this that make owning and running a modern printer light years ahead of all those old lo-fi models we used to use.





Windows users get handy advice like this

WHAT'S NEW PUSSY CAT?

What indeed. Well, you know that the BJC610 has a maximum print resolution of 720dpi, but unfortunately, the only way to take advantage of this super printing without spending any extra money, at the time of writing, is to own a PC equipped with Windows. Canon have produced an extremely high speed driver for Windows that will output 720dpi prints (after a while – high resolution printing takes time), but there is no equivalent for the Amiga.

More sadly, there are no plans to ship this printer with a driver of any sort for the Amiga owner, although it can be used with the current BJC610 drivers that are available. However, because these were written for the BJC600 rather than the BJC610, they only work at up to 360dpi so you will only be using half the printer's capabilities.

Since Wolf Faust has always had such a good relationship with Canon there is a possibility that the Windows software might be reproduced on the Amiga, which would definitely be an improvement as everything is automated through it. As it is, your only option if you want to get the best results out of this printer (or indeed any printer) is to buy Studio. The very latest version (2.10) supports the BJC610 fully and outputs fantastic results thanks to the unique colour matching system it employs.

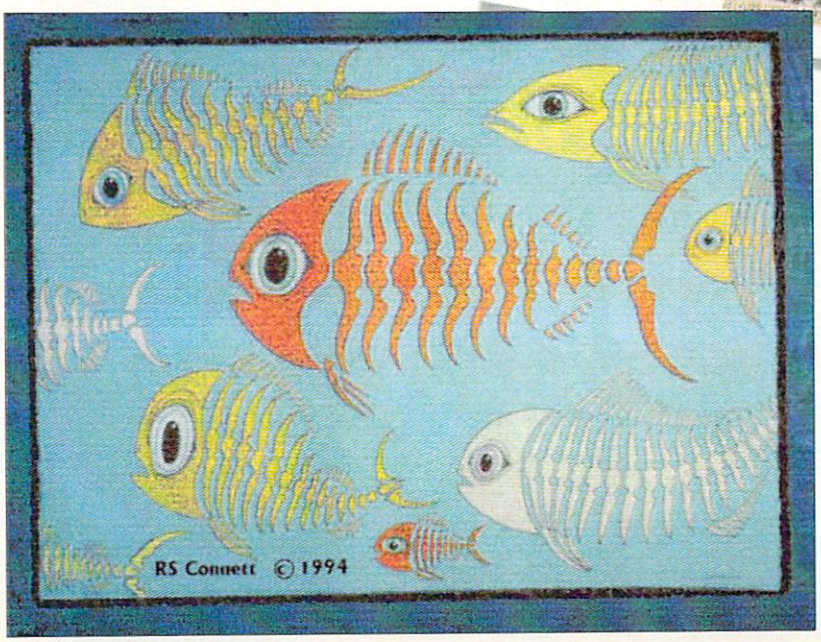
Nah, throw your pencils away, you've got a printer now!

Canon can also supply you with a variety of specialist papers and films to meet your needs such as transparencies, glossy papers and back print film

and yellow cartridge. These can all be individually replaced so if you're printing off all those yellow pictures that you never did when you had a colour dot-matrix printer, you won't be forced to go out and buy all four inks in one go.

MASTERPIECE

If you go for a 24-bit 720dpi masterpiece of printing, don't expect to walk away with it immediately, unless it's about 5mm across that is. The BJC610 is not as fast as the equivalent Hewlett Packard, as Canon themselves readily admit. But, as they say, would you rather wait a minute less for a print, or have the highest possible quality? No arguments there then. Even so, most of the prints I did, which varied in size between a quarter of a page and half a page, took no longer than fifteen minutes. The way the paper feeds into the printer is quite handy too. The fact that you have at least a smidgen of a view of the line the printer is currently painting down onto the paper means that if there is anything drastically wrong – printing in greyscale rather than colour, for instance – you can stop the print immediately rather than have to wait until the paper has emerged from the body of the machine.



The superior output from the BJC610 means that you could use it for proofing layouts

Ralph Connett's splendid art reproduced brilliantly by the BJC610

OUT OF INK

Right that's it, I'm out of ink on the topic of the Canon BJC610, but it remains for me to say that I thought I was getting the best end of the stick with my mono Postscript laser printer. However, the results achievable with this are nothing short of superb. Make sure you include the cost of buying Studio II in your budget when buying this printer because you won't get even half as good results without it, and use Canon's glossy paper for your bestest prints. Right, I'm off to persuade Canon to let me keep this one and see if I can't persuade them to give me some more ink... AC

Bottom line

REQUIREMENTS

RED *essential* | **BLACK** *recommended*

Studio II

PRODUCT DETAILS

Product	Canon BJC610
Supplier	Canon (UK) Ltd.
Price	£499 + VAT
Tel	0181-773 3173

SCORES

Ease of use	90%
Implementation	89%
Value For Money	90%
Overall	90%

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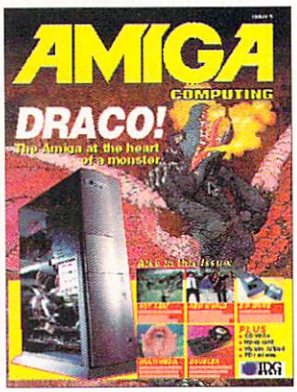

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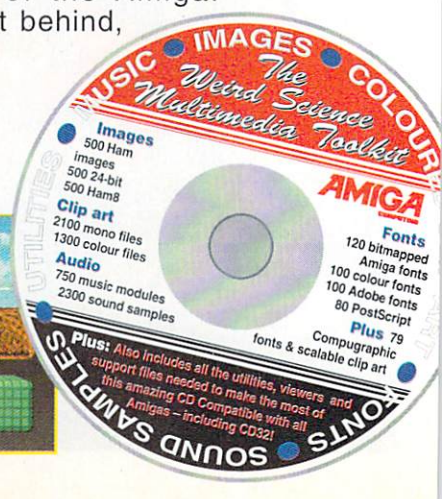


beginners guide Part 2

If you're a beginner you're at the right place. **Steve White** explains how you can get the **most** out of your Amiga home computer and **Workbench**

One of the most common problems most new Amigas have is with the AmigaDOS command Install. Install allows you write a bootblock onto a formatted disk so that it will auto load when the disk is inserted. Your Workbench disk has a bootblock.

However, if you only have a single drive, using Install can be a nightmare. The problem arises when you want to install a disk in DF0 (the internal drive) but your Amiga keeps asking for your Workbench disk which it then duly tries to install. The Install command is located in the C directory on your Workbench disk which means that the Workbench disk must be in DF0 at the time the Install command is executed.

Fortunately, there is a neat way round this problem by using the Resident command. Resident simply pre-loads selected files into memory so that they no longer need to be loaded from the Workbench disk.

Open the Shell and type in the following:

```
Ed S:Startup-Sequence
```

This will load up ED, the Amiga's text editor along with the text file Startup-Sequence. Locate the first last Resident command and add below it:

```
Resident >NIL: C:Install PURE
```

Save the edited Startup-Sequence by pressing Esc, x and then Return, then reboot your Amiga with the Workbench disk in DF0. You should now be able to insert a blank disk in DF0 when Workbench has loaded and run the Install command with no problem.

```
Ed 2.00
C:SetPatch QUIET
C:Version >NIL:
C:AddBuffers >NIL: DF0: 15
FailAt 21

C:MakeDir RAM:T RAM:Clipboards RAM:ENV RAM:ENV/Sys
C:Copy >NIL: ENVARC: RAM:ENV ALL NOREQ

Resident >NIL: C:Assign PURE      ;THESE ARE THE RESIDENT COMMANDS
Resident >NIL: C:Execute PURE
Resident >NIL: C:Install PURE     ;THIS LOADS INSTALL INTO RAM

Assign >NIL: ENV: RAM:ENV
Assign >NIL: T: RAM:T
Assign >NIL: CLIPS: RAM:Clipboards
Assign >NIL: REXX: S:
Assign >NIL: PRINTERS: DEVS:Printers
Assign >NIL: KEYMAPS: DEVS:Keymaps
Assign >NIL: LOCALE: SYS:Locale
Assign >NIL: LIBS: SYS:Classes ADD
```

By making programs Resident in your Startup-Sequence you won't have to load them from disk

DISGUISE

If you've used the Shell at all you will realise how boring it can be typing out long-winded commands. And if you make a mistake you have to type the bloomin' thing out again. Or so it seems.

Once again, Workbench comes to the rescue this time in the form of Aliases. An alias is simply a label of your choice that points to a command. Let me show you a better example. Open you Shell and type in:

```
Ed S:Shell-Startup
```

This will load up ED with the text file Shell-Startup located in the S directory. This file actually contains the current aliases and is loaded every time you run the Shell. Below the last alias type in:

```
Alias q endcli
```

Save the Shell-Startup by pressing Esc, x and then Return and finally close the Shell window. Now open it up again and type in q followed by Return. The Shell should close again. The alias has told the Shell to understand q to mean endcli.

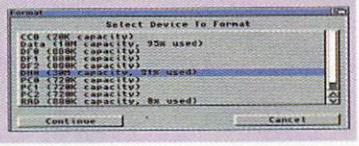
```
Ed 2.00
; $VER: shell-startup 38.13 (13.2.92)

Prompt "%N.%S> "
Alias Clear "Echo *"*E[0;0H*E[J*" "
Alias XCopy "Copy CLONE
Alias q endcli
```

Cut down those long AmigaDOS commands by using aliases from the Shell-Startup file

WHICH FORMAT?

Thanks to its user-friendliness, Workbench makes formatting disks a painless procedure. Just insert a disk into DF0, click it once, and select Format Disk from the menus.

If you look in the System drawer on your Workbench you'll notice an icon called Format as well. By running this program you are not only restricted to DF0 but can also format your hard drive, if you have one, or PC disks provided you have the PC0 datatype in the Datatypes drawer found in Devs (short for devices, which is exactly what disks drives are). You can still use the same options provided by the menu Format Disk option but with the advantage of being able to choose a particular device.



Using the Format program in your System drawer you can format other devices besides DF0, including your hard drive

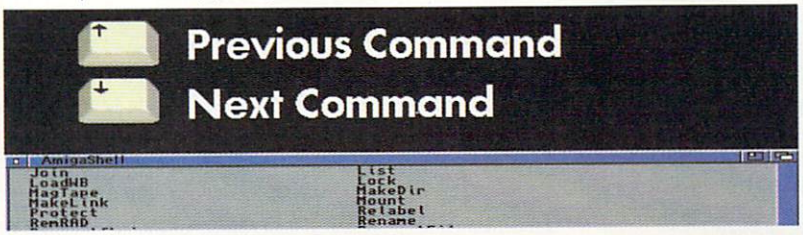
DISGUISE

When you first get your Workbench the first thing you want to do is load it up and try out everything. But being too adventurerous can have its pitfalls. I, and many other Amiga owners, have fallen foul of the scrolling Workbench.

In ScreenMode you can alter the size of the Workbench display and scroll to any areas not visible in the monitor dimensions with the mouse. Having a Workbench the size of Wembley Stadium sounds exciting but eats up precious memory. Whatever you do, don't save the ScreenMode preferences or you may find that when you reboot later on, Workbench won't load because of insufficient memory. This is not the place for complicated solutions so avoid it at all costs.

TOTAL RECALL

Pressing the right keys is a precarious business when you're new to the Amiga, and making mistakes in the Shell can be a problem. But by pressing the arrow up and arrow down (cursor) keys Shell will allow you to recall your previously entered commands so that you can simply edit the mistakes you made previously.

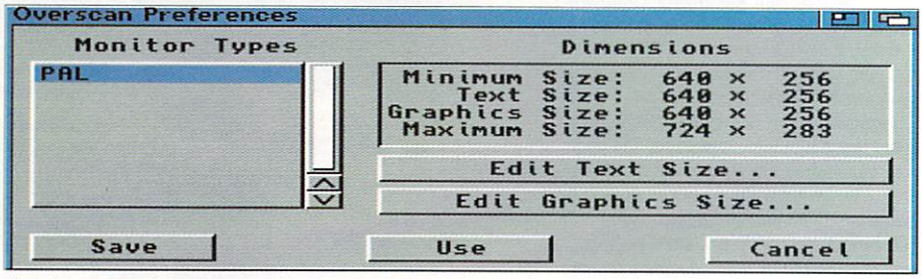


Don't keep typing out those commands. Use the Shell's buffer function to retrace your st eps

BIGGER IS BETTER

If you run out of room on your Workbench desktop there is a way you can make the screen larger. This really only applies to those of you using a proper computer monitor and not the TV.

Go to the Prefs drawer and run the Overscan program. Select Edit Text Size and drag the four perimeter boxes to their outermost limits. Click on use and then do the same for Edit Graphics Size. Now click on the Save button and you will find yourself with a larger Workbench than before. You may need to alter the screen settings on your monitor in order to re-position Workbench.



Using Overscan in the Prefs drawer you can increase the size of your Workbench without running out of memory

A GREAT RECOVERY

If you take a look in the DOSDrivers drawer in Storage you'll notice a program called RAD. RAD is very similar to the RAM disk and is faster than floppy disk drives and hard drives.

RAD is actually a recoverable RAM disk which keeps its contents even when you reboot your Amiga or it crashes. The only time it is emptied is when you turn the Amiga on and off from the power supply. Obviously, if you're running from floppy disk RAD can prove an invaluable ally.

You can copy files to and from RAD by simply selecting the directory RAD: or by double-clicking on the disk icon on the Workbench desktop. As an example:

```
Copy RAD:testfile to df0:
```

If you want RAD to automatically be run every time you boot your Amiga you can simply drag its icon to the DOSDrivers drawer in the Devs directory. It's as simple as that!

Jargon box

Install – this is an AmigaDOS command that writes a bootblock to a formatted disk so that it will automatically boot by itself

DF0 – the name of the Amiga's internal disk drive. Subsequent disk drives are labelled DF1, DF2 and DF3

ED – ED, short for Editor and another AmigaDOS command, is the Amiga's personal text editing program.

Startup-Sequence – this is a text file located in the S directory on the Workbench disk. When Workbench is booted the Amiga looks for this file and runs any commands in it. You should leave the Startup-Sequence alone, entering your own commands in the User-Startup text file also located in S.

Resident >NIL: <DOS command> – Resident is an in-built command that tells the Amiga to load the specified DOS command into the RAM (Random Access Memory) disk so that it no longer needs to be loaded from disk.

Shell-Startup – this file is loaded by Shell and contains all your aliases

Alias – this function allows you to assign short-cuts to AmigaDOS commands in the Shell-Startup

ScreenMode – this program resides in the Prefs drawer and allows you to set the resolution, size and colours of your Workbench

ICONS

When you start to personalise your Workbench and start designing your own icons (everyone does it), you'll realise that the RAM disk can't have a disk icon attached to it. This is because when you reboot your Amiga everything in RAM is erased – including any icons.

Once again, there is a solution. First create yourself an icon in IconEdit and make sure it is a disk type. Now save it as RAMIcon to your S directory. Load your User-Startup file into ED as explained above, type in the following and then save it;

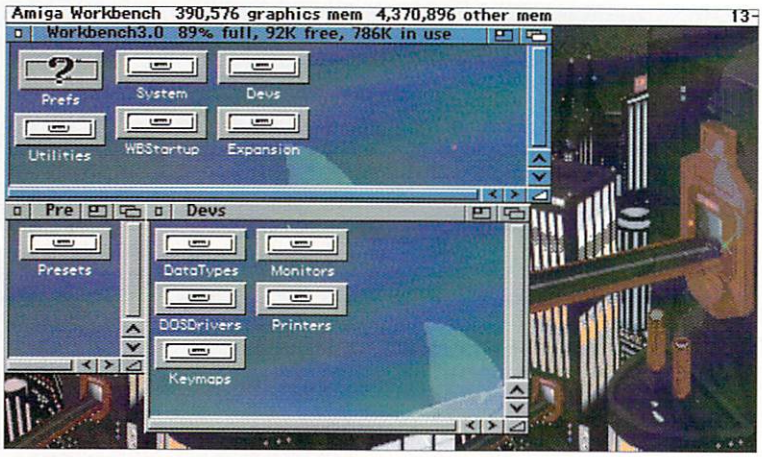
```
copy >NIL: S:RAMIcon to RAM:Disk.info
```

This copies your RAMIcon icon in the S directory to RAM as disk.info (the name of disk type icons) when Workbench loads. Provided you have done everything right you should see your icon on the Workbench screen with Ram Disk underneath.

SETTING THE SCENE

When you first load your Workbench disk it looks rather bland. This is because it is preset to display itself in only four colours. You can change this by altering the amount of colours in the ScreenMode program located in the Prefs drawer. However, you should be warned that using more colours takes more of your Amiga's memory and slows down Workbench quite considerably.

If you have Fast memory, using more colours won't be a problem and you can customise your Amiga to your heart's content. Just look at how exciting Workbench can really be.



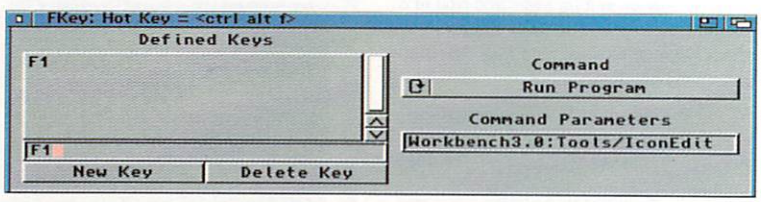
Workbench looks initially bland but you can personalise it to your individual taste with little effort

THE RIGHT FUNCTION

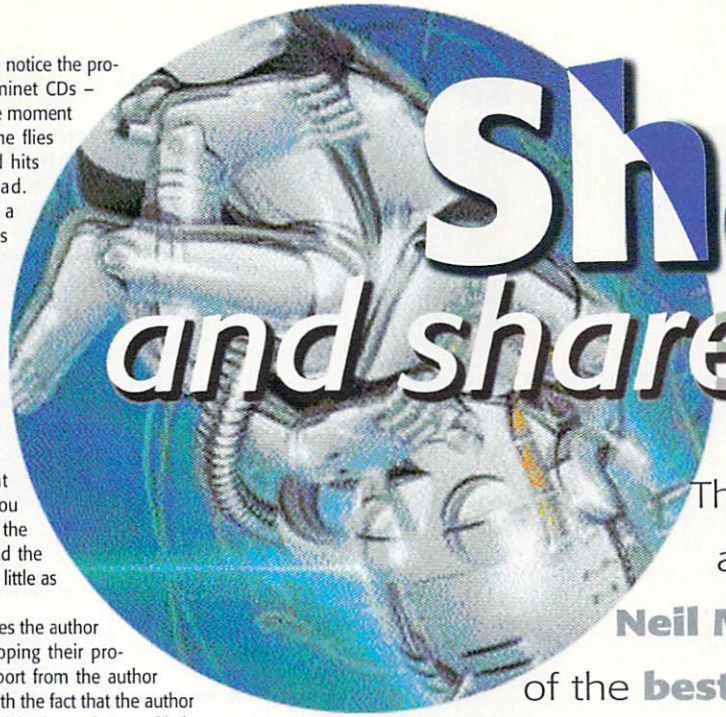
Above the numerical characters on your keyboard is a line of keys preceded by F and numbered from 1 to 10. These keys are normally used by games software but Workbench also allows you to use them through the FKey program in the Commodities drawer in the Tools directory.

When you run this program, a window appears in which you can attach certain events to any of the F (Function) keys. To create a new key simply press the New Key button and type in F preceded by the key number. By clicking on the Command button you can cycle through a list of options regarding Workbench operations. It is even possible to get a program to run from an F key by typing in the program name and location in the Command Parameters box.

To make your F key changes permanent, select Save Defined Keys from the menu. You could even drag the FKey program to your WBStartup drawer so that it runs every time you boot your Amiga.



You can attach certain Workbench functions to the F1-F10 key by using FKey in the Commodities drawer in Tools



Share and share alike

The **best** things in life are free, well almost. **Neil Mohr** looks at some of the **best** Shareware on offer

You could not but help notice the prolific nature of the Aminet CDs – turn your back for one moment and bang another one flies in through the office door and hits you in the back of the head. Currently, there seems to be a new one every month, which is all testament to how lively the Amiga PD scene has been and is still very much so.

In amongst all the stuff you find on Aminet, there is a type of program distributed under the title of shareware. This is the concept where the author allows you to test their program, which they could have spent years developing, to decide if you want to keep it. If you do keep the program you are obliged to send the author a set fee which can be as little as five pounds.

Paying your shareware fee gives the author an incentive to keep on developing their program, and gives you direct support from the author for that program. This is along with the fact that the author of a program you have registered for is much more likely to listen to any additions you want to that program.

If you use a shareware program you really should go out and pay the fee. Not only will you have that nice warm glowing feeling that you have done something righteous and good for once in your life, you will also give the author another reason to keep on developing their program. You also get support from them which normally includes them sending you the next few updates, and they are usually very helpful when it comes to problem solving. So all you people who have unregistered programs lurking on your hard drive, nip down to the bank, get your wallet out, and give yourself a huge karma boost.

All the following programs have demos available on Aminet, where you can also find full ordering details.

ImageStudio

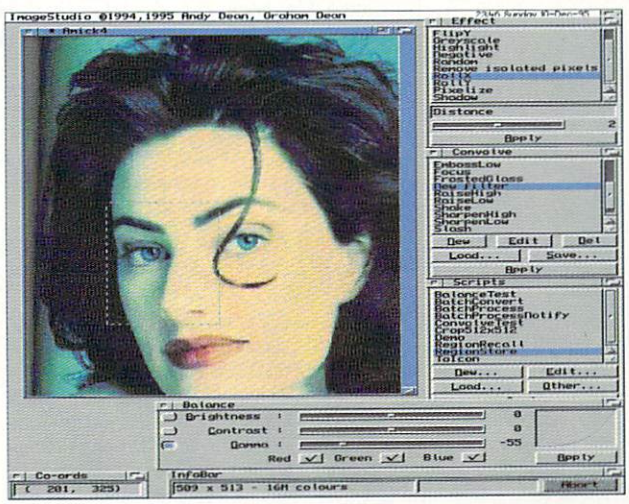
ImageStudio should be fairly well known to everyone. Programmed by a couple of local Macclesfield lads, this is a very well supported and put together image processing program. The main improvement for the latest version is the addition of full colour windowed previews that let you get a better impression of what the final picture will be like.

The package comes on two disks and is installed using – everyone together now – the standard Amiga installer. For people that have never used ImageStudio before, there are a good few tutorials to guide you through the different aspects of it. These are in with the AmigaGuide manual which also doubles as the on-line help.

You now have the option of the preview window working in either grey scale or colour modes. You will be glad to know that the colour previews seem to be redrawn as fast as the grey scale ones, but you will need a Hi-res screen mode with at least 64 colours to get the best out of it.

ImageStudio has the normal array of colour control effects like balance, gamma and contrast, along with the standard image manipulation tools, such as flip, scale, cut, grey scale, negative and pixellated. The more interesting parts of ImageStudio come in the form of its convolute effects and the comprehensive ARexx port.

Convolute is a normal image processing function, and through it you can produce hundreds of different effects. With ImageStudio you get a number of standard convolutes which you can select from the handy convolute list view. It is also possible to add your own to the list and save them for future use.



The vast array of ImageStudio's functions are always at hand via its excellent interface

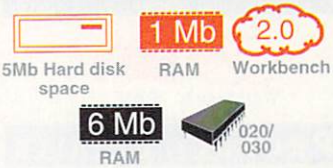
Some of you might be quite surprised when you look at the system requirements at the small amount of memory needed, because normally image processing programs need as much memory as possible. ImageStudio gets round this by implementing internal virtual memory which allows the image data to be stored on your hard drive, therefore taking up no memory. The down side is that all the disk access slows down the preview redraws. If you do have enough of RAM then you can tell ImageStudio to use the RAM Disk as the virtual memory storage space to gain a large speed increase.

With a good modular program design allowing you to add your own convolutes and ARexx scripts at a later date, and regular updates being released, ImageStudio is a very well thought out and written program. Supporting 12 of the main image formats as well as Datatypes, ImageStudio is going to be able to support virtually all of your needs.

Bottom line

Requirements

RED *essential* | **BLACK** *recommended*



Product Details

Product
ImageStudio

Supplier
Graham Dean,
14 Fielding Avenue,
Poynton, Stockport, Cheshire.
SK12 1YX England

Registration
£10, $20 Overseas

Score

Overall	90%

AMIBROKER

A rather unusual program, AmiBroker is a comprehensive share manager, allowing you to study and predict trends in the market and to maintain a portfolio of shares. Installing is via the Amiga installer and this copies all the necessary files in to a single directory and installs a couple of fonts.

The main interface is wonderfully programmed. All the necessary tools are at hand in icon form, and the list of Shares are displayed in a scrollable list view. The remainder of the screen is taken up with a display of the recent form of the selected share along with any of the statistical analysis functions you can choose. One excellent feature is that when you select or deselect an analysis function, the remaining windows automatically resize to fit them all onto the screen.

There are eight technical indicators of which I know nothing about, but there are good explanations of them in the AmigaGuide manual, allowing you to try and predict how your various shares will perform. This runs alongside a risk/yield map that allows you to quickly see which shares give the best return at what risk.

One problem with shares is that if you have a good number of them in your portfolio, or just want to track a lot of them, there is a lot of data involved. Currently, AmiBroker only supports importing Teletext data from the Polish stock exchange. The programmer, however, is willing to modify the program for other countries, and is working on an ASCII import to make importing share data much easier.

As with AmiAtlas, this is better than many commercial products, and at $15 is a give away. With an excellent complete English translated manual and a set of comprehensive features for tracking the stock exchange, AmiBroker is a brilliant program. It is a shame that it may not get the wide use on the Amiga that it deserves.

Bottom line

REQUIREMENTS

RED *essential* | **BLACK** *recommended*

2 Mb Workbench | 1 Mb RAM

PRODUCT DETAILS

Product
AmiBroker

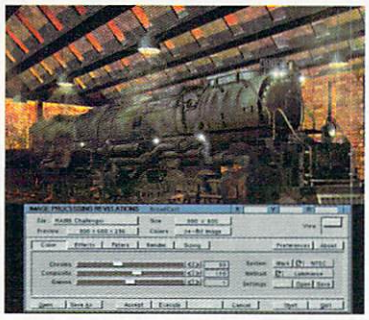
Supplier
Tomasz Janeczko
ul. Wroblewskiego 25/1005
PL 51-627 Wroclaw,
POLAND

Registration
$15 post $10 email
tjaneczk@asic.ict.pior.wroc.pl

SCORE

Overall 95%

IPR



IPR's straight forward interface is quick to learn and easy to use

The Amiga really has got more than its fair share of image processing software, so any new program is going to have to be something special to get any sort of attention. Image Processing Revelations is a fairly straightforward program to get up and running – a single half Mb executable with two extra directories. Containing ARexx and preference settings.

IPR runs using two separate custom screens, Brilliance style. The front one contains the control panel with the other screen showing you a full screen preview of any loaded picture.

The main control panel is nicely arranged, with the various accept, undo and cancel buttons always being available and in the same place, no matter what function you are using. All the information on the current picture is always available in the top section, while the middle is used to display all the options for whichever function you have selected. This gives a good coherent interface which is quickly learnt and very easy to use. Another nice touch is if the current image is too large for the screen, you can either hit the space key to toggle the control panel on or off, or there is a small gadget in the top right that allows you to easily scroll the preview screen around.

Where IPR comes out on top over most other packages is the extremely good palette control functions it provides. Fairly normal functions allow you to adjust the brightness, contrast and gamma available, but the immediate option allows you to adjust the palette in real time, so cutting out any wait for a picture redraw. Only the grey scale and broadcast colour functions do not allow this. Other functions provided by IPR are mainly restricted to warping or flipping the picture in some way. Nothing too Earth shattering here – simple flips, rotates quite nice fish-eye and sine wave effects that do not leave you hanging around either.

Overall, IPR is a very well presented program, quick to learn and easy to use. Unfortunately, other than the colour control of IPR there really is nothing here that makes IPR standout. There is, however, a lot of promise and perhaps a new version would change the situation.

Bottom line

REQUIREMENTS

RED *essential* | **BLACK** *recommended*

4 Mb RAM | 2.0 Workbench

PRODUCT DETAILS

Product
IPR

Supplier
Barnie Productions,
PO Box 172,
2270 AD Voorburg, Netherlands

Registration
$180 Europe $200 World

SCORE

Overall 75%

EXECUTIVE

For anyone that is not aware, the Amiga has a 32-bit multitasking operating system, and has had since it first came out ten years ago. You may have noticed recently that this was the cornerstone to IBM's OS Warp adverts, which seemed to proclaim this as some sort of amazing feat of programming genius. Sorry boys – beat you to it.

Executive compliments the existing way AmigaDOS assigns processor time to each program running on your Amiga. Normally, the operating system will share processor time between the highest priority programs that are asking for processing time.

What Executive does is to watch how much processing time every program is using and shares it evenly. Therefore, every program that needs processor time can get some, so no single program can hog all of the processor. If you read the documentation that comes with the distribution archive – which also doubles as the excellent on-line help – the author goes into great depth about explaining the use of different processor time sharing schemes. Some are suited to low processor loads while others handle high load systems better, and to help tailor Executive to your system there are six different schemes for you to choose, so everyone should be able to find one to suit.

To your average user just using Wordworth, this is not going to be amazingly useful, but for the power user and people that have a few CPU sucking programs running alongside each other, Executive can be of real value. It sits in the background diligently polling each task, and you will never know its there – apart from the fact that your programs will be running much smoother together.

Bottom line

REQUIREMENTS

RED *essential* | **BLACK** *recommended*

2.0 Workbench | 1Mb Hard disk space

PRODUCT DETAILS

Product
Executive

Supplier
Petri Nordlund
Vanhamaantie 428800 PORI
FINLAND

Registration
£10

SCORE

Overall 95%

Orders
800-735-2633

VisionSoft

P.O. Box 4398 Carmel, CA 93921, U.S.A.
Internet: sales@visionsoft.com
Homepage: http://www.visionsoft.com

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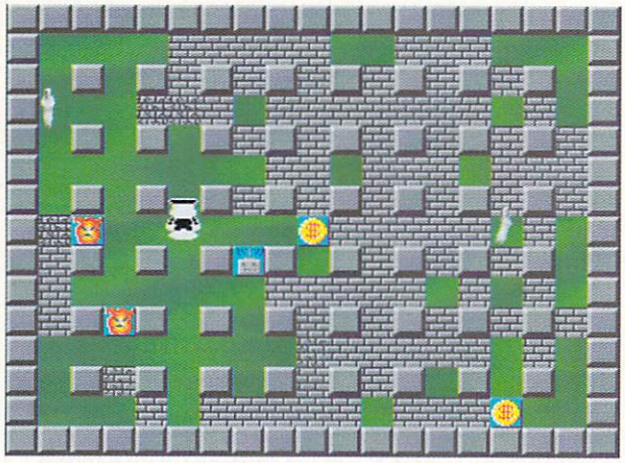
SHAREWARE GAMES

MASTER BLASTER



I cannot believe just how addictive this game is, it should have a government health warning on the side. I must have lost days playing this game with my friends. To be fair, I was a huge fan of the original Dynna Blaster which also allowed up to five players and had the same sickeningly addictive game play. For people who do not know, Master Blaster is a maze type of game. You start off in a grid maze, trapped by explodable blocks. By dropping bombs you create more room to move around in and when you get the chance you can blow your fellow competitors to kingdom come. Along the way you can get power ups to gain more bombs, bigger flames and other handy abilities.

When this first came out it was said to encourage kids to go out planting bombs. Yeah, right

This new shareware version adds many features to the original game. Along with the original gameplay and the ability to have five players on at once, the new version allows you to adjust almost every part of the game. You can select your favourite character graphics, how many wins are needed, and how much money to start with.

Master Blaster allows you to collect money so you can buy power ups before you start the next round, and there is the chance to win free money in the nerve shattering Wheel-O-Fortune.

With extra power ups, team play, three different levels, selectable power ups, and even better coding than the last version, you can now quit to Workbench. With addiction beyond belief Master Blaster is a must buy.

Bottom line

REQUIREMENTS

RED *essential* | **BLACK** *recommended*

1.3 Workbench | PAL Monitor | 1 Mb RAM

PRODUCT DETAILS

Product
Master Blaster

Supplier
Alexander IvanofAm Dorfanger 2D-58644
Iserlohn, Germany

Registration
$20 or 25DM

SCORE

Overall **100%**

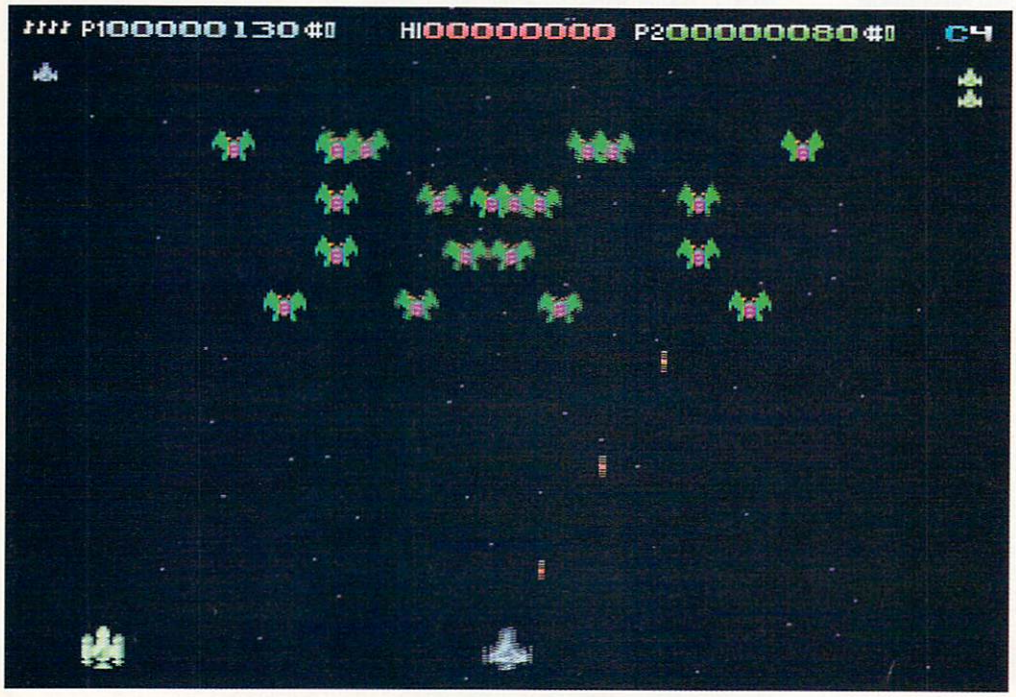
DELUXE GALAGA

Another fiendishly addictive game, Deluxe Galaga is apparently based on an old Vic20 game called StarBattle – can a Vic20 game be anything but old? As with Master Blaster, the programmer's main aim is for the game to play well, and Deluxe Galaga certainly does that. Reminiscent of many old space invader type shoot-'em-ups, you have to battle your way through wave upon wave of menacing alien meanies.

Having an extra player helps spice things up quite a lot, even though they might cower in a corner

Each wave swoops down in various initial attack patterns to form at the top of the screen, where they deploy in sorties, Galaxians style. Once you have killed them all, you're onto the next level. To add another layer to the game there are power ups to pick up which have been dropped by the aliens when you killed them, along with money to collect that you can then spend in the end-of-level shops. In later levels, good money sense is almost as important as good game play because you have to save up for larger weapons.

With large end-of-level beasties, simultaneous two-player action, a trying meteor bonus game, and another bonus level in the form of a memory game, there is plenty to keep you occupied.



Bottom line

REQUIREMENTS

RED *essential* | **BLACK** *recommended*

1.3 Workbench | PAL Monitor | 1 Mb RAM

PRODUCT DETAILS

Product
Deluxe Galaga

Supplier
Edgar M Vigdal
5830 LUSTER, NORWAY

Registration
£5 or $10

SCORE

Overall **100%**

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SYSTEM

Your essential guide to Amiga gaming

Reviewed

Worms

The best game of the year? We think so, because we haven't stopped playing it since it arrived

Breathless

Fields of Vision make their debut on the Amiga with one of the best Doom clones money can buy

Star Crusader

Gametek's space epic steps out into the warm sunshine that is the Amiga and, unfortunately for them, it begins to rain

Sensible World of Soccer 95/96

The promised update has finally appeared. No more bugs, no more crashes, and no more Paul Ince at Man United. Hurrah!

Hillsea Lido

The Theme Park-like game is here! Can you possibly compete with the likes of Blackpool?

Dungeon Master 2

Wizards, Warriors and little Viking's with small Unicorns. No, that's Dungeons and Dragons! Oh, lordy!

Previewed

Extreme Racing

A first-person perspective racing game. Is it Mario Kart? Is it any good? Does it play like donkey? All the answers are here...

Tennis Champs

The summer has now gone. That's why we always get a tennis game. I don't know why? And, more importantly, I don't care why

Hints and Tips

After many weeks of intense gameplay we almost managed to complete Flight of the Amazon Queen. Here's the first part...

By Andy Maddock

No news shocker

It's true, I'm afraid to say, although we *are* brimming with games as usual and we've even had to leave some out! My god, what is happening! As far as news is concerned, we're a little short. By the end of the month my big 'News' file is usually brimming with faxes and transcribed telephone conversations, but all I could find when I looked was a hairy half-eaten apple, which I forgot all about – but finished without haste.

But don't despair! There are enough Doom clones coming out over the next few months to keep us going for ages. There have been so many, surely everybody is losing track of which one's best. Hopefully we'll have a definitive Doom guide sometime during the future when we'll be looking at every single aspect of each game to reveal the champion of champions. Sounds exciting? Probably not.

Why don't you tell us what you think? Write to us at the usual address.

Weapons at the ready

We can always rely on OTM for a bit of exclusive news. Yes, they're back with the latest information on some new releases they've managed to latch themselves onto.

First up is a game entitled Watchtower which is basically a top-down 'Commando'-style arcade war game. There'll be a simultaneous two-player mode, several weapons, three different types of terrain including desert, jungle and city, six long and challenging missions, adjustable skill levels, and end-of-level guardians. Instead of it sounding like a first in gaming entertainment, it looks like the old arcade 'Commando' re-visited, jazzed up and ready to roll.

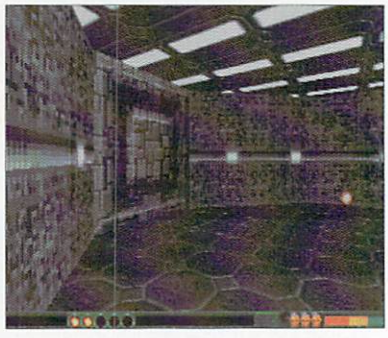
The game's being developed by CyberArts, a name that sounds familiar, but I can't think why. They are from Finland and apparently are set to thrill and excite games players everywhere.

More Doom. Marvellous

Guildhall Leisure have finally got around to releasing their data disk for Gloom. It's called Gloom Deluxe and features new levels, beasts and all sorts of things.

The whole interface has now been re-written. For example, you can now play via a modem, choose a screen resolution as well as a screen-mode, and even play in a Workbench window. You can now use the virtual i glasses as well as various graphic cards. It is ECS and AGA compatible and you can basically customise it completely to suit your own needs. Finally, you can finally play it in super Hi-res.

The whole thing looks like a vast improvement over the last and hopefully we'll give it a full low-down in the next month or two in our Doom special. Hurrah!



The sequel has now arrived with more missions than ever before

A new breed

As you can see from this screenshot, the sequel to Alien Breed 3D is looking pretty good

No sooner had Alien Breed 3D hit the shelves than Alien Breed 3D special edition is already on its way.

The programmer has managed to re-write the original 3D engine and managed to get the graphics up to the level of Breathless and the brand new Nemac IV. Like Breathless, Alien Breed 3D will include minor additions such as being able to look up and down as well as major additions such as a level editor.

There will be supports for graphic cards such as Picasso II, and you will be able to alter the pixel ratio from 2:2, 2:1 to 1:1. This is essential because some people prefer to play fast on a small screen, or dismiss the graphics for a full sized screen. It's all down to a matter of taste and opinion.

You will be able to load all the original levels from Alien Breed 3D into the editor and twist and change them as much as you like – or even design completely new ones. Not only that, you will be able to draw your own aliens, add mission text, and even make new sound effects.

From these screenshots it looks like this is going to better the original Alien Breed 3D and that got 91 per cent in our review. Can the best get better? We'll find out next month when we'll hopefully bring you a full preview.

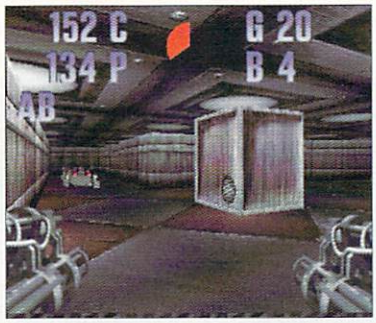
The whole interface is now completely configurable, so you can finally play it how you want to

Even more Doom

Yes, I'm afraid so. Just when you thought we'd shut the door in the face of Doom clones comes Nemac IV. We are currently chasing up a review copy so we'll hopefully bring you a preview next month. It's by a German team, and programmed by Stefan Schlott – a name previously unfamiliar to a lot of you, including me.

Basically, yes, it's another Doom clone, although this one appears to be slightly more special then the rest. For instance, the new virtual i glasses will be compatible, and virtual reality is something which Doom on the PC has yet to feature.

Nemac IV will be available very soon. Keep watching these pages for a full review



Take a note of the weapon you carry. It's slightly better than the weedy pistol you always get in Doom

We saw this demo on a recent upload from Aminet. The graphics ran at a horrific rate and the sound effects were the best yet on any other Doom clone. The explosions were pretty graphic and it plays far better because you have to collect codes from various computers dotted around the maze to unlock the doors.

Also on Nemac IV you can select the screen size from absolutely anything as well as the resolution.

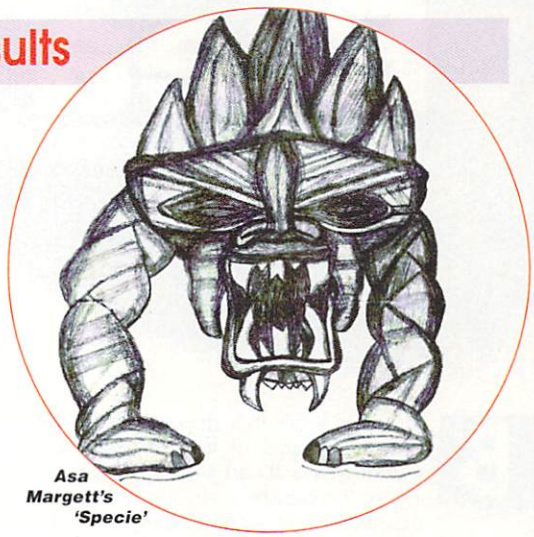
Gloom competition results

Hurrah! We are pleased to announce that after sifting through the many mail bags of entries we have found a winner to our Gloom competition. Admittedly, it did take us around 2 or 3 minutes to actually find one. And as we promised, we have printed the winning entry.

We received some excellent entries including one from James Stansfield from Jersey who sent us a disk! Wow, it was a very scary disk – it was a grey. Clever that. When our Technical Editor suggested we see what was actually on the disk, there was another monster! Blimey he's spent some time thinking up that.

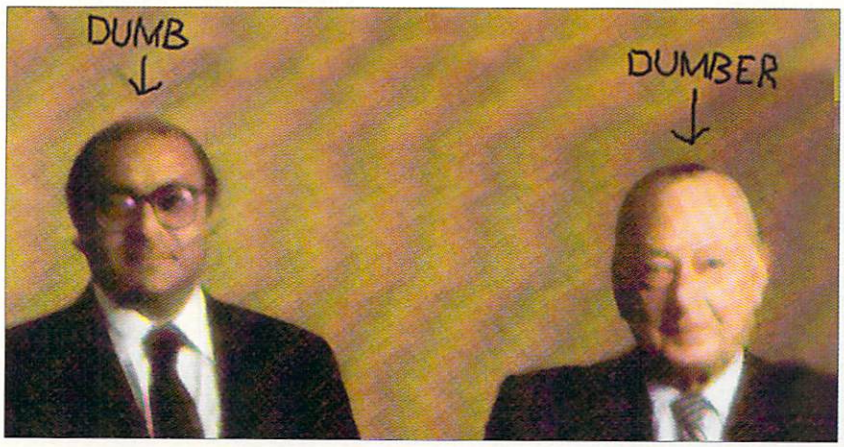
Another good entry was Yorkshire lad, Liam Walker's Angel of Death. He drew it from all different angles and for a 13-year old it was a cracking effort!

Michael Garcia's Aguantos was also very good. And there were three of the funniest entries ever. Firstly David Torres from Watford and Javier Ospina from New York kindly set us in their entry form without an entry. Good try lads, but the sheer audacity of it will win you absolutely nothing. And although Ben Finowski's entry didn't actually win, check out the witty humour. In second and third place we shall award Liam Walker and James Stansfield for their efforts with a copy of Gloom.



Asa Margett's 'Specie'

Finally, the winner is... Asa Margetts and his marvellous Specie. Congratulations – the CD32 and Gloom will shortly be in the post. Be patient though!



Ben Finowski's comedy monsters

System Selections

Fears

Score: 92% Issue 93

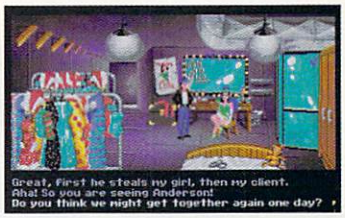
It's been a bit of a Doom fest over the last few months, and after hearing exclusive news that around three are planned to be developed over the forthcoming months, it looks like we'll have to do Doom special.

Only two of the Doom clones have really shined so far – Fears and Alien Breed 3D. I feel that Fears was and still is the best, although, not many people actually agree with me.

Pure and simply, Fears was the most fun – it may have not had the technical superiorities over games like AB3D but it still had me at the Amiga for a number of weeks.

Flight of the Amazon Queen

Score: 93% Issue 94



After months of speculation, Flight of the Amazon Queen touched down with quite a bang, knocking up a highly respectable score of 93%. Although many gamers still believe that Monkey Island holds a special place in the heart, you can't help but make room for FOTAQ. Featuring superbly animated sequences and sarcastically pleasurable dialogue, Flight of the Amazon Queen is and always will be excellent fun.

Alien Breed 3D

Score: 91% Issue 94

This Doom clone arrived very shortly after Fears and Gloom. The developers were none other than Team 17 so we knew this was going to be a quality product. This is by far the most Doom-like game on the Amiga.

Leading Lap

Score: 90% Issue 95

After MicroProse announced Formula One Grand Prix 2 was only going to be developed on the PC, a huge grey cloud covered the sunshine that overwhelmingly shone on Amiga gamesplayers everywhere – crushing all hopes.

That was until Leading Lap was released and what a cracker! Featuring some excellent polygons which shifted at a horrific rate, Leading Lap was the premium racing game.

Coala

Score 91% Issue 95

Empire Interactive have finally dipped their toe into the stream of Amiga games to bring another quality product into the world.

Coala was its name, and cuteness certainly wasn't its game. Featuring Apache helicopters and loads of missions, a chopper extravaganza was in order and I was there with mine! A marvellous game with fantastic graphics.

SYSTEM
review

GRAPHICS 92%
SOUND 90%
GAMEPLAY 92%
OVERALL 92%

The overhead 'snooker table' lights thankfully don't turn themselves off when your 10 pence runs out

You have to be really careful because the bad things will come out behind the walls

Breathless

Reviewed by Andy Maddock

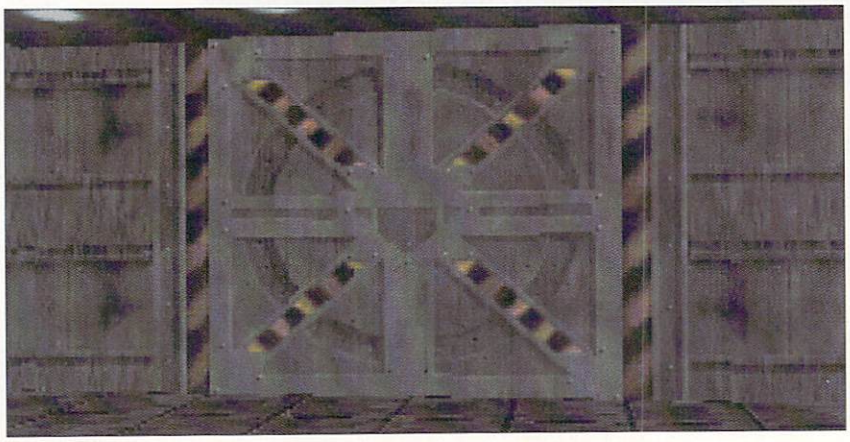
Breathless is another game that we first caught glimpse of from Aminet, and then it was a 3D engine demo – showing off the graphics. I must say it looked absolutely mouth-watering – the smooth graphics were smoother than a peach, no, even a baby's bottom, and that's saying something.

In fanfare-like fashion a demo of the game arrived. I have to admit that after the previous Doom-clones, my mind wasn't really on the job as I was rapidly losing consciousness with sheer boredom. I mean, all you readers have to do is pick one and play it, I have to play them all and then fill around two pages in exactly the same way. I think I deserve a medal for describing about six similar games in an entirely different way. Ahem, OBE? I think so. Please send your rewards and 'congratulations', not to mention money, to the usual address.

So this looks like my last review of a Doom game either because I haven't noticed anymore in the pipeline or I shall be handing in my notice as a doom game reviewer after this. I must admit, it's been nice. I'll miss all you Doom fans, but it's time to go. But not before I've finished with an absolute cracker. Here we go.

Breathless, developed by Fields of Vision, is about the seventh or eighth Doom clone to appear on the Amiga. There are four worlds, and each one has five sub-levels. Each world will have its own password so you are able to continue where you left off. Also, there are twelve different enemies which proves that Breathless is quite v aried.

As with the usual collection there are plenty of



As with every other Doom-like game, pressing space opens doors and secret passages

PUBLISHER
Power Computing

DEVELOPER
Fields of Vision

PRICE
£29.99

DISKS
2

HD INSTALL
Yes

SUPPORTS
A1200

The computer terminal allows you to buy and boost your weapons, not to mention keys and health items

The backroom boys

The programmer for Breathless is called Alberto Longo and has programmed on the Amiga for a long time. His past projects include T-Racer which he made for the Amiga a while ago. Pierpaolo Di Maio is the team manager. He works as a musician and worked out the map and sound effects for Breathless. Finally, Gianluca Abbate is 15-years old, yep, 15-years old and designed the 2D graphics and textures. Sounds like a bit of a genius to me!

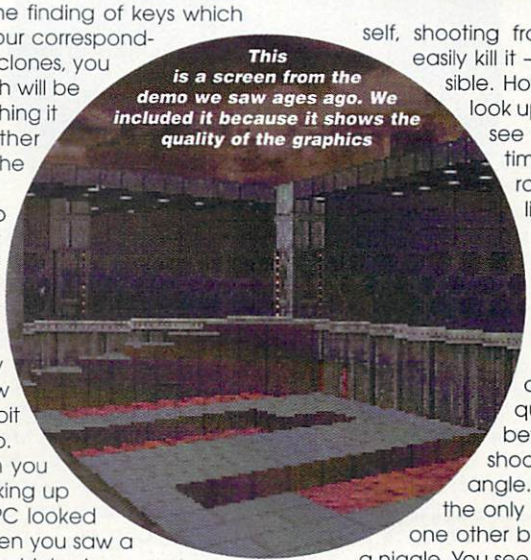
collectables, and by that I don't mean Star Wars figures or Dinky cars, I mean power-ups, weapons, ammo, and health. What rarely features in most Amiga Doom clones is the finding of keys which will let you open the colour corresponding door. In various other clones, you usually find a switch which will be a red colour and by switching it green, will open another door somewhere else in the maze.

Breathless allows you to look for credits which act as cash, and when it all totals up at the foot of the screen, you'll be able to log-on at a computer terminal and buy weapon boosts, new guns, health and keys. A bit like a computerised Tesco.

Another feature which you can easily perform is looking up or down. Doom on the PC looked pretty weird because when you saw a monster on a top platform high above yourself, shooting from your eye-level could easily kill it – realistically, this isn't possible. However, Breathless lets you look up or down at any angle to see the enemy. Most of the time you will enter a huge room and find what looks like a drained swimming pool with a number of beasts in the bottom. Looking down enables you to pick them off one by one.

However, there is a downside. The view is quite difficult to toggle between and it's hard to shoot everything from the one angle. This, however, is about the only niggle I can find. There is one other but I wouldn't refer to it as a niggle. You see, nearly all the walls are at right angles, giving the game much of a boxy feel, but it's only when you actually think about it that it has any effect on you. By the way, I didn't even notice until someone else kindly pointed it out.

This screen looks a lot like Doom, because you can look outside through a gap in the wall



This is a screen from the demo we saw ages ago. We included it because it shows the quality of the graphics

This is supposed to be night time. That's why your vision is slightly impaired and all you can see is the sky light!

> Breathless features some **excellent** graphics and sound effects, and it plays like a **dream**

The final word

Considering this isn't the first Doom clone, you'd expect it to be at least above average after seeing the other efforts, and Breathless is above average in most ways. Whether it will suit your needs is another matter. Although there may be four different worlds with five sub-worlds, it still won't really last you that long. Okay, so maybe it is a challenging game, but you get a password after you finish a level, letting you carry on, so you could probably finish in less than a week.

That's about my only gripe. Otherwise, Breathless features some excellent graphics and sound effects, and it plays like a dream. This certainly ranks alongside Fears and Alien Breed 3D – there's absolutely no doubt in my mind.

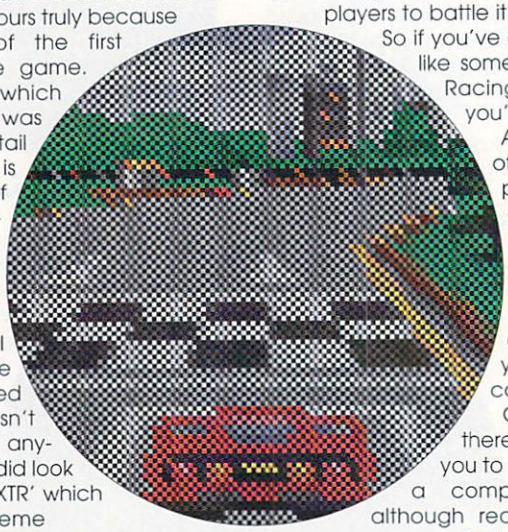
Extreme Racing

Previewed by Andy Maddock

Three players can take part, giving you more of a view because the horizon sometime gets in the way

Guildhall Leisure have been pushing releases out like nobody's business. A few months back Gloom received 81 per cent from yours truly because it was one of the first attempts at a Doom-like game. Then followed Fears, which although it was slower, was excellent fun. Hot on the tail of these two releases is Extreme Racing, a sort of first-perspective view racing game, which looks a lot like the SNES version of Super Mario Kart – which is no bad thing!

If I remember rightly, I previously saw some screenshots of this uploaded to Amine. Back then it wasn't signed to a publisher or anything, and to be honest, it did look pretty good. It was titled 'XTR' which obviously meant Extreme Racing – although it was spelt Xtreme Racing. Gosh, how we manipulate the English language!



This may look like a pretty badly drawn screen. However, don't worry, it's just a dithered screen

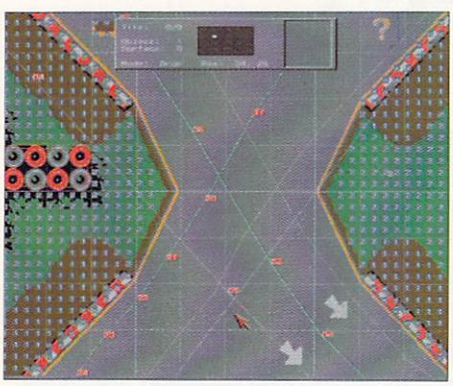
I was always a big fan of Super Mario Kart on the SNES and when I saw the screenshots of 'XTR' I could see a lot of similarities. However, instead of the excellent Mario characters, Extreme Racing featured different cars – a Police car, a VW Beetle, a Ferrari, and more. What made this so much better than Mario Kart was that four players could race at the same time on one Amiga – connecting two machines would enable eight players to battle it out all at the same time.

So if you've got plenty of friends who like some friendly rivalry, Extreme Racing could be just what you're looking for.

Although it is still a fair way off completion it's looking pretty impressive. The graphics are very cartoon like – working well with the background and track graphics – and the best thing by far about it is the fact that you can customise it completely.

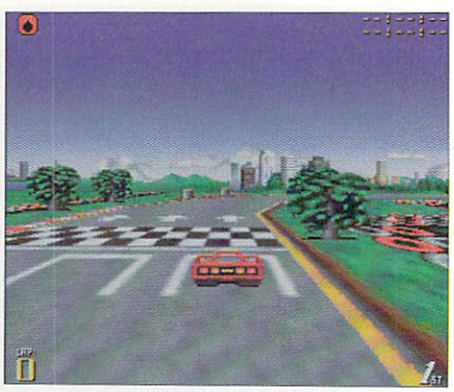
On our preview version there was an editor, allowing you to edit the tracks, and it was a comprehensive application, although reasonably simple to use. Basically, the screen was split into a tile-like grid whereby you could load up objects and place them on the screen. I'm not sure whether this will be included on the complete package, although they seem to have already planned some data disks with new tracks and the editor, depending on the game's success.

When I mentioned you could customise the



The track editor is excellent. It allows you to chop and change sections easily and efficiently

Four players can play at any one time. And if you add another Amiga, eight can play!



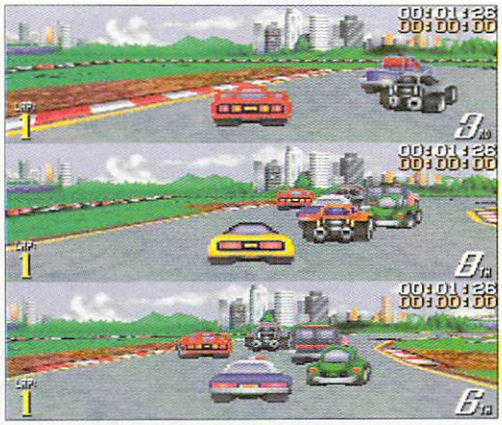
In one-player mode Extreme Racing is at its fastest. It really does play like Super Mario Kart too!

The space track is by the far the best, beating every other in terms of graphics

The yellow car belongs to a certain character – I don't exactly know which one though

entire game, I mean you can change resolutions, camera angles, frames per second, car detail, background detail, dithering and the screen size. Almost every key on the keyboard manages to change something.

The actual game will feature a championship where you win cash in respect for your placing, and can then upgrade your car to give it better engines, brakes and tyres. You will be able to run your car over question marked-shaped boxes which will randomly present you with a weapon for you to blow away the opposition with. These include missiles, mines and even homing sheep! Finally, there will be three



La la la la... If only I could think of a caption... Hang on, wait a minute... No, it's gone

Get your mates round

The last racing game I saw on the Amiga was Turbo Trax, and that was pretty good, except it didn't really offer anything new that stood out from the rest.

As far as I know, the only game that's relatively similar to Extreme Racing is OTM's Virtual Karting – and that's only because the tracks are manipulated in the same way. Extreme Racing is looking far more professional than Virtual Karting, and if a few tweaks are made before the full version appears, it could well be one of the finest multiplayer games of the year. We'll have to wait and see.

This is the logo. Pretty isn't it? Yes very pretty. And no, I'm not running out of things to write about!

difficulty levels as well as cup races and the aforementioned championship.

You will be able to race around a series of themed tracks including water world, radioactive world, normal roads, and space tracks where you have to stay on the track, presumably because you're in orbit.

As with Mario Kart, there's a battle mode where you chase your opponent around a track, with the idea of smashing him up – rather than completing laps. It's pretty similar to the Mario Kart version whereby three balloons are attached to your kart and you must pop your opponents balloons. As it proudly states on the in-game instructions. 'It's Mario Kart – only not as cute!' Too right mate.

The characters you can choose from are pretty sketchy at the moment, although from what I can make out there is a funny bloke, a kid, a monster, a policeman, a woman, a cool guy, a Chinese man, and a green monster. They may change – hopefully, they will.

Hopefully, there will be full race replays so you can watch where you went wrong and why, and thankfully, Extreme Racing will be HD Installable.

> 'You will be able to race around a series of **themed** tracks including water world, radioactive world, normal roads, and space tracks'

Final word

Super Mario Kart, was and always will be, one of the finest racing games on any format – ever. If Extreme Racing can be half as good, then it looks like Guildhall Leisure and Black Magic are going to be riding high in the charts again, so soon after their success of Fears and Gloom. All you have to do is wait for the full review, which should be next month – space allowing.

As for the actual game itself, I played it on a A1200 with a Blizzard 1220 and it was very impressive, especially when altering some detail and playing around with the frames per second.

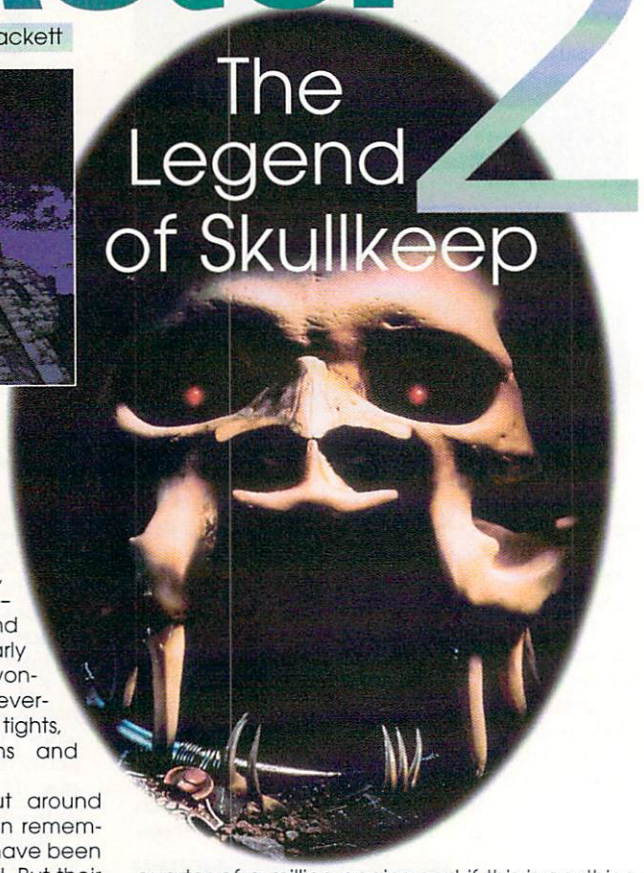
Dungeon Master 2

The Legend of Skullkeep

Reviewed by Tina Hackett

GRAPHICS 64%
SOUND 55%
GAMEPLAY 73%
OVERALL 70%

Spooky heh, this is the foreboding Skullkeep, a place of adventure etc



Sequel time again and it's one that die-hard fans of role-playing games have been wetting themselves in anticipation for for years, particularly Neil, our coverdisk editor – we've literally been swimming around the office with Neil shouting "It's nearly here, it's nearly here.' Personally, I wondered what the attraction was, but nevertheless I donned my trusty green RPG tights, wizards wand, and magic potions and teleported myself into RPG land.

Apparently, the original came out around 1987 as far as anyone in the office can remember, so those who enjoyed the original have been waiting a long, long time for this sequel. But their patience has finally paid off and the game is here, packed with enhancements and new challenges.

The original apparently sold in excess of a quarter of a million copies and if this is anything to go by, it's successor *should* attract a huge amount of interest. But we have to remember that this was nine years ago and demands of today's gamesplayers have altered

Oooh dear, another one bites the dust. Never mind you can always resurrect him

Grab torches while you can to light your path

PUBLISHER
Interplay

DEVELOPER
In-house

PRICE
£34.99

DISKS
Quite a few

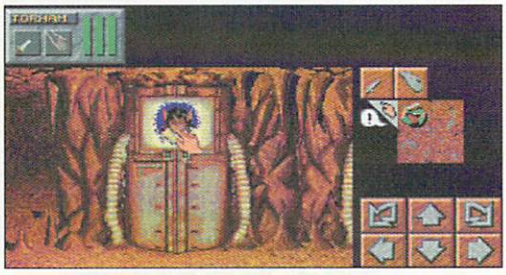
HD INSTALL
Yes, 9Mb free space

SUPPORTS
A1200, 2Mb min

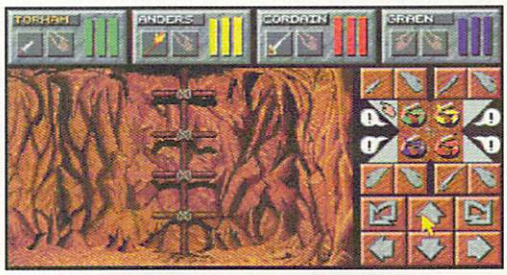
you'll like it... but not a lot...

Magic (sorry, magick) plays a huge part in the game and you'll have to put some effort into learning its ways. First of all you will need Mana. Each adventurer has a different amount and it is a good indication of their overall spellcasting skills. Then, as they say, practice makes perfect and before you can go off casting your large spells, you need to practice their weaker forms.

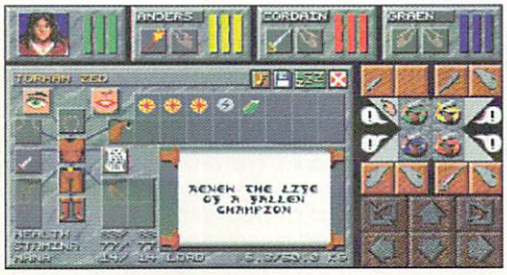
Magick Maps are also available and lets wizards and priests check out their surrounding environments. A basic map shows stationary objects but the more advanced can show hostile creatures or mana-laden items.



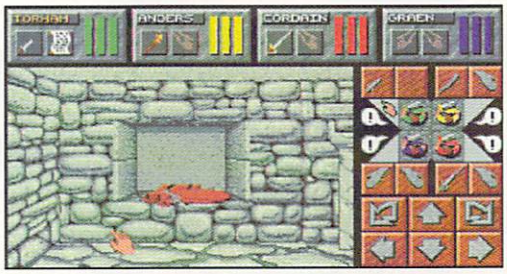
Choose your team mates carefully



It takes a while to navigate around your setting



Check your possessions on the inventory screen



Wooh, a spooky dungeon setting

dramatically. You start your travels in a dingy dungeon (surprise) and your task is to prevent Dragoth's minions creating the Zo gate that will allow him to enter Skullkeep (eh?). First of all you will have to check out the Cryochambers. In each one there is a potential Champion – someone you can select to be on your team. Each has particular strengths and weaknesses and you will need to choose carefully because you are stuck with them for the rest of the adventure.

Setting off along the dimly lit corridors, you must look carefully for anything that may help you on your travels. There are the usual problems to solve like finding a key to get through doors. You also need to collect and more importantly read, scrolls which impart vital clues. When you find your way out of there, watch out because no sooner you have set off then you are attacked by hideous monsters which you'll have to destroy. Don't fear, though, if one of your characters gets destroyed because you can always bring them back to life in the resurrection alter – but use with caution because every time you do this, the Champion will be weaker than before.

And that's just a small slice of the game. There is absolutely tons to it and will keep the most hardened of adventurers happy for a good while. On top of this, you also have your magic spells to cast and the many monsters to deal with – which, incidentally, are different from last time in that you can employ tactics, particularly of the running away kind (my own favourite when dealing with such foes).

Graphics are rather basic but do conjure the environment well

> Thrill seekers **won't** find the ultimate adrenaline rush here but a bit of **patience** pays dividends and you do feel well **rewarded** for your troubles.

Collectables

The Scroll – this can provide hints and instructions for spells

Keys – hidden in all cunning places, the key is needed to get beyond the doors

Weapons – extra arms can be picked up and can be used later on the tougher foes

Coins – money makes the world go round so the more you can get, the better

The final word

I must admit, the game did pleasantly surprise me and it wasn't as bland as I'd at first feared. Thrill seekers won't find the ultimate adrenaline rush here but a bit of patience pays dividends and you do feel well rewarded for your troubles. Some of the battles can be a bit tedious but you can run away should you want to.

The graphics have kept the original style but this does leave it all looking rather dated and some of the monsters are quite laughable. Saying that, though, the improved atmospherics do something to increase realism (I'm not sure what exactly, because no matter how hard I try I can't convince myself that I'm a muscle-bound warrior called Torham). Sounds and graphics work well in portraying the surreal world and the overall look is effective.

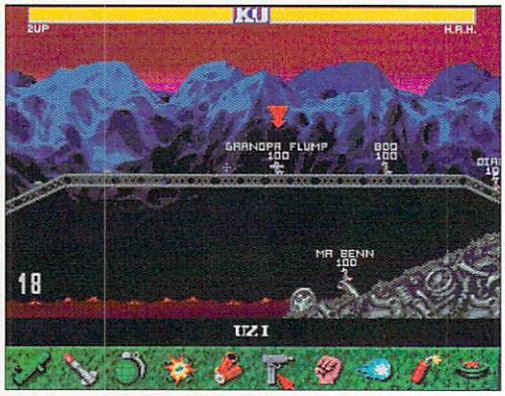
The game is rather more expensive than usual so you may want to take this into account. Put is this way – if you're a fan of the genre and have waited for this for a long time then you won't be disappointed, but on the other hand, if you're little more than a casual admirer, then think carefully – it's not a modern game, it takes patience and appears quite dated. All the same, it's nice to see an old concept revived.

Worms

Reviewed by Tina hackett

After all the hype, it's finally here - the end product, the final boxed version for which we saved ourselves. Yes, it's Worms, and after what seems like an eternity we have the game everyone's been waiting for. And we do mean literally everyone because the game is available on PC, PC CD-ROM, Mac, Mega Drive, SNES, Playstation, Saturn, Jaguar, CD32, Gameboy and Amiga - the machine the game was made on.

Programmed originally by Andy Davidson on the Amiga, he sent the game to Team 17 who wanted to publish the game multi-format and the rest is history, so they say. It's certainly heart-warming to see that these new generation of high tech machines with their glossy games are interested in anything our humble machine has to offer, and if first impressions are anything to go by it certainly looks like it won't disappoint.



That's you, the one with the arrow above your head. Now to find a victim...

The idea behind it, if you don't already know, is that you are placed in control of a team of Worms and quite simply you have to obliterate the opposition in all manner of cunning ways. It does require a fair amount of skill, though, because the other team are all trying to do exactly the same thing.

You have a number of different weapons at your disposal and there are also different ways you can defend yourself. Each worm is dotted around the landscape and according to the

GRAPHICS 80%

SOUND 75%

GAMEPLAY 90%

OVERALL 91%

PUBLISHER
Team 17/Ocean

DEVELOPER
Andy Davidson

PRICE
£29.99

DISKS
3

HD INSTALL
Yes

SUPPORTS
All Amigas 1Mb
(2Mb recommended to access all the levels)

Gentlemen - choose your weapons

Each weapon works in a different way and it's best to select them to suit your chosen strategy. Here are a selection of some of the best.

The Sheep - this is in rare supply and is only available from a weapons crate which is dropped onto the ground. The sheep is actually a deadly weapon that will charge into your enemy and explode.

Airstrike - an eight-bomb airstrike can be directed to a certain area and can wipe out a number of worms

Kamikaze - if desperate, your worm can carry out a move that ends in self-sacrifice. He charges himself into a crowd of worms which will send them flying, even though he has to die for the cause.

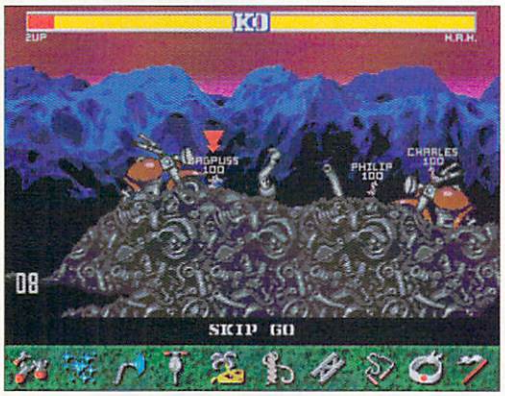
Homing Missile - ahh, the traditional are sometimes best. Launch the missile and watch it hurl into the sky and towards the enemy. You need practice though to estimate the most likely path it will take.

Some of the various weapons on offer

CD32 too!

The joys of Worming are also available for the CD32. It's pretty much the same as above but has the added bonus of animations, choice of sound track, and lets you play your own audio CD's in the background.

You can still save data through the NV-RAM. Control is via the control panel which works as well as the traditional mouse and keyboard.

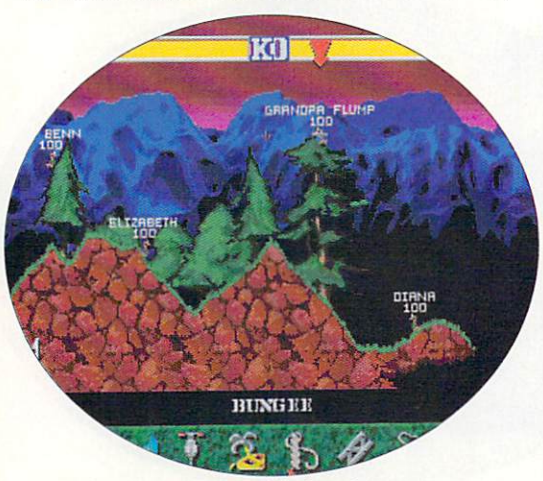


When things aren't going your way you can always surrender... coward

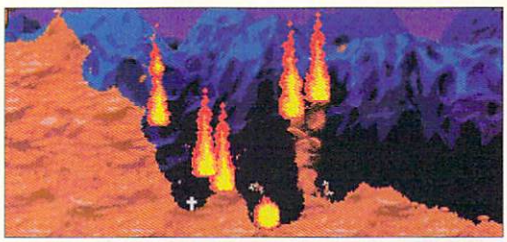
environment, you can find yourself on unforgiving territory such as the desert with no trees to hide behind, or a cliff face which leaves you exposed to your rivals.

You simply choose a weapon, take aim and fire. If you hit a worm or he hits you, you are treated to all kinds of bizarre squeaks and sounds like 'Stupid' (if you make a mistake) or 'Fatality' (when a worm meets his doom). It sounds quite bloodthirsty but as you've probably gathered, it's all done in a light-hearted way, and before any moralists harp on about blood and violence in games, the whole thing is in a cartoon style with animations, comical sounds, and some great (if rather small) worm characters. And what brilliant fun it is too.

However, there are a couple of niggling little things which could be improved. The teams of Worms all look identical and it would have been good if you could tell them apart immediately with the use of colour coding. It's all very well giving them names that show which team they belong to, but sometimes they overlap on the screen and make it very hard to read. But apart from this, it's near to perfection and pretty much everything you would want from a game.



Landscape can help or hinder – trees can provide protection or can be an obstacle



Airstrike – worm debris scattered everywhere

Yum, an exploding worm – I wonder if they can join themselves back in the middle?

The cartoon style will bring a smile to even the most miserable

> Hours of entertainment from **one** game – who'd have thought that a garden invertebrate could be so much **fun?**

Final word

Worms doesn't have an intriguing plot, it doesn't have high-tech graphics, and neither does it have sophisticated gameplay. So why is it perhaps one of the most appealing and addictive games of all time, and why is it appearing on so many platforms? What is its elusive quality that makes me and countless others in the office want to sneak back for just one more go? It's hard to fathom out – I mean the gameplay relies on the age old Scorched Tanks style and the graphics aren't the most advanced, but somehow it works, and works very well indeed.

The worms have a character all of their own and there's nothing more satisfying than watching your opposing worm being blasted into oblivion. It's brilliant as a multi-player game too and perfect party entertainment should you tire of playing Pin the Tail on the Donkey as 16 friends can all play at once. You are also guaranteed variety because each time you play the land is randomly generated, and there are just so many tactics and weapons to learn to use that every game will be different.

And it doesn't end there. If you have Internet access you can keep an eye out for hints and upgrades on the Worm dedicated site which can be found at http://www.team17.com/t17/t17worm.html.

Another bonus is that if you get bored with the backgrounds on offer, you can create your own landscapes using a package such as DPaint. Hours of entertainment from one game – who'd have thought that a garden invertebrate could be so much fun?

Flight of the Amazon Queen

Stuck on Warner Interactive's **excellent** adventure? Pick up some **tips** here

Your first task is to escape the room you've been locked in by Anderson

You play Joe, a dashing young adventurer and first off you find yourself locked in a dressing room by arch enemy Anderson who firmly intends to use the Amazon Queen to transport the glamorous Faye to her Brazilian film location. Pick up everything you can find obviously lying around then use the curtain cord and pick up the wig which is lying behind it in the recess. Pick up two lots of sheets from the floor and you'll see a laundry chute. Join the two sheets together to make a rope and then fix the rope to the radiator.

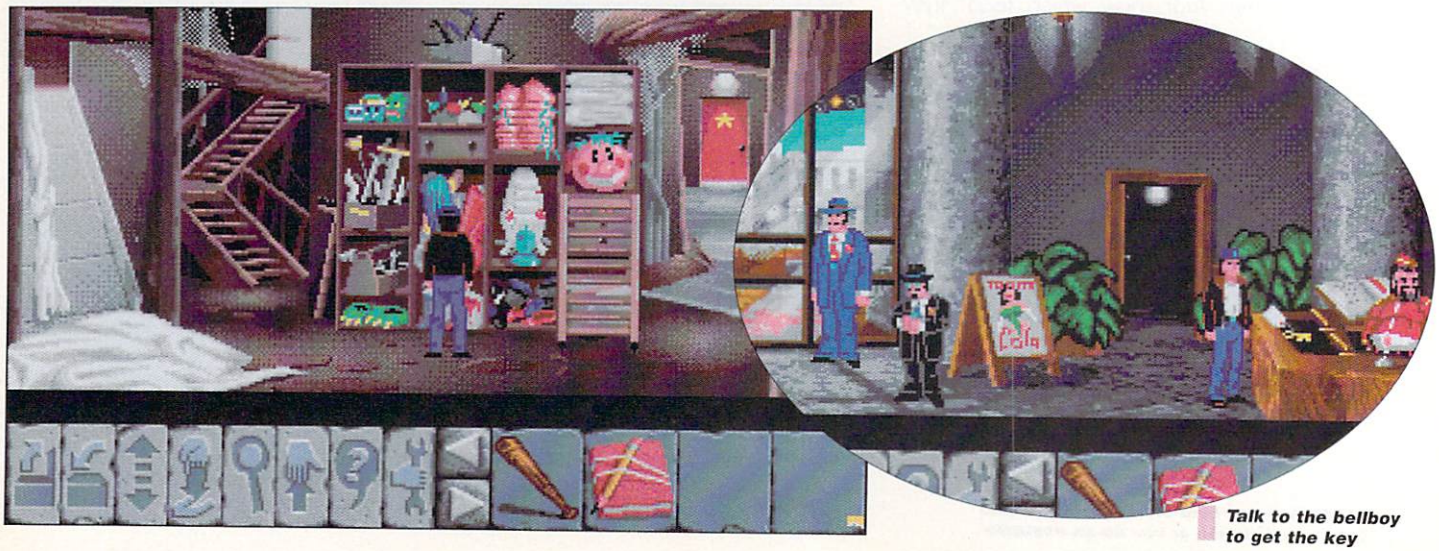
Use the rope, climb down the chute and drop into the basement. There's a door over on the right but it's locked. You can only pick up a few items off the cupboard so you'll need to move the ladder to be able to pick up some amusing comedy breasts and a crowbar from the box of crowbars.

Head up the stairs to the left but if you try and get Joe past the heavies by the door they'll throw him back in the locked room upstairs, so only go as far as the reception and talk to the bellboy about the key. If you say that you're a friend of Lola the bellboy will let him have the key so take it and head downstairs. Use the key on the locked door and move inside.

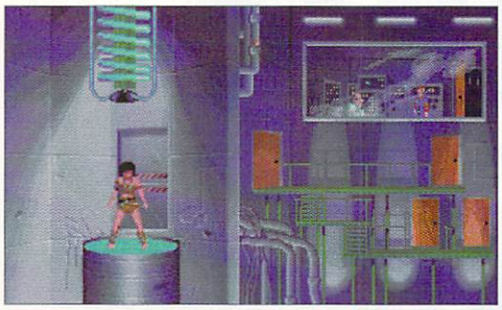
When you talk to Lola it becomes apparent she's clearly an old flame of Joe's but now she's seeing your arch enemy Anderson. Ask Lola for help and after she's moaned about you for a bit she gets in the shower and demands that you bring her a towel before she'll get out. To accomplish this you need to climb back up the sheet rope into the locked room and use the crowbar on the chest to find a lovely, fluffy towel. Take it back down to Lola and she'll get out of the shower before, somewhat bizarrely giving Joe a sequined dress. Use the dress in the basement and, combined with the comedy breasts and the wig you can just about pass Joe off as a woman.

Walk over to the stairs and you should be able to get through the foyer. Even though they're a bit thick the doormen will soon realise they've been

The comedy breasts could come in handy later on



Talk to the bellboy to get the key

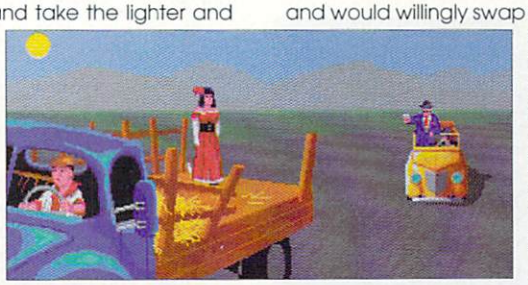


Meanwhile the mad scientist demonstrates his machine that turns humans into dinosaurs

duped and give chase. Change back into your normal clothes then find the oil hidden under the hay. Throw the chicken and then use the oil on Rico's car, splattering the windscreen and making him crash.

Joe arrives at the airport just in time to stop Anderson taking Faye away. Whatever you say you'll end up punching Anderson, so you can have a bit of fun with the insults should you want to get in a slanging match. With the storm brewing it's time to get in the plane and fly over the Amazon rainforest where, predictably, you'll get struck by lightning almost immediately.

When the plane crash lands your main objective is to recover as many useful items as you can. Open up the duffle bag and take the lighter and knife. Look at the waterlogged seats and you'll find a comic coupon, the only bit that survived from Sparky's Commander Rocket comic. Sparky is absolutely devastated by the loss of his comic, as you'll discover when you talk to him, at which time he'll also give you some beef jerky.



The doormen realise they have been conned by your disguise and give chase

Open the hatch and walk over to it. The water outside is swarming with piranhas so give them the beef jerky and move Joe onto the giant lily. Cut the lily free by using the knife on the stem then pick up the broken propeller and propel the threesome to the bank by using it on the lily.

Sparky tells you of his need to find a 'Commander Rocket versus the Mob' before Joe sets off to find a telephone. Head north into the screen. From now on east is to the right of the screen, south for the front and west for the left-hand side. Joe bumps into Wedgewood the parrot who prattles on about how Princess Azura has been captured and how Trader Bob is now her only hope. As Wedgewood flies off, cut the vine with the knife and carry on down the trail.

Soon Joe's path becomes blocked by a huge gorilla, so head back past the plane and see what's to the south. The broken bridge can be repaired using the vine, allowing you to cross to the other side an get to the banana. Unfortunately the Gorilla is not interested in the banana so you're forced to engage it in conversation. Talking to it will uncover that gorillas live in Africa not South America at all and then, confused by your argument, it will have a terrible moment of self doubt and explode, clearing the path and making a bit of a mess at the same time. Go up to the pinnacle from where you can see every location that you'll be visiting throughout the rest of the game. However, your main priority is to find civilisation and work out what on earth the parrot was blathering on about. You should now head downhill to Trader Bob's.

In the meantime, Faye has a bit of a tantrum about being left at the crash site and throws a bottle of her perfume at Sparky and stomps off into the trees.

Wander through the pygmy village and into the shambles that is Trader Bob's. Bob knows a lot about what's happening in the jungle, including some rumours about the factory where everyone seems to think Princess Azura is being held. Most of what's on display in Bob's isn't for sale although the records, the nets, the alcohol and the vacuum cleaner are. Trade the beef jerky with Bob in return for some money and then buy the battery powered vacuum cleaner with it.

Talk to Wedgewood the parrot and then to Naomi. She learned English from the missionaries and is worried about her date that night with Bob and would willingly swap her hairdressing scissors for some perfume. Leave the village and on the way it will be worth your while talking to the Witch Doctor. You won't understand what it has to say yet but when you meet the missionaries you can get a translation.

At this point Frank is in his secret lab chuckling to himself about turning amazon women into dinosaurs and so on, and you should be climbing that pinnacle again. The missionaries live in the jungle so head off there. Take the north fork in the path then head over the fallen tree and past the three-toed sloth.

When you get to the next clearing Joe meets Bud and Skip who're two professional explorers. Talking to Bud reveals that they're trying to get recaptured by the tribe of Amazon women as they were released last time as a result of Bud's embarrassing heat rash. He says that he'd pay a fortune for a cure. Talk to Skip and you'll discover that he's into the same comics as Sparky. Sparky wants a Commander Rocket versus the Mob issue, which coincidentally is the one Skip has got and he very kindly gives it to Joe. Read the comic yourself for an added bonus.

● *And that's your lot for now, I'm afraid. We'll be bringing you the next part sometime in the near future – we hope so anyway...just as soon as we get further ourselves...blast...*

> **Bob** knows a lot about what's happening in the jungle, including some **rumours** about the factory where everyone seems to think **Princess Azura** is being held

You get to the airport just in time.....

...to smack Anderson in the mouth!

Reviewed by Andy Maddock

Sensible World of Soccer 95/96

GRAPHICS 89%

SOUND 88%

GAMEPLAY 93%

OVERALL 92%

PUBLISHER
Time Warner

DEVELOPER
Sensible software

PRICE
£24.99

DISKS
2

HD INSTALL
No

SUPPORTS
All Amigas, 1Mb

At this point in the review, I'm supposed to begin with a nice introduction - possibly talk about the first few versions of SWOS, or even the other bizarre fruit versions. But no. What's the point in building up a game that needs no build up.

Some might say Sensible World of Soccer lost its appeal after a while because of the bugs and bizarre crashes. Admittedly, I never experienced any crashes although the major bug that most people found irritating was the monetary system. There were ways of recruiting 'free' 10 million pound players, and players disappearing off the face of the earth, and no matter how many goals your striker scored, he would still end up at half the value he started at.

Even the England squad has been updated, including the introduction of the young Liverpool duo, Redknapp and McManaman

Renegade, the publishers of the first edition, are back with a pseudo-update disk with lots of new features that will undoubtedly spring the life back into your old version of SWOS. The first obvious update is the new teams. All the clubs from the '95-'96 season are in their respective divisions, and all the new signings and values are included. And unfortunately for some, Eric Cantona has returned.

There was a version of SWOS that appeared on some coverdisks. This contained updated information on teams and most of the bugs had been fixed, and, of course, when this version hit the shops, Eric Cantona's sentence was uncertain, so they left him out. But now he's back - talking more rubbish than ever before! The most recent updated signings are Mark Hateley at QPR, Paul Gascoigne at Rangers, Roberto Baggio at AC Milan and, of course, David Ginola at Newcastle.

When you begin a career you can enter your nationality so you know which country should be approaching you for international management. Yes, this option is finally here! Even though the original SWOS manual stated this option could be obtained, it never appeared. All the new kits have

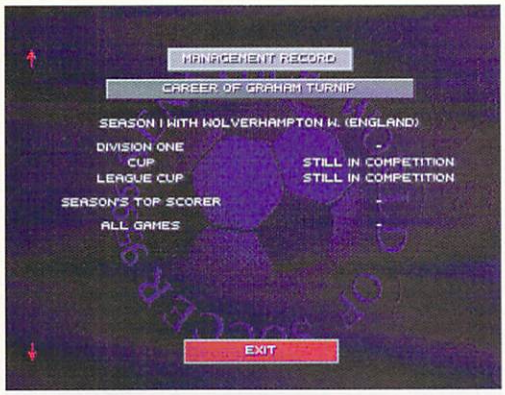
As you can probably see, Alan Shearer's on the ball - his name is presented in the top corner

Sensible planning

Sensible Soccer has been going for a long time now. The first version ever seen appeared on various coverdisks throughout the industry and to be honest, it was pretty unplayable.

Then came the first official Sensible Soccer which was reputed at that time to be the best Amiga game ever. Then followed version 1.1 which featured a referee and updated teams. After this came several bizarre versions - which also appeared on coverdisks. There was a fruit version whereby you could control either sensi-like oranges and apples. Alongside this was a Bulldog Blighty version which pitted England against Germany - not just in the world cup, but in 1944 as well!

The most recent version is undoubtedly the best. Sensible World of Soccer emerged as the ultimate football game on the Amiga. And now it's time to welcome the flood of data disks. This is now the second in the series. How many more? Who knows...



I suppose this is a little bit late now. The 'Turnip' joke has since passed. Ooh, I'm the best, I really am!

England are the best team in the entire world. Ooh, yes. Stuart Pearce is the greatest ever full-back. Ooh, yes even more

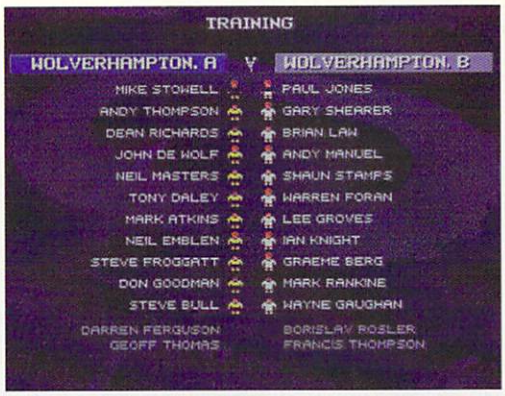
been implemented, although they still have the same designs. For instance, Newcastle now boast their excellent away strip of claret and blue hoops.

In the first SWOS it was extremely difficult to assess if a player would be good for your club, as there was no way of comparing stats – the only indication was the price tag. Now the players are all rated in stars, and the more stars the better the player – simple!

One of SWOS' rules which, to be honest, I didn't even notice until a few months ago, is that you are allowed three substitutes, and they can all be outfield players. This is why Vinny Jones ended up in the net after their keeper got himself sent off.

When you enter the squad select screen, not only are you presented with 'Goals' but you now

The managers' timetable-like screen is no different whatsoever. Hurrah! Three cheers?

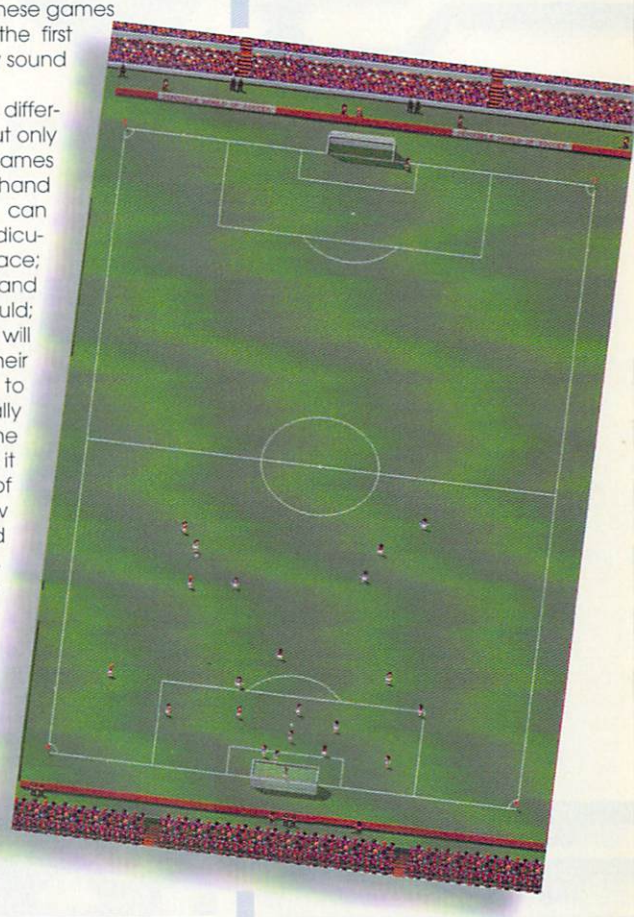


The training screen is a sort of coats-as-nets session. A nice one-man Wembley session would've been better!

have a training facility. The idea is to control your 'A' team against your 'B' team. Your first team contains all the players that would feature in real life, and the second team contains mock-up players to act as reserves, loan, and trial players. These can be brought into the side at any time during the season and if they are any good, their value will begin to increase, so those million pound youngsters like Robbie Fowler can now successfully be achieved. You play these games on a pitch reminiscent of the first Sensible Soccer – hardly any sound and no stadium.

There are actual in-game differences to this new version, but only small ones. Your players' names now appear in the top left-hand corner of the screen; you can now head the ball without ridiculously diving about the place; the crowd now jump up and down like proper fans should; when the players score they will show their jubilation with their arms; it's now a lot easier to run around players, especially if you're controlling someone like Alan Shearer; and to top it all off, with a quick press of the joystick you can now inform a player if he should come and collect the ball, or wait on the spot so if you want to pass the ball out to the wing, it will go to the wing.

The differences are merely cosmetic and affect the gameplay minimally, although if you were to return to your original game you'd miss these slight changes an awful lot.

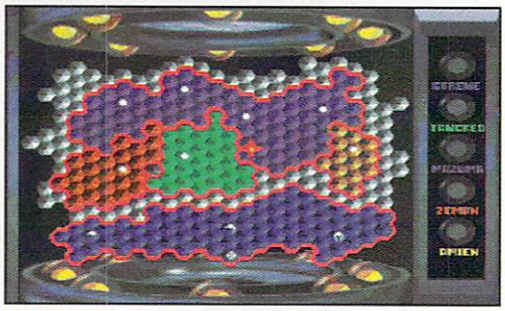


> 'If you're a real fan of **Sensible Soccer**, then this is an absolutely **essential** purchase'

Final word

If you're a real fan of Sensible Soccer, then this is an absolutely essential purchase. Please keep me out of the 'it's not worth it' debate, because there will always be someone who believes all these features should have been in the original – which is probably true.

You can scroll through all the available craft. Sadly, though, you can't play as an alien and invade Earth!



Strange things, coloured in strange ways. Hmm. Maybe this is quite intriguing after all

GRAPHICS 61%
SOUND 34%
GAMEPLAY 41%
OVERALL 51%

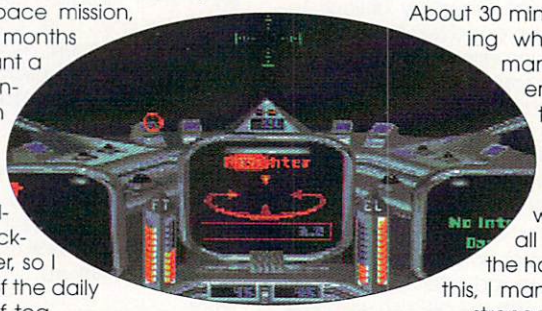
Reviewed by Andy Maddock

Star Crusader

If I can remember rightly, Gametek's last release was Brutal: Paws of Fury, and the release of Star Crusader heralds their next adventure. Basically, it's a big epic space mission, one of those that takes months to complete. So if you want a nice relaxing, frustration-free 1996, don't even bother reading this.

The first thing that made me groan was the 11 disks required for installation. A lengthy de-packing afternoon was in order, so I grabbed myself a copy of the daily newspaper and a cup of tea. And I set to work.

Around three and half hours later – well about 25 minutes actually.– they were all installed and ready to fly. Wait! 'Volume DH0: is full' Noooo, noooo, It can't be!



This is the eagerly awaited flight part. It's really exciting, I must say. It's probably the best thing in the entire world!

About 30 minutes later, after pondering what to delete, I finally managed to wipe just enough space clean for the huge program of Star Crusader. All I could mutter throughout was "This had better be worth it, I've had to wipe all the nudey pictures of the hard drive for this! "During this, I managed to acquire many strange looks from around the office, and my reputation is now in tatters. Right, off we go again. 'Please insert disk 1'...

PUBLISHER
Gametek

DEVELOPER
Human soft

PRICE
£29.99

DISKS
11

HD INSTALL
Yes

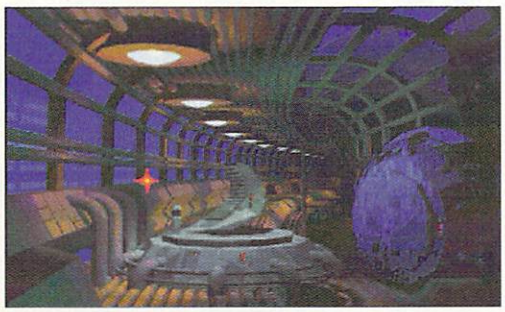
SUPPORTS
A1200

There's that cool guy on the computer-like, swivel chair. He'll tell you loads of useful things

This looks like an alien boardroom – apart from the fact it's not. It's a human boardroom

Manual read

I'm not really the sort of person who'll sift through the manual to find little bits of information – well, maybe I should have but I didn't. And I knew if I did look in the manual, there was no way I'd find an option entitled 'Change game completely.' My hopes were dashed! I was upset. I was glad, because at least I hadn't spent about £30 on it.



The mouse pointer has turned into a rather attractive star... Ahhh, twinkle, twinkle

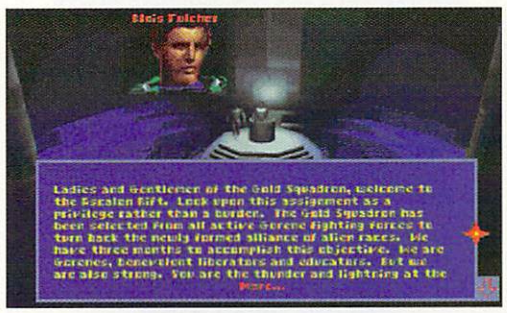
Hurrah, it's all installed! As I double-clicked on the program icon, I carefully positioned the mouse to make as little movement as possible, and it gave me reboot déjà vu. "It's going to crash! It is, it is... It did!!! Noooo." To my surprise, it didn't, and without haste it displayed a requester: 'This will reboot your machine'. Well thank-you very much.

As soon as the hard drive light stopped flickering like an epileptic Christmas light, Star Crusader had landed. Boy, was I happy – relieved too! There followed some nice introduction screens, and a very long wait for the game to appear. Another cup of tea? Oh yes, please.

When I returned, a strange alien-like object was displayed on-screen and after careful manipulation of the mouse, a small star highlighted various options – which to the human eye

Look, UFOs! Well, they would be apart from the fact they're actually identified objects. Ho hum

Here are more flying parts. As you can see, you are at battle with lots of orange blocks. Careful – they're really juicy!



Here's a guy that'll address you and tell you many more useful things. And still, you don't know what you're doing

were damn near unreadable. A quick guess later and I was escorted to what looked like a mission briefing room – indeed it was! There were some digitised faces at the top of the screen announcing something. They did go on for a while, and to be completely honest, I didn't take much notice of the dialogue. If I had, you certainly wouldn't be reading this now.

After this, a cool guy on a computer-like swivel chair showed me what looked like some more mission briefings and led me to some more options. Blimey, I thought, there's a lot to this – and I haven't even done anything yet!

When I finally got out into space, I was actually pretty disappointed. Although there was a nice ray-traced intro bit that lasted about 0.75 seconds, I was left severely despondent. I didn't seem to have much control over the spaceship, and even after realising the mouse wasn't plugged in, I still didn't have much control. The scrolling was extremely jerky, and I had to check that a) the accelerator board was in and, b) if it was working.

What made my misery complete was that I couldn't even get out of the game when I wanted to – it was as if it had grabbed me through the monitor and said 'play me!' I couldn't put it down, probably because I was in the hope of it getting better – either that or a power cut.

> 'I'm being absolutely straight with you now – **don't** believe the hype. What **hype?** I hear you say'

Final word

I will apologise if you were expecting a high flying space epic, accompanied by an informative, factual review. If I'd told you everything about the game and then said it was utter rubbish, what's the point? If a friend told you a really boring story, would you ask him to tell it again, only in more detail. No? I didn't think so.

My job is not to build-up the game until it sounds like the best thing ever. It is to inform you of how it plays, if it's worth the money, and most of all, if it's any good. And that's what I believe I have done.

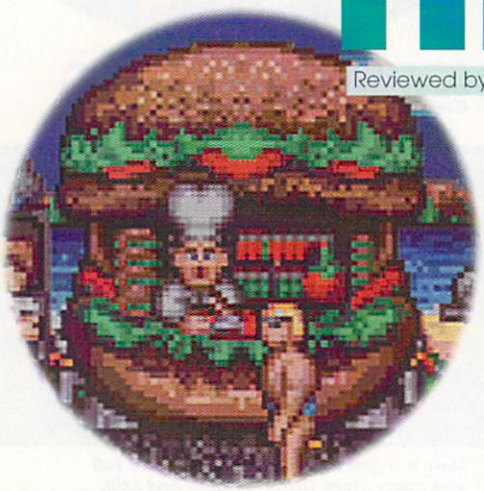
I'm being absolutely straight with you now – don't believe the hype. What hype? I hear you say. Good point, is my reply.

SYSTEM
review

GRAPHICS 85%
SOUND 75%
GAMEPLAY 87%
OVERALL 90%

Hill Sea Lido

Reviewed by Tina hackett



PUBLISHER
Vulcan Software

DEVELOPER
In-house

PRICE
£12.99

DISKS
2

HD INSTALL
yes

SUPPORTS
All Amigas, 1Mb

Oh, I do like to be beside the seaside. Oh I do like to be beside the sea. Tralalaleh etc." or so the old ditty went which nobody can ever remember the next few lines for. Well, believe it or not, this is a relevant intro/tenuous link because software company Vulcan have taken this theme and used it in their latest game. Called Hill Sea Lido, it's a seaside management simulator – sounds a little odd, I mean what possible work is involved in managing a stretch of beach? Well, it's a whole lot more complicated than you might think, and there is plenty of work involved as a budding business entrepreneur.

You have 20 metres of beach and promenade to do with what you want, plus the running of the Pier Theatre, and the aim is to expand your desolate stretch of beach into a money-making resort. You must buy shops, build attractions, and keep the place tidy. Staff must be hired too, from the lifeguard to the guy that walks around with a sandwich board advertising the shows. You need to keep a constant eye on your stock such as keeping the burger bar filled with burgers, and keep the price at a rate which will keep the customers happy and keep you in profit.

Okay, so it's not a serious simulation of business life, but then again, why would you want one like that anyway? What it does offer is a novel scenario which, although fun, is very challenging. It's actually very hard to get those profits rolling in. You also have to make sure your resort passes the high standards of the Health and Safety Inspector who will fine you a ridiculous amount of money should he find low standards of hygiene

The promenade – build more stalls to keep the customers happy

Let's go to work

During the game you will need to hire casual labour to keep the place running smoothly. You should aim to keep your beech and promenade as tidy as possible and to do this you can hire Refuse Specialists. Don't forget to collect the money from your shops and facilities – you can send out your Cash Man and the money will then be transferred to your bank. However, it may also be wise to hire Wideboy Securities to protect him whilst he's doing this.

The safety of the swimmers is important too, so a Life Guard can be called upon to keep an eye out. And when you've booked one of the many talents for your show, it pays to advertise, so regularly hire the Advertisers to walk around the beach to tell everyone about the weekly entertainment.

On the beach you can set up attractions such as the dingy hire

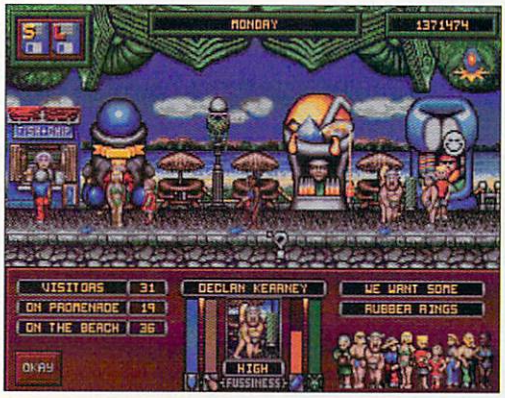
Take your pick from the many shops and attractions to keep your visitors happy

Showtime – watch what Basil can do with his bendy balloons

or safety. At the other end of the scale, though, if you keep your resort pristine then you stand a good chance of winning one of the possible awards which as well as giving prestige comes with extra money.

Tourists can also be a pain but as usual the customer is always right. If there aren't enough refreshments or activities they won't come back. You can find out who they are by clicking on them – the screen will tell you how fussy they are, what they want you to build and for, example, how hungry they are.

Graphically, it's bright and cheerful and has a charm of its own. It's probably not as detailed as some games but the cartoon style works well with the light-hearted theme of the game. There are some entertaining animations such as the various shows you can book – Michael Jickson performs his great 'grabbing the crotch routine'



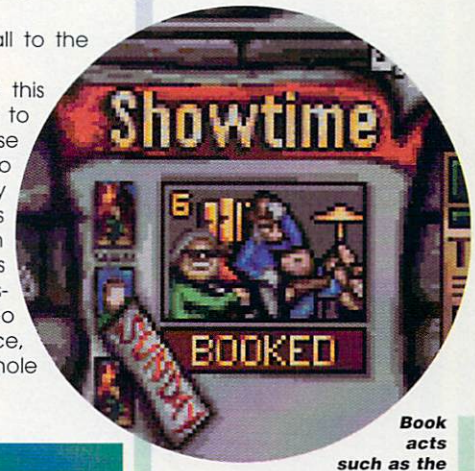
Bloody tourists, keep an eye on what they want though if you want to make money

> ‘Superbly designed and a real **bargain** to boot – you'd be **crazy** not to buy this’

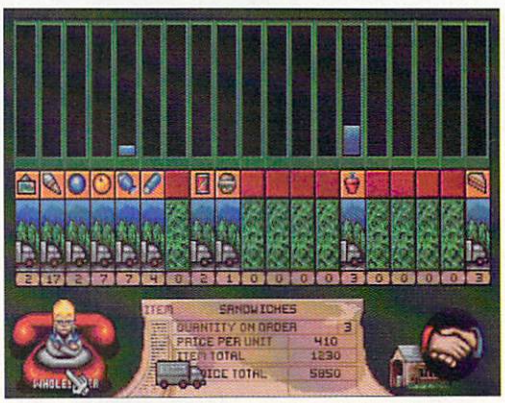
Aah, all the joys of the seaside. Enough candy floss to make you sick and sand in your sandwiches

and Cheeky ChippenDave bares all to the audience.

Sound options are available for this too and, for instance, if you want to order something from the warehouse the cashier will shake her head to agree or disagree accompanied by an "Uh huh!" or "Aha!" – basically yes or no. The usual seaside noises can be heard, along with van engines and whines of complaint from the disgruntled customers if they see too much litter. There are also some nice, cheerful dittys which keep the whole thing rolling along nicely.



Book acts such as the talented Michael Jickson – the more famous will cost more but attract a bigger ticket price



Don't forget to stock up at the wholesalers on the essential products for your shops

Final word

Without a doubt, this is one of the most fun games we've had over the last few months. Animations add humour, playability is challenging, and the theme is refreshing.

It's not quite as in-depth as Theme Park, which is another game in this fun management-type genre, and maybe it's not up to the same graphical quality, but it is definitely as addictive and plays brilliantly. It's only £12.99 and stacks an absolute ton of gameplay into it. Superbly designed and a real bargain to boot – you'd be crazy not to buy this.

Things are looking up at long last with the recent releases Flight of the Amazon Queen, Breathless and Coala. Along with this title we could definitely see a revival for the Amiga games scene. A real breath of fresh air.

Please note: the game is only available through mail order direct from Vulcan. Contact them on 01705 670269.

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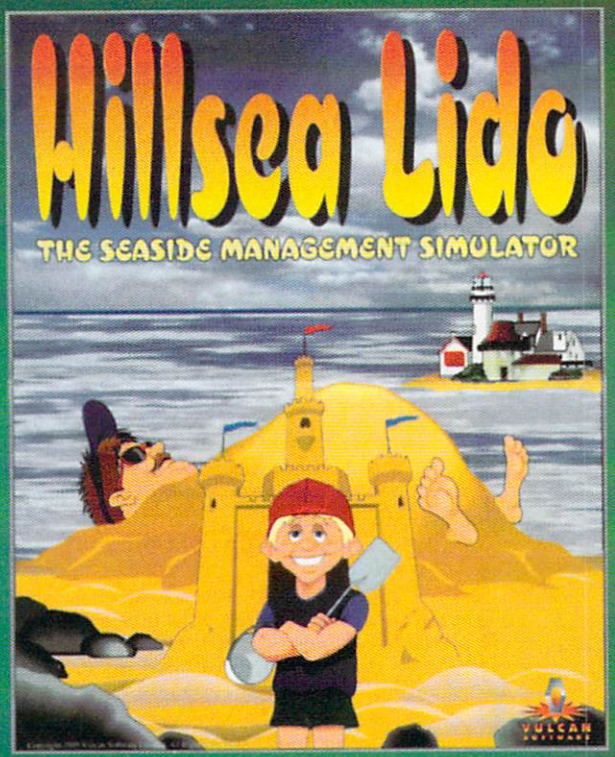

On the Promenade – you must use your skill and judgement to build a row of shops and facilities to entice the tourists

On the beach – your visitors won't be happy until there's plenty to do, from Donkey Rides, Speedboats and Rubber Dinghy hire

In the Theatre – book one of the many acts from Cheeky ChipenDave to Basil and his Bendy Balloons

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- Future datadisk expansion
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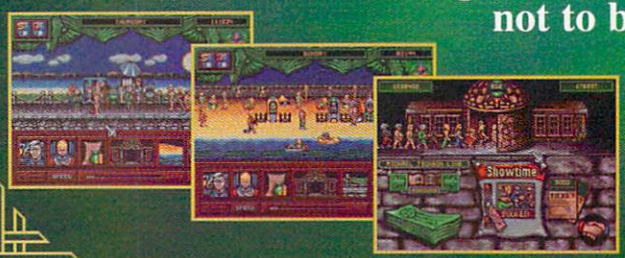
"Superbly designed and a real bargain to boot – you'd be crazy not to buy this." 90%



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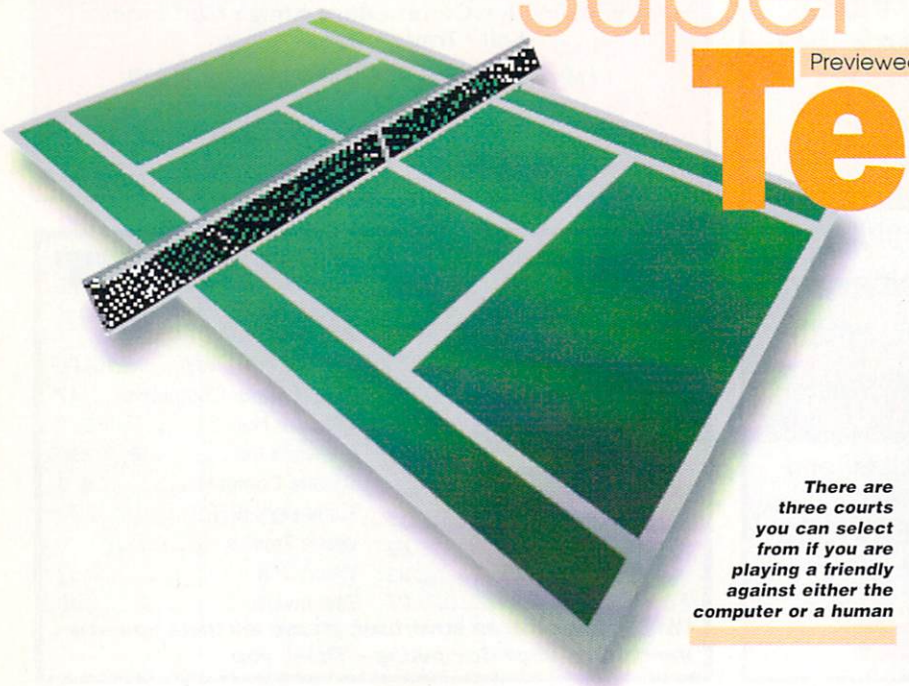
Super Tennis Champs

Previewed by Andy Maddock



There are three courts you can select from if you are playing a friendly against either the computer or a human

The character select screen shows all the characters you can select from their respective countries

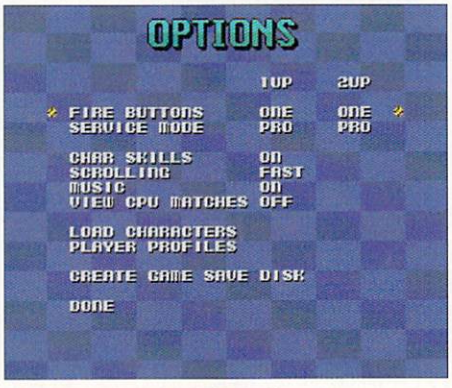
Tennis games on the Amiga have never really made an impact on the market. In fact, the only game I can remember that was any good was Advantage Tennis - programmed by a foreign company I think. It was a sort of 3D simulation/career game using wire frames.

Recently, I wrote a preview for another new game called Center Court, and I moaned about Tennis being one of those less popular sports - well, at least not as popular as football. And to be quite frank, it's a bit boring as a spectator sport. Alright, so it may be good to actually play, but as a spectator all you can do is watch.

For instance, at a football match, shouting and jumping up and down like escaped monkeys seems to have an effect on the team you're supporting and if they win, it feels like you helped them. If you try that at a tennis game, the bloke sitting in the baby's high chair just tells you to be quiet - just so the players can concentrate. Well, that's right you see, because football, cricket, basketball and every other sport in the entire world requires no concentration at all! No sirree.

I'm afraid to say, it all comes down to being absolute wet. Yes, that's what they are - wet. Ooh, it takes all the concentration in the world to

The match screen makes Super Tennis Champs play exactly like Super Tennis from the SNES, which is no bad thing!



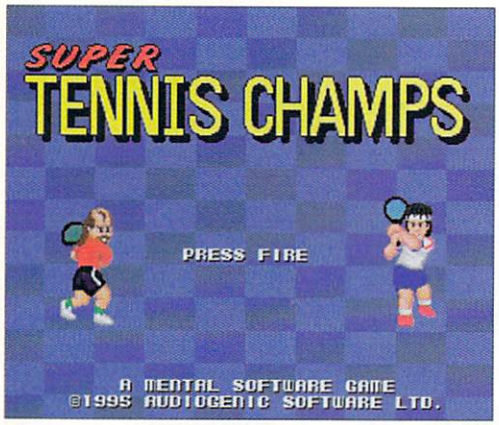
You can tweak all the options to make Super Tennis Champs play how you want it to

The ranking screen shows how well you're doing during the course of a season

Fit for anyone

The first thing you notice about Super Tennis Champs is its polished feel. It feels like someone has actually taken the time to present an Amiga game the punters actually will want to play. There wasn't really any media hype of any description, it just sort of crept up behind us when we thought the future of games was going to be disappointing. Audiogenic could never stand accused of releasing half-hearted games to make a quick buck.

As you can see from all their past products, Audiogenic have always come up with the goods and managed to cater for all types of gamesplayers. Super Tennis Champs is no exception, and without delving too much into the statistical side, it will undoubtedly appeal to everyone because it's one of those games you can sit down and play, especially against a friend. The two-player enjoyment stretches it to the limit – in fact many office arguments have been resolved with a few sets of Super Tennis Champs.



The title screen shows some excellent characters, that are so well drawn and look good

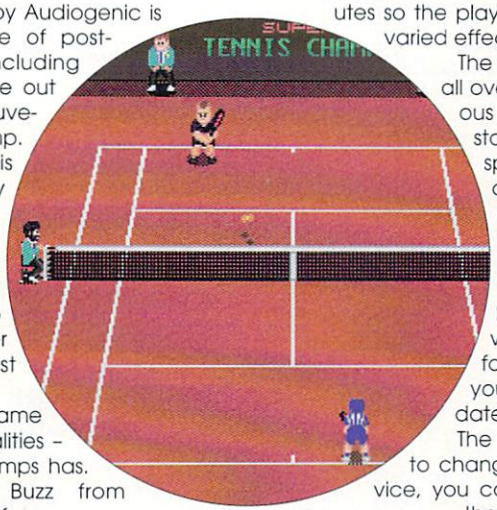
You can see who you'd possibly get to play in the next round via the tournament tree

be able to hit a tennis ball really hard! I have to apologise about my attitude, but surely you can understand why I feel like this.

Super Tennis Champs by Audiogenic is another in the long line of post-Christmas games, including Odyssey, which should be out now, and Exile – the rejuvenated classic space romp. To me, Super Tennis Champs looks extremely like Super Tennis on the Super Nintendo, and the way the sprites are drawn is instantly recognisable. It also managed to notch up a credible 90 per cent and more in most magazines.

The characters in the game all had their own personalities – just like Super Tennis Champs has. For example, there's Buzz from Germany and Synex from Canada. You can take part in a standard friendly game, tournament, or league, or go all the way and take part in a Grand Slam against many more computer or human competitors. You are then ranked in a table and the further you get in a tournament, the more points you get.

The actual playing part of Super Tennis Champs is superb. Firstly, you can choose between two systems of service. The first is slightly harder – you have to hold the fire button down to act as power and use a subtle direction to plant the ball in the opposing player's court.



Not only can you play singles, but the doubles option is there too. Only I forgot all about it! So this is er, singles...

The second is merely a cross-hair which you place where you want the ball to bounce. Also, the players all have their own statistics and attributes so the player you will pick will have a varied effect on your success.

The Grand Slam tour takes you all over the world playing at various venues, and before you start the tournament you are split randomly against all the other competitors from around the world. Depending on the venue, you will either play on a hard, clay or grass court. Before you begin to get worried, there's an option for you to save your game so you can continue at a later date if things get a little tough.

The options screen allows you to change settings such as the service, you can keep all the players on the same skill, and can alter the scrolling if the ball goes out of play. You also get an overview of the players you get to play with and against, so you can pinpoint their strengths and weaknesses. Finally, there's the option to load in more characters from disk.

> "You can take part in a **standard** friendly game, tournament, or league, or go all the way and take part in a **Grand Slam**"

Final word

At the moment it must be about 92 per cent complete – all that's waiting to be added is the obvious presentational screens, and features such as a manual and box. The gameplay is set about right, all the competitions are accessible, so from what I've seen it's going to be one of the best games this year – even though it's hardy started.

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E017 Story Land 2	2.25
E018 Wotitsname	2.25

CREATIVE

C002 Label Designer	2.25
C003 Super Fonts	2.25
C005 Deluxe Paint Tutor	2.25
C006 Shadow Demo Maker	2.25
C007 Clip Art	2.25
C009 Lllinois Labels	2.25
C011 Word Power	2.25
C012 Font Farm	2.25
C013 Wine Maker	2.25
C014 Assassins	2.25
C016 Garden Designer	2.25
C017 X Beat	2.25

UTILITIES

U003 The Workshop	2.25
U006 Address Book	2.25
U008 Asteroid	2.25
U010 Autograph	2.25
U013 The Right Way	2.25
U014 Panasonic Printer Driver	2.25
U015 H.P. Printer Driver	2.25
U016 Seikosha Printer Driver	2.25
U017 Cannon & Citizen Printer Driver	2.25
U020 Bad Format	2.25
U021 Amiga Beginers Guilde	2.25
U022 Better Bench V1.2	2.25
U023 De-grader 500 600 1200	2.25
U024 Extermin-8 Virus Killer	2.25
U027 Fake Memory for a 1200	2.25
U028 Action Replay For The 600	2.25
U029 Amiga Tutoria	2.25
U030 A.C.E.S Database	2.25
U035 Text Plus 4.0	2.25
U037 Ultimate Cheats And Solutions	2.25
U038 Number Pad For 600	2.25
U039 Calorie Base	2.25
U040 J R Comm	2.25
U041 Race Raptor	2.25
U042 Pools Pools V2	2.25
U043 Training Log	2.25
U044 Mastie Niblick	2.25
U045 D-Solve	2.25
U046 Lockpic v2.0	2.25
U047 Relo Pick v1.4	2.25
U048 Procad Electroid	2.25
U049 Dividends Winner	2.25
U052 Essential Virus Killer	2.25
U053 Soccer League	2.25

DEMOS & RAVE

D001 Night Breed	2.25
D002 Iron Maiden Slideshow	2.25
D003 Good Morning Veltnam	2.25
D004 Creep Show	2.25
D005 Fracan Horror Show	2.25
D006 Total Recall Slideshow	2.25
D007 Evil Dead (1 meg)	2.25
D008 Batman Cartoon	2.25
D009 Robocop	2.25
D010 Viz Slideshow	2.25
D011 Not The 9 Oclock News	2.25
D012 Raider Of The Lost Ark	2.25
D013 Predator Demo	2.25
D014 Safe Sex	2.25
D015 Stealthy 2 (1 meg)	2.25
D016 Jimi Hendrix Slideshow	2.25
D018 Holsten Pils	2.25
D019 Popeye Meets The Beach Boys	2.25
D021 Moonwalker Demo	2.25
D022 Mike Tyson (1 meg)	2.25
D024 Terminator	2.25
D026 Life Of Brain	2.25
D027 The Garfield Slideshow	2.25
D028 Teenage Turtles Slideshow	2.25
D029 WWF Slideshow	2.25
D030 The Gathering GFX	2.25
D041 Enterprise leaving Dock	2.25
D042 Girls of Sport	2.25
D043 The Run (1 meg)	2.25
D044 Star Trek Animations	4.50
D045 Jesus On E's	2.25
D046 How To Skin A Cat	2.25
D047 Calendar Girls	2.25
D048 Rave Vision	2.25
D049 Techno Warrior	2.25
D050 Jesus Loves Acid	2.25
D051 House Samples	2.25
D052

AMIGA GUIDE

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Frank Nord continues his beginners series with a look at Workbench's menus

medical

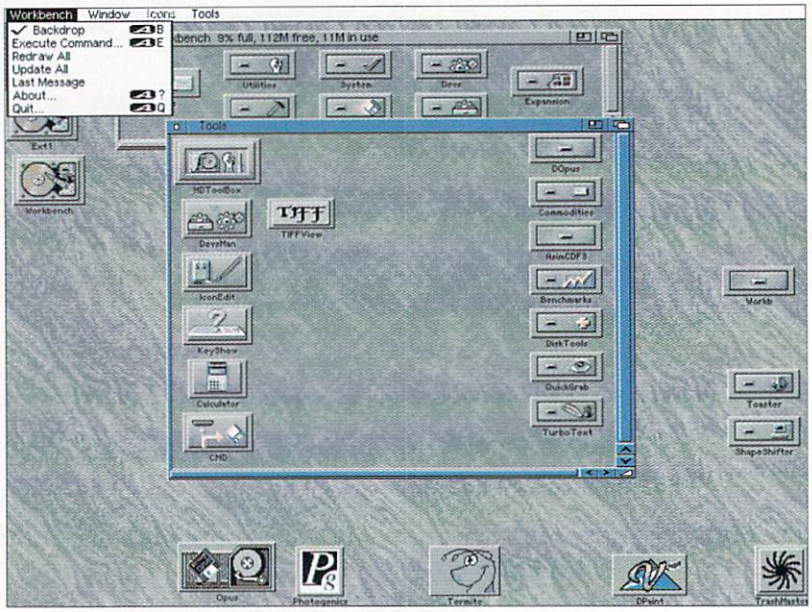
Would you like to see the menu?

So, no-one got any problems formatting disks? Good. This month I thought we would cover the menu system that AmigaDOS uses on Workbench. In my opinion Workbench's menus are the best of the four main operating systems that most people are familiar with. The Mac's mouse only has one button so you have to click at the top of the screen to get menus to appear, and the titles are there all the time, taking up space that could be used for something else.

Although Windows supports three button mice, most applications still use the left mouse button to do everything, like the Mac. Menu titles are also on constant display and have to be clicked on to appear. The menus in Windows are even worse when it comes to keyboard shortcuts. Both the Mac and the Amiga use fairly standard keys for commonplace operations, like Amiga-Q for quit, while Windows uses the really obvious shortcut Alt-F4 to exit an application.

The Atari ST's operating system is based around GEM, one of the first GUI systems, and is pretty poor compared to the others. To get at menus on an ST, all you have to do is move your mouse up to the top of the screen. But this can be a source of annoyance as you pop menus open unintentionally and slow down your work.

But where the Amiga really scores is in its unique ability to select more than one menu item in a single operation. This means you could have a directory window open on Workbench, then access the Window menu to show all files, view them by name, and select them all in one fluid motion. In case you don't know how to perform this feat, it is simplicity itself.



The Amiga's menu bar hides a whole host of useful functions and commands

Try it for yourself by following the example I just used. Open a window that usually contains files without icons like the RAM disk, for example. Now hold down the right mouse button as usual to access the Window menu, but instead of just letting go of it when you are over the right option, click the left mouse button once instead. Click the left mouse button on the 'show all files' item first, then on the 'view by name' option. Lastly, let go of the right mouse button when you are on the 'select contents' menu item and the menu will disappear back up at the top of the screen. Your RAM disk window will rush about showing the files, changing them into text, and then selecting them all.

Now I know that this demonstration doesn't actually serve very many useful purposes, but you may well have programs like PageStream that have menu options that can have tick marks next to them to indicate that they have been selected. You can now select more than one option at once, rather than selecting one, waiting for the operation to occur, going back to the menu, waiting, going back to the menu, and so on.

So let's have a good look at the menus provided by Workbench and check out what options they provide. While we are doing this you will notice that some menu options are 'ghosted' – the text looks funny. This is a visual indication of a menu item that cannot be used at the present time. For instance, if you have no windows open or selected, then there is little point in using the 'show all files' menu item, so it is ghosted.

The Workbench menu

✓ Backdrop A B

***Backdrop AB** – the backdrop command allows you to turn on or off the main Workbench window. This window contains all the drive icons you have mounted on your machine including the RAM disk. When you double-click on an icon it opens a window in the normal fashion, but you can impress people with the speed of your machine by opening a load of windows and then clicking them to the back of the main Workbench window. Then, when you double-click on a drive icon whose window you already have open, the window will pop to the front of the Workbench window instantly, making it look as though you have a super fast hard drive.*

If you want to get rid of the backdrop window on a permanent basis, you should turn on the backdrop item and then, making sure you have no windows selected on Workbench, use the 'snapshot window' item in the Window menu.

Execute Command... A E

***Execute command... AE** – this item opens a window on Workbench that's like a one-shot Shell window. You can type a shell command into the text gadget that appears and any results will appear in a text window. You can use this menu item to open a shell window by typing 'newshell' into the text gadget that appears.*

Redraw All

***Redraw all** – redraw all and the following item, Update all, are both rarely used and are for refreshing the screen display and updating drawer contents respectively.*

Update All

***Update all** – see above.*

Last Message

***Last Message** – shows the last message that appeared in the Workbench title bar. This can be useful if an AmigaDOS error appears and disappears too quickly to be seen.*

● We'll carry this on next issue and move onto the other menus.

Paul Overaa delves beneath the surface of the Amiga's program scatter loading routines

Scatter brain

Over the next few issues I am going to be taking a look at the routines that are used to load and run Amiga programs. The starting point for these discussions are the files used to store an executable program on disk, in other words the so-called AmigaDOS 'Load Files'.

A load file consists of a number of units known as 'hunks' which, amongst other things, contain program code, static data such as graphics and text, and details of any uninitialised space needed by the program. When a user runs such a program, either from the Workbench or by typing its name at a Shell window, an AmigaDOS loading routine is brought into action.

The first thing that happens is that a header block is read and the space for a hunk table, used during the loading operations, is allocated. Immediately after this, appropriate amounts of memory for the various code, data and bss (uninitialised space) hunks present in the load file are allocated, with the hunk contents being read into the acquired memory blocks. Because separate memory allocations for the various hunks are made, the hunk information basically just gets loaded into any suitable memory area that is available (with the loading routine performing any absolute address relocation calculations and creating any segment code links that may be required).

Program segments produced in this way are linked together using an arrangement known as a 'seglist' and the original DOS routine for scatter loading a program into memory. LoadSeg(), for example will create just such a list, and return a pointer to it, if the load is successful. At some stage, of course, any program loaded by this routine will need to be removed from memory and the routine used to perform this operation is called UnLoadSeg().

Function 1: The AmigaDOS scatter loading seglist creation routine

```
Function:   seglist_p=LoadSeg(filename_p)

Registers:  d0              d1

Prototype:  BPTR LoadSeg(char *)

Input Value:          filename_p  =     pointer to a null terminated
                                        string

Return Value:         seglist_p   =     pointer to a seglist or NULL
                                        if error occurs
```

```
Function:   success=UnLoadSeg(seglist_p)

Registers:  d0              d1

Prototype:  BOOL UnLoadSeg(BPTR)

Input Value:          seglist_p   =     pointer to a seglist

Return Value:         success     =     Boolean success/failure
                                        indicator
```

Function 2: The AmigaDOS segment unloading routine

Placing a load file into memory

The use of the LoadSeg() routine itself is easy. Load a pointer to the filename into register d1 and then make a conventional DOS library call in this fashion:

```
        move.l          #filename,d1        load file name
        CALLSYS         LoadSeg,_DOSBase
```

The result which comes back in d0 should, of course, be checked for errors and often a convenient way of doing this will be to store the pointer in memory and test the zero flag after the move has been completed like this:

```
        move.l      d0,seglist_p            preserve BCPL pointer for unloading
        beq.s       .error
```

Having got the seglist equivalent of a load file safely into memory, the DOS library provides routines, including one called CreateProc(), which allows the code to be brought to life as a separate process. There are, however, other uses for the loading routines – you can, for example, pass files containing just image data structures through the conventional assemble/link stages, producing graphics data that can be scatter loaded. When it comes to using functions like Intuition's DrawImage() and so on you do, however, need to be able to locate the start of the real data within each segment.

Individual segments which make up a seglist are tied together by means of pointers (BCPL pointers) with a NULL value signifying the end of the seglist chain. If we then take the starting BPTR seglist pointer provided by a routine such as LoadSeg(), left shift it by two bit positions and add 4, we end with an address that is the start of the real segment information. Here's a typical piece of example code for scatter loading a load file into memory and locating the entry point of the first segment:

```
        move.l      #filename,d1
        CALLSYS     LoadSeg,_DOSBase
        move.l      d0,seglist_p            preserve BCPL pointer for unloading
        beq.s       .error
        lsl.l       #2,d0
        addq.l      #4,d0
        move.l      d0,a1                   a1 points to entry point
```

As far as file loading and seglist creation is concerned that's basically it – the AmigaDOS routines take care of all the difficult stuff. The next thing to do is take a look at how seglists can be used and, needless to say, this part of the story comes next month.

Seglist pointers

AmigaDOS has its roots in an operating system called Tripos, much of which was written in a language called BCPL. Amiga coders in general do not have to worry about BCPL except for the fact that it uses a form of long word addressing based on the normal 680x0-style memory addresses divided by four. If, therefore, an AmigaDOS function is specified as returning a BPTR, i.e. a BCPL-type pointer, you have to multiply that address by four before using it.

If an AmigaDOS function returns a BPTR, then any equivalent deallocation function will also expect a BPTR as well. This being so, it's usually best to store these pointers in BCPL form and then convert them just before use like this:

```
        move.l      bcpl_p,d0   BCPL form
        lsl.l       #2,d0       real machine
        address
```

Paul Overaa explains how ARexx's de-bugging facilities can be used to find errors in scripts

Bug hunting

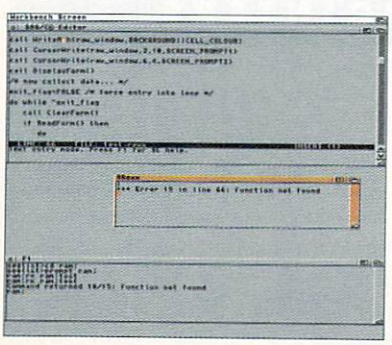
Debugging and testing can be one of the most time-consuming stages of any software development, and ARexx scripts are, of course, no exception to this. The use of proper structured design techniques, modular programming, top-down development and so on helps, but it will not eliminate all the problems. No matter how conscientious a programmer you are, some mistakes are bound to be made.

Sometimes problems will be due to simple syntax errors caused by, say, a basic misunderstanding of how a statement should be written, or a dyslexic slip at the keyboard – inadvertently writing Uppre() when you meant Upper() for example, or writing a semi-colon when you meant to write a colon because you didn't hit the shift key at the right time. Such mistakes are usually considered harmless because they are easily found and therefore easily corrected.

ARexx is very good in this respect and not only will it identify most errors but you can be fairly sure that any ARexx program which gets to a runable stage is going to be nigh on 100 per cent syntactically correct.

If, whilst developing a script, you get past the trivial syntax error stage and your program seems to run in some fashion, then often you will be home and dry. Occasionally, however, things will go wrong – a program may run to a point and then for no obvious reason may just fail to behave as expected. It's at this stage that we enter the realm of debugging proper and one of the most important tools available to the modern programmer is easily usable trace facilities.

ARexx supports two basic modes of tracing: Firstly, there is the normal or 'non-interactive' tracing mode which simply allows trace information to be viewed. Secondly, there is an 'interactive' mode which allows the programmer to step through the program and interact with it as the trace proceeds (via stdin or sterr if available). It is possible to look at the contents of variables, re-execute clauses, and even type in instructions which are subsequently executed as though they were a part of the program itself.



An ARexx tracing console window in action.

ALL	*Traces all clauses as they are executed.*
BACKGROUND	*This mode is the same as OFF except for the fact that the TS support program can not override it.*
COMMANDS	*All command clauses are traced before being sent to the external host. Any non- zero return codes are also displayed.*
ERRORS	*Commands which result in a non-zero error code are traced.*
INTERMEDIATES	*Clauses and all intermediate results of expression evaluation are traced (including values of variables, the results of function calls and expansion of compound names.*
LABELS	*Traces labels reached either in sequence or via flow control statements.*
NORMAL	*Default tracing mode. Similar to the ERRORS mode except that an error ceiling value (set using the OPTIONS FAILAT instruction form) is used to determine whether or not an error trace should be generated.*
OFF	*Tracing is turned off by this option although this situation can be overridden by ARexx's TS program.*
RESULTS	*Traces the results of every expression that is evaluated.*
SCAN	*Similar to ALL but it is a parse-only scan so the program does not actually get executed.*

Table 1: Options available with ARexx's TRACE instruction

THE TRACE INSTRUCTION

The syntax of this instruction takes the general form...

TRACE [symbol | stringS | [[VALUE] expression]]

which means that three basic forms of the instruction exist, namely:

TRACE symbol
TRACE string$
TRACE [VALUE] expression

where the symbol, string or expression must either represent (or reduce to) a positive or negative integer, or be one of the options (or a single letter abbreviation) shown in table 1. Negative numeric values, incidentally, indicate a 'suppression count', which turns ARexx's tracing off for a given number of clauses. A positive value given during interactive tracing indicates that a number of interactive 'pauses for input' are to be skipped over.

The trace output itself can be sent to one of three places: Directly back to stdout (which for programs launched from a CLI/Shell console is the CLI/Shell window itself); to a file associated with a standard error (stderr) file handle (this can of course be another console window); or to ARexx's Global Tracing Console (a special console which can be opened using the TCO utility program).

Before deciding where trace information should be sent, ARexx checks for the existence of an stderr file handle. If you have opened a window or file tied to this file handle, or have opened the Global Tracing Console (which is automatically attached to stderr), then ARexx will send its information to this destination, otherwise it will send its output through the standard output channel (stdout). The benefit of having trace information sent through a separate channel is simple – it avoids having trace output and normal program output intermixed at the same window.

Of course, what we need now is a few examples of these facilities in action to drive home the ideas. Needless to say this is exactly what's coming in the next issue!

Neil Mohr thinks some people really do seem to be living in a virtual reality

comms

Fantasy Net

It amazes me sometimes the gap that can appear between reality and the fevered overblown prattlings of some computer journalists. If you were to believe everything you were to listen to, we should all be living in this amazing place called Cyberspace, zooming at break neck speed down Magically raytraced tunnels, and around bizarre abstract worlds – all presented with graphics that would shame top-of-the-range Silicon Graphic machines. Not that you would have time to stop and admire such a drool-inducing scene as you could be having cyber sex with hundreds of luscious, pouting, ready and waiting sex vixens, from all corners of the globe.

Sounds good to me – I cannot wait to get a slice of that cake. Unfortunately, the reality is a little more down to Earth. Let's face it, you're lucky if you can load the NetScape page in under five seconds, but it seems that many people, when talking about the Internet, live in this possibly hallucinogenically-induced fantasy future.

The icing on the cake came when watching a certain British computer games show, and one guy uttered the words: "I'll just download this movie" and bamm, a QuickTime movie of Drudge Dread instantly appears. Apart from sending me into fits of laughter and swearing profusely, this sort of misleading action is exactly what is going to drive people away from using the Internet.

When actually asked how long it would take to download that movie, the journalist admitted it could take quarter of an hour for leased line users, and at least 45 minutes for normal home users. So what he was showing you was not a true representation of what you would look at on the Web.

All right, I hear you cry, I have just spent the last couple of paragraphs slagging off the Internet, so what good is it?

You want to find out the latest on the Galileo probe. When it was approaching Jupiter, NASA had up-to-the minute position data of exactly when it would reach the Jovian atmosphere. Have you seen the PAWS portable Amiga? Why not check it out at Blittersoft's new Web page.

This is what makes the Internet so useful – information. A great example of this was when I was trying to find anything said by Amiga Technologies at the Toaster Expo. My first port of call was the Amiga IRC channel. From here you can talk to anyone around the world in real time. Having found out that the Power Amiga would be using the MPC604, I thought it may be useful to find something out about it. Fire up your Web browser, go to any one of the available search engines – Lycos being my choice – and you quickly end up with a good selection of links to IBM and Motorola's Web pages.

The Internet and all the related services it provides are a great resource, and perhaps in the future some of the things will come to pass. Silicon graphics have produced a virtual web language which allows you to explore a three dimensional space over the Internet. I think many people may need to take a reality check, because it is fine for us with leased lines and free phone calls, but the public, the people who will make or break this thing, do not have these.

IBROWSE AVAILABLE

Well a demo at least. The much awaited and talked about Web browser, iBrowse, has finally hit the streets. The final program will be a commercial product so only an early cut-down alpha version is available for you to test for 28 days. Point AMosaic at http://www.omnipresence.com/ibrowse/ for all the latest iBrowse information, and the latest demo.

Even though iBrowse has taken a bit of a beating on IRC, my early impressions are very encouraging. Allowing multiple network connections, iBrowse can asynchronously load graphics for the current Web page. Even this cut-down version that only allows a maximum four network connections is downloading pages as fast as NetScape, and the final version allows up to ten connections. Along with a large improvement in windows scrolling and the fact it does not lock up when downloading information, iBrowse is set to be the premier Amiga Web browser. But hang on, what is this I hear about Amiga Technologies talking to NetScape? This could get interesting.

This is iBrowse. The little lights in the bottom right show the status of the four simultaneous network connections

USEFUL SITES

http://www.amiga.de/
Amiga Technologies – home of the Amiga. The new Amiga Technologies home page is now up and running in English. Find out all the latest news about the Amiga. Plenty of good information, including speech transcripts from Cologne and the Toaster Expo.

http://power.globalnews.com/ppchome.htm
PowerPC News – the PowerPC News home page. A bi-weekly look at the PowerPC world, possibly of interest as the Amiga has had a couple of mentions recently.

http://www.mot.com/SPS/PowerPC/
Motorola PPC HomePage – Motorola's PowerPC home page. You want to know anything about the PowerPC processor you can find it here.

http://www.chips.ibm.com/products/ppc/index.html
IBM PPC – the IBM PPC home page, more info on the PowerPC processor. IBM tend to concentrate on the future PPC range.

http://www.uroulette.com:8000/
URouLette – fancy adding a bit of spice into your life, then try URouLette. This will transport you to a random Web sight, and where you will stop nobody knows.

http://www.iam.com/
Intangible Assets Manufacturing – home of IAM. Find out about all their latest products and more.IAM have lots of Amiga networking experiance and is the home of the best disk salvage program DiskSalv.

http://www.mag-net.co.uk/Bsoft
BlitterSoft – find out about all BlitterSoft's newest product range, including the yet to be released PAWs portable Amiga kits, for the A600,A1200 and A4000.

http://www.team17.co.uk/
The Wonderful Team 17 Web Site! –and it is. Read about all Team 17's latest projects, and try them out to. Find out about Worms and AB3D special addition, looks damn good.

http://www.cs.colostate.edu/~dreiling/smartform.html
SavvySearch – a multi-search engine searcher. Increase your chance of finding a useful Web sight with this parallel searcher.

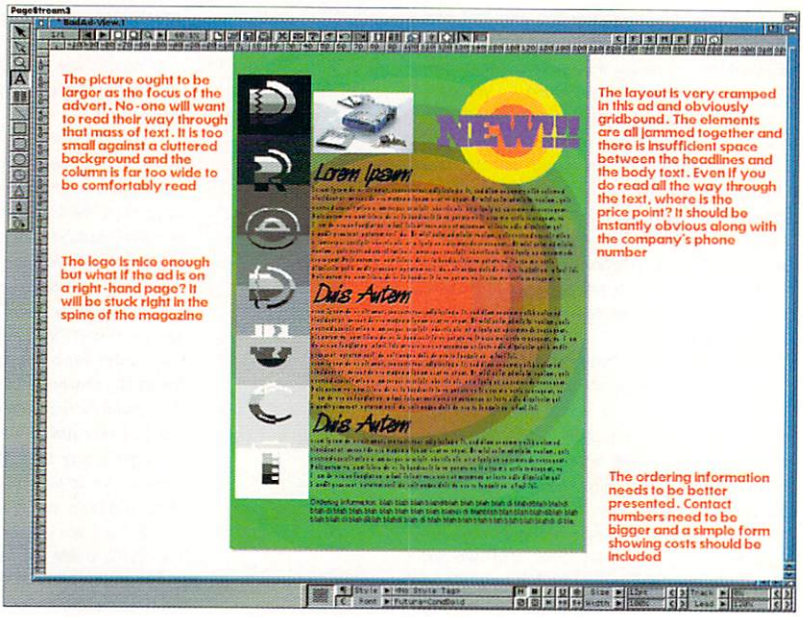
Frank Nord shows you how to avoid flaws in your adverts

The art of advertising

Anybody can lay out an ad that consists of a full-page picture overlaid with four lines of text telling the reader to contact blahdiblah on this freephone number, like those you see in the Sunday supplements, but most ads, particularly in *Amiga Computing*, aren't like that. They actually have to sell a large number of products to a skeptical, but targeted, audience.

As ever, price is of paramount performance and a lot of blurb about the product is usually unnecessary, unless, of course, it is a brand new bit of kit that no-one has seen before or it's a bit esoteric and deserves a word or two of explanation. In fact, we should be able to break down advertising in *Amiga Computing* into three distinct categories – those that have hundreds of products to sell, like games mail order houses or PD libraries, those that have between 10 and 50 products to sell, like most of our advertisers, and ads that only need to plug one or two items like the Gordon Harwood ad for Pro-Grab.

In the first instance, you can't really be too fancy with your layout, particularly if it distracts the eye from searching through the list of items for one that matches your customers' requirements. You should probably end up with a column format for the information, with boxes at the top and bottom of the page for the name of the company and ordering information. It's a bit tricky to comment further on these sort of ads as there is little room left for design elements, but make sure the reader can scan across easily from the title to the price, either by adding alternating coloured bars or by putting a line of dots across (PageStream 3 can do this automatically), and perhaps new items or special offers can be flagged with a different colour or a bolder typeface. The third example, single item ads, are the ones with the most design potential. You can do practically anything and sometimes this freedom can be disconcerting. The most important thing is to avoid the 'boxy' look that a lot of adverts produced on the Amiga achieve effortlessly. If you are only advertising one product, you can afford to spend the time and effort in order to make your ad look a bit special. Beware of using too many colours or typestyles. I know it has been said before, but it is a basic rule of layout that you shouldn't make your design too busy.



Too cramped, too much text. Not the best way to lay out an advert

There are ads in *Amiga Computing* (I won't mention any names) that are incredibly hard to garner any information from because they have colours running riot over the layout and text that is too hard to read. This is not the approach to take. First of all, sit back with a cup of tea or a whisky and plan out your page (or spread) on a piece of paper, just sketching in where you want things to go. Make a list of items that you want on the page, phone and fax numbers, e-mail addresses, price information, delivery details and so on. If you take credit cards, find the relevant images for those you accept and if you can't find any, try the magazine your ad will appear in – they will almost certainly have some. Of course, if you are producing the magazine your ad will appear in, then you'll just have to draw some for yourself in DPaint or, preferably, ProDraw.

Bear in mind the differences between mono and colour artwork if you are producing an ad that will appear in someone else's magazine, and make sure you speak to the magazine's art department well in advance about deadlines if you propose to send them an Amiga DTP file for output. Most magazines have never heard of ProPage or PageStream, so will be suspicious of taking on a file from one of these packages. The problems continue for the Amiga DTP'er as neither ProPage nor PageStream produce files that are even remotely compatible with QuarkXPress or PageMaker.

Probably your best bet if you are dealing with a large magazine is to lay out your ad as you want it and then send the pictures, logos, etc. to the magazine along with a printout (preferably in colour) of your ad for the art department to work from and lay out in the DTP package of their choice.

We'll continue with some of the themes that can be used for your adverts next month and go into more depth on the topic, but until then, be cool.

More appealing to the eye is this ad with less text and more white space

PAGESTREAM PROGRESS

Not much this month. I haven't heard from Soft-Logik for a while and there's been no news on 3.0i, so I can only assume that no news is good news and they are busy beavering away on it even as I write this month's column. More news as soon as I get it...

Phil South shows you how to emulate more arcade game techniques using the not so cheesy Amos

No 1 with a bullet

Flags, eh? I bet you don't think about them or give them a second thought, do you? You don't have the slightest idea what I'm talking about, do you? Well, a flag, for the purposes of this discourse, is a variable which is set to indicate to a program that a certain state exists. So when the flag is set, something has happened that the program should know about, and more importantly doesn't need to check for again. Until, that is, the state changes, in which case the flag is changed and the program then starts checking for that state again. Confused? Okay let's use an example.

In arcade games, you fire a bullet from your gun/ship/laser/whatever. The program checks the fire button and if it's on it activates and moves a bullet sprite across the screen away from the gun, it activates the sound effect of the gun going off, and it tracks the bullet across the screen until it hits something.

So you make a loop to check for the button on the joystick being pressed. Simple enough, yes? Well, the first thing you notice when you write a routine like this from scratch is that when you press the button the loop checking for the button press goes round about 50 times a second, so when you shoot you get a horrible staccato buzzing noise and the bullet doesn't actually leave (or the buzzing noise stop) until you've released the button.

The buzzing noise is the bullet sound, the bang, being played many times over and over very fast. The reason the bullet doesn't leave the barrel is that it starts its journey every time the button is sensed to be in the down position. So how do you make the button press once and only once? Now you're getting the idea. You use a flag. Take the following example:

```
If Fire(1) Then Sam Play 1 : Bob 2,SX,SY,2 :
MX=SX : MY=SY
Add MX,5 : Bob 2,MX,MY,2 : If MX>SX+100 Then Bob
Off 2
```

That's simple enough. Sense the joystick, make a bang (in this case a nice sample), then move the sprite two pixels at a time from the barrel to the edge of the screen in a straight line. If it gets 100 pixels away from the ship without hitting something it gets turned off. But this routine suffers from buzzing and no bullets. The better way of doing it is:

```
If Fire(1) and MISSFLAG=0 Then Sam Play 1 :
MISSFLAG=1 : Bob 2,SX,SY,2 : MX=SX : MY=SY
If MISSFLAG=1 Then Add MX,5 : Bob 2,MX,MY,2 : If
MX>SX+100 Then Bob Off 2 : MISSFLAG=0
```

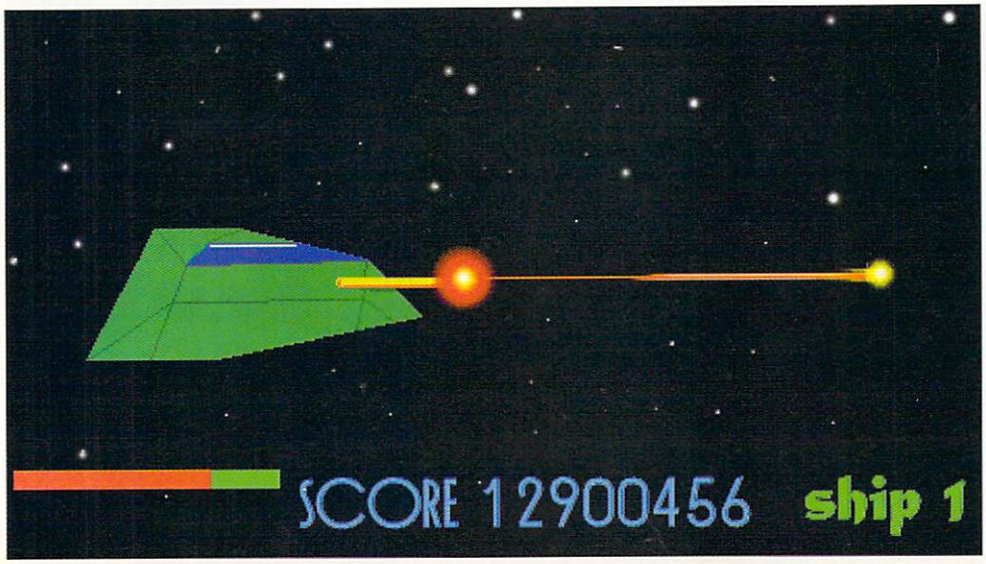
In this version, when the button is pressed the flag MISSFLAG is set from 0 to 1. In the next line the missile is moved only if MISSFLAG is still 1. Until the missile moves 100 pixels away from the barrel, the flag is still set, so the fire button is dead. You only fire one shot. When the first missile vanishes (you could explode it, but in this case it just vanishes), you can then shoot another. Obviously, you could vary the timing so that you can add a multiple shot, perhaps, or make it a second (or 50/50ths of a second) or even half a second between shots, enabling the player to get his finger off the button.

This is an extremely useful technique and one which answers a lot of those questions you ask, like "how do you do that?" Nine times out of ten the answer is either flags, subroutines or vectors. A side benefit of using flags in your Amos programming is that these techniques are used quite a lot in the worlds of C and assembly programming. So as and when you move on to those languages, as you might in the course of time, you will be prepared for at least one cool trick.

Over to you

Why not send me your examples of flags, and interesting uses to which they can be put. Making a process easier, showing the program that states have changed, even some interesting flip-flop effects (I'll be going into those another time) – anything really as long as it's about 10 lines of code or less and it includes a flag or two. I'm particularly interested in graphic effects, but timing and more mundane task are acceptable. Perhaps there is an interface problem you can solve with these flags?

Look into it. I'll look at the best in a month or two. In the meantime I'll see you next month for another arcade game routine which you'll find handy when you design your own version of an arcade classic.



If you carefully follow Phil South's instructions you will soon have ships shooting from the hip – or somewhere

Write stuff

If you have any other Amos programs or queries about Amos, please write to the usual address, which is: Phil South, Amos Column, Amiga Computing, Media House, Adlington Park, Macclesfield SK10 4NP.

Please send routines on an Amiga disk with notes on how the program works on paper, not as text files on the disk. Make the routines short enough to appear in print, i.e. no more than about 30-40 lines of code and, if possible, make them use no external graphics, or if they can't be used without them then be sure to provide them on the disk in native IFF format, and the same goes for sound files. Follow these guidelines and you'll be sure of making me a happy man if nothing else.

Paul Overaa looks behind the scenes at a new Amiga music project with a difference

The sound of music?

Amiga users are soon going to be introduced, initially via mail order advertisements, to a company called Tangent Music Design and a compact disc (and twin cassette) album called Everybody's Girlfriend. What has this to do with the Amiga music scene? Quite a lot – you see the three partners of Tangent Music are none other than Edward Fermor, Richard Knox... and David Pleasance who, as you'll all doubtless know, was Managing Director of Commodore Business Machines UK until Escom GmBH purchased the worldwide assets of the Commodore group and the UK branch had to close.

What you probably will not know is that David Pleasance is also a musician, a guitarist in fact, with a particular passion for Flamenco. He's had his own Flamenco dance company, has studied guitar in Spain, and has appeared in concert, cabaret and on TV, supporting people like John Farnham and Gallagher and Lyle.

Amiga is actually Spanish for girlfriend and the Everybody's Girlfriend album is then essentially a celebration in music of ten years of the Amiga, with the 14 tracks being inspired by the Amiga, recorded using Amigas, and written and produced by people who know the Amiga.

This first album provides a chance to hear something of the musical talents of David Pleasance. Everybody's Girlfriend was in fact David's brainchild, with the initial planning of the project beginning around November of 1994. Recording, which did not start until September of last year, has been carried out using Amigas running the Blue Ribbon Soundworks Bars & Pipes sequencer, and the Sunrise Studio 16 8-track, 16-bit digital recording system. When it comes to professional recording, however, not even Amigas can work in total isolation and, needless to say, Tangent's 32 channel, 24-track digital recording studio also has its fair share of other hi-tech equipment scattered around. There's a Soundcraft DC2000 fully automated desk, and two Tascam DA88 recorders which link to the Amiga-based Sunrise Studio 16 system. Everything gets mastered to a Tascam DA30 MKII DAT which can then be recorded to a Marantz DD82 DCC, a Sony TCK611S, and to Phillips recordable CD (which is linked incidentally to an Amiga 3000T). If you also add the massive assortment of outboard effects, sound modules and samplers, including a Roland JV1080, Roland S760 and a Korg Wavestation SR, Genelec monitors in the control room, Spirit Absolute 2s in the studio and so on, then it's hardly surprising that things sound good.

There is, incidentally, also a small satellite studio available which pincludes an Amiga 4000/030 running Bars & Pipes where many of the ideas for the new Tangent Music album started life. This in itself should be of interest because this latter type of setup is typical of that which can be found in the home studios of many Amiga-based musicians.

David Pleasance: The former boss of Commodore UK turns his hand to the music industry

THE ALBUM

I've been one of the few reviewers lucky enough to get a sneak preview of the tracks on the Everybody's Girlfriend album. It's quite an impressive mixed bag with the music and lyrics for all except four of the tracks being attributed to a band called 'Passion', who turn out to be Tangent's Ed Fermor and Richard Knox, both of whom are established session players. Ed also has lots of TV and video work under his belt and in 1993, for instance, accompanied the renowned deaf percussionist Evelyn Glennie on a world tour. Richard, a singer/songwriter/keyboard player, has played and recorded both in the UK and the States and, as well as various TV appearances, also has a number of film credits to his name.

Richard Knox does a good job with the main vocals on half a dozen of the tracks, although there is a particularly good raunchy number called 'Lay You Down' which features P J Philips and Angie Brown on vocals. You'll also find an interesting raw blues track, and a few instrumentals including an excellent David Pleasance Flamenco track 'Para Mi Amiga (Homage to Jay Miner)'. You might like to know, incidentally, that David's personal favourites from the album are the pop song Don't Let Me Fall, the love song called Roses, and an instrumental track, Infinity!

I should think that the fact that David Pleasance is both executive producer on the Everybody's Girlfriend album, and one of the musicians, is going to be enough in itself to make this offering a bit of a collectors' item amongst Amiga owners. When you add to this the fact that the album will show you exactly what can be done music-wise with an Amiga sequencer, I suspect Tangent Music are going to be onto a sure-fire winner with this new project!

Facts and figures

Compact Disk £11.99
Twin Cassette £10.99

Credit Card Hotline – Tel: 0181-573 5614
Postal Orders to:
'Everybody's Girlfriend', Tangent Music, Dial House, Unit 6, Peter James Business Centre, Pump Lane, Hayes, Middlesex UB3 3NT

Steve White explains how you can make your object brushes dance to your tune

Twist and turn it!

So far we have studied the basic principles of picture design, backdrops and special effects. This month, and for the next few issues, we will be looking at animation principles and specific techniques applicable to animation.

Obviously, drawing single images is a lot less painless than creating an animation, but most reputable art packages include a plethora of different functions that make animation on a computer a hell of a lot easier, and quicker, than that on paper. Unfortunately, understanding the techniques can take a while and even then, applying them correctly can prove a recurring nightmare. So for simplicity's sake, I won't be going into the Nth dimension to explain these functions but will provide simple techniques with results so that you have a head start for your own experimentation.

Just as with a single image, it is vitally important that you put your animation down on paper first in the form of storyboards. Storyboards are small roughs of the key elements, scenes and camera angles within an animation. You don't need to draw in detail, just enough so that you personally understand what it is you're planning and how it works.

Rendering options

The next thing to do is work out what animated effects are included and the best options for rendering (drawing) them. To pinpoint certain aspects I will be referring to the animation shown here in the screenshots. The techniques explained can be employed in many different ways and with any animation, not just the one I have supplied.

At the computer, the first thing to do is to design all the objects that will make up your completed anim (short for animation). Although it is more appealing to actually design as you go, I can guarantee you'll eventually wish you hadn't. Create all the objects and save them independently with suitable filenames. If you end up with a lot of objects and they're not properly labelled, you end up wasting precious time and freaking out regularly. With the boring bits out of the way you can then simply click all the pieces together and you'll feel happier, and more confident, spending time getting the finished animation accurate.

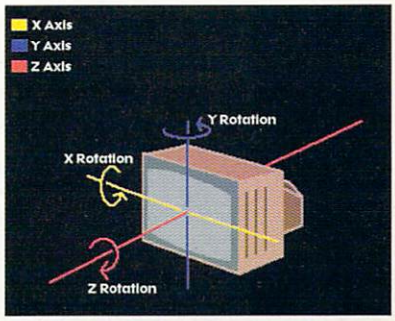
Building an animation is a relatively painless procedure if you stick to the tried and tested methods. Ignore these methods and you're in trouble

Both Deluxe Paint and Brilliance feature a comprehensive set of animation functions. Good brush manipulation is essential for speed and flexibility

Both Deluxe Paint and Brilliance have powerful Move functions. They allow you to set the initial start position of the brush, the end position, as well as any rotations you want to occur throughout the procedure. There are three important values for both position and rotation and these are labelled x, y and z. The x and y are the easiest to explain and understand. With x you can move your brush in the horizontal (left and right) and y allows you to move the brush in the vertical (up and down). If you are moving clouds or a ship you would use the x position, and to move a lift or a helicopter you would use y.

Z is a different matter altogether. If you can imagine a line travelling straight through the centre of your screen, you will have discovered the z axis. When you realise that z moves brushes closer and farther away it is easier to visualise this imaginary line. The position of a brush has two uses – for moving objects or for camera pans. If you move a car off screen from a standstill then it will be clearly obvious that the object has itself moved. However, if you move an entire scene off screen then it will appear that the camera has in fact moved (panned) rather than the scene. The same principle also applies to z. You can appear to move an object closer or farther away but by moving the entire scene you give the impression that the camera is zooming in or out. Sorry to go on about x, y and z, but they need to be understood if you are maximise your potential with computer-aided animation.

X, y and z also feature with rotation as well as position. Using rotation you can turn your brush in every angle while the brush is being moved through the position axis' settings. Rotation is more difficult to grasp than position but if you can imagine the x, y and z position lines on your screen, rotation simply rotates the brush around the corresponding axis, like an apple skewered on a stick. I have supplied a screenshot indicating the position and rotation axis, so if you still can't quite grasp the idea take a look at it.



This picture should illustrate to you the x, y, z position and rotation lines using your monitor as an example

From start to finish

When zooming objects in you'll quickly realise that the pixels that make up the object turn 'blocky' as they are magnified. There is a way around this which entails drawing the original object at its largest size. You can then set the animation position to the last frame in the zoom and render the brush zooming out, but with the animation running backwards and with a positive value in the End z position.

Gary Whiteley offers some helpful advice for would-be Amiga DTV'ers

video

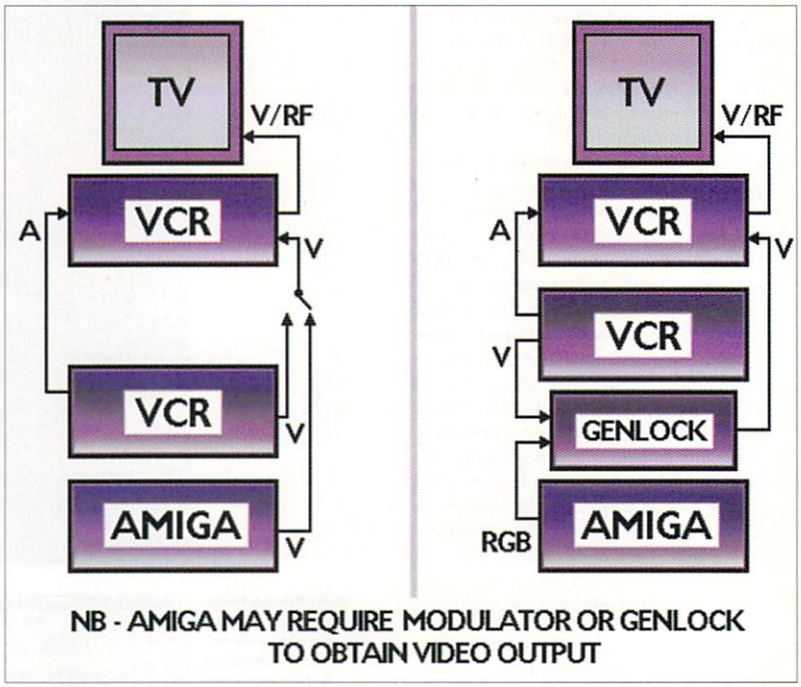
Titling for beginners

Since I've given you all that font information over the last few months, and hinted at some of the ways you can use fonts for video titling, I thought it might be a good idea to go over the basics of video titling hardware, what you need, how it's connected together and what you might achieve with a basic setup. I'll keep it as simple as possible for those of you with the yearning, but not yet the knowledge, to add graphics and titles to your own videos, such as holiday films, weddings and family events.

If you have an Amiga with its own colour video output (such as the Amiga 1200) then you already have a machine with which you can do simple titling and graphics to video. You probably realise that you can use either the RF or video outputs to display your Amiga programs on a suitable TV, but did you know that you can also use them to record the output from your Amiga to video? The simplest way is to connect the A1200's RF output to the aerial input on your VCR, and then monitor it via your TV in the usual way whilst you record or prepare graphics, though the picture quality won't be marvellous.

Crossovers

Add another VCR in place of the Amiga and you can copy sections of your production across and make an edit from your original video footage, cutting out all the worst parts. If you want to add a title or graphic simply reconnect the Amiga to the record VCR (the one you're editing onto), use your favourite paint or titling software to make your graphics, and then record them. The quality of the edits you'll get with such a system will be rather hit and miss, since there's no way to control the accuracy of the cuts, so 'glitches' are likely to occur, but for almost no outlay (provided you can get your hands on two VCRs, one of which could be a camcorder) and a TV or two (a second TV is useful for cueing up the playback VCR, though not totally essential) you can at least experiment with video titling from your Amiga.



Two basic systems for amiga video titling and graphics

Incidentally, if your VCR has a composite video input in addition to the standard RF you'd be better advised to use it if possible, since the quality will be better than RF. If your video has a SCART connector you can always buy a suitable set of leads to connect from the A1200's phono video output to your VCR's SCART socket.

Owners of most other Amigas won't have it so easy. Inexplicably, for such a DTV-friendly machine, most of the other Amigas in circulation don't have an RF or colour video output, so you'll have to add one in the form of either a modulator, genlock or encoder card, depending on your needs, your budget and the type of Amiga you have.

Each of these devices connects to the Amiga's RGB port and convert the Amiga's native RGB signal to one or more forms of video signal, for instance RF, composite video, or SVHS. Genlocks allow computer graphics to be 'keyed' over background video, enabling text or graphics to be superimposed directly on top of video pictures. In simple terms, this means that wherever the background colour (palette Colour 0) occurs, the video image will show through behind the graphics, though some genlocks permit other colours to be used as their background key colour.

Modulators and encoders simply convert RGB to video and cannot usually provide any superimposition or other genlock functions. They are usually used to take the Amiga's display to a TV or monitor, or to provide a video signal for recording and/or further manipulation. Note that an encoder will generally provide a higher quality output than a modulator, since they are built with video in mind, rather than TV display.

If you hadn't already realised it, you'll also need two VCRs if you want to use a genlock. One VCR provides playback for the source video, which in turn is needed to 'genlock' (in other words, synchronise) the Amiga's display timing to that of the incoming video signal, while the second VCR is necessary to record the composited graphics and source video from the genlock's output.

Single connection

In addition to its overlay functions, the advantage of using a genlock is that you don't have to keep reconnecting equipment, since it can output either Amiga graphics, incoming video, or a combination of both, so if you just want to edit picture only simply switch the genlock's output to Video Only.

However, a genlock still won't cure glitchy edits, since it doesn't affect the way that two (unsynchronised) VCRs relate to each other whilst editing. In fact, without a proper editing system which synchronises the two VCRs, you shouldn't expect either split second accuracy or perfectly clean edits. Remember that you're working on the cheap, so bear this in mind before you get depressed wondering why your £1000 cobbled-together video edit suite can't compare to a £10000 Pro-SVHS or £30000+ BetaCam system.

Contact point

You can e-mail Gary Whiteley as drgaz@cix.compulink.co.uk

Paul Austin explores the on-line offerings for the 3D enthusiast

3D graphics

The invisible resource

You could be forgiven for thinking that the Amiga on-line experience consists of Aminet and not much else. However, the reality is very different. Take a trip to ***The Amiga HomePage*** and you'll soon realise there's a lot more on offer to Amiga folk than the world's biggest PD and Shareware archive.

For 3D fans specifically the real heart and soul of the web has to be the Tomahawk site which can be accessed in all its glory via the web courtesy of the WaveRider Homepage.

From here the casual browser gets access to a truly massive collection of models, textures, images, hints, tips and just about everything imaginable for hard-core LightWave fans.

Thanks to some thoughtful page design WaveRider can be used as a jump point to just about everything of note when it comes toLightWave on-line.

Needless to say you're free to browse the finer points of the Tomahawk ftp archive, but in addition you're given the option to link up with various other Amiga 3D oriented ftp sites, and even the odd gopher site gets a mention and potential hotlink.

Obviously models and modelling add-ons available from the ftp site ar at the top of most people's shopping list. And true to form WaveRider offers a concise and friendly means of listing and subsequently accessing the goodies on offer via a excellent hot linked index.

To add even more user friendliness to the WaveRider experience the site is about to implement a Java oriented on-line preview of the models available from the archives.

Soon anyone kitted out with a suitable Java compliant browser will be able to audition the models on offer actually on the site, prior to committing to what can often be a very sizeable download. If you're in the market for lots of LightWave freebies WaveRider is simply too good to ignore.

LightWave contacts

WaveRider	http://tomahawk.welch.jhu.edu/
Newtek	http://www.newtek.com
Engulf & devour	http://is.eunet.ch/People/ahd/home.html
Digital Dream	http://uptown.turnpike.net/H/Herbert/
Imaginative Systems	http://199.234.150.15/
Long Island Media Group	http://www.li.net/~rlhomme/limg.html
The New Graphics BBS	http://www.graphics.rent.comi/
Side FX	http://www2.hunterlink.net.au/~ddrjb/
Electron Dreams:	ftp://ftp.pd.org:/pub/edreams/lw

The Imagine angle

Although perhaps not offering the technical excellence of WaveRider, Ian Smith's Homepage certainly does its bit for Imagine users on both the Amiga and PC.

Thanks to Ian's efforts as a Shareware author, Imagine fans can download a very respectable collection of add-ons, textures and utilities, with notables being Ian's own creations which include a collection of nine algorithmic textures and a variety of support programs, including a texture interface and assorted file conversion tools.

Add to that an excellent sub-page entitled 'The big List of Imagine Tools' and you arrive at an invaluable resource for Imagine fans on both Amiga and PC. Split into two categories, 'The Big List' offers a collection of texture sets and add-ons plus an impressive range of even more format conversion tools allowing object transfers between Imagine, LightWave and Real 3D.

Imagine contacts

Conny's corner	http://www.is.kiruna.se/~cjo/
Imagine mailing list	http://www.is.kiruna.se/~cjo/rt-iml.html
IML faq	http://www.is.kiruna.se/~cjo/faq7/main.html
Dare 2 Imagine	http://www.is.kiruna.se/~cjo/d2i/main.html

Real 3D

Last but not least in our on-line extravaganza comes the good old Real 3D. Basically the format is a familiar one, with the best jump point being offered by the Official Real 3D Homepage.

From here you can hotlink to a variety of sites. However, be warned – this is a media rich site which demands a fairly quick connection. Leaving aside an assortment of sexy graphics and commercial plugs for the software, the real highlights come from a sub-page creatively entitled 'Other.' From here you can link up with the various resources floating around in the electronic ether. Needless to say, given the inherent complexity of the package, joining the mailing list is a particularly wise move.

Aside from the Real 3D specific stuff, the official site also boasts an impressive collection of links to more general 3D-related web resources, all of which are well worth a visit regardless of the allegiance to a particular package or platform.

Real 3D contacts

Real 3D Homepage	http://www.real3d.great.fi/
MSA Real3D Homepage	http://www.msassoc.co.jp/msa/ereal3d.html
Real 3D Activa	http://www.win.net/~real3d/

The sites, resources and URLs spotlighted in this column are by no means the whole story when it comes to Amiga-related 3D on the web. Having said that, they should offer a useful introduction to what's on offer. When you've got the time, be sure to check out the assorted contacts panels – they'll all lead you to even more sites software and assorted goodies. Have fun...

A demo download that proves there's more to the Amiga on-line experience than bucket loads of assorted shareware

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CBM 1084 Monitor	299
CBM 1084S Monitor	299
CBM 1950 Monitor	299
CD Solutions 2001 20" Multiscan RGB Monitor	1799
CD Solutions 1401 14" Multiscan RGB Monitor	549
CEI 1962 14" Multiscan RGB Monitor	449
Play Kitchen Sync Dual TBC	1199
Newtek Video Toaster 4.0+	1995
Newtek Video Toaster Upgrade 4.0+	599
Newtek Lightwave 3D 4.0 Standalone	775
Newtek Lightwave 3D 3.5 Standalone	599
Newtek Lightwave 3D 3.5 Upgrade	99
Newtek Video Flyer 4.0+	3995
Noahji's Vlab Motion Card	1595
Noahji's Vlab Motion System (Toccata)	1995
Noahji's Vlab Motion Complete (T&RZ3)	2749
Noahji's Retina Z3 w/4MB	795
Noahji's Retina Z2 w/4MB	519
Noahji's Toccata Sound Card	425
Noahji's Vlab Y/C Internal / External	389
Nucleus Personal editor v1.1	589
Nucleus Personal SFC Plus v3.1	359
Sunrise Industries AD516 Digitizer (16bit)	1199
Villagetronic Picasso II w/2MB	399
Villagetronic Pablo Video Encoder	175
YC Plus - Y/CPlus SVHS Hi8	749
Cybervision 64 Z3 2MB	469
Cybervision 64 Z3 4MB	599
RockGen Plus Genlock	199

SOFTWARE

ASDG - Art Department Professional v2.5	149
ASDG - TRex Professional v2.15 (Toaster)	119
Caligari - Caligari 24	119
Cine Graphics - Powermacros for Lightwave	99
Crestline - Humanoid for Imagine	169
Crestline - Humanoid for Lightwave	169
Dimension Technologies - Composite Studio Pro	169
Dimension Technologies - Fly Effects	169
Dynanic Reality - Impact!	199
Electronic Arts - Deluxe Paint V	119
Focus - GraphicRECALL v1.5	51
Hester - Plug Ins & Go	69
Impulse - Imagine 3.0	319
Innovision Technology-Alpha Paint	549
Innovision Technology-Broadcast Titler II S.HiRes	189
Magic Lantern v2.0	74
Metrografix - Motion Master Volume 1	99
Metrografix - Motion Master Volume 2	99
Metrografix - Sparks v2.173	119
Nova Design - Image FX v2.0	249
Photogenics	119
Play - Brilliance 2.0	79
Prime - Multilayer v1.7 for ADPro	79
Prime - Multilayer v1.7 for Image FX	79
Questar - World Construction Set	169
Radiosity - Wavemaker v2.0	185
Realsoft - Real 3D v2.4	389
Scala Multimedia MM300	199
Sports Object for Lightwave	49
Syndesis - 3DROM Vol 1	84
Syndesis - 3DROM Vol 2	84
Synergy - Hollywood FX	224
Synergy - Hollywood FX Lite	49
Swipes	89
Visual Inspirations - Visual FX for Lightwave Vol 1	114
Virtual Reality Studio v2.0	69
Pixel 3D Professional v2.0	169

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GVP PC286 (GVPA500+ & A530Turbo)	99
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520 Video Adapter (works w/ all systems)	29
2 MB Ram For 2091 (256x4 dips)	96
2/3000 internal low density disk drives	79
500 internal low density disk drives	39
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2/3/4000 external high density disk drive	139
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1/2/3/4000 5/6/1200 Power Supply	CALL
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2232 seven port serial card	299
2091 HD Controller card w/0MB	199
3640 68040 @ 25mhz for the 4000/3000	399
2630 w/2MB or 4MB (A2000 Accelerator)	399/499
2620 w/2MB or 4MB (A2000 Accelerator)	149/199
501c 512K ramboard w/clock	34.95
601c 1mb ramboard w/clock	69.95

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68040-25 w/MMU&FPU	149.00
68040-EC25	129.00
68030-RC-50 w/MMU	139.00
68030-RC-40 w/MMU	119.00
68030-EC40 (NO MMU)	99.00
68030-RC-33 w/MMU	99.00
68030-RC-25 w/MMU	75.00
68030-EC-25 (NO MMU)	50.00
68882-RC-PGA-50 FPU	99.00
68882-RC-PGA-40 FPU	89.00
68882-RC-PGA-33 FPU	49.00
68882-RC-PGA-25 FPU	45.00
68881-RC-PGA-25 FPU	35.00
68882-FN-PLCC 40 FPU	129.00
68882-FN-PLCC 33 FPU	49.00
68881-FN-PLCC 25 FPU	35.00
68881-FN-PLCC 16 FPU	25.00
80387-25SX (386BB) FPU	69.95
Crystal Oscillators	10.00
68040 Heat Sink	25.00
Intel 486 DX2 - 66	175.00
Intel 486 DX2 - 50	145.00
Intel 486 DX 33	135.00
Intel 486 SX 33	99.00

MEMORY CHIPS

1 x 8	120 - 60ns SIMMS	39+
1 x 9	120 - 60ns SIMMS	45+
4 x 8	120 - 60ns SIMMS	129+
4 x 9	120 - 60ns SIMMS	139+
1 x 4	120 - 60ns Static ZIP	19+
1 x 4	120 - 60ns Page ZIP	19+
1 x 4	120 - 60ns Page DIP	39+
1 x 1	120 - 60ns DIP	5+
256 x 4	120 - 60ns DIP	5+
256 x 4	120 - 60ns ZIP	5+
256 x 32	100 - 60ns (1MB Simm)	39+
256 x 36	100 - 60ns (1MB Simm)	45+
512 x 32	100 - 60ns (2MB Simm)	85+
512 x 36	100 - 60ns (2MB Simm)	99+
1 x 32	100 - 60ns Simm (4MB)	149+
1 x 36	100 - 60ns Simm (4MB)	159+
2 x 32	100 - 60ns Simm (8MB)	299+
2 x 36	100 - 60ns Simm (8MB)	319+
4 x 32	100 - 60ns Simm (16MB)	599+
4 x 36	100 - 60ns Simm (16MB)	639+
8 x 32	100 - 60ns Simm (32MB)	999+
8 x 36	100 - 60ns Simm (32MB)	1199+
16x32	100 - 60ns Simm (64MB)	2299+
PCMCIA Ram Card 2M		119+
PCMCIA Ram Card 4M		229+
GVP SIMM32 60NS 4MB		199+
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GVP SIMM32 40NS 1MB		129+

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3.1 Upgrade kit (roms, soft, mans)	199.00
3.1 Upgrade kit (pick two)	125.00
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2.1 OS Upgrade Kit (soft,manuals)	79.95
2.05 Kickstart Rom	27.95
2.04 Kickstart Rom	27.95
1.3 Kickstart Rom	12.95
1MB Agnus (8372A)	37.95
2MB Agnus (8372B)	99.95
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Super Dmac (rev 04)	54.95
Amber (A3000 & 2320)	44.95
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2091 upgrade kit (7.0)	35.95

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Diagnostic software & hardware for problems

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DPS PAR (IBM)	1699
DPS PAR (Amiga)	1549
w/Conner 540MB	+249
w/Conner 1275A 1.2G	+399
w/Micropolis 2217A 1.7G	+999
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Personal VScope	735
Personal Componet Adapter	229

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- Includes SCSI I & II Fastest hard drive controller available for the Amiga 4000/3000
- Up to TEN megabytes per second with a Seagate Barracuda 2.1 gigabyte hard drive
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68040 @ 28Mhz w/o CPU	(4028)	799	68040 @ 28Mhz w/CPU	(3028)	895
68040 @ 33Mhz w/CPU	(4033)	999	68040 @ 33Mhz w/CPU	(3033)	999
68040 @ 40Mhz w/CPU	(4040)	1199	68040 @ 40Mhz w/CPU	(3040)	1199

Low profile, power & heat simms for maximum performance -
04 MB 60NS $149
08 MB 60NS $299
16 MB 60NS $499
32 MB 60NS $999

Upgrade rebates for A4000-040 owners with original CPU card & four mb simms & A3000 owners with zip style dram

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5.25" HH 44MB DRIVE (SQ555) SCSI	149
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5.25" 44MB Cartriges	41
5.25" 88MB Cartriges	51
3.5" 105MB Cartriges & 270MB Cartridges	59
5.25 200MB Cartriges	79
External Versions w/Cabling Add	99

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Model	Buffer Size	Access	Rate	Amount
Hitatchi External	64k	320MS	150k/sec	89
Sanyo Int / Ext	256k	380MS	300k/sec	149/199
NEC 3Xi Int / Ext	256k	195MS	450k/sec	199/249
NEC 4XPro External	256k	120MS	600k/sec	299
Sanyo 4x Int / Ext	256k	120MS	600k/sec	239/299
Toshiba 4.4x Int / Ext	256k	120MS	660k/sec	329/379
Plextor 4x Int/Ext	1024k	120MS	600k/sec	415/465
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68030@25Mhz CPU w/MMU
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Only 299.00
w/4MB 399.00 w/8MB 599.00

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68030 @ 33MHZ with MMU
68882 @ 33MHZ (Math Co Processor) **399**
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Install up to 32MB of 72 pin industry standard ram
Ours is the only one to come standard with the modification to work with the DKB Megachip
(a $25.00 value if purchased seperately)
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68882 @ 50MHZ (Math Co Pro add 99.00) **499**
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***** BLOWOUT SPECIAL *****
9 MS - 1060MB - 5 Year Warranty
up to 10 MB/Sec Synchronous
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Works great with all controller cards!
$325.00

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850 LPS SCSI I & II or IDE	14MS	3 Yrs	239
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2.1G Capella 5400RPM 512k	8MS	5 Yrs	675
*2.1G Atlas 7200RPM	1MB 8MS	5 Yrs	849
*4.3G Atlas 7200RPM	2MB 8MS	5 Yrs	1349

Seagate

ST3145A 120MB IDE LP	16MS	1 Yrs	99
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ST31220A 1080MB IDE LP	9MS	3 Yrs	249
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ST31230N 1050MB SCSI LP	9MS	5 Yrs	375
ST32550N 2.1G Barracuda	8MS	5 Yrs	975
*ST15150N 4G Barracuda	8MS	5 Yrs	1349
*ST410800N 9G Elite	11MS	5 Yrs	2295

Quantum 4.3GB SCSI I & II
512k Buffer - 3.5" - Grandprix
10 MB/ Sec Sync - 5 Year Warranty - 1049.00

Micropolis

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*3221S 2.1G SCSI I&II	8.9MS	5 Yrs	999
*3221 A/V 2.1G SCSI I&II	8.9MS	5 Yrs	999
*3243S 4.3G SCSI I&II	8.9MS	5 Yrs	1299
*3243 A/V 4.3G SCSI I&II	8.9MS	5 Yrs	1399
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CFA 1275A IDE (w/PAR)	12MS	3 Yrs	399
CFA 850A IDE	12MS	3 Yrs	265
CFP 540A IDE	12MS	3 Yrs	199
CFA 540A IDE (w/PAR)		3 Yrs	225

* Video Flyer Certified Drives

Hard Drive Controllers

Commodore A2091 w/0MB Ram	199
(For the A2000) w/2MB Ram	279
- Includes 7.0 Roms & WD rev 8 SCSI chip two megs of additional rams can be added	
Trifecta 500 LX w/0MB expandable - 8mb	225
- Controls seven scsi & two ide drives at the same time. Fastest transfers for A500	

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ST9190A 170MB Seagate	125
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ST9300A 260MB Seagate	239
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Install kits available $25.00

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Interworks ENLAN-DFS (Five node licence)	299
CBM A2065 Ethernet board	299
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Three network interfaces for 2000,3000,4000
- 10 BASE T, Thick AUI, Cheapernet (10BASE2)
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Dataflyer SCSI Card 4000SX 90
- SCSI Controller card supports up to seven devices internally, can add external port later

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- Includes the DB 25 external connector for external devices

Dataflyer SCSI + A4000 119
- Converts IDE Header into SCSI support for SCSI devices w/ pass thru to work with original IDE drives you already own!

Dataflyer SCSI + A1200 99
- Same thing for the A1200 series systems

Dataflyer XDS 1200 / 600 69
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Ramboard w/2MB Ram exp to 8MB 199

Dataflyer 2000 SCSI 95
- Supports up to seven scsi devices , internally mount a 3.5" hard disk drive onto controller card

Dataflyer 2000 IDE 95
- Support two IDE devices, one can be mounted onto controller card.

Dataflyer 2000 SCSI & IDE 125
- Two controllers in one card! Support seven SCSI and two IDE devices!

Dataflyer 500 SCSI 149
- Supports Seven SCSI devices , one can be mounted internally and powered!

Dataflyer 500 IDE 149
- Supports two IDE devices , one can be mounted internally and powered.

Dataflyer 500 SCSI & IDE 179
- Supports two IDE devices , one can be mounted internally & seven scsi devices can be connected!

VILLAGETRONIC

MainActor Professional 79
- Full featured animation program that works with all Amigas with support for Picasso II owners.

Ariadne 299
- Zorro II Ethernet card offering 10base-2 (cheapernet) & 10base-T (twisted pair) Features; 2 parallel ports 32k buffer; boot eprom option; SANA-2 Compatible drivers & Envoy network software; DOS 2.04 or higher required.

Liana Network 89
- Connects any two Amigas togeather via the parallel port

Pablo 179
- A video module for your Picasso II card permitting output to your TV or VCR - Quality comparable to high performance video broadcast encoders; includes RCA - S-VHS - SCART cables & 24 bit animation program

Micro R&D

2000 Bigfoot Power Supply	159
1200/600/500 Bigfoot	89
Slingshot A500 (1A2000Slot)	39
Slingshot Pro A500	69
X-Calibur A4000 Ram Unit	649

ICD

AdIDE 130MB HD System w/2.5" Drive (500/2000)	225
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A2000 68060 @ 50MHZ !!!

DKB's WILDFIRE 060 w/FAST SCSI II & 64bit ramboard $1499

Low profile, power, heat simms for maximum performance -

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04 MB	149
08 MB	299
16 MB	599
32 MB	1099

- True 68060 50Mhz Design - NOT A MODIFIED 68040 BOARD !!!
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- Supports Interleaved Memory
- Supports Posted Writes to Motherboard
- 32 Bit FAST SCSI II Host bus DMA Interface
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- Totally Autoconfigurable
- 64 BIT Ram expandable to 128MB
- Uses Industry Standard 72 Pin Simms
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- Includes Manufactures TWO year full warranty

From A Company that listens to what the public wants! This is the FASTEST accelerator available for the Amiga 2000!

Commited to the Amiga marketplace since 1980 & going strong!

CSA MAGNUM 68040 @ 40MHZ

- for the Amiga 2000 series machines
- faster than a Macrosystems Warp Engine @ 40Mhz
- uses standard 72pin simms expandable to 64 MB of memory
- 1MB SRAM Option available
- Extra Serial Port Option Available
- Built In SCSI I & II HD Controller Card

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CBM Amiga 4000 Motherboard, Case, Power Supply, slotboard, 1.76 Floppy Disk Drive, Mouse, Keyboard & 2MB Chip ram 2495

Processor Options -

CBM A3630 68030 @ 25mhz w/mmu & fpu	199
CBM A3640 68040 @ 25mhz w/mmu & fpu	499
Macrosystems Warp Engine 4028 w/CPU, SCSI I&II Controller	895
Macrosystems Warp Engine 4033 w/CPU, SCSI I&II Controller	999
Macrosystems Warp Engine 4040 w/CPU, SCSI I&II Controller	1199

Memory Options - (Minimum of 8MB Fast Memory needed)

1x32 Simms 60ns 4MB	149+
2x32 Simms 60ns 8MB (warp engine or extra ramboard)	299+
4x32 Simms 60ns 16MB (warp engine or extra ramboard)	499+
8x32 Simms 60ns 32MB (warp engine or extra ramboard)	999+

Newtek Video Toaster 4.0	1995
Newtek Video Flyer	3995
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- 4.3 GB Quantum Atlas Video Drive	1499
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Seagate Barracuda 2.1 GB HD

7200 RPM! - 8MS!
Five Year Warranty!

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AMIGA RAM BOARDS

Paravision MBX1200Z w/20Mhz&1MB		159
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Paravision MBX1200Z w/20Mhz&4MB		299
Paravision MBX1200Z w/20Mhz&8MB		429
Paravision 8-Up! w/0MB	(2000)	99
Paravision 8-Up! w/2MB	(2000)	149
Paravision 8-Up! w/4MB	(2000)	229
Paravision 8-Up! w/6MB	(2000)	309
Paravision 8-Up! w/8MB	(2000)	389
DKB 2632 w/4MB	(Requires2630)	399
DKB 1202 FPU & 1MB Ram	(1200)	159
DKB 3128 w/4MB	(3000/4000)	395
Exp. Sys. Dataflyer Int. w/2MB Exp to 8MB		199
Supra External w/2MB (500)	(500)	199
CBM 2052 w/2MB	(2000)	99
CBM 2058 w/2MB Exp to 8MB	(2000)	175
CBM 501c Clone w/512K	(500)	49
Exp. Systems 601c w/1MB	(600)	69

DKB Megachip 2000/500 w/2MB Agnus 249
-accesses & adds 1MB of chip ram. The -must have for graphics & audio users

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w/4MB 80-70NS Ram	549
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50Mhz w/MMU & FPU & SCSI	599
w/4MB 60NS Ram	775

Amiga 2000 Accelerators

GVP 68040 @ 33mhz w/MMU, FPU SCSI Controller with Extra Serial, Parallel Ports & 4 MB Ram 60ns Expandable to 64MB ram using 16MB simms (799 each) 1395

CSA 68040 @ 33mhz w/MMU, FPU SCSI II controller card w/0MB. Uses 72 pin 60ns industry standard simms and is expandable to 64 mb using 16mb simm moduals. 995

GVP 68030 @ 40mhz w/FPU & SCSI Controller & 4MB ram at 60ns expandable to 16MB ram 795

DKB

Megachip 199

Allows your A500 & A2000 series computers to have two megabytes of chip ram. A must have for people who use video, graphics and audio applications. Included is the Megachip daughterboard with 2MB Agnus chips with an extra one megabyte of ram. (Requires A500 to have A501 ram expander +49.95)

A1202 board (A1200 Only) 99.95

A multi-function board for the A1200 Computer that provides the maximum fast ram expansion plus a battery backed up clock-calendar. Includes two simm sockets for combinations of 1, 2, 4, 5, or 8MB of fast ram using industry standard 32 bit simms with 72 pins. Optional plcc math co processor can speed upmath functions as much as 1000% or more.

A3128 Ram board (A3000/4000 Only) 249

Allows 32 bit ram expansion to 146 megabytes of ram using 72pin industry standard simms. Four simm slots accept either 4, 8, 16, or 32 megabyte simms.

A2632 Ram board (A2630) 399 w/4mb

Allows 32 Bit ram expansion onboard of 112mb of ram using industry stanard 72pin simms. Has four sockets allowing use of 4, 8, 16, or 32 mb simms. Allows full burst mode support.

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A1000 owners can now add kickstart roms to their machines with this device! Supports two different revision roms & allows access to more system ram

Multistart II 6a (A500, 600, 2000) 29.95

You can use more than one kickstart rom chip with this device! Switchable by resetting the machine for a few seconds.

Cobra 28 mhz & 40ec mhz 159/249

Accelerator for the A1200 computer system that allows you to speed your machine up to 600% faster. Includes capibility to add 128MB of fast ram using industry standard 72 pin simms & battery backed clock-calendar. Optional FPU can be added. Optional SCSI I & II Controller can be added +89.00

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Accelerator for A1200 computer with 68030@50mhz Expandable to 128MB of fast ram using industry standard 72 pin simms. Increase in speed up to 800% & has battery backed clock-calendar. Optional FPU or SCSI I & II Controller can be added +89.00

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Standard A500/600/1500/2000	0.55/0.72
Standard A1200	1.33
Standard A4000, '030	4.43
A1200 with 1220/4, '020	5.05
A1200 with 1230-IV, '030 & 4Mb	9.91
Standard A4000, '040	19.10

Figures shown are in MIPS and taken from comparative performance tests using SysInfo standards (1230-IV uses 60 Nanosecond SIMMs).

CYBERVISION 64

64--BIT ENGINE A3000/4000 24-BIT COLOR ACCELERATED GRAPHICS CARD.

For all Zorro-3 Amigas, this 64-Bit high speed graphics engine/blitter offers up to 1600 x 1200 pixels in 8-Bit color or 1024 x 768 pixels in True 24-Bit Color, with 2Mb of display memory (4Mb user upgradeable).

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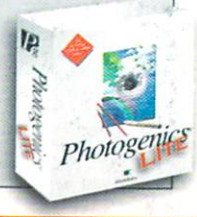

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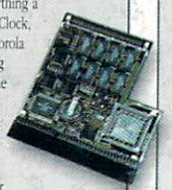
28MHz 68EC020 A1200 TURBO 4Mb, 32-Bit RAM Expandable to 8Mb

Multi award-winning BLIZZARD 1220/4 4Mb TURBO

Offering by far the best price/performance ratio of any A1200 32-Bit RAM expansion on the market, the 1220/4 incorporates everything a good memory expansion should - such as a Real Time Clock, RAM expandability, optional FPU etc. And, with its Motorola Processor running the 32-Bit FAST RAM at an amazing 28MHz, the 1220/4 has broken all the barriers! Check the facts for yourself and fit the BEST Amiga A1200 68EC020 Turbo Memory board available. Remember with this unique expansion, you get 4Mb, 32-Bit RAM already fitted, tested and ready to use - included in the price!



- Integrated 28MHz 68EC020 Clock Speed Doubler for up to 300% overall performance increase
- Factory Installed & Tested 4Mb 32-Bit FAST RAM
- Expandable to 8Mb with Blizzard Add-4 Board
- Integrated Battery Backed Real Time Clock
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1220/4 Turbo 28MHz 68EC020 4Mb 32-Bit Fast RAM, expandable to 8Mb	$299.95
Add-4 Board - extra 4Mb for 1220/4 4Mb 32-Bit Fast RAM add-on	$Call
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THE AWARD WINNING A1200 RAM EXPANSION!

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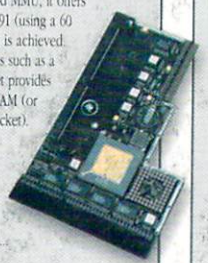
NEW... 50MHz 68030 A1200 TURBO ACCELERATOR - 0Mb Expandable to 128Mb

THE highest performing A1200 68030 Accelerator!

Not only has there been an INCREASE in specification but, at the same time, a DECREASE IN PRICE! With its 50MHz 68030 and MMU, it offers EVEN MORE for LESS! With a SysInfo rating of 9.91 (using a 60 Nanosecond SIMM), up to 500% performance gain is achieved. Options via its Fast Expansion Bus include Modules such as a SCSI-2 Controller. An industry standard SIMM socket provides for up to 128Mb auto-configuring 32-Bit FAST RAM (or 256Mb with SCSI-2 option with an extra SIMM socket).



- Easy Trapdoor Installation
- Battery Backed Self Recharge RT Clock
- High performance DMA expansion with full 32-Bit wide DMA
- 68030 may be disabled with simple keystroke on boot up allowing full games compatibility... even badly programmed, older software!
- PGA FPU Socket allowing optional 50MHz, 68882 FPU

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