

# AMIGA

**Spectacular  
digital video  
effects!**

**COMPUTING**

August  
1996

AMIGA  
COMPUTING

Requires hard drive, 2Mb RAM, 68020

## DVE 2

Create and modify  
the most impressive  
animations with **Amiga  
Computing's** exclusive  
demo of X-DVE 2, the digital  
effects generator

August  
1996

AMIGA  
COMPUTING

Requires hard drive, WB 2.04

## Top gear

Championship Manager Ed - a team editor  
PhotoAlbum - the fastest picture catalogue  
SoundBox - a multi-format sample editor  
TinyMeter - good looking program launcher  
ATAPI Device - use IDE CD Drives  
EasyPrint - improved graphic printing  
Print Manager - a spooler for your Amiga  
EasyLink - connect your PC and Amiga  
ScreenTab - simple screen switching

# Ground control

**The Amiga's key role  
in NASA's space  
exploration programme**

## PLUS

- ViScorp
- G-Force 060
- GT-5000 scanner
- Octal CD drives
- Web design
- Epson 5500 printer

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03A

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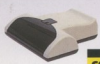
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## AMIGA 600/1200

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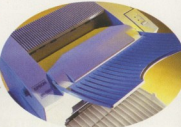
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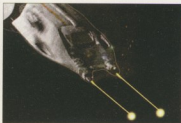
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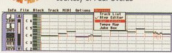
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September

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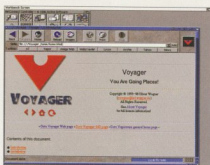
# news

By Tina Hackett

## GET YOURSELF CONNECTED

A new product called NetConnect is being released to provide Amiga users with all they need to get connected to the Internet. Priced at around £45, it will be distributed in England by Active Software and by Cross Computer Systems in Germany. It is available as either a CD or floppy disk and contains six main programs which allow even the net novice to get connected quickly. The software is commercially licensed, so the user does not need to register them.

As Active Software explained, the program does all the work for you, so all you need to do is choose your country, choose an ISP, select your local POP and type in your user details. NetConnect will also contain many Internet programs as well which include Voyager v1 Mail, PowerMail v1 FTP, mFTP v2 IRC, AmiIRC v1.1, CLChat News and mNews v1. The CD will also have the enhanced, full version of AmiTCP 4.3 DialUP. There are package options being considered too, such as one which will include a 28.8 modem and cables which would retail at £159, and in Germany for 369DM. The product is scheduled for release mid-July and more details of deals and prices for other countries will be announced nearer to release.



NetConnect will enable you to get onto the Internet easily

## PRINTER TIME

Star Micronics, one of the world's largest printer manufacturers, is showing off its current range of printers which promise to suit all needs. Included in the range are dot matrix, laser and thermal printers.

One of the printers available is the WinType 4000 which is a low-cost Windows laser printer which produces high quality 600 dpi class output at four pages per minute. PostScript and HP LaserJet II emulation are also available as standard in this small footprint printer, which can also be used with DOS applications running under Windows. It is priced at £319 and has a running cost of 0.94p and £1.98 per page.



## VISCORP REVEALS ALL

The 19 May saw ViScorp revealing its plans to an eager Amiga community. Everyone from developers, vendors, users and press gathered in Toulouse to hear what had to be said. ViScorp's CEO, Bill Buck, gave an opening speech in which he pledged commitment to the Amiga. He stated: "...we think the Amiga computer represents a valuable choice to the market place and we believe it can be a profitable business."

He laid out the companies plans of a twin set-top and desk-top business and praised the Amiga's operating system. "We think it still lives. The only multimedia and multitasking operating system in the world in our opinion." For further coverage of the conference see our report this issue on page 21.

## VIDEOMASTER RELAUNCH

Eyetech has announced the relaunch of the Videomaster PCMCIA, which allows motion video and simultaneous sound capturing and editing. The Videomaster can also be used as a stereo sound 8-bit digitiser and a still frame colour digitiser.

It first appeared in 1993 courtesy of MicroDeal, and Eyetech has said that the reason for the relaunch is that when the product was first released most people with A600s and A1200s didn't have enough memory or a hard drive, which are essential for multimedia. Now, however, Eyetech believes that the situation has changed and most people have the requirements available for the Videomaster.

The complete package includes sound and video stream editing software and a utility to convert these into Anim-5 format animations. Eyetech also stresses the Videomaster's advantage of being attached via the PCMCIA port, leaving the parallel and serial ports free for the printer and modem. Contact Eyetech on 01642 713185 for more details.

Eyetech relaunches the Videomaster PCMCIA





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- Does not use or interfere with the PCMCIA slot or any other port.
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- CD32 Emulation enables the majority of CD32 titles to be used on the A1200.
- Audio CD player software allows you to play your audio CDs.
- Unlike most other CD ROM drive systems the Ultra CD ROM drive does not cause long delays when booting up.



The interface simply plugs onto the 44 pin IDE connector inside the computer (still allows a 2.5" or 3.5" internal hard drive to be used as well!) and provides a connector in the blanking plate at the rear of the A1200 next to the mouse socket. This can be installed by anyone in 5 minutes!

**All cables, instructions, interface, etc., included as well as a 12 month warranty and full technical support.**

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£7.50 Europe and £12.50 rest of the world.

## REAL WORLD

World Construction Set, the terrain modelling and animation software, looks set to astound once again with its Version 2 follow-up.

Questar, the company behind World Construction Set, has told us that Version 2 is now available. The pre-release included a coupon for a free upgrade to the final version.

The company has pledged continued support to the Amiga and it says that although World Construction Set is being converted to other platforms, Amiga users get it first and cheaper than other platforms.

Version 2 has plenty of new features including 3D evolving clouds, 3D shaded bitmap trees, and highly realistic ground textures. More water options have also been developed such as accurate reflections. Check out its Web site for the latest at: <http://www.dimensional.com/~questar>



## TREACHEROUS TECHIE

The unfortunate (ahem) news this month is that our much loved editor, Ben Vost, has left us for pastures new. He disappeared six weeks ago leaving a note to say that he had gone train-spotting. Allegedly, though he had become increasingly concerned about his missing budgie and set out to find it.

Since leaving, we have discovered a large hole under his desk where he had been tunnelling his way out. He was last seen in the Bath area. Police have warned that anyone who sees Vost should not approach him as he is very, very smelly.

New and much better looking editor Tina Hackett commented yesterday on his leaving. She remarked: "Ben Vost will be sadly missed by his colleagues, but not as much as the mangy dog, Scamp, who sat fondly under his desk."

## WRITE STUFF

Final Writer 5 is almost ready for release courtesy of SoftWood. The latest version will feature many enhancements which are intended to create a more useful and user-friendly program. There are 23 new features which include a useful HTML export, Datatype support for imported graphics, AutoCorrect and tables.

Also from SoftWood is its new Web page service which offers users the chance to publish their own Web page on SoftWood's server. SoftWood will put your site up for 12 months and all you need to do is give them a Final Writer Document and any graphics or links you want to use. You can also modify your site once a year and post your e-mail address on the site.

Prices vary and to buy Final Writer on its own will cost £74.95. However, for owners of other SoftWood products it is priced at £39.95 and upgrading from Final Writer 4 is £22.95. For the personal Web Site subscription you will need to add £35.

Contact SoftWood Products Europe on 001 773 836 781 for more information.

## MOUSE MATTERS

Legendary Design Technologies, the American company behind the program Link It!, has a solution available if your Amiga mouse packs in. Called the AmiPC Power Mouse, it allows a standard PC serial mouse to be used on an Amiga. The AmiPC Power Mouse requires AmigaDOS 2.0 or higher and works with almost every Amiga application. It also provides an emergency program which you can use if your mouse breaks.

You can buy either the software which retails at £14.95 or the AmiPC Power Mouse with a standard serial mouse and adapter for £24.95. Also on offer is the Microsoft "J" mouse and adapter for £49.95. For more information e-mail the company at [legend@io.org](mailto:legend@io.org)

## OOPS

Apologies to Parth Galen for a mistake we made in our review of its SoftTalk speech synthesis programs. The SoftTalk product itself sells for £7.50 and not \$35 which we quoted. We apologise for any inconvenience caused.

## news snippets

### ON SAFARI

EM Computergraphic has announced that it will not be going into full production of the Safari Font CD due to other CD development. Instead it will be releasing a limited edition Gold Disc Safari Font CD which contains the complete set of StarFonts, Mathematical Symbols fonts and two sets of Egyptian Hieroglyphics fonts. It is available now for £39.99 + postage and packing and all the fonts come in Compugraphic, Adobe Type 1, TrueType and Amiga Bitmap formats. Call quickly on 01253 431389 as it's first come, first served!

### MONITORS R US

Hitachi has just launched its new 17 inch monitor, called the 17MMV-V2. This has an on-screen display and a 0.23mm horizontal mask pitch. Priced at £549, it offers flicker free images to at least 75Hz for resolutions from 640x480 up to 1,024x768. There are many controls which include brightness, contrast, side pincushion and RGB colour control.

### BENCHMARK

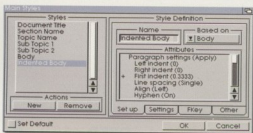
A new replacement for Workbench has been released this month. Called MBench, it has the advantage over workbench in that it can do everything workbench can, but also means you don't have to wait around for icon loading or copying files. Compatible with all Amigas running OS2.04+, it includes a full AlRexa port which allows easy expansion and progress requests, which means you can cancel or see the progress of copy and delete processes. Contact Mark Hewitt for more details ([MA.Hewitt@creter.ac.uk](mailto:MA.Hewitt@creter.ac.uk))



MBench - the new multi-tasking replacement for workbench

### FIRSTNET ISP

A new Northern Internet Service Provider called Firstnet has announced a service which offers Internet access with a low modem-to-user ratio and wide bandwidth. It has a dial-up rate of £12.50 + VAT per month for unlimited access and customers who already have a subscription with a different ISP can take advantage of the one off set-up fee of £25 + VAT. As well as its Web homepage, Firstnet also offers WWW authoring, LAN and WAN installations and mail-to-desk solutions. Its Web site is at <http://www.firstnet.co.uk> and you can contact by phone on 0115 294 4224.











## ELECTRIC DESIGNS

The commercial version of Electronics Digital Designer Version 1.1 is now available. The original Electronics Version 1.0 was released as Shareware and is still available from PD houses and AmiNet in the misc/sci directory. Electronics allows you to design and simulate digital electronic circuits. The user can draw the circuit to be tested using simple and complex gates. According to Chris Sterne, author of the program, multiple logic levels and drive strengths permit realistic circuit behaviour during simulation. The program costs £19.95 and requires Workbench 2.0 or greater. It is available from Chris Sterne, 1111 West 7th Ave, Vancouver, British Columbia, Canada V6H 1B5.



## MILLER PURCHASE

May 21 saw Miller Freeman Inc purchase the publications and conferences of AMG Media, Inc. whose properties include the three magazines Video Toaster User, LIGHTWAVEPRO, and Alpha Visual FX, as well as the Video Toaster User Expo and Video Toaster and LightWave 3D training conferences.

Pat Cameron, the Vice President of Miller Freeman's newly formed Entertainment Technology Group said: "These magazines are high quality, targeted editorial products and represent a unique opportunity to increase our presence in the rapidly expanding digital video and 3D animation markets."

AMG Media founder and CEO, Jim Plant, has been kept on by Miller Freeman as a consultant. The rest of the AMG Media staff will join Miller Freeman's Entertainment Technology Group which now includes nine publications.

## ATS JOHN SMITH RESIGNS

The recent news from the Amiga Technologies UK headquarters is that the last remaining employee has resigned. The last few months has seen the six-strong UK team dwindle with the departure of Jonathan Anderson and other staff during the move from the Maidenhead offices to the Escorn HQ in Stanstead.

John Smith has solely kept the UK operation running but leaves the company on 10 June. This casts doubts on the future of the UK offices which now look likely to close completely. Smith leaves AT to become UK general manager for PIOS Computer, a company whose team includes several personnel who have strong links with the Amiga (see US News for more details).

## news from the net

### NERDS NO MORE

A recent survey by London company, Consumer Surveys, has disproved the myth at long last that not all Net users are nerds. After carrying out a survey on more than one million people in the UK, they have found that 4 per cent of the population are connected, with a further 8 per cent considering going online soon. It also stated that those online are more likely to be high-earning company directors than the stereotypical spotty teenager. It found that 69 per cent of users are male and 31 per cent female, and that 57 per cent are in the age range of 31-50. It was also revealed that there are a wide range of interests from science to art and the National Lottery.



According to new research carried out by Consumer Surveys, those online are more likely to be high-earning company directors than spotty, pizza-and-lager-guzzling teenagers

### VISIONS OF THE FUTURE

If you want to see what the future has in store then pop along to Granada Studio's latest attraction, FutureVision. Down amongst the shrines to Coronation Street such as the Rovers Return, you can explore the home of the future such as home shopping and surfing the Internet. Sponsored by IDG and JCL, you can try out live video-conferencing and visit the CyberCafe.

## The AC team

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ART EDITOR Tyne Lockery  
COVERDISK EDITOR Neil Muir  
PRODUCTION EDITOR Judith Chapman  
STAFF WRITER Andrew Maddock  
EDITORIAL ASSISTANT Gary Russell  
REGULAR CONTRIBUTORS Dave Casick  
Paul Overra  
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# Oregon scrambles for Termite

**A**s you read this, Oregon Research should be frantically shipping its Termite TCP package out the door. In early June, the company took its order and information lines off the hook to dedicate 100 per cent of its resources to the completion of the project.

Termite TCP is a full-featured TCP/IP networking stack for Amiga computers, promising the ability to create local networks of Amigas and other computers, as well as allowing users to connect to Internet service providers and access the wealth of information available online. It also promises compatibility with AmiTCP network applications. AmiTCP has become one of the most prominent network packages for the Amiga, and the majority of new networking tools are designed to its standards.

As a companion piece, Oregon Research will soon ship iBrowse, the high-powered World Wide Web browser developed by Omnipress International and published by HiSoft.

Contact Oregon Research by phone on (001) 503-620-4919, or e-mail [orres@teleport.com](mailto:orres@teleport.com).

## VISCORP DIRECTORS ON BOARD

ViScorp has added three new directors to its board of trustees. The addition of Robert J. Wussler, King R Lee, and Robert E Reid brings the ViScorp board to six members, joining the company's chairman, founder, and CEO.

Mr Wussler is an experienced figure in the world of television, having served as a top executive in two major American broadcast corporations. He is described by Chairman Jerry Greenberg as having "a deep understanding of technologies such as satellite communications, cable television, and interactive media."

Mr Lee's background is rooted in the computer industry, having served as CEO of XTree

Company and, more recently, Quarterdeck Corporation, two noted producers of PC software. Currently, he serves as CEO of Wynd Communications Corp., which was founded by him to be a two-way wireless messaging service provider.

Mr Reid is President and CEO of Engis Corporation, which produces precision diamond industrial products. His experience with worldwide licensing and manufacturing processes are expected to prove very helpful to ViScorp in the future.

For more information, contact ViScorp on (001) 312-655-0903, or <http://www.viscorp.com> online.



by Jason Compton

## LEGENDS JOIN SPLINTER COMPANY

In the wake of Amiga Technologies' management and staff shake-up, former AT president, Stefan Dörmeyer, has established a new company, PIOS, to develop and market a next-generation PowerPC computer on many of the ideals and principles of the Amiga. PIOS' plans include developing an operating system quite similar to the familiar AmigaOS.

To help reach these ambitious goals, Dörmeyer has called on two of the most prominent ex-Commodorians of recent times.



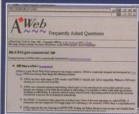
Dave Haynie and Andy Finkel, formerly of Commodore's Amiga R&D division, have joined the team, Haynie as Project Manager Hardware and Finkel as Project Manager Software.

Dave Haynie's contributions to the Amiga are legendary. After leaving Commodore during the 1994 bankruptcy, he joined Scala. He has continued to be an Amiga user and advocate, as well as writing DiskSalv directing The Deathbed Vigil, the videotape documentary of the last days of Commodore.

Andy Finkel's name should not be new to Commodore fans. His involvement with Commodore software development dates back to the early 80s and the Vic-20. In later years, he managed OS development and was one of the key individuals working on PowerPC development on a contract basis for Amiga Technologies. In addition, PIOS has brought Dr Peter Kittel, late of Commodore Germany and Amiga Technologies, on as their Support Manager.

PIOS will be a company to watch closely in the coming critical months of the Amiga's course. Visit PIOS online at <http://www.pios.de>.

## AMITRIX TAKES ON AWEBB-II



The new version of AWeb will help you create Web pages

AWeb by Yvon Rozijn, the World Wide Web browser referred to by some as the Pride of the Netherlands, is coming all the way to Canada for commercial release. AWeb 1.0 was released earlier in the year as shareware, but did not boast a full set of modern HTML features.

The commercial version, dubbed AWeb-II, continues the full HTML 2.0 support and adds features such as background tiles and images, enhanced ARexx support, e-mail, FTP, telnet, and Usenet newsreading, and other HTML 3 characteristics such as frames. AWeb-II will also include HTML-Heaven 2.0, a former shareware product that works with your favorite text editor to make creating HTML easy. Previously registered owners of AWeb 1.0 and HTML-Heaven 1.0 will be offered special upgrade rates.

AmiTriX Development is an Alberta-based firm specializing in Amiga hardware and software. It is the North American distributor of the AmigaLink floppy-port networking hardware and manufactures custom SCSI solutions for the CDTV and A570 CD-ROM drive.

AWeb-II is slated for release on July 1, with the retail price expected to be US \$45. For more information contact AmiTriX Development on 5312 - 47 St. Beaumont, Alberta, T4X 1H9 Canada, phone or fax (001) 403-929-8459, or e-mail [sales@amitrix.com](mailto:sales@amitrix.com). You can also find AmiTriX on the Internet at <http://www.networkx.com/amitrix/index.html>.

For more information on AWeb, point AWeb 1.0 or your favorite browser to <http://huizen.dds.nl/~aweb/>.



AmiTriX Development - soon to be distributing AWeb II

## EXTRACTING COVERDISK FILES

Before you even think of putting the coverdisks 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. Doing this makes sure you cannot damage your disks in anyway. There is no reason why the coverdisks need to be written to, so even if the computer asks you to write enable the disks, don't do it.

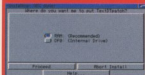
To extract any single archive, simply double-click its icon and follow the on-screen instructions. If you want to quickly extract the program to RAM, select the NOVICE level on the welcome screen and press proceed once on the current screen, and then again on the next. The program can then be found in your RAM disk. Normally most programs need further installing, so read the documents on how to do this.

## HARD DRIVE USERS

Hard drive users do not have to boot with the first disk, but you must make sure you have the Amiga's *Installer* program in your C drawer. To make sure your hard drive has the correct files in place, double-click on the SetupHD icon. This will check if you have the *Installer* program and if not will copy it across - do not worry as it will not write over any existing files.

All you hard drive owners will find MultiExtract very useful. It is a separate method of extracting the coverdisk files and allows you to extract a number of files in one go, to your hard disk or RAM.

When you run MultiExtract you will be presented with a number of check boxes, each representing one of the programs on that coverdisk. Just de-select all the programs you do not want extracting and then press proceed. All the selected programs can now miraculously be found in the selected destination.

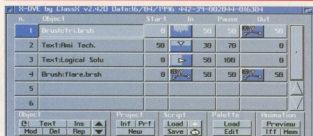


This is MultiExtract for all you sensible people with hard drives



We bring you **X-DVE 2**, the ultimate in animated graphic effects

## X-DVE 2



The main scripting screen from which you can adjust and view your animation

The Amiga has always been renowned for its ability to effortlessly work with video. Low-cost genlocking and the Amiga's ability to replay high resolution animations make it a perfect choice for video tiling.

X-DVE gives you access to a whole host of stunning effects by providing you with a number of base 'object' types such as text, graphic, animation, anim brush, start fields and then, by allowing you to apply any of X-DVE's various effects independently to each object you have on screen, a huge variety of overall effects are possible.

Once you have extracted the X-DVE archive and copied its drawer onto your hard drive, you need to set up the correct libraries for your machine before you run X-DVE 2. There are three sets of libraries available - one for people with plain A1200s, one for those who have an O30 accelerator with FPU, and a final set if you have a full 040/060 with FPU. It is important that you select the correct libraries otherwise when X-DVE comes to render a final animation, your machine will crash.

If you want to get a quick idea of what X-DVE can do, once you have loaded the program select load script and choose one of the four available demo scripts from the file requester. You can now either select to view a preview animation that shows the path all the screen objects will take in wire frame

form, or select to render a final animation to memory. If you do this it will take a while, so be prepared for a wait.

Due to the way X-DVE handles everything in terms of objects that have effects applied to them, each object you add can be considered to have a life of its own, separate from each of the other objects. You define when

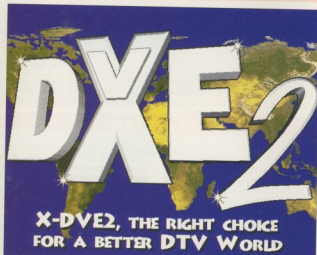


The start and end effects are defined here and show what the object will get up to



## NEW FEATURES

- Automatic support of OS3 picture datatypes
- New 'MultiBrush' object to import image sequences from disk
- Multiline Text objects with programmable spacing and centering
- Brush Object can now load the first frame of any IFF-Anim
- Anti-aliasing
- New attributes for every object: Bevel, 3D, Shadow, Background, Solid, Outline.
- Programmable resolution, from 320x200 to 1472x592 pixel
- Better IFF rendering - render the whole script or a single frame
- 10 New Slide effects, with the stunning 'Melt' and 'Carpet'
- New 'Warp' family with 40 effects, ready-to-use 3D sequences
- Lots of new Wind effects, three new base formulas
- Single object or full script
- frame-by-frame preview with VCR-like controls
- Support of continuous loop animations
- Render speed doubled for 3D, Warp and Lightsources effects
- 1/16 of Degree precision for 3D rotations
- Compression speed highly improved
- Faster play speed under OS2.xx
- Re-styled user interface, even more flexible



The final result of one of the demo scripts

and for how long each object is on screen using the IN, OUT and PAUSE entries for each object. To add a new object select the type you want from the cycle gadget in the object section - text would be a good choice - and press insert. You now have to select what font you want and what the text should say. Once

you have said OK in the object entry you can say which frame the object should appear in and, once the entry effect has finished, how many frames it should stay before the exit effect kicks in.

The IN and OUT entries let you specify what sort of effect should bring that object onto and off the screen and how many frames it should take. Click on either and you get the requester which lets you specify what should happen for each element.

Select lets you choose one of five possible effects to apply to the current object. These can either be 3D zoom, wind, slide and a type of warp zooming around the screen. You can always just have the object appear on screen.

When an IN effect takes place its end position is fixed by clicking on the PAUSE button, which opens a screen with a wire frame box that you can then move around to where you want the first effect to finish. This, therefore, is also where the OUT effect will start from. You then have to set up how the actual effect will look. Depending on the effect type, you will have to define different positions or pick a pre-defined effect. In each object's requester there is a preview button which will give you a wire frame preview for just that object, as opposed to the main preview that will show the entire script.

## DISK 2



## PHOTOALBUM

Author: Helmut Hoffmann  
Workbench 3.0



To run this program you need to have Magic User Interface 3.1 or higher installed on your computer. MUI is available from any good PD house and without it you will not be able to run any MUI program

We have had a couple of picture catalogues on the cover disks in the past but this one not only provides all the features of those but is also really fast, and if you have a CyberGraphX card it will take advantage of all those enhanced screen modes. PhotoAlbum also has direct support for a huge number of picture file types as well as Datatype support.

This is a shareware program and, as such, this demo version only allows you to have grayscale preview and full screen images. The registered version allows colour previews, up to 256 colours on AGA machines and 24-bit with CyberGraphX boards, along with a number of extra enhancements that will be added.



If you have a fast 040 or even 060 card the thumbnails are almost instantaneous

## 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





To run this program you need to have Magic User Interface installed on your computer. MUI is available from any good PD house and without it you will not be able to run any MUI program

## TINYMETER

Author: Tonic Urou  
Workbench 2.04

I have resisted putting this program on the cover disk for a while now because it was originally just a fancy memory meter. However, the author has now added so much to it that I thought it was about time it appeared.

TinyMeter is probably the most attractive memory, disk, CPU usage and program launcher you can get. Through the MUI preference program you can adjust every aspect of TinyMeter's interface by applying fonts, patterns and adding icons. Because of this, initially setting up TinyMeter can take a while but it is worth it as you end up with a great looking dashboard.

## ATAPI DEVICE

Author: Elaborate Bytes and Oliver Kastl  
Workbench 2.04

To go along with this month's octal speed CD-ROM round up, which did sport quite a few ATAPI CD drives, I thought it would be a good idea to put an ATAPI device on the disk so that if you did fancy getting yourself one of those ridiculously fast CD drives, you could use it straight away.

The archive comes with a very good installer that makes selecting the CD drive a simple matter. Basically, when you fit the ATAPI CD drive make sure it is set up as the slave IDE drive otherwise your Amiga will not boot.

## FLUSHMEM

Author: Alan Doyle  
Workbench 2.04

Every time a program is run on the Amiga it asks for certain system resources such as libraries, fonts and devices which are loaded into memory and the program will then happily run. This is not too bad a situation if only a couple of fonts or libraries that are commonly used are in memory, but if you make the situation where one program makes heavy use of system resources and loads many libraries, devices or fonts, then this can be a drain on memory because when you quit these resources will not be removed from memory. Two example programs that do this are Image Engineer and MUI.

FlushMem allows you to reclaim this used memory at the touch of a few keys, possibly freeing 100 kilobytes of memory. The program is only 10K so it is a prime candidate for your WBStartup drawer, and the hot keys can be set up from the program's icon Tool Types.

## DISK 2



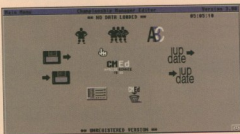
## CHAMPIONSHIP MANAGER EDITOR v3

Author: Tonic Urou  
Workbench 2.04

If you are anything like our games reviewer, Andy Maddock, you will be literally running around like a headless chicken shouting team at the top of your voice at the very thought of having a Championship Manager editor. Well this is exactly what you have got.

The program itself is written in AmosPro, but is done very well and runs on our A4000 and on 060 machines and quits back to the Workbench without any problems.

This is an unregistered version of CMEd that has some of the features disabled, but even so many of the functions work. If you want CMEd to be continually developed then you should send a crisp tenner to the hard working chaps who wrote CMEd. They are students so your money will not go to waste – probably just down their throats.



If you are the sort of person that likes to update all the premier league teams for 96, CMEd is right up your alley

## SCREENTAB

Author:  
Workbench 2.04

This is another 1 like that feature of Windows, let's have that with Workbench' type of utility. ScreenTab has two uses. Firstly, if you move the mouse to the bottom of the screen a task bar will appear, allowing you to jump between screens by clicking on the screen you want. The other side to the program is used by pressing its hotkey, resulting in a window in the middle

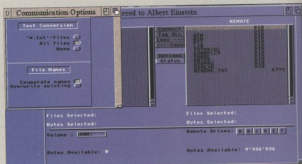
of your screen appearing. By then going through all the screen choices you can jump to another application's screen.

There are a number of extra functions available such as adding small icons for different screens and applications, and you can exclude the task bar from appearing on certain screens if you do not want it there.

## EASYLINK

Author: Tonic Urou  
Workbench 2.04

If you are having to continually work with PCs in close proximity to your Amiga, the easiest way to transfer files is via some sort of network. Unless you are willing to fork out for an Ethernet card, you are left with either using a terminal program or some sort of dedicated software such as Easylink. Easylink is a PARNet-style network, but for Amiga/PC data transfer via a simple Gadiol interface on the Amiga side. Speed wise, Easylink is not going to set the world alight, but if you register for the full Turbo version then it is up to four times quicker.



Now you can access all the files on a nearby PC

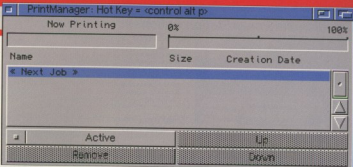
## PRINTMANAGER V2

Author: Tonic Urou  
Workbench 2.04

A print spooler is something not everyone needs but PrintManager is very well implemented and is small enough - only 14K - to leave in your WBStartup, working invisibly so you will not even know it is there.

PrintManager sits on top of either the parallel or serial device and will spool printer device calls, so modem users will not be effected. Having PrintManager has a number of advantages. For example, if your system crashes while printing you can restart what you have already printed, or if you tell it to save off the spool file you can take that and print it off on another printer.

If you have Workbench 3, using the datatypes allows PrintManager to directly print any support datatype that can be viewed using MultiView. As PrintManager can have both an Appicon and



A tiny but excellent print spooler

Appwindow you can just drag and drop the text or picture file you want printing into either the Appicon on the Workbench screen or into PrintManager's win-

dow. PrintManager is a commodity so you can use exchange or its hotkey to pop open its window at any point.

## EASYPRINT

Author: Andrea Latina  
Workbench 2.04

I think I'm still going to be complaining about the Amiga's printing capabilities for a long time, and until someone does something about it there are always going to be programs appearing to ease the situation. EasyPrint is another program that allows you to print pictures at their full 24-bit colour quality, improving both greyscale output because you can have the full 256 shades of grey and colour images as opposed to the Amiga's normal 10-year old, 12-bit efforts.

As standard, this version of easy print will only handle the Amiga's standard IFF-ILBM images, but the full version can load Jpegs and any installed datatype picture. Once you have loaded a picture into EasyPrint there are various things to do to it before it is printed out to your printer.

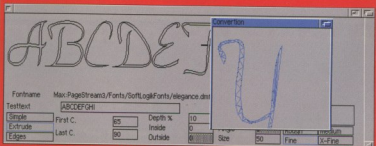
The colours of the pictures can be adjusted by changing the gamma, brightness or contrast levels in either RGB or CMYK modes.

## CONFRONT

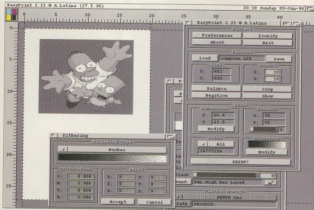
Author: Martin Hoffmann  
Workbench 2.04

Confront is a powerful font converter program that allows you to change fonts used with Pagestream into three dimensional objects suitable for use with programs such as Videospace and Cinema 4D. Pagestream fonts store only the scalable outlined data of each of the individual letters, so Confront will take this data and produce the three dimensional objects constructed out of individual triangles.

The interface is fairly straightforward, and the program starts working in German, but you can change the language to either English or Spanish from the end menu.



A simple interface makes for quick and easy font conversion



EasyPrint will help you improve your picture printouts

## IMAGE ENGINEER PROBLEMS

It seems there was a possible problem with the SuperView install script on last month's coverdisk. If Image Engineer is reporting that it cannot open version 12 of the SuperView libraries, you have this problem.

The solution is very simple. For some reason the installer was not copying across one of the SuperView libraries, so you will have to do this yourself. Extract the SuperView archive to RAM, open up its drawer and you should see the install icon and a number of drawers. Open up the Libs drawer and you should see a few other drawers and two library files. You need to copy the SuperViewsupport.library file across to your Workbench Libs drawer. You may have to select show all files from the Workbench menu to find the Libs drawer.

Once you have copied this file across, Image Engineer will work without a hitch. If you already had the SuperView libraries installed you would not have had a problem running Image Engineer, but you should do this as well as this is a slightly more up-to-date library file.



Why not try our Internet site at [www.hiq.co.uk](http://www.hiq.co.uk)

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**J**ust when you thought that the Amiga technology was in safe hands and further development and products were promised, everything again was turned upside down with the announcement of ViScorp's intentions to purchase the Amiga. At the WOA show, Bill Buck could say little except that the Amiga would continue to be produced by AT and no dramatic changes were promised. He said a full picture of ViScorp's plans for the Amiga would be presented at the Frankfurt computer show on 24 April but, unfortunately, the Frankfurt date was cancelled and in its place a developers' conference was scheduled for 19 May in Toulouse in the South of France.

This was billed as the day the future of the Amiga computer was to be decided, and sure enough that is what happened. Now, despite the serious lack of companies from the UK and major German players like Phase 5 (see

**"ViScorp is committed to the future of the Amiga computer. We're not talking about the set-top box only, we are actually sneaking Amigas into homes across the world"**

boxout), there was an impressive turnout. ViScorp also brought some major Amiga celebrities along – after all, this day was to be a working conference, and with the likes of Carl Sassenrath and Don Gilbreath at hand it became just that.

The day started with Bill Buck giving his own personal guarantees. He said that although the deal, at the moment, was still based on just a handshake between himself and Helmut Jost, ViScorp will be the owner of the Amiga. He then positioned himself centre stage and said ViScorp was committed to the future of the Amiga computer. ViScorp believes that the Amiga can still be a valuable choice for the marketplace. Bill Buck

announced that the main support for developers and users would be the Internet, which would contain documentation on Amiga programming and be used as a way to support all the different countries they are now talking to.

## FUTURE SALES

ViScorp has a clear vision of what it wants to do in the future and thinks that by 1997 there will be more Amigas sold than have ever been before. To do this it will have to sell more than four million Amigas. Now that's a big promise, but by the time you read this ViScorp should have announced that a big company that makes TV sets will put this set-top box inside its televisions. ViScorp needs

Amiga developers and Bill Buck made it clear that the past was the past, it was now going forward and was going to demonstrate this every step of the way. As an example, he said that if ViScorp wasn't going to do something he'd let us know. He then continued by saying that a Walker before Christmas was unlikely, but he did say he was willing to work with anyone who wanted to pick up the ball and run with it (see boxout).

What will ViScorp do now for the Amiga? Firstly, it will introduce a new version of the operating system by the 4th quarter. Secondly, it will release its own products together with the ED which can be adapted in certain ways to add new



Eric Laffont



Carl Sassenrath models the Amiga Doing T-shirt

# Targetting the masses

We sent **Dan Winfield** to Toulouse to learn more about **ViScorp's** plans for the **Amiga**

functionality to the A1200 and A4000. Bill Buck also reiterated ViScorp's willingness to work with people on any development projects, such as porting the OS to some other platform. However, he thinks there is another solution and has already been in conversation with Digital about the Alpha chip, but this wouldn't be possible before the middle of 1997.

The power users will have to wait until the Phase 5 Amiga, but for now we have the ED. Bill Buck gave a demo of what the ED could do, but it wasn't running the Amiga OS but an OS written by Carl Sassenrath that ViScorp used before it had the rights to use the Amiga OS. The overhead projector was black and white and the graphics were makeshift, but as the demo went on I couldn't help but get more and more interested.

What we were being shown was a very cost-effective magic Internet and comms box. Firstly, the box integrated the telephone with the TV. ED can store your numbers and you can phone by speaking into the television, using the remote control to dial, and if someone phones you, their name can be genlocked onto the screen. Secondly, there is the Internet and other on-line services. We were shown the ED connecting to an audio text service, to CompuServe, and sending a fax, and the use of existing services will ensure that ED has plenty of programs when it is launched.

## NETWORKING

Okay, so why was I so excited? Well, here we have the prospect of a huge network of computers all based on the Amiga OS, all completely compatible, and the possibility of a rebirth in Amiga software development. Multiplayer games, BBSs, Internet, on-line services, TV guide, phone directory, diary/calendar and fax/telephone all in one box, and they all cross over into television as well. It would be possible, for example, to be watching an advert on TV and with the press of a button, speak to sales or source more information from the advert's Web site. Finally, the ED isn't much different to a desktop Amiga – plug a keyboard and monitor into an expansion card and voila, the ED is a new Amiga.

Don Gilbreath then gave us the low-down on the ED's hardware, even showing us the first board to run off the production line. The ED has several high-speed serial ports and an EPP parallel port with a modular build to take comms and video cards for each country. The board has space for 4Mb of ROM and some FastRAM, but it was not yet decided how



© The panel of experts

much, however. The ED has additional DMA channels to handle transfer speeds of up to 45Mb/s, and there is also a double-sided remote with Qwerty keyboard on one side.

What about the OS? Well, Carl Sassenrath, dressed in an original Amiga Boing T-shirt, took up the mic and said he was glad to be in the position again of having a chance to continue the original ethos of the Amiga as a machine for the home. We're not talking about the set-top box only, we are actually sneaking Amigas into homes across the world.

## INSIGHT

Then he gave us an insight into how he was going to add to the Amiga OS and try to fill the 4Mb of ROM. It would have all the extra device drivers, a high performance embedded TCP/IP stack, PPP and SLIP for dialling up the Internet, FTP and SMTP protocols for file and mail transfers, some file codes like Lha to allow software archives such as Aminet to work transparently, JPEG and GIF decompression code, Wave, AIFF and other Internet-standard file formats. Also included will be most of the tools needed for on-line services such as Web browser and e-mail software, and some extras such as an on-screen doodler, video capture and security. This should give us some clues as to what may be in the new version of the Amiga OS for the desktop promised by Bill Buck.

Eric Laffont then reported mainly about the Internet. He had received over 2000 e-mails of support and ideas, and most people were concerned that they were going to be let down and wanted ViScorp to know how they felt about the Amiga. A large number said they would buy another Amiga, even though most people already had more than one. Let's hope ViScorp can continue to listen to its users as they have demonstrated

## STILL A POSSIBILITY

This was the week that Phase5 announced details of its new PPC Amiga clone. The specs were impressive and certainly made an amazing computer, but with the announcement came the news that communication between AT and Phase5 had been almost non-existent over the past few months. This accounted for the delays in delivery of the Powerup developer boards and also the break away now being made by Phase5. At this point there had been no talks with ViScorp, although a meeting was being arranged for the week following the Toulouse meeting.



© A bad picture of the first ED motherboard

here. The afternoon was conducted in three lecture rooms. One contained a handful of Amigas running demos, and was where the Amiga users discussed the morning's events and swapped Amiga chit chat. The dealers and distributors were discussing logistics and the current set-up of the Amiga in another room and finally, there was the developers' room. This was like an Amiga school, with Carl Sassenrath and Don Gilbreath as the teachers. Here, however, the conversation became quite heated as several developers pointed out that the Amiga was still in the same position as three years ago. This, obviously, was true, but was nothing to do with ViScorp.

## PROMISES PROMISES

Eventually it all calmed down and everyone began absorbing the technical details of the ED and discussing the future of the Amiga. Surely what ViScorp was promising could prove to turn out rather well for the Amiga developer community – the possibility of a mass market for its products must give hope. It was interesting to hear that ViScorp had already been to see BeBox about using its multiprocessor PowerPC hardware for a future Amiga. So maybe ViScorp did mean business and the Amiga wasn't in such bad hands. The whole day was a great success and we were promised more in the future in other countries.

## WALKER MOVES ON

*Wait! It may not be the end for the Walker. I have heard of two companies interested in taking over the project and, whilst writing this article, of unconfirmed news that a German manufacturer was going to make them and badge them under the name RTL, a large German TV network. Let's hope this is the first of many close co-operations with other companies that ViScorp so wants to build following this Toulouse conference.*



QUALITY IMPROVEMENT

**W**hen it comes to pictures in publishing, resolution is all important. If you want sharp, clear, good looking pictures then there is no substitute for a quality scan. You can try using a VIDI grab but even at high resolutions it will appear fuzzy compared to a scan.

Scanners also win hands down when it comes to the maximum resolution achievable. If you consider our cover images are around 3000 by 4000 pixels, give or take a few hundred either way, the only way you can get an image from the real world of this quality is by using a scanner.

The GT - 5000 is an A4 sized flat bed scanner. A flat bed is, obviously, always going to produce better results than a hand scanner because a hand scan is fairly reliant on how steadily you can draw the scanner over the picture. A scan tray can help out but you will never get the precision that the mechanism in the scanner can produce.

Actual scan area is 297 mm by 216 mm so will comfortably accommodate A4 sized paper, which just happens to be the size of Amiga Computing now. Physically, the actual scanner is not much larger than the scan area - a foot wide and a foot and half long - and with it being colour co-ordinated with the Amiga, strangely enough, sits very nicely alongside your computer.

#### SUPERIORITY

There are two versions of the scanner. One comes with a SCSI interface and the other is the parallel port version. Unfortunately, Amiga users cannot take advantage of the SCSI version at the moment as there is simply no software that supports it. The SCSI version is going to be superior to the parallel port version because data will be transmitted faster from the scanner, even though the overall quality of the scan will not be affected.

Before you can use the parallel scanner

*Being almost a third smaller than the GT-6500, with thinner sides and front, and almost twice as fast, the 5000 is a more than admirable replacement and worth every penny*

you also need an Amiga-specific parallel cable. The pin out is provided by ImageFX but most Amiga specialist retailers such as Power Computing and First Computers will provide the cable and even the scan software either bundled with the scanner or as an extra. Consequently, you do not have to

# Carbon COPY



## SCANNER SOFTWARE

It is all very well and good having an excellent scanner such as the GT-5000, but if you haven't got the software to support it then it's as much use as a door stop. Luckily, the Epson GT range of scanners is well catered for on the Amiga side, with both the top-of-the-range image processing packages having support modules for Epson scanners.

ImageFX comes with a number of scanner modules including one for the Epson, while ADPro's module has to be bought at extra expense. If you do not currently own either of these programs, Power Computing currently bundles its own scanner software - this is the same program that comes with its hand scanners, and makes a usable alternative.

For the review I was using ImageFX which comes with a comprehensive Epson module which works with the whole Epson GT scanner range. The only limitation with the current module is that it restricts you to a top resolution of 1200 dpi, half the potential resolution of the Epson. Usually these top dpi settings are unnecessary but if you want to

### Epson's GT

flat bed scanners are renown for their quality and speed.

**Neil Mohr** tests the baby of the bunch



worry about the embarrassment of having to trudge down to Maplins and then heat up your soldering iron.

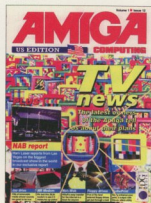
Epson's usual minimalist style of casing manages to find its way to the GT-5000, with it sporting a single power button and a reset button. Other than that you are just left with three display LEDs.

On that all-important subject of resolution, this Epson is the low-end model of the GT range but still has an impressive specification. With an optical scan resolution of 300 dpi it should more than suffice for all but the most demanding situations, and if you really need a higher resolution the Epson can output up to 2400 dpi using interpolation. This is the process whereby the scan head is tracked back over the same area a number of times, in slightly off-set positions, and the scanner then works out what is in-between from these multiple scans.

## PRECISION


The end results are not going to be as sharp and precise as using an optically true 600 or 900 dpi scanner, but if you need an extra large scan then at least the GT-5000 has the option of allowing you to get extra high dpi scans. The other downside to the interpolating is that due to the scan head having to make multiple passes, anything over 300 dpi is going to take much longer because the scanner basically has to make two, three or four times as many scan passes.

Speed wise the Epson is good. Initialisation and warm up takes only a few seconds, and it provides lightning quick previews and greyscale scans. When it comes to 24-bit scans things do slow down a little. At 100 dpi you can expect a fairly speedy A4 scan to take about a minute, but with higher resolutions such as 300 dpi you can expect a longer wait of around nine



minutes. Due to the control ImageFX allows you to have over the scanner, primarily gamma, colour and brightness correction, you can quickly get superb results. The scanner managed to

reproduce all the rather psychedelic and pastel colours of our July issue excellently.

Originally the GT-6500 was Epson's entry level scanner, but the GT-5000 comes as its replacement. Being almost a third smaller, with thinner sides and front, and almost twice as fast, the 5000 is a more than an admirable replacement and worth every penny. 

## FTWARE

'blow up' a small section of a picture, scanning at a high dpi provides the perfect way to do so.

One huge advantage ImageFX has is its built-in virtual memory. This allows ImageFX to load and process images that are too big to fit into your computer's normal memory, and unlike conventional virtual memory you do not need a MMU. ImageFX's ability to use this pseudo-virtual memory is indispensable because even scanning at resolutions as low as 200 dpi requires 11Mb of free memory, and without it you can forget about scanning at anything above 300 dpi. You could say that ImageFX is limiting by only going up to 1200 dpi, but considering this produces a virtual memory file of around 430Mb, I cannot see too many people being put off by this.

Setting up ImageFX for the first time is a little confusing because as standard it looks for an ASDG-style parallel lead. This can cause caching problems with G40 processors, so Nova Design recommends you use what it refers to as a GVP-style lead. When you first

select the scanner mode in ImageFX, it waits about 15 seconds as it tries to talk to the scanner, after which it complains that it cannot because it is trying to use the wrong style lead.

You can then change the cable type in the scanner's extras options, but before you press the OK button you need to reset the scanner otherwise ImageFX will not recognise that the scanner is active and just sit there waiting - now that had me baffled for a while I can tell you.

Once the scanner is up and running you can run preview scans, either colour or greyscale, in a matter of seconds and they are good enough to get a rough idea of what the final scan will be like. However, the scanner is so fast that you may prefer to run off a 50 dpi scan. ImageFX also allows you to take advantage of the Epson's extra features, such as a number of different halftones and a gamma and colour correction for both VDU displays and printers. These settings allow you to get the best colour representation for your needs.

## Bottom line

### REQUIREMENTS

RED essential BLACK recommended



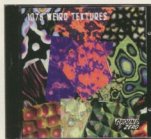
### PRODUCT DETAILS

Product	Epson GT-5000
Supplier	Epson UK
Price	£399 + VAT
Tel	01442 61144

### SCORES

Ease of use	90%
Implementation	95%
Value For Money	85%
Overall	90%

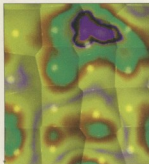
## WEIRD TEXTURES



There's not really much I can say about this CD as the title says it all – it contains 1078 Weird Textures.

If you like to vary your desktop pattern from week to week or you indulge in a spot of DTV, you can use these textures. The CD comes with a small booklet/catalogue which you can flick through to find all the available textures without even touching the CD itself, so the process of finding one is probably the quickest and most efficient – it saves time loading up each of the 1078 textures one after another.

The textures are saved as IFFs and GIFs so are all accessible on the Amiga. If you want a CD with lots and lots of funny coloured backdrops then this is the one for you.



Exactly 1078 textures at your disposal – what could be better?

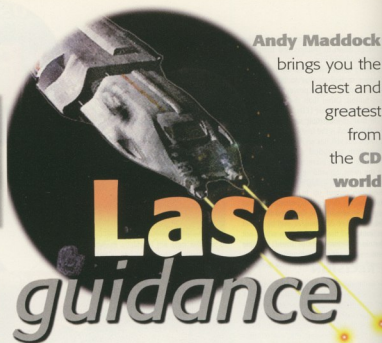
## Bottom line

### PRODUCT DETAILS

Product:	1078 Weird Textures
Supplier:	Ground Zero
Price:	£9.99
Phone:	0117 90767

### SCORES

Ease of use	91%
Implementation	90%
Value For Money	88%
Overall	89%



**Andy Maddock**  
brings you the  
latest and  
greatest  
from  
the **CD**  
world

## AGA EXPERIENCE VOL 2

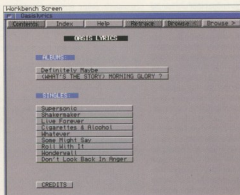


out, but the AGA Experience stood head and shoulders above the rest.

Basically, AGA Experience Vol 2 is just another collection of games, utilities, demos, pictures, slideshows, diskmags, text files, animations, fonts and all the other usual categories on a compilation. However, what stands out from all the rest is that the CD is AGA only which means the whole CD will be graphically superior to any other on the market.

Also, there is an exclusive directory on the CD which features programs and demos specially compiled for the AGA Experience. The companies who make an appearance are ClickBoom, OTM, Siltnna Software, Effigy, Team 17 and Guildhall Leisure – you may agree that these companies are, at the moment, the cream of

I can remember Volume 1 of the AGA Experience CD and I think it was one of the better CD compilations. There were a lot of compilations out then which stood



Oasis on an Amiga CD. Fantastic – you can hear sound samples and everything



# PHASE 4 - DESKTOP VIDEO DREAMS



Phase 4 is the fourth in the collection from EMComputergraphic. The last three DTP collections have all received scores of more than 90 per cent, but Phase 4 strays away from this, focusing instead on desktop video.

The CD contains everything you could imagine associated with desktop video. Whether you're a keen home movie maker or just want to add some professionalism, you will find something that will come in useful. There are background textures, fonts, sound effects and images to aid you in the presentation of your efforts. There are a large num-

ber of bitmap fonts with IFF previews and some come with an automatic installation script so you don't encounter any problems. For the actual presentation part there are many samples and modules which have all been tested, ensuring only the best quality material offerings are included.

The last part of the actual creative side is the backdrops which range from 'never seen before' professional designed backdrops for a number of topics to some standard coloured ones such as Marble and Stones. To finish off, Phase 4 includes demos of some of the best products available including Optonica's



There are various animations included on the CD and this is one of them

Multimedia Experience, ImageVision and, of course, DPaint5.

It all adds up to being one of the best DTP CD packages around today, not to mention the future. This is undoubtedly the best Phase CD yet.

## Bottom line

### PRODUCT DETAILS

Product:	Phase 4 - Desktop Video Dreams
Supplier:	EMComputergraphic
Price:	£39.99
Phone:	01255 431389

### SCORES

Ease of use	91%
Implementation	90%
Value For Money	89%
Overall	92%

## SFX 2



the Amiga games industry. You will find demos of Capital Punishment, Alien Breed 3D 2, XTR and Pinball Prelude amongst other recent delights.

The other categories basically feature everything you'd expect, and although this may sound stupid, the CD is very Amiga oriented. When you click on the images directory you won't find pictures of ancient Egypt or some cute cats, you'll find ones of the new Power-up board and the fairly new Walker with its old casing.

The CD is an absolute must for Amiga enthusiasts and almost everything included will be useful. It doesn't matter if you are a serious user or not - this CD is just the ticket to give your AGA chipset something to do.

Although releasing a sound effect CD may seem a little weird, it's actually a good idea. Okay, so it may not have great demand as an image CD but there are a handful of owners who delve around into the artistic and creative sides of the Amiga apart from graphic artists.

The majority of users, especially budding musicians, will appreciate a music CD containing instrumental sounds for use with Amiga modules. But SFX is different. It contains hundreds of samples of absolutely anything, including the usual alarm/bell noises, door creaks and voices.

You can play the samples back at either 8- or 16-bit, but there is one problem. The CD was originally designed for the PC so you will have to ignore the .EXE file extensions lurking around and, also, the samples are, of course, recorded in .WAV format, so again the PC's limitations shine through as the eight character filename allows you to be hopelessly lost in a world of effects.

Luckily, SFX comes with an Amiga floppy disk which fixes these problems, but you will still come across a few limitations with it being originally designed for the PC.

If you're after some sound effects covering all the usual topics such as dogs, cats and people, amongst hundreds of other things, then it's almost certainly a worthwhile purchase - as long as you can find a use for them.

## Bottom line

### PRODUCT DETAILS

Product:	Product: AGA Experience Vol 2
Supplier:	Sadness Software
Price:	£18.99
Phone:	01263 722169

### SCORES

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

Sound Ideas Amiga CD-ROM #2 89196 Legendary Design 21-May-96 16:18:21



You can search the entire contents of this CD through this simple but awkward menu system

## Bottom line

### PRODUCT DETAILS

Product:	SFX 2
Supplier:	Legendary Distribution
Price:	£TBA
Phone:	+00 519 753 6120

### SCORES

Ease of use	85%
Implementation	83%
Value For Money	N/A
Overall	85%

# NETNEWS OFFLINE



The Newsgroups on the Internet have been one of the most popular places for passing on information about certain subjects. It's basically a worldwide notice board which allows you to 'pin up' your messages for everyone to read and then they can either reply to it or throw it away – it's as simple as that.

Over the last few months, the various

Amiga Newsgroups have been over populated with people asking about Amiga Technologies and VISCop, amongst other topics. NetNews Offline allows people to access these questions and answers written by these regular attendees to see what's been going on recently.

The CD contains postings from the popular comp.sys.amiga group as well as a number of other interesting foreign ones. Overall, there are over 200,000 articles included and to read every single one would take quite long time.

You have to bear in mind that some of them may not even be worth reading because they may not be relevant to anything, some of them are foreign so you probably won't understand them, and they're all out of date – so is it worth it?

If you are willing to spend £14.95 to catch up on old news, then you might as well get yourself an internet connection and read the latest ones. I can guarantee that the postings change almost everyday which means you

## Bottom line

### PRODUCT DETAILS

Product:	NetNews Offline
Supplier:	CIT
Price:	£14.95
Phone:	+49 617 185 937

### SCORES

Ease of use	84%
Implementation	80%
Value For Money	85%
Overall	85%

have to have your finger on the pulse to find out what's really happening. Oh, and remember – no news is good news.

# ARCADE CLASSICS PLUS



Epic Marketing has decided to re-release Arcade Classics with a completely new menu system which makes it far better than the original release. The games on the CD are the same as the original so it still includes classics

*Re-live all your favourite gaming moments by laying your hands on this excellent CD*

such as Donkey Kong, Frogger, Defender, Breakout, Galaxians and Invaders. Basically, the CD features variations of the now dated video games, so don't expect them to be original in any way whatsoever – they're merely re-creations.

If you want to reminisce about the old days then there is no better way. Buy it today.



## Bottom line

### PRODUCT DETAILS

Product:	Classics Plus
Supplier:	Epic Marketing
Price:	£14.99
Phone:	0500 131486

### SCORES

Ease of use	88%
Implementation	89%
Value For Money	87%
Overall	89%

# HOTTEST 6



Hottest 6 is the next in the series of PD and shareware collections for March 1995 to February 1996, which means all the good quality software from just under a year will be here.

The CD uses one of those amazingly user-friendly menu systems by listing the entire catalogue in a vertical column, and if you click on something that takes your fancy you will be treated to a brief but informative account of

what the software is and how many disks it will need during the DMS process. Some of the software can be extracted via Lha command directly into your RAM directory, but the majority of it will require extracting straight to a floppy disk.

The content varies from games, utilities, music disks, demos, clipart and more. The catalogue isn't really divided up into any specific categories so the best you can do is scroll through the listing and see if there's anything that looks worthwhile. It is possible to search through the catalogue but you will only search the title and not the description.

The content isn't really of an amazing standard but there are quite a few programs which will appeal to any Amiga user such as the Workbench utilities.

Overall, Hottest 6 contains an even balance between the more serious software and other programs such as a Witches Cookbook and Rock-a-Doodle Colouring Book. In my mind this

is a perfect CD for the average Amiga owner who's after a bit of everything.

## Bottom line

### PRODUCT DETAILS

Product:	Hottest 6
Supplier:	PD Soft
Price:	£14.99
Phone:	01702 466933

### SCORES

Ease of use	88%
Implementation	89%
Value For Money	88%
Overall	89%

# Pro-GRAB... Rapid Frame Grabbing on your Amiga

Now compatible  
with both VHS  
and SVHS!

The revolutionary S-VHS ProGrab™ 24RT Plus with Teletext is not only the best way to get crisp colour video images into your Amiga, from either live broadcasts or taped recordings, it also costs less than any of its rivals. This real time PAL/SECAM/NTSC\* 24-Bit colour frame grabber/digitiser has slashed the price of image grabbing on the Amiga and, at the same time, has received rave reviews for its ease of use and excellent quality results. ProGrab™ has earned honours from just about every Amiga magazine and Video magazines too!

And... with ProGrab™ you needn't be an expert in Amiga Video Technology, a simple 3 stage operation ensures the right results - Real Time, after time.

## STAGE 1...

Select any video source with S-VHS or composite output. This could be your camcorder, TV with satellite receiver, domestic VCR/player or standard TV signal passing through your VCR/player... the choice is yours.

Grab images with your camcorder including S-VHS...

or Take a signal from a TV with SCART output...

or Use the signal from your satellite receiver...

or Grab TV or video pictures from your VCR's video output including S-VHS.

## STAGE 2...

With ProGrab's software, select an image you wish to capture using the on screen preview window and Grab (because the hardware grabs frames in real time, there's no need for a freeze frame facility on the source device). Once grabbed, simply download and view the full image on your Amiga screen. ProGrab also includes a Teletext viewing and capturing facility from either TV or satellite sources.

## STAGE 3...

Use the 'grabbed' image with your favourite word processor, DTP or graphics package.

ProGrab really does make it that simple!

# Pro-GRAB™ S-VHS 24RT Plus

Camcorder User commented: "If you're looking for a high resolution 24 bit digitiser then, at the price, ProGrab 24RT represents great value for money!"

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ProGrab™ Amiga Magazine 95% Gold Rating and comments like: "ProGrab 24RT Plus is a real step up the ladder to get 'immediate' value for money... its other major offer is 'much fun to use' and 'offers all more features than any other digitiser on the same price'!"

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AMIGA

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- ProGrab is supplied with everything you'll need:
- ProGrab™ 24RT Plus Digitiser
  - Latest ProGrab Version 2.5.x Software
  - Main Power Supply Unit
  - Parallel Port Connecting Cable
  - User Manual
  - Input sockets for Composite and S-VHS.

PCMCIA Interface for A1200 and A600 - Only **£34.95**

- ProGrab's optional PCMCIA interface includes the latest version software and extends performance for semi-professional users - offering the following benefits:
- Faster Downloading Times (up to 1/10th the time)
  - Improved animation speeds of up to 1/10th (smooth and 3/50th (jittery))
  - Sound sampling and animation capabilities (separate sound sampler required)
  - Saving of animations direct to your Amiga's hard drive
  - Freezing of your Amiga's Parallel Port for use by a printer or other parallel peripheral device

ProGrab™ supports any Amiga with Kickstart 2.04 or later & a minimum of 1.5Mb. free RAM

\* A video source cable will be required to match your own equipment set up. Ask for details.

**ProGrab™**  
Supports all recent Amigas and is also fully VGA Chipset compatible. You can render images in any Windows screen mode resolution including Hi-Res mode (Amiga 800k permitted).

**ProGrab™**  
Select and locate images in PIFILM, PIFILM24, JPEG, BMP, PCX, and TAG/RA formats. ProGrab uses animations as 'Amiga' files and animations with sound requires PCMCIA interface and separate sound sampler (see Amiga) or EXR files. A range of image processing effects, palette computing routines (AGA only) and dithering methods are also new. ProGrab Version 2.5.x Performance fully supports ProGrab with a custom Loader to enable grab directly from within the program - saving YOU time!

**ProGrab™**  
Software has built in menu and colour animation facilities. The number of frames is dependent upon your Amiga's RAM.

**ProGrab™**  
Release 2.5.x software now includes...

- SUPPORT FOR VIRTUAL MEMORY
- Allows the highest resolution - Even with low memory Amiga (4M) Hard Disk Systems (now the need for an MMU).
- Supporting 4M, 8M, 16M, 32M, 64M, 128M, 256M, 512M, 1024M, 2048M, 4096M, 8192M, 16384M, 32768M, 65536M, 131072M, 262144M, 524288M, 1048576M, 2097152M, 4194304M, 8388608M, 16777216M, 33554432M, 67108864M, 134217728M, 268435456M, 536870912M, 1073741824M, 2147483648M, 4294967296M, 8589934592M, 17179869184M, 34359738368M, 68719476736M, 137438953472M, 274877906944M, 549755813888M, 1099511627776M, 2199023255552M, 4398046511104M, 8796093022208M, 17592186044416M, 35184372088832M, 70368744177664M, 140737488355328M, 281474976710656M, 562949953421312M, 1125899906842624M, 2251799813685248M, 4503599627370496M, 9007199254740992M, 18014398509481984M, 36028797018963968M, 72057594037927936M, 144115188075855872M, 288230376151711744M, 576460752303423488M, 1152921504606846976M, 2305843009213693952M, 4611686018427387904M, 9223372036854775808M, 18446744073709551616M, 36893488147419103232M, 73786976294838206464M, 147573952589676412928M, 295147905179352825856M, 590295810358705651712M, 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**W**henever you put products head to head there always seems to be this need to run some sort of benchmark to give tangible evidence that one product is superior to the other, rather than just relying on our opinion of which seems better.

In the case of these octal CD drives, however, there really seems to be no point. The usual way is to run Sysinfo and jot down an average from the various figures it spews up, but in the case of all the octal drives, they return the obvious figure of 1200Kb a second, with only a few K either way.

In general, these CD drives are so fast that directory listings come up as fast as you would expect from a hard drive, and in fact they out perform an A1200 hard drive by quite a large margin. This makes trying to do any test figures for these sort of things very tricky.

A good way to show just how fast these drives are is if you do a search for mods using the Amintest find program. The AmigaGuide with the search results in appears in about a second - now that is fast.

### **GOLDSTAR GCD-R580B**

**PRICE: £129 + VAT**

GoldStar is a fairly new electronics company with a good reputation for producing low-cost, feature-packed consumer electronic equipment, and this octal speed CD drive is no exception. The best of all the drives, the GoldStar comes in a pleasantly packaged full colour box. The drive itself seems to be one of the sturdily built, and the front loading tray includes flip-out tabs to keep a loaded CD in place, allowing the unit to be used on its side. It has the usual analogue and digital sound output and, as with many of the other CD drives, has extra audio CD controls on the front so you can play audio CDs without the need for a software audio player on your computer.

# Spin cycle



A new generation of octal speed CD-ROMs has just hit the streets, and **Neil Mohr** sees if they are as good as they claim

### **HITACHI CDR-7930**

**PRICE: £110 + VAT**

With Hitachi being one of the most well known electronic companies, you may have thought that its drive would be one of the best. However, the poorly packaged drive that came with just a single PC disk has the most 'tinny' feel to it of all the drives in the roundup. It has the expected analogue and digital sound output, along with the expected headphone output with volume control.



## ATAPI CD-ROMS

It seems, and in reality it is, that technology marches to the beat of the PC drum. Consequently, all but one of the eight speed CD-ROMs we have reviewed are what is known as ATAPI devices, which means they interface with your computer using the normal IDE interface found in your A1200 or A4000. You will also be glad to know that your Amiga can make use of these low cost ATAPI CD-ROMs.

As you might have already guessed, you cannot just buy yourself an ATAPI CD-ROM, plug it into your Amiga and expect it to work. Before you can do this you will need to get hold of an ATAPI device driver. This may sound a little scary but once you have got

hold of the correct software, setting your Amiga up to use an ATAPI device is very straightforward.

A commercial solution comes in the shape of AsimCDFS 3.5 which is available from Blittersoft. This is a complete set of CD-related tools and utilities that, with an easy installer, lets you get a SCSI or ATAPI CD-ROM drive working as quickly and simply as possible.

If you are not looking for the complete suite of tools that AsimCDFS provides, a number of quick and easy public domain solutions are available, one of which can, handily, be found on this month's coverdisk.

Once you have the software, all you need is the

CD drive and the correct lead to connect everything up. If you own an A4000 then as long as you only have a single internal IDE hard drive you will be able to put in your new ATAPI CD drive and connect it up, making sure the ATAPI CD drive is set to slave and your internal IDE drive is set to master.

A1200 owners have a few problems. To start with the A1200 IDE connector is built for a 2.5" drive, but all the ATAPI CD drives expect a 3.5" connector. Therefore, you are going to have to get a special lead made, or get an adaptor. You will also need an external drive that comes in a proper box with its own power supply.

### PLEXTOR - 8PLEX

PRICE: £349 + VAT

The Plextor is the only octal speed SCSI CD drive that we could get for this roundup. It is reasonably well constructed, even though it only has analogue sound output. There are the extra audio CD controls on the front of the drive that can be found on most of the other CD drives, and it does come with a comprehensive manual explaining how to set up the SCSI chain. My major complaint is that it uses caddies. They do allow you to use the drive on its side, and should extend the life of your CDs, but they are a pain, especially if you lose one. The Plextor is available in an external box, and with an average access time of 115ms, is the fastest drive out of the five, even though you may have a hard time noticing the difference.



"These CD drives are so fast that directory listings come up as fast as you would expect from a hard drive, and in fact they outperform an A1200 hard drive by quite a large margin"

### AZTECH - ZETA

PRICE: £119.95 + VAT

Aztech is not exactly the most well known company in the world but it has managed to put together one of the cheapest octal speed CD drives currently around, which still provides all the features of the other drives. Both analogue and digital sound outputs are available at the back, along with a head phone socket, volume control and the seemingly obligatory audio CD controls on the front.

The only oversight on behalf of the CD casing is the lack of any labelling on the three jumpers that let you select whether the drive should be set to master, slave or CSLE. This means that if you do have to change the setting you will have to dig out the manual - that you have probably lost. The Aztech also has the slowest seek time at 235ms, and even though it still has a transfer rate of 1.2Mb/s, this means directory searches are marginally slower than most of the others.

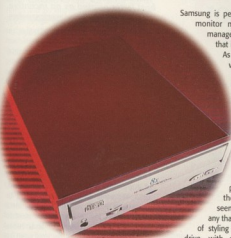


### SAMSUNG SCR-803

PRICE: £129 + VAT

Samsung is perhaps better known as a monitor manufacturer and it has managed to produce a CD drive that is as good as its monitors.

As with most of the other drives, you have both analogue and digital sound output and the handy front panel audio CD controls. Unlike all the other CD drives the Samsung has a 128Kb data buffer, but even so there seems to be no difference in performance. It has a 145ms access time that compares well with the rest in the field, and Samsung seems to be the only company that has tried to add any sort of styling to the front of the CD drive, with oval style buttons and a busy LED.



## DYING, BUT NOT DEAD

I am a former Amiga user and subscribed to Amiga publications before I even got my Amiga. I still have the magazines, but I sold my Amiga. I had one of the first 3000 Towers in the area, put 10 Megs of RAM on it (8 fast, 2 chip) and instantly I was the power user of the Amiga user group I frequented. I loved my Amiga and dreaded the day I had to sell it. I got Maybe 1/5th of the price I paid, and I cheated and got the educational discount. Now I own a Pentium-133 machine, 2.4Gigs of HD, 32Mb RAM, running Windows 95. I'm using a 1024x768x 16-bit colour display, a NEC 17" monitor and am connected via PPP to the Internet via local ISP. My sound card has wavetable synthesis (AWE-32), and everything works great.

I'll admit that Workbench 3.1 was a better OS, and the Amiga's custom chipset was much better than any Intel Triton, endeavour or whatever, but I've got to say this, pain me as it does - the Amiga is dying. Not dead... yet. I'm not Amiga-bashing, but look, Commodore goes bankrupt; the company that bought the Amiga technology (Escom), who promised it would market and sell the thing during negotiations, flaked out. So what's worse? A company that doesn't develop very often and has poor customer service or a company that does not develop and does not even sell the thing? The third-party manufacturers can keep the boat floating for a while, but without the support of the mother-company, it's dead.

Yes I saw the 'Walker' prototype spread. Very nice. I really hope that's where the Amiga is heading. It's time for a new machine. Honestly, I would buy one again if the support was there, but I've been hearing for about two years now how everything is going to 'bounce back', and I really think there should be less 'padding ourselves on the back' for owning such a spectacular machine, and more development and products being made for it. If there were a development library for the Amiga, I'd buy it. But there isn't, and that's why I bought the Microsoft Development kit.

Richard Langis Jr., Hillsboro, Oregon, USA

It's a sorry state of affairs alright, and I'm surprised we haven't had more letters like this one. I'm sure there are a lot of Amiga owners out there who are carefully thinking about doing the same as you have done, but hold on just a second. Are you doing things on your PC that you could just as easily be doing on your Amiga? There are an awful lot of people who end up getting rid of their Amigas, only to find out that they could have saved the money they spent on a PC that will be obsolete in six months' time.

## REDESIGNING THE AMIGA

A lot has been said about what the Amiga platform has accomplished and where it may be heading. In my experience with a number of platforms, I have found that none is as reliable as the Amiga. As I have told a number of my colleagues throughout the years, the Amiga, if supported as other platforms have been, could become a very competitive computer again.

Take its operating system, for instance. As simple as AmigaDOS is, it can still run efficiently powerful programs and hardware like: the Video Toaster, LightWave 3D, Brilliance, Photogenics, Final Writer, Deluxe Paint, etc. Take into account that the Amiga can run these and other programs with minimal resources, with 4Mb of FastRAM and, in some cases, without a hard drive, and the speed in which many of its graphics can be displayed on-screen. What other consumer platform can display animations, with various resolutions and colour depths, in real-time? Platforms like IBM and Mac cannot accomplish this without special add-on display cards and fast processors.

One thing I would like to add is that a number of editors have addressed as competitive redesigns to the Amiga. Many people have expressed how the Amiga should

lose its custom chipset and I know the chipset does not allow IBM-like resolutions (i.e. 1024x768), but I am sure this can be added in the near future. Small computers like the A500, A600, and A1200 cannot easily adapt themselves with 24-bit cards that allow resolutions like these, but I am sure a redesigned ROM and chipset would be able to. After all, has anyone asked or recommended SGI to abandon its graphic co-processors? Yes, both the Amiga and Silicon Graphic workstations have graphic co-processors and SGI's can display high resolutions. Why can't the Amiga be designed to accomplish this?

The last thing I would like to say is a prediction that if Escom and Amiga Technologies can take the Amiga seriously, the Amiga can once again be a competitive system in the industry. The Amiga is powerful out of the box. Think about it. Add a RISC processor, on-board memory expansion to 128Mb of FastRAM, a more powerful chipset with higher colour depths and resolution, built-in 16-bit sound, with a refined operating system, and you will have the makings of a true Amiga workstation. In my field of computer graphics, I think a RISC-based Amiga workstation would have what

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it takes to go up against any SGI, Sun, or Dec computer system.

LeRoy Parham, Jr., Clinton, Maryland, USA

It's a nice idea and I particularly like the notion of telling SGI to lose its custom chips. However, as has been said before in this column, custom chips take a lot of money, time and expertise to develop - all commodities which the Amiga Development team is in short supply of. The solution, at least in the short term, is to take an off-the-shelf chipset and work on software to drive it. This way Amiga Technologies can rely on the vast amount of experience that people like Orchid, SPEA, Diamond and others can bring to its designs. It's all very well asking for a new chipset but how long do you want to wait for this new Amiga, and, more importantly, how much do you want to pay for it?



## KEEPING BOTH SIDES HAPPY

As an avid Amiga user for ten years now it is good to see the Amiga back! It is also sad to know that it will die. Harsh but true words. The Amiga has one major problem and it's the same problem it had in 1985. Would you recommend to your friend that he or she buy an Amiga? The answer should be "No" even if you're a die hard Amiga addict.

Let me tell you why. If you don't already know, Amiga users are the most computer literate in the world, but most people are not computer literate at all. So how do they use a computer that in their eyes has no support and no popular software titles? Answer: they don't.

How do we then sell Amigas to the 99 per cent of the world that has never heard of an Amiga? The answer is in giving the world what it wants. They want support; offer free classes with every computer sold and step-by-step help over the phone for as long as they have questions, all for just the price of the call to the customer - the way IBM did in the '70s and '80s. With this move, anyone that has never bought a computer or can't use a computer will think of the Amiga as their choice of computer. That move alone would get you 66 per cent of America looking at Amigas.

"What about Doom, Quicken, AOL and MS Word? If I can't use this software I don't want an Amiga." This is what you would hear from most people when they look at the Amiga, and the truth is this hurts the Amiga more than anything. So again, give the world what it wants. Give them all the off-the-shelf software in the world! By this I mean that if the Amiga is moving to the PowerPC chip and the PCI bus, why not have the next Amiga with a PowerMac built into it? Something like shape shifter, but rather a ready to go PowerMac right out of the box. And if you're going to use the PCI bus then why not have a second CPU slot for an Intel chip, to make the Amiga an IBM PC as well?

Think about it - no more choices about which computer to buy. You simply buy an Amiga and get everything!!! The beauty of this is that Amiga Technologies can put a bottom of the line PowerPC and Intel 486 chip in the machine and still have the best all-in-one box. To get around the custom chips, simply don't put them in the next Amiga, copy them as software and move them into RAM when the Amiga is running. The advantage is that you save money on not having to buy the chips, and native PowerAmiga software running on the IBM standard display card will be so fast it will scream. Compatibility with older Amiga software should not be that great a concern, because the future and power of the Amiga is not in the old software but in the updates that are PowerPC native. This would be good for the Amiga user, great for Amiga Technologies, and excellent for the Amiga software companies.

If Amiga Technologies can make this machine for US \$1000 to \$1600, I'd line up to buy one. Also, if Amiga Technologies can make a stripped down, low-cost model for US \$500 to \$1000 it should then sell the computer at cost to manufacture, allowing only \$50 to \$100

dollars profit to the retailer. Doing this would then flood the market with a machine that had the monopoly in the amount of software it could run - the real reason people buy computers. The Amiga would then get into homes it would never have a chance of being in before. The best part about it is that people then could recommend the Amiga - computer literate or not!

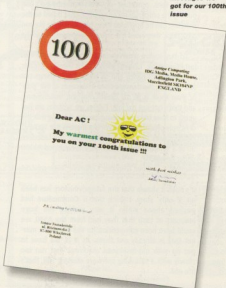
Please pass this letter on to all that use the Amiga. This all-in-one idea is the best hope for the Amiga because it's so easy for most people to see that the Amiga is the computer that runs everything!

Adam & Keri Langway; Topeka, Kansas, USA

Hmm, We get these letters all the time from our readers. "Why doesn't Amiga Technologies bring out a machine that can beat everything on the market and only cost \$300?" The answer should be obvious by now. If such a machine was possible then some other company, bigger than AT, would have already done it. If anything is to happen for the Amiga to survive, it can't be off the market for two or three years until AT has come up with a nice chip design, or an improved processor.

There needs to be something on the market that is continually being updated and pushes the OS forward (because the OS is easily distributable, a lot more so than a new chipset). OS development is not cheap, but it's a damn sight cheaper than chip development and AT is a company without large reserves of cash. The idea of putting all three platforms into one machine is a good one however, but the bottom line, as it always does with these questions, comes down to: "How much did you want to pay for this machine exactly?"

One of the more decorative congratulations messages we got for our 100th issue



## A N O T H E R P C B U Y E R

A little over a year ago, Escom acquired the Amiga. Now ViScorp has it. It is clear that Escom couldn't do the job needed to revitalise the ailing machine, but what can ViScorp do? I can't say I've heard much about this company, leaving doubt as to what resources it is willing to invest into our computer. With the PC market full of Pentiums and Windows 95, can even a PowerPC, one that is used in PowerMacs, save the Amiga now? Consumer confidence must be lower than ever before and, let's face it, not many firms are joining us rather than leaving us. But there is yet another problem in the equation - the price.

When I saw an Escom advertisement in Amiga Computing offering a deal for A500/A600 owners to buy a new A1200, I thought great, a decent price, then I saw the words "Trade in". Now, whilst kick starting the Amiga must be pretty painful to a bank balance, it cannot hope to sell Amigas for £250+ when for the price of an A4060 you could buy a pretty decent PC, one that could be used for working at home and bring data into the office with. With the price and position that the Amiga is in, I don't blame an awful lot of people selling their "worthless" A600s and jumping into the PC market, as a lot of my friends have. And, it is with great sadness that I too have to make this jump.

I cannot afford to miss out on what the computer industry is doing - working on PCs. Had Commodore made the right decisions, I am sure there would be a market for programmers to produce Amiga software for businesses, but only a handful of small businesses using the format, and with Universities using Macs and PCs, I have no choice. Having looked at the PC market's prices, I can now see clearly what is wrong with the Amiga, and it doesn't take a genius to do that. All I can say now is good luck to the Amiga. I am giving my old A600 to my sister for games usage. I shall be buying a nice 133MHz Pentium multimedia myself very soon!

(Oh, and well done for being what I can see as the best Amiga mag on the market, and happy one hundred!)

James Green, Norwich, Norfolk

I guess you won't be needing our services any more then James. I think everyone is agreed on the fact that for what it currently offers, the Amiga is too expensive. However, if ViScorp manages to put the Amiga chipset onto one chip, and then sell its set-top boxes for a couple of hundred dollars, it can only mean a price drop for the Amiga as a computer too. I think it's probably best to hang onto your seats. The show isn't over yet.

# THOSE GAMES COMPANIES!

Hi guys! I'm an Amiga user from Mexico and I love your magazine, but I'm not writing just to congratulate you. As a matter of fact I'm writing because I'm seeing something terrible that I called the anti-Amiga syndrome, and the ones who have this illness are the software companies. Let me explain to you what I'm talking about:

Firstly, a group of guys want to be in the software industry, (a good example could be Team17, Bullfrog, etc. in their early years). Of course, it is difficult to develop software for the PC, and for the consoles it is practically impossible if you are a new group. So what do they do? They develop games for the Amiga, they create some excellent software, and they even say that they are real Amiga fans and they'll always support the Amiga (Team17 once again). But what happens when these guys become a great company? Firstly, they start creating software for the PC, and then what



happens? Well they usually say that the Amiga is not a profitable computer and they leave our platform!

Now, what am I trying to say? It's very simple. Some software companies are using us as a 'bridge' to start in the games business, and when they are famous they drop us like a piece of garbage! I don't know about you, but I can't tolerate this any longer - have you seen the Team 17

Web pages lately? Well if you look at them, you will see in the Team Talk section that Worms 2 will not be available for the Amiga. This is disgusting. A company that became a success on the Amiga is now saying that it can't earn any money from us. I agree that piracy is bad, but the PC is not piracy-free. I also can't understand why, if it is not earning money, why is it a great company now? The same happened with Bullfrog, and Psygnosis (they don't create games for the Amiga any more because 'daddy' Sony says no, but Psygnosis was only famous because of the Amiga).

Let's stop being the launch platform for all those companies that want to be in the games world. Now is the time to show what Amiga users want. I'm not expecting to get Psygnosis or Bullfrog back to the ship, what I want is for the Amiga community to show their disappointment in these companies.

Let's send some e-mails to Bullfrog, and to Team17 (maybe we will get Worms 2 after all). But most importantly, let's buy original games. We must show them that the Amiga is a great platform and this is the only way to show them. If I can buy original games (remember that I live on the other side of the ocean) then you can too.

Finally, let's tell all those new companies that we are tired of this situation. If they want to develop for the Amiga they are welcome, but don't use us as a bridge to success on the PC. We deserve as much respect as all the other platforms, and maybe more, because the Amiga has survived tough times and we've never left our beloved machine. We are looking to the future, but we want to continue with companies that love the Amiga. Remember, just say no to the anti-Amiga syndrome!

Aristides Castiglioni, Mexico

Well done Aristides. You'll receive the £50 prize as soon as you give us your address. Apparently, the reason so many games come out on the PC as regularly as they do is problem enough, and most PC games actually shift less numbers than Amiga games back in the Amiga's heyday, which is a little surprising considering the disparity in the respective sizes of their markets. Not only can our readers e-mail and write to the games companies, they could also point out the results of our reader survey - they're up on our Web site at <http://www.ldg.co.uk/amiga-comp/>. Just go to the Stuff page and you'll find it easily.

Of course, on the other hand, Amiga users shouldn't expect these games companies to just give up on their PC and console development just because we ask them to. They are making more money in these markets than they did on the Amiga, but that shouldn't stop them from bringing out games on our platform too.

## MORE PC WOES

First of all, I'd like to thank you for a great magazine. When *Amiga World* went under, I'd reached the point that I didn't read it much anyway, but I find myself reading your magazine almost cover-to-cover.

I bought my first Amiga (an A2000HD) in 1990 or 1991 during one of the few good marketing promotions Commodore did - the heavy discounts for those upgrading from another Commodore computer. Over the course of the next year or so, I fitted it with more and more RAM, an accelerator, a Bridgeboard and a host of PC peripherals, a display enhancer and a multifrequency monitor - it was quite a system for 1992.

Then Commodore went under and it became more and more difficult to justify the use of an orphan computer. I kept the Amiga, but since I was making my living at the time selling, repairing, and upgrading PCs, I had to buy one.

Now it's 1996, and my ageing A2000 has seen two PCs come and go, followed by a third that may have a little more tenure. Now I find myself doing very little on those PCs that I couldn't do on an Amiga - and I'd much rather do word processing, Internet access, and graphics work under the Amiga's OS than under any PC operating system out there (IBM's OS/2 Warp is the only PC operating system worthy of washing AmigaOS's feet - DOS, Losedoze 95 and the like aren't even worthy of running in the same room).

So I'd love to come back to the Amiga. Unfortunately, that A2000 is showing its age - it's best video modes display only 16 colours, and only very slowly. My latest PC, with its flashy Trident video card, will only very reluctantly do 16 colours - it'd much rather give me 16-bit or 24-bit colour, and it does so quickly. Since I need that kind of colour depth occasionally, the A2000 will either have to be upgraded or replaced outright. I could outfit it with an 040 or 060 accelerator and a Picasso video board, but by the time I do that, I've spent more than I would on a PC and I haven't done a thing about hard disk space.

Alternatively, I could get an A1200 and upgrade it, and then I'd have a machine small enough to tote around and full AGA compatibility. But a bare A1200 -

2 megs of RAM and a 14MHz 020 and no hard drive - costs \$600 in the United States. That kind of money would easily buy a similarly-outfitted (albeit less useful) 75MHz Pentium.

If Amiga Technologies really wants to be anything but the poor man's alternative to an SGI workstation here in the States, it really has to move into this hall of the decade. The A1200, although a huge step up from the A500 it replaced, was arguably on the brink of obsolescence when it came out. It seems most people bought an accelerator at the same time, but some kind of upgraded A1200, with 4 or 6MB of RAM, a 400-500MB hard drive, some kind of 040 processor, and a 15-pin SVGA port to use commodity PC monitors, selling for about \$800, might stand a chance in this marketplace - if it's advertised. Simply using the existing design, sans processor on the motherboard, and putting the processor on an upgrade-style board so the machine can be upgraded to an 060 by people like me who think they need the extra horsepower would be ideal.

I'd buy such a machine in a minute and send that last PC packing. Unfortunately, I think there's a greater probability of Charles and Di straightening things out and undoing the damage done in the eyes of the public than there is of my dream machine materialising, and that's not just my loss. I guess we Yankees are just going to have to keep running around, thinking that the only truly productive platform out there is the 100MHz Pentium with 16-24MB of RAM that can run Losedoze 95 at a similar clip to that of an 030-equipped A1200 under AmigaOS.

Dave Farquhar, Columbia, Missouri, USA

It's such a shame that the Amiga's history has been an 'if only' story. I think that if Commodore had pushed ahead while it was making the huge amounts of cash that they had from the A500, we could have been competition for the huge Mac market that is already out there. As it is, we have to put up with old-fashioned machines that run too slowly with a shrinking software market. Still, that's life eh?

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# FIRST STEPS

? I'm hoping you can give me some advice on how to start programming. I have been told that EasyAMOS is the best way for me to learn how to program the Amiga, but I would just like to know if you think this is the best way to start? In the long run I would like to become a games programmer, so what would the best steps be if I want to go in this direction?

Jason Chapman, Bedford



In general, if you want to become a programmer there are three things you need to have and do - practice, patience and persistence. All are very important. You have to practice writing code so you can learn and understand how program instructions work, you will have to be patient with yourself because you will definitely not become a programmer overnight, and because of this you will have to be persistent and not put off by setbacks or tough problems.

As a start, EasyAMOS, or even Amos itself, is a good starting place. When you start programming you are really just learning about the basics of how programs work, and once you have mastered these basics you can apply this understanding to any programming language. Most conventional programming languages work on the principal of sequence, selection and repetition. Every program runs in a set sequence, and during its execution certain selections can be made and sequences can be repeated.

Using EasyAMOS you will learn how the commands that specify and control each of these stages work, and how to use them, and again this basic knowledge is transferable to other programming languages.

If you are looking to make a career out of programming then, obviously, you

should go through the normal educational process - GCSEs, 'A' levels and, finally, get yourself a degree in computer science. While you are generally learning about computing in these courses you can be happily programming on your Amiga - it may even be the case that you can incorporate what you are doing on the Amiga in your course as some sort of course work project.

You should also be aware that EasyAMOS will only be a starting point. Even though you can do some impressive looking things with Amos, it does not allow you to develop the correct programming skills that are required now-a-days. To do this you need to get hold of a 'grown up' language, and your main choices are going to be either Assembler or C. You may want to consider Pascal but the other two are supported and used much more.

Generally, it is taken that if you want to write games on the Amiga you will have to use Assembler to extract every ounce of speed from the Amiga. However, as PCs and the new generation of consoles increase in speed, the need for this absolute speed diminishes and many companies are advertising for experienced C and C++ coders, instead of just pure Assembler programmers. Also, if you undertake any course at university most projects will normally involve C and C++. This is due to the sheer speed of PC processors and the fact that the speed difference between code compiled with C and Assembler for RISC processors is a good deal less than on traditional CISC processors. On top of this, if you are using C and need a speed increase you can just write the time critical parts of your code in Assembler, and this approach speeds project development and allows you to concentrate on tweaking the gameplay. Another advantage of using C is that it will



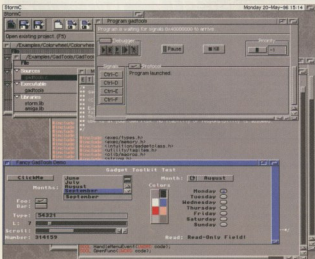
Haunted by ghosts in the machine? **ACAS** will dispel troublesome spooks and spectres from your possessed **Amiga**

make using the operating system easier than if you had to use Assembler. This brings in the old do you use the operating system or hit the hardware debate. A few years ago there was a clear divide between Amiga programmers - either you were a demo/game coder or wrote 'serious' system utilities. Game and demo coders needed to get as much memory and speed out of the machine as possible, and the only realistic way of doing this was to get rid of the operating system and code directly to the Amiga's hardware. This then allowed programmers to get amazing results from a relatively slow machine. The downside to this is that as soon as the Amiga's hardware changes, even slightly, these sort of programs can cease to work.

The alternative way to programming is through the Amiga's operating system. Up until recently, demo and game coders have always rejected this approach, citing the need to grab as much memory and to grab every CPU cycle possible. These were sensible arguments five or six years ago but now with faster processors, faster and generally improved graphic operating system functions, and a generally higher system specification - on average our readers have 7.5Mb of RAM - these points lose their credibility. These arguments are borne out by the fact that many recent games, such as Subwar 2050, Breathless and Nemac IV, all run on Intuition screens and multitask along with the rest of the operating system.

You should also remember that the consoles have their own operating systems which are nowhere near as complicated as the Amiga's, but experience gained using the Amiga will greatly help in any job you get. Remember that anything you write yourself can be shown to potential employers, greatly increasing your possibility of getting a start in programming.

There are a few public domain C compilers out there, but StormC gives you a professionally integrated environment





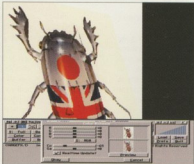
## THE IMAGEFX FILES

The problem with ImageFX that has been troubling Adrian Bernascone is exactly what happened to my machine when I deleted ImageFX. A requester kept on asking me to insert ImageFX and it was driving me mad.

After a good deal of searching and routing through files, I eventually found the answer. It wasn't anything to do with assigns, but the fact that ImageFX altered the AmigaGuide ENVARC settings.

Using DOpus, I found that in ENVARC and also ENV there is a directory for AmigaGuide and in this directory is a file called path. Reading the contents of path showed just the words ImageFX.

I deleted the words in the path file, both in the ENVARC and ENV directories, saved it as a blank file, and all went back to normal. I can't get this information direct to Adrian because no address is published, so perhaps you can. I trust the information is of use to you as well.



Never again will AmigaGuide trouble you for the ImageFX disk

David Hilton, davidh@enterprise.net



If anyone else is having the same problem you will need to open a shell and type `delete envarcamiguid/path` and this will delete the troublesome file. It seems that AmigaGuide will search for any paths that are listed in this file, probably for AmigaGuides that have multiple parts. I should also thank Dominique Dutoit who sent in the same solution to this problem.

## GOING DOTTY

I have a printing question. Did you cringe? Various printer manufacturers claim their printers will do 5ppm but in reality it is more like five minutes per page, even on an A4000 with iBMe! I use FW 3.0 with an HP-540 at 300dpi. I need this sort of quality but faster. Is a Post Script printer in order or an accelerator card? I want to pump out a 100 pages an hour not per day. Help!

Sean, via the Internet



There are many different variables that effect the speed of printing a document including the software, printer, printer driver and the type of document you are printing. You currently own an HP Desk Jet, so realistically I cannot see you managing to get the sort of throughput you require. If you look at the HP specification you can print on two pages a minute on greyscale mode, or 1 colour page in four to seven minutes.

With a Desk Jet there are, however, a couple of things that can help increase the page output. Firstly, extra memory cartridges can be bought. You may have noticed that when printing a page, Final Writer will usually finish outputting to the printer before the printer actually finishes. This happens because the HP only has a 32k buffer which is only enough data for a few centimetres of output. With one of the memory upgrades you can load the whole page to the HP and do multiple prints of that single page. A possible alternative to buying a RAM expansion for your printer is to use the CMD command which comes as standard with the Amiga system disks. The CMD command allows you to redirect the data that would be sent to the printer to a file instead, so if you run this command and

then print with Final Writer you will generate a spooled print file. Once this has finished, if you open a shell and type `copy <name of spool file> par` this will then allow your printer to print out as fast as possible.

As you have an A4000 it should be fast enough to keep up with the printer, and it may be the case that your A4000 is hanging around for the HP to keep up. If this is the so, you should consider a print spooler. The other way of increasing throughput is by using printer fonts. Normally, each time Final Writer has to print a page it generates a 300 dpi bitmap and sends this to the printer. If Final Writer could use printer fonts then it would send a description of the fonts to the printer instead which would store this in the memory cartridge.

All Final Writer has to do then is tell the printer to print an 'K' instead of having to generate the bitmap itself. Even so, if you are printing lots of graphics you are still going to be stuck with the HP printing at around one to two pages a minute which is probably not enough. This leaves you with the option of getting a fast Postscript printer. If have reservation about the claims of the printer manufacturers, you are right and wrong. The five page per minute printing speeds claimed by the manufacturers are for repeat prints, and this is a similar situation to the HP.

If your Postscript printer has enough memory you can download an entire page to the printer and tell it to print x copies of that single page. This will then be printed out at 5ppm or whatever the top speed of that printer is. You can then send the next page, which could take a little while, and then run off another x copies of that.

## ALL TIED UP



Hello out there. This is the first time I've tried this, so be gentle with me. My question may seem basic to many people, but I need to know if I can use different SCZIPS for my A3000. I'm ready to get some more and I'm trying to figure out the best solution.

I currently have 80ns SCZIP, but will I be able to use 60ns and 70ns chips or will I have to stick with 80ns? With the current price of SCZIPS here in Canada being so expensive, is there any other realistic option?

Gordon, Canada



The types of Zips that the A3000 will accept are either static column or page mode. Static column is better and allows the 030 to access burst mode for a 10 per cent increase in speed.

You can either put in 256x4-bit or 1Mx4-bit chips, but do not mix and match them. With all banks populated you will either have 4Mb FastRAM or 16Mb FastRAM respectively. If you currently have 4Mb of FastRAM then the current chips are 256x4-bit SCZIP chips. You should be able to mix the speed of the Zip chips but they will only run as slow as the slowest clock speed you have fitted. You might as well go for the fastest clock speed you can get because they will not be that much more expensive.

Unfortunately, for you anyway, due to the favouring of Simms in the computer market the price of Zips has dropped far slower than the price of Simms, and recently, with the world supply of Simms back up to speed, Simms prices have dropped even more dramatically. As you already have the full complement of 256x4-bit Zips on your A3000, it looks like your only option is either get rid of them all and change them for 1Mx4 Zips or to go for a Zorro II/III RAM card or accelerator card. A new Zorro card is not going to be cheap but if you go for one of the new accelerator cards you will get a much faster machine, more memory and usually a fast SCSI-2 interface.



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 in the correct manner?

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 you can e-mail us at [ACAS@acom.demon.co.uk](mailto:ACAS@acom.demon.co.uk)

## PC CONNECTION



I have several questions to ask. The first is related to my intended purchase of a laptop PC and the rest have just been collecting dust in my mind for some time.

1. I would like to know what options there are to link my A1200 to a laptop PC?
2. Is it possible for the Amiga to access an Ethernet network through the PC by connecting the PC to the network and connecting the Amiga to the PC?
3. Can a second IDE hard drive be fitted inside my A1200?
4. Are there any other monitors other than the Microvitec 1438 that will display all the Amiga's screen modes without flickering?
5. Are the SCSI connectors on Blizzard Accelerator boards better than the Squirrel?
6. What use is an FPU apart from 3D rendering?
7. Is there still a speed increase if the FPU is

slower than the processor?

Gavin Kinsey, mca15gk1@stud.umist.ac.uk



1. There are plenty of good options around for connecting two Amigas together, such as Parnet and Sernet, but when it comes to connecting to a PC the problem you have is that you need both networking software on the Amiga side and the PC side. The most straightforward way, and the least usable, is to connect your PC and Amiga via a serial cable and use a terminal program such as Term or NComm to transfer files between the Amiga and the PC. If you only want to transfer files on an irregular basis, such as once or twice a day, then this would suffice.

On the other hand, if you want something a little better there is a program

called EasyLink which gives you software on both the Amiga and PC side and allows you to access and transfer files on either machine using a GUI. As I have not been able to try it out I cannot comment on exactly how it works or how good it is, or whether it will work with MS-DOS, Windows 3 or Windows 95. The best solution would be if you could link the PC and Amiga using an ethernet card. The only ethernet card for the A1200 that I know of is the i-Card, but unfortunately they are in short supply and are very expensive, especially when you compare it to similar PC cards.

2. Whether you can access files over an ethernet network via the PC using your Amiga is down to how the EasyLink software and the PC operating system interact. If the roles were reversed, with you accessing the ethernet network over your Amiga, I could say yes because it would just appear as another disk on the Workbench. I assume the same happens on the PC side of things and if it does you should be able to access files on the Amiga via your PC, but without trying I cannot, obviously, guarantee that it will work.

3. As the A1200 has a standard IDE interface you can fit a second hard drive, but the obvious problem is one of space. Where were you planning to squeeze the drive in? One solution would be to trail the IDE ribbon cable out of the side of your A1200, but this is not the best of solutions.

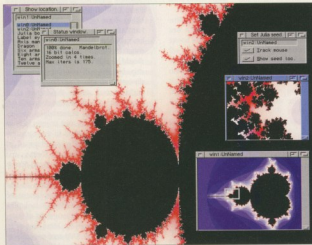
The other possibility would be to remove your internal disk drive and fit the second hard drive in the remaining space. If you have an external disk drive then use this as a replacement for your lost internal drive. Therefore, the answer to your question is yes, but it is a bit of a performance.

4. I would like to say yes, any multisync will do the job, but this is just not true.

5. Unfortunately, we have never had the chance to test out the Blizzard SCSI modules – they seem to be in short supply – but I think the throughput would be superior to the classic Squirrel and, theoretically, better than the new Surf Squirrel. However, in practice I doubt actual transfer rates will be better than those you get out of the Surf Squirrel.

6. Basically, an FPU drastically reduces the amount of time needed to process floating point and transcendental mathematical calculations. On the whole these are largely used by 3D rendering programs, but mandelbrot and other mathematical-based programs can make use of them and, of course, flashy benchmark programs.

7. Even having a slower clocked FPU than the CPU will still give a large speed increase because an FPU can calculate floating point equations tens, or even hundreds of times faster than the CPU. Having an FPU with a faster clock than the CPU will give little speed increase over an FPU with the same CPU clock rate, however, due to the data being given and taken from the FPU at the same rate.



An FPU will help Mand2000 wizz along, as will LightWave or any raytracing package

## A600 HARD DRIVE

I own an A600 with 2Mb ChipRAM and Kickstart 2.04. I recently purchased a second-hand 80Mb 2.5" hard drive to use with the machine. The drive worked fine in another Amiga, but somehow my A600 refuses to recognise it at all. When I start up HDTools, it does not show up when I go to the bootmenu. I tried to install another hard drive some time ago, but that was a rather old 3.5" unit and I gave up on that project pretty quickly. Is there a chance that I might have broken my IDE-interface then, or have I forgotten to do something?

Geir Sandstad, geirs@stud.idst.hib.no



Normally, if your Amiga does not recognise the IDE drive straight away then there is a definite problem. It is possible that you have a very early version of the A600 shipped with a version of the operating system that did not recognise the IDE interface, even though there is one on the motherboard. If you have version 37.299 of Kickstart or earlier then your A600 will fall into this category. You can find out your version of Kickstart either by loading workbench and selecting 'about' from the Workbench menu, or you can type 'version' into a shell. One way around this would be to get the Kickstart 3.1 upgrade which has replacement ROMs.

If this is not the problem then I would guess that the IDE interface is damaged in some way. More unlikely is that the jumper settings on the hard drive are incorrect. It may be set up as a slave IDE drive but even so, I would have thought the Amiga would still recognise that it had a drive connected.

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**A**s ever, there's a little bit of everything in this month's Public Sector, and it represents the very best in the PD and shareware world.

Also thoroughly worthy of an honourable mention is an indispensable little utility called FastIPrefs. It's a replacement for the standard IPrefs program called as part of a Workbench boot-up which gets rid of various IPrefs bugs when handling certain workbench backdrop pictures. It also comes with a new improved WBPatten program offering nice features like the option to centre a picture on the screen, or to lock colours 4-7 for Magic Workbench purposes. In short, it does a bit of technical trickery and leaves you to get on with working on a nice, pretty Workbench. It's available in the util/boot directory on Aminet.

Incidentally, if you don't own a modem and you're looking through Public Sector thinking "Why are no more programs listed as available on Aminet?" then don't despair. You should be able to find most in your usual PD library, and if they don't happen to stock it, several libraries offer an 'Aminet On Disk' service for a very reasonable price – try Your Choice PD for instance.

**Make your Workbench look even lovelier with FastIPrefs and the improved WBPatten Prefs program which comes with it**



## ABACROSS

**Programmed by:** Per Thulin  
**Available from:** Aminet  
(game/think/abacross.lha)

If you're to succeed in beating the computer at AbaCross you'll require a combination of strategic thinking, numerical aptitude and luck. There are elements of Connect Four and Scrabble in this testing puzzle game.

The objective is to be the first to make a line of three counters in your colour. However, you can't place a counter just anywhere on the board. Each square is marked with a number, and you can only place a counter on that square if you can use your six counters to get from the currently selected number to the number on your target square. The counters are marked either with a number from 0 to 9 or with a mathematical operation (add, subtract, multiply or divide). For instance, if the flashing square was marked 42, and your target square

# public sector

**Dave Cusick** plunges head first into la piscine de PD and takes a chlorine-filled gulp of its wallet-friendly waters

## AMONOPOLY

**Programmed by:** Al Metz  
**Available from:** Aminet  
(game/board/amonopolyv14.lha)

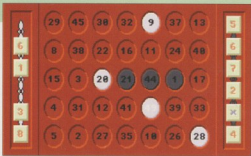
Converting a board game to a computer successfully is not an easy task. Whilst the basic mechanics of a game might seem rather simple, stop to think about all the complex situations which could arise in a game like Monopoly and it's easy to see just how problematic a conversion could be. On top of all that, part of the charm of board games is that they're an opportunity to have a laugh with other people – playing against a computer is never as satisfying, and if you've got friends handy why not simply play the board game?

Anyway, putting theoretical justifications to one side (or something), AMonopoly isn't bad. It has a sort of pointy-clicky interface although you will also need to use the keyboard to answer the myriad of 'Yes/No' questions the game will throw at you. The graphics are alright, the counters and board spaces are all reasonably clear, and the sound effects are passable if nothing more.

You should also note that AMonopoly uses the properties from the American version of the board game, so if, like me, you're not familiar with them you could find things a little confusing – especially since the property names aren't actually marked on the board, and some of the red-dish property colours are a little hard to differentiate. Still, all things considered, AMonopoly is a brave and relatively successful attempt at bringing Parker Bros' legendary game to the Amiga. It's a shame you can't steal money when the banker's not looking though.



Can I be the battleship? Please?



Get your brain in gear for some numerical frolics with AbaCross

was 7, you could divide by 8, or subtract 35. If you can't go, you can return one of your counters and receive another.

It's possible to change the colour of a square on the board from your opponent's colour to your own by simply getting to that number again. However, you can protect squares that are already yours by getting to that number

again, whereupon the counter will flip completely around and the number on the square will vanish. Did you follow all that?

Whilst it all sounds a little bizarre, it makes for an engaging and challenging experience. If your mathematical abilities are a little rusty then this is a fine way to polish them up again.



# GAME of the month

## BATTLE DUEL

Programmed by: Jochen Terstiege  
Available from: Aminet  
(as game/2play/battleduel.lha)

Able assisted by graphical chum Michael David and musical mate Marco Seine, enterprising Deutschlender Jochen Terstiege has produced a marvellously addictive game in the same vein as that bovine bomb-fest, Cow Wars. Beautifully presented and featuring scores of options, BattleDuel is a multi-player classic which deserves installation on games partitions everywhere.

For those unfamiliar with such sophisticated, complex and mentally demanding games, the object is to blow the opposition into oblivion by firing missiles at them. There are two factors which control the path your missile takes

when launched, namely Barrel (angle of launch) and Powder (the force with which the missile is fired). You can also move your launcher backwards and forwards slightly. Hits on the opponent do differing degrees of damage depending on exactly where the missile strikes, and the first person to inflict 100 per cent damage on the opposition wins.

BattleDuel boasts some attractive graphics, and with a few backdrops to choose from and the option to enable or disable certain graphical features, you can customise the appearance of the game to some extent. The music isn't bad either and there are some really atmospheric sound effects, ranging from bird song during the quieter moments to the obligatory explosions and even broken glass for shots which go too far astray.



Another string in BattleDuel's already powerful bow is the option to play against people over a network. It's possible to duel via a null modem connection, a proper modem connection, or through a TCP/IP connection over the Internet. Since the game multitasks perfectly, it's nice to have a game of BattleDuel running whilst you're downloading some files from Aminet, or even during duller moments on the IRC channels.

In a Mary Poppins-esque fashion, BattleDuel is

practically perfect in every way. Admittedly, it can't produce handstands from carpet bags or leap into cartoon landscapes in a pavement drawing, but there's just as much entertainment here and you are thankfully spared Dick Van Dyke's rather pitiful cockney accent.

Up to four players can participate in BattleDuel's tournament mode, but since this is deactivated in this unregistered version (you can only have two players here), there's even more incentive to register with the authors. For a tanner you'll be getting a complete version of one of the best multiplayer games in years.



BattleDueling against an opponent from the other end of the country

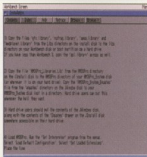
## J-WINDOWS

Programmed by: John Houseley  
Available from: F1 Licenceware  
Disk No: F1-138 (2 disks)

Wouldn't it be nice if that ever-popular programming language Amos could actually do things with Workbench properly – Multitasking, Intuition interfaces, proper AGA screenmodes, that kind of thing. Decent menus, attractive GUIs. And all in a proper extension, rather than a set of 'simulate it in the nasty Amos environment' procedures. Admittedly, there is the Intuition extension, but it's not perfect. If a do-it-all windows extension for Amos existed, it would be a Godsend.

Well perhaps, just perhaps, God's second name is Houseley, and his angelic distribution network is based in Exeter. (That would probably make F1 Licenceware bloke Steve Bye the angel Gabriel. Well, whatever.)

To use J-Windows you'll need AMOS Pro. Once you've got everything installed you will be able to produce sophisticated, good looking programs in a fraction of the time it



...and J-Windows is relatively simple to install too

would take other programming languages.

There are around 200 new commands at your disposal which will allow you to create stylish user interfaces (in GadToolBox if you wish) for your programs. You will have proper font handling, decent screen requestors and real workbench screenmodes (AGA ones too). Your programs could have menus which actually work, with checkable items, hotkey support and so on. They could have proper Intuition gadgets. Your programs will run at Workbench speed, and will look to all intents and purposes like they were written in a far more complex and time consuming language.

The nasty Amos file handling system, possibly the slowest system I've ever seen, is replaced by a totally new one which, at times, runs up to 20 times faster. There are also plenty of Amos bug fixes which will make using the language infinitely more pleasant.

Getting to grips with all the new

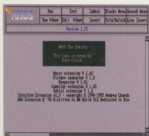
commands shouldn't be too tricky either because there's a massive AmigaGuide manual included, and scores of well-explained demonstration programs (which actually do useful things).

J-Windows is easily the single most important Amos extension in existence and for only a fiver it represents superb value for money. Only a foolish Amos programmer would even attempt to live without it.

## THE DAY WE CAUGHT THE TRAIN

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 Mondike gadget. 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  
Addington Park, Macclesfield SK10 4NP



Just think what possibilities present themselves in Amos once you've got access to the Intuition interface...

# SCREECH

**Produced by:** Insane Software  
**Available from:** 17 Bit Software  
**Disk No:** 4044

In my book it's hard to beat a decent driving game in the Super Sprint mould. There has been a steady stream of shareware racers over the last few years (including MooseDrive, which I must accept partial responsibility for), and this Blitz Basic effort is amongst the best so far.

This is a three track version, with the third only being included as a computer-driven demonstration, but the first two are fully operational. There are ten cars in total, of which one or two can be player-controlled whilst the rest are driven by the computer.

Screech is extremely well presented and features some excellent graphics. The tracks themselves look lovely, although as the race wears on and the cars leave rubber and so on all over the place, they do deteriorate somewhat. The multicoloured race cars are well drawn too, and it's clear much time and effort has been lavished on making Screech look the part. It plays extremely well too, with the cars being generally responsive and nippy. It could just be me, but the handling seems to change during

the race too. Other nice touches include beasts running onto the track, which you may well wish to acquaint with your front tyres.

For those willing to register, US \$12 or 15 Aussie ones will get you at least four more tracks and a host of extra features. Also planned for the future are (deep breath): pit

*Dare I say it...  
 MooseDrive has  
 serious competi-  
 tion from  
 Screech*



# EMU CPC

**Programmed by:** Stephane Tavenard  
**Available from:** Roberta Smith DTP

In a moment of extreme boredom recently, a friend of mine dug out his old Amstrad CPC464 and a large cardboard box full of games cassettes, many of which had retailed at the wonderfully generous price tag of £2.99. It was a calculated, evil move on Peter's behalf which meant that for hours on end in the following few days Arkanoïd once more held a small but significant proportion of the populace in its sway. Yes, we sifted through that cardboard box and systematically relived those halcyon 8-bit days, enduring the trauma of a ten-minute wait for a multiloop epic (the console kids of today have no patience!), only to

wince at the painfully poor animation and bleepy sound effects. At the end of the day, though, it was always Arkanoïd that found its way back into that horrific plastic datacorder.

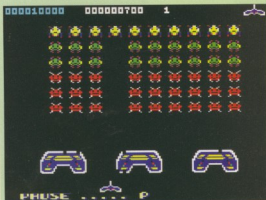
I was never an Amstrad owner myself, having been introduced to the computing world by that technological wonder the Acorn Electron, but I spent many a happy hour in the good old carefree days of childhood bouncing a ball off a wall and shooting coloured bricks with a laser. Such was life.

Imagine my glee, therefore, when what should I find generously squeezed onto the Emu CPC disk but a collection of games amongst which lurked Arkanoïd. "Aha!" thought I, and without further ado I hastened to the garish Amstrad intro screen and proceeded to run that very program.

Running Arkanoïd on the Amiga proved to be an interesting experience. I had expected my humble

fast-ramped A1200 to run appreciably slower than an antique Amstrad, because emulation always is a rather pedestrian experience. But it takes incredible adeptness to keep a ball in play for more than a couple of seconds when, as the Speed program soon pointed out to me, you're running at 35 per cent of Amstrad speed.

So the moral in this little story is... either have a spankingly fast Amiga on which to emulate a dated machine, or dig around in the loft (or that of a friend, but don't forget to ask his or her permission first because unfamiliar lofts can be scary places), until you uncover the little beauty itself. Still, Emu CPC is a nicely written emulator which, if your Amiga is up to it, runs CPC disk software flawlessly. It can load programs in snapshot formats or in big disk files, features lots of handy options, and comes with a handy Amstrad disk image converter written by John Givin.



*Murrah! Arkanoïd makes a welcome (albeit rather slow) return*



*Invaders, running at a blinding 35 per cent of Amstrad speed*

stops, car damage and fires, more race track invaders, a team management option, a modern connection mode, emergency service vehicles, and an AGA-only three player

split screen mode. If all these are added to an already impressive title, Screech looks set to become the definitive shareware racer.



Screech's simultaneous two-player mode is highly entertaining too

## AMITOOLBAR

Programmed by: Daniel Balster  
Available from: Aminet  
(util/wb/amitoolbar.lha)

Amitoolbar is an attractive MUI program launcher which sits happily at the bottom of your Workbench screen, looking pretty and being generally helpful. It is not to be confused with ordinary vanilla Toolbar which was reviewed a couple of issues ago, and which the mint-choc-chip Amitoolbar is, in my humble opinion, vastly superior to.

Amitoolbar features rows of nice little buttons which can, of course, be configured so that they launch whichever programs you desire. Configuration is achieved by editing a textfile called amitoolbar.prefs which sits in the S: drawer. An example prefs file is included, but editing it to suit your own needs is

a simple task using memacs or a similar text cruncher. Then the program can simply be launched from the shell or by clicking on the pseudo-icon and entering some arguments.

Amitoolbar has the standard MUI "Ooh, it's so lovely" appearance, something that the age-old Toolmanager doesn't have, as well as some nice memory usage graphs and a little command line window. On the other hand, Toolmanager lets you place little icons all over your Workbench which can look even tastier than Amitoolbar if chosen wisely. Toolmanager also lets you add items to the Workbench Tools menu and do silly things like assigning sound effects to certain programs.

At the end of the day, Amitoolbar is a splendid program well worth checking out. Whether or not Toolmanager users will

switch to Amitoolbar remains to be seen - they are both excellent utilities, and if you've got a hard drive you really cannot afford to be without at least one of them, but which you plump for is really a matter of personal preference. However, to run Amitoolbar you will require a minimum of a 68020 machine and a copy of Magic User Interface version 3.2.



Amitoolbar: see how lovely it looks nestling at the base of the screen...

## CHARLEY CAT: QUICKIES VOL #1

Produced by: Anthony Whitaker  
Available from: Roberta Smith DTP

After starting in several feature-length animated adventures, Charley Cat makes his debut in a new series of computerised cartoons designed to run on standard 2Mb AT1200s. If you own such a machine you may not have met Charley before, because in the past superb productions like Cowboy Cats (the twelfth Charley Cat adventure, reviewed in AC95), have required beacoup de memory.

Charley Cat is a character invented by Mr Whitaker, and is most definitely not to be confused with the similarly named (although, I believe, differently spelt) feline who used to star in those irritating but informative "Don't go with strangers" adverts of old, and featured on a particularly cheesy dance tune a couple of years ago.

Although this Bungee Jump-themed flick boasts the same highly impressive artwork and sound effects as its bigger brothers, it is much shorter (coming on only one disk as opposed to six). Gone are the disk-swapping blues that were the only drawback of the earlier epics. The end result is a humorous and enjoyable minute or so of entertainment. We eagerly await Mr Whitaker's next effort.



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# Ground control

**T**he date: 17 February 1996; the time: 20:39 GMT. At Cape Canaveral's Complex 17, the countdown for Delta 232 has entered the final four minute count. Aboard is a spacecraft called NEAR, destined for an encounter with the asteroid Eros. Blockhouse engineers are conducting the last preparations as they are called out by the test conductor. At T-0, a large liquid-fuelled engine and six of the nine solid boosters will ignite, generating over 640,000 pounds of force, and lifting the 125 foot vehicle rapidly upward with an incredible light and sound show.

At Hangar AE, about five miles away, a group of engineers fill a large telemetry lab, monitoring more than a thousand measurements from the bird. They include people from NASA, McDonnell Douglas (the launch vehicle manufacturer), Johns Hopkins University (the spacecraft builder), and every contractor who has components on the Delta. No direct control over the launch is exerted from AE, but these people – more than you could fit into the blockhouse – are essential to the operation.

Eighty-six, 8-channel strip chart recorders, more than 50 video monitor/callbox stations, and three high-speed printers present the data within the building. The data is also being sent to Aerospace Corporation in California by 56Kb data lines, and locally to Complex 17 and the E&O building, where other company engineers can follow every step. Also in Hangar AE, a number of management personnel sit in the Mission Director's Center where they can communicate with the pad and every worldwide site involved in the operation. During the launch, displays will show them the occurrence and time of each important event, and all of this data is processed by a group of powerful computers in the back of AE – a set of Amigas.

Wait a minute! Amigas? Not IBM or Honeywell mainframes? Hey, this is a \$112 million spacecraft, give or take, not counting the cost of the booster and launch. Are these engineers really looking at data processed entirely on \$2500 computers? They are indeed.

Since 1987, the Amiga has played a little-known role in over 100 launch operations of the two principle United States unmanned launch vehicles – the Delta and the Atlas-Centaur. These programs have not enjoyed as much publicity as the manned programs, but over the past 36 years they have lifted more than 300 scientific, communications, weather and navigational satellites and probes, and with a high degree of reliability. To see how and why Amigas were used, a little history is required.

The Delta, first launched in 1960, consisted of a Thor booster and a second and third stage based on technology developed for the Vanguard launch vehicle. It was built by

Douglas Aircraft and others, and program management was done for NASA by Goddard Space Flight Center. The Center placed a team at Cape Canaveral mostly made up of ex-Vanguard people. Called the Field Projects Branch, we were housed in the same Hangar 5 that was used to prepare the Mercury missions. We built and operated a small telemetry station that NASA engineers used to monitor Delta pad tests and launches.

The primary function of telemetry is to tell us about things that are going right or wrong with a very expensive craft that may be thousands of miles away. Without accurate analysis of errant flight events, engineers would be powerless to fix the problem for the next flight. Project managers who decided to save money by cutting back on telemetry coverage have often regretted it.

The general rule is to try to have coverage (radio reception) during all critical events, which include powered flight phases, stage separations, and reorientations. This is why the Air Force and NASA have long maintained a string of telemetry and radar stations along the typical flight path to the southeast of the Cape, and ships and planes that could fill in any critical gaps. But many of the potential flight problems can be uncovered in the month or so during which a launch vehicle is erected on the pad and is run through many tests and simulations. NASA took the approach that having its own engineers both at the pad watching

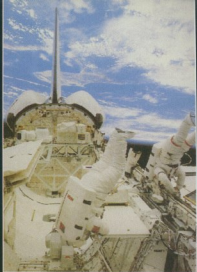
**The Near Earth Rendezvous (NEAR) spacecraft embarks on a journey that will culminate in a close encounter with an asteroid. After a one-day delay, a Delta II expendable vehicle lifts off at 3:43 p.m. EST, February 17, 1996 from Pad B at Launch Complex 17 on Cape Canaveral Air Station carrying the NEAR spacecraft. The launch of NEAR inaugurates NASA's innovative Discovery program of small-scale planetary missions with rapid, lower-cost development cycles and focused scientific objectives. NEAR will rendezvous in 1999 with the asteroid 433 Eros to begin the first long-term, close-up look at an asteroid's surface composition and physical properties.**

**Picture courtesy of NASA**

**Hangar AE, home of the Expendable Vehicles Telemetry Station and Mission Director Center, is located on the Cape Canaveral Air Station, Florida**



Retired NASA engineer **Hal Greenlee** sheds some light on the Amiga's involvement in the **US space** program



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DELTA

NEAR



operations, and at an independent telemetry facility scrutinising test data, gave an extra measure of insurance, well worth the cost.

By 1961, the Branch moved next door to Hangar AE where there was more room, badly needed for a larger telemetry station and antenna towers. The early Delta had about 130 measurement channels, and these were displayed mainly on strip chart recorders, which engineers stood over in rapt attention during major tests. Computers were not essential at that time for telemetry display, but then we got more work. NASA Headquarters decided to move management of the new Atlas-Centaur launch vehicle from Marshall Space Flight Center and its field organisation, overburdened with work on the Saturn manned boosters.

Lewis Research Center became the new managers; we, by this time known as Goddard Launch Operations, were handed launch responsibilities. This vehicle had a standard Atlas first stage, but its Centaur second stage had something new: the first liquid hydrogen-liquid oxygen engine system, which offered a big gain in performance. Much that was learned in developing and flying the Centaur stage was valuable to the Saturn and Shuttle programs. The Centaur's complex nature required about 500 telemetered measurement channels.

## MEASURING UP

We decided in the late 1960s to buy a Raytheon 703 minicomputer for Hangar AE to help process all these measurements. This machine had 64Kb of core memory, and no disk drive. It was programmed in assembly language, and data was entered on paper tape or punch cards. But the volume and complexity of the Centaur telemetry, with its PCM (pulses code modulation) links and hundreds of 'discrete' (on/off) channels and, likewise, upgrades to the Delta telemetry, made it necessary to replace the 703 in the mid-1970s with a pair of Raytheon RDS-500s. They had a total of 256Kb RAM, and sported 10Mb disk drives the size of small washing machines. For a single vehicle, one machine had to process data, while the other generated displays. Even so, not all the data could be handled, including Centaur's guidance data. With two pads for each of the two birds, and multiple simultaneous operations getting to be more frequent, the minis required constant switching and hard drive cartridge changing.

In the '80s, the Space Shuttle entered service. NASA planned to taper off and end the Delta program. Future plans called for satellite launches to be done, often in pairs, by the Shuttle. And there was a program called Shuttle-Centaur for launching large

## TIME TRAVELLING

Going back for more history, improvements to the 1000 systems came steadily. Although Byte-by-Byte stopped making the PAL box, I found an engineer who had worked on the disk controller. He had finally got the SCSI section working, so we got him to sell us kits to upgrade our cards. We were then free to use more, larger, and faster storage drives.

Before long, I wanted a replacement for these cards, which wouldn't run some devices. I discovered that I could cut a GVP Series 1 SCSI card in half and it would fit inside the PAL box, so we did that. Then we could use Bernoulli 44Mb drives which helped us preserve and transport software easily. Also, some users brought us data on 9-track tapes;

our tape deck had an ISA bus SCSI controller, so we ran it from a bridgeboard inside a 2000. By 1991, we were moving along with plans to replace the 1000/PAL Box systems with Amiga 2500s. This required Charlie to re-do our DMA input and output cards which was not so easy because the original square card was already crowded, and the Zorro II card had less real estate available. Since the A2630 68030-25 accelerator cards would only take 4Mb of RAM, we soon added DKB's 2632 cards to them, allowing up to 112Mb worth of SIMMs.

Then I found a new product at a show, called (no kidding!) the CSA Rocket Launcher - it was a CPU/FPU speed doubler for the A2630. It gave a big performance boost, so we soon had one installed in

► The Mission Director Center provides project management with a ring-side seat with worldwide communications, video displays, a countdown clock board, and a real-time events display



deep-space probes - more risky and complex by nature than anything before. It required taking a special Centaur (cryogenic-fuelled, remember) stage into orbit in the Shuttle's cargo bay for on-orbit release and launch.

A Honeywell DPS-8 mainframe computer costing millions of dollars was bought for a new facility to support Shuttle-Centaur and other Centaur operations. AE was too small for this monster, which filled a large room and had about 30 people devoted to its care and feeding. AE had other problems. By 1984, Raytheon was telling customers that the 500 was obsolete, and support for its assembly language (in which all our real-time software was written), and hardware was soon going to end. Unmanned Launch Operations, as we were called after our transfer into Kennedy Space Center, had an uncertain future, and an overloaded, obsolete computer system.

1986 brought the tragedy of the Challenger accident. In its aftermath, many decisions were made that affected the unmanned programs. One was that

Shuttle use for commercial launches would be minimised; only launches that required manned presence, had national priority or required the Shuttle's lift capability would continue. The Air Force also decided that it would not put any more of its spacecraft on the Shuttle unless necessary, because it did not have enough control to prevent delays to military project schedules. After extensive reviews, NASA also decided

(1) The 4000 motherboard/Warp Engine combos are installed in these tower cases, providing more room for plug-in cards and drives

to scrap the Shuttle-Centaur project as too dangerous; only non-cryogenic (but lower performance) booster stages would be launched from the Shuttle. So the Delta program would continue to be needed after all. NASA's participation in the new facility was cancelled, and the Honeywell DPS-8 became a computer in search of a home. It was too large and expensive for AE's purposes - we needed smaller, reasonably priced computers. But what would we choose?

Some of us at AE had experience with Motorola 6809 and 68000 processors. Dave Brown, the programmer then in charge of the Raytheons, had done some projects using the VME bus/68000 series cards. I did several 6809-based projects in assembly language. We liked the straightforward programming model the 68000 presented, with its linear memory addressing as opposed to the convoluted segmentation scheme used



each of them. We then had a system running at 3.5 times the speed of the original 1000 systems, and with no practical RAM limitations.

Conscious that PCM data rates would be increasing, we wanted to use the Amiga 4000 as our third-generation machine. We thought we would be able to buy 4000's in early 1994, but instead, Commodore went bust. As I was retiring in May '94, the new plan was to buy 4000 desktop machines, put the motherboards in Micronik tower cases, and put 40MHz 040 Warp Engines in them.

NASA was able to get about half the 4000s needed, but had been waiting for five units from a local dealer for many months. That November, I went to the Computer 94 show in Cologne, hoping for a

miracle. A German friend made same calls for me while I was there, and we found a dozen 4000s in a store 150km. away. Problem solved.

The pictures show these tower-cased machines. They may not look like Amigas but they are working very well, thank you. Charlie Michael recently designed new dual-ported RAM I/O cards that side-stepped delays due to the DMA process in the original design. Now the system hard drives are gigabyte capacity, and the Bernoulli's, 150Mb size. DAT tape is used for backups, and CD-ROM read/write drives provide more permanent storage.

relatively low-cost computer that did things no other small computer could! After a while, I brought one home, and then took it AE for show and tell. Dave Brown was also impressed, and got one for himself. The Amiga fix was in.

Cost was not a problem in replacing our minis with Amigas, but some other things were. A well-made peripherals box was needed that would accept accessory cards and hard drives. It would have to include a hard disk controller card, and additional slots for DMA data input and output cards of our own design. We looked at designs by MicroForge (huge and slow), CSA and ASDG (just card frames) without much enthusiasm.

Then a Texas company called Byte-by-Byte announced its PAL 1000 box. It offered everything we wanted: five Zorro II slots, three hard drive slots, an extra megabyte of RAM and a clock. It was well buffered and powered, and sat conveniently on top of the 1000. Most importantly, it came with a disk controller, developed jointly with Commodore - this was the forerunner of the CBM 2090A.

At the time, Commodore hadn't gotten the SCSI part of the card to work, so PAL boxes came with 42Mb ST-506 drives. We bought the first PAL box produced, and ten more later. This item made it possible for us to use the Amiga. It gave us the same and more capability that the 2000 would have later, but by the time the 2000 came out, we would have gone another way. Note: the PAL box design was done by Brad Carvey of Video Toaster design fame, and comedian Dana Carvey's brother.

Another problem was that we needed floating-point processing, and a faster CPU than the 68000, even with the load split between the three operational Amigas. We found a 68020 card, the Ronin Hurricane, that had a doubled clock speed, a true floating point co-processor, and space for 4Mb of 32-bit RAM. This, with our custom cards, completed the setup for our first operational systems.

While the RDS-703 and RDS-500 software had all been done in assembly language, the decision was made that all Amiga coding would be in C language. This allowed maximum ease for the constant upgrades and additions that would be needed, and good portability in case another machine change became necessary. Although not as fast as machine language, C certainly was better than high level languages. Care was taken to ensure that multitasking was preserved and that the same software would run on all Amigas for all missions. We started with the Manx Artec compiler, switching to SAS/C when it became necessary. We named



© The AE Telemetry Lab gets very crowded on launch day. People come in from every contractor involved in the launch vehicle or spacecraft

by the Intel processor. But in 1985, there were no complete, low-cost computers based on the 68000; there were only mini-computers costing \$30-50 thousand (1996) that were too expensive for our needs.

Are you surprised that cost would be an important factor in doing a NASA job? Fact is, there has always been more pressure on the unmanned space projects to keep costs low. Supplying all parties concerned with the best telemetry and communications possible is valuable insurance against unnoticed problems and consequent failures, and that has always been Hangar AE's major service. But like all insurance, its benefits are measured by the customers (the management of companies involved in a launch project) against the cost (of operating AE, partly paid by them). Skip Mackey, who very ably ran the Hangar AE facilities for 36 years, was vigilant in ensuring that we operated efficiently and cheaply, and with the flexibility to provide new services, often needed at the last minute. Replacing the Raytheon's was going

*"The job: pretty much the same as 36 years ago; more complex, and lots more red tape.... but the Amigas have done everything needed, and have made it more fun"*

to have to be done at low cost, or Skip would not go for it.

Dave Brown, myself and others were reading about the new 68000-based Atari ST during 1985, but decided it was too limited for AE's purposes. Then we heard about the Amiga 1000. A nearby store started to carry them in late '85, so I went by to get a demonstration. I had the same reaction that many of us may remember: amazement! Here was a



© Dave Brown (right) and Gary Jones at the machines they use to generate and debug C code for Hangar AE's Amiga systems

our triple Amiga system 'CARDS' - Computer-Aided Recording and Display System. It has the power to handle not only all the measurements on one Delta or Centaur, but to deal with two or more tests on different pads at the same time.

The programmers can shift the assignments of data handling between Amigas in real time without shutdowns. Usually, there is one Amiga on each vehicle during its prelaunch tests, but the system is completely flexible. On a Delta launch day, the telemetry from that vehicle will probably be divided between the three primary Amigas, with three more as backups. But if Centaur wants to run tests also, it can simply be added to one of the machines.

## SYSTEM SETUP

The basic system consists of the following elements: data is received by RF links directly from the missile, and also from landlines from the blockhouse; other telemetry sites may also be sources, always the case on launch day. The PCM (Pulse Code Modulation, now mostly used in preference to the older pulse amplitude, pulse duration and FM/FM) data is processed by a demultiplexer on each link. The digital data from all such sources is placed together on the telemetry lab's link multiplexer, a bus that runs at 7 megabits/sec. Each channel (measurement) value includes a tag that identifies it and its source. At the Amigas, the input cards contain dual-ported RAM where all the link mux data is stored, and the system software can then access the data which is needed, placing it in a large table in memory. This table, identical in all of the Amigas, is updated with every sample of every measurement, as each new PCM frame arrives at the input card.

The computer does various operations on the data in the table, including scaling the data from 0 to 100 per cent, converting to engineering units, or any special function. Translating a measurement to engineering units for video display or printout in numerical form is not usually a linear conversion. It involves fitting the value to a curve, and six coefficients are supplied by the vehicle manufacturer for each measurement channel. The curve and coefficients would vary with each transducer on board, for example, one that measures oxidiser tank pressure on the first stage. If that transducer fails and is replaced, we have to get the new coefficients, and again, they can be entered while the main program is running. A fifth-degree polynomial calculation by the Amiga, using those coefficients, provides an engineering value, which would probably be in pounds pressure in this case.

Another operation the computers do is to decommutate certain data that is included in a PCM link, but running asynchronously at a frame rate different from the link's main frame rate. The new Delta II AUV (Avionics

## RUNNING OUT OF TIME?

The present AE Amigas have enough power for a few more years, but telemetry systems speeds are being increased steadily. The Centaur presently uses a 256Kb PCM rate. The first Delta PCM systems ran at 13.89Kb but the new AUV systems run at 367 and 500Kb. Titan, which is occasionally used by NASA, is up to 800Kb. The Cassini mission to Saturn, with support beginning in late 1997, will use a Titan booster, and this project may push the

Amigas pretty hard.

The computer team is looking at the 68060 cards that are available to replace the Warp Engines, but the potential of those cards will be somewhat limited until an optimised 060 compiler is available. Storm C includes 060 working and looks good in demo form, but the switch version is not available with English documents as of the time of writing.

Upgrade Vehicle) has its guidance data embedded this way. The real-time processing is interrupt-driven, but the pre-emptive multitasking is what makes it possible to do so many things while the program is running, such as changing sources, displays, channel assignments, scales, coefficients, and adding or removing additional tasks.

The output of all this activity? Each of the three Amigas feeds a video generator bank which can output 32 out of about 1000 possible video pages (for 'discretes', another 2000 possible pages). These pages use a large font, preferred by the users, which allows 16 lines per screen. Most of the 96 video outputs are fed to monitor/callbox sets installed in consoles throughout the building. Next to each monitor, the callbox has a numerical keypad and LED display. CARDS also drives large sets of DACs (Digital-to-Analog Converters), which in turn can drive about 700 strip chart channels. Engineers need these as a continuous record of a launch or test so they can see measurement levels and when various events took place.

For instance, if you were an engineer concerned with first stage tanking, you would have requested your tank pressure, temperature and level measurement pages beforehand. You could switch among those and any other pages of measurements from the vehicle with the keypad, the LEDs showing you which page is selected. The Amiga CARDS program allows you to key in additional measurements to one of your pages, or make a new page. You could also enter a request for a line printer printout of your data, stop to the printer, and it would be waiting. And you would have your more important measurements being recorded continuously on nearby strip chart recorders, so you could check the recent history of your measurements.

Separate Amigas are used in the telemetry lab for other purposes. Some 2000s are used

to control the DACs referred to above; others are used to program the demultiplexers that process the PCM data. Another Amiga runs the timing system display in the Mission Director Center. This rather elaborate system was originally run by a PC, with some very expensive C code done under contract, but the entire software was rewritten for the Amiga by Eric Anderson in a few week's work, and since then the timing system has been tailored to do the job better.

## SIMILAR SUPPORT

A smaller, but almost identical system was also installed at the Western Test Range (Vandenberg AFB, California), to support NASA Delta and Scout launches, which have been much less frequent. Some of our customers wanted to have a system located at their facility that would function like CARDS, driven by data from the Cape or WTR. Dave Brown developed a system where a single-Amiga CARDS could be remotely placed, and driven by data typically transmitted across 56Kb circuits. The remotes operate on a two-second delay, but receive all measurements correctly time-tagged, and the engineers at the remote site have the same ability to display, customise and print out all their data pages.

All software maintenance can be done at the transmitting end, including swapping the real-time executing software, rebooting, and verifying proper function. The remotes run the same software as the primary Amigas, with conditionals set to optimise them for their more limited job. Remotes are in operation at Lewis Research Center, Aerospace Corporation, and several facilities on the Canaveral Air Force Station and Kennedy Space Center.

Not limiting ourselves to launch vehicle support, Hangar AE has been able to provide data for spacecraft checkout and other special projects on a number of occasions. These include the GOES spacecraft, the GPS navigational series satellites, the ACTS spacecraft, the TOS third stage, and the Pegasus booster series, which are air-dropped from a modified L-1011 aircraft. Another extra has been supporting CAS (Customer Ancillary Service) slow-speed data from the mid-deck experiments carried by the Shuttle; this data runs for long periods during flight.

The author, Hal Greenlee, would like to express appreciation to Dave Brown for assistance with technical information and reviewing the article, and to Floyd Curington for historical assistance. Opinions expressed are his own.

1) Hangar AE's three primary Amigas, in tower cases laid sideways, are visible on the upper shelves. Three more, lower down, serve as backup and auxiliary machines. Note that all equipment is on UPS.



# The World's FASTEST AMIGAS are on this page!



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**A**nyone that read the results of our recent survey should be well aware that 91 per cent of our readers have seen the light and own a hard drive of some description. I was not too surprised at this because if you seriously want to do anything on your Amiga, even using the 'lite' versions of Final Writer or Wordworth, a hard drive makes using your Amiga so much more convenient.

The thing that did surprise me was the size of hard drive you readers own. On average it is a massive 600Mb, and if you couple this with the fact that again, on average, you have 7.5Mb of RAM, it shows that you readers really do have some beefed up Amigas. So for anyone who is still struggling with floppy disks, or is think about

upgrading their current hard drive, now is the perfect time to buy one.

Thanks to the requirements of Windows 95 and general PC software, it pushes up the demands of the average user wanting to get decent performance out of their computer. Currently, the average PC user would need 16Mb RAM and a 2Gb hard drive to have a system that is comfortable to use, but your average Amiga user will get by quite happily with less than half that amount of RAM and hard drive space.

## PRICE DROP

This demand by PC owners for higher capacity hard drives and increased amounts of RAM has recently driven prices down. This means you can pick up a 1Gb hard drive for the same price that a 520Mb drive

*Eyetech has jumped upon the demand for higher capacity hard drives and increased amounts of RAM and put together a one-stop solution for A1200 owners*

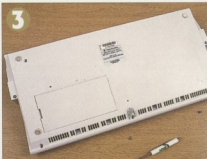
would have cost last year. Eyetech has jumped upon this and put together a one-stop solution for A1200 owners wanting a low-cost but high capacity hard drive. In about 15 minutes you can be the proud

# Fitting the bill

**Eyetech** has come up with a cheap, **all-in-one** hard drive solution for your A1200. **Neil Mohr** discovers what it does



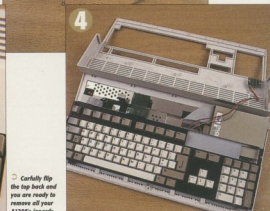
**1** The slimline Seagate 1Gb hard drive is a perfect size for the A1200



**3** Once properly earthed, disconnect everything from your Amiga, flip it over and remove all the screws from the casing



**2** Before you open up your Amiga make sure you take anti-static precautions. Eyetech recommend connecting yourself up to the earth of a plug



**4** Carefully flip the top back and you are ready to remove all your A1200's innards



## RIGHT FROM THE START

As standard, the hard drive is set up with four partitions as opposed to the normal two. I think this is a little over the top but there is nothing to stop you from repartitioning the last three because they are all empty apart from one that has a demo of MME experience.

Eyeteach has also programmed the hard drive with ToolsDeamon running so all the extra programs available are accessible from the normal Workbench menu on bootup, which makes things easy enough. I would have preferred to have seen a few more of the standard public domain Workbench patches that everyone

seems to use, such as MagicMenu, CycleMenu and something like Yak or MCX. Another slight niggle is that although there are extra DataTypes on the hard drive, they are hidden away in the storage drawers where a beginner could easily overlook them. They really should be installed as standard, but at least they have hard drive recovery programs, along with scripts for reinstalling and repartitioning the drive.

If you are looking for a no-nonsense way of getting your hands on a cheap, high capacity hard drive, the Eyeteach solution should be on top of your shopping list.

Eyeteach has  
together a one-  
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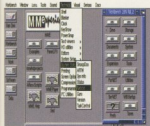
owner of 1Gb A1200, ready to run. Eyeteach can supply either a 850Mb or 1.2Gb versions, complete with the correct power and interface leads and pre-installed with

Workbench and a good selection of PD tools and utilities.

Eyeteach is using the 3.5" Seagate mechanism as its hard drive. This is not particularly fast or amazingly quiet, but it does have one major advantage in being approximately 15mm thick. By adding a couple of fixing legs with adhesive pads on the bottom, the hard drive can be easily positioned and fixed in place without the danger of shorting any of the drive electronics out, or getting in the way of the keyboard ribbon cable.

### POWER

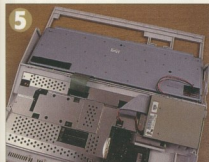
Due to 3.5" drive having a separate power supply, it comes with a modified disk drive connector so it can be powered off the internal disk drive power connector. Plug



Workbench 3 and a number of PD programs are available pre-installed for you

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does

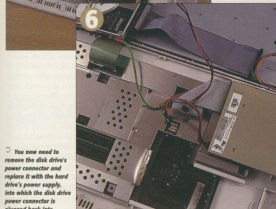
properly  
ing from  
mips. Flip it  
and remove all  
res from the



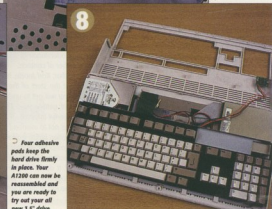
5 Flip the keyboard back out of the way and remove the existing 3.5" hard drive cradle



7 The IDE connector can now be plugged in and an insulating plastic pad is placed over the metal shield



6 You now need to remove the disk drive's power connector and replace it with the hard drive's power supply, into which the disk drive power connector is plugged back into



8 Four adhesive pads keep the hard drive firmly in place. Your A1200 can now be reassembled and you are ready to try out your all new 3.5" drive

## Bottom line

### REQUIREMENTS

RED essential BLACK recommended



### PRODUCT DETAILS

Product	Instant Drive
Supplier	Eyeteach
Price	1Gb — £219.95 1.2Gb — £249.95
Tel	01625 713185

### SCORES

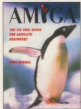
Ease of use	92%
Implementation	88%
Value For Money	90%
Overall	90%

the connector into the power supply on the motherboard and then plug the disk drive power connector into the back of this. Once in place, the keyboard fits flush over the drive and the sticky pads fix the drive firmly in place.

## ICE COOL GUIDE FOR ABSOLUTE BEGINNERS

**T**o be precise, this comprehensive book isn't one for the total Amiga boffin. I'm sorry to say, but there are far too many of those on the shelves already for you to scramble your brain around. The first step series claims to do exactly what it says in a creative and enlightening way. An impossible task you may say, but it manages to achieve confidence on my behalf and I am, I have to admit, an absolute beginner when it comes to the Amiga. Consequently, this will be a totally honest review from an uneducated user.

Paul Overaa has made your life even easier by making almost every topic self contained, so if you want to read about computer viruses you don't have to have read the



previous chapter to understand it – all you need to do is turn to that page without referring to any other. However, it is recommended that you read chapters one to five as they contain lessons of importance that every Amiga user should know about.

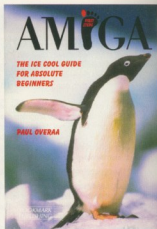
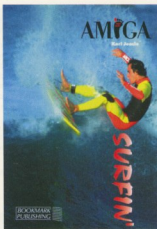
When your brain has not absorbed too much information, you can browse the book in sequence or be a rebel and read the chapters in a Japanese manner from back to front. A marvellous introduction because we all know how annoying it is to have to flick through 500 irrelevant pages before you eventually get to understand the page you are actually interested in.

### USER-FRIENDLY

Every page is illustrated with a user-friendly layout, something all books should contain. It is not overwhelming with regard to the number of pages which is good to see as there is nothing worse than getting a pocket sized handbook for beginners that is closer to resembling an encyclopedia.

If you haven't guessed by now, this is certainly not a book for the computer expert who wants to know everything one step ahead of the computer itself. It does, therefore, consistently deal with the basics on topics ranging from the necessities of looking after your disks, information on the workbench, Amiga documents, and using DOS, to the more simplistic tasks of copying files.

This book can solve all your deadly fears about the Amiga and actually get you started, without the sarcasm of the more technical texts that begin with 'first turn your computer on'. Do yourself a favour and read what the first steps series has to offer.



# Learning the easy way

These two books in the Amiga **First Steps** series make Amiga learning easier.

**Liz Ogden** tackles her first Amiga review

## AMIGA SURFIN'

**F**or those of you who are not fully acquainted with the Information Superhighway yet, looking at the cover of this book might make you think what the term 'surfin' really means. Don't be confused with all the jargon that accompanies the Internet, it really isn't all that difficult to master once you've actually been surfin', as it is called. It's a tool and a great asset in broadening your level of understanding, together with expanding on your number of contacts.

The author, Karl Jeacle, has included a chart of the Internet at the start of the text so as you gradually read on you will get to understand it more. This book is aimed at getting your TV-hooked-up-Amiga linked to the powerful Internet.

Its aim is not to overload you with too much technical information but to explain the best way of hooking up your computer to experience the Net. Take note from the author himself if you are thinking of getting connected. It doesn't mean you have to change your system altogether – just some extra RAM and a hard drive is enough to begin with. Although the book may



look very technical when you flick through it, the topics have been carefully selected and related to the Amiga user. Many specialised texts like to waffle about the history and advantages of this incredible technology, and you will find some of that information contained within, but only the necessary amount that you need to understand. The remaining concentrates on getting you to work your way around the Internet in conjunction with the

Amiga.

I can guarantee that if you are already thinking of installing the Internet into your home, after reading the first three chapters of this book you won't need any persuading. It's not a completely different world, it just takes a while to adjust to the style of language and understand the jargon. Once you have read the part about getting Internet streetwise, and the following chapters, you'll have nothing to worry about or to stop you from contacting your friend down the road or a high profile celebrity in Kuala Lumpur.

If you've not gathered already, there is too much for you to miss out on here, so spend a little time to read through the relevant chapters and get surfin'.



In some ways Epson can be thought of as the grand daddy of computer printers. It has been around since the beginning of time and its original Epson dot matrix printers set the standard that made sure every printer was Epson compatible. Years later, Epson is still producing top quality printers.

The Epson 5500 is a 600 dpi laser printer that has full LaserJet 4 emulation, along with emulation of Hewlett Packard's GL/2 plotter commands. Physically, the printer is very compact, measuring around only 14 inches wide by about eight inches deep, without the paper tray being down, and stands nine inches high. Overall, it seems to only take up about a third of the space of my DeskJet550C.

The lower front loading paper tray and the upper paper receptacle that folds out over the front can hold around 150 and 100 sheets of paper respectively. Controls are very sparse, with only a power switch and a single control button on the top of the printer.

When you first unpack the printer you have an extra two boxes – one contains the printer toner, that is the black ink on the paper, and the other is the laser printer's photo conductor unit that marks the paper where the toner will fix to. Once unpacked, both easily slip into place inside the printer, with the toner sitting on top of the photo conductor for quick and simple replacement when it does run out. The toner should last for about 3000 prints and the photo conductor should do around 20,000 prints before needing to be replaced. Obviously, this depends on the sort of printing you are doing.

If you remove the side panel and the metal casing underneath, there are two Simm slots. One is for the printer's own memory and the other is for a ROM module. Using a single Simm, the printer can have anywhere from 1Mb to 32Mb of RAM on board. Unless you are going to be doing complex postscript printouts or using a lot of downloadable fonts, 2- or possibly 4Mb of RAM should be enough.


The ROM module allows you to add new emulation modes, most notably the Epson Script level 2, that give the printer full level 2 Postscript printing abilities, at an extra cost of course. Another extra that Epson offers is a serial interface because as standard, the printer only has a parallel port. This will be fine for the majority of Amiga users, but if for some reason

you need a serial printer, perhaps you need to work with Macs, then the option is there.

As the Epson has Lj4 emulation, you can use the standard Amiga LaserJet printer driver and get decent results straight away. Also, because the Epson does not come with any Amiga drivers or software, you will have to get copies of Studio II or Turbo Print if you don't have them. The main two disadvantages with the Amiga driver is that firstly, it only works up to 300 dpi, so you will never get the best out of the Epson, and secondly, you will be stuck with the poor 16 shades of grey output that the Amiga is still lumbered with.

Even with a third-party print package there are still problems, particularly when printing at

the full 600 dpi which results in the print outs being very dark. This could be caused by the RiTech smoothing that is a built-in extra of the Epson, but there was no way of telling as the only way you can adjust the RiTech level is via the Windows software.

At the end of the day the Epson is an excellent printer. It is small, fast, quiet and simple to use. It is just a shame that you cannot get the best out of it from the Amiga. You can either blame Epson for not providing a specific Amiga printer driver or Amiga software, or you could just as easily ask "Why can't I have downloadable fonts, 24-bit print outs and prints at the full dpi as standard?" Unfortunately, we will have to wait and see what ViScorp can produce. 



*the Epson is an excellent printer. It is small, fast, quiet and simple to use. It is just a shame that you cannot get the best out of it from the Amiga*

# Extending

Another printer springs forth from the fertile loins of Epson. **Neil Mohr** takes a look at what it can do

# the family

## Bottom line

### REQUIREMENTS

RED essential BLACK recommended



Studio II/  
Turbo Print

### PRODUCT DETAILS

Product	Epson EPL-5500
Supplier	Epson UK
Price	1Mb - £399 5Mb Postscript - £799
Tel	01442 61144

### SCORES

Ease of use	80%
Implementation	92%
Value For Money	92%
Overall	85%

## PERFECTING YOUR PRINTS

It's probably been said in just about every printer review that's been done in Amiga Computing, but if you want to get the best out of your printer, whether it be a top-of-the-range laser or just a lowly old 9-pin dot matrix, you need to get hold of some third-party software to allow you to get complete control over your print outs. Until recently, your only choice would have been Studio II, but with the recently released Turbo Print you have the choice of the two. Using the LaserJet IV emulation and playing around with the gamma settings, you could get reasonable results with the Epson.

**H**aving explained what ARExx is and how an ARExx program is physically created, it's time to tackle some of the fundamentals of the language itself – beginning with those ARExx variables I introduced last month. With many computer languages, such as Basic, different types of variables have to be used to store different things. Text strings, for example, need to be stored in string variables, numbers in variables that have been especially identified as holding numeric values and so on.

ARExx is nowhere near as fussy in this respect and variables are able to hold text strings, whole numbers, even numbers with decimal parts, without you, the programmer, having to take any special precautions (this is what is meant by saying ARExx variables are 'typeless'). What's more, when you are dealing with numbers you can use addition (+), subtraction (-), multiplication (\*) and division (/) symbols to modify the contents of those variables. You can use those same symbols to manipulate real numbers as well. If, for example, you wanted to get ARExx to print the result of

**Paul Overaa** continues this guide, looking at variables and the functions they perform

# ARExx for beginners Part 2

## Command performance

adding 26 and 24 together you could just write:

```
say 26+24
```

Alternatively, you could create a couple of variables, set them to 26 and 24 respectively, and add the two variables together. If we chose a and b as the names of the two variables then the ARExx statements that we'd need to write would be these:

```
a=26
b=24
say a+b
```

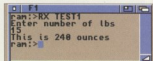
The same result could be obtained by using another variable, let's call it sum, and writing:

```
a=26
b=24
sum=a+b
say sum
```

Either way, when ARExx looks at these



Those who don't like typing will find all the examples on the coverdisk



Remember you'll need to use the RX command from the Shell to run the example code

statements it sees that it is dealing with numbers and provides 50 as the answer. If, therefore, you wished to write an ARExx program that converted pounds weight into ounces you could do it like this:

```
/* test1.rexx - convert lbs to ounces */
address 'ACRexx'
pull lbs
result=lbs*16
say 'This is' result 'ounces'
```

Notice that there are three text strings in this

## TIME TO TALK

When ARExx encounters statements that are not obvious errors, yet have no meaning to ARExx itself, something interesting happens – it transmits the statement using a mechanism known as the Exec messaging system. You don't need to know how these arrangements work internally (it's complicated), all you need to be aware of is that all programs which are able to receive these messages, i.e. programs which have an ARExx interface, will be provided with an ARExx message port and this will have a name. To specify a particular program as being the destination for any statements that ARExx transmits you simply use this sort of statement near the start of your script:

```
address 'supportname'
```

You will find a very simple utility on the coverdisk this month called ACRexx which opens a small window, sets up and monitors an ARExx port (called ACRexx), and then sits there displaying any

messages that it is sent. I've provided it so, rather than just taking my word that some statements inside other ARExx scripts can be physically sent across to other programs, you'll be able to see tangible evidence of this transfer! You can run the program from the Workbench by double-clicking on its icon. Do it now, and then open a Shell window and type in and run the following program as explained last month:

```
/* test8.rexx */
address 'ACRexx'
'Hello World'
```

You will see the message 'Hello World' appear in its window. The ACRexx utility simply displays the messages it receives rather than acting on them and carrying out particular jobs. This is because it was, with one notable exception, programmed by me to do this. The exception is the message QUIT, so if that command is added to the previous example:

```
/* message8.rexx */
address 'ACRexx'
'Hello World'
'QUIT'
```

then on running the program you will first see the 'Hello World' message appear in the ACRexx display window, then you see the QUIT message... and then ACRexx will shut down and disappear!

The important thing to understand here is that this happens, not because QUIT has some mystical ARExx significance but because I've programmed the ACRexx utility to continually look for this particular message and close its window and terminate when it arrives. This, of course, is a simple example of one ARExx-oriented program, namely the ARExx script listed above, controlling another program (in this case ACRexx). Most programs that have far more complicated ARExx interfaces recognise and act on all sorts of commands, but since this is the main topic for the next instalment I'm afraid you'll have to wait until then for the details!



program, 'Enter number of lbs', 'This is', and 'ounces', and two variables (called lbs and result).

You'll be using variables in almost all of the scripts you write but although the examples shown above are easy enough to understand, ARexx variables do not always react in quite the way newcomers expect. Consider these two programs:

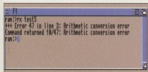
```
/* test2.rexx */
say 'test'
```

```
/* test3.rexx */
say test
```

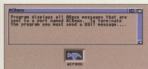
The first, as you should realise, prints the word... test. In the second case, however, the output printed is TEST. Why the difference? Well, because the quotes were not placed around 'test' in the second example, ARexx assumed that test was a variable rather than a text string. Now you might imagine that, since this variable was not initially set to any particular value, ARexx would print either an empty string (i.e. nothing), or perhaps a zero. In fact ARexx does neither – instead it automatically initialises the variable to a text string which is the name of the variable itself! At this point you need to be aware that internally, ARexx uses uppercase characters for its variables so the program's test variable, as far as ARexx is concerned, is the variable TEST.

The bottom line then is that in the second of the above examples we are printing the contents of a variable not a static text string. Because the variable was not explicitly set to a specific value, ARexx initialised it for us, setting it to the string TEST which, as far as ARexx is concerned, is the name of the variable. This means, incidentally, that with ARexx different variables must always have differently spelt names. Some computer languages would regard a program containing variables called Test, test, and TEST as having three separately defined variables. ARexx doesn't – it regards them all as the same variable TEST, although it doesn't mind what combination of upper or lower case letters you use when writing its name!

The fact that ARexx variables are typeless



Don't forget that two of the example scripts, test2.rexx and test3.rexx, have deliberate errors in them – so don't be surprised when you see ARexx error messages appearing



The ARexx utility (also on the coverdisk) gives you a chance to see ARexx transmitting messages to another program

## LOOP SEQUENCES

All the examples we've looked at so far have consisted of a straight sequence of instructions but ARexx, in common with other languages like Basic, also provides easy-to-use loop facilities which let you carry out a series of operations a given number of times. Here is a program which uses an ARexx DO-END loop to print the equivalent number of ounces in the 2-12 lbs range:

```
/* test7.rexx - lbs and ounces table */
do lbs = 2 to 12
    result=lbs*16
    say lbs 'pounds = ' result 'ounces'
end
```

ARexx sets the lbs variable to 2 and then performs all the instructions between the DO/END markers. It then adds one to the lbs variable and repeats those operations again, continuing while lbs is not greater than 12. Loops, however, are just one part of the language. ARexx actually provides a whole range of arithmetic/logic operations and as well as the simple variables that we've used already, it supports things called compound variables which allow whole sets of objects to be manipulated. It also offers error detection and built-in trace facilities for debugging scripts. All this will be dealt with later in the series but to complete this instalment we are going to take our first look at the area where ARexx will be very different from any other computer language you may have seen.



We'll see next month that programs like Final Copy and Wordworth provide good examples of the benefits of an ARexx interface

means that at different times you may use the same variable to hold both text strings and numbers. Look at this example:

```
/* test4.rexx */
x='hello' /* set x to the text string 'hello' */
say x /* display its value */
x=20 /* now set x to a number */
say x /* and display it */
say x*200 /* do a simple sum */
```

In the above example, x is used first to hold a text string and then a number, and if you run the program this is the sort of result that will be seen:

```
test4
hello
20
320
10
```

Despite the fact that x was initially set up as a text string, once a number is placed in the variable, ARexx is quite happy to perform arithmetic operations on it. What happens, in fact, is that ARexx always looks at the contents of its variables just prior to using them – providing those contents are valid for the type of operation being performed, ARexx is perfectly happy.

Although ARexx is very flexible in this respect it cannot do the impossible. If, for instance, you attempt to carry out an arithmetic operation on a text string ARexx will

rightly complain:

```
/* test5.rexx */
x='aeroplane'
say x*
```

On running the above program, ARexx will report an error because it knows that trying to add the text string 'aeroplane' to a number doesn't make sense. Although you wouldn't do this deliberately these type of errors will occur when you forget to initially set variables to a numeric value before carrying out some arithmetic operation with them. Look at this program for example:

```
/* test6.rexx */
say x*
```

Because x was not explicitly initialised, ARexx set it to the uppercase string 'X'. Since adding 1 to a text string is then not a valid operation, ARexx again reports an error.

## SUMMARY

Here, for easy reference, are those important points concerning the behaviour of ARexx variables:

- ARexx variables are typeless and do not have to be declared as being strings, integers, floating point numbers etc. ARexx looks at each item just before using it and decides whether it is dealing with numbers or pieces of text.
- Variables which are not explicitly initialised by your program are automatically set to a text string which represents the name of the variable. This string will consist of UPPER-CASE characters because...
- ARexx converts all variable names to uppercase before using them. Needless to say, this means that case has no significance in ARexx variables and labels. X and x represent the same variable as do lbs,Lbs, and LBS!

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[The freedom of Information]



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Amiga 4000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
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Amiga 10000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
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Amiga 12000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 13000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 14000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
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Amiga 17000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 18000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
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Amiga 23000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 24000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 25000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 26000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 27000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 28000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 29000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 30000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 31000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 32000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 33000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 34000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 35000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 36000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 37000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 38000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 39000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 40000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 41000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
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Amiga 81000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
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Amiga 90000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 91000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 92000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 93000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
Amiga 94000	1.99	2.99	3.99	4.99	5.99	6.99	7.99	8.99	9.99	10.99
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Last month I dealt with the initial planning and set up of the design, and this month we're still not going to be uploading anything, at least, I'm not going to be dealing with that side of the design yet. In the meantime, you'll be able to see how the Web page is progressing at the address shown in the boxout at the bottom of the page. Before we actually get down to the nitty gritty of the Web site construction, we ought to take a look at the tools I'll be using to create this masterpiece.

The single most important thing to have is a Web browser of some description and the best available on the Amiga at the moment is iBrowse. Now whether you buy iBrowse as a commercial package from HiSoft, or simply download the demo version from [ftp.omnipresence.com](http://omnipresence.com), is up to you, and the Web pages we are creating will work equally well in either version of the package. If you are using another browser like AWeb or Voyager, be warned that we will be using HTML tags that neither of these packages understands at the time of writing, so you'll need to either get a copy of iBrowse after all, or perhaps a better browser like Netscape if you have access to a PC or Mac.

## POSSIBILITIES

The next piece of software you'll need is a text editor of some description. I'll be using TurboText 2, the best editor I've come across (also available from HiSoft), but even EdDwould do the job. It will help if your text editor and Web browser have an ARexx interface, opening up the possibilities of automatically updating the browser when you make changes in your text editor.

The last piece of essential software, if you want your pages to be more than just text, is a graphics package. For this exercise I will be using Personal Paint exclusively. The major reason for this is PPaint's superb handling of Web-oriented graphics file formats.

What am I talking about? GIF, that's what. PPaint is the only package I know of on the Amiga that has such a friendly attitude to a user's desire to create transparent and progressive GIF files (also known as GIF89A files). Personal Paint is also renowned for its image processing features which will mean

And so it begins, the practical side of creating a Web site. Here are the

first steps to take guided by **Ben Vost**



# Weaving a design

that I shouldn't have to touch another package. There are a few ancillary products that will come in handy while you are creating your Web site. One is undoubtedly some sort of filemanager for organising your HTML and graphics files better, and another would be an

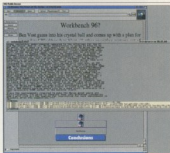
image viewer that can tell you additional information about a picture such as the number of bitplanes and, most importantly, the size of the image. You should probably also



## MOT

No, nothing to do with cars just a poor, tongue-in-cheek reference to More Obscure Tags. By now you should be familiar with the old `<IMG SRC="graphic.gif">` HTML tag, but there are a couple of add-ons we can put in there before the right angle bracket.

The first, for our purposes, is the `ALT=` keyword. This can either represent another, smaller version of your picture or, more usefully, some text describing the picture. I say 'more usefully' because the one good reason for using the `ALT` tag is if the person on your site isn't downloading your images for some reason. It would still be nice if they knew what the blank areas in their browser were supposed to represent, and putting some text after the `ALT=` tag means they now have it. Check out the Amiga Computing home page



(1) The Amiga Computing homepage, showing what extra tags can do to images

(<http://www.idg.co.uk/amigacomp/>) without images turned on (you might need to clear your cache too) and you'll see descriptions of what each of the buttons down the left-hand side do.

Next up, and another boon, are the `WIDTH=` and `HEIGHT=` tags that require you to enter the appropriate sizes for your image. You can put any size you like for these tags and the browser should automatically resize the images appropriately, but, and it's a big but on the Amiga, some browsers don't take kindly to it, including most revisions of iBrowse. Last up for this month is the `BORDER=0` tag. This very handy number stops the disconcerting bright blue border around a button from appearing. This means your nice round buttons can actually be round, rather than being boxed in by the horrendous border.

# GRAPHICS ON THE WEB SITE

The transparency and progressive display effects of the GIF file format can make a Web page a lot more attractive and are easy to achieve in PPaint. For our pictures with captions on the Web site, you can simply type the text for the caption onto the PPaint work screen, next to the image, and then cut out the whole thing as a brush. Whatever colour you have as the background colour gets mode transparent, as you'd expect, with brushes, and it is this colour that becomes the transparency when you save the image out as a GIF.

Of course, with some of the images on our site this would prove a problem because of the fact that the default background colour in PPaint is the same as the Workbench background colour. But this isn't a real problem. All you need to do is select a colour that isn't being used (you might need to increase the colour depth of the image to do this), and point this behind the area for the caption. This is easier to see than to explain, but you should end up with a

caption which is attached to your picture, but floating over the background colour or image in your Web browser. If you want to see for yourself how



① See the bright blue? This will become transparent in the browser and the Progressive Display tick means the image will become visible instantly, and understandably soon

this works, try downloading one of the images used on the Web site (the MFR one is particularly suited to this) and have a look at it with an image viewer like Viewtek. You should see that the colour behind the caption text is a bright blue not found elsewhere in the image.

Just so you know, the three buttons in the PPaint brush save options work as follows:

**GIF89** – if you have this ticked, whatever was the background colour (and hence transparent) of your brush will be saved as transparent

**Progressive Display** – this will ensure that your image 'rezzes up' when it is being downloaded from the server. No more having to wait until the whole thing is on your hard drive before you can see it

**Screen Format** – you should leave this one unticked for the most part, although it almost certainly won't cause any harm. It tells any viewing programs that want to listen what Amiga screen mode the image should be shown on.

get the HTML Guides available on the Amintet in order to help you understand the principles behind what we are doing, although you should be prepared for some fairly technical mumbo-jumbo.

Before we actually start on the HTML coding part of the tutorial, let's talk about directory structures and file naming conventions. If you are only planning a simple Web site it may be that you end up just putting all your files into one drawer and leaving it at that. Some people I know like to separate their graphics into another drawer, and for the purposes of this tutorial we will have a graphics drawer, and also sub-directories for various types of graphic.

## ORGANISATION

When I first started doing HTML I had a 'suck-it-and-see' kind of approach, but now I try to think of what the best way will be to organise my Web site. You may be different, so don't take what I say as gospel, but an example of the chaos that can ensue was evident on the Amiga Computing Web site, which I also created. When I started the project everything seemed fairly obvious, but now the site is so much more complex I have had to completely reorganise the way the files are stored.

If you have a look at the site now you will notice that the sections that require monthly updates are actually sorted into directories with the issue's number. Everything to do with an issue will go into that drawer, whereas things that get carried across different issues, particularly graphics, get stored elsewhere. Organising the site this way has also meant that I can offer a 'back issue' service where visitors can view previous issues' news, letters, etc.

Next is file naming. Although you don't have to worry about sticking to an 8.3 filename like on a PC, there are some restrictions. Spaces in names are a no-no, as are certain characters (which, in any case, AmigaDOS doesn't like you using in filenames). Also, Unix, the operating system of choice for Web servers, distinguishes between upper and lower case letters,

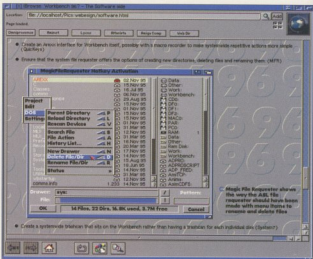
*The single most important thing to have is a Web browser of some description and the best available at the moment is iBrowse*

so it is best to either make all your filenames one case or the other and don't use capitalisation at all. This goes for filenames and directories and is probably the hardest thing to remember when it comes to creating a Web site, especially when dealing with names that

are normally capitalised, like 'Amiga', for instance.

So we've covered all the pitfalls that might occur before you start coding your page, but what about things that can cause problems once you've gotten started? Probably the biggest is the lack of certainty about how your page will look. Oh sure, it might look great on your browser, on your machine, with your fonts and at your resolution, but the very flexibility of the WWW can also be its downfall. Try to stick to the Web's average sizes of about 600 x 400 for your page and you can't go far wrong. You can also try to use simple graphics for your headlines rather than relying on the <H> tags. As long as you keep your images simple there's no reason why they won't download in nearly as little time as the text itself.

Ah well, out of room again. Next month we'll actually try to upload our fledgling page to our service provider and see what happens when it actually goes online.



② A finished Web page as shown in iBrowse



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**W**hen GVP went bust it took a lot of extremely good products with it, including the G-Force 040 40, a 40MHz 040 replacement CPU board for the A4000. Luckily, GVP was quickly snapped up by M-tech and Power Computing, because it was in their interest as they were the main distributors for the products. As the 'old' 040 processor is pin identical to the 060, the G-Force board and software has been updated to accept this latest processor from Motorola.

The board itself is a direct replacement for the original 030 or 040 CPU board that is in the A4000. The physical dimensions of the two boards are identical, yet GVP has managed to cram not only four Simm sockets but also a high speed SCSI-2 interface all on the one board.

Installation is straightforward – once you have prised out your old CPU board and changed two jumpers on the motherboard, just slot in the G-Force board. A fan is attached over the 060 to maximise its life and is powered from one of the IDE power sockets via a pass-through connector. Next you install the GVP software that consists of its FastPrep software for initialising any hard drives you attach to the SCSI chain, and a replacement 68040 library to patch the new 060 maths functions.

## TRANSFERRING

As the G-Force board comes with four Simm sockets, you will want to transfer any Simms you have on the A4000's motherboard to the accelerator board, as this gives a major speed increase when accessing your memory. The G-Force not only accepts up to four 4Mb or 16Mb single-sided Simms, but can also handle up to four 8Mb or 32Mb double-sided Simms, giving you a possible total of 128Mb of RAM on the board itself.

Hardware wise the G-Force is impeccable, but this cannot be said for the software. Due to the architecture of the 060 it has problems processing 64-bit calculations that can lead to a great slow down in system performance.

A new 060 library and a patched 040 library that are supplied with the G-Force do counteract these problems to a certain extent, but until specific patches or versions of programs are produced this will be a problem for all 060 accelerators. The problem is particularly acute with

Doom-type games such as Breathless, for which there is now an 060 patched version available from Power.

If just having an 060 is not enough for you then GVP has also managed to squeeze a high speed SCSI-2 interface on the board. A 50-pin interface is located at the end of the board making access a little awkward because it is under the floppy bay, but there is room to feed a ribbon cable out. The interface itself is as fast as the 060. Testing the Jaz drive with SysInfo returned a very respectable 4Mb/s and the interface itself rated up to 10Mb/s.

It would be nice if Power could supply a backplan so you could fix both a couple of internal SCSI drives and also get a standard 50-way centronics-style interface out of the back of

A new **accelerator** board arrives from the rejuvenated **GVP. Neil Mohr** puts it through its paces

# Power extreme



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This is a class piece of equipment, well built, easy to install, competitively priced and faultless in operation. Currently, this version of the board is only for the standard desktop A4000, but Power Computing hopes to have a version that works with the A3000/T and A4000T in the very near future.

## Bottom line

### REQUIREMENTS

RED essential BLACK recommended



### PRODUCT DETAILS

Product	G-Force 060
Supplier	Power Computing
Price	£799
Tel	01234 273000

### SCORES

Ease of use	90%
Implementation	95%
Value For Money	90%
Overall	93%

## MUST HAVE SOME BENCHMARKS

Everyone seems to argue about the relevance of benchmarks, but given a varied range of tests you can get a good idea of how a processor performs. SysSpeed, which uses actual applications to produce results and therefore gives 'real world' results, returns values anywhere from 2 to 4.8 times the speed of a normal A4000/040. On average this makes the 060 around three times as fast as the old 040, and that is without optimised code.

### AIBB Benchmarks - relative to A4000/40

Test	G-Force	1200/040	A3000	A1200
EmuTest	2.48	1.1	0.3	0.11
Dhrystone	2.85	0.99	0.29	0.1
Matrix	3.29	1.23	0.54	0.2
IMath	3.6	1	0.37	0.16
BeachBall	2.64	0.31	0.31	0.02
MFlops	2.84	1	N/A	0.17
FMMatrix	3.74	1.47	0.4	0.13

**T**hose of you who have been experimenting with the EasyBaseAC program will know that the main control window allows database records to be selected using a scrollable ListView gadget. ListView gadgets are, on the face of it, quite easy to set up – you just specify LISTVIEW\_KIND in the gadtool library's CreateGadget() routine whilst providing a few tag items to describe the characteristics of the gadget. Unfortunately, one required tag, GTLV\_Labels (used to specify the gadget's label entries), tends to throw a spanner in the works because it involves Exec lists.

As many of you will doubtless already know, Exec uses lists to store almost everything that it has to deal with and because of this, the exec library includes a small set of generalised list handling functions. Routines exist for adding, deleting, finding items and for inserting list entries according to various orders and priorities. When EasyBaseAC creates or reads in a database file it uses these routines to build an Exec-style list where each entry in the list represents a database record. The important part of the main EasyBaseAC window, then, is basically just a ListView gadget with an Exec-style list of database records attached to it!

## BUILDING BLOCKS

To understand how EasyBaseAC databases are created and manipulated whilst in memory, you need to understand about Exec lists. The fundamental building block of these is a structure known as an Exec Node. As defined, these Nodes are divided into two parts: Firstly, there's the linkage data which consists of two pointers used to hold information about the next item in the list and the previous item. Secondly, there is some internal node information which consists of a type field, a 'priority' field, and a pointer to a node name. As a C structure an Exec Node looks like this:

```
struct Node {
    struct Node *ln_Succ; /* pointer
to previous item */
    struct Node *ln_Pred; /* pointer
to next item */
    BYTE ln_Type; /* node ID
type */
    BYTE ln_Pri; /* node
priority */
    char *ln_Name; /* pointer
to node name */
};
```

Exec's list functions work just on the fields present in the Node structure itself. This means that, providing a Node structure is made the first part of whatever data is being



When a record is selected  
initialisation sends the program an  
ICMP\_GADGETUP message

# Operation database

## Part 5

worked on, the Exec routines can effectively manipulate structures of any size. In practice, the real data associated with a particular list node is defined by extending the Node structure. This is exactly what has been done with EasyBaseAC and in the general.h header that was provided with the second instalment, you will find that I created my own ListNode unit by combining an ln\_Field array (representing the fields of a database record) with an Exec Node like this:

```
struct ListNode {
    struct Node ln_Node;
    BYTE ln_Field[NAME_FIELD_COUNT];
};
```

Before node data can be added to an Exec list a 'list header' has to be prepared which, as a C structure, has the form:

```
struct List {
    struct Node *lh_Head;
    /* first node in list */
    struct Node *lh_Tail;
    struct Node *lh_TailPred;
    /* last node in list */
    BYTE lh_Type;
    BYTE lh_Pri;
};
```

lh\_Head points to the first node in the list, lh\_Tail is always NULL, and lh\_TailPred (tail predecessor) points to the last real node of the list. Within the List structure the lh\_Type field is used to store information about the type of

**Paul Overaa**

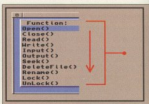
explains how

**EasyBaseAC**

database files are  
stored in memory

nodes stored in the list, and several types are defined in the exec/types.h include file. The amiga.lib library contains a NewList() function which can initialise a list header and listing I shows this routine in use.

One important point to bear in mind when using Exec lists is that when you see a pointer to an Exec list, you are looking not at the first node in the list, but at the list header!



Database files are written to disk in exactly the same order as they appear in the main window's ListView gadget

## DATABASE RECORD HOUSEKEEPING

Exec provides general node addition and deletion routines plus special case routines – AddHead(), RemHead(), AddTail(), RemTail() – for adding and removing node elements from the fronts and ends of lists. An Enqueue() function is also available for adding nodes into a list in priority field order along with a node searching routine, FindName(), which allows a list to be searched for a node of a given name. The Exec list-manipulation routines themselves are not hard to understand but it's probably worth mentioning a couple of EasyBaseAC code areas that you might find it useful to examine.

If you look back at the window2.c code (the EasyBaseAC editing window) provided with the third part of the series you'll see that when a user clicks on the window's Store gadget a routine called StoreData() is executed. This copies the record information held in the string gadgets into a temporary g\_new\_node structure and then calls an AddToList() routine whose job is to allocate and set up a new ListNode structure

and link it into an Exec list. You'll find the AddToList() routine present in this month's window1.c source and one important assignment in this code is the setting of the node's ln\_Name field so that it points to the name of the first field of the database record:

```
memory_g->ln_Node.ln_Name=&memory_g->ln_Field[0];
```

It's because this has been done that the ListView gadget attached to the window displays the first (key) field of each record. As soon as the various new node fields have been set up or copied into the memory allocated for the node, the (possibly empty) list has to be searched to see where the new record data should be inserted. A system macro IsListEmpty() provides a nice easy way to tell whether a list is empty and if this is so, we know straight away that the new node being added is the first node in the list. It gets added like this:

```
AddHead(&database_list, &struct Node *memory_g);
```



## LOADING AND SAVING

You'll also find `LoadFile()` and `SaveFile()` routines in this month's coverdisk module and both use ordinary C-type file handling. To save off a database we open a file, write out a database header and then use a loop to write record headers and record data for each node in the database list.

This means, of course, that records get written to disk in the key field sorted order that they appear in the ListView gadget. Consequently, this makes file loading relatively straightforward since no sorting has to be done.

To load a database we open the file and then, providing a suitable EasyBaseAC file identifier is found, simply allocate `ListNodes` and read in record information until we come to the end of the file.

```
struct List *CreateList(void)
{
    struct List *list_p;
    if (list_p == NULL || sizeof(struct List) != MEMF_CLEAR)
        NewList(list_p);
    return (list_p);
}
```

**Listing 1: EasyBaseAC's list header allocation and initialization routine**

```
case IDCMP_GADGETUP:
/* code = ordinal List number (first NODE is 0) */
if (code)
{
    node_prg_database_list_p->lh_Head;
    for (i=0; i<code; i++)
    {
        node_prg_node_p->in_Succ; /* next node */
        &current_node_p[struct ListNode *node_p;
        &the_node_p=&current_node_p; /* copy to editor window */
        DisplayListNode(&current_node_p);
    }
}
else DisplayBeep(NULL); /* 1st record selected */
break;
```

**Listing 3: This code fragment shows how the list number provided by Intuition is used to identify an EasyBaseAC record**

```
struct List *ClearList(struct List *list_p)
{
    struct Node *node_p;
    /* Deallocate all existing list nodes and list header */
    if (list_p)
    {
        while (node_p=&Head(list_p))
            FreeMem(node_p, sizeof(struct ListNode));
        FreeMem(list_p, sizeof(struct List));
    }
    return(NULL);
}
```

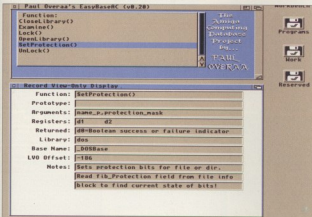
**Listing 2: This routine removes a list and its associated list header from memory**

## OVERALL CODE ORDER

The window1.c code module provided this month is quite large but much of the code will have a familiar ring to it. Window, gadget, and menu creation, for example, all follow the arrangements discussed previously. The event handler used to process menu and gadget events, though larger than the one used in the window2.c module dealt with last month, also adopts the same sort of nested code 'event division' approach. This time, however, it's easier to see the benefits. Incoming events are identified and menu events are passed on to their respective menu handling routines where in each case switch statements are used (in conjunction with menu numbers) to pick a particular course of action.

Perhaps the most interesting bit of magic is how clicking on a ListView record entry causes that record's information to appear in the other two EasyBaseAC windows. The code fragment in listing 3 shows how it's done. When a user selects a ListView gadget item, Intuition sends an `IDCMP_GADGETUP` message and the code field of this message contains the number of the node associated with the selected item. I simply collect this number and read through the record list until I get to that node. Having done that, the information is displayed by making a call to a routine called `DisplayListNode()` which causes the editing (window2.c) and display-only (window3.c) windows to update their displays.

That's about it for this month. Study the code, have fun, and I'll provide the last part of the story next month!



**Starting this month, EasyBaseAC files are being used to provide details of functions used in Amiga Computing's regular assembler programming column**

This empty list situation only happens as a database is being set up and the first record stored is actually a dummy one that contains the field names to be used when entering real data. Just before performing the `AddHead()` routine you'll notice that I force a blank character into a buffer variable and add this to the database's key field name originally provided by the user. This is done to ensure that the field labels record will be permanently kept at the start of the list (providing no other record is added whose key field starts with a blank). Okay, I admit it - this is a temporary bodge until I think of something better!

Once a list has at least one record in it, record addition gets a little more complicated. In order to keep records sorted (so that they appear in alphabetical order in the ListView gadget), a loop has to be used to step through the list nodes comparing existing node names with the name of the new node being added. The comparison is done using a case insensitive `strcmp()` function and, depending on the

result, either a `listInsert()` or a `listAddTail()` operation is performed.

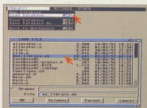
As you examine the list searching code, notice how the first node of the list is found:

```
node_prg_database_list_p->lh_Head;
```

and how, where necessary, we move from one node to the next in the list by using a node's `In_Succ` field like this:

```
node_prg_node_p->in_Succ;
```

You'll be able to get the full code details from the coverdisk and will find other list-based routines such as the `ClearList()` routine shown in listing 2. This uses a loop to successively remove and deallocate all the nodes of a list and then finally deallocates the list header allocated when the list was originally set up.



**EasyBaseAC's Project menu file loading and saving options use an ad-hoc GetFileName() routine to collect a file name from the user**





# Go on

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## News:

You'll find all the latest gossip from the Amiga games world right here



## Reviews

### SWOS - Euro 96

The European Championship Edition has finally arrived, and apart from updated teams there's... nothing new



### Chaos Engine 2

The Bitmap Brothers are back with an absolute corker. Don't miss out as it could be the best game of the year



## Previews

### Valhalla

Portsmouth-based Vulcan Software is already working on a new Valhalla and here's what we think of it so far



### Legends

Guildhall Leisure returns with a Legend of Zelda arcade adventure where you control a little Indian. Great!



### Cheat Mode

### Simon the Sorcerer

Anyone stuck on Simon the Sorcerer? Nope... right, well why don't you read it anyway



Your essential guide to Amiga gaming

By Andy Maddock

## A bucket load of games

**B** BPM Promotions is a new games company that has penned in some future releases which are all looking quite exciting. The basis of

the developments is a program called Reality which is a software construction kit written by BPM. It will be used on the new titles which include The Daring Adventures Of Robin Hood, Spacefighter, and Reality will also be released.

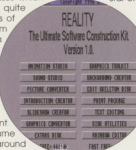
Robin Hood will be a point and click adventure game and is scheduled for release around September. BPM is currently concentrating on the game design and graphics, making sure they are almost perfect before advancing.

Obviously, the game will feature Robin Hood himself alongside Friar Tuck, Maid Marion, Prince John and the Sheriff of

Nottingham. It's basically a Monkey Island-type adventure but with Robin Hood as the star of the show.

The second project is called Spacefighter. You may think it looks familiar, a bit like Body Blows by Team 17, but BPM claims that Spacefighter boasts more characters, artificial intelligence, detailed backdrops, digitised speech and special moves. At the moment it sounds like a beat-'em-up to rival the brand new Capital Punishment, but we'll have to wait and see.

The final product for the moment is the actual software construction kit, entitled Reality. Four years' work has gone into making this program, helping people produce commercial quality software products over period. We'll have a preview next



Reality is the software construction package which should have you knocking up quality games within minutes

a short month.

## Calling Sensible Soccer lovers

If you're a big Sensi fan then just wait until next month when we'll bring you a full guide on how to get to that elusive International Management position, and give you a step-by-step guide on how to be the best manager in the world.

We'll advise you on the players to buy, what to do with your money and international advice, as well as some general tips on getting more money and much more. Look out for our Sensi extravaganza next month!

REPUBLIC BELGIUM	
1. Belgium	100%
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3. Belgium	100%
4. Belgium	100%
5. Belgium	100%
6. Belgium	100%
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18. Belgium	100%
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20. Belgium	100%

Here's proof that the international management aspect does exist, although you do have to be as good as me to get there!



Robin Hood is going to be the first adventure game. Let's hope it's going to be good



As you can see, Spacefighter looks amazingly like Body Blows, so if the gameplay can match it could be a winner

## Slamtilt special editions

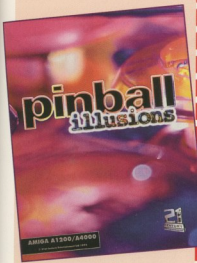
Here are a number of top secret, Slamtilt hidden features which can be accessed at the beginning of the game. For example:

- If you type SMILE while the table is scrolling up and down, the metal ball will be graced with a huge cheesy grin, and if you're about to lose, the face will change to a sulky.
- Type RADIOACTIVE and the whole colour scheme of the table will change. Try it more than once to achieve various effects.
- Type STONED and there will be a pseudo magnet underneath the table making it all weird.
- Type WIPEOUT and all the high scores will be reset
- And if you type ARCADE ACTION it will allow you to head straight for the arcade sections of Slamtilt.





# Freebies! Freebies! Freebies! Freebies!



If you're a really big pinball fan then you're going to love this even more. 21st Century Entertainment has kindly given us eight sets of Pinball games including Pinball Fantasies, Illusions, Mania and Slamtilt to give away. All you have to do is answer the following questions:

- 1) Which band had a top ten hit with the song 'Pinball Wizard'?  
**A)** Blur  
**B)** Oasis  
**C)** The Who
- 2) Name another sport which uses metal balls?  
**A)** Football  
**B)** Tennis  
**C)** Boules
- 3) What do you get if you cheat by banging the pinball table?  
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**B)** A lost go  
**C)** Arrested

## Tie breaker

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Our Amiga Computing chat page is brimming with more people than ever before. If you fancy a friendly chat with some interesting Amiga owners and their friends, then this is the place to be.

I can guarantee there will always be someone there - if you call in at a reasonable hour - and you are quite welcome to ask questions about anything games related or otherwise.

There are two forums available. The first is General Discussion where you can stray away from the Amiga topic and talk about anything you wish, and then there's the Questions and Answers forum where you can leave your questions for us experts to answer.

The magic URL is <http://www.idg.co.uk/amiga-comp/chat.html>



This is Ket. He's on the chat page at all hours. He is pictured here with his cow which he made in art. Super!

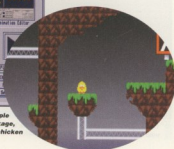
## Game Engine

A new software company called Aspire 2 has decided to release a brand new software construction program. It uses some easy menus so you can fiddle around designing sprites and backgrounds within minutes. There's also an impressive example game featuring a chicken or a duck (I can't tell)! We'll give you more information next month when we'll give it the full going over.



Fennah the Duck is the example game included in the package, although it looks a bit like a chicken

This is the menu screen where everything can be accessed



GRAPHICS

89%

SOUND

88%

GAMEPLAY

93%

OVERALL

92%

Reviewed by Andy Maddock

# Sensible World of Soccer

## Euro '96 Edition

## PUBLISHER

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## DEVELOPER

Sensible Software

## PRICE

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## DISCS

2

## HD INSTALL

No

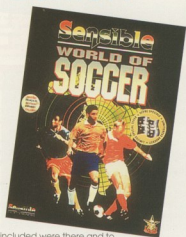
## SUPPORTS

All Amigas

Over the last six months or so, Time Warner Interactive has been releasing Sensible World of Soccer editions like nobody's business. But why? It's probably because Sensible Soccer is reputed to be the best game ever on the Amiga and these new versions manage to keep the fans of the game perfectly happy by continually updating competitions and teams.

The biggest step for TWI was the 95/96 version where features such as displaying the name of the player in the top left-hand corner, animated crowds, team training and management records were introduced. All these features should have been included in the first version of SWOS.

Many people complained after the initial release of SWOS because it repeatedly crashed, the player ratings and values were all wrong and there were many small, annoying bugs which almost put people off the game for life. However, TWI stepped in with its first Sensible release and it was absolutely brilliant. All the features which should have been



included were there and to top things off, all the players' data including values and skills were updated.

The problem with club football games is the

MANCHESTER UNITED		BANK		E4,544,000	
(ENGLAND)		NAT		GOALS	
1	PETER SCHMEICHEL	G	QDN	0	63H
2	PIRRE VELLE	D	HTCENG	0	63H
3	STUART PIERCE	D	HTCENG	0	63H
4	DAVID BECKHAM	M	HTV (RL)	0	63H
5	MARK OGG	M	HTV (RL)	0	63H
6	NICKY BUTT	M	HTV (RL)	0	63H
7	DAVID BROWN	M	HTV (RL)	0	63H
8	DAVID BROWN	M	HTV (RL)	0	63H
9	DAVID BROWN	M	HTV (RL)	0	63H
10	DAVID BROWN	M	HTV (RL)	0	63H
11	DAVID BROWN	M	HTV (RL)	0	63H
12	DAVID BROWN	M	HTV (RL)	0	63H
13	DAVID BROWN	M	HTV (RL)	0	63H
14	DAVID BROWN	M	HTV (RL)	0	63H
15	DAVID BROWN	M	HTV (RL)	0	63H
16	DAVID BROWN	M	HTV (RL)	0	63H
17	DAVID BROWN	M	HTV (RL)	0	63H
18	DAVID BROWN	M	HTV (RL)	0	63H
19	DAVID BROWN	M	HTV (RL)	0	63H
20	DAVID BROWN	M	HTV (RL)	0	63H
COACH: BIG ALSE		GOALS		TYPING	
		EXIT			

The Man Utd squad in full with the Neville brothers who are both great footballers - honest

ENGLISH PREMIER LEAGUE										
	F	C	D	L	F	A	P	T		
1	ARSENAL	0	0	0	0	0	0	0	0	0
2	BLACKBURN ROVERS	0	0	0	0	0	0	0	0	0
3	CHELSEA	0	0	0	0	0	0	0	0	0
4	COVENTRY CITY	0	0	0	0	0	0	0	0	0
5	DERBY COUNTY	0	0	0	0	0	0	0	0	0
6	LIVERPOOL	0	0	0	0	0	0	0	0	0
7	MANCHESTER CITY	0	0	0	0	0	0	0	0	0
8	MANCHESTER UNITED	0	0	0	0	0	0	0	0	0
9	MIDLEBROUGH	0	0	0	0	0	0	0	0	0
10	NOTTINGHAM FOREST	0	0	0	0	0	0	0	0	0
11	NOTTINGHAM FOREST	0	0	0	0	0	0	0	0	0
12	NOTTINGHAM FOREST	0	0	0	0	0	0	0	0	0
13	NOTTINGHAM FOREST	0	0	0	0	0	0	0	0	0
14	NOTTINGHAM FOREST	0	0	0	0	0	0	0	0	0
15	NOTTINGHAM FOREST	0	0	0	0	0	0	0	0	0
16	NOTTINGHAM FOREST	0	0	0	0	0	0	0	0	0
17	NOTTINGHAM FOREST	0	0	0	0	0	0	0	0	0
18	NOTTINGHAM FOREST	0	0	0	0	0	0	0	0	0
19	NOTTINGHAM FOREST	0	0	0	0	0	0	0	0	0
20	NOTTINGHAM FOREST	0	0	0	0	0	0	0	0	0
START EXIT										

Just in case you get bored of Euro '96, here's a screenshot of the good old Premiership

## Minor alterations

You can also bear in mind that on the PD movement there are a few SWOS editors around allowing you to fiddle with the players' values and names. You should be able to find one on Aminet somewhere. The included custom team editor which comes with the original game is pretty awful because you can't import your own teams into proper competitions.

If you can get hold of one of these, then within minutes you will be able to update your game as soon as a transfer is made, which will please any SWOS lover.



When you score the England supporters hurl themselves into the air in sheer jubilation. They probably know it's not going to happen often

fact that players are transferring between clubs more than ever, and with the new ruling coming in for next season, the transfer market will see more movement from week to week. Obviously the game will then outdate itself and become unrealistic.

TWI has decided to launch its new release in line with what is the biggest football event to hit England in 30 years, and that's Euro '96.

By the time you read this the European Championships will have been battled out at various football grounds such as Old Trafford, Elland Road and Anfield to find the best team in Europe. However, the biggest talking point of the event has almost certainly been the groupings. Although Northern Ireland, Republic of Ireland and Wales failed to qualify, Scotland fought through to meet England in

‘All the features which should have been included were there and to top things off, all the players' data including values and skills were updated,’

EUROPEAN CHAMPIONSHIPS		
LEAGUE COMPETITION GOAL SCORERS		
1	HARISTO STOICHKOV (BULGARIA)	3
2	JURGEN KLINSMANN (GERMANY)	2
3	JORG PRETORI (PORTUGAL)	2
4	ALAN SHEARER (ENGLAND)	2
5	DEMETRIO ALBERTINI (ITALY)	1
6	RONALD DE BOER (HOLLAND)	1
7	FERNANDO HIERRO (SPAIN)	1
8	ADRIAN PANU (ROMANIA)	1
9	IGOR KOLYKHIN (RUSSIA)	1
10	BRANKO RANIC (CROATIA)	1
11	DIMITRI PASCHOV (RUSSIA)	1
12	FLORIN PROCIUC (ROMANIA)	1
13	FABRIZIO BRANDELLI (ITALY)	1
14	TEDDY SHERINGHAM (ENGLAND)	1
15	ZLATKO VUKOVIC (BULGARIA)	1

All the goals are at the top of this list, although where are all those England players?



Alan Shearer steps up to score a goal after 18 months of nothing. Blimey... 18 months!

the same group, which will, without doubt, prove to be one of the most competitive matches for everyone involved.

Sensible World of Soccer is set to create all the finest moments by setting up the entire tournament for you. All the correct groups are selected with all their corresponding fixtures, and although Terry Venables decided his squad well after SWOS was released, Time Warner has managed to pick a side that corresponds with some of the team.



Here's Teddy Sheringham having a shot on goal, which is surprisingly saved by the keeper

## Final word

The actual gameplay hasn't changed a single bit - you may have to wait and see if there's a Sensible World of Soccer '96/'97 before you see some changes. But for now, the main alteration occurs with the player data, with team and player names changing. And remember, this version is still in line with this season, so you won't be able to play as Man City in the first division just yet.

If you want to update your version of SWOS with all the latest player changes then do so, otherwise you could be advised to wait to see if there's a new version in the pipeline.

## preview



Our princely hero quite rightly ignores Peter Stringfellow dosing on a park bench



Useful objects skimbo in this hotjumble sale arrangement



Nothing here? But there's a man eating a shoe behind you, you blind fool

# Valhalla:

## Fortress of Eve

Previewed by Dan Whitehead



**H**ow well I remember the arrival of Valhalla into the Amiga games pouch. Squirling on to the scene at a time when many people were saying "Amiga's are really bad, I like PC games better", it's crisp speech-driven adventures almost made some people stick with their chunky, fudgy friend. Almost.

Well, time has moved on, the Amiga games scene is looking even shabbier than before and Daddy PC is cruelly rubbing vinegar in its eye, with help from the brutal brothers, Playstation and Saturn. Things look very dark indeed. Singing sensation David Pleasance

shuffles into the shadows, crying like a girl. And then, heralded by trumpets and body-popping in the streets, Valhalla returns on yet another talkative steed to breathe new life into the sagging Amiga bellows. But is it too late?

Time may have been a bitter duchess to the Amiga, and time has moved on in the world of games as well. Our chippy Valhalla hero is now all grown up. Grown up so much, in fact, that in the opening animation he's gone prematurely grey making him look like a bizarre genetic accident involving John Craven and a walrus. Despite his advanced ageing, or maybe because of it, he's also discovered the



A curious barrel, the purpose of which should keep you guessing





The hilly-no-mates prince hangs out in the woods, with only a pink slug for company

## Ha ha you're dead

One of the most aggravating things about the original Valhalla game, for me at least, was the way it would wantonly kill you with hidden traps. Nobody likes sudden death, and this is reflected in the Fortress Of Eve. You now have an energy bar that depletes when you come into contact with a hurtly thing, allowing you to at least try levers and switches without worrying that it could mean game over.

joys of puberty and now yearns for a girlfriend. And this, by jiminy, is where you lot come in.

Look at the screenshots, using your eyes. Things don't look radically different, do they? Of course, there'll be some saying "if it ain't broke, don't fix it", and there'll be others saying "well, that's just lazy, I'm going to sulk." These two schools of thinking will probably have a big fight, with chairs and everything, leaving us to concentrate on the game. If you've played any of the previous Valhalla games, then you'll know what to expect. Wander about, find objects, talk to people and figure out what goes where. It's a tried and trusted style, and it works well with Valhalla's special 'cloak of gimmicks'.

Lurking in the folds of this cloak are the following muffins. Speech is where it's at, once more. The squeaky voiced prince chats about what he's doing and what he sees in a technically impressive, but mildly irritating way. Best of all is when he describes his beloved subjects as 'ignorant peasants' to their faces, yet,



Our hero, part walrus, part John Craven

unfortunately, none of them punch him in the jowls for this arrogant slur. Some of them will offer clues, such as "I make painkillers", and others just say "hello". When I started playing, and the prince started his wiffling, those around me pricked up their ears in recognition, but were soon scowling at me as his voice began to grate. So thankfully, there is an option to gag him and just use text.

Minor changes to the game have been implemented, just to keep things moving with the times. Most noticeable is the fact that the viewpoint has shifted from overhead to a more isometric view, allowing you to get a better idea of what objects are. It also looks nicer, if you want my opinion. Another addition is what can only be described as 'intelligent virtual surfaces', which is a fairly meaningless description that I just made up to make it sound more technical. What it means is that your footsteps will change depending on the surface you're walking on. If it's earth then it's a sort of plod, and if you take a short cut through the grass, you make a sort of scrunchy squeal noise.

## Insight

Fortress Of Eve should be dancing on the village green in next to no time because the version we messed about with was pretty much done, apart from some extra buffing on the sound and graphics. It doesn't seem to be a huge leap forward, but it's a quality product with a popular pedigree. And that's nice. We'll give you a full review when we feel like it, you cheeky imps.

“It doesn't seem to be a **huge** leap forward, but it's a **quality** product with a popular pedigree,

Chaos  
Engine  
pleasure  
play



Levers everywhere, but what do they do?



Look, the Mervue is still in the game, hip hip hooray. Let's all have a party



Brigand, isn't that a girl's name? No, probably not, I'm thinking of Bridget

# Chaos Engine 2

Reviewed by Andy Maddock



**T**he Bitmap Brothers is probably one of the most respected software developers ever in the computer game industry. We have been brought delights such as Xenon, Xenon 2, Speedball, Magic Pockets, and Gods, amongst others.

At a time when the Amiga games scene was only just getting itself together producing the odd playable game, The Bitmap Brothers lifted high above everyone else especially in terms of graphics and playability.

Although Xenon was an excellent vertical scrolling shoot-'em-up, Xenon 2 was the biggest hit. It even managed to acquire a score of 108 per cent, believe it or not, in one of Amiga Computing's early issues. After

that, the games just kept coming, each one slightly better than the last, and in my opinion, the best was most definitely Speedball which was certainly beyond my expectations.

The Bitmap Brothers' last contribution was Chaos Engine, and then there followed an absence from the gaming scene - the company was still around but weren't produced anything. However, that's about to change.

When I heard that Chaos Engine 2 was supposed to be released, to be honest I was really surprised. The games market is slowly but surely disappearing, but a major



You can select your character from about four, I think. I can't remember, but you'll find out when you buy it



You have to defeat a number of robots to get points, and most of all to get them out of the way

GRAPHICS

90%

SOUND

89%

GAMEPLAY

92%

OVERALL

92%

PUBLISHER

Time Warner Interactive

DEVELOPER

The Bitmap Brothers

PRICE

\$29.99

DISCS

3

HD INSTALL

No

SUPPORTS

A1200

## Sight and sound

As with all of Bitmap's releases, the graphics are excellent with smooth animation, making Chaos Engine a pleasure to play, and the tough challenge your opponent will present you, be it either human or computer, will increase the longevity of the game.

Actually, if you beat the computer opposition during your first bout, his intelligence will be increased for the next round, so before you think you're an expert – and play again, remember that simple point.

The sound effects have an added touch too. As you get closer to your opponent or the exit the music and the tempo will increase, therefore making it more exciting. Once again, it's a small touch but one which contributes to making another excellently thought out game by the software developers we have come to admire.

developing team has come up with a major title. Blimey, things must be looking up.

If you played the original Chaos Engine you will realise that the second in the series looks remarkably similar, apart from some new levels. As far as the basic sprites and levels go they are almost the same, but the gameplay is different. This time more emphasis has gone into a two-player option where you can challenge each other.

The basic idea of the game is to pick up a key to open the door to the end of the level, and the first to do this wins. It's a simple idea which works superbly for a game like Chaos Engine. If you're playing by yourself, you will be working against the computer. You can pick up various power ups and weapon



There's that bald man again



The explosions are very Bitmap-like, you will see them on all sorts of games

boosts to help you in your goal but, failing that, you can give your opponent a knock round the back of the head to stun him, giving you enough time to find the key and run away like hell.

Instead of coming out with your guns blazing, you can simply play cat and mouse and hide from your opponent – although not for long because there is a handy map which will point out your position.

Even if your opponent gets to the exit before you, you can still beat him because the game is based on points and as there are various bonuses lying around you can constantly increase your score. However, the biggest point bonus is finishing before your opponent.

During the later levels, you will have to encounter some robots and other obstacles which will do their best to stop you and your opponent, therefore making it much harder.

The main change you will undoubtedly notice in the game is that you can lean up against walls to dodge enemy fire. This is a simple but effective touch which gives you an extra second to think about your next move. Also, you can walk up and down stairs and jump off platforms which add more of a maze element to CE2.

## Final word

Whether you thought Chaos Engine offered enough to warrant a sequel at a full price I can't say, but if you never had the opportunity to purchase the original then Chaos Engine 2 must be placed at the top of your list – ahead of anything else.



You have to throw dynamite over the wall to blow up this thing and then you can pick up the remains



There's the key, but you've just fallen flat on your face! Get up, dust yourself down and finish the level

‘As with all of **Bitmap's** releases, the graphics are excellent with smooth animation, making **Chaos Engine** a pleasure to play’

## preview

# Legends

Previewed by Andy Maddock



**A**fter Team 17's *Speris Legacy* came out, the need for a *Legend of Zelda* clone seemed to disappear. However, Guildhall Leisure is trying to get in on the act with its potential *Speris* beater called *Legends*.

*Legends* was originally designed by Krisalis, its first game since, probably, those *Man Utd* games. Incidentally, about two years ago Krisalis intended to publish it themselves but then decided not to. While *Legends* was knocking around, Guildhall Leisure was fast becoming one of the leading Amiga software houses and now the two have come together, in perfect harmony.

As soon as you load the game up it has quality written all over it, just like it should from a software developer who has gained much respect from previous releases. If you've ever played *Legend of Zelda* on the SNES or *Speris Legacy*, you'll get an idea of how it looks and

plays. Basically, the idea is to find some kind of person who will be able to stop evil things happening to the world - the usual story really. On the way there are various people willing to point you in the right direction, and there are others who either like to throw you off the scent or just simply kill you.

In *Speris Legacy* you were in control of a little sprite which looked remarkably like Blackburn defender Colin Hendry. In *Legends* you are placed in the capable hands of a little Red Indian, a bit like Little Plum from the Beano, and your first task in hand is to find a weapon to beat off the bad geezers. The first weapon you will come across is, surprisingly, a bow and arrow which will dispose of hostile guests within a few seconds. With this you will be rewarded by some huge hearts which will increase your health.

There are plenty of little gifts you can find hidden in trunks and in various other places which

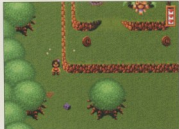


Our story begins in the year 2025AD. Aliens have inhabited the southern pole of the moon for millions of years. It was here that they created the human species.

Ooh, I wonder how much reality is actually in that. Maybe Aliens do exist and they're going to wipe us out



The bow and arrow will be the first weapon you pick up and will dispose of your enemies within seconds



Picking up the heart will replenish your energy and let you take on harder enemies





See that big totem pole, you used to be able to win those in Cubs and Scouts - God knows why...

## A breath of fresh air

There are a lot of comparisons between The Sperm Legacy and Legends but I think Legends will have the edge if it manages to maintain the quality shown throughout the game.

The introduction scenes are excellent and cartoony, setting a more light-hearted game which is a far better way to present it. Even the music portrays a jolly feel which will undoubtedly inspire you to carry on playing.

It's about time we came across a jolly platform romp to steer us away from the technical side of Doom-type engines which are forever haunting us. Legends could be the breath of fresh air to change the ways of software developers.

will increase your points total, amongst other things.

The actual game maps are huge and will take you hours to navigate, never mind complete, but if you do happen to get lost, pressing function key 1 will present you with a map which is handy for guiding yourself to new places.

When some helpful information pops up to aid you in your quest, you will be presented with a small blue box which will either contain questions posed or information received from a wise man or someone else.

Throughout the game you will regularly be given tips or subtle hints which may give you some ideas where to go or who to speak to and by the time you've managed to



The map shows raised ground and huts all over the place which is handy if you're a newcomer to the area

complete the first level, you'll be worn out.

The character animation is nowhere near as smooth as The Sperm Legacy, but because there are more frames in Legends, this is what makes it a graphical delight.



Your inventory will show everything you have in your possession and all the weapons you have the ability to use

## Insight

Legends is around 95 per cent complete and some small tweaks are going to be made before it's released in the shops. Only then will we see how Legends shapes up compared to its Team 17 rival, but to me it looks like being an excellent arcade adventure which will present any standard of gamesplayer with a challenge. Let's hope it maintains these credentials in the final version.

When the final version decides to appear you can be sure we'll give it a full review. Watch this space...



Hey look, it's a wigwam... No, hang on... it's a tee-pee... Oh, it's one of them!

It's about time we came across a jolly platform romp to steer us away from the technical side of Doom-type engines. Legends could be the breath of fresh air to change the ways of software developers ;

# hints & tips

By Andy Maddock

## Simon the Sorcerer



Before you start the game, take a good look at the map screen so you know what this place is



Talk to everyone you possibly can as they may give you some handy hints on what to do next

**Y**our first job is to pick up the magnet from the fridge, and then take the scissors from the drawer. Leave the hut, go to bar and talk to the wizards and they will send you looking for a staff

Before leaving the hut, take the matches from the top of the fruit machine, and by using the scissors on the dwarf you will then have a piece of his beard.

Go and find the Blacksmith where you can pick up the object that lies on his workbench and then head off into the woods. You will eventually come across a barbarian with a thorn stuck in his foot. Talk to him and you can then pull the thorn out for him. In return, the barbarian will give you a whistle which you can

Although it's not the most recent adventure game, some people still need help. Here is the first part...



Try and pick up everything you can. The things that can be looked at can usually be used

use later in the game. Before you leave, talk to the hole about fossils and then find the woodsmith.

Talk to the woodsmith until he gives you a metal detector. Now, go outside the witches house and move the well handle, take the bucket and leave. Take the right direction at the T junction on the way back. Talk to the tree stump until it asks for some mahogany. You must now go back to the bridge to talk to the troll. He'll take the whistle off you and use it. The barbarian will appear and remove the troll from the bridge so you can walk by, and you can pick up the placard to find the oaf. Talk to the oaf about watering beans, return, then pick up the beans from the heap and then pick up the melon.

Now you must go and find the bard and use



Talk to this weird lizard-type man to gain some information about something

the melon in the sousaphone. Go to the mountains to find the giant and use the sousaphone and he will mess around with a tree, allowing you to get to the other side. Now you must find the screen on the map which contains some fossils. Once you get there you must pick up the rock.

Next, you need to visit the place on the map surrounded by a blue circle, and use the metal detector. Return to the blacksmith and use the rock on his anvil. Return to the man in the hole and give him the fossil. Now tell the bloke about where the metal detector is.

Return to the blue circled place and you will see the bloke digging away. Look at the dirt and then pick up the ore which you must give to the woodsmith. Go back to the blacksmith and use the ore with the anvil and then give the axe head to the woodsmith. Go and find the druid's house. Pick up the ladder, enter the house and pick up the cold remedy and jar.

Go to the dragon's cave and use the remedy on the dragon - now you can pick up the extinguisher. Go back to the woodsmith and take the pin from the table and put out the fire. Now open the woodsmith's store and pick up the mahogany. Go back to the tree stump and talk about the mahogany and then get the woodworm in your hat. Now it's time to go to Rapunzel's castle and use the thing you found on the blacksmith's table on the bell.

Move the bell and then pick up the hair - after the magic you will have a pig. Use the woodworm on the floorboards and use the ladder in the hole, then go towards the tomb and open it. Then repeat the process, pick up the staff and return to the bar to present it to the wizards.



Here's the compost heap. Make sure you pick up the beans before you leave

## Part 2



You will meet some kind of troll man along this screen. Try not to upset him or that'll be the end of you

Now you must go to the low budget candy house and use the repulser on the truffle door and then enter. Pick up the smoke box and pick up the hat. Now go outside where you can use the smokebox and the matches and pick up the wax left by the bees in the hive. Now go back into the bar. Talk to the barman about drink and when he bends over, use the wax on the barrel behind him. He will then give you a voucher. Go outside and pick up the barrel.

Find the owl and talk to it until it drops a feather, then go to the mine. Pick up the rock outside and see that it says 'beer'. You must use this password to get into the mine - wear the dwarf beard before though. When you get in the mine, give the barrel to the guard and he will reveal a key. Pick it up, leave the room and enter the left-hand passage. Pick up the hook and use the key in the door. Once inside, offer the guard the beer voucher and ask for gems.

Leave the mines and travel to the cave. Use the hook on the boulder above it and walk to the boulder. Use the magnet and the rope with the hole three times.

Return to the village and give the bloke a gem. Return to the bar and give your money to the wizards.

That's the end of this first instalment. We'll be back soon with the final parts to put you out of your misery.



The giant will sleep away while you can pinch his bracelet. Although, don't forget kids, it's wrong to steal!



# Amiga Snippet

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# AMIGA GUIDE



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Dave Cusick  
examines a few  
programs to  
increase your  
productivity



# The essentials of life

**W**hen the Amiga team designed Workbench 3.0 they no doubt tried to make it as friendly, powerful and efficient as possible – and to a large extent they succeeded, because few who have used the Amiga's GUI would deny that it is one of the most configurable and easy-to-use interfaces in existence. However, that doesn't mean to say that it cannot be improved upon.

The obvious additions are things like Magic Workbench and Magic User Interface, but there are plenty of other programs which will prove just as handy, and many of them have been around a few years. A few of the following god-sends have appeared on Amiga Computing coverdisks in the past, and if you can't find them after rooting through your disk box then they will certainly be available from good PD Libraries or from Aminet.

Take KingCon, which I believe is no longer even under development. KingCon has, for some while now, been making the Shell a more flexible and usable system for Amiga owners everywhere. It introduces much needed features such as a scroll bar to the Shell window, and allows you to save the buffer to disk or clear it at any time. It features filename, device name and command completion, so you could, for instance, switch to C: and type "Setk" then Right AmigaV, and KingCon would fill in the rest of the SetKeyboard command.

You can also drop icons into the Shell window, whereupon KingCon will magically make their full path name appear in inverted commas.



Drag your shell window  
into the '90s with KingCon

The Shell can even be iconified. KingCon will revolutionise the way you use the Shell. In fact, the only problem with this marvellous program is a purely cosmetic one – it doesn't appear to agree with Urahook, so if you are running both together you may notice that part of the downward scroll icon in the Shell window is hidden by the resizing icon.

## DIMENSIONS

Next up is PowerSnap. This lovely commodity by Nico Francois, creator of PMore and a multitude of other invaluable Amiga utilities, adds a whole new dimension to the Amiga clipboard. Using Powersnap you can cut and paste characters between all sorts of different programs. It doesn't quite work perfectly with every application in existence, but it so enhances the basic, underpowered clipboard function that you'll never be

able to live without Powersnap again. Another handy patch, and one which is amongst several included in do-it-all commodities like MCP these days, is CacheFont. As anyone who has been using a hard drive for some time will know, it's very easy to accumulate loads of fonts over a time. Opening the Fonts: directory can then become a frightening prospect as there will be an extremely lengthy wait before the files inside are displayed.

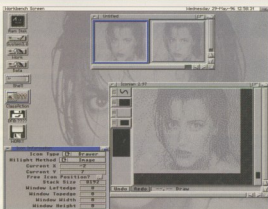
One option is simply to delete fonts left, right and centre but this could be problematic (which fonts are required to use such-and-such a program?), and it seems a little drastic. A far more attractive proposition is CacheFont, which works by creating a file containing a list of everything in the Fonts: directory which is used whenever you take a peek there. This saves a huge amount of time. If you're going to add new fonts you will need to update the CacheFont file every now and then, but that's a small price to pay for the phenomenal speed increase.

CacheFont isn't the only essential which is now to be found in MCP – AssignWedge is a similarly invaluable patch which Alien Design has included in its superb commodity. If you commonly encounter problems when installing software to a hard drive because you have forgotten to make the necessary assigns in the user-startup file, then AssignWedge is the answer to your prayers. It allows you to make the assign on the spot, using a file selector, so you won't have to fiddle around in a text editor and then reboot just to try out that new game or utility.

## ICON SEE CLEARLY NOW

Have you ever wanted to update lots of icons on your hard drive but been frustrated by the long-winded approach taken by IconEdit? IconEdit is one of the least useful tools supplied with Workbench 3, and there are some excellent replacements around. Perhaps the best is Iconian, which allows you to design ridiculously large and colourful icons, provides a host of handy drawing tools, and has more options than IconEdit has had hot dinners – or something.

Serious iconophiles will also find they cannot live without a utility called IconImage by Martin Lanza. When run, IconImage creates a little AppWindow. Onto this you can drop a source icon and then one or more target icons. IconImage will copy the image to the target icons without overwriting any tooltypes, and without a great degree of messing around on your behalf. If you've got a drawer full of files all begging for identical icons, you need look no further than IconImage.



IconEdit is among the first Workbench Tools you should replace – Iconian performs the job far more effectively

Paul Overaa's outlines a way of altering Amiga DOS file protection bits



# Changing the guard

## part 2

Last month I outlined the purposes of the file protection bits and explained that programs can obtain flag state information from a file's FileInfolock. There are actually two ways of doing this: You can open the file and then perform an `ExamineFile()` function using the file handle returned by the `Open()` routine, or you can obtain a lock on the file using the DOS library's `Lock()` function and then use `Examine()` to set up the FileInfolock information.

Either way, it is the responsibility of the program to allocate space for the FileInfolock structure and here, a variety of approaches are possible: Firstly, you can include a simple static `ds.b` declaration in your program to reserve a suitable amount of space (the structure size is defined as `fib_SIZEOF` in the `dos.i` include file). In this case it's necessary to make sure the structure is long word aligned and with Devpac you do this by including a `cnp 0,4` directive before the structure allocation like this:

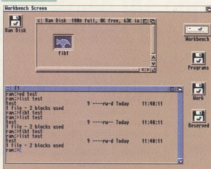
```

cnp 0,4
ds.b fib_SIZE

```

Another option is to use the `exec` library's `AllocMem()` function to allocate memory, releasing it with a `FreeMem()` call after use (this automatically produces a long word aligned memory block). The third approach is to use the DOS library `AllocDosObject()` function coupled with a `DOS_FIB` flag to indicate that we want to allocate a FileInfolock structure (this flag is also defined in the `dos.i`

**AmigaDOS's List command being used to check that this month's example works**



## COMMAND LINE LOOP

You'll find the source code for the example on disk as the file `fib.l`. The runnable form, needless to say, is called `fib1`. Try running it from the Shell using this sort of command line:

```
fib1 $filepath:name
```

and use the AmigaDOS `List` command to examine the state of the delete flag. Each time you run the program on a given file the state of the flag will change.

You'll notice, incidentally, that the example uses a short loop to copy the filename supplied on the Shell command line into a buffer. For those of you who haven't met command line access before, here is a brief explanation of why this has to be done. When a program starts from the Shell it gets provided with two bits of information. Firstly,

include file). When this latter approach is used a corresponding `FreeDosObject()` call must be used to release the FileInfolock after use.

Once an AmigaDOS initialised FileInfolock is available the protection flags can be read and the DOS library's `SetProtection()` routine used to alter the state of the flags. The example provided on the coverdisk this month does just this. It's a simple Shell-based program which toggles the delete flag of a specified file using the file lock + `Examine()` approach.

Because routines like `Lock()` will fail if non-existent files are specified, it's best to structure the program in such a way that `Examine()`, `SetProtection()`, or `Unlock()` are never performed on files that were never found in the first place. This, of course, is just a matter of testing

```

lea      buffer,d1      filename
movewq  #ACCESS_READ,d2
CALLSYS  Lock,_DOSBase
move.l   d0,filelock_p  BPTH
                        pointer!

brq.s    CLOSEROO

move.l   d0,d1
move.l   #FIB,d2        filelock_p
                        address of
                        file info block

CALLSYS  Examine,_DOSBase
move.l   filelock_p,d1
CALLSYS  Examine,_DOSBase
lea      FIB,a0
move.l   fib_Protection(a0),d2
bchg.l   #FIB_DELETE,d2
move.l   #buffer,d1
CALLSYS  SetProtection,_DOSBase

```

**Listing 1: The main code fragment from this month's example**

the return values of the various functions and branching accordingly if things have not gone well. You'll be able to see how I've done this from the code fragment shown in listing 1.

Since `SetProtection()` requires the new 32-bit protection bit mask to be in register `d2`, I've chosen to copy the protection bits into `d2` as soon as `Examine()` returns by loading the base address of my FileInfolock structure into register `a0` and using indirect addressing like this:

```

lea      FIB,a0
move.l   FIB_Protection(a0),d2

```

Changing the state of the flag is easy. We just use the `680x0 bchg` instruction to invert the state of the delete flag:

```
bchg.l   #FIB_DELETE,d2
```

The `680x0 bset` and `bclr` instructions, which could be used to explicitly set or clear a protection flag, would, of course, be used in exactly the same way.

## FUNCTION DOCS

As well as the example code itself you'll also find details of all the functions that have been used on the coverdisk. They're stored in the file `functions.aug96.eb` and to view them you'll need load the file into the `EasyBaseAC` utility (see the additional coverdisk readme notes for more details)



Paul Overaa  
delivers some  
help identifying  
ARexx port  
names



# Port of call

Like most ARexx users, my system occasionally throws up 'Host environment not found' errors when I run scripts. In all such cases it's either because the program my script is trying to talk to isn't up and running, or it's running but using a different ARexx port name for communications than the one I had specified. In the latter case, this might be due to a typing slip in my script, but it could also be due to an error in the documentation of the program being used. Port names are case sensitive and in my time I've come across quite a few utilities whose docs have given the port names using the wrong case.

Whatever the cause, a good first step in such cases is to get a list of all currently available public ports, and on my system I have an ARexx function key set up that produces such a list whenever the F2 key is pressed. It's done using the rexxsupport library ShowList() function and the code required is surprisingly straightforward. Firstly, we check to see whether the rexxsupport library is already active or not (installing it if necessary). Then ShowList() is used to place the delivered port names into a string called port\$, and finally, a 'do-end' loop is then used to separate and display the names on screen.

In order to get an ARexx script tied to a function key you need to use the FKey tool. Select the New Key gadget and enter the name of the function key [F2 in the case I'm talking about]. Then choose 'Run ARexx Script' from the command box and enter the name of the script to be run. Finally, use the 'Save Defined Keys' Project menu option to save the created function key definition to disk.

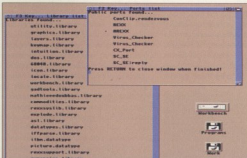
It's always useful to name the script after the key itself so it's easily recognizable. My F2 key script, for instance, is called F2.rexx. It's also best to save scripts in the rexx: directory (usually assigned to

```
/* F2.rexx */
LINEFEED=0A'; TAB=09';
TEXT1='Public ports found...'||LF
TEXT2='Press RETURN to close window when finished'
WINDOW_3EF='con:100/200/400/200/F2 Key... Ports list/close'
if 'Show'LI,'rexxsupport.library')
then do
    call AddLib('rexxsupport.library',0,30,0)
end
port$=ShowList('P')
call OpenWindow,WINDOW_3EF
call WriteInWindow,TEXT1
do i=1 to WordCount(port$)
    call WriteInWindow,TAB||Word(port$,i)||LINEFEED
end
call WriteInWindow,TEXT2
ReadInWindow,1 /* seek input and quit */
exit
```

Listing 1: A port listing script that can be tied to a function key

Workbench.) because such scripts will then always be found by the system. Do note, incidentally, that for FKey function definitions to be usable the FKey commodity needs to be actually running.

The easiest way of ensuring this is to drag the FKey icon, or a copy of it, into your WBStartup drawer - that way the utility will always be active once your system has booted!



Typical displays produced by this month's example scripts

## A COMMON SLIP

People often complain that scripts which work perfectly well when executed from a Shell window fail to work once they are linked to a function key. The reason is that scripts started via a function key do not automatically have anywhere to send their output. The solution is simple - any script run via a function key must open a suitable window itself. It's easy enough to do using ARexx's Open() function in conjunction with a window specification and the code will normally look something like this:

```
call OpenWindow,'con:100/200/400/200/F2Key... Ports list/close'
```

It's also important that output from the

program actually gets sent to this window, and to do this you need to use WriteIn() or Writech() functions rather than the ARexx SAY instruction. For example rather than writing:

```
say Word(port$,i)
```

it is necessary to use something like:

```
call WriteInWindow,Word(port$,i)
```

You'll get an idea of how all this works in practice from this month's examples. You'll find two scripts on the coverdisk. F2.rexx produces the port lists I've been talking about, and F3.rexx uses the same ShowList()

function to produce details of the system libraries in use. Tie the examples to function keys as I've explained and experiment. Who knows - when you see how easy it is you may well be encouraged to get some of your own scripts running in this way.

Don't forget, incidentally, that function keys have many advantages over icons and menus. They're always available and it's far easier (quicker) to hit a function key than it is to grab hold of the mouse and select a menu item or double-click on an icon. What's more, function keys, unlike icons, do not take up valuable Workbench screen space!

Dave Cusick takes a look at some of the programs that Web Surfers can't afford to be without



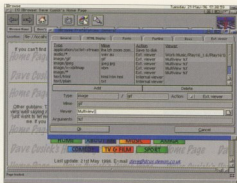
comments

# Surfing Essentials

**T**he beauty of the Web is that it presents an attractive and appealing side of the Net. It successfully blends text, graphics and sound together in true 'multimedia' buzzword fashion, to the extent that various Web sites contain large picture, sound and video archives just waiting to be downloaded. The only problem is that, on their own, most Web browsers simply don't know what to do with all the different file formats that are out there.

What's required is a method of deciding which format a given file is so that the file can be sent to an external program for viewing. Most graphical browsers have a window (probably called 'External Viewers' or something similar) through which the user tells the browser what to do with any given filetype. If you've never taken a look at this window before, now would be a good time to do so. In iBrowse it can be found under the General settings window. Incidentally, if you are a Voyager 1.0 user, unfortunately you can't configure external viewers as easily – but nevertheless, some of the programs I am about to mention could still prove invaluable.

There are four columns to the iBrowse External Viewer window, with the leftmost simply listing the type of file, the Mime column listing the extensions with which to identify the filetype, and the two right-hand columns telling iBrowse what to do with the file. Things will probably be set up with



Configuring the External Viewers in iBrowse

Multiview as the viewer for the majority of filetypes. There are, however, some superb viewers which are well worth using in preference to Multiview.

Probably the most useful is Play16, which has been featured on the Amiga Computing coverdisk in the past and is available from Amnet too. Once you've downloaded and installed this excellent sample player, you can configure iBrowse to use it very easily. Click on the audio/\* line, and make sure the Action specified is External Viewer. The Mime text gadget underneath should contain 'wav' and 'au'. You can then use the file selector next to the Viewer line to locate Play16 on your hard drive. In the Arguments box simply specify "%f". Now whenever you select a Wave or Au sample on a Web page, Play16 will be called and you'll be able to hear these samples directly, without having to convert them into the Amiga 8SVX format.

For image viewing, there are plenty of programs which work more quickly than Multiview and can produce better results. I use Viewtek for viewing GIF images and FastJPEG for viewing Jpegs. Both of these programs are available on Amnet, and configuring iBrowse to use them is again extremely straightforward. There are also a couple of Mpeg players around, although you'll

need quite a powerful machine to take full advantage of them.

Going off at a bit of a tangent, if you are lucky enough to have a fast Amiga and plenty of band width, then you could well be interested in UnRealAudio. As the name suggests, this isn't an Amiga version of the currently fashionable and highly impressive RealAudio real-time sound system, but it is a possible imitation. It uses a codec called GSM, which is not as widely used on the Internet but can still be found with a little rummaging. UnRealAudio really requires a 68030+ Amiga and a 28.8k+ modem, a combination which alas I don't have (yet...) but I am reliably informed the results are not bad at all. If you're planning on trying it out, you will also need a couple of other small programs which can be found on Amnet, and which you will find details of in the UnRealAudio documentation. With a bit of fiddling, UnRealAudio could probably be set up to play GSM encoded files as a mime type directly from iBrowse too.

Of course, the final essential for the serious surfer is a decent e-mail program, which can be launched whenever you click on a Mailto: link. Full Mailto: support is not yet implemented in the pre-release demo of iBrowse, although other browsers such as Voyager and AWeb already have scripts available to launch mailing programs. For the moment, if you're an iBrowse user you'll have to make do with flicking across to your mailer and copying out the e-mail address, and looking forward to the release of a fully finished, all-singing, all-dancing iBrowse in the near future.



Utilities like Play16 can also easily be used with do-it-all Applications such as ClassAction

## AMIGAS ONLY

The first Amiga-specific Internet provider in the UK has recently been launched. Wirenet supplies access through U-Net, and offers what it describes as 'A comprehensive suite of software' including programs to handle mail, news, FTPing and Web browsing, all of which can be launched from a central control window. Local call access is currently available for around 80 per cent of the country and Wirenet

even provides some free Web space in case you're feeling creative.

The annual subscription rate is £115 and there is a one-off connection fee of £14 (including VAT). If you want to find out more, you can ring Neil Bathwick on 01925 791716 or e-mail him at [info@wirenet.u-net.com](mailto:info@wirenet.u-net.com). Wirenet also has a Web site at <http://www.u-net.com/~wirenet/index.html>.

## HELLO THERE

If you've any comments, suggestions or queries you can contact me at [dave@dave.demon.co.uk](mailto:dave@dave.demon.co.uk), or [davecus@edg.co.uk](mailto:davecus@edg.co.uk)

Dave Cusick offers  
some advice for  
those using their  
Amiga to  
produce newsletters



# Niftier news

**W**hile it is marvellous that home computers like the Amiga make it possible for almost anybody to produce their own newsletters, the results can often be less than stunning simply because the creator has put a great deal of thought into the design. A small amount of planning can definitely help produce something more impressive.

Perhaps the most important point is that you should try to construct multi-page documents in a coherent style. A little variety in layout is obviously going to be necessary in order to make the document visually appealing, but if the pages have few common elements then readers will be put off.

Before you start laying out text and pictures, it might well be worth designing one or two template pages which you can then subtly vary for each page in the document. What you are aiming to create is a recognisable look for your publication. Decide, for instance, whether or not body text will be justified. Decide whether or not new paragraphs will be indented. Decide how many columns a typical page will have (there's nothing worse than a newsletter that keeps switching from three columns to two and back again). Once you've made those decisions, stick by them throughout your document.

A pitfall many occasional desktop publishers seem to fall into – and some not so occasional ones too, who ought to know better – is that of producing what amounts to a glorified list of fonts. Having a gigantic array of fonts at your disposal is a definite plus, but it certainly does not mean that they must all be used together within any given document. Mixing lots of different typefaces will inevitably produce cluttered and confused results. Try to stick to two or three styles at most on any one page, and indeed throughout the docu-

## part 3



Using the reliable old PageStream 2 to produce a crisply designed school newsletter

ment. Instead of introducing new fonts, try using slightly larger point sizes, or underlined or italicised letters. Again though, don't go over the top because the more things you attempt to make stand out, the less impact highlighted text will have.

You should also try to avoid chopping and changing between serif and sans-serif fonts. In general, serif fonts (the ones with fancy little bits at the top and bottom of certain letters, such as Times), produce more readable body text, although the text you are now reading is an example of how certain sans-serif fonts (without the fancy bits) can be equally effective. Headlines, on the other hand, have a greater impact if you use sans-serif fonts.

Once the basics are in place you can create pages quickly and easily by simply importing the text and graphics and tweaking them to produce the perfect page. At this stage you should keep an eye out for overflows and widows, those odd words or sentences stranded at the top or bottom of a text column all on their own. They spoil the look of any page and can be avoided simply by removing,

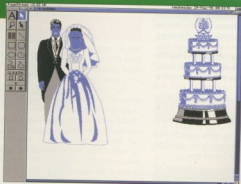
inserting or repositioning a little bit of text somewhere, resizing a column slightly, or scaling a picture differently.

Just a couple of final points to bear in mind if, like many amateur newsletter designers do, you intend photocopying your newsletter. Firstly, you should avoid large areas of solid black. Whilst these might look magnificent when printed by your trusty inkjet, they will appear streaky and unattractive when photocopied. Secondly, colour photographs rarely photocopy well either. To get around this limitation you could use black and white film, or you could scan in pictures and convert them into high contrast black and white images – or alternately you could just opt to avoid photographs wherever possible. You might consider using a little clip art instead, preferably in a scalable format or, failing that, at least at a size where the lines will not appear jagged. Again, though, don't go over the top. A few well chosen and relevant images will look a thousand times better than a multitude of inappropriate pictures splashed haphazardly across a page.

## WEDDING PICTURES

Artworks has just released a new package of clip art with the theme of Weddings which may well appeal to enterprising invitation designers out there. The images were created by professional artists and are designed to look good whether printed in colour or grey scales. The quality of the images is extremely high, and the five disks come with a booklet containing hints on using the artwork to the best effect and a complete printout of all the images for quick reference.

The images are available in Adobe Type 88 EPS format, compatible with PageStream, Wordworth, and Final Writer, or in ProDraw format for Pagesetter, ProPage and PageStream. The complete package costs £19.95. Artworks can be contacted on 01469 588138, or e-mailed at [artworksuk@aol.com](mailto:artworksuk@aol.com).



It might not look like much in four colours, but on paper Artworks' Wedding clip art is a real treat

Phil South continues  
with how to plan  
and execute an  
Amos program  
project



# Back to basics

Last month we talked about interface design and I said that this month we'd be fleshing out some of the code we would need to use to activate our interface design and make it sensitive to mouse clicks. The pseudo code we started with was like this:

```
start
initialise variables
set up the screen size, colours etc.
load the interface graphic
start the music
start main program loop
    check for button hits
    if there is a hit then activate hit
subroutine
    if not continue
go back to start of main program loop

hit subroutine
    which button was it?
    make button sound to give feedback
    load chosen graphic or perform chosen action
return to main loop
```

To get the interface sorted out, we first have to create the boxes on the screen, as we said last issue:

```
Screen Open 0,440,256,16,kires
Box 10,170 To 440,140
Box 10,170 To 180,200
Box 95,170 To 170,200
Box 185,170 To 240,200
Box 275,170 To 350,200
Box 365,170 To 440,200
```

The boxes on the screen can then be saved off as an IFF file with Save IFF "whatever.iff", and you can then use this file to start work in Dpaint or Photogenics to make your interface. This file can also form the basis of your interface code.

The co-ordinates for the boxes are the description of where the boxes are on the screen, so you can use these numbers to tell the Amiga where the boxes are and sense for mouse clicks in these zones. To create mouse zones you first need to set them up, then write code to access them when clicked on by the mouse. Let's open a screen:

```
Screen Open 0,440,256,16,kires
Cls 0
```

Now we have a blank black screen. So first we reserve the zones we want to use, and in this example we want to use 5 so we type:

```
Reserve Zone 5
```

Now we use the text from the old box drawing

## part 3

The text or picture appears here

Button Button Button Button Button

Interface Design Button Test Picture

Press down to activate  
to appear text or  
picture on screen.  
Watch this space

Follow the code and  
your interface will  
look like this

program and edit it to create the zones:

```
Set Zone 1,10,170 To 80,200
Set Zone 2,95,170 To 170,200
Set Zone 3,185,170 To 240,200
Set Zone 4,275,170 To 350,200
Set Zone 5,365,170 To 440,200
```

forgetting, of course, the first box as this is the one we will be using later to show pictures of products. So now we have five zones on the screen. We can either load the picture we've created using the box picture we created before or, if you haven't done that yet, you can draw some boxes on the screen to give you an idea where the zones are, like so:

```
Box 10,170 To 80,200
Box 95,170 To 170,200
Box 185,170 To 240,200
Box 275,170 To 350,200
Box 365,170 To 440,200
```

This is just a rerun of the previous lines of code from the box drawing program. Okay, having done that we can now do the main program loop:

```
MAINLOOP:
GotoB _MOUSECHECK
Res *** program goes here ***
Goto _MAINLOOP
```

Not very inspiring is it? Just a loop with a call to the mouse subroutine. Okay, let's make it actually do something. Firstly, give the routine a label so we can jump to it:

```
_MOUSECHECK:
```

and then we can sense the mouse clicks. Assign the current mouse zone and the mouse button status to a variable:

```
Z=Mouse Zone
C=Mouse Click
```

then test those variables every time around the loop to see if they are both true:

```
If C=0 And Z=1 Then Bell
If C=0 And Z=2 Then Bell
If C=0 And Z=3 Then Shoot
If C=0 And Z=4 Then Bell
If C=0 And Z=5 Then Bore
Return
```

if they are false, the program just goes merrily around the loop again without triggering anything. If it's true, though, you get a bang or boom, depending on which button you press. These are just noises I put in there to give you some feedback as to what you've pressed and to demonstrate that the program is working. In a later version of this program we'll be substituting another routine for those noises. Lastly there is a RETURN statement to take you back to the main loop.

## NEXT MONTH

The program is starting to come together, so all we need now are some bits of music, some graphics and sound effects, and perhaps even a start-up and exit screen. Now we can sense mouse clicks on our interface, what do we want to happen when a key is pressed? The sound of a button clicking perhaps? And do we want the pictures of the products to occupy a screen above the buttons and a text description to appear to the right? What about music? What about a little voice-over? Find out where we go from here next month.

## 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. 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.



This month Paul Overaa takes a beginners' eye look at the world of Midi



# Midi - What it's all about

**D**espite more than a few recent musical hiccups in the Amiga world, we've had an increase in new users looking for Midi help within the pages of Amiga Computing. Many, it seems, have bought their machines second hand and this suggests that, despite the fact some users have chosen to desert the Amiga, for every person that has left... a new (and enthusiastic) Amiga user has arrived. This month it seemed like a good idea to take advantage of the hopelessly temporary lull in the arrival of new music products and provide, for the benefit of these newcomers, a few details about what Midi actually is!

In short, Midi is a communications system designed to allow musical equipment from any number of different manufacturers to 'talk' to each other using digital messages. Amongst other things, it has encouraged the development and use of a piece of software known as the sequencer which is able to record, store, edit and replay the messages generated when Midi-based musical instruments are used.

## ALL ABOARD

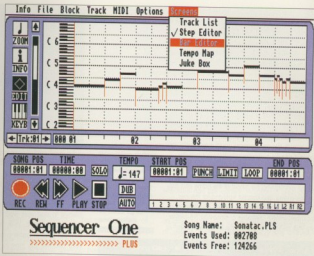
Assuming you already have an Amiga, all you'll need to get aboard the Midi bandwagon is a sequencer program, a Midi interface, and a keyboard synthesizer! You may, if they were not supplied with your synthesizer or Midi interface, also need one or two connecting leads. These are called Midi leads and can be purchased for a few pounds from almost all computer and music shops. You'll find plenty of Midi interfaces advertised (from about £20 upwards), and they are quite simple pieces of hardware which plug into the Amiga's serial port, thereby providing the right physical connections for linking up Midi equipment.

## GETTING CONNECTED

Whatever Midi synthesizer you get it will have at least two 5-pin DIN sockets. The one marked *Midi-In* is where the synth receives its Midi data; that marked *Midi-Out* is where data is transmitted. Sometimes you'll also find a *Midi-Thru* socket and this provides a duplicate of whatever is being received at the *Midi-In* terminal. Linking together a three-piece system is usually easy: Connect your Midi interface to the Amiga's serial port; take one Midi lead from the *Midi-Out* of the synthesizer to the *Midi-In* of the Midi interface (this will be the lead that, via the Midi interface, carries data from the synthesizer to the sequencer program); connect a second cable

from the *Midi-Out* of the Midi interface to the *Midi-In* terminal of the synthesizer (it is this lead that carries information from the sequencer back to the synthesizer); and switch on, load your sequencer, and you'll be ready to start.

Once your Midi system is up and running you'll not only be able to create and play your own songs but will be able to purchase ready made song arrangements (as Midi files) that can be loaded into your sequencer and played. For this latter use, incidentally, a GM synthesizer is essential because almost all Midi files sold nowadays assume that a GM sound set is being used!



At £49.95, Sequencer One Plus from Sound Technology is one of the Amiga packages that makes an ideal entry level sequencer

Sequencers vary enormously in the options they provide but all will let you record; play back and edit Midi data. You will, for example, be able to add and delete notes, cut and paste fragments of music, change key, and improve the timing of the pieces of music you record (using so called quantisation options). Many sequencers adopt a tape recorder-style approach and the analogy is a good one because, conceptually, a sequencer is very much like a multi-track tape recorder. The main difference is that digital data is stored rather

than audio sounds. Whichever sequencer you choose there will doubtless be an introductory tutorial in the manual and you should read, and work through, that material at the earliest opportunity.

Synthesizers are electronic instruments which can mimic the sounds of other instruments such as violins, organs, and drums. There are hundreds of different types of synths available (as you'll realise if you take a visit to your local music shop), but the good news is that even the cheapest models can sound good. Try to get a synth that is General Midi (GM) compatible because this will mean the synth will have a standardised set of sounds built into it.

## PRESSURE SENSITIVE

One thing you will not get with a low-priced synthesizer will be a keyboard which can sense how hard the keys have been pressed. Notes will be on or off but this, unless you spend a lot of money on a 'touch sensitive keyboard', is something you must live with.

A number of synths, namely those designed for home and non-professional use, do have amplifiers and speakers built in. Many synthesizers, however, do not, so have to be connected to a separate amplifier/speaker system in order to produce audible sounds. For home, low volume use you can normally use your home stereo system.

Steve White demonstrates the importance of multimedia design



# It's all in the game

Last month I talked about typefaces or fonts and this ties in nicely with this month's article – multimedia design. So what is multimedia design?

As an Amiga owner, you will come face to face with multimedia design every day. Multimedia is the creation of graphics that can be manipulated by a user, more often referred to as an interface. Obviously, Workbench applications use gadgets and windows, but computer games always have some kind of selection interface. It may be a far cry from landscapes and animation but it is an essential part of design in the computer age, and learning how to design interfaces could even create you an inlet into the computer entertainment industry.

Designing interfaces for games is never a simple case of slapping a few buttons on a page. It is about maintaining the mood of the game and providing a clear and concise frontend for the user.

The aim is to make the interface as attractive as possible without confusing or annoying the player. As with all forms of design, the best place to start is

**Always keep a work page with all your interface and game elements. That way, if you make a mistake you won't have to go back to square one**



**Designing graphics for computer games can prove very rewarding – you may even secure your self a career in the computer entertainment industry**

at the storyboard. You may decide to skip the storyboard stage of your design but I guarantee you will regret it later – it's a great deal easier to rub out pencil than to have to erase pixels.

Draw your interface on paper first and you will save yourself precious time at the computer. Don't attempt to start your work before you are happy with the storyboard. With the storyboard complete you then need to create a suitable palette. This isn't easy because you have to maintain a mood and keep the colours consistent with the rest of the game. It's probably a good idea to choose a series of colour shades as opposed to single colours, and in my experience it's far easier to work with fewer colours than it is with lots.

## ELEMENTS

With most interface designs there are invariably two elements which make up the basic frontend – the backdrop and the selectors. The backdrop is self explanatory and the selectors are the various buttons, menus and text that the user selects in order to move around the frontend.

More and more computer game artists are going for subtle backgrounds in their interface design. The MagicWB Icon enhancer kit contains some superb

examples of subtle backdrops such as marble, wood, rock and space. As you are effectively creating a multimedia environment, subtle backdrops are excellent for this type of work.

The obvious alternative is to create busy looking backdrops but the danger with this type is that they very often clutter the interface and drown the selectors, which are essentially the most important element.

There are two other options you can employ with backdrop design and one is to use a single colour backdrop which is easy to create and fairly safe. The other is to create an image indicative of the game subject matter but to re-sample it with only a few colours of a single shade. If you can do this with a real life scene, the effect will look even more impressive as well as saving you time-consuming and often painful work.

You should also understand that using a high resolution with respect to the palette size is, in most cases, not practical for computer games. The less colours you use the faster your interface will be and, more than likely, the better it will look. If you are looking for inspiration, just load up your favourite computer game and ask yourself what it is you like about the frontend.



## THE RIGHT IMAGE

If you have decided to create selectors with graphic imagery remember that you will need to keep the images as clear and obvious as possible. Using text is clearly not a problem but using images to represent options is not easy.

The images have to be good enough to make the user feel comfortable using them and that he or she actually realises the functions they represent. As you can see from the picture, the four control selector buttons below the Aces High title clearly represent either joystick or keyboard control. However, for the four main selectors at the



**The interface or front-end to a game must be good enough to make the user want to continue further**

bottom half of the interface I opted for text-based selectors because I decided that too many graphic images would detract from the overall design.

You will also notice that the actual selector buttons (the circular buttons) are clearly marked either on or off, so there really can be no mistake as to which option is selected and which is not.

Remember to keep a work page containing all the elements of your interface. That way, if you do manage to make a mistake or decide to alter an element of the design you will have an original copy to fall back on.

Steve White explains how you can create stunning applications in Blitz Basic 2



# Get blitzed

**W**elcome to this, the first instalment of the Amiga Computing Blitz Basic 2 tutorial. The aim of this tutorial is not to teach you the Blitz Basic language but to demonstrate how to implement commands in order to create a fully working Workbench application.

The application we will be building is called BOOTit and will allow the user to disable programs from the WBStartup drawer before Workbench boots. Not only this, it will feature a user-friendly GadTools interface as well as plenty of other useful options.

In order to follow and use this tutorial you will need Blitz Basic 2 Version 2.10, Workbench 2.0 or above, as well as access to the user commands. I expect you are already using version 2.10 of Blitz Basic 2 and have a fundamental understanding of the basic (excuse the pun) commands. For those of you who have a coverdisk version of Blitz Basic 2, I recommend you register for the latest version immediately – this tutorial will not work for you otherwise.

While I will be explaining how to build an application in Blitz Basic 2, I will also be taking time out where necessary to provide you with hints and tips to get the most out of programming with Blitz, as well as useful contacts you might be interested in to find out more information regarding this excellent but poorly supported programming language. Before you start any

*The application you will be creating will allow you to disable and enable programs in the WBStartup drawer when Workbench boots*

BOOTIT.WB by Steve White BYRS Hell Productions



## BOOTIT FUNCTIONS

**Main Interface** – the interface should be very user-friendly featuring GadTools buttons etc.

**GadTools** – WBStartup Contents GTListView. This will display the contents of the WBStartup drawer.

**None/All GTCycle** – clicking this to None will de-select all the WBStartup drawer programs and clicking to All will select them all.

**Rescan GTButton** – this button will rescan the WBStartup drawer and update the WBStartup Contents GTListView.

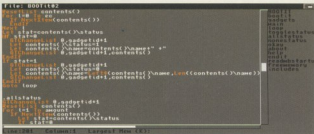
**About GTButton** – display About BOOTit information such as author and special thanks.

**Okay GTButton** – this will execute the disabling operation as specified and quit BOOTit.

**Cancel GTButton** – cancel the BOOTit program and the disabling operation.

**Disable User-Startup File GTCheckbox** – this will toggle between on and off and will decide whether the User-Startup file is disabled or not.

**Report GTText** – reports to the user what the program is doing.



Programming in Blitz Basic 2 can be problematic at times and the poor manuals do nothing to help

programming project you should have a good idea of what the program is going to look like, what features it will contain and how they will be implemented. The best place to start is to design a rough of the interface. You can then think of the different functions you will need and add them to the design. Once you have noted all the different functions you can then work out how they will operate.

### UNDERSTANDING

Fortunately, you can safely skip the above for this project as I have already done this work, and the code explanations should help you understand how each section of the program works. This is probably a good point in which to give you a rough description of what BOOTit does.

The finished BOOTit program will, fundamentally, allow the user to disable WBStartup programs so they are not executed when Workbench loads. Why would you want to do this? Well, two reasons, the first being that disabling programs from running saves memory and also some programs clash when run together. By holding down the right mouse button

when booting Workbench, the BOOTit interface will load and the current WBStartup programs will be read and presented in a list (GTListView). The user will then be able to click on programs in this list and either disable them or enable them – disabled programs will be marked with a + sign.

Fortunately, Blitz Basic affords you a great deal of power when building Intuition applications, so BOOTit will also feature the ability to disable the User-Startup file.

BOOTit will work by adding .BOOTit to the selected program's filename. As Workbench only executes programs in the WBStartup drawer with info at the end of their filenames, these programs will be ignored. However, the user will not be very pleased when he/she finds that their WBStartup programs have been renamed and, therefore, we will need to write another program called EnableBOOTit to rename the disabled programs back to their original names. For this to work we will need to make BOOTit save a file containing a list of the disabled programs before it quits so that EnableBOOTit will be able to rename the programs.

So, as of next month I will be providing source code and explanations for BOOTit. As BOOTit and EnableBOOTit will feature user commands you will be expected to have the latest user commands.

## BLITZ PROBLEMS

If you have any problems with this tutorial or Blitz Basic 2 in general I can be contacted at the following e-mail address [steve@idg.co.uk](mailto:steve@idg.co.uk). I cannot guarantee that I will be able to answer all queries but I will do my best.

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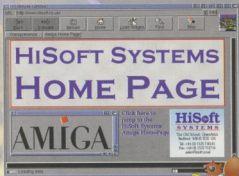
Surfing with Net&Web is so easy, the super-dick Illrowse (available separately) makes creating the Internet superhighway as simple as clicking a button. Also included in the Net&Web pack is the powerful MetaTool email program and the DaTP program for file transfer.

\* Note that, for now, we use the old protocol and Am2IP because this is far less expensive than the current alternative. However, all Net&Web owners will be able to upgrade to the brilliant, new InternetTCP (which supports pop3 at a reduced price).

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