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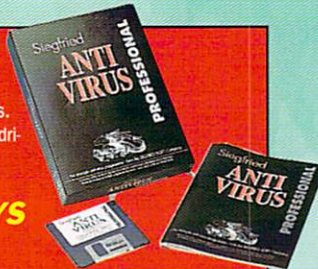
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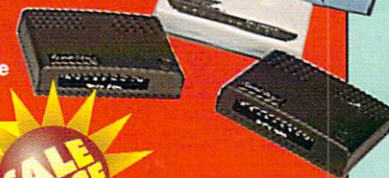
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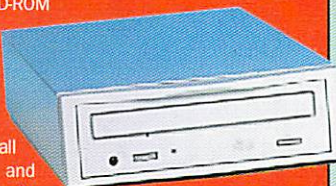
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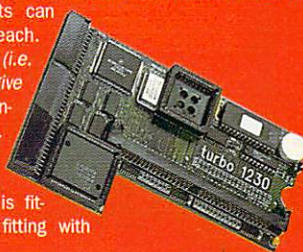
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C contents

AMIGA ACTION

ACTION NEWS 68

It's Hughy and his news, and this month Doom clones rule the roost

MAGIC CASTLE KINGDOMS 72

A walk around type of adventure thing from Mutation, get ready for brightly coloured gairish graphics

MAX RALLY 73

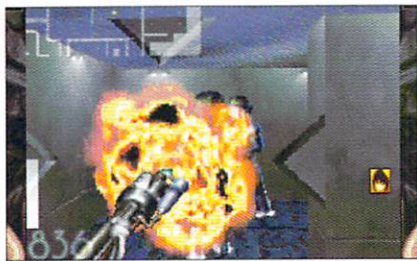
I poke fun at Hugh as he tries desperately to negotiate his way around the preview track of Max Rally, a new overhead racer

CHEATS 74

Making our way through the alphabet we continue our cheats page, four pages of the little blighters no less

GENETIC SPECIES 78

First of many new Doom clones that seem to be saturating the market, but boy this one is looking good, quite snazzy even



GRANDPA JO 79

Grumpy old Grandpa Jo who normally sits in the corner smelling of fish has harrassed us so much about the old days that he has finally got his own spot, the git

MICROPROSE F1 80

Hugh Poyton is the Daemon Hill of the Amiga world, yes that's right he's bobins

ALIEN F1 82

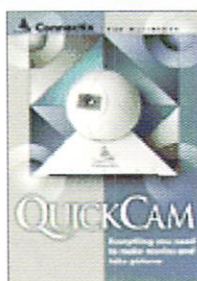
What is going on? Two racing simulations in one issue

REVIEWS

QUICKCAM 18

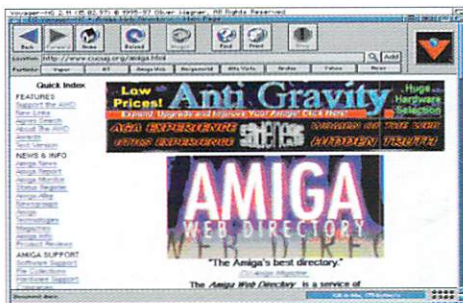
Harv Laser has one ball, and he has it stuck on top of his monitor. It may seem odd but it's the easiest way to get film clips on your Amiga.

Omnilink's AQCVID conversion kit now allows Amiga owners access to the world of QuikCam, fantastic!



NET CONNECT 42

The latest Suite of Internet software comes courtesy of Active software, our man in Internet land, Dave Cusick gives his verdict



FEATURES

LASER GUIDANCE 54

This month we have a great selection of the best CDs doing the rounds. Epic encyclopedia, World Cup football and of course, another AminetCD



GEMINI 21

PC to Amiga file transfer has never been so simple. Neil Mohr passes verdict on this low cost solution from ICS

MONITORS 30

If you have ever though about getting a SVGA for your Amiga, Neil Mohr takes a look at two top notch ViewSonic offerings that will not set you back too much out of pocket



PD GAMES 36

Out of pocket? Dave Cusick king of the PD world casts his memory back and selects his favorite few games from recent history



THE COVERDISK

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ExtMan - A great extension manager
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MuiCX - Replacement Exchange clone
TTManager - Simple tool type editing
SurveyMem - Fully configurable memory meter

REGULARS



NEWS 10

Hugh 'I keep me ear to the ground' Poynton has the latest Amiga news. Custom Amiga motherboards and PC users are stupid it's official

ACAS 52

"Well sir turns out that your Amiga is actually an A2000 and A3000 welded together"

AMIGA GUIDE



Phil South talks about random numbers and what AMOS can do

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How to score music for guitars is Paul Overaa topic for this month

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Dr Poynton has a few tips on making sure you keep you health when computing

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Web domain names are being snapped up by the day Dave tells you why

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Being a conventional man Paul Overaa wants us all to tow the line

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Neil Mohr finishes off looking at text style tags

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Floating point numbers and your Amiga are explained by Paul Overaa

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Loops and that get looked at by Paul in his continuing C tutorial

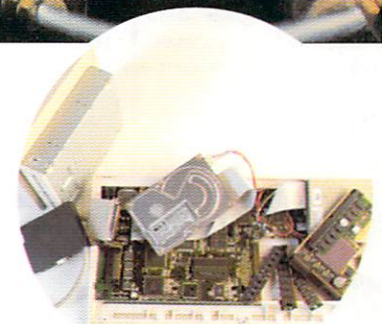
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COVER STORY

SUPER CHARGER

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More power! **Amiga Computing** explains the best and cheapest ways to super charge your current weedy Amiga



BACK ISSUES

Missed out on an issue of **Amiga Computing**? Turn to page 32



Ever decreasing circles

I suppose you have noticed the couple of changes that have happened to the front of the magazine. All I can say is that it was as big a shock to me as I am sure it was to you, and I guess you would like to know why. There are two reasons. Firstly, the falling readership that has affected all magazines has not helped, but the good news is that it is more than enough to keep the magazine going and me in this nice big comfy chair.

Secondly, if you count the number of adverts in this issue you will see that, compared to a year ago, there are only a third of the number of advertising pages. And, more importantly, the amount being paid for the pages has dropped, almost as dramatically as the number of adverts. Unfortunately it would seem this side of the Amiga market is only going to get worse.

With the market becoming more and more marginal, there are more or less the same number of companies vying for the attention of a slowly shrinking number of punters.

The bad news is that all this has claimed another Amiga magazine. If you have not already heard, AUI has produced its last magazine. I have been informed that this makes Amiga Computing the longest running Amiga magazine – nine years to the issue, in fact.

Neil Mohr has some explaining to do, seeing that there have been a few minor changes to the magazine

I think this is something we can be very proud of. For the last nine years Amiga Computing has been producing the best quality editorial covering all aspects of the Amiga, from games to commercial use. Even though the magazine may now be a more slender version of past issues, you can rest assured the quality will never wane.

Enough of all this negative talk, there is still plenty to look forward to in the very near future. In particular 16 May will be interesting as there is to be a press conference held by Gateway 2000, the day before the World of Amiga show. So next issue we will have some concrete news as to why Gateway made the purchase and what it hopes to do with it. So if you want the most comprehensive

coverage, don't miss our next issue.

As for the World of Amiga show, it looks as if it is going to be another busy one. The great news is that Gateway has already stumped up some cash and Amiga Technologies, sorry International, is to be in attendance. It was feared there were to be no big name companies showcasing their wares, but the late arrival of Amiga International was a bit of extra good news alongside all the other British exhibitors that will be present.



Neil Mohr
Editor

The AC team

EDITOR	Neil Mohr	PRODUCTION MANAGER	Alan Capper
ART EDITOR	Graham Parry	DATABASE MANAGER	Victoria Quinn Harkin 0171 831 9252
	Eddie Burke	CIRCULATION DIRECTOR	David Wren
PRODUCTION EDITOR	Justine Bowden,	MANAGING DIRECTOR	Ian Bloomfield
NEWS EDITOR	Hugh Poynton	DISTRIBUTION	COMAG (01895) 444055
REGULAR CONTRIBUTORS	Dave Cusick	SUBSCRIPTION	0151-357 2961
	Katherine Nelson		Published by IDG Media, Media House, Adlington Park, Macclesfield SK10 4NP
	Paul Overaa		Tel: 01625 878888, Fax: 01625 879966
	Phil South		E-Mail contacts: Editorial: edit@acomp.demon.co.uk Advertising: ads@acomp.demon.co.uk
ADVERTISING MANAGER	Elaine Prescott		http://www.idg.co.uk/amigacomp/
AD SALES	Sue Horsefield		
	Claire Beard		
AD PRODUCTION	Barbara Newall		
AD TYPESETTERS	Malcolm Thorley		
MARKETING MANAGER	Steve Tagger		

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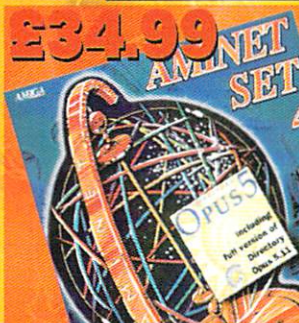
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SYSTEM BOOSTER



Aminet Set 1 or 2, consist of 4 gigabytes of software in 12,000 archives. The software is on four compact discs. With Utilities, Documents, Text Software, Disk/HD Tools, Hardware related, Pictures & Animations, Graphics software, Graphics & Sound Demos, Games, Music modules, Music software, Communications, Amiga Development software, Business software and more. All of the archives are easily accessible with a simple Index menu system with search.

The Amiga Developers CD from Amiga Technologies comes complete with the all the developers tools and docs, provided to the official developers. Included are the complete CD32 developers tools with Build CD and ISO CD, Envoy 2.0 package, Enforcer, Workbench 2.0, 3.0, 3.1 tools and documents with the updated native developers kit, SANA II package and the installer package. Also included is a vast amount of info. A must for Amiga enthusiasts.



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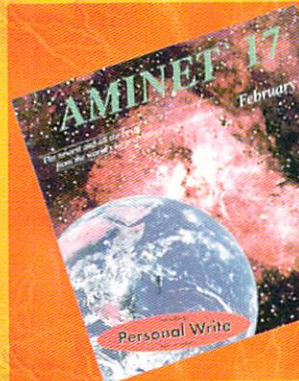
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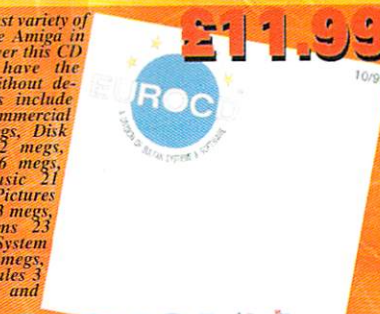
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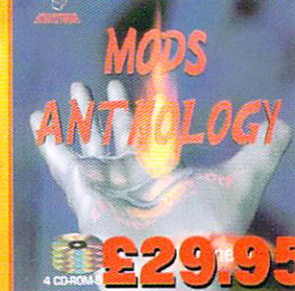
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EURO CD VOL 1



MAGIC PUBLISHER

Magic Publisher comprises of four compact discs on this unique CD-ROM set you will find all you need to create professional looking documents. There are more than 10,000 Fonts (Colour Fonts, Bitmap, IFF, Ad Intellifonts, TrueType & DMF), more than 5,000 clip art. Many of these are exclusive to this compact disc. commercial versions of Final Writer 4 SE, Wordworth 4 TD are included. Both rated as great processors on the Amiga. Tools for creating Web pages along with backgrounds and special clip art. This purpose is also included. A 100 page book contains printouts of all the fonts and clipart.



MODS ANTHOLOGY

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Giga Graphics Four CD-ROMs Image Collection £ 19.95

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This CD-ROM includes Personal Paint 6.4 and Personal Paint 6.0, from Clonix, Silver & Personal World (from Ozix), Personal Funt! Maker 1 & 2 (Clonix), 27 professional colour fonts, Clonix's Dr!Dr! (a synchronisation and replication software) and PNG (which gives a byte of pictures, animations, drawings, stereoscopic stimulation, voices and printer-downloadable fonts and texts). The CD-ROM contains no public domain or shareware software. The commercial titles include full manuals in Ameguide format in English and German, with some also in French and Italian.

This CD-ROM includes Personal Paint 6.4 and Personal Write 4.1 from Claris, Silver 1.4 Personal from Clavis, Personal Paint Maker 1.4.2 (Claris), 27 professional colour fonts, Claris's Draw!off (file synchronization and replication software) and P&G Toolkit, plus 11 Gbytes of pictures, animations, stereograms, stereogram animations, Amiga fonts, printer downloadable fonts and texts. The CD-ROM contains no public domain or shareware software. The commercial titles include full manuals in Amiga/Guide format (English and German, with some titles also in French and Italian).

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news

By Hugh Poynton

INDEX MOTHERBOARD

Index Information Inc. has released details about the Access Amiga motherboard. The Access motherboard will enable Amiga developers to design and manufacture application specific motherboards for the machine with a minimum of time and cost and will hopefully open up new corporate markets to the Amiga.

The Access computer is a low-cost Corporate Multimedia delivery platform based on the Amiga chip set and OS. The machine will be able to use a range of motherboards which use 90 per cent common parts and mount in the same case. The motherboards will be output using computer controlled production equipment so production will take a minimum of time and money, allowing rapid delivery of small batches at a very economical price.

The motherboard when fitted into its mounting frame and floppy drive will fit into a standard 5 1/4" drive bay.

index
I · N · F · O · R · M · A · T · I · O · N

This will enable the motherboard to be fitted into a wide variety of cases.

Because of the flexible nature of the motherboard, Index hopes to target Education and Interactive training using CD-Rom or Ethernet network delivery, public displays such as interactive museum exhibitions, Internet access and PC integration (the board works with Siamese System and fits into a drive bay).

Features of the Access include Motorola 68EC020 at 14 MHz, on-board 2Mb CHIP ram, 2Mb FAST ram, IDE Hard disk/CD-Rom interface, CD-Rom driver in FLASH rom, floppy disk drive, ISA expansion bus, built in sound recording, CD-Rom audio input connector, real time clock, non volatile ram 1Kb minimum.

A fully working prototype is currently in testing and

Index hopes to complete pre-production manufacture in five to seven weeks. The first unit should be at the World of Amiga Show to be held 17-18 May.

Index Information Ltd already has years of experience in using Amiga based technology for interactive museum exhibits. The company was behind the London Transport Museum's Interactive 'Hyper Museum', a system that allows museum visitors to delve into the museum's archives for information on the exhibits.

For more information on the Index machine contact the company at:

index@cix.compulink.co.uk



LH PUBLISHING SUPPORT FOR AMIGA PRODUCTS

LH Publishing, publisher of DrawStudio, has announced it is to expand its product range to include products previously only available in the US. The range promises to be comprehensive, including tools and utilities such as DiskSalv 4 and PageStream 3.

For those wanting to get started in DTP, PageStream 2SE is available for just £25; the range also includes more advanced products. PageStream 3 will be available for £125 and upgrades from PageStream 2 to 3 will be for £105.

LH Publishing also includes products from Intangible Assets Manufacturing. DiskSalve 4, a tool which enables correction of disk validation errors and unwanted deletion of files is available for £19.99. The Deathbed Vigil, the infamous video chronicling the last days of Commodore, is also available on PAL VHS for £12.99.

Anybody purchasing items worth more than £20 will receive a copy of LH Publishing's Amiga Fanzine, AmigaEm. For further information contact LH Publishing on 01908 370 230.

AMIGA CRYSTAL BALL

The Amiga community has been rife with rumours since the announcement that Gateway 2000 has acquired Amiga Technology. Although Petro Tyschtschenko, President of the beleaguered Amiga Technologies, has revealed a few details about Gateway's plans for the Amiga, the full extent will not be revealed until the World of Amiga Show on 17 and 18 May.

It has been announced that Amiga Technologies will be renamed Amiga International and Petro Tyschtschenko will remain as the company's President. It is also known that the company plans to start selling A1200s on the high street, starting from about £250. In an interview with Juergen Schmitz of the Trier University technology newsletter, "Neue Universal", Petro stated his belief that Gateway had bought Amiga because of the vast potential of the Amiga OS rather than just for the patent rights.

A number of different suggestions have been made as to the motive behind Gateway's purchase of Amiga, ranging from the plausible to the ridiculous.

Newsbytes, the Internet based IT news agency, even published an article suggesting that Gateway might well revive the AmigaWalker because, '...the machines specifications are complete, and the PCB (Printed Circuit Boards) etc., have been mothballed since Escom went bust last summer.' Meanwhile InfoWorld was postulating that the purchase could allow Gateway a quick entry into the handheld market because of the low cost, high performance technology involved.

One thing is for sure – the entire Amiga community will breath a sigh of relief when Petro Tyschtschenko finally makes clear the long term future of the platform.

GATEWAY 2000 TO THE RESCUE

Gateway 2000, the Sioux City PC distributor that bought Amiga last month, has donated 17 PCs to the local government of Grand Forks, North Dakota, after flooding ravaged the City Hall.

In the words of Grand Forks mayor, Pat Owens, "So many people have come forward and provided supplies, but one area we really needed help was getting our city government up and running. With Gateway's help, we can get begin operating again. We want to extend our heartfelt thanks to Gateway and its employees for caring about us and providing these computers."



GAMASOFT ALLIANCE

American Amiga Software publisher GamaSoft has announced the launch of a dealers and developers alliance for the Amiga market. GamaSoft, the distribution and publishing company responsible for marketing Amiga related software products such as Web Cruiser, New York, Voodoo 2.0 and MOca, hope the alliance will boost the marketing power of Amiga developers.

The alliance, called the GamaSoft Dealer Direct Network (DDN), will allow dealers of Amiga related software to take advantage of special dealer incentives, sales contests and GamaSoft Multimedia products for use as props for the sales floor. Dealers will also be able to get hold of pre-release merchandise and promotional goods. In addition it is hoped that the DDN badge will become a sign of quality and legitimacy for the dealer.

Production Director of GamaSoft, Ted Wallington explained the aims of the DDN: "One of the pitfalls in the Amiga market has been lack of marketing power – not only for the Amiga itself, but also for the truly saleable products. Too many great software products have disappeared from the Amiga market because people chose not to buy them, maybe because of a nervous feeling about the Amiga. Well, the Dealer-Direct Network is our response. With a strong alliance of uniform marketeers and a slick, active sales program, we're going to starting turning the tide."

For further information e-mail:

twalling@pantheon.macom.com or write to:

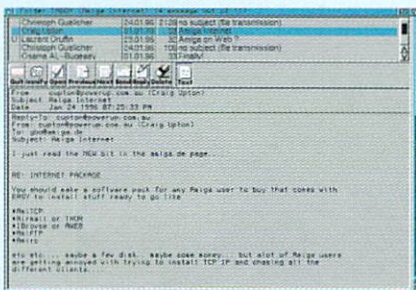
GamaSoft LLC

2644 Botsford St.

Hamtramck, MI 48212

(313) 365-8414

Contact: Ted Wallington



THE FUTURE OF THE AMIGA

After almost two months of waiting, the Amiga world will finally learn of Gateway's long term plans for the machine. A press conference to announce the future direction of the Amiga computer will be held at 3pm on Friday, 16 May at Salon Bourg, Novotel Exhibition Centre, 1 Shortlands, Hammersmith, London.

Amiga Technologies was acquired by Gateway 2000, a Fortune 500 PC distributor, last March. Gateway president Rick Snyder said that the acquisition would "Strengthen our intellectual property position and invigorate a company which has been a pioneer in multimedia solutions and operating systems technology."

According to Amiga International's current president Petro Tyschtschenko, "Gateway will give us new life and energy for the future." Mr. Tyschtschenko will be available at the press conference, as will Gateway's Corporate Development Manager Stephen Johns.

NEW IMPULSE FOR AMIGA

Impulse Inc. of Minneapolis, Minnesota has announced that, due to the great success of Imagine 5.0, work has begun on a completely new version of the Imagine 3D software for the Amiga. It will be sold as part of the ACUP (Amiga Constant Update Program) and will be available to all Imagine 5.0 users for \$100.

If you do not yet have Imagine 5.0 or are interested in purchasing v6.0, contact Impulse at 1-800-328-0184 (US) or 612-425-0557 or e-mail sales@coolfun.com.

NEW YAMAHA CD REWRITABLE

The new CRW4001 CD Rewritable drive from Yamaha Systems Technology will be available in June this year. This hybrid CDR drive combines CD Record capability with CD Rewrite capability by using a simple media change. The hybrid drive conforms to Orange Book Part III, Version 1.0 and the CDs produced by the CDR version of the drive can be read on ordinary PC CD-Roms.

Daniel Baca, Sales and Marketing Manager for Yamaha CD Recorders, believes that the CD Rewritables will find a ready market in the data archiving field. "The

new CD Rewritable drive is expected to open the standard storage markets, especially backup. The CD Recordable drives are accepted in data archiving, data distribution and data backup, as well as in software authoring and multimedia. We expect the rewrite capability of the new product to further expand already fast growing market."

A Yamaha press release stated that the CRW4001 will support 'all major platforms' including the Amiga.

AMIGA TOWER OFFER

Intrinsic Computer Systems of Gravesend, Kent is offering a complete A1200 upgrade for £199.95 plus postage and packing. The Amiga 1200 Multimedia Station allows the machine to be placed into a CE approved tower with a 230W PSU power supply, a hard drive, CD-Rom drive and PC interface so that a PC keyboard can be used.

JAVA COMES TO AMIGA

Haage & Partner Computer GmbH have announced that they are developing a Java Virtual Machine (JVM) implementation under the code name MERAPI. The development of Java has raised hopes in the computer industry that future software development mightn't be as constricted by incompatibility between platforms. The development of a workable software engine for the Amiga that executes programmes created in Java would enable the Amiga to enjoy the advantages of this development.

We will be bringing you further news of this exciting development for the Amiga as soon as possible.

NEW OPUS RELEASE

GPSoftware, the developers behind the Opus workbench replacement and file management program have announced the release of a new version of the package. The new version of Opus - Opus 5 Magellan - will be available either as a full product or as an upgrade for existing Opus 5.5 users.

Opus Magellan promises built in support for the NewIcons system, better Cybergraphics support and faster icon layout as well as a rewritten OpusFTP module which allow up to five times faster access to the Internet.

The Directory Opus 5 Magellan will be demonstrated at the Wizard/GPSoftware stand at the World of Amiga show.

WHITE KNIGHT PRICES DROP

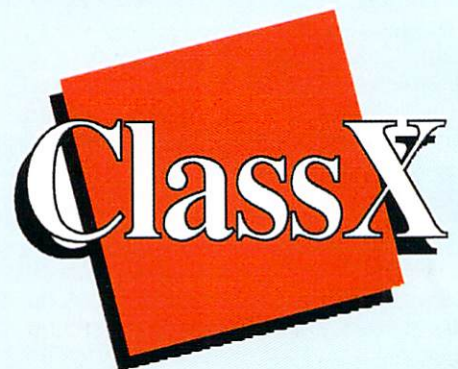
White Knight Technology, the Hertfordshire based Amiga stockist, has announced price reductions on its range of Blizzard, Cyberstorm and CyberVision products from Phase 5. White Knight also says it can supply all Phase 5 products including the Cyberstorm PowerPC accelerators and even Apple Macintosh products.

The price of a Blizzard 1260 has been reduced from £429 to £349, whilst the Blizzard 2060 is now available for £449. The Cyberstorm 060 Mk2 will now be retailing at £449 and the CyberVision 64/3D at £169. The entry level accelerator, the Blizzard 1230 Mark IV with a 50 MHz 68030 CPU, can be obtained for £109. For more information contact White Knight on: 01920 822 321

CLASSX RELEASE

Amiga developers ClassX has announced the release of the X-DVE Titling package. X-DVE 2.70, an updated version of the successful v2.50/2.60, will be made freely available via Aminet. Although the package will work well on PPC processors, the package also supports 68060 machines.

X-DVE 2.70 includes 12 new slide effects, improved 3D texture mapping and light sourcing routines. For more information contact: classx@pisoft.it or +39 587 749206



NETCOM TO MAKE USR x2 ACCESS AVAILABLE

Netcom, the worlds largest independent ISP, has announced that it will be making available US Robotics x2 modem access on all of its inbound lines. The move to the US Robotics x2 technology will allow much faster loading and browsing; at speeds twice that of standard modems.

In addition to the speed increase, the US Robotics technology is also fully 'future proof', enabling Netcom to keep up with developments in medium technology.

The x2 technology uses the digital telephone network to allow much faster downloads. By eliminating the analogue-to-digital conversion in the downstream path, the x2 almost doubles the previous limit for download speed via a telephone line from 33.6K to 56K.

UK PC MARKET MOVING TOO FAST

A new report from GfK Marketing Services points towards a decline in the rate of retail growth for PCs. GfK's research suggests that this decline could actually be linked to the rate at which PC manufacturers bring new products into the market place. As Martin New, GfK's IT Specialist explains:

"Our figures show that the majority of PC owners tend to keep their machines for about four years. However, the average market cycle of a personal computer is around 18 months. Most households can't keep up at this rate, considering that the average retail purchase price of a PC is in the region of £1,400."

According to GfK's figures, the retail growth of PCs has fallen from 110 per cent in January 1996 to just 20 per cent in January 1997. Only a very small proportion of PC owners would consider replacing their machines every two years with the majority of owners saying that they expected to keep their machines for about eight years.

Amiga Mice

Replacement Mice	£6.95
MegaMouse 400	£9.95
MegaMouse Plus (3 Button)	£10.95
Optical Mouse	£29.95
New Golden Image	
TrackBall.....	£19.95
Pen Mouse	£12.95
(ideal for CAD)	
New Black Mouse	
for Amigas	£9.95



Ram Boards

RAM CARDS A1200

A1200 with clock and 4Mb	£49.00
A1200 with clock and 8Mb	£65.00
A1200 with clock, 8Mb & 33Mhz FPU	£80.00
33Mhz FPU inc. crystal.....	£15.00

RAM CARDS A500/500+ & A600

A500 512K w/o clock	£20.00
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A600 1Mb w/o clock	£20.00
A600 1Mb with clock	£30.00

Controllers

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AT-Bus Hard Drive controller A2000	£99
Oktagon 2008 SCSI controller	£99
Multiface III	£79
PCMCIA Controller for CD Rom for A1200	£69

Spider

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FOR AMIGA 1500/2000/4000

Active 8 port high speed serial card.	
Multiboard Support 57600 Baud rate on all channels simultaneously.	£299

New AlfaQuatro Interface

Specially made hardware and software. Allows 4 ATAPI devices, ie, 2 IDE hard disk & 2 IDE CD Rom to Amiga 4000 internal IDE controller, through Alfapower on Amiga 500/500+ and possibly Amiga 1200, comes with full IDE Fix software

£59

Joysticks & Joypads

Amiga Joysticks	£9.95
Amiga Joypads	£9.95
CD32 Joypad	£14.00

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Eight speed CD ROM for	£169.00	£139.00	£149.00	£129.00

* (for A500/A500+ Alfapower hard drive controller and Hard Drive is required). A1500/A2000 supplied with IDE controller & software. A4000 supplied with AlfaQuatro interface & Full IDE Fix software.

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Internal Floppy Drive A600/1200+	£35.00
Internal Floppy Drive A1500/2000	£35.00



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Alfapower hard drive controller	£99.00
Alfapower-640 640Mb hard drive	£199.00
Alfapower-1.2G 1.2Gig hard drive	£259.00
Other sizes please ring	



IDE 2.5" Hard Drives

IDE 2.5" Hard drives come formatted and installed with Workbench. Cable, screws, software and instructions supplied. (please ring for availability)			
80Mb	£69.00	340Mb	£109.00
120Mb	£70.00	420Mb	£119.00
170Mb	£79.00	540Mb	£129.00
250Mb	£89.00		

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720Mb	£110.00	2.1GIG	£219.00
840Mb	£125.00	2.5GIG	£239.00
1.0GIG	£149.00	3.2GIG	£Call
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44pin 2 connector cable	£5.00
40pin 3 connector cable 90cm	£10.00
AlfaDuo 44pin to 40pin Interface & IDE cables.....	£20.00
AlfaQuatro 3x40pin interface & IDE cables	£39.95
DD floppy disks (50) including multicoloured disk labels	£13.00
DD floppy disks (100) including multicoloured disk labels	£25.00
3.5" Hard Drive Kit for A600/1200 + Install software	£15.00
Diskbox to hold 10 discs	£2.00
Animal Jungle design and Dinosaur design	£5.00
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1230 33Mhz + 8Mb	£145.00
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1230 50Mhz + 4Mb	£179.00
1230 50Mhz + 8Mb	£189.00
1230 50Mhz + 16Mb.....	£219.00

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EXTRACTING COVER DISK FILES

Before putting the cover disks anywhere near your computer, 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 any way. There is also no reason why the cover disks need to be written to, so even if the computer asks you to write enable the disks, don't do it.

To extract any single archive, simply double click its icon, and follow the on screen instructions. If you want to 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 cover disk files. It 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 cover disk. 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.

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



We may only have one disk but it is chock-full of the freshest Amiga utilities – bit of an audio special this month supporting AHI. Try it out, I think you'll like it

AUDIO HARDWARE INTERFACE

Author: Martin Blom Requires Workbench 2.04

You must have heard of RTG (retargetable graphics). Over recent years it has become a big buzz word in the Amiga world – they already have it in most other worlds. It simply indicates the ability for a program to have its graphical output displayed on any display device. It can have its output redirected to different destinations without the software knowing anything amiss is going on.

The AHI software is to audio what RTG is to graphics. In fact the term RTA has been uttered a good number of times (retargetable audio) and, believe it or not, this simply means a program that produces audio output and can have that sound played on any type of sound card.

But that description is selling AHI short. For starters, even owners of basic Amigas can take advantage of AHI with a driver available for the Amiga's standard Paula sound chip. As with the other sound card drivers, you are given a wide choice of different sound replay modes allowing you to balance between sound quality and processor usage.

AHI does not stop there – what about getting

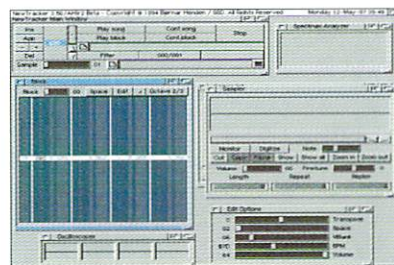
sounds onto your Amiga? Well, AHI also supports sound input. If you sound card has 16 or 8 bit sampling then AHI can support it and if you have a parallel or Aura sampler and AHI aware package will be able to use to get samples.

This is possibly the only stumbling block for AHI software support. Currently the number of AHI applications is small, but with the likes of SoundFX and Shapeshifter supporting it (if you have a Draco AHI and Shapeshifter finally allow you to have audio replay), at least you can see what is possible.

When installing AHI (unless you have a Toccata board) do not install the driver otherwise AHI will look for the Toccata library which you won't have. If you have done this, delete the Toccata AHI driver from the DEVS: AHI directory. Also to use the preference program, make sure you install the Bgui library.

Along with the main AHI driver software, there are a few other programs on this month's disk that will let you get some use out of this innovative system. AHI – Tracker is based on another sound tracker program and has been converted by the author of AHI to support his creation, so being the first sound tracker program to support AHI. If you write tracker modules or have some stored away you will be able to try out AHI.

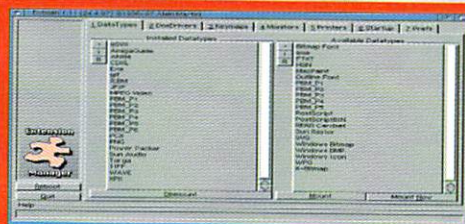
AHI – SoundDT is a tiny little program that is really a hack. This adds AHI support to all your sound data types. You will probably be best popping it in your WBStartup. Finally, AHI – Record by Thomas Wenzel is a direct to disk recording program that uses the sound input facilities of AHI to allow you to capture samples on your Amiga.



If you like sound trackers this one is quite good, but even better, it supports AHI

EXTMAN

Author: Alain Martini • Requires Workbench 3.0, Wizard library



Making access and management of all those tucked away bits of Workbench that much easier

On the Mac there is a program called Extension Manager that gives you a simple way of managing which control panels, preference program, system extensions and fonts you want to use. It saves you fighting your way through the different levels of directories you have.

ExtMan is a similar, but more comprehensive, program for the Amiga. It allows you to select which data types, Dos drivers, keymaps, monitor drivers, printers and startup items you want to have when you start your Amiga. It also allows you to mount disabled items via a great looking interface. All in all, this saves you traipsing through the many drawers the Amiga has.

Unfortunately we made a bit of a boob with this program as you need another library file to get it to run. You can find it on Aminet at biz/haage/wizard/library and I will put it on next month's cover disk for those with no Internet or Aminet discs.

ANIMDT

Requires Workbench 3.1

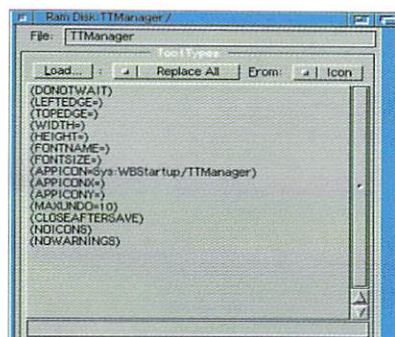
The second data type replacement this month is for IFF animation. Again, the original Commodore one left a lot to be desired – the major complaint being it had a very nasty habit of crashing and being particularly compatible with many of the IFF animation formats that are out there.

Unfortunately, as with the normal anim data type, you have to have the standard animation data type that only Workbench 3.1 users will have.

TT MANAGER

Tool types is something that has always, sadly, been overlooked on the Amiga. Even if you have SwazInfo, things are none to great, but this little program provides a perfect interface for all your editing needs.

Being font sensitive, sizeable, having full cut and paste support and including drag and drop editing makes your life much easier. The whole thing is child's play – to run and use it, well, you just have to run and use it. It is only 50K in its entirety so why not bung it in your WBStartup drawer? Or if you are really picky you could add a ToolManager Applcon.



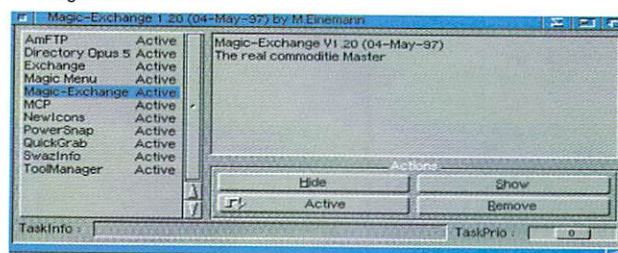
Making your life that little easier, TTManager gives a handy interface for all your icon tool types

If you have read this month's super charger feature you will have noticed I recommended Exchange as a program you just have to have, along with magic user interface. For all you people that don't mind MUI, this is the perfect Exchange replacement. Looking much better than the original, that's not hard though, and giving you better control over your commodities, you will find it much better to use.

MuICX

Author: Michael Einemann

Requires Workbench 3.0,
Magic User Interface



If the original Exchange program had been any good there wouldn't be any need for an MUI version

SOUNDDT

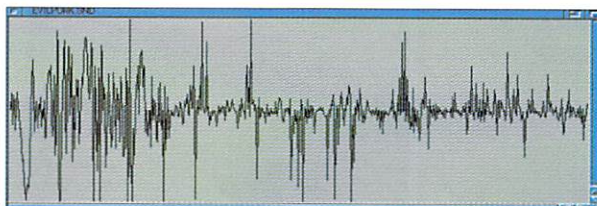
Author: Jonathan Gopen

Requires Workbench 3.0, Magic User Interface

I'm always having a go at Amiga data types as they promise so much, yet deliver only the barest of functions. Potentially, a sound data type could give you fully scaleable display with cut and paste functions, area selection, play back rate control, basic DSP functions, but no, all we have is a stupid looking speaker icon in a window.

This sound data type replacement gives a much better wave form play display and also implements double buffering and will play samples out of fast memory, so not wasting any of your chip memory and allowing larger samples to be played.

By the way, you don't need MUI to use the data type, only for the preference program. To install the data type you will have to select show all files from the workbench window menu and copy the sound.datatype to the data type directory in the classes drawer.



All I can say is, it's about time the old sound data type was updated

MPEG AUDIO PLAYER

Mpeg is better known for giving us high quality video in the smallest amount of space and the Mpeg team has now turned it attention to audio. This new technology has managed to percolate into the world fairly inconspicuously, only in the last few months have the programs and audio streams appeared.

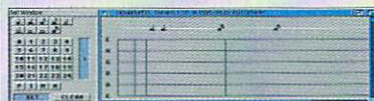
This Mpeg audio player can cope with all three levels of compression layers – that is if you have any Mpeg audio files to play. The final point is that just like Mpeg video it is very processor intensive, and even with an 040 you will have to select the worst quality playback.

TABULATOR ED

Author: Ralf Schafer

Requires Workbench 2.04

Here is a little program that Paul Overaa recommended we have on the cover disk and who am I to argue? If you read his music column this month you will find out all about this neat little program made for any Amiga guitarist. Make sure you use the installer that comes with Tabulator as it needs its own font to correctly display the front end.



I have no idea what this program does, something to do with guitars though

SURVERY MEM

Author: Alex Nasr

Requires Workbench 2.04

Before you all start groaning about "Another memory meter", SurveyMem is a little different from any other memory meter. First off it's tiny – less than 30k – and secondly it is a commodity.

So you can hide or quit the program whenever you like and it is fully font sensi-

tive. More than this you can alter how often it should refresh its memory meters and, as little a extra, how often it should try flushing all unused libraries and devices from memory. The whole thing can be configured from a lovely preference program that makes setting it up very easy.

GAMA SOFTWARE

GamaSoft, a software publisher and distributor based in Michigan, has announced plans to form a network of dealers and developers. The GamaSoft Dealer-Direct Network would be intended to encourage sales of GamaSoft distributed software through dealer incentive programs, promotional goods and a special logo indicating that a dealer is a member of the network.

Some of the products currently being distributed by GamaSoft include Voodoo 2.0, New York, Web Cruiser, and MOca. To apply, or to receive more information, dealers are requested to send e-mail to twalling@pantheon.macom.mi.us with their detailed dealer information.



by **Katherine Nelson**

MY MATE JASON

Amiga Legacy, the videotape-based Amiga magazine, has announced that it has made an agreement with Dave Haynie and IAM to include the popular Deathbed Vigil video in serialised form in the first three issues of the magazine.

The footage will be the best excerpts from the video, along with never-before-seen footage obtained from Dave Haynie. Other expected features include an Amiga browser comparison, an ImageFX tutorial, and a hardware hack to replace the power LED in an Amiga with a blue one.

The first issue is scheduled to premiere in June 1997. Subscriptions are available in single, three and eight issue blocks. For pricing information, visit the Legacy Web site at <http://www.xnet.com/~jcompton/legacy.html>.

Companies are encouraged to contact Amiga Legacy for information about advertising in the magazine. There are 15, 30 and 60 second segments available. Companies which begin advertising in the first issue will receive preferential placement and pricing in future issues.

CLICKBOOM IS PYSTED

clickBOOM, after obtaining the rights for the Amiga conversion of the popular PC and Mac game MYST, has added a new feature to its Web site – a conversion wish list. Amiga users are encouraged to visit, and vote from, a list of games that they wish to be converted to the Amiga from other platforms.

The current most popular selections include Monkey Island 3, Quake, Red Alert, Tomb Raider, Settlers 2, Civilization 2, Diablo and X-Wing vs Tie Fighter.

Other suggestions can be made in the space at the bottom of the form. clickBOOM will attempt to bring the most desired games to the Amiga market. The clickBOOM Web site can be found at <http://home.ican.net/~clkboom/>

ALABAMA MUD PIE

The North Alabama Society of Amiga Users has put up a new Web site – the Amiga Developer Network. This site is intended to be a resource to all types of development for the Amiga. Among its features are technical specifications, developer contact information and discussion areas. This site can be found at <http://www.amiga.org/developer>.

World-Wide Amiga's Amiga Developer Network

The Amiga Developers Network is a technical and discussion resource for the development community

COMDEX AMIGA SHOW

Amiga Atlanta, Inc. would like to invite Amiga users and user groups to attend the spring Comdex in Atlanta, 2 to the 5 June. This is the last spring Comdex that is scheduled to take place in Atlanta. The admission is free.

On the same week is the regular Saturday meeting of the Amiga Atlanta group, and Amiga users are encouraged to attend this meeting as well. Amiga Atlanta hopes to have representatives of Gateway 2000 and its advertising agency, DMB&B present. The Amiga Atlanta meeting will be at 1pm (Eastern Time) on Saturday, 31 May at the Dunwoody Public Library, 5339 Chamblee-Dunwoody Rd. in Atlanta, Georgia.

IMPULSE FACTOR 6

Impulse Inc. has announced plans to release version 6.0 of its 3D rendering software Imagine. This decision was prompted by the success of the Imagine 5.0 upgrade promotion. Upgrades from version 5.0 to version 6.0 will cost \$100US.

An expected completion date for the software was not given, but Impulse is currently taking orders. It has however stated that credit cards will not be charged and cheques will not be cashed until the product is actually shipping. A feature list for Imagine 6.0 is not yet available.



Impulse Inc. has announced that it is working on Imagine 6.0

CONTACT POINT

Gateway 2000

P.O. Box 2000

610 Gateway Drive

North Sioux City, SC 57049

USA

Fax: 605-232-2023

North Alabama Society of Amiga
Users <http://www.amiga.org/nasau/about.html>

GamaSoft LLC

2644 Botsford Street

Hamtramck, MI 48212

USA

Voice: 313-365-8414

Amiga Legacy

c/o Legacy Maker

P.O. Box 60711

Chicago, IL 60626

USA

Voice: 773-465-5158

Email: jcompton@xnet.com

WWW: <http://www.xnet.com/~jcompton/legacy.html>

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Toronto M5C 2K3

Canada

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Fax: 416-868-9232

Email: info@clickboom.com

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Impulse, Inc.

8416 Xerxes Ave North

Minneapolis, MN 55444

USA

Voice: 612-425-0557

Fax: 612-425-0701

Email: webmaster@coolfun.com

Amiga Atlanta, Inc.

P.O. Box 49103

Atlanta, GA 30359

USA

Voice: 404-365-0670

Email: lamar@mindspring.com

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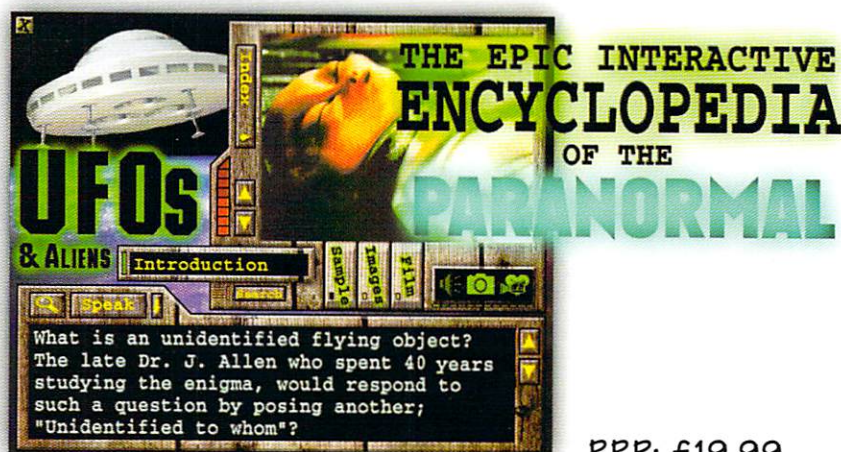
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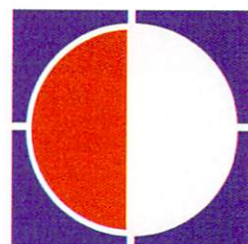
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Minimum system requirements: AGA Amiga (A1200/A4000) 4mb ram - 6mb recommended, Hard drive and CD-ROM drive. E&OE



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AMIGA SOFTWARE**

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See you, see me

Over the years, Amiga owners have often had to sit and watch jealously as owners of Macs and Wintel computers could buy some slick, cheap peripherals for their machines that simply had no equivalent Amiga connection or software interface. But leave it to ingenious Amiga developers to cook up interface kits for many of these "alien" inventions.

Thanks to Omnilink's new AQCVid package, Amiga owners can hook up and use the Windows version of Connectix' little grayscale QuickCam, a sphere about halfway between a tennis ball and a golf ball in size. Over 500,000 QuickCams sit on desktops all over the world.

The oddly-named AQCVid is a combination of a hardware/cable interface and a software package that makes this magic possible. It can be purchased from any Amiga dealer or direct from Omnilink, and the Windows version of QuickCam from, well, virtually any computer dealer anywhere. It's that common a product, so shop for the lowest price you can find.

For a total investment of about US\$150, you'll be able to capture grayscale still images and animation, the only limits being the length of the camera's cable, the amount of available light and your imagination of course.

The AQCVid cable makes two connections to your Amiga: The parallel port and joy stick/mouse port #2. Virtually any model Amiga is fair game, although Omnilink's documentation does not list the Amiga 1000, because of the reverse sex of its parallel port. But any other Amiga, from the lowliest 68000 powered A500 up to the latest A4060T is fine. WorkBench 2.1 is a minimum. If you want to use a parallel port switchbox, that's fine too.

Naturally, a faster processor and lots of ram and hard drive space are going to be helpful if you want to get serious with your camera. This kit requires a bit of horsepower though. Omnilink recommends at least a 68020, 2Mb of chip, 4Mb of fast, a hard drive, and AGA or one of the many graphics cards out there with a Workbench emulation mode (Cybergrafx, Picasso etc.). Even on my fast 030, performance is a bit sluggish. On my 060 machine however, there're no complaints.

Hardware installation is a two minute job. Simply make sure everything is powered off, then hook the parallel end of the cable that comes attached to the camera to the AQCVid

Harv Laser can now see himself on his own Amiga, and they call that progress

parallel connector and plug it in. Hook the DB-9 connector to mouse port #2 and connect the camera's little round DIN plug to the AQCVid cable - that's all there is to it.

The QuickCam comes with a small rubbery pyramid-shaped stand on which the camera sits. This grippy rubber base makes it easy to position the camera and have it stay put, pointing exactly where you want it to point.

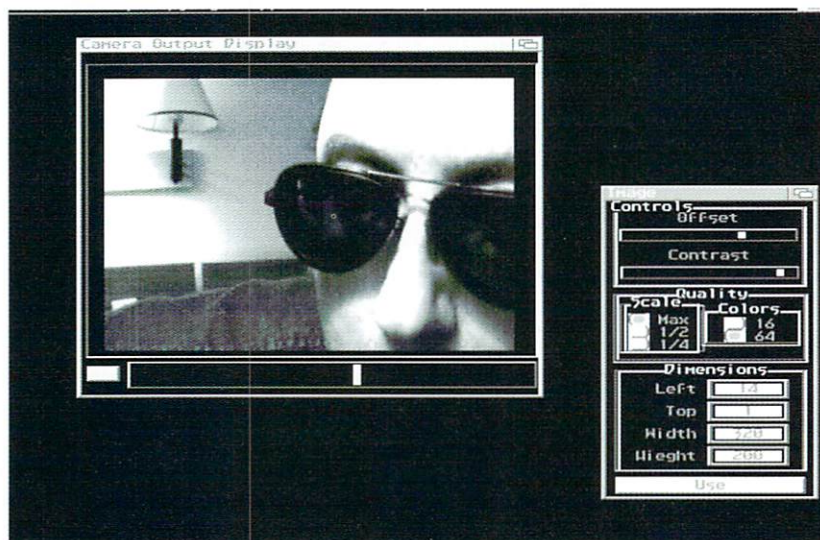
The QuickCam comes out of its box with a Windows interface software disk. This isn't for your Amiga, but don't lose it. The camera is so nicely portable that you may also want to try it on a Wintel box or laptop if you have access to one.

The AQCVid software installation is fast and painless and all the files barely consume more than 200K of disk space. There's the main AQCVid program itself, its ARexx host, a

drawer with a couple items for you developers who want to write your own driver software and a documentation drawer (which strangely enough contains four different versions of the same docs: an Amiga.guide file, an ANSI version, a plain text version, and another drawer with .html files which you can read with your favourite Web browser). Choose your favourite flavour, I guess.

This is a nice touch, but the docs need more proof reading and spell checking. Also, some of the icon tool types for a couple of the text files point to some text editor which I don't have. Developers should never assume a user has the same paths and setup as he does and should always point their .doc file icons to a standard Workbench utility such as "more" or "multiview."

Once you've hooked up your camera and





installed the software, you're ready to start capturing! Just click the AQCVid icon and a rather bare, black screen will open with a box containing the view of whatever the camera is pointing at. (The program will quit with a warning message a few seconds after it's started if the camera is not properly connected so if that happens, check all the connections and try running it again. Remember, power down the Amiga if you need to unplug and replug anything!)

The image control requester provides an offset (brightness) and contrast slider (with no reference points or numerical indicators of any kind.. see below), three buttons to set max, 1/2 or 1/4 size captures, a 16/64 colour switch and some dimension controls which ARE numeric-only inputs.

In the bottom border of the main camera view window is a small check box which freezes the camera display if checked. Next to that is a slider which is the equivalent of the f-stop or exposure setting ring on a 35mm camera lens. The range of exposure is from about 1/1000th of a second to about 2 seconds. If your environment is sufficiently lit, and you don't see anything appear in the view window after a few seconds, move this slider one way or another until you do. Then you can click on either side to move it in very small increments until the exposure looks acceptable.

This is where my main gripe with the AQCVid software rears its ugly head. This slider, and the ones in the camera control requester, have no position indicators. There

are no marked reference points, no hash marks, no number read-outs, no numeric input, nothing except the slider knobs in their channels. This makes positioning the program's sliders inaccurate, making it nearly impossible to remember exactly where they were set when you move them, because all three sliders appear to have hundreds of positions. Omnilink should enhance these sliders with numeric feedback.

ROAD TEST

On the 2500, an immediate problem occurred when I tried to plug the AQCVid joystick port connector in - it wouldn't fit! The rubber plug used in the assembly was too fat to fit through the joystick port cut-out hole on the front of the 2500. (This is not a problem on other Amiga models since they don't have these recessed joystick mouse ports). With Omnilink's permission, I whipped out my Swiss Army Knife and hacked off about 1/8" of rubber on both sides of the connector. It then fitted perfectly, but this really should not be necessary. The AQCVid you buy may or may not use the same fat connector, as they are sourcing from different vendors, but if you own a 2000/2500 you should be aware of this.

The 2500's fast 060 is about seven to eight times as fast as my 1200 and, in the QuickCam's "max" image size, it really shows. The camera is constantly updating this viewing window with a new capture, and on the 2500, a full window redraw took under one second, while on the 1200 it took eight to 10 seconds - almost exactly what one would expect between the speed of the two machines.

The three capturing sizes offered for still images are

323 x 200 pixels, 161 x 122 pixels and 80 x 61 pixels.

They're roughly the same for Anim5 and Anim7 capture except the max size mode goes down to 312 x 200 or 256 x 200 pixels respectively.

With AQCVid's camera control window



open, the camera keeps capturing and updating the viewing window, so depending on the speed of your Amiga, you can get real time control panel updating (with an 060) or quite a bit of lag time, as on my 030. This is something you'll just have to adjust yourself to.

Bottom line

REQUIREMENTS

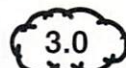
RED essential **BLACK recommended**



030



4 Mb
RAM



3.0
Workbench

PRODUCT DETAILS

Product	AQCVid
Supplier	EyeTech
Price	£39.95
	Adapter kit £???.??
	Quikcam separate
Tel	01642 713 634
Email	eyetech@cix.compulink.co.uk
WWW	www.eyetech.co.uk/~eyetech

US Supplier	Omnilink
Price	Adapter kit \$49.95
	Quikcam around \$100
US Phone	718 805 2601
Email	omnilink@olnk.com
WWW	http://www.olnk.com

SCORES

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

PROBLEMS, AND THE FUTURE:

● AQCVid is a decent value at about \$50. It does what it claims to do and, despite the rubber connector problem mentioned earlier, the hardware interface works as it should.

● The software seems a bit "Beta-ish" and begs for some control slider markings. I'm happy it has an ARExx port but it came with no sample scripts for us non-programmers. Otherwise, it has the necessary features, works well and was quite solid on both my machines. It performed much better on my 060 machine and looked much better on my slower AGA machine.

● Omnilink says it is working on a new program to control the colour QuickCam and that an upgrade will be free for registered AQCVid owners. (The grayscale cam

cannot be converted to a colour cam, you'd have to buy the colour cam separately).

● Everyone wants to put their QuickCam on the Web and there are zillions of WebCams out there but Amiga owners will have to wait a bit longer. I talked to Joe Sera, AQCVid's developer, and he told me: "Amiga CUSEeMe has no transmitter code, so it would mean a new program. We have the code for the CUSEeME to do a port, but because of a stipulation in the software licencing agreement, Omnilink (as well as myself) cannot distribute the finished product. Which is a major set back. However, a developer kit will be included with the software, as well as uploaded to the Web site so that anyone can take advantage of it."



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Supercharger

Amiga Computing provides the ultimate guide to upgrading your Amiga. Everything you need to know about hard drives, CD-Roms, memory and accelerators is contained in the following pages

With the Amiga we are quite lucky in that most software has been written with the base 020 and 4Mb of ram in mind, so adding to your Amiga will always result in much better performance. Unlike the PC, where even a 200MHz MMX Pentium system with 32Mb of ram can be made to crawl along running Windows 95.

The same can be said of hard drive and memory space. PC users can never have enough, but if us lucky old Amiga users have anything above the minimum specification, we will notice the difference and find the Amiga that much more pleasing to use.

But how big a hard drive do you need? How much memory should you get? How fast a processor do you need? Do you really need a SCSI interface or should you just stick with the IDE interface, and which one will allow you to add a CD-Rom most easily? Upgrading is never easy, it may seem straight forward but there are so many different options and possible ways of going about it that it can become a little overwhelming.

To help you along the way Amiga Computing presents this comprehensive guide to every possible way currently available to add to and upgrade your Amiga.

Most importantly you should take into account what you actually want to do with

your Amiga, now and in the future. There is no point in going out and spending loads of cash just to find that you never use half of what you have bought. If you sell yourself short however, you may find that you have to replace half the stuff you have bought.

Luckily, on the hard drive and CD-ROM front, going for an EIDE or SCSI system will more or less cut out this problem. For an A1200 the most important decisions are the choice of accelerator and the amount of RAM you go for – once you have them you're stuck with them. An average user would want an 030 with 8Mb of ram, but if you are looking at ray tracing or DTP, an 040/060 with a minimum of 16Mb is recommended.

SCSI

Everyone knows the only real way to expand your system with new drives and the like is to use SCSI. The main reason for using SCSI is that you can have up to seven devices connected. Typically SCSI drives are more expensive, particularly CD-Roms as there is more demand for the Atapi versions, but generally SCSI drives are faster and easier to use.

Big box Amiga owners have plenty of choice – even accelerators come with ultra fast SCSI-2 interfaces built in. For A1200 owners the choice is a little more limited. Your first option is a Squirrel, either Classic or Surf, you do however end up with a black box sticking out the side of your A1200.

The DataFlyer is another SCSI option and with this you end up with a neat new interface sticking out the back of your A1200, but the interface itself is dependant on your processor speed. So once you have your SCSI interface what are you going to do with it? You can add a hard drive, CD-Rom, Zip drive, Jazz drive and even a scanner.

If you are thinking about going for a Zip or Jazz drive you should go through an Amiga dealer. Even though the hard ware is the same as you would get from a PC dealer you need the Amiga software to use these drivers as well as the correct DOS drivers.

IDE

You should all know that with an A4000, A1200 and A600 there is an internal IDE hard drive interface. For A1200 and A600 owners this allows you to attach a 2.5" IDE drive internally to your machine, while A4000s have the luxury of a 3.5" drive so the larger and cheaper 3.5" hard drives and CD-Roms can be used.

Luckily A1200 owners can get access to the larger and cheaper 3.5" sized drives through a basic connection kit. The basic ones consist of a 3.5" to 2.5" cable converter and to power the drive a second cable goes in-between the disk drive and its power supply. These cost around £15 and are available from First Computer Centre. This is your first port of call if you are expanding your system.

Just recently there has been a spate of EIDE expansions for you poor old A1200 owners. Even though SCSI is the better option, there is no reason why you cannot plump for one of these and so have access to cheap IDE hard drives and Atapi CD-Roms. The main disadvantage with EIDE is that you have to get yourself an adapter kit that will allow you to plug in all four extra drives. This means pulling your Amiga apart to fit everything in.

What you have to remember is that IDE drives (including CD-Roms) are designed to be used internally, so A1200 users will primarily have to sort out an external case and power supply. The only company currently doing this is EyeTech, who can provide an externally powered box for the IDE drive or CD-Rom – if you need to add a third or fourth drive these can be powered of the first drives power supply. All this is connected through their own EIDE interface.

Essentially these give you a tidy way to add a CD-Rom, second, third or even fourth hard drive to your system. The end result may not be all that neat, with cabling traipsing out the side of your Amiga, but it works.

PC SLOT

When the A600 and A1200 came out all those years ago, people could be seen pointing at the side of them and saying "What's that then?" They were referring to the good old PCMCIA slot of course.

It does have to be said that very little has been done with it on the Amiga and even on the PC they are more often than not only used for the plug in PCMCIA modems.

So it comes as no surprise that the only peripheral that has been inserted into my slot is a Squirrel, and a lovely, cuddly thing it is too. You can still purchase the original Classic Squirrel which is still a perfectly good SCSI interface, or if you fancy a bit of Internet-ing, the SurfSquirrel should really be at the top of your list (and with it being slightly larger you can fit a mug of tea on top). All in all, either Squirrel is the easiest way to get access to SCSI hardware on an A1200.

The last bit of hardware for the PC slot was a CD-ROM system from GoldenImage. This gave you a CD-ROM powered from your external disk drive port that connected up through the PC slot. This gave a cheap way to add CD-ROM, but it does limit you in the long run.

Recently I have heard that a programmer has actually written a network driver for a specific PCMCIA Ethernet card. So it may be possible to get your A1200 up and running in an Ethernet network.

ACCELERATION

Here's the biggy – the one thing everyone craves is a computer that is as fast as possible. It would be very easy for me to simply suggest getting an 060 board, but firstly they are still very expensive and secondly, most people would be better off going for a cheaper board and spending the spare cash on other essential hardware, there is a third reason the PowerUp boards.

Currently the price difference is so small between buying a straight forward ram card and a 030 accelerator that you may as well shell out the few extra pounds and get the big boost in performance that a 50MHz 030 provides.

A4000 users should not forget the Speed Doubler that appeared around a year ago that gives you a 40MHz 040 at a reasonable price.

The final word in acceleration is going to be in the form of a Power Amiga, obviously powered by a PowerPC processor. By the time this magazine comes out it may actually be conceivable that you could go out and buy one of Phase 5's PowerUp boards. Even more encouragingly, there will be software around for you to run on your new PowerPC processor. First in the queue is everything Haarge and Partner makes, such as ArtEffect and StormC with Cloanto's Personal Paint 7 alongside.

The PowerUp boards are going to start at about £300, and if you already have an 040/060 it should be possible to get a version of the board even more cheaply and plug in your own processor. If you do not currently have an accelerator and are thinking about spending around £300, I would advise holding off until the PowerUps arrive as they are potentially (if there is the software support) a very important addition to the Amiga range.

I know I'm always harping on about memory but really, looking at the current Simm prices, I reckon you will be finding 4Mb Simms falling out of your cornflake box pretty soon. I would strongly recommend you go for at least an 8Mb Simm. Obviously if you are a raytracer or doing heavy DTP, 16Mb is your minimum and, realistically, 64Mb would be nice. The general rule is, you can never have enough.

WHAT TO GET?

What you need depends primarily on the size of your purse and what you want to do with your Amiga. An average person using FinalWriter and Photogenics will be content with a 512Mb drive, 8Mb and a basic accelerator.

Power users will no doubt want to at least double these figures, but the exact size and amount of memory and drive space will have to be made at your discretion. Usually it is a case of run out of space and having to buy a new hard drive.

Seriously, you need a hard drive. Everyone should have a hard drive, and I am glad to say that our last survey showed only 5 per cent of you don't. Unless you are going for a second hand drive, you may as well buy a 1Gb drive.

There are so many different combinations of hardware and ways to connect them up to your Amiga that it becomes silly trying to recommend specific set ups, but that has never stopped us before so I'll do it anyway. If you compromise between the basic and medium system you can have quite a nifty Amiga for around £300.

Basic	Medium	Advanced
512Mb	1Gb	2Gb
	040/25Mhz	060
8Mb RAM	16Mb RAM	16Mb RAM
	2xCD-Rom	8xCD-Rom
	EIDE	SCSI Card
£200	£570	£900

CONTACT POINT

Siren Software,
178 Bury New Rd.,
Whitefield,
Manchester, M45 6QF
0161 796 5279

GoldenImage
Unit 65
HallMark Trading Estate,
Fourth Way,
Wembley, HA9 0LB
0181 900 9291
www.reserve.co.uk/gold

First Computer Centre
Unit 3,
Armley Park,
Stanningly Rd.,
Leeds, LS12 2AE
0113 231 9444
www.firstcom.demon.co.uk

EyeTech
The Old Bank,
12 West Green,
Stokesley, N Yorks, TS9 5BB
01642 713 185

Wizard
PO Box 490,
Dartford, Kent, DA1 2UH
01322 527 800

HiSoft
The Old School,
Greenfield,
Bedford, MK45 5DE
0500 223 660
www.hisoft.co.uk

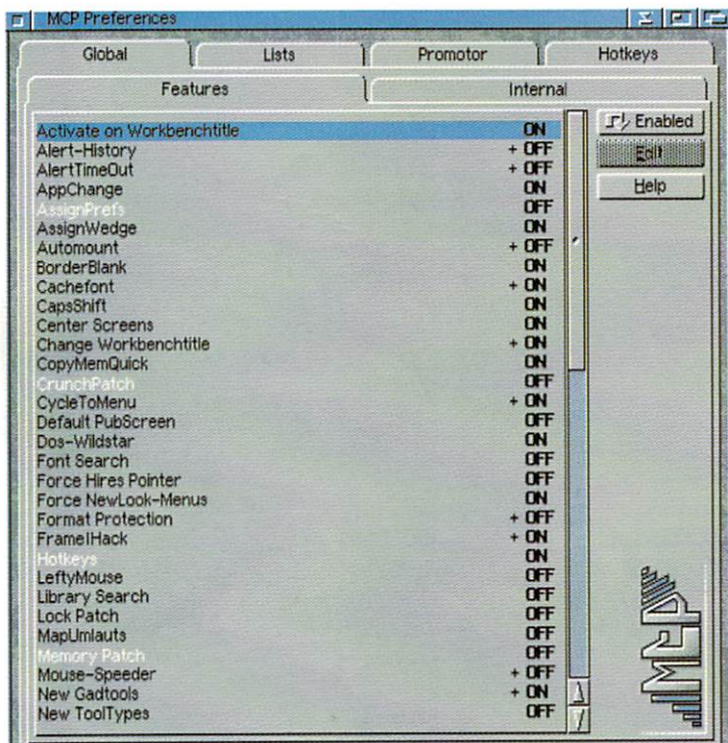
SOFTWARE

So you've gone out and spent your last pennies on the biggest and baddist Amiga on the face of this planet, only to find that you have not got any software to run on it. Not feeling quite so big and clever now are we?

You could have the Amiga equivalent of Mike Tyson but unless you have something to run on it, your Amiga is going to be about as useful as Elizabeth Taylor at a spot the virgin competition.

Say you have gone out and equipped your Amiga like it was taking a starring role in a Terminator film, fear not, thanks to the abundant nature of Amiga public domain and shareware software you can soup up your Amiga on the software front for a fairly minimal amount – at least when compared to an 060 board.

MCP



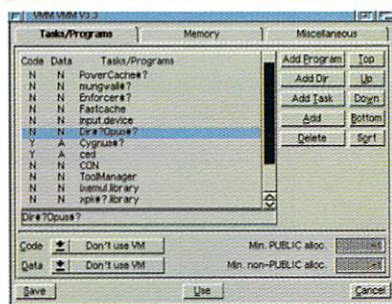
Even though this program is a bit of a cheesy reference to Tron the Master Control Program, as described by myself, it truly is the mother of all Workbench programs. If I tried to list everything this program does, it would take up lots of room. They do list every function in the documentation and it takes a good while to scroll through it.

Even Ben Vost at Amiga Format switched from MultiCX to MCP, so it must be good as he is all-knowing and all-seeing, or so he says.

You will need MUI to use MCP, not to run the actual program to run the preference program.

The thing I like most about MCP is that it now allows you to change the default GadTools look along with the normal system scroll bars and windows.

VMM



Virtual Memory Manager is one of those programs you may never think about getting, but the moment you get the 'out of memory' window pop up in front of your beady eyes, you will be wishing you had it.

Due to the odd way the Amiga has chip memory, some programs may not work correctly, but as long as they allocate and deallocate correctly they should work fine with VMM.

VMM used to be MUI only, but now there is also a BGUI interface. More importantly, to use virtual memory you need an accelerator with a MMU or memory management unit. Typically this is any 040/060 board or an 030 that comes with an MMU, not one of the 030EC chips. You are also better off with 8Mb of fast memory as VMM eats up about 512k itself, for caches and the like.

WORKBENCH 3.0

May seem odd, but anyone still running Workbench 1.3 is stupid, and even people using version 2 are missing out on a bunch of great additions to the latest version, not to mention lots of software that now needs version 3.

KINGCON

Any real power user (and you know who you are) will have to resort, at one time or the other, to the Amiga Shell, whether you want to or not. Trouble is, the original Shell is a bit, well, dreary to say the least. Fair play, it beats the spots and asterisks off MS-Dos, but that's no real challenge.

KingCON simply adds lots of little extras that make working with the Shell a much more enjoyable experience. The biggest additions are a drag and drop interface for file and directory names and pop up file requestors and file name completion.

EXCHANGE

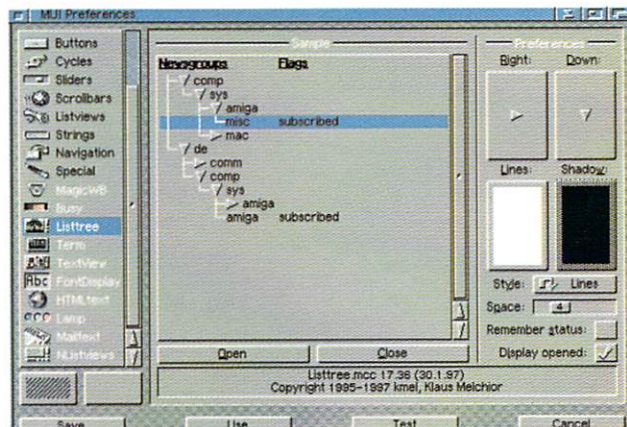
What's going on here, me recommending one of the original Workbench programs? OK on the down side, Exchange is not font sensitive and you cannot resize the window, but so far I have never come across a decent replacement. Anyway the point is Amiga Commodities are great, so you should have a control program permanently in your WBStartup drawer. OK, as long as we're straight on that.

MAGIC USER INTERFACE

Well what can you say about MUI? Perhaps Amiga Computing has played a little part in making MUI as widespread as it is today, but somehow I think it would have managed quite well on its own. MUI is the ultimate upgrade for your Amiga, programs that use it have an interface no other operating system can rival.

The very basic MUI programs have a font sensitive fully scaleable interface. If you register you can then personalise every MUI program to look however you like, using graphics for window backgrounds and even for buttons. Beyond this, the object-oriented design allows individual parts of the MUI system to be updated or replaced and third parties can write their own MUI 'plug-ins'. Currently there are two HTML plug-ins being developed.

For Amiga Internet users there is no alternative – you have to have Magic User Interface. There are non-MUI versions of all the Internet packages you



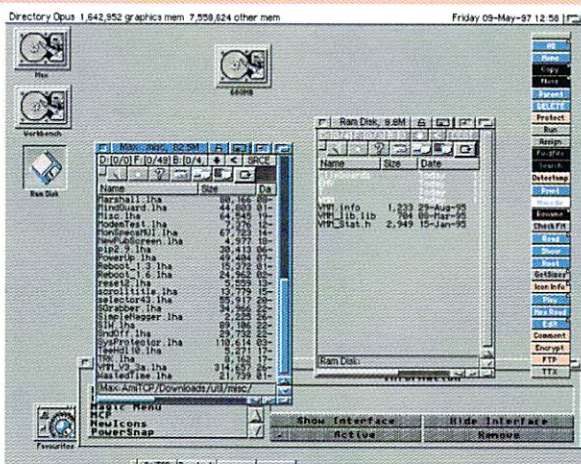
may want to use, but MUI ones are definitely the best.

People don't half moan, about (put on whiney voice) "MUI being slow" and "Taking too much memory". Well I don't care, I think it's great, and as this article is all about 'supercharging' your Amiga, you will have a powerful enough Amiga. To be honest, all you need is a 020 and 4Mb of fast memory.

OPUS 5.5

Many people may find this an unusual choice, particularly as it did not receive a particularly high score when we reviewed it. However, having been talked into trying out Opus 5 myself, after a few days struggling away with the Opus 5 configuration suddenly everything became clear and the advantages over Opus 4 started to shine through.

Those being the ability of Opus 5 to replace Workbench at the same time as integrating the



user definable menus, floating tool bars and the automatic file type recognition. In the absence of any new versions of Workbench, or more importantly the entire operating system, anyone that is looking to give their entire working environment a boost in the looks and use departments should check out Opus 5.

Anyone that has used a Mac will know how good its directory list windows are to use. Well, Opus 5 provides the nearest thing on the Amiga, and overall does points towards what Workbench 4 would be like.

Even though Opus can be used to completely replace Workbench, I still have Workbench running and only use Opus 5 when need be. The reason is memory – Opus 5 does run on an Amiga with 4Mb of Fast ram with room to spare, but for comfort you really need 8Mb.

TURBOTEXT/CYGNUS ED

Text editors may not be the first thing that spring to mind when you think about upgrading your machine, but due to the large number of text files the operating system uses, you would be advised to get yourself one. CygnusEd is my personal preference but TurboText is also a very good contender.

HIGHLY RECOMMENDED

ClassAction

Can learn different file types and allows you to run the correct program to display or edit that file type, very versatile

WBStartup+

Gives greater control over your WBStartup drawer and generally makes your Amiga a nicer place to live, worth tracking down

PowerSnap

Almost universal text cut and paste arrives to the Amiga, thanks to PowerSnap – old but good

MagicMenu

Normal Amiga menus are poo, MagicMenus are great. Do I have to say any more?

NewIcons

Tired of icon colours being all wrong when you change screen mode? NewIcons will correct that

MagicWB

The most widely used icon set on the Amiga, brings a 'stone' look to all your icons

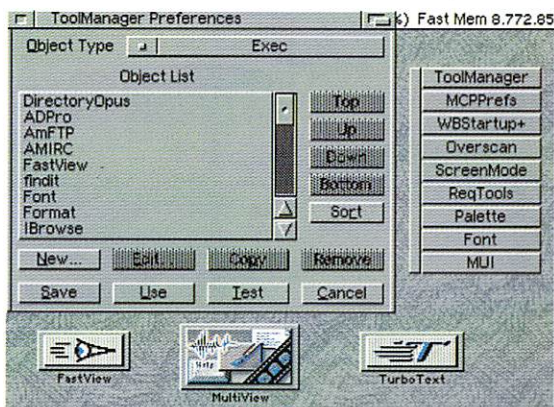
FastView

A very fast Jpeg, IFF, BMP viewer for your Amiga that has plenty of options

TOOLMANAGER 1/2/3

As standard Workbench provides very little in the way of short cuts to running programs, you can leave icons out on the Workbench (which is nice), but you cannot drop files 'into' these icons and in the long run it is not practical to have every program on your Workbench.

ToolManager provides a way of adding icons, menu items and program launch docks to the Workbench. ToolManager has been around for a long time and is up to version three (which really only added a MUI interface to the preference program). Even with the new interface ToolManager is a little complicated to set up and at first can be confusing. However, once you have set up a few initial programs everything will become clear and ToolManager will be another invaluable addition to your Amiga.

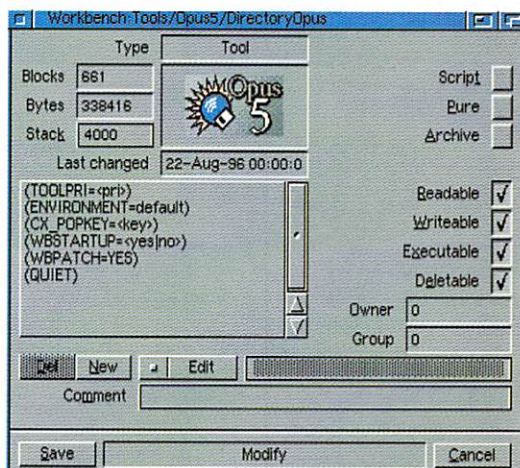


MULTIVIEW AND DATATYPES

I can hardly believe it myself, I have recommend two programs made by Commodore. MultiView is potentially one of the most versatile program on any computer platform and unfortunately only a fraction of its possible power has been realised on the Amiga, ooh get off that soap box.

SWAZ INFO

What could be done with the original Workbench icon information requester could have been written on the end of a match stick. SwazInfo provides a whole new bucket-load of functions. As well as allowing drag and drop icons, changing icon type on the fly and advanced tool type editing, it looks a lot better than the original requester.



We're going superso

I hate monitors, they're big bulky things that take up too much desk space, and once you have taken them out of the box it's like taking part in the Krypton Factor trying to get the monitor, the polystyrene bits, cables, manuals and stand back in the box. The sooner we can all have 40 inch flat LCD displays hanging on wall, the better.

One thing that has always put me off buying a monitor is price, but a new selection of high quality, low cost monitors from ViewSonic is set to change all that.

It is sad to say that monitors are probably the last thing on most Amiga owners shopping list as many people are quite content to put up with horribly small and squished PAL screens. But as it is the one thing you will be looking at for hours on end don't you think you owe it to your eyes to get a decent monitor?

The V773 is part of ViewSonic's new Optique range of budget monitors and I suppose it is aimed at the home user who wants a little more for their money. As this is a new range the monitor casing has a mod-

Looking for any excuse to boast about his 17
incher down the pub, **Neil Mohr** takes a look
at two big 'uns from ViewSonic

ern curvy styling that makes a change from the normal box-like ViewSonic monitors.

Even though the casing is different, the on-screen menu gives the game away. It is the same as on the original ViewSonic range, which is no bad thing as they were always very good monitors.

Overall the monitor is excellent, there was

slight bending of the screen horizontally if you tried to make certain screens too big, but in general the picture quality was good. With a horizontal refresh rate of 30 to 69KHz and vertically of 50 to 160Hz, graphic card users should be very happy with it.

For those on a tight budget, the new ViewSonic E665 should be perfect. Even

DISPLAY NIGHTMARES

The monitors we are looking at will not suit everybody, in fact anyone that wants to play games regularly should not even consider these two monitors. Why? Well it's all to do with a PC display standard called VGA and, more recently, VERSA 2 modes.

These standards define how a PC should store and generate its graphical display. Now what you have to remember is that the Amiga since its birth, (is a computer born?) has been geared towards running on traditional TV displays.

Monitors and televisions work in roughly the same way, an electron beam at the back of the monitor tube scans from the top left of the screen line by line down the screen until it has covered the entire screen at which point it returns to the top left position and starts again, so having drawn a complete screen. If you want to know much more, do a physics or electronics degree.

Different parts of this process have been given pretty straight forward names, if you're an engineer. The two most important are to do with how quickly this beam draws each horizontal line, and how long it takes to draw the entire screen.

Known as the horizontal and vertical refresh rates they tell you how many times a second each line on the screen is drawn, and how many times a second the entire screen is re-drawn.

Using the VGA standard, as all monitors do these

days, they expect vertical refresh rates of 50 - 120Hz and 30 - 70KHz horizontally. The problem is virtually all Amiga games, and even some serious software, expect to use PAL or NTSC video modes and this is where the problem lies.

PAL and NTSC use a 50 and 60 Hz vertical refresh rate respectively, which most VGA monitors could cope with. The real problem is with the horizontal refresh, where PAL and NTSC can only manage 15KHz. The lowest most VGA monitors can manage is 30KHz, so a PAL input just appears as a garbled mess on a VGA monitor.

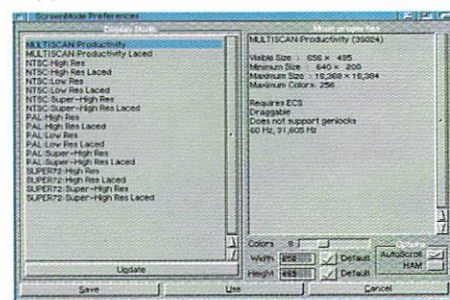
I'm sure some of you are thinking "Hang on, didn't AGA have monitor modes?" and you would be right, sort of. With AGA it is possible to program the display hardware and so adjust the horizontal and vertical refresh rates. This gave birth to a number of new display modes such as DblPAL, MultiScan and Super72 - all of which could not be displayed on a normal TV but required a monitor and so were called monitor modes.

Things now get a little complex, if you are not confused already, all these modes are displayable if you have a low-syncing multi-sync monitor. Most VGA monitors will only display the Multiscan and Euro72 screen modes, as these are the only ones that can manage a 30KHz vertical refresh rate. The others only have rates in the mid to high 20s that

only some monitors will handle, the ViewSonic E665 is one.

So if you own an Amiga where does this leave you? Well if you really have to play game, or need the PAL and NTSC screen modes, then you have three choices. Firstly, buy a multisync monitor, such as made by Microvitec. Secondly, buy a VGA monitor and use the composite output for PAL/NTSC screens, not an option for A4000 users. Finally, if you have a big box Amiga get a flicker fixer that will convert PAL/NTSC screens to VGA modes.

On the other hand if you don't give two hoots about PAL/NTSC modes (like me) then go out and buy yourself one, you'll never regret it.



The magic numbers you are looking
are 30KHz, which mean a VGA
monitor will love that screen mode

ng nic



though the manual states it cannot sync any lower than 30KHz it could manage DbIPAL, DbINTSC and Super 72 without a single problem.

Both these monitors have square tubes but the E665 is unbelievably flat, couple this with the .28 dot pitch and anti-glare coat and you have a high quality display.

The on-screen menus have changed from the usual ones you find on earlier ViewSonic monitors, and to be honest I preferred the old ones as it made sizing and moving selection quicker, but otherwise everything else is the same.

Apart from the menu quibble I really do like this monitor, even more so than the 17 inch, mainly because the picture quality is so crisp, and you don't put your back out trying to pick it up.

Both monitors also remember individual modes settings. So once you have resized and moved a screen to the correct size, next time it comes across it all your setting are remembered.

One thing that manufactures have started to do, and is something I do not understand, is building the monitor lead into the monitor and not having a monitor lead socket.

Normally this will not be a problem but if you need to replace the lead, say it got damaged, you would have to send the whole monitor off. They don't make the power lead fixed do they, so why do it with the monitor lead?

For the graphic cars users the importance of a quality monitor cannot be underestimated. For example we have a Commodore 1942 monitor in the office, and the best thing I can say about it is that it works. The perfect set up we had was a 17 inch ViewSonic, graphics card and flicker fixer giving us a faultless display from our A4000.



Bottom line

REQUIREMENTS

RED essential **BLACK** recommended



PRODUCT DETAILS

Product	ViewSonic E6555/OptiqueST V773
Supplier	ViewSonic
Price	E655 £199ex VAT/V773 £359ex VAT
Phone	000000000000
WWW	http://www.viewsonic.com/

SCORES

Ease of use	95%
Implementation	89%
Value For Money	95%
Overall	93%

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This month the AC team have been called everything from a genius to a, well, read on and find out



SOFTWARE WORRIES

The Amiga is a wonderful machine, and it's wonderful to see a Mac user poached from the err... Mac. (This guy mentions his "lean amount of cash". But he has just bought an A4000T/060, an M1764 and a CV64/3D! If it wasn't lean before, it certainly is now!).

You talk of the near legendary PowerUP boards. They sound great, especially the 200MHz version – I just hope that it's drool proof! But yet they worry me. The problem is software support. Just how many important programs will support them?

Impulse seems to want to dump Imagine, Softwood has said nothing in ages (what happened to the war with Digita?). RBF seems to be concentrating on the PC version of OctaMED Soundstudio.

A visit to Phase V's Web site only revealed a few developers who are working with the hardware. Okay, so they were quite high profile (Digita, Cloanto, and Haarge & Partner, among others), but there weren't many. I would like to see companies such as Softlogik (lets face it, PageStream is getting to the point where it needs a PowerPC processor!), NewTek (think of the rendering times!) and Almathera (Photogenics has a need for speed).

The people who produce the real power applications, there was also no mention of a PowerMac emulator being in development. How I would love to see that! But without software that can make use of the PowerPC, what is the point of the hardware?

Even if they do make good use of this power, it has to be good to use. The thing I don't want to see is 'code bloat' – the phenomenon, popular on the PC, where coders don't bother to go to extreme lengths in order to make their program work at a decent speed on a bog standard 486, just because a monster 10,000MHz MMX Pentium Pro Texture Mapping Entry Level PC' is available in the shops. (The sort that megahertz

WRITE IN!

If you have something you need to get off your chest then put pen to paper and write to ESP, Amiga Computing, Media House, Adlington Park, Macclesfield, SK10 4NP. You can also Email us at ESP@acomp.demon.co.uk We have various software bundles to give away for the best letters (please indicate whether you'd prefer serious software or games). We do try to reply to all Emails and letters, but at busy periods this is sometimes not possible so please bear with us

your wallet and 3-D texture maps your over-draft). Amiga programmers should continue to try to make their programs work well on an A1200/020 (or at least an 030), even though an A4000, 060, PPC, Cv64, 30, DSP, 1764, CD-R/ (you get the picture) is available. Although, of course, they should go to every length to support that hardware.

But what of the current Amiga situation? I hear the name Gateway 2000. I know it has a good reputation. I suddenly feel less worried. And Neil Mohr, you hero! "That is because it's poo". Pure genius. Pure brilliance. Pure truth. Yours Hoping-to-be-publishedly.

Oliver Hodgson, Surrey

The software situation with the Amiga is not looking too good, the last new release I can think of is ArtEffect. I suppose we are going to get into one of these chicken and egg situations where people may say, "I'm not going to get a PowerUp board until some software comes out" and software companies say "We're not going to produce any software until enough people buy boards".

Hopefully this will not happen as, apparently, PPaint 7 is all ready to go as soon as the PowerUp boards appear. More importantly,

Haarge and Partner has given the PowerUp boards its full backing so you can expect PowerPC versions of ArtEffect 2, StormC++ and any other programs from the Haarge and Partner team.

As for PowerMac emulation, I know the author of Shapeshifter has showed an interest in producing a PowerPC version of his software. It would seem sensible in so much as there is no true PowerPC operating system for the Amiga to use. With the PowerUp boards, the operating system will still be using the 680x0 processor that comes with the board. The only down side with the PowerMac is that 16Mb will be the minimum amount of memory you will need on the Amiga.

I think the whole 'upgrade your PC or die' situation is coming to a head. For a long time now it has been the case that after 18 months your PC hardware was essentially dead. You may have to bin the whole thing, apart from the memory, sound card and perhaps video card. The trouble is, the type of people who are now buying PCs are expecting to have them for at least four years.

Unfortunately, due to the introduction of MMX, everyone who bought a PC before Christmas automatically got an essentially defunct machine. I think the whole situation has just gone crazy, the amount of power in a 200MHz Pentium is quite awesome and yet Windows 95 can still make it crawl along. Let's just hope Gateway will resurrect the Amiga and get the operating system PowerPC'd.

As for the poo statement, this is just the sort of hard hitting no nonsense editorial style you have come to expect from the Amiga Computing team. We are the original editorial assassins, yes we are.

I'M MAD AS HELL

To be honest, I'm fed up with all the readers just writing in to tell me that the Amiga community is in a bit of a shaky state (I surely wouldn't have known if those smart heads hadn't told me!).

So please use your imagination and write about a subject that is a little less worn out and a little more interesting. I think everyone has aired their view on the state of the Amiga and its community by now.

Per Reidar Verlo, Norway

I couldn't agree more with you, all this negative talk is getting me down to. So all you readers out there how about picking up a pen and giving us some good old social comment? How about the philosophical ramifications of a single company controlling all the software used by the majority of the world and the implications on personal expression and growth. Or you could write in just bad mouthing someone.

ANOTHER LOSS

It was your very magazine, from January 97, that reawakened my interest in the Amiga. That only makes this decision even sadder. Like for so many others, the Amiga was the logical next step up for me from the BBC B, the next step in real computing. Yes I remember the juggler demo. Then from the 500 to the 1200.

I have now decided that the Amiga has no future, and if it does have a future it will probably be without me. Let me tell you my thoughts here.

The first problems I had with my Amiga came when I realised that major companies were pulling out of the scene and the market was being taken over by PD and shareware. As an Amiga user I used to find my PC owning friends messing around in Dos quite funny. As the PC market expanded, 'plug and play' and 'user friendly' became important buzz words.

As the Amiga market shrunk so did the quality of support and instructions. My easy-to-use-machine was being turned into a 'support group' for techies. From large companies (like Microsoft) comes comprehensive instruction and back up support, this is what

people like me need.

Then I saw your piece on Net-Heads and I was curious. Could my Amiga really get on the Net? As a supply teacher the wealth of information on the Net, outside office hours when the library was shut really interested me. Then things really turned round with the arrival of Netcom.

Together with the Voyager browser and Netconnect package it promised a 'complete Internet solution' that was 'easy to use'. A professional company putting together a collection of quality software at a reasonable price, with backup. Demon may provide support but it does seem a little grudging (like it'd prefer PCs or if even Macs) This was it, this was the life-line the Amiga needed. The Amiga as Net surfer.

I followed step one and bought a hard drive – my first major purchase in years for the Amiga. Unfortunately by the time you read this Netcom will no longer support the Amiga. The operator said "For legal reasons". I need professional support and help, especially on something as costly as getting on-line. I have put my Amiga away for the moment and take it out to type the occasional letter and play the

occasional game of SWOS. Until I eventually sell it to upgrade to a PC, that is. Oh well.

Russell Law, Mexborough S. Yorkshire.

It is inevitable that companies now only support the majority user base, even Macintosh users can have problems getting proper support. If you feel you cannot use the Amiga any more because you feel there are no quality products out there, then that is your prerogative.

I would, however, point out that programs such as PPaint 7, ArtEffect, Wordworth Office and FinalWriter 97 are all recent products and are well presented, have good support and are every bit as usable as their PC counterparts.

I can understand that you do not want to go and blow a load of cash on something you cannot use, but I think you would find packages like NetConnect or Net & Web 2 easy to set up and use.

RAW NERVE

Excuse me, but you are either a moron or have incredibly bad taste, or both. That **** about "women and technical things don't mix" is outrageous and inflammatory. I happen to be a female Webmaster.

There are many women out there like me. You are a dweebish wannabe 12-year-oldish misogynist asshole who has no respect for women, how hard they work, or their contributions to society, not to mention the daily insults they must deal with from no-load, pus-nuttled s***-for-brains asshole geeks like you. Of course, coming from someone who uses an extinct dinosaur platform and whose Web site looks like a f*****g paint-by-numbers piece gone horribly awry, it's not surprising, nor does it carry any weight.

I dare you to say that to a female programmer, Webmaster, graphic artist or other "technical" woman. Over here in the coolest f*****g country that ever was, the USA, chicks like me shoot little hairy-assed pencil-d***ed annoying faggot m*****s like you. I hope somebody hacks your pathetic site, you woman-hating, female-bashing chauvinistic b***** pig! Whoever your site sponsors are I will find them and let them know! Was it something your mother did to you? Doom on you,
Jayde,

Sorry, it was just meant to be little joke. My editor at the time and production editor (both of whom are women) let it go. I suppose if you don't know me that well or you don't read the magazine, you could take it the wrong way. Maybe I should start putting disclaimers on my work.

REALISTICALLY SPEAKING

It is a while since I wrote to Ezra Surf's postbag and a lot of water has gone under the bridge. We now have a new owner of Amiga Technology and, from the encouraging noises they are making, it would appear we have a company that appreciates what it has got and intends doing something with it.

As I see it, Gateway has a lot going it – a large pool of mainly experienced and enthusiastic users world-wide and most seem to have expanded their Amigas. On the other side of the coin is the vast and mostly under-exploited market of 'deprived' would-be computer users for whom there is no an 'introductory' model currently available at a sensible price.

I see that as a golden opportunity for GW2K to re-introduce a revamped '1200' with better graphics and sound chips, perhaps a midi interface and CD-Rom as standard? The possibilities are endless – if it pitches its price just right, I am convinced such a machine would sell in millions to the old eastern bloc countries and the Far East, particularly China.

After all, if those nogs at Commodore managed to sell around three million Amigas into the UK before they stuffed it, what can a firm with the obvious marketing expertise of GW2K achieve? I am looking forward to hearing what it has to say at WoA next month!

At a more personal level, I now have two 1200's – my main one (recently successfully shoe-horned into a tower with the help of Eyetech) looks good and inside it is the motherboard from my first 1200 with all its sockets

secured and outwards facing vertically at the back. Inside from the top is my 8xIDE CD-Rom, an IDE Zip running as slave to my Seagate 1.1G hard drive and further down are my two floppies drives and externally my SCSI ZIP.

Externally I have my printer, stereo speakers and, of course, my Microvitec Multiscan monitor. My second one is setup mainly for my wife to use, but I can (as I am now) use it for letter writing and e-mails. For some reason, which I don't understand, YAM runs better on the second Amiga, I appear to have a conflict somewhere on my main one which does give problems – it seems to send mail OK, but won't always receive it. Plus of course, should I ever decide to upgrade it further, there is still room within the tower for another motherboard and anything else it takes.

Ian Aisbitt, iana@zetnet.co.uk

What you have said pretty much agrees with what was said in last months comment page. By the time you read this, Gateway will have held its press conference the day before the World of Amiga show and we will have something a little more interesting and concrete to tell you.

I think many Amiga users are as positive as you are and I hope the Gateway buyout will only reinforce this. I would just like to say that people should not get their hopes up too much. If the A1200 is released I cannot see much changing and any move towards a PowerPC based machine is going to take at least 18 months before we see anything appear.

Dave Cusick

picks the best
PD, shareware
and licenceware
games of all time

Afforda Action

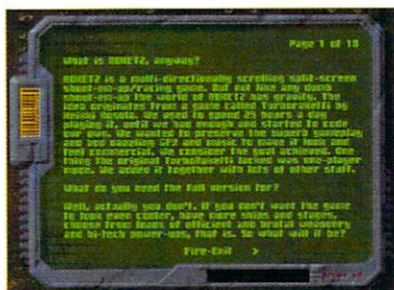
The building society have repossessed your house, your car's been stolen and the insurance company are refusing to pay what it was worth, and your bank balance is looking a little lame. What you need is a slice of gaming brilliance to cheer you up - and at a price that won't render you totally bankrupt.

Over the next few pages I'll be rounding up the very best bargain basement games. And no, I won't mention MooseDrive, I promise...

ROKETZ

Originally reviewed:
AC82

Produced by:
The Farm
Demo available
from: OnLine PD
(75p + 75p P&P)
Registered
Shareware version
from: the authors
(£10)



Roketz includes
on-line help

Roketz serves as proof, if any were needed, that the inclusion of a simultaneous two-player mode can turn a good game into a genuinely great one. Owing more than a little to Firebird's 8-bit classic Thrust, in terms of both the graphical style and the control mechanism, Roketz casts you as a starship pilot who must destroy another spacecraft controlled either by the computer or by a handy acquaintance.

Obviously you must avoid being hit by too many bullets, but as in Thrust you must also ensure that you are not dragged onto the alien landscape by the ever-constant pull of gravity. Normally you will commence play with between five and ten lives - the number varies according to how many credits you decide to keep spare when equipping your spacecraft beforehand.

Several special bonuses sometimes appear during the game, offering improved speed, extra lives, extra health and shields. You must also ensure that you do not exhaust fuel or ammunition supplies too quickly - if this does happen you will have to land to take on board new stocks.

As an added twist, combat takes place in a racetrack-style arena - there are two tracks to choose from in the public domain demo and six in the full shareware version. In between

bursts of blasting action, some skilful speeding can earn you a fastest lap record and a few extra points. After each race your pilot records are saved to disk, meaning talented Roketeers can boastfully display their statistics to all challengers.

With bright, bold graphics, wonderfully atmospheric music and some suitably impressive sound effects, Roketz is as well presented as it is playable. Try the demo and you'll definitely want to register.

BRATWURST

Originally reviewed: AC90

Produced by: Three Little Elks
Available from: OnLine PD (75p + 75p P&P)



It's scary to think that I've been writing for *Amiga Computing* for nearly five years now - and in that time I've seen a fair few faces come and go. When I churned out my first 10 pages of *Amiga Action*'s forerunner *Gamer* for

issue 54, I did so under the watchful eye of Stevie Kennedy and Paul Austin, whose legendarily loud lunchtime Kick Off 2 sessions broadened my vocabulary considerably.

Times have changed, and now the AC staff are bombarded with expletives from the Quake-obsessed *PC Home* writers twixt 1pm and 2pm each day. But mere months ago, when those now-departed lovelies Vost and Maddock still called *Amiga Computing* Towers their home, a usually quiet chap by the name of Mohr would often be heard to holler "Who's for Bratwurst?" as he bit into his bacon and egg barm.

Contrary to what one might expect, Neil wasn't offering his colleagues unwanted servings of roast German sausage. He was merely challenging them to compete with his Thrustorial magnificence - for, as with Roketz before it, Bratwurst was (and still is) a supremely addictive multi-player space combat game.

It has two particularly unique features. Firstly, through its support of multiple joystick adapters, it allows up to four combatants to compete simultaneously. (Even without such an adapter, three people can participate.) Secondly, it boasts some particularly disorientating scaling effects, with the action zooming in and out so as to keep all the players visible on the screen at the same time. Plenty of gaming options are available too: players can choose from a variety of spaceships and weapons, each with different characteristics.

Finally the bad news: to play Bratwurst you will require an AGA machine, and at least one friend because there's no single player mode. Still, if you have a modern Amiga and you are not a social outcast, this is a must-have game.



Bratwurst:
I love it...

ble

OUTFALL

Originally reviewed: AC104
Programmed by: David Papworth
Available from: F1 Licenceware (£3.99)

Some people spent their first year at university studiously working through colossal reading lists. Some threw themselves wholeheartedly into sporting activities and social clubs. Some just went out and got drunk a lot. It is perhaps a sad indictment of my attitude both then and now that I was a member of the third group of people, and I have no regrets.

That year I happened to live with, among several other folk, a Welsh bloke who owned a MegaDrive and a copy of Mean Bean Machine. When nightclubs didn't appeal, when snow prevented us from venturing too far from our humble abode, when we ran out of money or simply when the pubs shut, several of us would often sit in front of our rented TV set, with our Beatles tapes and fan heaters on full blast, attempting to beat this gaming god.

For the uninitiated, a summary, which will no doubt serve primarily to confuse. Mean Bean Machine is really a two-player game, although it is possible to play against the computer. The playing screen is divided two halves. Into each half fall pairs of coloured beans, with one bean flashing around which the other bean can be rotated. You must col-

lect together groups of four beans of the same colour, whereupon the entire group will vanish and a black bean will fall into your opponent's well.

If you manage to make several groups of beans vanish as part of the same move (for instance when beans fall from above to form groups after a lower group has just vanished), several black beans will fall into your opponent's well at once. This will cause him all sorts of problems, because black beans do not disappear when four or more of them are



together - only when they are adjacent to a vanishing group of four coloured beans. One player wins when his opponent's well is full.

Outfall is a practically perfect conversion of Mean Bean Machine. In addition to the usual two-player mode there is a tournament option whereby up to eight players can participate, and there's a wealth of options available allowing you to change, for example, the speed at which beans fall and the number of beans in your well at the beginning of the game.

With extremely attractive graphics and some of the most addictive gameplay ever to grace a computer screen, Outfall is an absolute classic. It might destroy your social life, but then that's a small price to pay for being able to experience such gaming perfection.

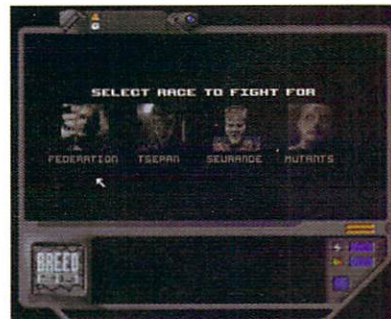
...although it's fair to say the scrolling background in the intro screens is nothing short of nauseating



Outfall: possibly the most fun two people can have with their clothes on...

BREED 96

Originally reviewed: AC100
Programmed by: Damian Tarnawky
Demo from: Aminet
(as game/misc.breed96.lha)
New versions will be commercial:
contact Vulcan Software
Web Site at: <http://outland.cyberwar.com/~zool/Breed.html>



Breed96 might owe a great deal to Dune 2...

In the world of PC contemptibles the undisputed king of strategy games is Command And Conquer, which draws considerably on the old Amiga offering Dune 2 (which I actually reviewed back in my *Gamer* days). Breed 96 does too, casting you as the commander of a space colony who must provide for the colonists and protect them from alien invaders.

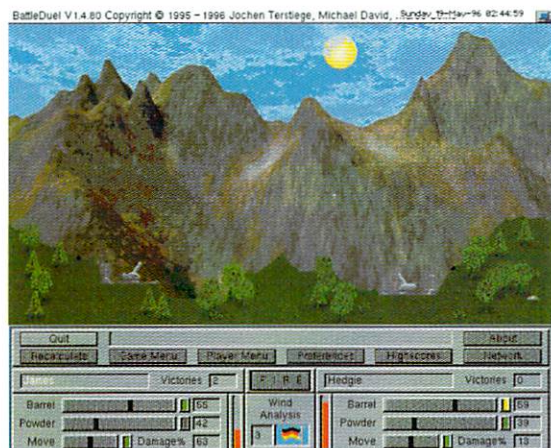
It is extremely obvious that a great deal of time and effort was put into the creation of this superb product. There are simply so many facets to the gameplay that you will still be discovering new options weeks after first playing Breed 96. For instance, having constructed residential facilities for your subjects, you must ensure not only that they have sufficient food, but also that they have plenty of work to be getting on with, that they are supervised by law enforcement agencies, that enough electricity is being supplied to their homes, and so on. Meanwhile you must keep the peace with neighbouring planets and ensure that, should your enemies attack, you have sufficient weaponry and defence systems at your disposal.

Graphically Breed 96 is not entirely dissimilar to Sim City. The various buildings that make up your colony are all shown from overhead, and some simple but effective animations really help bring things to life. As with another strategy classic, Theme Park, there is very much a sense that while the inhabitants of the game world will continue to go about their business regardless of what you are up to, the influence you can have on their lives can, should you choose to exert it, prove quite considerable. As your colony develops over several playing sessions, you can really become attached to it various streets and districts - which makes it all the more irritating when aliens decide to lay ruin to them from time to time.

This is undoubtedly among the most absorbing budget games available - and it's easily the best example of an AMOS game I've ever seen. Offering just the right blend of interest and action, Breed 96 is thoroughly deserving of a place in everyone's collection.

BATTLE DUEL

Originally reviewed: AC102
 Programmed by: Jochen Terstiege
 Demo available from: Aminet
 (as game/2play/battleduel.lha)
 Registered Shareware version
 from: the author (€15)

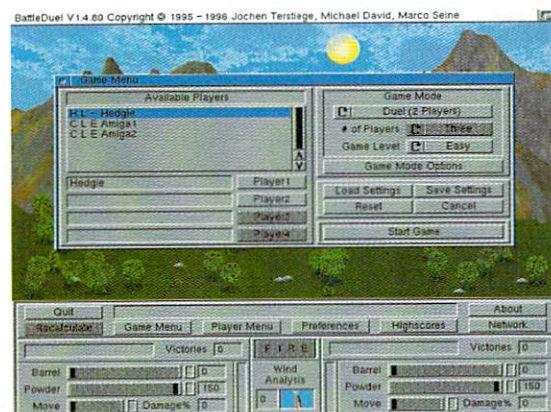


**Battleduel:
 Cow wars
 for the '90s**

I first encountered Battleduel during a late-night IRC conversation around a year ago. I had been chatting for a while on an Amiga-specific channel before I became aware that several of the regulars were dropping out of the conversation for minutes on end without leaving the channel. When I enquired as to what they were up to, I was told they were firing projectiles at one another through cyberspace - they were playing Battleduel.

When I reviewed the game in the next issue of *Amiga Computing*, I described it as "A marvellously addictive game in the same vein as that bovine bomb-fest, Cow Wars". Thanks to Battleduel's network support, it is possible to play not just against another player using your own Amiga, but also via direct modem links and TCP/IP connections. There simply is no better way to pass the time while waiting for a particularly large file to be transferred via FTP - unless of course you have a powerful enough machine to be able to get Amiga Quake running...

Battleduel involves two players taking it in turns to launch missiles at one another from opposite sides of a mountainous landscape, the winner being the player who manages to



**The networked game option is what
 really makes Battleduel stand out**

destroy his opponent before his own damage levels become critically high. The flight of a missile is governed by two main factors, namely Barrel (angle of launch) and Powder (the force with which a missile is fired). Wind may also play a part, and you can move your launcher backwards and forwards slightly to try to compensate for this.

Although the demonstration version of Battleduel is fully playable, it does lack the four-player tournament mode present in the shareware version: and besides, if you didn't register you would have to live with the guilt of owning one of the Amiga's greatest network games and not having paid for it...

STAR DEFENDER

Originally reviewed: AC109
 Programmed by: Matthias Bock
 Demo available from: Classic Amiga Software
 Registered Shareware version from:
 the author (25DM)

I have in the past introduced Defender clones in all manner of contrived ways, most memorably (from my point of view) in my original

the scores of home computer conversions.

Everyone in the entire world must surely be familiar with the gameplay: protect a few canisters, blast copious amounts of alien arse, die rather frequently. I'm the first to admit there have been Amiga versions of Defender with better graphics or fancier sound effects, and there are certainly some around which are smoother and more playable on sub-030 machines. But Star Defender proves the old adage that the sum of the parts can be greater than those parts individually: of the numerous clones I've played, this my favourite (although in fairness it was given a good run for its money by Offender, which was reviewed in issue 111).

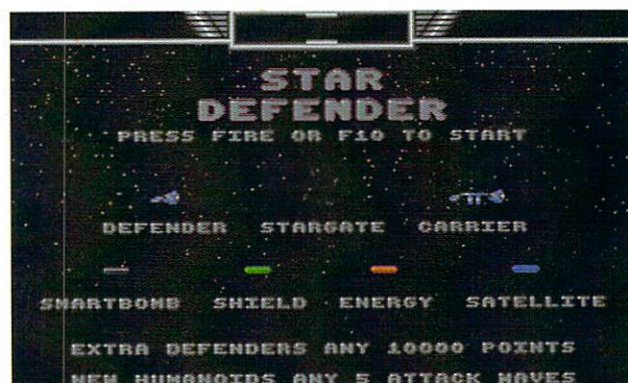
There are plenty of nice touches which help earn Star Defender its crown. The sound effects move beautifully from speaker to speaker giving an impressive stereophonic effect, two button joysticks and mouse control are fully supported, and the game multitasks obediently and smoothly when run from Workbench. It's also incredibly tough - as all Defender clones should be.

The demonstration version has a couple of features disabled, but (unlike Offender) there is enough action available for you to really get a feel for how good the game is. If you have a fast Amiga, purchase this immediately. There's also a game by the same chap called Poweroids (unsurprisingly an Asteroids clone) which is worth investigating.



There's nothing like a Defender clone to get the old trigger finger going

review of Star Defender when I reminisced about my numerous childhood shopping trips to Macclesfield. This time I shall simply get straight to the point: Defender was one of the most enjoyable arcade machines ever produced, and everyone should have at least one of



All the old favourites are here... ah, it's like a reunion of old friends

DARK CITADEL

Originally reviewed: AC112
Programmed by: Rob Massey
Available from: F1 Licenceware (£6.99)

Tabletop role playing games played an important part in my development during my early adolescent years. At least, that's what I tell myself to avoid being embarrassed about having spent hours locked away with a small group of friends, throwing dice, quaffing imaginary ale, conversing with imaginary characters and slaying imaginary dragons.

Computerised role playing games, on the other hand, only really came into their own with the appearance of 16-bit computers, because quite frankly 8-bit machines were simply not powerful enough to conjure up the necessary atmosphere and detail. Since Dungeon Master, possibly the most famous of the early computer role playing games, there have been scores of memorable adventures. Rarely, however, are they as engrossing as Dark Citadel.

Dark Citadel has the obligatory contrived plot involving a brave young hero, a gorgeous Anna Walker-esque princess and an evil sorcerer with an unpronounceable name. It has reasonably good graphics too - although they are nothing compared to the superb sound effects, which must be among the best ever heard in a Licenceware game, and which are utilised extremely effectively to provide feedback from your character. It also has an intuitive joystick control method, which elevates above the alarmingly high number of adventures with ill-conceived or over complicated mouse-driven interfaces.

Most importantly though, it offers a colossal challenge to even the most accomplished gamers. The difficulty level of the puzzles



Dark Citadel is one of the most absorbing role playing games in years...

seems perfectly pitched, with a considerable amount of attention clearly having been lavished on making Dark Citadel frustrating but rewarding in approximately equal measures.

From a technical standpoint, a hard drive and a fast Amiga are recommended and at least a megabyte of Chip memory is essential. Other requirements include a great deal of spare time over a period of several weeks, and an ability to survive for a long while without food, water or sleep.



...and technically it simply cannot be faulted

THOSE ADDRESSES IN FULL...

Classic Amiga Software
11 Deansgate
Radcliffe
Manchester M26 2SH
Tel: 0161 723 1638

F1 Licenceware
31 Wellington Road
Exeter
Devon EX2 9DU
Tel: 01392 493580

OnLine PD
1 The Cloisters
Halsall Lane
Formby
Liverpool L37 3PX
Tel: 01704 834335

Your Choice PD
39 Lambton Road
Chorlton
Manchester M21 0ZJ
Tel: 0161 881 8994

If you don't have an Internet connection, don't worry. Games listed as Aminet can also be obtained from one of the many PD libraries who now offer downloading services for a small charge - including several of the libraries listed above.

WORKBENCH FRIENDLY

It's nice occasionally to break up a spot of dull word processing with a quick game. Two particular favourites of mine which have helped me meet some deadlines I never thought I could are WBsteroids and WBTetris.

Heiko Muller's WBsteroids, originally reviewed in issue 112, is an extremely slick version of Asteroids which runs in a resizable Workbench window, and with a shareware registration fee of just 10DM this game really is magnificent value for money. The freely distributable demonstration version is available from Aminet.

WBTetris was reviewed as part of the Workbench Games v2.5 pack in issue 87, which also includes system friendly versions of Columns, Pong, Boulderdash and a sliding puzzle game. Workbench Games is available from Your Choice, and I believe there's a dedicated page on the Web too.



Old game alert...



Relive that '70s arcade feeling

Tetris: by God, it's addictive

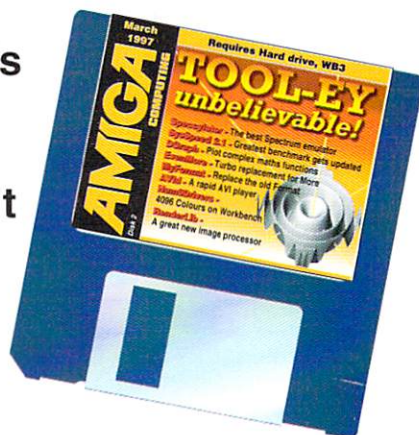
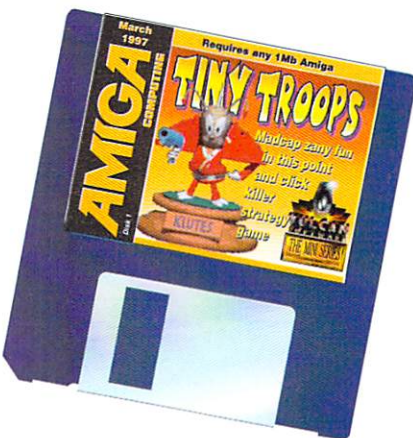
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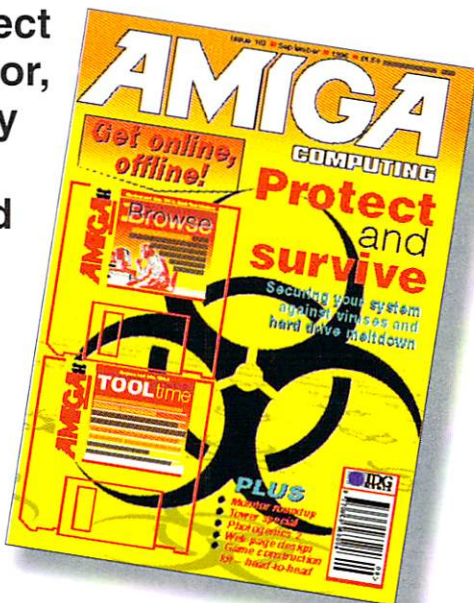


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Let's Go

The Internet has been hyped so much in the last few years that anyone not yet got connected could be forgiven for being fed up with hearing about it. Some of those holding out against getting themselves on-line are in all probability doing so because they have seen what the Internet has to offer and have decided that they can live without it.

Thus a perfectly valid viewpoint because, for the most part, the Internet only contains information you could find perfectly well (and possibly more quickly and easily) elsewhere. On the other hand, there is a great deal more than mere information that the Internet has to offer, and there are definitely some Amiga users who would love to get connected but simply do not know where to start.

It is people such as this that traditional net bundles have been aimed at. However, to claim that NetConnect is aimed solely at Net novices would be to sell it gravely short. Its producers can justifiably claim to have

Surfin' Now

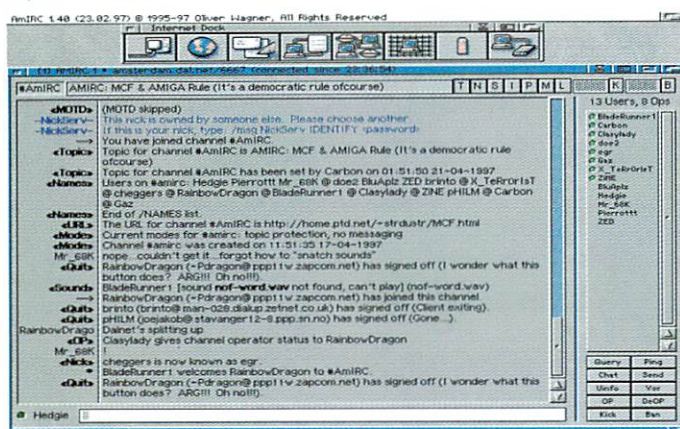
Keen surfer **Dave Cusick** investigates
NetConnect, Active's new all-in-one
Internet kit

assembled one of the most impressive suites of Amiga Internet software yet, meaning that even those who have been using the Net for some time could be interested in purchasing this CD.

NetConnect includes fully licensed versions of many of the most popular shareware Internet applications, which can be

upgraded later if you complete the registration form provided. All the applications, and indeed the NetConnect control panel, make use of Magic User Interface, and so a registered version of MUI 3.8 is on the disk too.

The NetConnect documentation covers setting up the suite as well as using each of the individual applications. It is supplied on

NET.FUN

AmlIRC is easily the best Internet Relay Chat client available for the Amiga

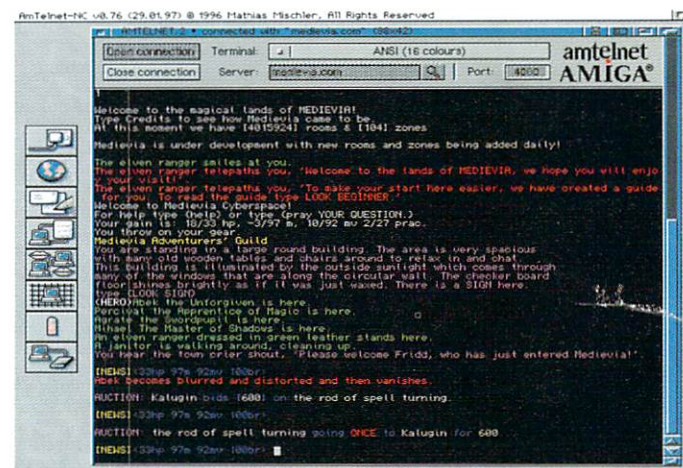
It is a great shame that some of the more entertaining areas of the Net are frequently overlooked. For instance, the numerous Internet Relay Chat channels offer the closest thing to real-time conversation short of sophisticated Internet phone software, which is still almost non-existent on the Amiga anyway.

NetConnect includes version 1.40 of AmIRC, which is amongst the most powerful IRC clients available on any system, being rivalled in my eyes only by a PC application called mIRC.

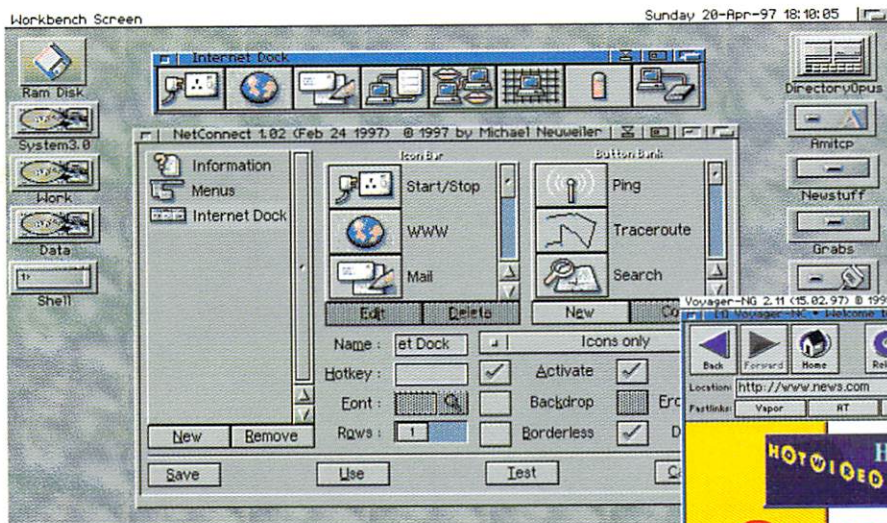
As well as being incredibly slick and easy to use, AmiIRC boasts a powerful ARExx port which makes it possible to run various scripts when desired. These scripts might, for instance, be used to send e-mail to individuals from within the IRC client, or to enable lengthy, frequently typed sentences (such as descriptions of your Amiga set-up) to be recalled at the press of a button.

Fans of old-fashioned text-based adventures in particular will be grateful for the inclusion of AmTelnets, since this opens up the wide world of on-line Multi User Dungeons. There are also a variety of other services available exclusively via telnets, such as library catalogues and weather reports.

Telnetting to a remote computer basically involves using whatever primitive text-based interface has been constructed on that machine, and consequently there is little scope for producing a really user-friendly Telnet application. Nevertheless, with a scroll-bar, full ANSI colour support and a hotlist of frequently used host names, AmTelnet is about as good as a Telnet client could conceivably be.



With AmTelnets you'll be able to participate in Multi User Dungeons such as the excellent *Medievia*



The NetConnect dock can easily be configured to suit your personal preferences

the CD in HTML format, meaning it can be viewed using the Voyager Web browser which is included in the pack (about which more shall be said later). This documentation is reasonably comprehensive but should be largely unnecessary because installation is a fairly painless process, with the standard Commodore installer being used to good effect.

NetConnect includes details of over 160 different Internet Service Providers from around the world - indeed, there are 58 ISPs from the UK alone. When prompted you can select the country you are accessing the Internet in. Strangely, every single country is ticked by default, when perhaps it would have been more sensible to have just one or two ticked so as to speed the process along - most people will want to deselect all but one of the countries.

After all the necessary files have been copied to your hard drive there are a few details which have to be entered in the preferences window, although NetConnect will automatically complete most details from its ISP database.

To connect to the Internet a TCP/IP stack is required, and so NetConnect comes with AmiTCP 4.5. Until the arrival of Miami a few months ago, AmiTCP was easily the most widely used TCP stack on the Amiga. Indeed, whereas Miami is geared exclusively

towards dial-up connections, AmiTCP is a great deal more flexible than its young rival.

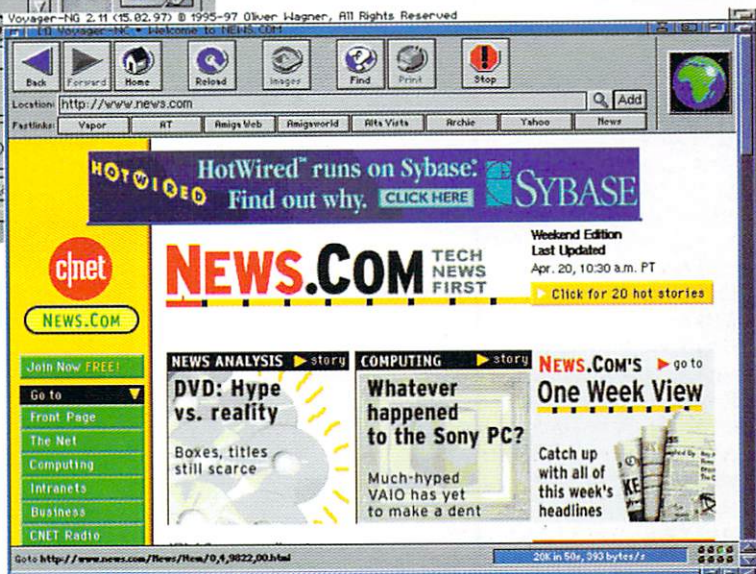
Probably the main reason Miami has proved popular is that setting up AmiTCP has always been regarded as something of a nightmare. Fortunately the NetConnect version of AmiTCP features an attractive front-end, and configuration is no longer the hopelessly overcomplicated chore it once was.

When AmiTCP has been set up you can start up the NetConnect control panel. From here you can go on-line at the click of a button, and start any of the Internet applications included in the package. The control panel functions as a Workbench dock which can appear on any specified public screen. It is possible to add icons to the dock or remove them as desired, and the commands that the icons execute can be altered too using built-in settings and script editors.

THE VERDICT

I can heartily recommend this superb package to both seasoned surfers and Net novices. Newcomers to the whole Net scene

Voyager does an admirable job of displaying some of the most famous American sites



will find everything they need contained on this CD.

The installation and configuration process has been made simple enough for most folks with a basic level of Amiga knowledge to complete in just a few minutes and, thanks to the use of Magic User Interface throughout the various applications and the NetConnect front-end, share an extremely friendly feel.

At the other end of the scale, the opportunity to purchase complete, upgradable versions of many of the best Amiga Internet packages for such a reasonable price will doubtless appeal to many Net veterans too.

The only thing that won't endear NetConnect to experienced users is the way in which it sets up AmiTCP and starts automatically executing dial-up scripts without

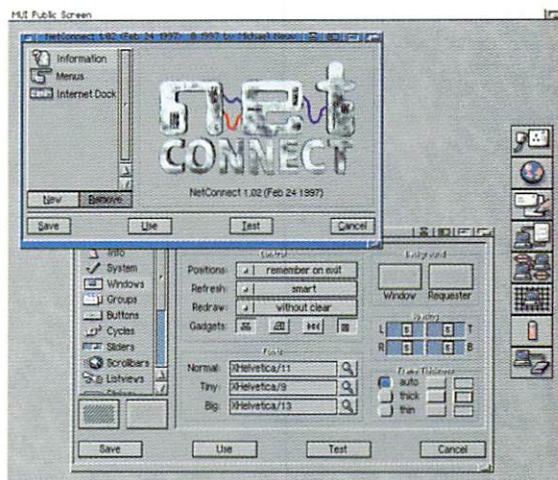
FINGERS AIN'T WOT THEY USED TO BE

The inclusion of AmTerm in the NetConnect bundle is extremely welcome. Having nothing whatsoever to do with the Internet, it instead allows you to connect to Bulletin Board Systems or to another machine either directly or via a telephone line.

Since the Internet really took off a couple of years ago, BBSes have been largely ignored by the computer press and the

media in general. Once upon a time, back in the days when a 1200cps modem was considered state-of-the-art, logging onto a BBS was what comms was all about.

There are still plenty of popular BBSes around which are worth visiting, and there are those who still frequent their favourite boards, although after you have experienced the Internet they do seem a rather restrictive environments.



NetConnect benefits considerably from the use of Magic User Interface throughout. Stefan Stuntz, the Amiga world salutes you

THE ABSOLUTE ESSENTIALS

Even Net newbies will have heard about the World Wide Web before, since this is the area of the Internet which receives the most coverage in the media. Consisting of literally millions of pages combining text and graphics, and in some cases audio and video clips too, the Web is a fascinating if horribly disorganised resource.

The choice of Voyager NG 2.11 as the NetConnect Web browser is an interesting one, although perhaps it is not surprising considering the dominance of Vaporware products in the bundle. Seasoned Amiga surfers tend to either love or hate each of the three leading browsers - namely IBrowse, AWeb and Voyager.

Many prefer the impressive range of features and almost total Netscape compatibility which only IBrowse can offer, despite its sluggish performance on slower machines. Impatient surfers tend to opt for AWeb because of its blistering speed when downloading pages. Vaporware's Voyager tends to be rather overlooked, perhaps because it falls somewhere between the two extremes. Since the NG release (version 2.0) it has been able to handle animated GIFs, tables and frames (just about!) and it seems reasonably fast even on low-end Amigas.

Voyager is an accomplished enough product, and it is incredible that one dedicated programmer has managed to produce a program which incorporates many features from the latest PC browsers whilst also finding the time to develop some of the other Vaporware products included in the NetConnect bundle.

To my mind though, Voyager is simply not on a par with IBrowse. That is not to say that VNG is not an extremely usable browser perfectly capable of happily displaying most Web sites; it's just that in some respects I find it a little quirky and unreliable. Still, as with the other two leading Amiga browsers, Voyager is developing at a phenomenal rate and future versions promise extra features and greater stability.

Arguably far more important than the Web to the casual user is Electronic Mail. There are several established e-mail clients on the Amiga, of which the most popular is probably the excellent freeware program YAM. Rather than including YAM though, Active has opted for the brand new Microdot II, a combined e-mail and news client which is positively brimming over with features.

Microdot II is still very much in development too - even more so than Voyager, in fact. Version 0.156 is included on the CD, but a more advanced version is already available via FTP at the time of

writing. Nevertheless, Microdot is already a superb piece of software which will more than meet most peoples' requirements.

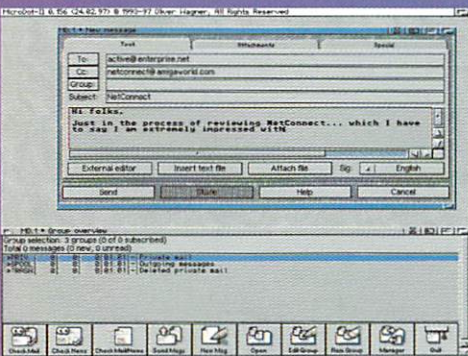
As a mail program it excels because it includes practically every feature one could hope for whilst offering a more straightforward interface than many of its rivals. The various mailbox management features are well implemented, and the possibility of attaching files to messages at the click of a button means that Microdot rivals leading PC e-mail clients when it comes to providing easily accessible power. It even supports Rich Text formatting, so messages can include bold, underlined and italicised text. Support for colours and text alignment promised in the near future.

The news capabilities of Microdot II are every bit as comprehensive as those available in the somewhat temperamental MNews, and are infinitely easier to get at than those of Thor. Although you can actually read and reply to news through Voyager, using Microdot is a better way of keeping up to date with the wealth of newsgroups which make up the fascinating underbelly of the Internet.

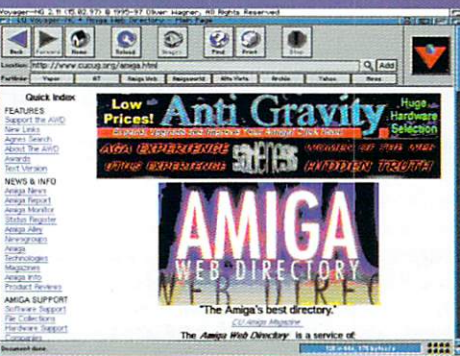
The final area of the Net which no self-respecting all-in-one package could afford to ignore is FTP, which stands for File Transfer Protocol. This is not one of the more glamorous sides of the Internet, but it is certainly among the most useful. Many ISPs which allow their users to maintain home pages on the Web require those pages to be uploaded to their servers via FTP, and hundreds of thousands of programs and files around the world are available on FTP servers, with archives such as Aminet containing many megabytes of software. There really is no better FTP client on any system than AmFTP, version 1.74 of which is included here.

There is full support for the Aminet ADT service, which allows you to view only those items which have been uploaded since your last visit. As well as an incredibly useful FTP site address book, there is the option to have a screen flash and sampled sound effect to alert you when a transfer has been completed (even when you are using a program on another screen), not to mention a whole host of other handy features.

Completing the selection of essential Net applications is AmFinger, a finger client. Finger utilities are useful for finding out information about users logged on at remote sites, and some ISPs such as Demon also provide information about the current status of their service via the finger command. Again, with a scroll bar and a hotlist of frequently fingered hosts, there isn't much that could really be added to this program.



Microdot is a contender for the crown of best Amiga e-mail client... and it can handle news too



The Amiga Web Directory: A site every self-respecting Amiga surfer should visit regularly

asking, given that they may want to start programs from their icons as and when desired instead of using the main control panel dock. Still, with some fiddling around this minor problem can probably be overcome.

If there is one marginally weak link in the package it is Voyager NG. That's because IBrowse is a better program, rather than because Voyager is a particularly poor product. In a sense Active (and more specifically Vaporware, the programmers) are victims of their own success here, because Voyager really only disappoints because it is simply not as brilliant as the other Net clients in this package. Still, the latest version seems very stable, and in terms of features it is practically on a par with IBrowse. Besides, those who cannot live without IBrowse should experience no great difficulties in setting up the NetConnect control panel to use that browser.

Make no mistakes: NetConnect offers exceptional value for money. Registering all the constituent programs individually would cost a great deal - in fact the AmITCP software alone usually sells for £35. Only a fool would miss out on the chance of buying such an excellent suite of programs at such an affordable price.

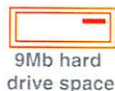
Bottom line

REQUIREMENTS

RED essential BLACK recommended



CD-ROM Drive
(not required for floppy disk version)



9Mb hard drive space



14k4 Modem



4 Mb RAM



030



15Mb hard drive space



8 Mb RAM



AGA Chipset



33k6 Modem



RTG card

PRODUCT DETAILS

Product	NetConnect version 1
Supplier	Active Software
Price	£59.95/£139.95 plus 33.6 modem
Tel	01325 352 260
Email	active@enterprise.net

SCORES

Ease of use	90%
Implementation	93%
Value For Money	94%
Overall	92%

Are you wanting to connect to the Internet?

1. Comprehensive Software

ALL YOU NEED TO CONNECT AND SURF

NetConnect provides you with all you need to connect to the Internet - full TCP stack, web browser, mail, news, ftp, irc and telnet clients. You don't need anything else, no need to worry about additional software. The CD version even includes pre-configured MIME-types for web browsing, datatypes, additional online documentation and more!

2. Commercially Licensed

NO SHAREWARE - FULLY LICENSED

NetConnect is a suite of **commercially licensed** Internet software which means there is no need to register or purchase any of the software contained within the package - no time limitations, no hassle. All the software contained within NetConnect are arguably the best in their class. You can add other commercial Internet software to NetConnect via the configurable 'ToolsManager' style icon bar.

3. After Sales Support

THE BEST FREE SUPPORT - GUARANTEED

We pride ourselves in offering superb after sales support to all our NetConnect/Internet users. We guarantee you will not get better free Internet related support from any other rival company. Support via:

- Telephone (during normal office hours - other companies charge for this!)
- E-Mail (you can email us directly with NetConnect or general Internet enquiries)
- Mailing list (subscribe to our mailing list - a general NetConnect/Internet forum)
- WWW (the NetConnect web site contains news and upgrades for registered users)

Our aim is to help users with their Internet connection **after** they have purchased NetConnect and we understand that the Internet can be a daunting experience for the beginner.

4. Quality Branded Modems

We only supply quality **branded** modems (Dynamilink UK Ltd), which may cost slightly more than their unbranded competitors, but they ship with a 5 year warranty, the knowledge that a UK company offers support/information and you are buying a modem with quality (Rockwell based) components.

5. Connectivity Offers

When you examine the competition you may notice that we offer NetConnect users substantial savings when they need to connect to an Internet Service Provider (ISP). We currently have two offers: save £20.00 (exl. VAT) from Enterprise PLC or two months free connectivity with NetCom UK Ltd. These offers add value to NetConnect.

6. Applauded by Experts

NETCONNECT v1 REVIEWS

NetConnect has received rave reviews by Amiga Internet experts from paper and online magazines! Many of these reviewers recognise the ease-of use of the package, the comprehensive collection of software and the backup support we provided via our mailing list, web site and telephone hotline (during office hours).

CU Amiga (June 97) - 89%
Amiga Format (June 97) - 92% Gold Award "...if you're considering getting online, NetConnect is the perfect choice for the Amiga user."
Amiga Computing (July 97) - 92%
theLair (issue 3) 5/5 "...best of its class." (online <http://amigaworld.com/thelair>)
PureAmiga 98% (online <http://www.pureamiga.co.uk>)



It's dead easy!

NetConnect is super-easy to connect to the Internet! Just choose the provider, enter some user details (name, email address), select your modem and you are ready to start surfing! NetConnect also comes with a configurable icon bar to launch and manage your Internet modules - you can even add other software if desired. All the software within NetConnect is supported with regular upgrades. Amiga Format concluded (June 97 issue): "Almost the perfect package for the Amiga Internet user", "If you need to get online, this is the easiest way to do it" and "It's good value for money too - especially the bundle including the 33.6K modem."



AMITCP v4.6 DIALUP

AmiTCP is a new full TCP stack, enhanced and developed by us and NSDI with full GUI control!

VOYAGER-NG v3

Voyager Next Generation is already powerful with javascript, frames, tables, SSL (https:) etc!

MICRODOT-II

A superb and brand new commercial email and news client, said to be the best for the Amiga!

AMFTP

The industry standard FTP client and the number one FTP program on the Amiga.

AMIRC

Again, the industry standard Amiga IRC client - said to be better than its PC and Mac rivals!

AMTELNET

Use AmTelnet to maintain your web site, connect to external computers, play online games!

NET INFO

NetInfo is a new program by Oliver Wager to search the net - traceroute, ping, services etc.

AMTERM

AmTerm is a comms program - connect to a BBS, send files to your friends Amiga/PC/Mac!

X-ARC

Brand new Dopus like archive management tool which integrates with the NetConnect package!

STOP PRESS....STOP PRESS....STOP PRESS....

NetConnect v2 Announced!

If you thought NetConnect was good check the specifications for v2 (due out around the middle of June):

- Wizard GUI - makes configuring your ISP a doddle!
- Re-written AmiTCP Dialler (MUI based, more control)
- Programs are now keyfile based (can be used with any TCP stack!)
- Voyager v3 (see other box for information)
- Updated, latest versions of all the modules (Microdot-II, AmiIRC v1.57 etc)
- 64 page introductory guide to NetConnect/Internet
- Plus many more changes and additions

Voyager v3 Announced

At the time of writing no other Amiga web browser even comes close to the specifications of Voyager v3. New **major** features include:

- Javascript - the major feature all Amiga web surfers have been waiting for!
- Use fast mem for images on AGA machines!! Never run out of memory again!
- Security Socket Layers (https:) with CERT management (allows secure online ordering)
- Netscape style frames based news
- Internal PNG decoding of images
- Text marking and paste to clipboard

HOT NEWS! Haage&Partner and Vaporware have agreed to include Merapi within future versions of Voyager-NG. Merapi is a JAVA virtual machine for the Amiga computer! This means you will be able to use JAVA within Voyager-NG. Merapi is expected to be completed by August.



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- £15 for Saturday delivery

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WANT MORE INFORMATION?

We provide an information pack covering NetConnect and the modules (Voyager, MD-2 etc), the modems we offer, connectivity discounts and a set of frequently asked questions and answers. Ask us to send you an info pack!

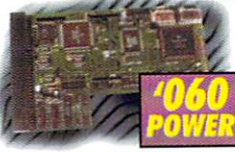
You can also access the NetConnect homepage for additional info, latest news and to download a time-limited demo version of the software:
<http://amigaworld.com/netconnect>

NETCONNECT AND VAPORWARE PRICES

NetConnect CD Version or 3.5" Floppy Disks	£ 49.95
33.6 External Dynamilink Data/Fax/Voice Modem	£ 89.95
33.6 Modem (as above) & NetConnect CD or 3.5" Disks	£ 119.95
Voyager Next Generation v3	£ 23.00
Microdot-II (call for release date and to confirm price)	£ 18.00
AmiIRC v1.57	£ 18.00
AmFTP v1.76	£ 18.00
AmTalk v1.2	£ 12.00
AmTelnet v1.3 + AmTerm v1.1	£ 18.00
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N Before we plunge into another bumper-sized hotch potch of the top notch, a quick reminder. If you see a program in these pages which is listed as available from Aminet but you don't have the luxury of an Internet connection, don't worry. Several PD libraries offer a downloading service - try OnLine PD, for instance.

If you do have an Internet connection, don't forget that the Public Sector Web page contains details of all the programs reviewed in these pages since issue 79, and is, in the words of our esteemed editor, "Absolutely lovely". To take a look, point your browser at <http://www.dcus.demon.co.uk/sector/sector.html>, or follow the Software link from the Amiga Computing homepage.



Dave Cusick record collection includes everything from Nirvana to Nat King Cole. What a broad-minded guy he is

CO SMIC BATTLES

Produced by: Eric Smith
Available from: OnLine PD

The documentation for Cosmic Battles is littered with quotes from Sun Tzu's famous work *The Art Of War*, which if I am not very much mistaken I was forced to digest large chunks of while reviewing Microprose's *Ancient Art Of War In The Sky* in the games pages of *Amiga Computing* many moons ago.

Pearls of wisdom are located at the bottom of every page of the Amigaguide help file, such as "An army may be likened to water, for

as flowing water avoids the heights and has tens to the lowlands, so an army avoids strength and strikes weakness". They're a nice touch, but old Sun Tsu was clearly no rocket scientist. I could have told someone that.

Cosmic Battles deals, of course, with battles at rather greater distances from the Earth

- perhaps fortunately, says he, remembering the days he spent trying to get to grips with air to surface bombing in *Ancient Art*. It is described as "a tactical combat simulator" based on the game *Cosmic Balance* from SSI. It has two distinct elements. Firstly, you must design and build some starships; secondly, you must then try to avoid rapidly destroying them as you engage in space combat with, erm, other spaceships. To play you will require an Amiga with at least 3Mb of RAM and 4Mb of free hard disk space.

Six scenarios are included, some of which draw considerably on *Star Trek* for their background and objectives. Once you've visited the ship yard and have read the brief introduction to the scenario you have chosen, you (and possibly a friend, if you don't fancy playing against the computer) will be transported to the ship combat screen. This screen is immensely complicated at first, and you'd be well advised to read the documentation thoroughly before even thinking about playing.

Cosmic Battles is not the sort of game that will appeal to everyone. Getting to grips with the mouse-driven interface is not easy, and there simply isn't enough action to keep all but the most ardent strategy fans interested. That said, the game offers an immense amount of detail and depth, so those who stick with it should find it enjoyable enough.



Cosmic Battles: horrendously complicated at first...



...but rewarding in the long run. Probably

OPT Y CD PLAYER V 1.8

Programmed by: Stephane Barbaray
Available from: OnLine PD

Ever since CD drives first became widely available on the Amiga, enterprising programmers have been producing software to play audio CDs. The vast majority of these programs are, in truth, much of a muchness. All the controls you would expect to find on an ordinary CD player are generally present, but rarely are the unique characteristics of using a computer CD drive to play ordinary compact discs fully exploited. Opty CD Player, on the other hand, offers special features such as multiple program selection, a title catalogue and CD Sampling on drives which support this function.

The MUI interface makes configuring and using Opty a complete doddle. If you want to enter various CD details into the Opty database

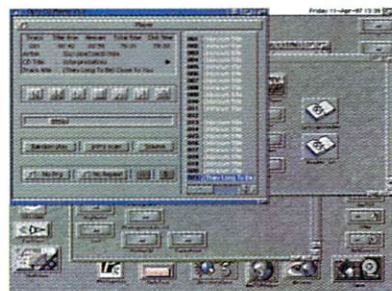
this can be achieved with very little effort too, and once saved this database format is compatible with that used by several other CD players including MCDPlayer. The programming panel makes full use of MUI 3's drag-and-drop facility, so it is possible to create a list of your favourite tunes in a matter of seconds ready for Opty to play in the background while you get on with something else.

Using the sampler is a simple process too. After inserting the CD and choosing the track number, you must enter the location in the track at which sampling should start and the length of the sample to take. Then you are able to choose the preferred sample file format before saving the sound to disk.

User-definable hot keys are also supported, and there is even a basic ARexx interface, meaning that it should be possible to control

CD playback via Opty from within other programs - for instance, so that CD audio could accompany a Scala presentation.

Overall then, Opty is probably the most fully-featured program of its kind, and being freeware it won't cost you a penny more than the price of a floppy disk. Isn't life marvellous?



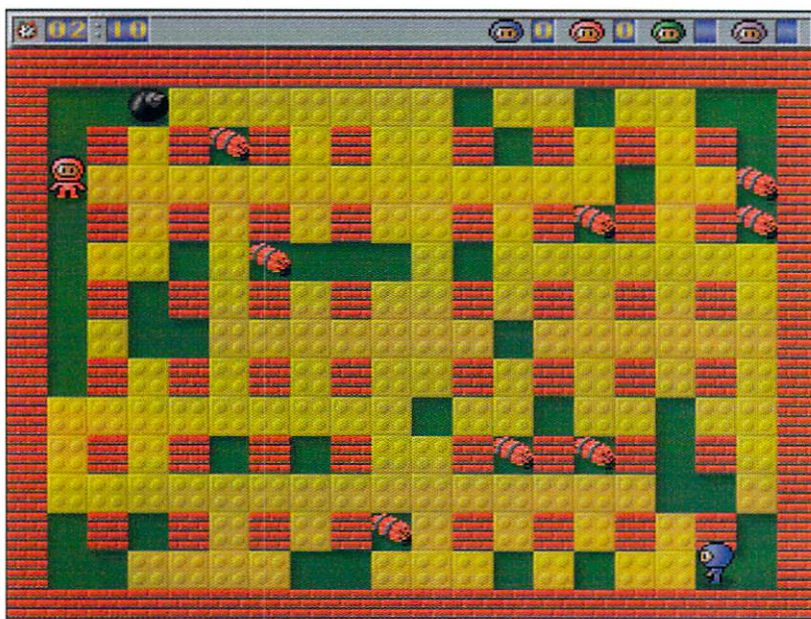
ONLINE GAMES #9

Programmed by: Various
Available from: OnLine PD

The ninth OnLine Games collection includes four programs, two of which are definitely worth a look.

Let's start with the best of the lot, BOOM. This is a Bomberman clone, offering exciting explosive action for between two and four players. For the uninitiated, Bomberman is a worryingly addictive action game in which your objective is simply to be the last man standing. You'll need a fast AGA machine to run it, and you would be as well to stick a record on whilst you play because there is no sound whatsoever, but this is still a slick version of one of the most playable games of all time. A couple of the usual bonuses are missing, but then again BOOM is giftware, unlike the majority of Bomberman clones, which seem to be shareware - so anything from a postcard to a small cash donation will buy you hours of addictive gameplay.

Rush Hour was reviewed in Public Sector back in issue 106. It's an original and



BOOM is a playable enough Bomberman clone...



...whereas Flash Flood is, erm, a bit poor really

strangely absorbing game in which you must control the traffic lights in a small area of a city, trying to prevent jams by keeping vehicles moving wherever possible.

Flash Flood is an AMOS version of an old Commodore 64 game, which apparently originally appeared as a type-in listing in the November 1987 issue of Ahoy! magazine. To all intents and purposes this is an 8-bit game running on a 16-bit or 32-bit machine - so don't expect flashy graphics, and be ready to turn your speaker volume down because the sound is nothing short of appalling. Your task is to collect falling raindrops in a barrel before they flood your basement. It's incred-

ibly basic stuff, but it's freeware and it's fun for five minutes.

Finally, Space Wars is a strange little offering in which two players control spaceships trying to blast each other out of the sky, whilst at the same time avoiding being sucked into a black hole. Again, it might provide a few moments worth of entertainment, if you're the sort of person who doesn't get out much.

There you have it then: Space Wars and Flash Flood are rather poor, but you can always pop Rush Hour and BOOM on your hard drive and use the floppy disk as a spare...

ONLINE GAMES #11

Programmed by: Various
Available from: OnLine PD

Skipping fairly swiftly past the tenth disk in the series, which contains rather too many crossword games for this overworked journalist to handle, we come to this two-game mini-compilation.

SuperBallz is an impressive isometric 3D



Warhunt isn't bad...

game in the mould of Marble Madness, which demands at least 2Mb of Chip RAM. With decent enough sound effects, some tuneful music, stylish introductory screens and passable in-game graphics, it's very hard to fault SuperBallz in terms of presentation. It plays exceedingly well too, and with a one player mode and two player split-screen cooperative and race modes, there are plenty of gaming options to help ensure it doesn't become dull too quickly. There is even a level editor included in what is undoubtedly one of the best freeware games to grace these pages for some time.

The second program, Warhost, is a demo version of a viewed-from-above strategic tank command game. Between one and four players can participate, and the computer can control armies too. Battles take place on randomly generated landscapes, though it is possible to alter certain values which the computer will take into account during the map generation process. There are a variety of other options available from



...but Superballz is more fun altogether

the main menu too, though in order to change many of these settings you must shell out a fiver for the registered version of Warhunt.

To be frank Warhunt really is not my sort of game, though fans of the genre will doubtless be able to glean a healthy helping of entertainment from it. SuperBallz, on the other hand, ought to be fairly universal in its appeal.

EZCRON

Programmed by: Jim Hines
Available from: Aminet

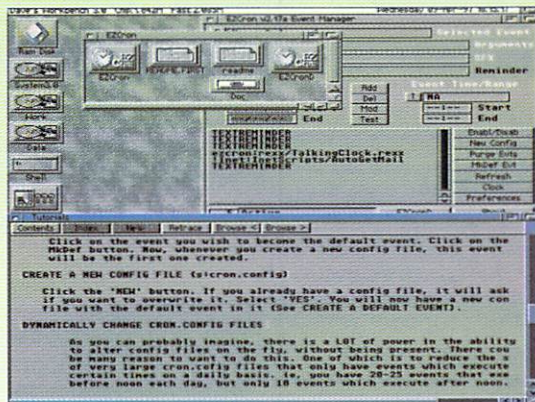
EZCron is a program which can remind you to do certain things at certain times, but its power really lies in the fact that it can get on with doing those things for you automatically. If, for instance, you wanted to back up automatically one partition of your hard drive to another every second Friday at 10pm, you could program EZCron to get on with it while you got on with some other work - or, more usefully, went out to the pub.

Other possible duties include downloading e-mail and news, checking the Aminet recent uploads at specific times, defragmenting your

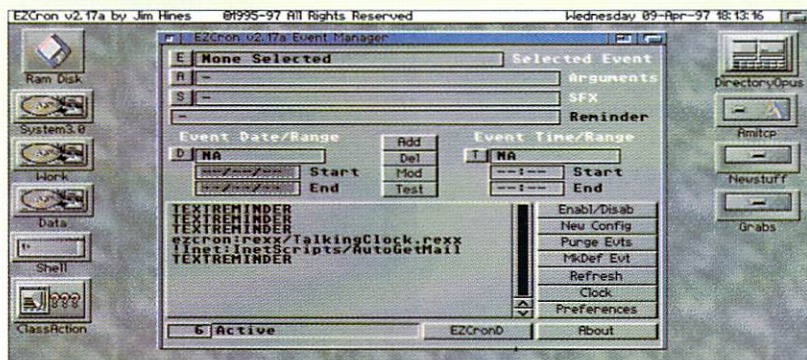
hard drive - in fact, because EZCron can be told to run any program or ARexx script at any time, the sky is really the limit. The author developed EZCron so that he could automatically start Lightwave rendering graphics between newscasts at the TV station at which he works.

EZCron can be used on any Amiga running at least version 2.04 of Workbench, and as one would expect all the necessary libraries are automatically copied to your Libs: partition during installation.

The program has two elements. The first is a background daemon, which can be started from Workbench or more usefully from the User Startup Sequence or your WBStartup drawer. The daemon runs all the time in the



With a functional interface and plenty of power, EZCron does the job admirably



EZCron allows you to set your Amiga up to do things for you when you're not around

background, using only a tiny amount of memory and system time. The second element is the GUI which enables you to enter your personal settings so as to configure EZCron to your needs. The whole configuration procedure is explained clearly in the accompanying Amigaguide documentation, which also includes some extremely helpful tutorials.

EZCron is an example of an incredibly good idea which has been very well implemented. It is freeware and as well as being available from Aminet, the latest version can be found at Jim Hines' homepage at www.iolinc.net/~hines.j/.

WAR

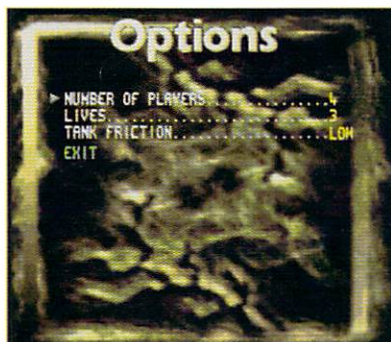
Programmed by: Andrew Harrison
Available from: Classic Amiga Software
Disk No: G466

Multiplayer frolics abound in this accomplished tank combat game. Up to four destructive individuals can rumble randomly around a bleak cityscape, blasting one another into oblivion whenever they get the opportunity.

There's a variety of power-ups littered around the playing area which have effects ranging from restoring shields and ammunition stocks to increasing the power of your available weaponry. At your disposal are ordinary bullets, bouncing bullets, mines and high energy shots. Each player has a separate ammunition meter for each type of weapon, and a power meter which represents how close they are to being totally blown away.



War: erm, it's a tank game



The options screens look nice though

Unfortunately there's no one-player mode, but to be fair this is the sort of game which really ought to be played by a bunch of partly inebriated individuals. Indeed, with two players on joystick and two crowded around the keyboard, four-player games may well involve the participants getting to know each other rather well. Unless they are of particularly sound moral fibre, they'll certainly find themselves exchanging strong language in the heat of the battle.

War is simple and yet blisteringly good fun. To play it you'll need an AGA machine and preferably a reasonably fast processor. With some slightly fancier graphics and improved sound effects, War could be as impressive technically as it is in terms of addictiveness - but then again, when a game is this enjoyable, criticism of any sort seems a trifle picky.

FROM DESPAIR TO WHERE?

Each month Public Sector tries to bring you the very best of the latest PD and shareware releases. Consequently I want to hear 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 is of sufficient quality to merit coverage then cram it onto a 3.5", slap it into a jiffy bag with a cover letter and wangle it with all haste in my general direction. Some days later when said jiffy tumbles gently through my letterbox, I'll tear open the envelope, shove it in my drive and don my evaluating cap, with the cream earning reviews in these pages.

If you've written the software yourself, you could even win a prize if it earns a review. Reader Submissions of this kind should, surprisingly enough, be clearly labelled "Reader Submission", and they should be sent to the usual Public Sector address. So don't delay - get those submissions in the post before Neil changes his mind about those prizes...

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

BOUNTY HUNTER

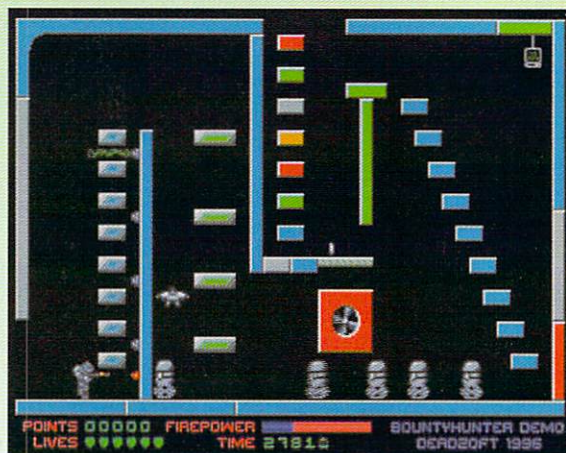
Programmed by: Per Jonsson & Buster Blom
Available from: OnLine PD

It has been a while since a decent PD platformer appeared, so coming across Bounty Hunter in the Public Sector mailbag was a particularly pleasant experience.

Oddly enough, you take on the role of a bounty hunter who must enter a labyrinthine warehouse in search of the dangerous villain Morgan Schinowski, aka Wild Morgan, and some bizarre space and time travelling machine he has stolen.

The game is incredibly reminiscent of Jet Set Willy and indeed many other 8-bit platform romps, in terms of both graphical style and level design. Avoiding many of the enemies in your path will require a brief study of their movements followed by a deft movement of the joystick. Jumps will often have to be timed to absolute perfection, otherwise you'll find yourself going back to the start of the current screen.

As with so many platform games, Bounty Hunter can occasionally prove frustrating. Things are slightly exacerbated here by the authors' clear concentration on



...it's an old Spectrum game." He wasn't far wrong



"Cor blimey" (or words to that effect), exclaimed Neil when he saw Bounty Hunter...

producing a Jet Set Willy tribute that would be faithful to the genre in style and feel. Nevertheless, patient and persevering players will find themselves really becoming involved in a game in a way they may not have been since the heady days of home computing, when sitting in front of a television with a Kempston and cursing monochromatic sprites was so much a part of so many lives.

At least 1Mb of memory is required to run this version which is only a demonstration because the authors have not yet finished the full game. If the authors get enough feedback from this demo, they say they will release a completed version via Aminet... so get writing, folks.

MICRODOT II v0.180 BETA

Programmed by: Oliver Wagner
Available from: Vaporware Web site
(<http://www.vapor.com/>)

Omnipresence may have started the trend for developing wonderfully user-friendly MUI-based Net applications, and indeed they are still responsible for the development of the Amiga's best Web browser, IBrowse. However in almost every other area of Net software, the market leading packages are the work of a small but dedicated team of programmers at Vaporware. Responsible for the development of AmiIRC, AmFTP and Voyager amongst other shareware gems, these boys deserve medals for their loyal support of our favourite machine.

By process of elimination, Vaporware's next project had to be an e-mail client or a news reader. Microdot II aims to be both these things. As the version number would suggest, Microdot II is still very much under development - and indeed by the time you

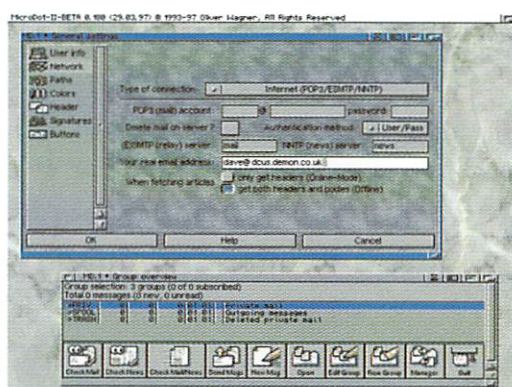
read this, v0.180beta will no longer be usable (the time limit imposed on this release will have been reached), so I would assume a newer demo could be downloaded instead. Even at this relatively early stage though, this superb integrated news and e-mail client already has enough features implemented to suggest that the finished product will be an essential purchase.

You will be able to tell from the screenshots that Microdot II is extremely attractive, thanks in equal measure to the pleasing icons in the main window and the use of Magic User Interface throughout. It also boasts an extremely impressive array of features. Unsurprisingly it includes an option-laden mail composition window and an address book, but it also enables you to define a number of signatures and choose which to use with each message you compose.

You can customise the interface to a certain extent by altering or adding to the icons and the functions they perform, and you can spec-

ify your timezone in relation to GMT (handy when checking for the latest news articles). News articles can of course be replied to individually or via a newsgroup, but fancier options include the possibility of folding up threads for clarity and highly customisable news and mail reading windows.

Whether it can challenge YAM for the title of Supreme Amiga E-mail Client remains to be seen, but given that Microdot II offers news capabilities too, then so long as it can outperform the main MUI-based competition MNews (which shouldn't be too difficult) it could well carve out a niche for itself.



Microdot: it's got the same name as someone I know on IRC, and it's an extremely good mail and news client too

EVERYTHING MUST GO

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Doctor Spock didn't have pointy ears and came from South Africa. ACAS, on the other hand, is never mistaken for a Star Trek character

MAGICAL MYSTERY SCREENS

? This is something that has been frustrating me for a while now, and I have started banging my head against the wall in frustration. Having finally got round to installing the magic user interface, I can see some of the advantages it has, but the one thing I can't figure out is how to run MUI programs on their own screen as I do not fancy having to run Workbench at 256 colours.

I have looked through all the program menus but can't find any screen settings, so how the hell am I meant to get these programs on their own screens?

Sue Jones, Birmingham



It has to be said that MUI is not the simplest program to use and set up and I do think it goes completely over the top. Perhaps a MUI lite is what is required?

With any MUI program everything about its interface can be adjusted, through the MUI preference program. You cannot just run the MUI preferences, this has to be done through the actual program you are using. Every MUI program will have a setting or preference menu in which there will be a MUI entry that runs the Magic User Interface - you can then use this to set the program's interface.

Setting a program to run on its own screen is the most complicated part of MUI, even though it should be the most simple as it is something people want to do all the time. Only DrawStudio provides a simple way of setting the screen mode with a normal ASL requester.

Otherwise it takes something like 13 steps to set and use a custom screen.

1. Run the MUI program you want to run on its own screen
2. Select MUI from the settings/preference menu
3. Click on System in the MUI preference list view

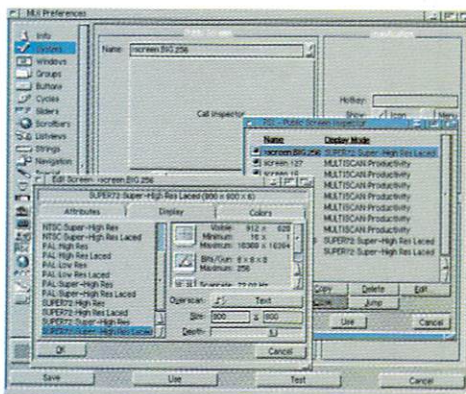
You have now got to the correct place in the MUI preference, the next steps allow you to set an Amiga custom screen that you can run the program on.

4. Press the large 'Call Inspector' button

5. You will now see the public screen inspector window
6. Click on the 'new' button, that allows you to create a new screen
7. Select the Display tab
8. Choose the screen resolution and number of colours you want
9. You may also want to give the screen a name and different font which you set on the attribute page, along with a few other settings
10. Click OK
11. Click SAVE
12. Click the pop-up menu icon and select the screen you have created
13. Press save and that should be all

Have you got all that, simple hey? What I have done is created a number of screen modes all with a different number of colours. Usually called something like screen.8, screen.64 that I use for most MUI programs, and then for specific programs such as Voyager I would use a screen called Voyager.

Once you do have a few screens set up the next time you need to set a MUI program to run on its own screen you only have to go through steps 1, 2, 3, 12 and 13.



I do like MUI for being fully font sensitive and fully scalable, but it does go way over the top on the configuration front

UPGRADING

? I have an Amiga 2000 (3.1 ROM, 68020 CPU, 68881 FPU, Rapidfire SCSI 2 controller, 540 Mb SCSI HD, ECS, 1Mb Agnus and 8Mb of ram) which I am thinking of upgrading, but I am confused as to how to go about this. I have approximately \$600.00 to spend and I see my options as follows:

1. Keep the A2000 and buy a Picasso IV graphics board. (I would like to improve the graphics)
2. Buy a A3000, which I believe has an 68030 and a 2Mb Agnus. (therefore upgrading speed and chip memory, and still use my SCSI board and HD)
3. Buy a used A1200, which would give me AGA graphics. (But I could use nothing out of my A2000 in it)
4. Save my money until I have enough to upgrade to a A4000. (or something better if Amiga Tech's new buyer develops something new)

From what I understand, the Picasso IV graphics board would improve my graphics beyond the AGA chip set, and then the only difference between my A2000 and a A4000 is the Zorro II and Zorro III slots, should this concern me?

Any information would be greatly appreciated.

*Jeff Wheeler, Canada.
jwheeler@netroute.net*



It is always tricky trying to decide where you should go when upgrading hardware, particularly in your case where there are so many options.

If your budget is limited to \$600 then really there is only one option - go for the Picasso board. But to be honest, if you had a larger budget I would probably still recommended that anyway. Currently you have a nice set, particularly if you have no problem with it. I would consider going for a A1200 a step backwards, especially considering the limited display options you would have (AGA the only one).

Secondly, if you do decide to upgrade to another big box Amiga, either A3000 or A4000, you will be able to use all your current hardware, this makes going for a Picasso the best choice.

I would recommend not going for an A4000 and sticking with your A2000, at least until everything is clear about where the Amiga is heading. The only advantage you really get from an A4000 is the AGA chipset, but with a graphics board you won't want to use AGA. I know Harv Laser is very happy with his A2500/060 Wildfire combination.

One final word of warning, most recent software should run fine with a graphics board, but you may find that some of your existing software may not run correctly under a graphics board, hopefully you won't run into too many problems though.

HELP



I have an A1200 with 2Mb of ram, two disk drives, WB 3.0 and an 80Mb HD.

I would like to know if I can use Emplant on my computer and if I can also use the Video Toaster? If so, how, and what do I need?

Second, I ordered Degradar from Dewware, and I have tried reading the instructions but they are of no use. I have the CPU cache on, I only use NTSC programs. What do I have to do to get old games I used on my A500 working with my new A1200?

My last request is to know where I can get hints on the Web for certain games, and where I can get some good utilities and downloads? Please advise me of some good Amiga Web sites.



If you need to get bad programs running, TUDE could help

Joey Di Perla, j_diperla_12@juno.com



To start, the latest version of the Emplant software, Emplant Lite Fusion or what ever they have decided to call it, can now be used on an A1200, but you will need at least 10Mb of memory and 40Mb of free hard drive space. You should also consider ShapeShifter which a very good shareware alternative and I found it a lot easier to set up than the Emplant software.

As for the Video Toaster, you need a big box Amiga as it uses a Zorro slot, I'm not even sure you can buy them for the Amiga anymore as I seem to remember a while back some sort of press release saying they were selling the last ones off.

Degradar is a program I used all the time when I first got my A1200, but I have not touched it in years for two reasons. Firstly, I just cannot be bothered using programs or games that will not run straight away and secondly, I am glad to say most commercial programs do work very well so I have not had to use Degradar.

Getting old games to work on your A1200; there are usually three reasons why a program will fail. First because of the CPU cache, if you want games to work turn the cache off, secondly the operating system and finally the AGA chipset itself. Some games make stupid assumptions and because you are running Workbench 3.0 this makes the games fall over.

So beyond turning the CPU cache off and jumping back to an earlier version of Kickstart, there isn't much you can do. Using the early start up menu gives you the best chance as from here you can switch of the cache and disable the AGA chipset. Also worth getting is TUDE on Aminet, in the util/misc directory.

For game tips why not take a look at <http://www.netrover.com/~timt/amicheats.html> as it is probably the largest collection on-line available.

SQUIRREL 8MB TROUBLES



I've got a big problem - I own a standard A1200, Microbotics 1200 memory board, Squirrel (the old one) and a SCSI CD-Rom.

This all worked fine, until I decided to go for a 8Mb simm! When I installed the 8Mb Simm on the board, correctly set the jumpers in the 8Mb position and powered up my 1200, it didn't work!

Straight after power up the 'Expansion Board Diagnostic' screen came on and warned me that the Microbotics board was defective! When I ignored this the machine booted as it should, but the memory was still the same as with the 4Mb simm.

When I removed the Squirrel and booted, everything went fine, the 8Mb worked too. I tried this with two different 8Mb simms and with two different Microbotics' boards.

I have heard that this problem is created by the 020 processor (it can't address both 8Mb and the PCMCIA port) is this true and can I solve this problem in any way? I hope you can help me out on this.

Martin vdr Waal, martinw@cybercomm.nl



Unfortunately you have fallen foul of what I suppose can be called a design flaw in the A1200. The problem is that, for some reason, the designers decided that the PCMCIA port would be best accessed in the 4 to 8Mb address space. This means that any memory board that simply starts addressing memory before the PCMCIA address space will clash when you start using more than 4Mb of expansion memory.

Most early expansion boards make this mistake as the designers were either not aware of the problem or were not bothered about disabling the PCMCIA slot. Unfortunately, short of buying a new Blizzard 1230 or similar board, there is nothing you can do. Some sort of software patch may be possible but there does not seem to be anything on Aminet.



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@acomp.demon.co.uk

PC TO AMIGA



I have both a Pentium PC and an Amiga 1200. I use the Pentium to access the Internet. I have encountered situations where I wanted to transfer Amiga stuff found on my PC either from e-mail messages or Web sites to my A1200, but have been unable to figure this out. Can you provide instructions on how to do this?

Mark Dekeyser, madsci@sentex.net



The simplest method is to use PC disks to transfer files, as your Amiga can read double density (DD) PC disks (they are the ones with only a single square hole at the top right of the disk).

If your Amiga cannot currently read PC disks this means you have quite a basic set up, but it is a very simple process to get everything working as it should. If you have a hard drive system, you should have a directory on your Workbench partition called Storage. In there is another drawer called DOSDrivers and in there is an icon called PC0. You need to drag this over to the corresponding DOSDrivers drawer in the Devs directory.

For floppy only users, you need to get hold of your original set of Workbench disks and get the one called Storage, this has the same contents as the storage directory on a hard drive. Again, find the PC0 icon in the DOSDrivers drawer and drag it over to your Workbench disks, Devs/DOSDrivers drawer.

Once you have done all this, restart your machine and it should now be able to read PC disks. Swapping disks is far from the perfect solution, especially if you will be regularly transferring files, and if they are larger than 720k you will be buggered.

In this case, other options include serial transfer, SCSI Network or the new Gemini (reviewed this month). I would recommend the Gemini as it is cheap and, if you need to regularly copy files that are no bigger than 1Mb, it is perfect.

EPIC INTERACTIVE ENCYCLOPEDIA

I feel old. When I was a kid, the word Encyclopedia summoned up a vision of sheaves of dusty old blue bound books with musty pages and obscure black and white photographs. If you had to root out a particularly difficult fact or figure for your GCSE geography essay, searching through them would be a time consuming and tedious task.

Thankfully, things are different now. Interactive encyclopedias make rooting out snippets of obscure information easy and, dare I say it, almost enjoyable. Epic's Interactive Encyclopedia '97 is no exception. A follow on from the tremendously successful Interactive Encyclopedia, Version '97 includes a wealth of new features that add to both the educational content and interest of the original CD.

Epic has managed no mean feat by making the Encyclopedia fun and interesting for ages 5 to 95. A new feature is the Exploropedia - an amusing and educational section aimed at younger children. The section is comprised of a series of screens on different topics which can be chosen by clicking on the required screen.

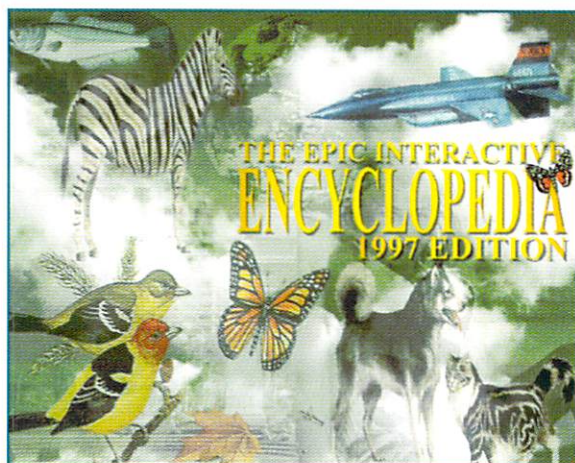
In each screen are a series of objects which, if clicked on will make the movements and sound of that particular object. It's great fun and a very useful vocabulary tool for very young children. For instance, one screen is presents the user with a packed music room. In the room are all manner of instruments which, if clicked on, will play a burst of music from that instrument.

The main Encyclopedia section of the CD is an exhaustive and utterly comprehensive collection of facts, figures, sounds and pictures covering over 16,000 topics. The CD is expandable, so in future years this number could grow even further.

Apparently (and I haven't counted them all) the CD contains over 1 million words, 4000 images, 200 sound clips, 200 film clips and three search engines - probably the

Laser Guidance

Hugh Poynton
takes a look at the
latest CD releases



*What do you want to know?
With a million words covering
16,000 topics, chances
are you will, no matter how
irrelevant or obscure...*

equivalent of a study full of those musty blue books of my childhood.

Another new feature of the CD is the Europedia. This section allows the user to explore the history, geography and even national anthem of the various countries of Europe, and a few more besides. The only drawback here (and it's a very trivial one) is that all the national anthems seem to be played on harpsichords which makes them sound a little strange. I noticed one thing in particular after using this feature - the national anthems of Europe all seem to be rather pompous and jingoistic.

In addition to the educational sections on the disk, a guided tour option is also available. This talks you through the various functions and procedures you need to use the CD effectively. It's a very useful inclusion, especially considering the CD isn't aimed specifically at people with any expertise at computing.

The only criticism I can make here is the fact that the pre recorded voices used to talk you through the CD belong to two of the least suitable voice-over actors I've ever heard. The male voice sounds as wet as a rainy weekend in the Lake District and the female voice sounds as though, if you put one foot wrong she will throw you through the nearest window. However, seeing as the CD is such a useful and well put together piece of software, this criticism seems could be overlooked.

Browsing can be interesting if you, like me, love finding out little snippets of information. We spent a boring Tuesday morning drifting through the Encyclopedia and found out that Ragtime is so called because of its syncopated rhythm (ragged-time) and that Bodhidharma was the founder of the Zen school of Buddhism.

If you're looking for an excellent piece of educational software then buy this CD. With 16,000 subjects covered and three search engines at your fingertips, it'll be a very useful thing to have to hand when you or your kids are trying to complete a tricky essay.



*Everything you ever wanted to know
about acne but were afraid to ask*

Bottom line

PRODUCT DETAILS

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SCORES

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

GOLDEN DEMOS

I always find that whenever I review an Amine CD, I'm drawn first to the games (most of which are quite duff) and the demos. Although there are a lot of crap in demos, there can be some absolute gems.

When Golden Demos plopped through the letterbox I was quite eager to take a look at this collection of the works of coders from across the continent. The CD contains over 650 Mb of demos, animation and slide shows and looked like a pretty interesting and diverting compilation.

I'm sure Golden Demos is a fascinating, but I wouldn't actually know - I didn't get to see very much of it. Although the front end looks simple and hassle free to use, it actually only lets you play a very small number of the demos.

I know that these aren't written by professional programmers but when you buy a CD you do expect to be able to play most of the programmes - this disc was buggier than a day out in the Insect House at London Zoo. The amount of times I had to reset the Amiga was incredible. Only a few will run straight from the CD and a fair few need to be unarchived to RAM disk for viewing.

Another problem I found was that the Golden Demos CD didn't categorise the demos as, for instance, an Amine CD might. Amine CDs are categorised so you know which demos will work on an A4000, which ones can be exited and which ones can't. On Golden Demos you might as well just guess.

That aside, there are some interesting demos and animation and it is a pretty comprehensive collection. As with all demos, a disproportionate amount seem to involve rocks/geometric objects and balls bouncing around the screen in an unconvincing fashion accompanied by the worst dance music you will ever hear, but there are some interesting ones.

Despite being cheesier than a Stilton factory, there is a brilliant animation of a group of dolphins swimming around submerged buildings and artefacts. It's the kind of demo you'd expect to be accompanied by over



Space age dolphins frolicking in a TV set

indulgent, slightly cringe-worthy Enigma or Robert Miles music. One animation I found strangely disturbing (I am rather sensitive you see) was an animation of Mickey Mouse on a surfboard being twisted and manipulated. There are some strange people out there.

All in all, Golden Demos is a pretty interesting CD to pursue, if only you can put up with its shoddy construction. There are some excellent demos and animation, but it just has too many irritating drawbacks to stop it being a first rate product.

Bottom line

PRODUCT DETAILS

Product	Golden Demos
Supplier	Weird Science
Price	£19.95
Tel	0116 234 0682

SCORES

Ease of use	60%
Implementation	65%
Value For Money	70%
Overall	65%

THE HISTORY OF THE WORLD CUP

REVIEW

I inwardly groaned when this landed on my desk - I'm not a huge football fan, I'll watch a match if I happen to be at the pub but that's about it. Imagine my surprise then, when I slotted WiseDome's History of the World Cup into the CD-Rom drive and found it interesting. Not only interesting, but informative, well researched and excellently put together.

The CD covers the history of the World Cup from its creation in 1928 by the heads of FIFA, to the first competition in Paraguay in 1930, to the latest tournament in the US in 1994. For dunces like me there are well written overviews of each of the 15 tournament's separate games as well as general overviews of each tournament complete with voice-overs.

For all the Stats out there is a huge amount of statistics laid out that can be easily cross-referenced. Included on the CD is a match-finder search facility that enables you to seek out that match you remember from some balmy summer's evening seven, eleven or thirty one years ago. To top off the pudding there are over 500 HAM8 photographs from



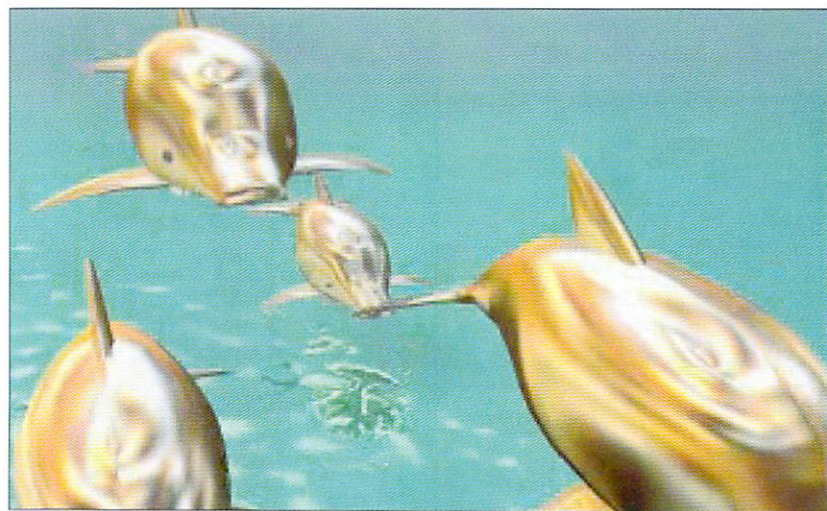
the various tournaments.

One feature that I thought was particularly good was the player biographies. Thankfully short on statistics and figures, the biogs are written in the same sort of breathless romanticism you might expect from a book by Nick Hornby.

The biogs aren't expertly written, some of the sentences go on far longer than my English teacher would have liked, but they are passionate and involving. I'm no great footy fan but I delved into the biog section like a kid reaching into a cookie jar. The write ups on players like Gazza, Maradona and Cryuff as well as some guys I've never heard of (Lev Yashin anyone?) are brilliant:

"Outrageous skill, coupled with exceptional passing ability and the talent to leave defenders on the floor as he danced passed them, made him a thrilling player to watch."

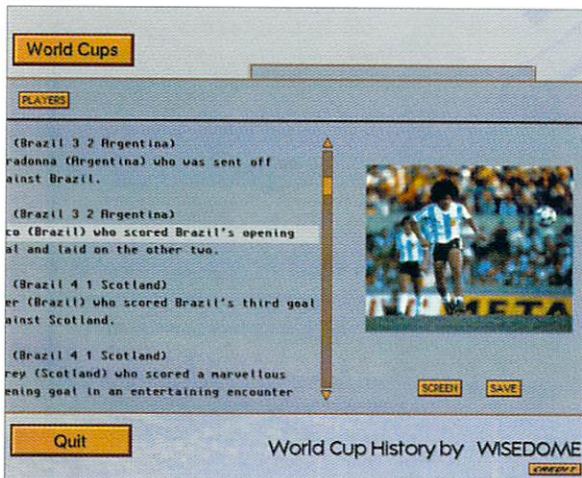
The descriptions of the great players skills and



I heard about this guy that was arrested for, erm, 'playing' with dolphins, know what I mean

triumphs read like a text version of Roy of the Rovers. You can almost imagine a little cartoon strip complete with movement lines and blurs of players shooting past their opposite numbers, dodging and diving and slotting goals into the net.

If you've ever wanted to know anything about the World Cup and the countries and players who have participated in it over the years, get this CD. The temptation for anybody producing a footy oriented CD like this would be to make it as technical and specialist interest as possible. Instead, the CD doesn't assume you've any great prior knowledge



of the great game and explains things so that a footy aficionado and a dunce like me can enjoy it to the same degree.

Next year is World Cup year, and, as I'm sure you'll remember from the European Cup last year, everybody seems to turn into a football expert. Buy this CD and arm yourself well with some prime bluffing knowledge for the pub.

Bottom line

PRODUCT DETAILS

Product	History of the World Cup
Supplier	WiseDome Ltd
Price	£14.99
Tel	0171 702 9823

SCORES

Ease of use	85%
Implementation	90%
Value For Money	85%
Overall	87%

APOLOGY THING

It's apology time. In the May issue of Amiga Computing I reviewed, rather than previewed, a CD called the Hidden Truth by Sadness Software. The CD didn't include music by famous Canadian Sci-Fi rock band, The Sci-Fi Prodigy and some other muggbins. Sorry Sadness Software.

AMINET 18

It's that time of the month again. The time to sort through hundreds of pictures of the starship Enterprise and duff games to find the true gems on the latest Aminet CD. Aminet 18 is the latest collection from the Aminet software archive. When decompressed, the CD contains over 1 gigabyte of games, music mods, pictures and utilities.

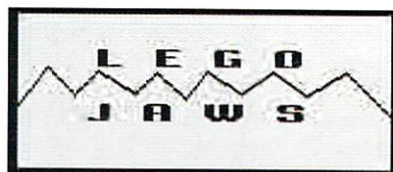
The jewel in the crown of this month's CD is the Siltunna's excellent game, Xtreme Racing. For those who mightn't know, Xtreme Racing is a Super Mario style, multiplayer, arcade racer. The game allows you the option of linking two Amiga's together and having four people play on each machine. For this fun multiplayer muckabout, this game alone probably makes the CD worth buying.

Mind you, the other stuff on the CD is pretty good too. Along with the admittedly rubbish AMOS designed games, is a project from French developer D'Heeger Sebastien. Entitled Racer, the game looks like a souped up take on the Gremlin classic, Lotus.

The game is in its early stages at the moment, so it still looks rather rough around the edges, but does look promising. Unfortunately, because there is still quite a bit of work to be done on Racer, the game is quite system hungry. You will probably need a 68040 based Amiga to run it smoothly.

As usual, there are stacks of games patches included on the CD as well, including some invaluable installers for various older Amiga games.

In addition to the usual tools and utils there is a huge amount of useless but funny stuff. The best this month are the pho-



tographs from coders parties. Each snapshot includes the 'names' of the various characters in that photo. This way you can actually see just who is behind all those fearsome sounding handles.

I've seen loads of demos and they are almost always followed by the obligatory credits to Gnorp, Ultima and Fang from Hemlock (in truth Kevin, Norris and Terry from Warrington). The truth is weirder than fiction. One snapshot shows a bemused but quite distinguished 60 year old Freud look-a-like called Eugenius mixing it up with the youngsters. I could see him with his shirt off, eyes dilated, riding an MDMA high to 250 bpm techno.

Some of the MPEGs are guaranteed to make you laugh - 'LegoJaws' in particular. It is a stopframe animation using lego scanned into the computer which recreates the jaws movie using everybody's favourite toy bricks. The film is pretty grainy but an absolute treat - just watch as macho lego men fall onto the crepe paper sea and are gobbled up by a glove puppet shark. The two weirdoes behind this deserve an Oscar.

Aminet 18 easily lives up to the high standards that the series set itself. The CD contains a good mix of the trivial and the useful, the fun and the functional. I seem to say it every month but - well worth a look.

Bottom line

PRODUCT DETAILS

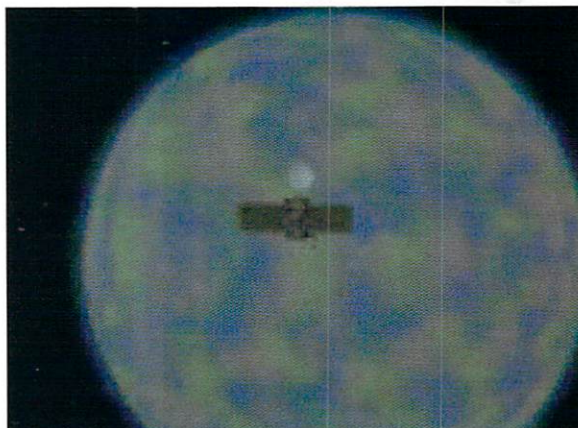
Product	Aminet 18
Supplier	Schatztruhe
Price	£14.99
Tel	0500 131 486

SCORES

Ease of use	80%
Implementation	80%
Value For Money	85%
Overall	82%



Included in the games section of the CD



Another MPEG film sees alien craft heading towards earth...



Xtreme Racing by Siltunna

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AMIGA GUIDE



Random numbers and AMOS work in perfect harmony with Phil South

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I've heard Paul Overaa has a big instrument and this month he's boasting about it

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Hugh Poynton has a few pointers for a healthy computer life style

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Doing his Sherlock Holmes impression, Dave Cusick looks at domain names

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Writing clear code is very important Paul Overaa explains the basics

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HTML wizard Neil Mohr rounds off talking about text style tags. So images next month

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Floats like a butterfly stings like a bee, don't get in a pub fight with Paul Overaa

65



Is this Paul Overaa central or what? We're keeping is ten kids in clogs you know.

66

Phil South asks
AMOS just to
make stuff up
as it goes
along



Getting Random

Random numbers can be very effective things to get a grip on. If your programs are games or even something a bit more complicated, you can use generated numbers rather than fixed numbers to add a little spice to your attack waves or graphic choices. You can make the moves of your aliens more random or choose which graphics to add in a random fashion. It is also possible to narrow the choices so that you can get a random choice within certain parameters.

If your game is an adventure, you can evolve names of worlds and aliens that surprise you. If a game was the same each time it was played, players would be able to play it through in an hour or two. If the circumstances change each time the game is run, anyone can play and have the same chance of winning. Similarly, in any kind of simulation game unless there is a random element, each game would be boring and not much of a simulation.

With this in mind, this month we're going to look at ways of making the initial circumstances of your games as different as possible.

SHUFFLE THE NUMBERS

The standard random number generator in AMOS is, of course, the RND(X) statement. This means that a number, usually an integer, is created within the range or between 0 and X. Random number sequences are seeded at the start by using:

```
Randomize Timer
```

which feeds the randomised numbers with a seed value equal to the value of the system variable TIMER. The timer clocks the elapsed time that the computer has been on, and so you can reset it with:

```
Timer=0
```

and then anything after that (if divided by 50) can be timed in seconds. Seeding random numbers

with Timer ensures that each time the random number is created it is different. Otherwise your random numbers might end up distinctly non-random.

Random numbers are needed in a whole load of game types from card games to full blown graphic adventures. You use the standard format, but obviously have to be creative and adapt the amount or range of numbers to suit the circumstances.

Probability comes into it a lot and in a dice game for example, you can make it just totally random, but pairs of dice are weighted (in a probability sense) towards producing 7, so you have to simulate that too if you want a true simulation. So the original idea is something like this:

```
Do
D=Rnd(12)
nc A
Print "Throw";A,D
Loop
```

but in this there is an equal chance of throwing 7 as, say, 12 or 1. To trim out the chances of getting numbers which are too high or too low you can add a bit of weighting to it like this:

```
Do
D=Rnd(5)+Rnd(5)+2
Inc A
Print "Throw";A,D
Loop
```

which clusters the numbers produced around the 7. Role playing games that use dice can be easily converted to AMOS using this technique.

SHUFFLING WORDS

Random numbers is one thing, but what about random letters? One of the quickest and dirtiest ways of cranking out random text is using the CHR\$(x) where x = the ASCII code of the letter.

This program shows you all the ASCII codes from 0 to 255:

```
For A=0 To 255
Print Chr$(A); " ";
Wait 2
Next A
```

Clearly all you do is feed the CHR\$ command with a random number and you've got yourself a random letter. But the letters don't start till CHR\$(65), which is capital 'A'. Easy, just add 65 to the random number within the CHR brackets, and you're away. Any 25 numbers over 65, therefore any letter of the alphabet above ASCII 65, the letters A-Z in capitals. Try this for size:

```
Paper 0 : Cls 0
Do
Print Chr$(Rnd(25)+65); " ";
Wait 2
Loop
```

To get all lower case letters, you simply have to change the number 65 to 97, the ASCII code for lower case 'a'.

You can combine this knowledge into the following silly, but sometimes funny, program which randomly creates character names for sci-fi role playing games:

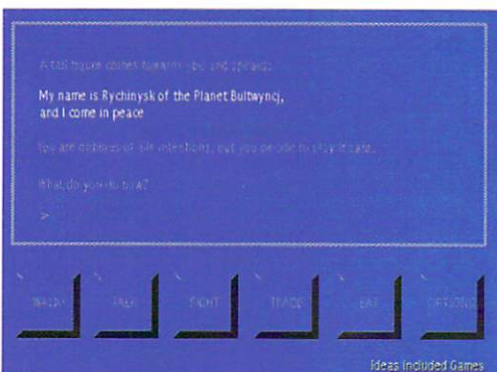
```
Screen Open 0,640,200,16,Hires
Paper 0 : Cls 0
Do
Print "My name is ";
Print Chr$(Rnd(25)+65);
For A=0 To 4
Print Chr$(Rnd(25)+97);
Next A
Print " of the Planet ";
Print Chr$(Rnd(25)+65);
For A=0 To 4
Print Chr$(Rnd(25)+97);
Next A
Print ", and I come in peace."
Print
Loop
```

There's much more to random numbers than just pure randomness and, with a little thought, you can simulate any naturally occurring phenomenon. Adding a little bit of fractal maths here and there can give you the option of adding graphics to these random events and allow you to produce some startling visual effects. Perhaps we can go into this at some other time.

Try making first words of sentences appear as capitals and add some random but sensible punctuation. I'll go into making random numbers work for you in graphics and animation next time.

WRITE STUFF

If you have any other AMOS programs or queries about AMOS, please write to the usual address, which is: Phil South, Amos Column, Amiga Computing, Media House, Adlington Park, Macclesfield, SK10 4NP. Please send routines on an Amiga disk with notes on how the program works on paper, not as text files on the disk. Make the routines short enough to appear in print, i.e. no more than about 30-40 lines of code, and if possible make them use no external graphics, or if they can't be used without them be sure to provide them on the disk in native IFF format, and the same goes for sound files. Follow these guidelines and publication will be more or less assured... More or less.



Paul Overaa takes a look at an unusual Amiga program aimed at the guitarist



Tabulator Editor

If you're into music but not into guitar playing let's start this month by letting you in on a secret - most guitar players are lousy sight-readers. And it's not really surprising because reading scores for guitar is rather more difficult than it is say, for a keyboard, or a wind instrument such as a trumpet or clarinet.

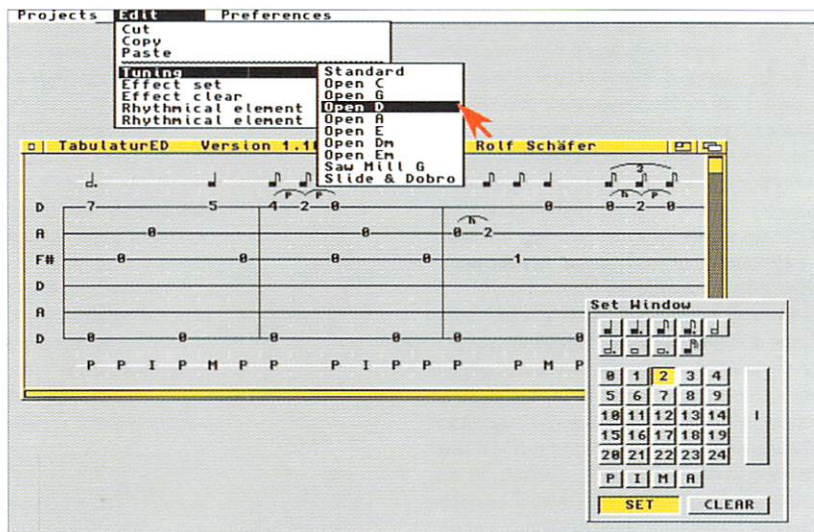
The reason? It's primarily because with the guitar you haven't got just one position where any particular note may be found - in the main each note has several places where it may be played. With a normally tuned guitar for example there's an A note at the second fret of the third string. But exactly the same note can be played at the seventh fret on the fourth string, and the twelfth fret on the fifth string. If you can reach far enough up the neck, it can even be played at the seventeenth fret on the sixth string. Now that's quite a combination considering that on a piano for instance - there's only one place where you can play that note.

When you multiply up these sorts of combinations to chords containing four, five, or six notes it perhaps becomes easier to understand why the thought of sight reading both melodies and chords using normal music notation strikes terror into the hearts of most guitarists.

Luckily, as far as writing guitar music is concerned, there is another approach that I believe first appeared in connection with country music. Certainly a lot of country guitar music arrangements, including tunes by great American country pickers such as Chet Atkins and Merle Travis, have been published using a notation which, instead of conventional music staves, uses six lines representing the six strings on a guitar.



Paul Overaa actually plays a custom built Schecter telecaster - and for anyone in the business that's a dead giveaway that he knows a little about country-style finger-picking



If you're a guitarist then Rolf Schdfer's TabulatorEd is well worth checking out

These are divided up into bars using pretty much the same sort of timing arrangements as you'd use with conventional notation but, rather than having actual notes on the score, fret positions are marked instead.

Another benefit that comes from using this tablature arrangement stems from the fact that it's suitable for use with a variety of modified chord-based (or partial chord based) tuning tricks that, in the main, were also developed by country musicians. By moving away from the conventional tuning (when necessary) guitarists, like Chet Atkins, are able to play certain types of combined bass line, chords and melody combinations that would be nigh-on impossible with a conventionally tuned guitar. OK, fair enough these guys are great musicians anyway - but the inventive tuning sure helps things along as well!

Now when you start using these sorts of tricks and then someone says, "yeh, it sounds great - now sketch out the score for us", we hit a major difficulty. Conventional notation is bad enough but figuring out how to write a score down in a way that shows, in a sensible way, how a particular arrangement should be played once a guitar's tuning has been modified, is virtually impossible. The notes are not a problem - it's representing the changed fingering that's the nightmare and, without that of course, a conventional score would not be particularly useful to the guitarist reading it. With tablature-style notation, however, these difficulties disappear.

The reason I'm telling you all this is that I've recently come across an Amiga utility, written by Rolf Schdfer, called TabulatorEd which is designed to let guitarists write and print scores using tablature style notation. The program pro-

vides for all the main tuning schemes used - namely standard, open C/G/D/A and E, open Em and Dm chord tuning and the so-called Saw Mill G and Slide & Dobro configurations.

Adding the fret position markers that represent the notes of a piece is easy - you just select the SET gadget in the separate 'Set Window' that appears, choose fret numbers (from the same window) and use the mouse to position the values on the score. You can also add the P, I, M and A type right-hand finger markings that both classical and country finger-style players find useful and, incidentally, also include melody line timing across the top of the bar using conventional notes! Other guitarist-specific marking effects - pull offs, hammer ons, slides, bends and so on, are also available from the program's menu as are block cut and paste options.

OK, compared to the more heavyweight conventional Amiga notation programs, such as Notator-X, TabulatorEd could well seem fairly limited. In practice however guitarists who use tablature notation, especially those with a serious interest in country-style finger-picking, are not likely to be bothered by this and are in fact likely to find TabulatorEd an extremely useful piece of software to have around.

I ought to point out that the program doesn't come with English documentation but a version of program with English menus etc., can be chosen during the installation process and this is really all you need. Anyone with a basic understanding of this alternative guitar notation will find TabulatorEd very easy to use.

Perhaps best of all the program is freeware and, for those who are interested in seeing what it's like, you'll find it on this month's coverdisk!

Aching eyes ? Consult Doctor Hugh's Amiga Health guide



Survival Guide

Are you sitting comfortably? Are you absolutely sure? Chances are, if you spend a large amount of time in front of a computer you will have experienced some form of discomfort. Seemingly trivial and unremarkable, many of these aches and pains are attributed to simply being 'under the weather'. However, if you've got a problem, it's best to address it before it causes real distress.

Since computers started to appear in the office and home there has been a gradual realisation that working in front of a terminal can cause a number of problems. Although these problems are dependent on a large number of variables (hardware, furniture, lighting, corporate culture and the individual) the fact remains, there are a great many health complaints related to working with computers.

EYES

It is well known that working at a computer terminal can put a strain on the eyes and it is easy to neglect the needs of the eyes. Although the initial signs are subtle, ignoring them can lead to serious problems. The positioning of the machine, the machine itself and the workplace environment and practices can exacerbate the problem.

Computer work demands the eyes to focus at



an unchanging distance for long periods. Obviously this is a completely unnatural environment. When working close point, the ciliary muscle contracts, adjusting the curvature of the lens and allowing the eye to focus on nearby objects. The closer the object, the more the ciliary muscle has to contract.

If the ciliary muscle is held in the contracted position for too long it will become tired and focus further and further away. After a long session of working close point, the muscle may take a while to return to normal making it difficult to focus on objects further away.

The eyes' muscles can also be strained by the very small but precise movements they are required to make. Focusing on a small object such as a mouse cursor can strain the tiny muscles of the eye. Long periods of directing the mouse cursor, such as when text editing or using graphics applications, can severely tire the eye muscles. The tracking movements required

to follow moving text can also be heavily demanding.

BAD LIGHT

This is one of the major causes of eye problems. Bright light, insufficient light and extreme contrasts between the two can create real problems. An environment that is too well lit can strain the adaptive processes of the eye. When eyes are confronted with unnatural levels of light, the retina becomes over-exposed. If the retina is soaked in unnaturally bright light, images may become blurred and colours washed out.

If work involves a constant switching between bright and dimly lit objects (for instance white paper and a dark screen or a bright screen and dark room), the iris muscles will have to continually adjust the amount of light that hits the reti-

na. As this process takes quite a few seconds, an environment with great contrasts can strain the eyes badly.

WHAT CAN YOU DO?

The simplest things can be effective in alleviating discomfort. It is advisable to learn good habits when you are required to look at a VDU for any length of time. Blinking oxygenates the blood and lubricates and moistens the eyes. Try seeing without staring as this helps to relax the ciliary muscle.

Palming is a simple technique that can be very effective in relaxing the tiny muscles around the eye. It involves sitting at a desk with your elbows on the surface. Place your palms over your eyes with fingers resting on your forehead. Taking care not to touch your eyeballs, relax into the warm darkness of your palms and breath.

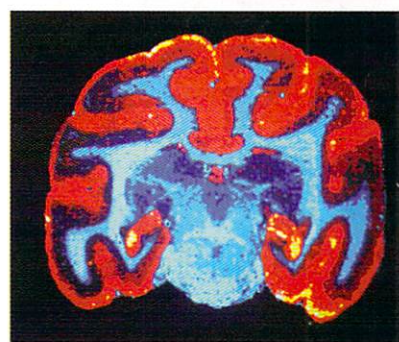
THE BRAIN

Working at a computer terminal can tire the brain. The eyes are, in effect, an extension of the brain and whatever the eyes notice, the brain notices also. Often the brain can process information that you may not consciously be aware of.

Flicker can be a major source of irritation, and is a particular problem for those working with old or faulty VDUs. A computer updates the screen at a certain rate, this varies depending on the computer. If your monitor has a slow update it may well be causing you problems and although you may not be aware of the updating process, (the refresh rate on a VDU would have to be 76Hz for it to go unnoticed by the brain) your brain will be. As the periphery of vision is especially sensitive at picking up movement, this problem will be more noticeable for people doing data entry work, as it involves turning away from the screen.

Many people attribute migraines, irritation and loss of concentration to screen flicker and there is evidence to suggest that even an invisible flicker can cause tension. Because the brain recognises the flickering as movement, even though we are not aware of it, we will naturally be attracted to this perceived movement. There will be more of a tendency to stare at the screen, blinking less than during other activities. This can lead to a feeling of being detached and spaced out.

Ensure you have a modern monitor. Although PC and Mac monitors update anywhere between 70 to 120 Hz, the average Amiga PAL monitor updates at a pretty miserable 50Hz, which can cause considerable problems.



However faster monitors are available for the Amiga, including the Euro 72 (refresh rate of 70Hz) and the Multiscan (60Hz).

Take a break. Spending hours staring at a brightly lit monitor screen at close range is obviously not going to be good for you. When you are immersed in an urgent task the instinct is to continue for as long as it takes, but this can be counter-productive in the long term. Take short but frequent breaks throughout the day.

Stretch your arms and relax your eyes every few minutes and walk about, even if only for a few seconds, every 20 minutes or so. In addition, make sure you take a full 10 minutes off after each hour of work. Research has proved that, in computer work at least, taking breaks can actually speed up the work rate and increase productivity (tell this to your boss if you are caught skiving).

Next week we take a look at the problems computer work causes for the upper body and wrists.

Dave Cusick
investigates the
arguments currently
raging over
domain names

What's In A Name?

comms

In the world of big business, prominently positioned advertisements have long been seen as essential ingredients for success.

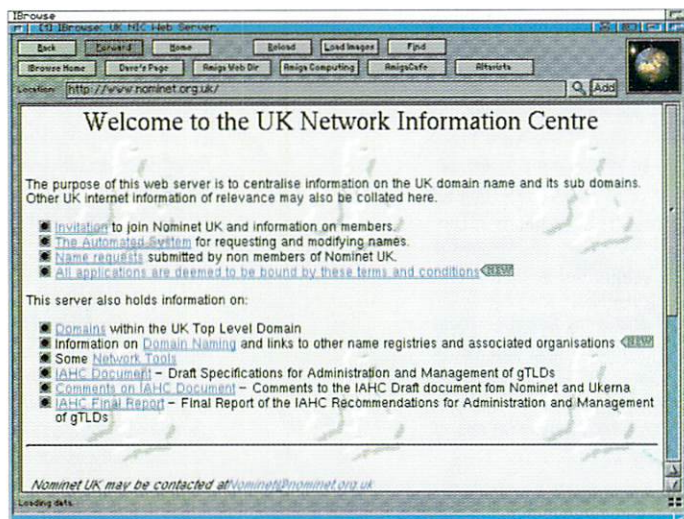
The Web is no exception nowadays, with all manner of companies falling over themselves to establish fancy sites. For most businesses, a snappy URL is seen as an integral part of the package. However, purchasing a domain name for your company, or even for personal use, is no longer as simple a matter as it once was.

In the UK, registering a domain name is a matter of approaching Nominet, the private company responsible for allocating names, either personally or via another company. In the USA people have to apply to InterNIC for a domain name through a contracted company called Network Solutions Inc.

Of course, the name being registered can be of great importance. Many companies like to be seen as being international, so a domain name ending in .com is a more attractive option than, for instance, .co.uk. This can create problems, because InterNIC has often been criticised for handing out certain domain names, and especially .com ones, with a certain degree of randomness and unfairness.

To begin with, the InterNIC policy was always to simply issue any given domain name to the first person who asked for it. Thus major international players such as McDonalds and Harrods found themselves being beaten to their first choice of domain name by enterprising individuals searching either substantial profits or simple amusement. Nowadays it seems that anyone with a registered trademark that matches an existing domain name can simply waltz in and steal that domain name for themselves.

This new system suits the corporate big boys down to the ground, but smaller companies (and even some fairly large ones) are getting annoyed that their established domain names are being snatched away from them. British organisations as diverse as the Open University, Channel 4 and BT have been told by Network Solutions Inc (who, by



Nominet are
in charge of
dishing out
domain
names in the
UK

virtue of the fact that they allocate American domain names, have first say on all matters concerning "top level" domain names such as .com) that their domain names ought to be owned by certain American companies instead. Understandably these British groups do not want to have to change their established URL. This is partly through fear of potential lost business as people struggle to find a site they wish to visit, but principally because the .com domain name holds a great deal more prestige than the .co.uk alternatives - or even Nominet's newer .ltd.uk and .plc.uk names.

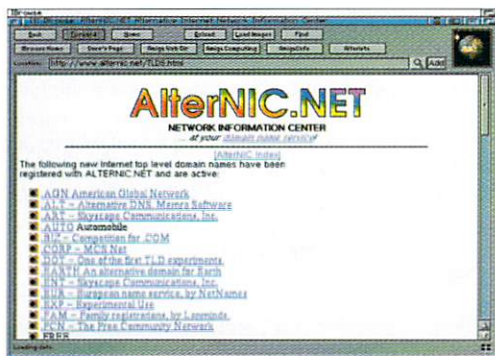
The confusion doesn't stop there. Some businesses are making a great deal of money buying domains such as, for instance, smith.com or jones.com, then selling them on to the highest bidder as their own personal domain. Some Americans have complained in the newsgroups that corporate bigwigs have even purchased domains named after their hometowns, with a view to selling fancy e-mail addresses along the lines of dave@macclesfield.com.

Name grabbing is not the only problem which national name allocation companies such as Nominet and Network Solutions are facing. Network Solutions announced in April that although there are around 1.1 million domain names in existence that end in .com, .org, .net, .edu or .gov, only about 54% of these have been paid for. Nevertheless, Network Solutions register around 85,000 domain names every month, and each one costs \$100 two own for two years. Network Solutions have therefore found several other companies proposing to sell alternative naming systems.

Under a new breakaway system called the Enhanced Domain Name Service, American busi-

nesses can now buy suffixes such as .web, .biz, .per and .auto through special name-issuing companies - though at the moment these are only accessible by around one in two hundred Internet users, because you can only view them on your machine if your ISP uses certain root-level servers. Further new domains including .store, .firm, .info and .arts have been proposed by a standards group called the International Ad Hoc Committee, but these proposals have of course been strongly opposed by Network Solutions and their existing rivals such as Online Image Design, who have been operating their own .web domain allocation service since August 1996.

Now some people, particularly Canadians it would seem, are even proposing multilingual domain names mapped to a single Web sites. Oh, what a tangled Web we weave.



AlterNIC are now offering a variety of
alternative top level domain names

SITES OF INTEREST

Nominet UK - <http://www.nominet.org.uk/>
Network Solutions - <http://www.netsol.com/>
InterNIC - <http://rs.internic.net/>
AlterNIC - <http://www.alternic.net/TLDS.html>

CONTACT

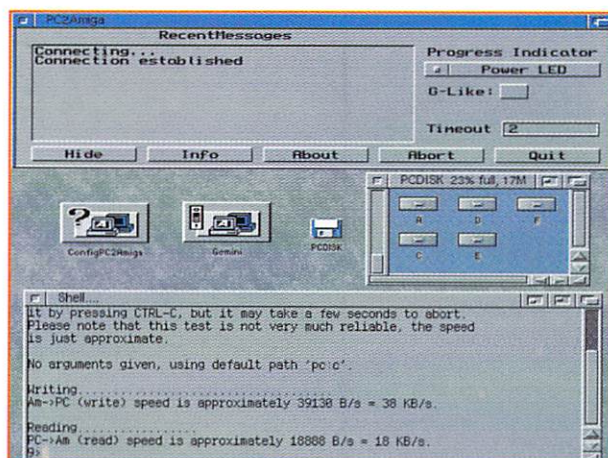
If you wish to contact me, my e-mail
address is dave@dcus.demon.co.uk.
Questions, suggestions and feedback
are all more than welcome. I also have
a homepage, which can be found at
<http://www.dcus.demon.co.uk/>.

Last month I looked at what is the ultimate in Amiga/PC integration, in the form of the Siamese system. However, at £200 for the Siamese alone and the additional cost of the SCSI network, it will be out of the price range of many people.

New from Intrinsic Computer Systems comes a way of sharing Amiga and PC files at a price we can all afford. The Gemini is a basic parallel port link between your Amiga and PC, the cable being in the package.

With this comes Amiga and PC software to handle the file transfer. On the Amiga the installer creates a new DOS driver that goes into the Storage drawer. If you want the Gemini system to automatically start up you

Getting from A
to PC has never
been so easy,
Neil Mohr
looks at a new
parallel transfer
system



Separated *at birth*

just move this to the DEVS:DOSDrivers drawer. The PC side involves dragging a drawer off the PC floppy to wherever you like.

Run the Gemini on both computers and, magically, a PCDisk icon appears on your Workbench where you will find all the drives connected to your PC, much the same as with the Siamese system.

In use, directory listings seem about as fast as a single speed CD drive, which is not too bad. In my tests copying a 512K file from the Amiga to PC took 15 seconds, this works out at around 34k/s. PC to Amiga transfer is a little slower working out at around 20k/s.

To put the figures in perspective that is a little over four times as fast as copying to the Amiga's floppy drive. In use, anything less than 100k is copied without you really noticing. For larger files it is reliable enough that you can go make a cup of tea or carry on doing something else on your computer.

The software itself is nicely done, with the file system being a commodity allowing control through Exchange or its own front end. Being a commodity, you can disable or quit the program at any time and this will automatically close down both the Amiga and PC software for you.

One thing that did occur to me was that PC floppy drives run at twice the speed of normal Amiga drives. So for A1200 users it would actually make sense to get the Gemini to use the PC floppy drive, so getting faster disk speed and easy access to a HD drive.

The problem is that as soon as I tried to

copy files over 100k, when around 95 per cent of the file had been copied the software came back with an error, that usually occurred when you aborted, and the file was actually all in one piece.

I would imagine the problem comes from the PC having to spend a little extra time after writing the file to verify it, and so the extra delay causes a time out delay in the Gemini software. The best results I could get were through reducing the time out delay, but even so the problem remained.

Looking at the other possibilities there is an Ethernet network that is going to set you back a couple of hundred and pinning down Amiga Ethernet cards is never an easy task, particularly the mysterious A1200 PC-Slot i-net card.

You could go for the Siamese system and a SCSI network, again this is going to cost in the hundreds of pounds. Lastly, you could go for a DIY serial system using terminal programs and Z-Modem to transfer files.

AMIGA-PC/ PC-AMIGA

Amiga - PC:	PC - Amiga:
512k 15secs	512k 25secs
2Mb/min	1.2Mb/min
34k/s	20k/s

Many people opt for the Zip drive solution but including the price of the SCSI controllers, you're still looking at a couple of hundred pounds. So considering the price of the Gemini, there really is no other low cost connection solution on the market.



Bottom line

REQUIREMENTS

RED essential **BLACK recommended**



PRODUCT DETAILS

Product	Gemini
Supplier	ICS
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Overall	93%

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Paul Overaa takes an excursion into the conventions he has found of most value....



Common People

In recent months those of you who visit my corner of AC's Website may have noticed that I've started including notes about the conventions I use when writing ARExx scripts. Of course not everyone is into the net surfing thing (nor perhaps wants to be) so I thought I'd spend this month not only sketching out the more important guidelines for the benefit of everyone else but also putting together an example that illustrates the conventions in context.

One fact which seems perfectly obvious when written down is that you're likely to make less mistakes when coding scripts if you make sure they're easy to read. All programmers have their own ideas on what constitutes an easy-to-read program but one thing I've found particularly helpful is the use of understandable names for variables. My choice is lowercase names with underscore characters to improve readability. For example, an ARExx statement which reads `loop_exit_flag=TRUE`, tells you much more than something like... `lef=1`.

Functions are next on the list and since these are intended to help split up your code into isolated logical units, I find it a good policy to use `/* - */` style comments to re-enforce that separation. And capitalising the first letter of each part of the function name, `ValidOption()`, `Length()` and so on pays dividends too. ARExx itself doesn't care about the capitalisation (function names, like variable names, are all treated as upper case anyway) but the above mentioned arrangement does seem to aid clarity. Take these two forms for example... `VALIDOPTION()` and `ValidOption()`. Presumably, like me, you'd agree that the second form is to be preferred!

Above all make sure the name tells you something about what the function does - it may seem all very clever at the time to create a function called `WhatADayForADaydream()` but six months later it's going to be you who is sitting there wondering what the hell that function does!

NUMBERS CONSTANTS

Most programmers agree that eliminating number constants (often called 'magic numbers' because their real meaning inevitably becomes lost with the passage of time) and static text is wise. Unfortunately ARExx doesn't provide much direct help in either of these areas but it is possible to set up 'pseudo constant' values by loading values into variables which are then subsequently never altered. My preference is to define uppercase names near the start of a program because this makes items easy to find. And because symbolic names, rather than the underlying numerical or text definitions them-

```

return
/* -----
DoCalculation:
arg x,y,choice
select
    when choice=1 then result=x+y
    when choice=2 then result=x-y
    when choice=3 then result=x*y
    when choice=4 then result=x/y
    otherwise result=BAD_OPTION
end
return result
/* -----
LINE: 102 FILE:
Text entry mode. P
F1
>rx example
1 add two numbers together
2 subtract two numbers
3 multiply two numbers
4 divide two numbers
5 quit the program
6 please choose an option 1-5
7
8 please enter first number
9
10 please enter the second number
11
12 The answer is 29
13 please choose an option 1-5

```

Predefined numbers and text, routine separation, indentation - this month's coverdisk example has it all!

selves, are used, scripts almost automatically becomes easier to understand.

There is, incidentally, a good case (particularly with larger programs) for eliminating all text messages from the bulk of your code. If, for instance, you set up this definition:

```
BAD_OPTION = 'sorry - you made a wrong menu choice'
```

within the main sections of the program the appropriate error message can be displayed using:

```
say BAD_OPTION
```

Equally important is the fact that the message, which may actually get used in a number of different code areas of the script, is now defined in a single place. Any changes made to the initial definition would, therefore, result in that modification automatically being used throughout the program!

COMMENTING

To make it easier to see the parts of loops and sets of statements enclosed by DO/END markers you've probably noticed that I indent (ie shift to the right) the 'guts' of the associated code like this:

```

do
    if choice>0 & choice<6 then call
ValidOption()
    else call InvalidOption()
end

```

It doesn't affect how the code runs at all - but it does help make the fact stand out that a loop, DO/END markers and so on, is being used. Again I think it's a convention that's worth adopting!

All ARExx programs have to start with a comment line so there's a good chance that there will at least be a program name at the start of your scripts. But why stop there? - additional comments can make a world of difference to a program's understandability - see Listing 1. You may understand a piece of code when you write it, but it's amazing how code tricks, which seemed perfectly obvious when written, appear to lose their 'inherent obviousness' as time goes on.

So, as far as conventions are concerned that's about it, with the aim simply being to adopt guidelines which are easily usable. Luckily for the most part, all that's really needed is a little common sense and consistency and, if you take a look at this month's coverdisk code, you'll see exactly how the various conventions I've discussed fit together in practice!

```

/* myscript.rexx */
/* Prepared June 96 */
/* This script is intended to be used with the
Wordworth word-processor. */
/* It reads a marked block of text and converts
all imperial measurements */
/* contained in the block into metric form. */

```

Listing 1: A few notes like this at the start of a script can serve as a useful reminder of what the code actually does!

Neil Mohr
continues his
series, unveiling
more of the
mysteries of HTML



I Love lots of text

Continuing from where I left off last month, you should now be aware of what is required in setting up a really basic Web page. More importantly you should know how and why the HTML tags you used do what they do.

As I was saying last month it does not matter how you lay text out in the Web document, the only formatting that will be done is when you use a formatting HTML tag such as `<BR>` or `<P>`, that adds a return or a new paragraph.

Another formatting tag I mentioned was the heading tag `<H1>` this is actually one of the six possible heading sizes. So the real form of the heading tag is `<Hx>`, where the x can be a number from one to six, with one being the largest and six being the smallest. To actually pick out the text that you want as a heading, the text has to be 'enclosed' in the start tag `<Hx>` and the accompanying close tag `</Hx>`.

Last month I told you that many HTML tags come in this form, where the text effected by the tag is enclosed with a start and end tag. The end tag being the same as the start but with a forward slash added.

Another useful group of text formatting tags are the list tags. These allow you to set up a list of items that have bullet points next to them, perfect for contents listings or if you want to highlight a few distinct points.

In HTML there are two types of lists: Ordered and unordered. This simply refers to whether the list should use numbers or bullet points. Whichever type you choose, all the list points have to be contained in the start and finish list tags. Either `<UL></UL>` for an unordered list, or `<OL></OL>` for an ordered list. To mark each list item use the `<LI>` tag at the start of the text.

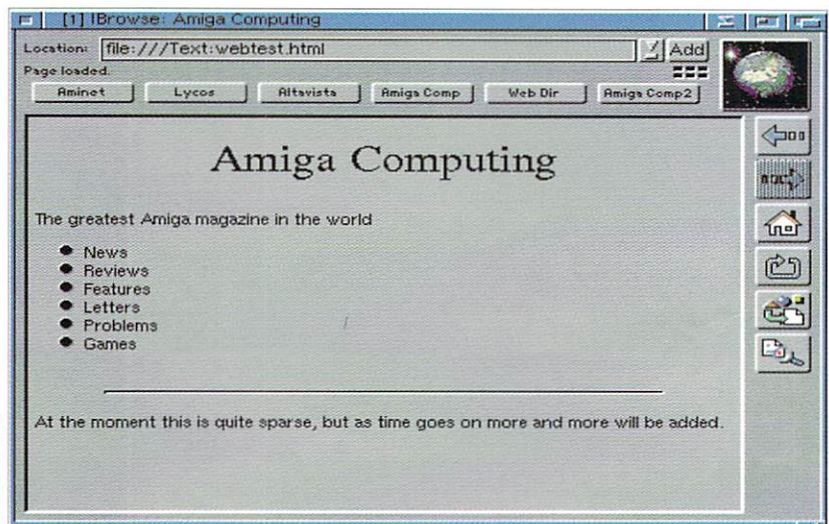
```
<ul>
  <li>point one
  <li>point two
  <li>last point
</ul>

<ol>
  <li>good hey?
  <li>the list did
  <li>the number for me
</ol>
```

A final point is that lists can be nested so you can have a list in a list, in a list. Using this ability and an attribute that allows you to change the type of 'numbering' the list uses, you can create a good content-style listing.

As standard, the ordered list uses numbers, but you can tell the list to use either letters or Roman numerals instead. Setting the **type** attribute to either A/a or I/i you can use either letters or Roman numerals in upper or lower

*As you learn
more HTML tags
your pages
will slowly begin
to look better
and better*



case. This short example illustrates a good use of this.

```
<ol>
  <li>Introduction
    <ol type = i>
      <li>preamble
      <li>intro
      <li>summary
    </ol>
  <li>Chapter 1
    <ol type = i>
      <li>intro
      <li>what' that
    </ol>
  <li>Chapter 2
</ol>
```

That pretty much wraps up the basic text formatting HTML commands, there are others but most are just variations on what I have already shown you. A tag worth noting is the `<FONT>` tag, this is one of the unofficial HTML tags introduced by Netscape but is supported by almost every browser so is worth a mention.

Using the **size** = attribute you can set the current font being used to any one of seven sizes, similar to the heading tag but more flexible.

As standard the default or base font size is three, this can be changed using `<BASEFONT SIZE=>` tag. Why would you want to do this? Well, you can set the font size as an incremental change from this base font size, such as `<font size = +2>` or `<font size = -1>`. This would allow you to design a Web page and if you wanted to increase or decrease the over all size of the font simply adjust the base font value, and the size will change for the entire Web page.

One final tag that it's advisable to know about is the horizontal rule, or `<HR>` tag. This simply puts a horizontal line across the Web browser at the point the tag is. The tag can take two attributes **width** and **size**. These define the width and thickness of the bar in pixels. The width can also be specified as a percentage width of the browser window.

I'VE GOT NO STYLE

It is a sad fact, and I'm sure our production editor will agree, that I have no style, but HTML does, tons of the stuff, all over the place. Style tags here, style tags there, style tags bloody everywhere. Certain things apply generally to style tags, one thing being most tags have an ending tag such as `</BODY>`, another is that many style tags have additional attributes that can be applied to the way they work.

For example, the paragraph `<P>` tag can have the **align** attribute added allowing you to have text in a certain paragraph aligned to the left, right or centre. You use the attribute, as

with every other attribute used in a tag like so:

```
<P align = right>
```

All the following text will be aligned to the right of the Web page. As you use HTML you will come across this attribute more and more, the align option is just one example but it is widely used by many style tags and will crop up a lot. One little thing that I have forgotten to mention so far is that HTML tags are not case insensitive, so you can write `<HiMl>` or `<html>` or `<HTML>` and it is all the same.

Paul Overaa gives an explanation of how floating point numbers are used



Playing The Numbers!

I've recently had a couple of emails from new 680x0 coders who have been having difficulty trying to use the mathfp library to perform floating point addition, subtraction, multiplication and division. In both cases the problems were related, not so much to use of the actual library functions themselves, but to the amiga.lib parameter passing issues.

The Amiga, as many of you will know, has several maths libraries available but basic maths functions can be handled by the routines present in the mathfp library which uses a floating point number format known as Motorola fast floating point (FFP). This library is opened like any other run-time library by loading a pointer to the library name in a1, the version number required into d0 and doing an Exec OpenLibrary() call. If you use a standard function call macro to do this the code will look something like that shown in Listing 1.

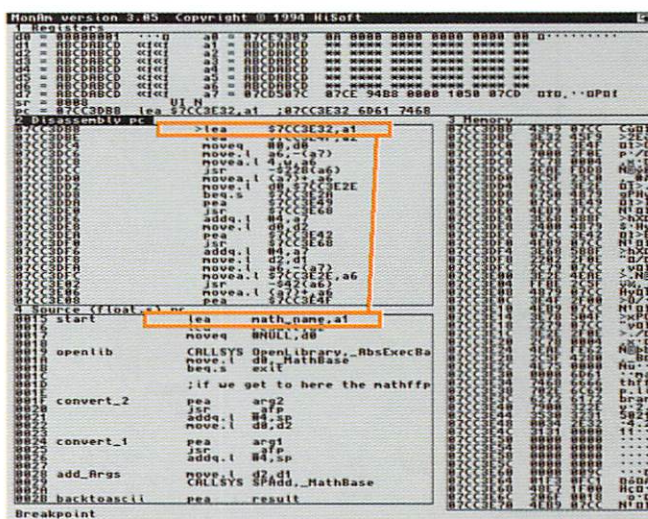
Using the library routines themselves is easy enough and all the available functions incidentally are documented both in the Libraries volume of the RKM manuals and in the autodocs provided with the official Amiga include files. From the mathfp library viewpoint parameters are passed using the appropriate 680x0 registers and to add two numbers together, for instance, you just load registers d0 and d1 with pointers to the two FFP arguments, make a SPAdd() function call and the result comes back in d0.

The general parameter requirements of the mathfp library are such that, with functions which require just a single argument, register d0 is used to hold the FFP input value. For functions that require two arguments register d1 is used to hold the first FFP value and d0 used to hold the second and in all cases the results come back in register d0 (so any argument originally stored in d0 will be lost).

You can, incidentally, use the microprocessor condition codes to check a number of result conditions. The Zero flag will be set if the result is zero, the Negative flag will be set if the result is negative, and the Overflow flag can be used to tell you whether the arguments or results caused the function to fail by overflowing (needless to say it's important to check this because overflow will usually mean that the results obtained are meaningless).

PARAMETER PASSING

While the mathfp library is ostensibly used in the same way as any other Amiga library, unfortunately there's a snag in that in order to use it you've got to get your numbers into FFP form in the first place. If you also wish to display the results, yet another step will be required because you'll need to convert the FFP numbers



Viewing both executable and source together using say the Devpac debugger should convince you that working with the mathfp library is no harder than any other once you've got the hang of converting the parameters to FFP form

```
start    lea     math_name,a1      pointer to lib name
         moveq  #0,d0             any version will do!
openlib  CALLSYS OpenLibrary,_AbsExecBase
         move.l d0,_MathBase
         beq     exit             save returned pointer
                                     quit - library not open
```

Listing 1: The Amiga maths libraries are opened like any other

back into ASCII form. One easy approach is to use the ASCII to FFP and FFP to ASCII conversion functions, afp() and fpa(), which are available in the amiga.lib linker library.

The bad news is that the functions have C language interfaces so you have to pass function parameters using the stack rather than in registers. This means pushing the parameters, making the appropriate amiga.lib function call, and then re-adjusting the stack so that any pushed values are effectively removed like this:

```
convert_1  pea     arg1           place arg1 on stack
           jsr     _afp           convert (arg1 now in d0)
           add.l   #4,sp          removed pushed arg1
```

This type of conversion needs to be done for all the arguments you are going to use so the code for, say, adding two numbers together is going to take the form shown in Listing 2. Obviously the amiga.lib parameter passing mechanism and associated conversion code will

follow the same basic plan no matter what mathfp functions are being used. To multiply two values together for example, all you'd need do is change the mathfp library SPAdd() reference to SPMul() which is the multiplication function. In other words the last two lines of the Listing 11 fragment would end up looking like...

```
mul_args  move.l  d2,d1           copy arg2 to d1
CALLSYS SP  Mul,_MathBase
           multiply d0 and d1 FFP numbers
```

All we need now is a nice simple example to put things in perspective and you'll find this on the cover disk. The code uses the mathfp.library to add a couple of floating point numbers together and if you assemble this, link it with amiga.lib and then run it under say the Devpac debugger you'll be able to see final floating point sum (provided in a normalised 'mantissa plus exponent' form) stored in the result string.

```
convert_2  pea     arg2           place arg2 on stack
           jsr     _afp           convert to FFP
           addq.l  #4,sp          remove pushed arg2
           move.l  d0,d2         arg2 in d2
convert_1  pea     arg1           place arg1 on stack
           jsr     _afp           convert (arg1 now in d0)
           add.l   #4,sp          removed pushed arg1
add_args  move.l  d2,d1           copy arg2 to d1
CALLSYS SP  Add,_MathBase       add d0 and d1 FFP numbers
```

Listing 2: Typical code for adding two numbers together

Continuing the C tutorials Paul Overaa prepares the ground for some Intuition programming...



Looping the loop

Since January we've looked at the mechanics of writing a compiled program and learnt a little about C functions, variables, variable types, arrays and pointers. Most of the examples have been printf() based although, in the last issue, things got a little closer to the Amiga as we opened our first window. You'll remember, however, that I deliberately steered clear of Intuition's message handling and made use of the dos library's Delay() function to control the amount of time the window appeared on the screen.

For a first example, this approach was fair enough but, with the C page now set to continue, it's going to be possible to move into Intuition programming in the real sense. In order to understand how Intuition messages are handled though you need a reasonable understanding of C's while and do-while loops so this is what we're concentrating on this month.

These loops allow you to repeatedly execute a particular statement, or code section, for as long as a specified condition remains true (ie is non-zero). With Intuition programs, for example, an event handling loop would be used to continually collect and process the messages that occur whenever gadgets, menus etc., are used. As far as C is concerned the definition of a while loop looks like this:

```
while (expression)
statement
```

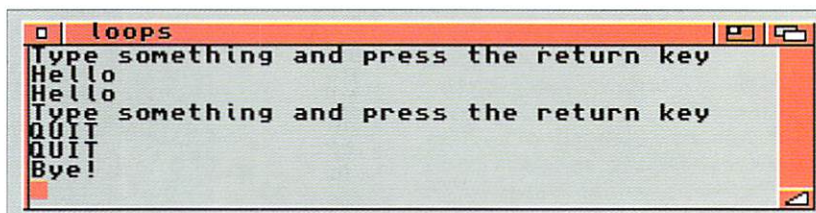
where the statement part may consist of either a single C statement or a block of statements enclosed between braces in this fashion:

```
while (expression)
{
    any number of statements
}
```

These loops are known as 'pre-test' forms because the condition which governs whether or not the loop contents are executed at all comes first. The thing to remember about this type of arrangement is that, if the test fails initially, the code inside the body of the loop will never be executed. For some purposes this may not be quite what is required so C also provides an alternative (post-test) construct called a do-while loop. As before braces are unnecessary if only a single statement is involved but the form that we'll be using is:

```
do
{
    any number of statements
} while (expression);
```

Here, because the exit condition test is made at the end of the loop, the body statements will



Understand how this month's example works and you should find the next instalment relatively easy!

always be executed at least once. Notice by the way that, unlike while loops, C's syntax rules are such that with do-while loops a semicolon must follow the terminal 'while' expression.

PIECES

Listing 1 shows an example that lets you type a word or phrase at the keyboard and, each time the return key is pressed, the program re-displays whatever was typed. This type-display-type-display... scenario then continues until such time as you type the (upper case) word "QUIT".

How does it work? Two loops are being used: An outer do-while loop concerns itself only with comparing collected text strings and continues to repeat until such time as the designated exit string is detected. With languages such as Basic you'll doubtless know that text strings can be compared directly - this isn't possible with C and a standard library routine, strcmp(), has to be used instead (the function returns non-zero whenever the two specified strings are not equal).

Within the body of the outer do-while loop an ordinary while loop has the job of collecting user

input on a character-by-character basis. Key-presses are collected using another standard C library routine, getchar(), and formed into a conventional C string by placing the characters in an array.

During this time a counter variable (i) is used to keep track of where the next character should be placed. We do, of course, also need to be able to tell when the end of a particular line of typed input has been reached and this means checking for the linefeed character which occurs whenever the user hits the return key. I'm using a variable called input_available as a true/false indicator, setting it to a non-zero value (TRUE) to initially force our way into the inner loop and then changing the value to false as soon as a linefeed is detected (which then causes the inner loop to terminate).

I must tell you that there are far easier ways of writing a program like this but there's a particular reason for me choosing the pathway that I did. It's to do with the overall structure of the loops being used and Listing 2, which is a pseudo-code description of the Intuition event-handling loop that we'll be meeting next month, should give you a clue!

```
do {
    i=0; /* initialise each time we start collecting text */ input_available=TRUE;
    printf("SIGN_ON");
    while (input_available)
    {
        key=getchar();
        if(key==LINEFEED)
        {
            /* user has hit the Return key */ input_string[i]=NULL; input_available=FALSE;
        }
        else
        {
            /* add character to string */
            input_string[i]=(char)key;
            i=i+1; /* move to next position in string */
        }
        printf("%s\n",input_string); /* print current string */
    } while(strcmp(input_string,"QUIT"));
}
```

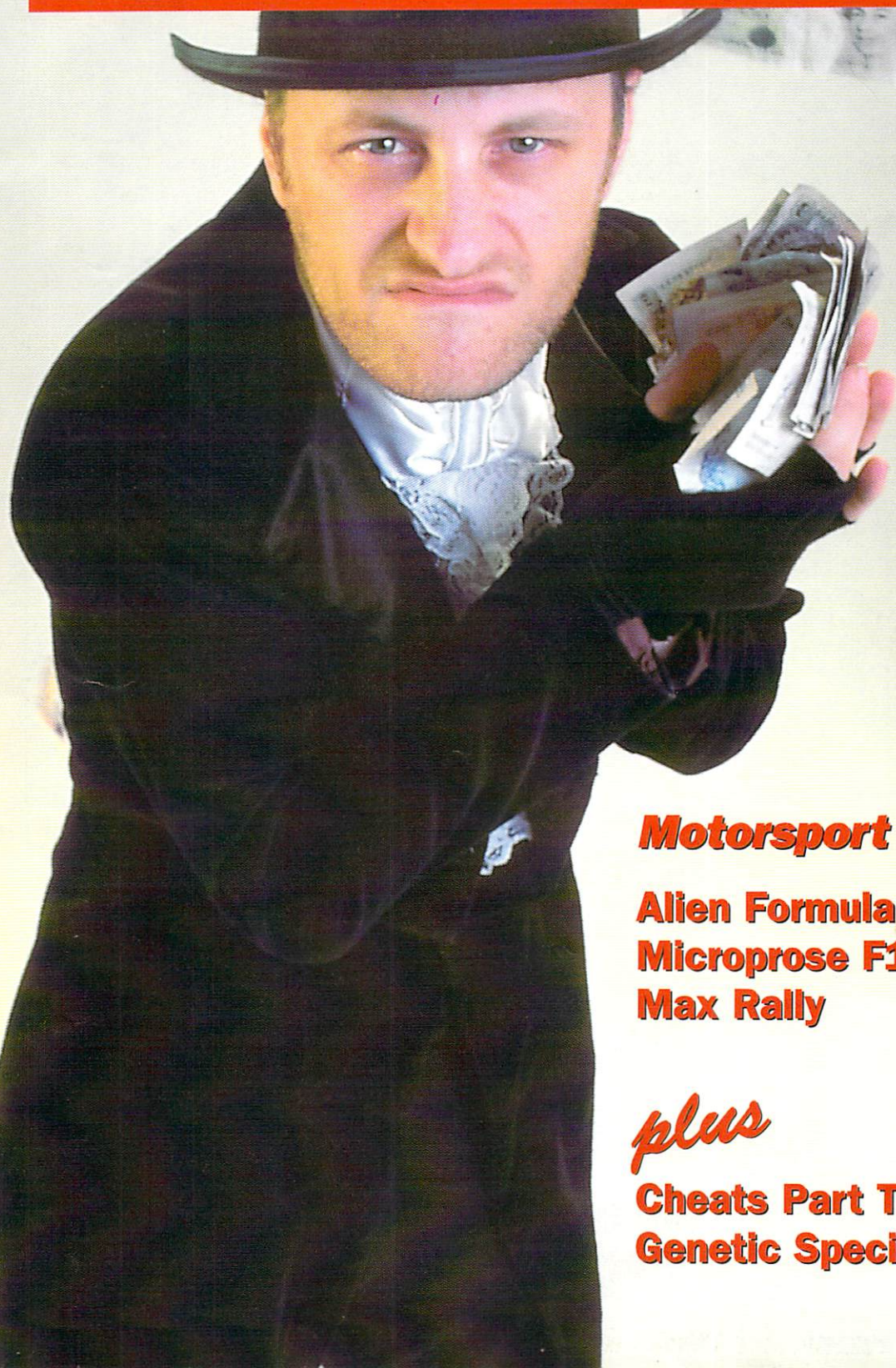
Listing 1: Believe it or not this loop arrangement isn't that far removed from the type needed to process Intuition messages

```
do {
    Wait to be signalled about one or more intuition events
    while (there are event messages that need to be dealt with)
    {
        collect event and do something with it
    }
} while (user has NOT indicated that they wish to quit);
```

Listing 2: A C-style pseudocode example of the Intuition event handling loop we'll be meeting next month

AMIGA ACTION

Eeee when I was a lad... Grandpa Jo's Classic Game



Motorsport Extravaganza

Alien Formula One

Microprose F1 Grand Prix

Max Rally

plus

Cheats Part Two

Genetic Species Preview

AMIGA ACTION

news

The prognosis is looking good Doctor. Judging by the number of excellent looking demos, previews and releases this month, the games situation for the Amiga is looking better than ever.

Hugh Poynton takes a look at the latest...

BRAIN KILLER

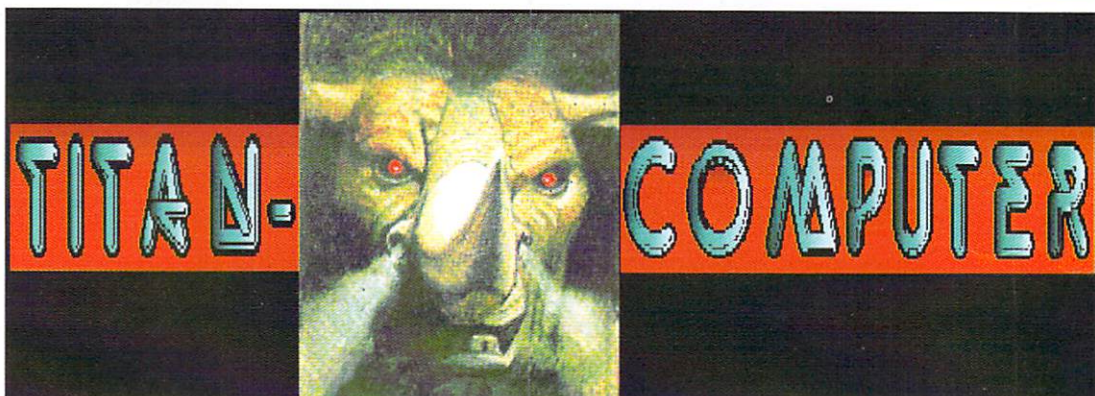
Duff name, decent game as it turns out. I had a nightmare vision that this game would be a sideways scrolling Manic Minor copy with appalling graphics. Fortunately I was wrong.

Brainkiller, a doom clone written by developers Titan Software, is a very impressive demo. It has you hunting about a series of tunnels attempting to find keys to escape the enemy troops and robots.

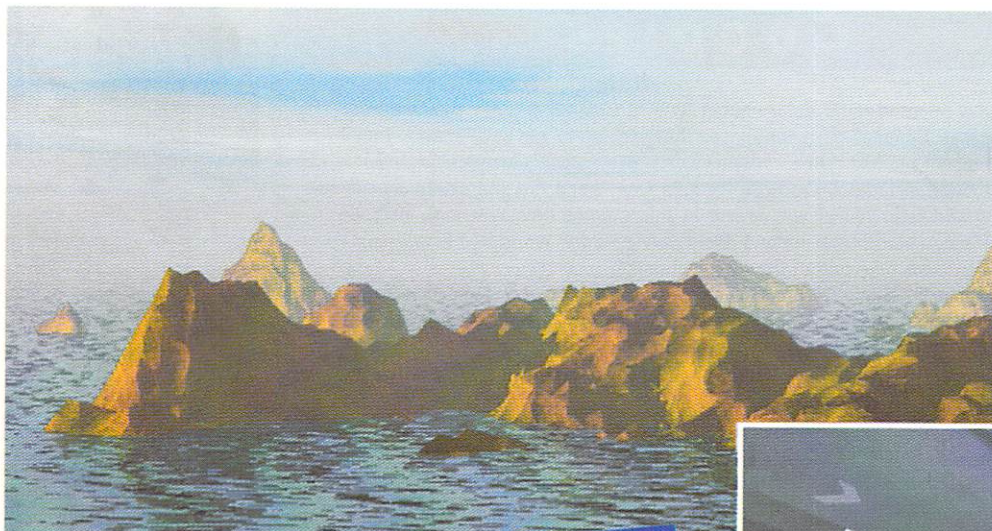
Although the game is still in its early stages there are some excellent touches to look out for. For a start, unlike most Amiga doom clones, you aren't limited to just guns and rocket launchers - you can use your fists, Marathon style, to lay down your opponents with some mean karate, or give 'em a good kicking with your Doc Martins.

I particularly like the way the enemy troops crouch down to shoot at you, just like they do in the movies. Another excellent addition is the rocket launcher animation where you can actually see your rocket in flight spinning towards your opponents.

Sound on the demo is pretty crap at the moment, but there is a feature I would like the developers to leave in - as the bad guys shoot at you, you can hear their bullets strike any surface near you. If you have Internet access, get hold of this demo at <http://www.vossnet.de/titanhb/>, if not, wait a while, I'm sure we'll be hearing from these guys.



SHADOW OF THE THIRD MOON



A while back we brought you news of a new game, provisionally entitled YSD, that was being developed by Italian designers, BlackBlade Software. Programmed with a revolutionary graphics engine and utilising an X-wing style story management system, the game promises to be an exotic and futuristic flight sim.

We've included some new screen shots so you can see how this impressive project is progressing. Shadow Of The Third Moon is set to be released on CD-Rom later this year. Have a look at Blake Blades Web site at: <http://www2.shiny.it/~yagg/>

TRAPPED 2

Oxyron Software has posted a demo of its forthcoming title, Trapped 2, on the Aminet. Trapped 2 is a 3D perspective, Doom-style dungeons and dragons game. Although the demo is restricted to one level, the full finished game will include 15 levels complete with sloping floors and stairs.

Graphically the game reminds me of a PC Internet game I once had a look at called Meridian 59. In this one demo alone there are a fair few pretty scary looking monster types, including oversized moths (bloody terrifying if you've got a big fat hairy moth phobia like me) and huge spiders.

Other graphic innovations in Trapped 2 include special fire routines, mirrors and lens flares. Perhaps not surprisingly, with all these graphic goodies included in the game, Trapped 2 will be CD-Rom only.



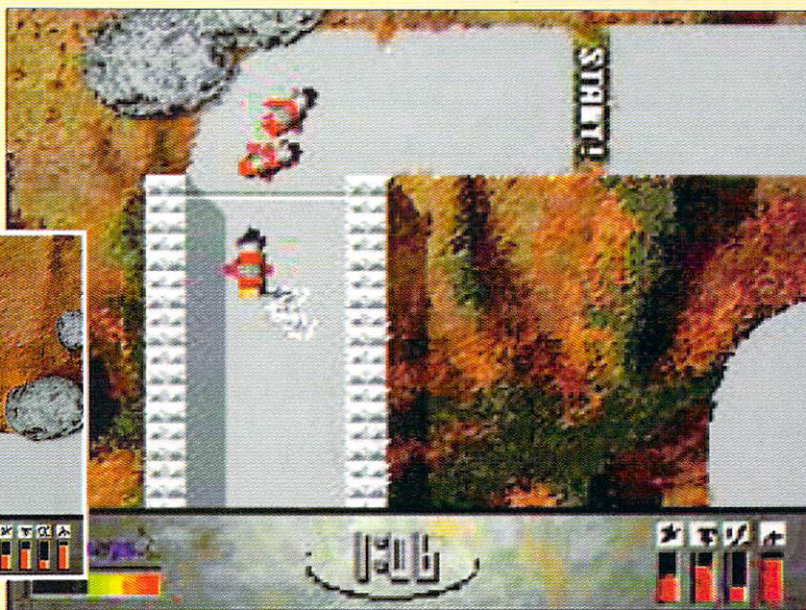
SKIMMERS

Software developer Team Mango is set to release a new overhead shoot 'em-up racer called Skimmers. Looking something like Burnout meets Micro Machines, the game involves racing around a track blowing up anybody or anything that gets in your way.

Set in the obligatory apocalyptic future, the game features four different types of vehicles, 25 different tracks and five terrain types. Throughout the game you will be able to upgrade your vehicle using the various add-ons available.

An interesting feature that Team Mango plans to include is the various modes. Two players will be able to play in death match or team mode and, if possible, a two player serial will be made available.

Skimmers is currently without a publisher but it's still early days...



ACTION REVIEW

ARCADE / ADVENTURE

Magic Castle Kingdoms

Gadzooks! Hugh Poynton takes a look at Mutation's new action puzzler

Magic Castle Kingdoms is the third title from Mutation Software's Fun 'n' Value series. Although this is only release number three, you kind of know what to expect - cartoon characters, green baddies and a new take on an old idea.

Tin Toy Adventure looked and played like a classic old platformer, Tommy Gun resembled Terminator but with vegetables and this new addition harks back to the old wizards and warlocks, find the five gemstones type games you'd have found on the Speccy or Vic 20.

Graphics apart, the game resembles something I had on the Vic when I was knee high to an action man. An evil sorcerer has split a magic amulet into five pieces and spread them about the land. Unless you retrieve the five pieces, the land will be plunged into darkness and will be ravaged by wizards for eternity, or something along those lines. Your job is to retrieve the talisman and save the land. You shoot round maze-like castles, pick up keys, unlock doors and slay the little green bad guys.

So what's the game actually like? Well, I hate to say it, but slightly disappointing really. This magic stuff can get a little tedious sometimes, and this is one of those times. The storyline and plot are just

too unoriginal. Tommy Gun was genuinely funny and quite amusing, but this just doesn't ring my bell.

Graphically, Magic Castle Kingdoms is something of a curate's egg. On the downside, the sprites are so small that playing the game gave me a ringing headache after a few minutes. Another criticism is that the monsters definitely look a little cack, the scariest ones look like they've escaped from a Doctor Who episode entitled Attack of the Unscary Monsters. The castle layouts also look a little boring - if you look at the play arena in The Chaos Engine, for example, there are plenty of rooms to duck into and escape your opponents - not so in Magic Castle Kingdoms.

On the plus side, having to control five sprites

simultaneously is quite a challenge. As each character's health runs out you

must flip between them to enable those with less health to munch up the health powerups. Having said this, you'd probably find it less hassle to look after one character only - played like this your magical companions irritate the crap out of you. They follow the lead character around like some mentally handicapped clutch of chickens walking headlong into monsters and generally either getting in your way or getting themselves killed. This game could well have benefited from being made a multiplayer game in the vein of the old Golden Axe. Instead of the characters getting in each others way you could co-operate to complete the mission.

This game might well appeal to some - especially those with a predilection for retro gaming. It's a well made arcade puzzler, and for £14.99, not a bad game. Just not brilliant.



Your intrepid band



Retrieves Amulets from 5 Castles



Your intrepid band (dead)

THE LOW-DOWN

PUBLISHER MUTATION
DEVELOPER MUTATION
HD INSTALLABLE NO
PRICE £14.99
SUPPORTS All Amiga

GRAPHICS	65%
SOUND	55%
PLAYABILITY	65%
DIFFICULTY	Tricky

OVERALL SCORE

62%

ACTION PREVIEW

ARCADE

Max Rally

Hugh Poynton takes a look at Fortress' new overhead racer

Max Rally is the debut title from Wolverhampton based Amiga games developer, Fortress. It has been working on the overhead racing game for quite a few months now and should be releasing the finished game in June.

Judging from the demo version that Fortress sent us, the game is looking pretty good. Max Rally is an overhead racer in a similar vein to games such as Micro Machines, Overdrive and Roadkill. The overhead racing genre is admittedly quite an old style of racing game that could be accused of looking outdated compared with 3D and Isometric view racers. Despite this Max Rally however, looks quite polished and still manages to retain acres of gameplay.

Although it may look like a pretty harmless arcade racer, Max Rally is actually quite tricky to get the hang of. Don't get me wrong, the cars handle excellently, it does however really demand you to concentrate to keep your car cornering better than your expert computer controlled opponents.

The dynamics of the game are well thought out. The

track is very well designed and will take some getting used to - this track is pretty slippery and it is a real challenge turning your car just before you get to the corner so that it does one of those four wheel cornering skids that big American police cars do in the movies.

The futuristic metal racetrack that you can see in our screen shots requires you to avoid driving on the grids to either side, this will slow your car down, but only enough to

give the other cars a slight advantage.

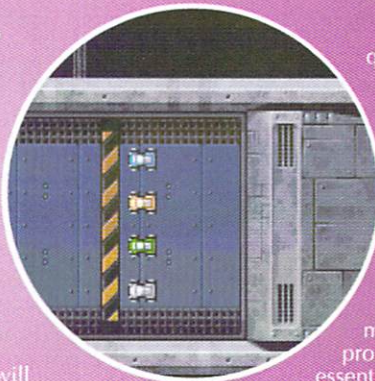
Keep on the metal and your car will gain a slight advantage over the others.

This makes cornering a tricky manoeuvre as squeezing in closer to the apex of a bend can drain your car of speed.

Also, even in these early stages it is possible to play dirty with the other cars. A



Down the straight



quick swipe as one is about to pass you will send him bounding into the track wall, giving you a few split seconds to race ahead.

The full game isn't due out until June so Fortress still has plenty of time to add to the game. The final version should boast six different character, 30 tracks and four terrain types. At the moment it's shaping up to be a promising racer with the all

essential playability factor. Fortress is

planning to retail the game at £14.99 - and at this price the game could do pretty well for itself. Anybody interested in contacting Fortress should write to John Kearny at:

63 Thorneycroft Lane
Fallings Park
Wolverhampton
West Midlands
WV10 0NF



Hugh corners perfectly...



...and not so perfectly

ACTION REVIEW

A - Z TIPS

Dirty Rotten Scoundrel's Cheat Page



I say, hello again. Its time to slot a Dunhill in your cigarette holder, mix another gin and tonic and peruse our alphabetical selection of cheats for your favourite games, old and new. This month, my hints and cheats cover games from E to L

EMPIRE STRIKES BACK

Are those pesky imperial chappies ruining your day? If so, give yourself infinite shields by holding the 'HELP' key and typing "XIFARGROTKEV".

Slightly less useful, but worth knowing anyway - press the number keys to play the sampled speech and press 'L', 'C', or 'D' to see some lovely digitised pictures.

EXOLON

A simple one this - go to the high score table and type in "ad astra" (you must type this in lower case for some reason) and you will be rewarded with infinite lives.

F-15 STRIKE EAGLE II

I used to be a fighter pilot y'know. Jolly good fun it was and very popular with the ladies. Anyway, let's get down to business.

Don't you just hate it when you're happily blasting away at the enemy and your ammunition runs out? In F15 II, take out a few more MiGs by restocking your ammo during play by pressing 'CTRL', 'ALT', and 'R'.

insert disk 2 and, as the drive light starts to flicker, hold down the LEFT and RIGHT MOUSE BUTTONS, the FIRE BUTTON, and the 'SPACE BAR'.

Keep hold until the drive light goes off. You should now be at the control room screen. Press fire to start and you will start with 99 lives.

FINAL FIGHT

Watch the introduction screen until one particular gentleman asks Mike Hagar to turn on the telly. When this happens, press the HELP button five times.

You will find that you are now immune to all the baddie's hits, kicks and acerbic remarks regarding your sexual orientation. By

F-117 STEALTH FIGHTER

Another solution to the old running-out-of ammo quandary is simply not to use any weapons. In F117 Stealth Fighter undertake a ground strike mission but don't put any ground weaponry on your plane - save it for air to air rockets and the like.

In flight, blow up targets by targeting them and pressing '7' and 'U' at the same time. The target should be destroyed in a bally big explosion.

F-19 STEALTH FIGHTER

Running out of fuel really can be something of a problem. Save yourself a bit of petrol by pressing 'ALT' and 'H', turning your plane upside down, switching your engines off and lifting the nose up to 10 degrees on the HUD. Hey presto, you will rise like a Harrods elevator.



pressing '+' you will be able to make all the gang members disappear and typing 'Sheriff Fatman' will give you infinite lives.

FIFA INTERNATIONAL SOCCER (CD32)

Now here's a little treat for those of you who actually bought a CD32. Slip these little beauties in via the joypad in the Options mode:

Y Y Y X A A A B	Invisible Walls
X A B Y Y B A X	Crazy Ball
B A R B Y L	Curve Ball
B A B B B B B B B	Super Kicks
A A A A Y Y Y Y Y	Super Goalie
A A B B Y Y X X	Dream Team
L L L L L R L	Super Defence
R R R R R L R	Super Offence



GLOOM

Is this excellent Doom clone causing you headaches? Well I've battled the monsters already and can tell you how to improve your gaming technique.

Like most Doom clones, there are secret rooms on every level that contain power ups, weapons and exciting gizmos. Look for patches of wall that look a slightly different texture or colour - this will be a door into one of these secret annexes.

Try and find the 'Defender' type video game machine that allows you to win extra lives. To kill all the green baddies simply fly to either the top right or left corner of the screen and blast away.

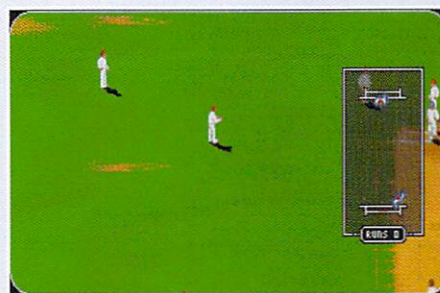
The more technically able amongst you can try this little cheat. Take a look at disk 2 of Gloom. In the directory 'misc.' you should find a file called 'script'. Using Crunchmania, or some similar utility, decompress this file. Load the file into a text editor and you will be able to edit the script so that you can start the game to begin at any level. After you've done this recrunch the file and play the game. I've seen easier cheats - this one's definitely a bit more of a challenge.

GOLDEN AXE

Quite a simple one this. To receive an extra three lives when battling skeleton warriors and the like, play in one player mode but have two joysticks connected to your Amiga. When your first three lives are used, press the fire button on joystick number two and, hey presto, you receive three more lives.

GRAHAM GOOCH'S WORLD CLASS CRICKET

'It's not whether you win that matters, it's how you play the game.' Absolute rot my



friends. Avoid social disgrace and embarrassment when playing World Class Cricket (or Brian Lara's WC Cricket which is, in effect, the same game).

This cheat takes advantage of a peculiar little bug in the game. When the pause button is pressed, only the fielders get frozen - the batsman will still be able to move. Now play the game for a while as if the fielders weren't there and chalk up a huge score. When your score is high enough simply press 'P' to unpause the game.

If, for some reason, you aren't ready to receive the ball being bowled to you, just press the spacebar twice.

HEIMDALL

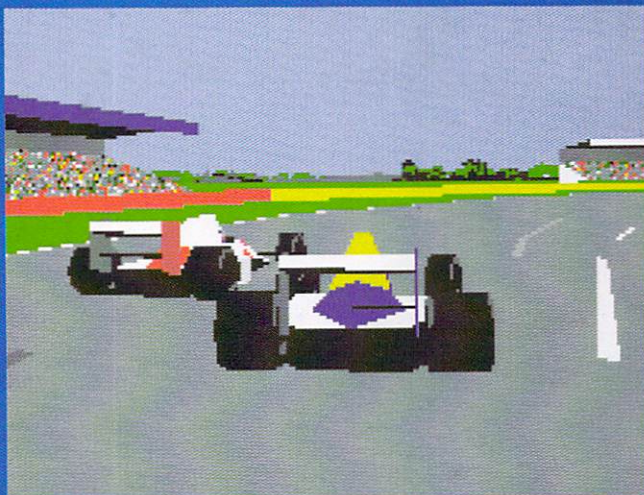
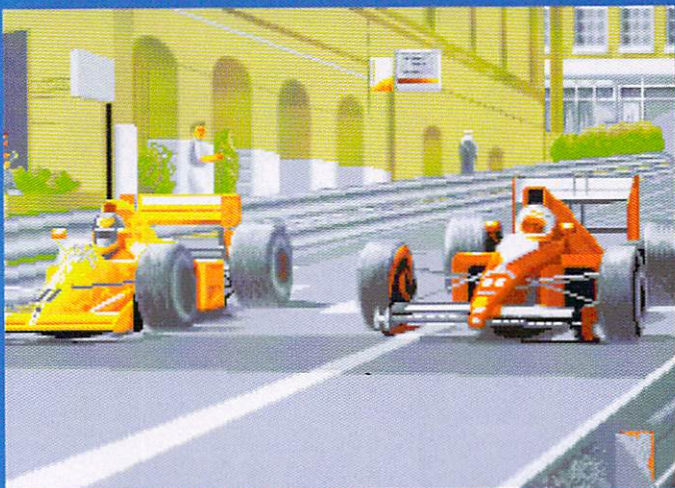
Don't you just hate it when you get a whopping great score and reach a really high level only to run out of lives and realise that you didn't save the game? Luckily I've discovered a little cheat that should stop this happening when playing Heimdall.

If you've just 'gone for a burton' and you want to restore your weapons, magic and crew members but you didn't save the game, just follow these simple instructions. Go to

FORMULA ONE GRAND PRIX

I say, isn't that useful? We've just reviewed this game. Now use this little tip and you'll won't lose any more races or waste valuable time in nasty crashes.

To avoid crashes follow these instructions. Firstly go to the pits, escape from the game and go to accelerate time. This should now finish the grand prix in pole position. After your first lap drive into



the pits and hold down the keys that make up the word "PALIR" and press the fire button (you will need rather large hands my dear).

To win a non-championship race keep driving until the last lap. Enter the pits and drive to your pit-crew. Wait for the message "Race over" and Bob's your uncle. Congratulate yourself by laughing a loud dastardly laugh and twiddling your moustache.

the 'save game' option at the beginning of the game. When you are told to insert your saved game disk, click 'no'. Hey presto, everything will appear as it was shortly before you shuffled your mortal coil.

HOLLYWOOD POKER PRO

Those grubby minded little pervs amongst you can try this little cheat. Hold down 'H' and 'F9' at the same time and 100 credits will go from your busty opponent's account to your own. Do this as many times as you like and the lady could end up looking quite indecent.

INDIANAPOLIS 500

Do you want to create the perfect car for the Indianapolis 500? It'll be a tricky blighter but here's how you do it. First, pick a Lona/Buick. Select the fourth gear up from the middle for the front and fifth up from middle at the back. Don't change the stagger but put a hard rubber tyre on the right front wheel, medium on the right back, soft on the left front and soft on the left back. For the spoiler camber pick 0.50 for the right front, +.25 for the right back, +.25 for the left front and +1 for the left back (remember the car is racing around an oval so the settings will not be same on both sides).

Make sure the tyre pressure is set at 25 and that the shocks are both at bottom.

Finally ensure that the two levers on the dash are pushed forwards.

ISHAR 3

Here's another cheat for the supple fingered amongst you. On Ishar 3 press and hold 'CTRL', 'ALT', 'V' with the mouse pointer completely to the left of the screen, and press the left mouse button. You will find that your life points are restored to maximum.

JAGUAR XJ220

I cheat every time when it comes to motor racing. I remember that London to Brighton race years ago when I hid in a bush and switched the road signs about. Jolly good fun! On Jaguar XJ220 beat the best of the rest by doing the following.

When you are told to start your engines, press the fire button. When you are told to 'Go!', press the Pause button to freeze the game. Press the button again immediately. You should finish the game with the fastest lap time.

To achieve record breaking lap times simply fiddle with the radio. Select radio mode on the CD player and tune it to 065.4. Before you know it you'll be breaking track records left, right and centre.

For all you mad speed demons out there, try this quite pointless cheat. On the sound selection screen choose 'sound effects' and

pick radio. Whether by accident or design, this makes the scenery shoot past at twice the normal speed whilst your actual speed remains the same.

JIMMY 'WHIRLWIND' WHITE'S SNOOKER FUN

Want to see how to take perfect shots? Well pay attention as the computer pots balls left right and centre. During play, press 'F7', 'F4', and 'F1' simultaneously. You'll hear a double clicking noise to let you know you've activated the cheat.

Exit to the main menu mode and, from here, select demo mode. An option will appear 'Do a 147 break'. Select this and the computer will play perfectly allowing you to see just how it should be done.

When all the red balls are potted, choose the colour of the next ball to hit the pocket by pressing:

'2'	YELLOW
'3'	GREEN
'4'	BROWN
'5'	BLUE
'6'	PINK
'7'	BLACK

KICK OFF

By holding down the fire button whilst an opposing player is taking a shot you'll block him and he won't score a goal.

IMPOSSIBLE MISSION 2025

Try these level codes to get your intrepid secret agents as far into the evil scoundrel's secret base as possible:

LEVEL 1

Section 1 "AAAAAAA"
Section 2 "ETQCWXLB"
Section 3 "EXQBEXYP"

LEVEL 2

Section 1 "FBQBRXYH"
Section 2 "FFQBYXRL"
Section 3 "FJQHMXPH"

LEVEL 3

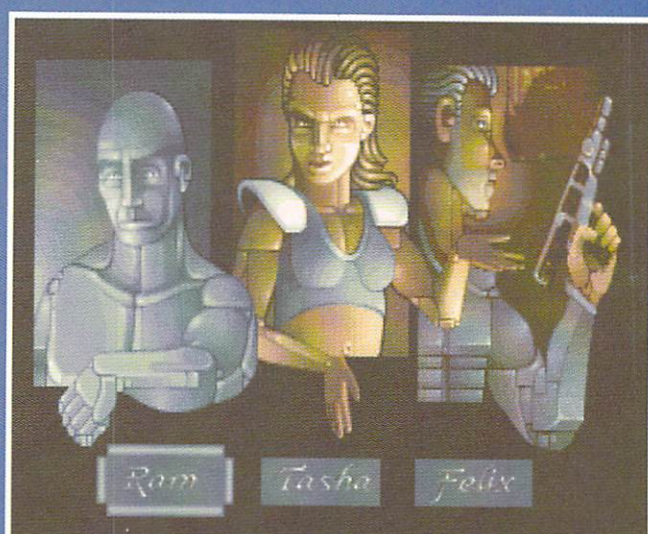
Section 1 "FNQERXAO"
Section 2 "FRQDRXWH"
Section 3 "FUQZNXL"

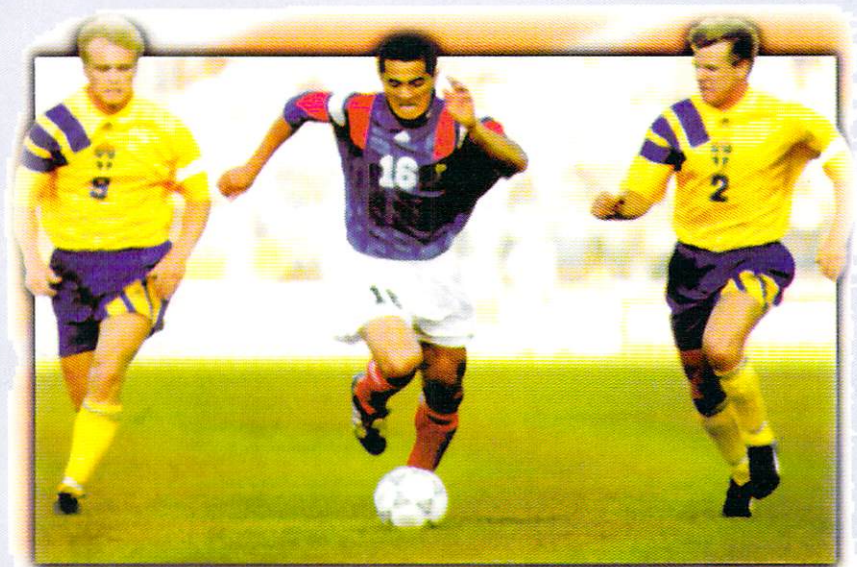
LEVEL 4

Section 1 "FZQAXXUA"
Section 2 "GDQLWXIJ"
Section 3 "GHQLVXVJ"

LEVEL 5

Section 1 "GIQCOXRG"
Section 2 "GLQZGXCJ"
Section 3 "GQQBJXOF"





KICK OFF 2

By repeatedly pressing the 'R' key when you take a penalty you should be able to see where your ball is going to go.

One dastardly cheat that I particularly like is to press all the function keys from left to right - "S12" or "S14" should appear in the top right hand corner of the screen. This will allow you to substitute the computer's goalie - the sub will absolutely hopeless. By substituting the goalie twice he won't even save your shots at goal.

League Tables									
		P	H	A	D	OF	GA	PTS	
Arsenal	COM	0	0	0	0	0	0	0	
Aston Villa (G)	COM	0	0	0	0	0	0	0	
Blackburn	COM	0	0	0	0	0	0	0	
Chelsea	COM	0	0	0	0	0	0	0	
Coventry City	COM	0	0	0	0	0	0	0	
Everton	COM	0	0	0	0	0	0	0	
Leeds United (G)	COM	0	0	0	0	0	0	0	
Liverpool	COM	0	0	0	0	0	0	0	
Next Match:	Aston Villa VS Leeds United								
Last Match:									
Play	Predict	Match	Next						
Want to train menu									
Squad A Squad B									

LEISURE SUIT LARRY

I have something of a soft spot for this game. Obviously, Larry isn't as good with the laydees as I am but I'll forgive him that. For anybody out there who still has the classic original Leisure Suit Larry here are a few pointers on how to get past some of those annoying little obstacles.

If, at any point you are asked for proof of age simply press 'Alt' and 'X' and you'll get in to whichever sleazy establishment your try. You can also change your location in the game by holding down 'ALT' and 'D'. You will be asked for a number, so enter any between 008 and 045 (you must enter the number as a three digit number with the '0' prefix).

By following these little hints you should be able to complete the game. Firstly, enter

the sleazy looking bar at the start of the game and make your way to the bathroom. Whilst there read all the graffiti on the walls. Do this enough times and you will find the password. Go to the sink and get the ring lying at the bottom. After doing this, walk to the bar and buy a whiskey. Take the whiskey to the drunk in the corridor (you'll have to give him a hefty kick to wake him up). In exchange he'll give you a remote control and a rose.

Still with me? Well then, walk to the big door by the side of the bar and knock. You'll be asked for a password - give the password you picked up in the WC - 'Ken sent me'. The big bouncer chap will keep you waiting for ages unless you use the remote control to flick through the large TV in the corner. Find a channel he likes and he should fall asleep. After this make your way up the stairs.

There you may your wicked way with the, ahem, 'Lady of the Night', but make sure you use protection or quite ghastly things may happen. For some weird reason you'll need the candy on the bench outside, whilst trying to get it you'll fall off the fire

escape into a dumper truck - search the truck until you find a hammer. Once you've done this get out of the truck and head left - now hail a cab.

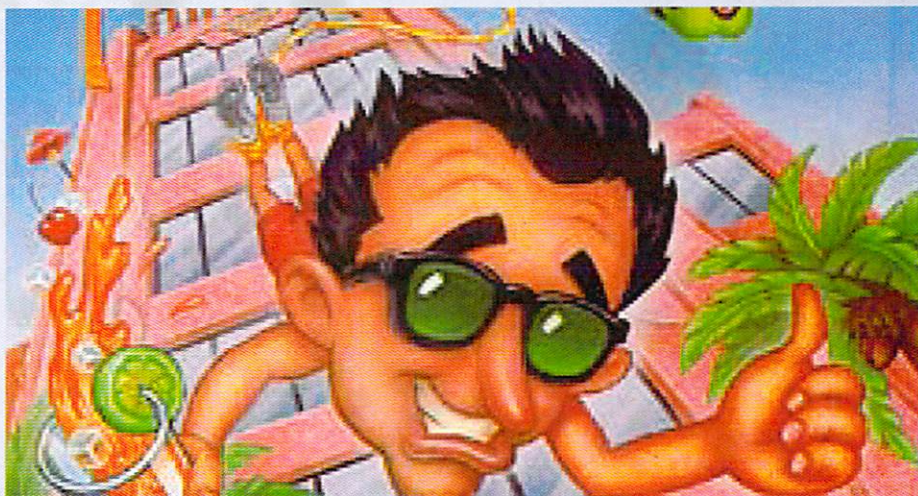
Take the cab to the casino, once there go through to the lobby. Retrieve the card from the ashtray and gamble until you've got about 250 dollars. Leave the casino and purchase an apple of the poor unfortunate dressed in a barrel. Now call a cab. Go to the store and buy some more, ahem protection, a magazine and some cheap wine. Give the wine to a mean looking brute outside the shop. You should also find a knife - pick it up.

Now go to the disco. Use the card pass you found earlier to get in. Sit down at a table with a young lovely, give her the rose, the candy and the ring you found earlier as a token of your luvrve. Ask her to dance and then ask for her hand in marriage. She'll ask you for a \$100 - once you've done this go to the chapel, enter it and type 'marry'.

Now celebrate your honeymoon at the hotel. Although your lady wife won't feel up to any ahem, bedroom action, so listen to the radio. This should give you a number

for a delivery service. Run to the casino and win enough money for the wine your lady wife wants. Get the wine delivered to your suite, return and your things should run their course. The unfortunate outcome of this will be that you are tied to the bed and your 'wife' will have disappeared.

After using the knife to free yourself, go to the casino and win another \$50. Now run back to the 'House of Ill Repute' near the bar and comfort yourself in the arms of the 'Lady of the Night'. Once you have done this use the rope you collected earlier to dangle from the balcony and collect some pills from a ledge. Dash back to the hotel, make your way to the 8th floor and give the pills to the receptionist. She'll zoom off leaving the desk unguarded. Enter the doors to the right and you'll find a young lovely in a hot tub. Hey presto, our promiscuous Romeo will have found true love and the game will be completed.



ACTION PREVIEW

SHOOT 'EM-UP

Genetic Species

Hugh Poynton straps on his plasma rifle and takes a peek at Vulcan's up and coming new blast 'em-up



Last time he asks for a light...

Vulcan Software's new 3Mb demo for Genetic Species shows quite how far this already impressive game has progressed in the last few months. When Genetic Species first came to our attention back in January, we were impressed with the excellent, crisp graphics, especially considering that the game was put together by a small development team - Ambrosia.

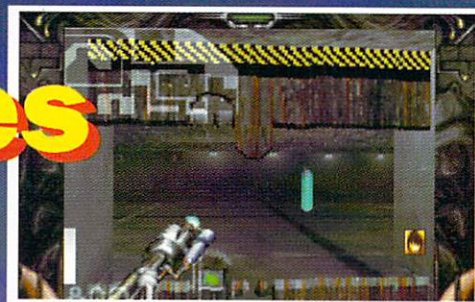
Four months after being signed up with Vulcan, Genetic Species looks even better, with some touches and features that would put a PC title to shame.

Unlike most Amiga Doom clones, Genetic Species offers an unrivalled range of

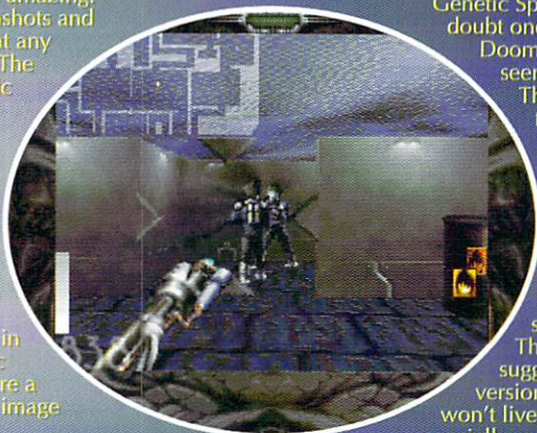
movements and freedom. Crouching, side-stepping and the ability to look behind you whilst running are all incorporated into the game.

The graphics are excellent. Many of the mazes and passageways are hidden in gloom, the walls and floors are beautifully textured and the weapons are amazing. Genetic Species' gunshots and explosions easily beat any I've seen on the PC. The dynamics and graphic representation of a sheet of flame pouring from the nozzle of a flame-thrower look amazing. After letting off a blast from the flame thrower, the flame will curl towards the ceiling and dissipate in a remarkably realistic fashion. When you fire a laser, the laser bolt's image reflects off the wall.

The surroundings also look pretty good. The design of the man-made sections of the play arena look as you might expect - full of shiny metal walls and rusty looking blast doors. However, as you wonder into the alien hatching area the look changes - the walls are organic brown and no longer straight and level but curved, almost like a warren.



Why doesn't anybody make a 3D shoot 'em up with colourful decor?



Soundwise the game is a peach. Doors clank open with an eerie resonance, gunshots sound like you've just wondered into Moss Side, and the games computer system was a weird slightly disturbing, Mariella Frostrup on tranquillisers voice - all in all they make a very atmospheric playing environment.

Genetic Species is without doubt one of the most able Doom 'em-ups I have seen on the Amiga.

The skills accrued from years of coding demos have definitely paid off here and all go to make Genetic Species, even in this early stage, a graphically superior game.

There's nothing to suggest that the full version of the game won't live up to the promise - especially as the final release

will be on CD.

If your interested in downloading this demo take a look at Vulcan's homepage at:
<http://www.vulcan.co.uk/>



The meanest weapon on the demo - the laser scissors...



Look at the excellent lighting effects as a laser bolt flies down the corridor

Grandpa Jo's **PART ONE** Classic Games

Grandpa Jo, Amiga Computing's resident old duffer, kicks off his series looking at classic Amiga games.

When I was a lad we had great computer games: Galaxians, Donkey Kong, Asteroids, they were all classics. You would have thought, in this day and age, we would be seeing the type of games that would make these pale in comparison. Well that just doesn't seem to be the case.

We seem to be at a point where everything has been done before, and the only way to look forwards is to look back. The simple fact is that when a good idea comes along, it lasts longer than a Yorkshire man's grudge. I'm bored in my retirement so I've decided to do a little detective work. Every month I will root out a classic games of yesteryear and have a look at the titles they've spawned on the machines of today and tomorrow.

Speedball/Riot

Back in my youth I'd spend hours playing away on this ultra violent actioner. The idea was simplicity itself. Take football, mix it with a little rugby, add in a liberal drop of somebody daring to call Grant Mitchell a puff, mix well together and, hey presto, you've got Speedball. The game takes place in a bare metal hall and only one rule applies - you've got to slam you chrome sphere in the back of the opposing team's net.

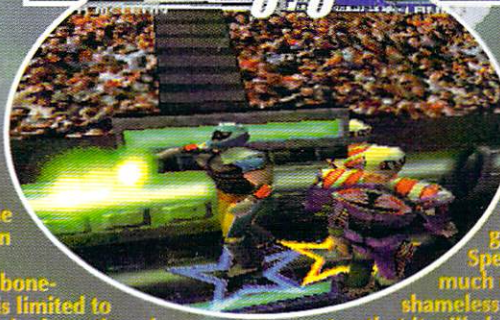
The graphics were good - especially for 1988 - and the mix of slick TV-style presentation between games and a smart overhead view with tonnes of metal fixtures made for an amazing looking game. You could train your team up through the

leagues, knockout and cup competitions. A two player option meant that a friend could participate in the mayhem. The game won Arcade Game of the Year, Best Original Game and even Best Soundtrack after making its debut.

Nearly a decade later, the game has once again surfaced, this time on the PlayStation and PC. The graphics look a hundred times better - it is designed with Pentium MMX machines in mind. The finer points of the game have been tweaked and tuned a little and now the action takes place in 3D.

The developer is different as well, accounting for the different name, but the concept is still there. You control a four man team that has to grab a plasma ball, charge it the appropriate colour and attempt to hit a scoring zone, while piling the enemy out of the way.

However, would you believe, apparently the game is about as hard as a Duncan Norville convention. The violence, rather than being bone-crunchingly wince-making is limited to a few effete looking slaps. It looks as though this conversion in particular is a victim of the old 'turn it 3D and it'll be OK' school of



thought prevalent in modern software firms.

For all its fancy graphics, Speedball was so much more shameless and over the top that it will always attract more fans and admirers than its PlayStation and PC counterpart.



ACTION REVIEW

SIMULATION

Microprose Formula One Grand Prix

**Gentleman start your engines.
Hugh Poynton takes Guildhall's
latest re-release for a spin**

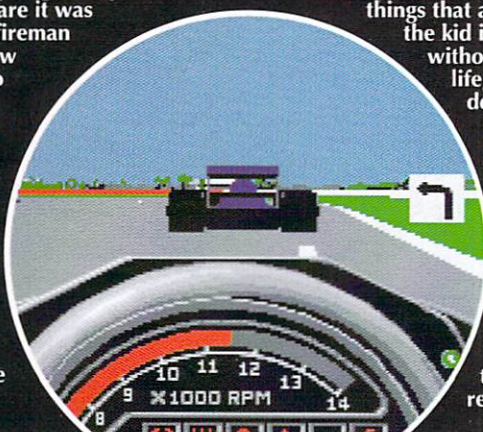
As a kid, when you were asked what you wanted to be when you grew up, what did you reply? Bets are it was either a spaceman, fireman or racing driver. How many actually got to achieve their ambition? My guess is that most opted for something a little more realistic. I wanted to be a helicopter pilot but unfortunately my vertigo and an irrational fear of spinny things killed my career before it had even begun. The beauty of computer

games is that you can have a taste of all those exciting things that appeal to the kid in all of us without risk to life, limb or dosh.

For all those frustrated racing drivers out there, Guildhall has kindly re-released Microprose's Formula One Grand Prix. Put simply, FIGP is a brilliant game. Although released back in 1991, the game seems remarkably modern.

Unlike a lot of race games at the time, FIGP's graphics were 3-D polygon based, rather than the old road with a car sprite sitting on top that constituted most games at the time.

The game is packed with excellent features. The cars can be configured exactly as you want them, the gears, spoilers, tyres and engine can all be tweaked and tuned and, particularly helpful for a dunce like me, the game can be made as easy as you like. By using the function keys across the top of the keyboard, you can have automatic braking, automatic gear change, no damage and best racing line displayed as you prefer. The great advantage of this is that you can make the game as realistic or arcade-like as you



Lined up on the grid



Ha ha, past the big girly la la



Another view of the back end of a car. Sorry

want.

By toggling all the help functions on, you can enjoy a good, fast hassle free race where your primary concern is butting all the other cars out and muscling your way to the front of the pack. If you want more of a simulation, take all the help features off and try your hand at being a proper Damon Hill (although nowadays emulating Damon Hill might not be a particularly good idea).

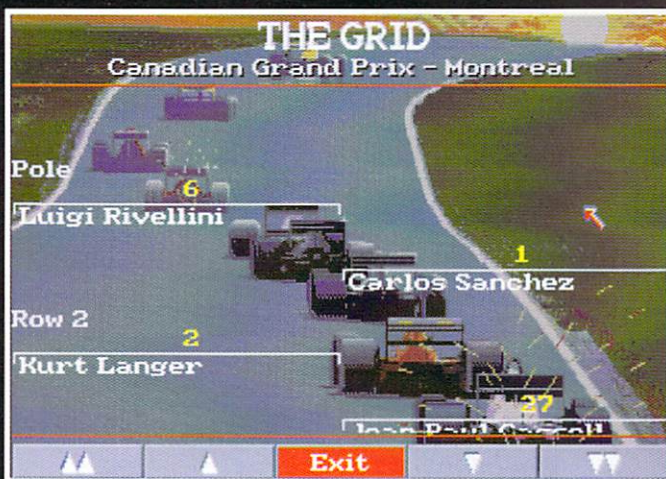
Graphically the game is brilliant. Although lacking the texture mapping that newer games (such as Alien F1) boast, the graphics still manage to cut the mustard. Touches such as skid marks on the track, debris flying from crashing cars, cranes, race Marshalls and stands surrounding the race track all lend the game an element of realism that have often been missed from games of this era. F1GP also manages to run at an excellent speed, so you really will need to keep your wits about you to prevent the car

spinning off or piling into the back of other cars, even with the automatic braking on.

There are quite a few different camera angles available. Try racing from a chase view. This really shows the game off well as you can see little details such as the front wheels turning when you steer.

To top off the pudding, the game dynamics are very well thought out. Spins, skids and collisions all seem pleasingly realistic. If you nudge another car from behind their front end will flip out, and if you take a corner a little too keenly you will jump the curb and end up going wide.

The good dynamics mean that, unlike many other games, you can actually utilise proper race tactics in the game. Flyin' High is a good game but you just can't tailgate an opposing car, cut in on the bend and then close the door



A grid display - just like the BBC

behind you. In F1GP you can.

You won't get bored with the game for quite a while simply because the gameplay is excellent and there are such a wealth of options and features available. The full complement of championship tracks are available and you can do practices, qualifying, quick races or the full quota of laps, depending on how long you want to spend playing, or what level of realism you want the game to have.

Once you become slightly more experienced, try altering the set up of the car. Fiddle with things like gear ratios (high gearing for rapid acceleration on tight twisty racetracks like Monaco or quite low for fast races with long straights such as Hockenheim). To really milk your car for speed set the spoilers almost neutral - this'll make your car lethally fast but difficult to control.

I'll try and find fault with the game, just to balance the article a little. Some pedants mightn't like the fact that no proper F1 driver's names are lined up on the grid next to you but I can't see it is really all that important.

Nice one Guildhall. At a time when the format really needs some decent games, Guildhall is helping keep the Amiga games market alive by releasing quality new games and re-releasing decent old ones, all at a very reasonable price.



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SOUND	88%
PLAYABILITY	90%
DIFFICULTY	Variable

OVERALL SCORE

90%

ACTION PREVIEW

SIMULATOR

Alien F1

Gadzooks! Hugh Poynton takes a look at Mutation's new action puzzler

In recent years, true driving games for the Amiga have been overlooked. There have been a few fun arcade racers but nothing to compete with some of the graphically stunning PC games such as Formula One Grand Prix or NASCAR.

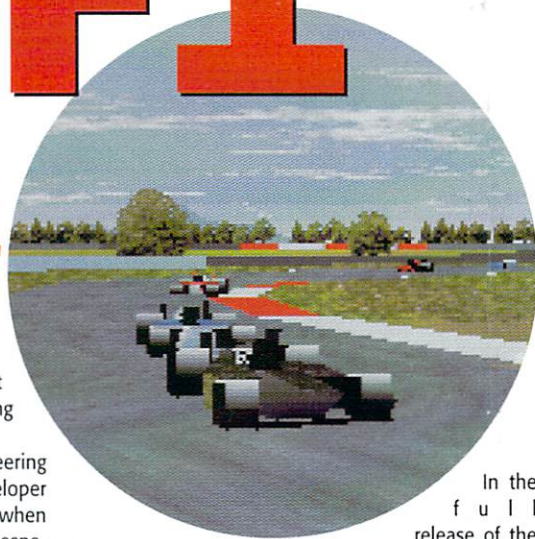
Alien F1 however, looks like it could redress the balance. As you can see from the screenshots, graphically the game looks perhaps the best game ever written for the machine. Utilising texture mapping, light-sourced shading and gourade shading and driven by a 3D GFX Engine, Alien F1 looks more like a PlayStation game than an Amiga title.

A particular touch, and one that I'm not sure that I have seen anywhere else, is the fact that the clouds and the bridges your car pass under are actually reflected on the bonnet of the car. Another excellent inclusion into the game is the Koala style virtual cockpit. The game can be configured so that, as you steer the car, the drivers view rotates into the direction that you are steering in, giving the game a very realistic feel.

This is only a demo so the game isn't very polished at the moment. The car can only be controlled via a mouse, and the steering is very sensitive. This

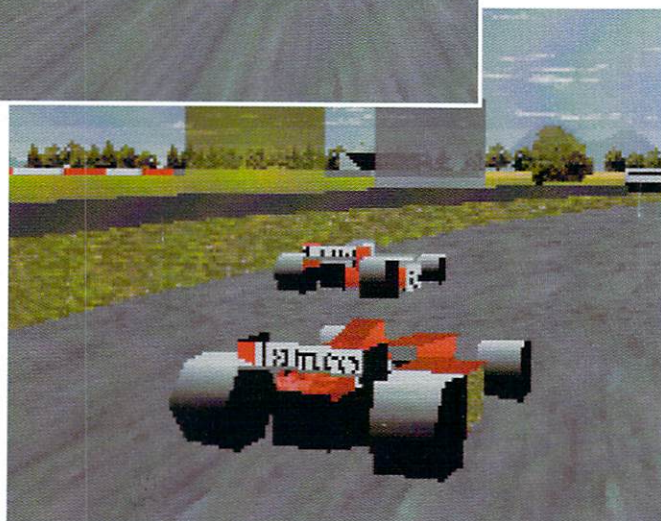
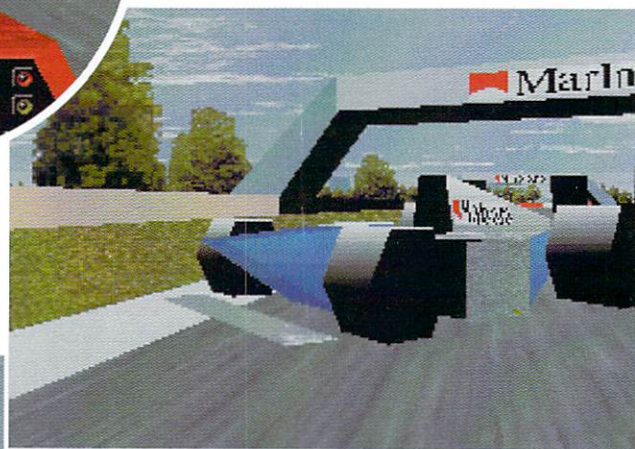
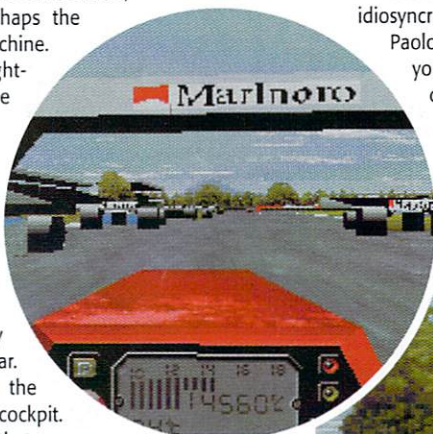
does make the car pretty difficult to control. However future releases and patches should overcome this problem and, as the author himself says, driving a Formula One car isn't that simple - otherwise everyone would be doing it.

There is one little steering idiosyncrasy that I hope developer Paolo Catini leaves in - when you accelerate hard, especially in first gear, the car is apt to spin on the spot, just as a powerful car would do if wheel spinning like crazy with the accelerator down to the floor.



In the full release of the game the player will be able to configure the car as they see fit. Tires, shocks, spoilers and gearbox ratios will all be configurable so that the car can be adapted for every different type of track or weather. Larger tracks, excellent computer AI and the full complement of 22 cars to race against should also be featured in the final version of the game.

Although Paolo doesn't yet have a publisher for Alien F1, I wouldn't be surprised if, fairly soon, developers are beating his door down to sign it. Keep an eye out for this game, it could be huge.

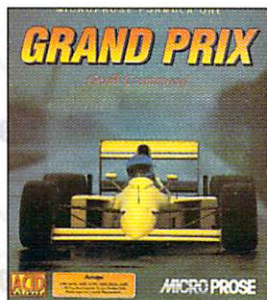


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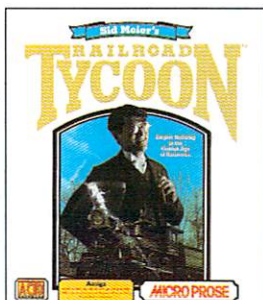
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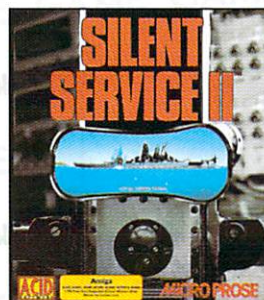
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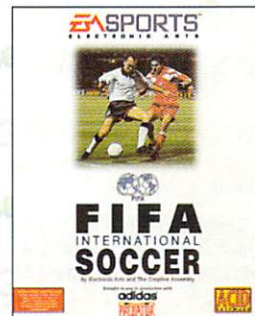
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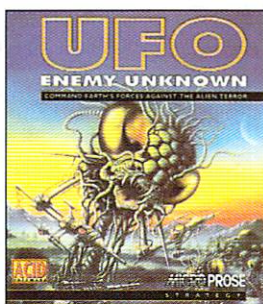
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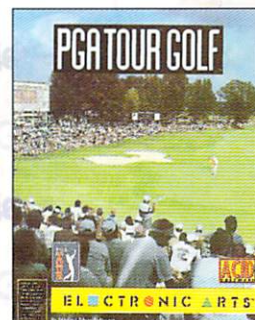
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