THE FUTURE OF AMIGA COMPUTING

AMIGACTIVE

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Buyout News Inside

...and opinion from the Industry

Dream Screens

Technology Explained

Palmtops

Amiga in your Pocket

Art of Games

Deconstructing Fun

Future OS

QNX, Elate, or both?

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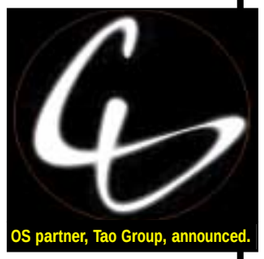
ACTIVE INGREDIENTS

Regulars


Amiga Sold Again!


OS partner, Tao Group, announced.


Design house Ethereal 3D, speaks.

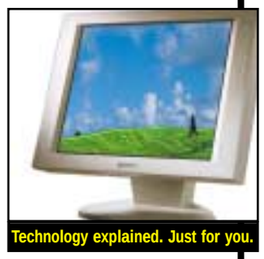
Reviews

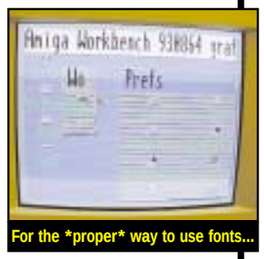

In the palm of your hand.


Hands off! This one's ours!


PowerPC Quake on the Amiga.

Features


Technology explained. Just for you.



For the *proper* way to use fonts...


The Art (yes) of Games explored.

AACD 05

This month we bring you even more than usual, with 660MB of high quality material squeezed onto the CD.

• Boing Bag 1

Here is the first update pack for OS 3.5. Containing bug fixes and extra features, if you have OS 3.5 install it now!

• Quake

id Software released the source code to Quake and Quakeworld a couple of weeks before we mastered the CD, yet we managed to get two versions of Quake and one of Quakeworld (PPC only).

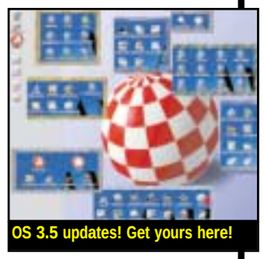
• Demos and Mods

Would we let you down? Of course not. This month has another quality selection of demos, mods and anims. sit back and enjoy.

This is really only scratching the surface. Double-click on the "Welcome" icon and have a good browse around the CD for yourself.

Our easy-to-use Search program will help if you're looking for something in particular.

Happy Browsing!


OS 3.5 updates! Get yours here!


Freespace on Amiga, movie on CD.

AACD05's improvements include...

Amiga Sold Again

New owner and OS partner announced

Amiga has changed hands for the third time in five years. Contracts between Gateway and Amino developments were signed on Thursday, 30th of December, marking the successful conclusion of a buyout process that has been in progress almost since the day Tom Schmidt took over the reigns of Amiga Developments, LLC from Jim Collas.

New owners Amino Development Corp. are a start-up company founded by two of the most highly regarded ex employees of Amiga Inc., Bill McEwen and Fleecy Moss, and a third, as yet unnamed, partner. According to a source in Gateway the deal was worth $5m, but it seems probable that this figure may have been on the negotiating table but not the final contracts.

Amino - who will be officially called Amiga Corp. or possibly Amiga Inc. by the time you read this - plan, as Gateway did, to use the Amiga technology as the basis for a revolutionary platform for digital convergence products. However, while they have been dismissive of the traditional desktop computing paradigm as old-fashioned, they consider traditional Amiga style enthusiast computing market an essential "Pathfinder" market which will lead and develop key technological advances that will filter down into the embedded and Digital Convergence markets.

A few days after news of the buyout broke, further surprises were in store when Amiga announced a partnership with Operating Systems and Intellectual Properties firm Taos Group of Reading, England at the CES computer trade show on the 8th of January. Tao Group's software portfolio includes the Elate Real-Time Operating System, the ultra fast J-Engine Java implementation, the Tumbler encryption system, the AVE audio/video UI system, and the intent multimedia toolkit. Which of these will be part of the new Amiga system has yet to be announced.

For more information on Tao group, see our news special and technology primer which starts on page 14.

People who came across Bill McEwen or Fleecy Moss during their stints at Amiga will know that they were not the most orthodox of company players. Bill McEwen's executive update announcing the purchase started with the words *"YeeHaw and welcome to the year 2000"*, and went on to explain that while Gateway bought Amiga for the patents and found the users as a surprise extra, where as Amino bought Amiga for those users.

Any lingering doubts of Amino's corporate sobriety were quashed when a second press release covering the Tao Group partnership was posted to the Amiga web site, containing phrases such as: *" If someone tells you you need a PC to get into this new content universe, smile nicely and hit them with a big stick."* The press release is reproduced in full on the next page.

In his first executive update on the Amiga web site, Bill McEwen gave the following list of properties acquired from Gateway:

- All trademarks, logos, etc.
- All existing inventory of Amiga International.
- All existing licenses.
- License to all Amiga patents.
- All web sites, and registered domain names.
- The Amiga OS and all that is associated with the OS.
- The Amiga operation as it exists today.

Principally this means that everything that was Amiga is now Amino's, with the notable exception of the patents. Under this scheme Gateway retain ownership of all the Amiga patents, which they value as useful bargaining counters with third parties. The new Amino-owned Amiga company has control of the current Amiga OS and computer line through a specific sub-license of the patents and ownership of the software and hardware. This will enable them to offer transitional and legacy compatibility. The last line is also a little ambiguous, as a significant amount of what is thought of as the Amiga operation was in fact part of Gateway; Amiga's staff, for instance, were in fact Gateway employees.

Amino have made it clear that they wish to avoid making the kind of premature announcements that Amiga made under Gateway. They have so far not revealed details of their engineering department, although we understand that they currently have about a dozen staff. No firm product time scales have been announced, but a preliminary developer's platform is expected reasonably quickly. Tao Group's software has been available since last year and runs on a range of standard hardware. Although it is uncertain how long it will take Amiga Corp. to "Amigatize" an Elate based system for consumer use, a sufficient environment for software developers to start working on next generation Amiga software could be ready in a very short time.

PRESS RELEASE

8 January 2000

Amiga and Tao-Group enter into a strategic relationship

Las Vegas, NV January 8, 2000 - Amiga begins expressing plans for the new Amiga with a strategic alliance with Tao-Group.

"Things started going wrong the moment the PC rode into town and the home computer revolution of the 1980s ground to a halt. We are here to right that wrong." said Bill McEwen, Amiga's El Presidente. 'We kind of feel guilty about not having been around to show the world the evils of the PC, but inept management sent the Amiga off to a bad place. Luckily, its users and developers have kept it alive, and now we are back."

"Existing products are very rude.' He continued. "Shoving PCI slots, interrupts, file systems, registries, megahertz, and megabytes right into your face. My grandmother just wants to play a game, or send an email, or draw a picture. She doesn't want to have to mortgage the house and get a masters degree."

"Digital Technology has become stalled because of the predominance of Windows." quipped in Fleecy Moss. "Putting a thousand monkeys on typewriters may eventually produce the works of Shakespeare but it's not something you're going to want to wait around for, and you don't want to be responsible for cleaning up the mess in the meantime."

"Our approach is outrageous. WE look at what actual people want, and then give them the most simple, elegant solution. Even calling it computing is falling into the PC trap. It is participation in the digital content universe, whether it be developing an application, playing a game, making your own video, watching TV or buying S&M gear online. Computing companies are trying to paint digital convergence as computers and TVs coming together, so they can stick "TV" in front of PC and continue to sell the same old garbage. Digital Convergence is something much bigger though. It is about content, information, services, and activity transforming into a digital format and coming together in a single place that has no boundaries. If someone tells you you need a PC to get into this new content universe, smile nicely and hit them with a big stick."

"Elegance, simplicity, invisible and universal technology." sings Bill McEwen, trying to get a word in edgeways. "That is why we are just giddy to be working with the Tao Group. Others rant on about how their products are next generation, warp capable, but the truth is that most of them are based upon old concepts and architectures - that's why you need the latest monster machine just to type letters. Chris Hinsley (CTO/Tao Group) was one of those smartass child prodigies you wanted to beat up at school. By age 20, he had already been a commercial games developer for 5 years, and wrote some great Amiga games. Being a smartass though, he saw the future, realised nothing out there was ready for it, and dedicated the last ten years of his life to making sure the human race was ready when the future arrived.

"The Amiga was special because it refused to settle for second best. If something is worth doing, it is worth doing right, and the proof of that is in the global following that it still has today. With the nightmare of the past five years behind us, the Amiga is ready to push out ahead again, and save the future from a muddled, poorly fitting, frustrating PC enema. With the foundation that the Tao Group gives us, we are ready to re-introduce the world to a novel computer concept - fun."

"We aren't stupid enough to think it's going to be easy," interrupts Fleecy Moss, shoving McEwen to the ground and gagging him. "A lot of people have been brainwashed by the advertisements and the slick salespeople. However, the digital information revolution is all around us, waiting to happen. Everyone can feel it, everyone wants to be a part of it. Amiga is going to stick a pretty big bomb under that PC logjam and blow it clean back to Redmond. Elegance, simplicity, invisible and universal technology. Time to start smiling again."

"We are happier than a crocodile at a waterpark to be working with Amiga." said Francis Charig, CEO and international stud. "We are very proud of what we have created in our garden shed. We could have sold out long ago, but the market was crowded with companies doing that so we decided to actual create a product and make it a good one. Now we are finding that OEMs are seeing our product and getting even more excited about it than we are ourselves; it almost makes the whipping and torture we have had to inflict on our employees worthwhile. An Amiga solution powered by Tao technology is a match made in heaven for everyone."

It's a Sin!

Hyperion Software have announced their next project for the Amiga: Sin, the 3D first-person Role-Playing game from Ritual Entertainment, originally released for the PC by Activision in 1998.

Based on a heavily modified Quake 2 engine, Sin puts you in the place of Colonel John Blade in the year 2027. Your job is to track down the source of a drug that has been sweeping the streets of Freeport. Your mission leads you to one Elexis Sinclair, who just so happens to be a stunningly attractive female biochemist bent on pushing the evolution of mankind on by a thousand generations.

Twisted plot structure aside, Sin features six unique missions, 24 levels and outcomes based on your actions, where each decision you make can influence later missions. Intended to draw you in to the game even further, Sin's gaming environment is based around *"real world or near future designs."* Enemies have enough intelligence to run away when hurt, and causing too much of a ruckus could get you into even more trouble, so care is called for as you explore Freeport City's abandoned buildings, construction sites, power stations and other areas - although you do have a considerable selection of weapons and vehicles at your disposal. Features such as coloured lighting, interpolated skeletal animations, translucency and transparency mapped textures should make for a mouth-watering experience.

www.hyperion-software.com
www.ritualistic.com/games/sin/

USB for Amiga?

The Universal Serial Bus connection has been increasingly adopted as a standard on other computer platforms, but no interface to use USB devices currently exists for the Amiga. Tigersoft have decided to address the lack of a USB implementation, and have announced that they are to produce a Zorro II USB card along with driver software.

Going by the name "Eriol," Tigertronic's USB Zorro card will come with two USB ports as standard. The addition of a standard USB hub will allow the connection of more devices. Both low- and high-speed USB devices will be supported. On the software side, drivers for the new hardware are due to go into development around the time the first prototype boards roll off the production line. Planned as a device independent system, any other USB expansion cards that may appear on the Amiga in future will be able to use the same software. Tigertronics' intention is to avoid a repeat of the PowerUp/WarpOS software battle by making their driver system available to anyone else who wishes to make use of it for their own USB implementation. Prototypes are expected to arrive in February. For more information, keep an eye on Tigertronics' web site.

hjem.get2net.dk/graff/tigertronics/

Amiga Web Directory closes

The AWD, one of the most popular web resources for Amiga owners in recent years, was retired on January 1st. Continual decline in the Amiga market and Gateway's failure to produce new hardware were the reasons given by maintainers Champaign-Urbana Computer Users Group (CUCUG) for the site's closure.

The Amiga Web Directory lasted just over five years, during which time it built up a strong reputation as one of the leading Amiga news and links directories on the Internet. Each site in the AWD's listing was checked and updated by hand to ensure each was relevant to the Amiga community. In a statement, CUCUG said it was, *"hopeful that the latest owners of the Amiga can turn this market around for the developers and users who have held on throughout all the past ownership changes and other difficulties the Amiga has faced."*

CUCUG's Macintosh Web Directory has also been retired due to the lack of time available to Jim Huls, the site's maintainer.

CUCUG, who have been supporting computer users in Illinois, USA since 1983, said they would now be focussing their efforts on local user-group activities.

Amiga Active would like to take this opportunity to wish CUCUG, Agnes, Kevin Hisel and everyone associated with the AWD well for the future. The site's front page is still up, with links to alternative sources of online Amiga news.

www.cucug.org/amiga.html

Above: Download Quake from the RTGMaster site. Turn background loading off first.

Quake World for PowerUp & WarpOS

Versions 2.40 of the Quake World client and server, not to mention Quake v1.09, have been ported to PowerPC Amiga systems by Steffen Haeuser and Frank Wille.

Both versions (one for each PowerPC kernel) support AGA, CybergraphX and Picasso96's Picture-in-picture and as such can be run on its own screen, on any public screen or in a Workbench window. TCP/IP networking is also supported. A 68k version may follow at a later date.

Quake World should be considered to be an early alpha version, but all files can be downloaded from the RTGMaster web site. More details can be found in our Quake PPC special on page 48.

members.es.tripod.de/debugger/RTGMaster/

Diamond Caves now freeware

Diamond Caves I, II and ManiacBall from Diamond Productions are now all available for the price of a quick download from the 'net.

Based on the classic C64 games BoulderDash and Emerald Mine, the aim of Diamond Caves is to collect a number of emeralds to escape from a cave. Sounds simple enough, but you aren't alone! Enemies, keys, doors, bombs, dynamite and (shudder) pools of acid stand (or lie) in your way.

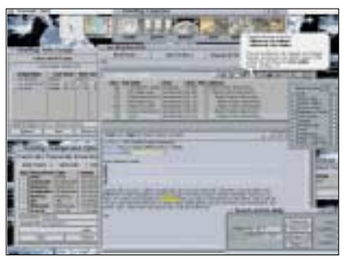
Despite its age, Diamond Caves will run on graphics cards, so there's no excuse not to enjoy a little retro gaming fare. There's support for one or two-player modes, playfields from a piffling 10x10 to a whopping 100x100 squares and the ability to record and replay games should you wish.

There are 60 levels and a preferences program included. Hop over to Diamond Productions' web site for more info.

www.diamond-pro.com

No more NewsRog

Developers ShadowWorks Software have ceased development of the feature-laden Usenet reader for the Amiga, "due to a combination of factors" resulting in further updates no longer being financially viable.



Thanking their customers for their support on January 4th, ShadowWorks said they were *"proud to have pioneered a large number of news client features that have yet to be duplicated in any other software that we are aware of. We regret that it was not possible to continue development of the software, since there was a great deal more planned for the future."*

The latest version of NewsRog stands at 1.8b, and is available for free to all registered users of the news client.

www.frii.com/~srk/ShadowWorks/Preview/NR.html

News Bites

AmiBench Prizewinners

AmiBench, the leading web site for Amiga classified ads, has announced the winners of its birthday competition. Copies of Photogenics 4 will be going to Gregory Cassidy from Minneapolis, USA, and another lucky punter known only by his e-mail address.

Mark Wilson, AmiBench's maintainer, invites everyone to join the AmiBench mailing list and is looking forward to improving the popular second-hand Amiga product sales site into the year 2000. An AmiBench offline database can be perused using the AmiBench view tool on Amiga Active's CDs.

www.amibench.org

#Ami3D Rendering Competition

Popular ARCNet IRC (Internet Relay Chat) channel #Ami3D have announced the start of their first rendering competition. Open to all Amiga rendering fanatics, the subject for the competition is "garden."

Entries to the competition must be submitted by March 1st, 2000, and online voting will decide the winner. For more details, would-be contestants should e-mail Sthornber@steve1.demon.co.uk or visit the URL below.

www.amigashowcase.org.uk

Monthly Engineering

If you hurry, you might just catch Visual Engineering's latest Offer of the Month - lower prices on registering plug-ins for Image Engineer. An interactive tutorial is also available on the site.

wwnet.fi/users/smarko/visual/

Amiga to exhibit

Bill McEwen, President and CEO of Amiga Inc., has confirmed the company will have a presence at the Gateway Computer Show on April 1st - 2nd, 2000.

www.amiga-stl.com

AROS interview online.

An Interview with the creator of AROS, Aaron Digulla, originally published in the Italian Amiga Magazine AmigaLife, has been released on AmiWorld Online in both Italian and English versions.

amiga.eden.it

New web site for National Amiga

The longest running online Amiga retailer, National Amiga, have unveiled their new web site. The new site makes use of Javascript and has been designed with efficiency and ease of use in mind. Have they succeeded? Pop along and let them know - they're looking for suggestions on how to improve it even further!

www.nationalamiga.com

Editorial

At &@#*%$ last!

It is the best of times and the worst of times. The dismantled vision Jim Collas laid out to the Amiga market at WoA '99 has been a mocking reminder for months. The exhilarating future set out for us seemed close enough to taste before being suddenly whipped away, and the resulting depression that settled over the market has not abated. The higher you are, the further you have to fall. People really believed that the Amiga comeback was on in a big way (hey, we launched a magazine on that assumption) and the reversal caused a profound elation to become a profound gloom. Now we have some reason to be 'elated' again.

We've been tracking the situation for months. Sitting on this story while Gateway dithered has been a trying experience. With this much doom and gloom around, the temptation to let slip something that might give people a bit of hope is very tempting - although these days anything less substantial than the great Pyramid is likely to provoke no more than cynicism. Everyone has had enough vapour to last them a lifetime. At last, we have turned the corner. Things are very much afoot in the Amiga market, and I am confident that we are going to be able to bring you some very positive news over the coming months. There will be some impressive technology coming to light, fascinating announcements and important partnerships. Yes, I'm talking about Phoenix.

Hang on a minute you cry, haven't I read my own news pages? Yeah, there's the Amiga thing too. I just hadn't got onto that yet. A lot of people may assume that with the revitalised Amiga there is no need for Phoenix any more, but that certainly isn't how Phoenix or QNX Software Systems Ltd., see it. The Neutrino operating system is happening regardless of what we do in the Amiga market, but QSSL are happy to work with Phoenix and the Amiga development community to make sure that Neutrino is an operating system which will *"do it"* for Amiga people.

Of course there is the danger of a split in the market, or indeed of an exodus from Phoenix, but this is quite unnecessary. There is enough similarity to make a joint Elate / Neutrino development programme within Phoenix. Development kits aimed at making software development for both systems would remove the need for software developers to chose one or the other, and ultimately benefit both. There are bridges between the systems already - QNX license Elate's J-Engine, for example, and these links could allow each to strengthen the other.

It's worth keeping this in mind, because it is a hard concept to take in. From the doom and gloom of previous months, we are in a position where we, the Amiga market, are being courted by two potentially co-operative efforts to produce a world beating computing platform, for US. Between Tao Group and QSSL we have two of the most technically exciting OS developments going. How's that for a safety net?

It doesn't stop there. We've got G3 cards so close we can touch them, some wonderful games just around the corner, and even something that looks suspiciously like BoXeR looming in the distance. POP is on its way, MorphOS is in development, and there are a dozen other cool things coming from a dozen different sources that can't be discussed yet. We're all battered, battle-scarred and worn, but I just heard the guns stop firing.

Bagsy not first to stick my head out of the trench, though!

Andrew Korn A

Networking

the Eyetech way

As anyone who read our comprehensive article on networking in issue four will be able to appreciate, connecting your Amigas together or linking an Amiga to a PC can be a tricky business. Eyetech now intend to simplify matters with their PCMCIA Ethernet card and Surf-XS networking cards.

The hardware comes with software in the form of Samba and Net-FS, installation of which should be relatively painless provided you already have a TCP/IP stack (such as Genesis or Miami) already installed.

The Surf-XS Zorro card comes with a 10Mbps Ethernet adapter, a pair of clock ports for attaching additional I/O cards, a pair of IDE ports for up to four additional, non-booting drives and a 26-pin connector for the GoldSurfer/Hypercom 3+ I/O card.

Eyetech's complete Amiga-Amiga Ethernet networking packages start at just £89.95 for two A1200 PCMCIA Ethernet cards, three metres of cable and the Samba & NET-FS networking software.

An A1200-PC package is just £69.95, including A1200 PCMCIA and PC PCI Ethernet cards, cable and software. The Surf-XS card on its own will set you back £79.95.

BVision

graphics cards available

Thanks to DCE who licensed the BlizzardVisionPPC from Phase 5 last year, stocks of the hugely sought-after graphics card for PowerPC-equipped A1200s should finally be appearing by the time you read this.

Eyetech hope to have a limited number of the boards in stock by the end of January and will be sending out backorders for the boards as soon as possible. If you haven't ordered yet, however, you'd best get on the phone now to avoid disappointment.

The Bvision graphics card, originally produced by Phase 5 in 1998, requires a BlizzardPPC card (not to mention a towered-up A1200) and supports resolutions of up to 1600x1280 at 72Hz vertical refresh rates. It is currently the best graphics card available for the A1200.

The Word

from the industry

Let the people speak! Here's what people around the Amiga market think of the latest news.

We asked around the Amiga market to find out what people thought of the latest Amiga buyout, and how it would affect their own plans. We ended up with more than we could print - here's just some. Thanks to everyone who responded, and our apologies if we couldn't fit you in or had to cut you down.

"Cautious optimism. Currently, the buyout won't change any of clickBOOM's plans because we still don't know what Amiga's plan is. As always, I'd like to see Amiga create some new great machines, so clickBOOM can create more great games."

Alexander Petrovic, Producer, clickBOOM.

"The Amino buyout is probably the best one yet, in the sense that Amiga is finally bought by a company that knows what the Amiga is worth and what to do with it. The former owners bought it and then started thinking of the direction to go with it - Amino's got it figured out already.

"Our own plans will not be affected that much. As dealer/distributor we will continue to support the Amiga in every possible way. As software publisher we will continue to release and support high quality titles for the Amiga such as Audio Evolution PPC and MediaPoint."

Ron van Herk, Managing Director of Computer City, Amiga dealer/distributor in Benelux.

"I'm very happy. The best thing about the sale is that Amiga is now owned by people who seem to understand the true value of Amiga. I think one should not underestimate this fact.

"Having spoken to Bill [McEwen] on several occasions I'm very confident he has the right ingredients to help Amiga for a big return in the computer market. We will fully support him. All our programmers, be it Darkage Software, Pagan Games, Paul Burkey, Paolo Cattani or Atomatrix are eager to develop for the new machines."

Thomas Steiding, Developer, Epic Marketing.

"The buyout came as a surprise to me and I think it is still too early to give any judgement on Amiga's plans. As for my plans, Amiga Network News doesn't rely on individual Amiga companies, but is controlled by how many people visit and what subjects they want to read about. However, I sincerely hope that Bill and Fleecy can do something - anything - to stabilize or increase the user base, since this will be vital for the survival of all commercial activities around the Amiga."

Christian Kemp, webmaster of Amiga Network News.

"Confidence is something that I find hard to have when it comes to the future of the Amiga, as there have been far too many letdowns in the past. For the Amiga to be any kind of success again, the userbase needs to increase dramatically. How this is achieved is down to them, but without it happening, there is no hope in my opinion. If some of what I have heard is actually true then there is hope....

"As far as Amiga Nutta is concerned, updates have been very lacking recently. I will have more time on my side very soon and this news has provided me with at least some motivation to continue, so there is a good chance that the service will return to its former greatness <ahem ;)> very soon. Keep 'em peeled so to speak."

David Flaherty, Editor, Amiga Nutta.

"I think it's very good that Amiga is now back in the hands of people who know what the 'Amiga' is and really understand the ethos behind it. I'd like to see Amiga become more focused, and work with people who serve the community more often. I (and many others) are the front line for Amiga at the moment. We do everything we can to serve our community and we want to be told the truth, because as a community we are sick of having our hopes dashed all the time.

"The buyout does not affect our current plans for AmiBench in any way as our sole purpose is to support and serve the Amiga community as we have done for the past two years."

Mark Wilson, Co-Founder, AmiBench.

The Word continued...

"I have only one concern. I just hope they won't give up the Classic Amiga OS. Despite the Tao development I think for a rebirth of the Amiga some sort of "Amiga Classic Compatibility" is needed, and it is clear that UAE is not enough. We need the full OS support (including WarpUP and Warp3D binary compatibility), especially with all the cool new stuff coming out right now like Heretic II from Hyperion and Wipeout 2097 from Digital Images.

"The Amiga can't stand another split. To make it possible for people to move towards the Tao OS it would be a good thing if they could run their current system - including new programs which will still appear on the 'classic' OS. As the people at Amino are Amiga people, I hope they also see the need for a continuation of the classic OS."

Steffen Haeuser,
(Author/Porter/Co-Author of - among others - QuakeWOS, rtgmaster, ZhaDoom, WarpHeretic, mpega.library for WarpUP, WarpSNES, chunkyppc.library).

"I was definitely pleased by the announcement. I feel that the Amiga would not have been further developed in the hands of Gateway, whatever capital was behind the company. Their views were very short-sighted. Bill and Fleecy are real Amigans that know the value of the community.

"We will definitely be on the lookout for what Amino will do, and without doubt our games will appear on the new Amiga. I sincerely hope they will provide a better game API as what we have now, though. "

Hans-Joerg Frieden,
Software Developer, Hyperion.

"My initial reaction was one of "Here we go again..." but the fact is that Gateway were obviously not going to take the Amiga anywhere so it has to be a good thing. My concern is where this leaves the Amiga community in the short term. Will we have to wait another year in the hope that something real actually happens or do we finally have a team to produce the goods? It is most unfortunate that the Amiga community and companies supporting it have had to endure so many false promises by the previous collection of owners. It is a credit to the platform and it's supporters that there is still such enthusiasm.

Paul Lesurf,
Blittersoft.

"I am really thrilled about the developments starting in 2000. This is a beginning for our beloved AMIGA in the New Millennium, which I have always dreamed of. Patience will always pay out... I learned that in my AMIGA life. I am looking forward to continuing with my support for my AMIGA and the community."

Petro Tyschtschenko,
Amiga International.

"It's fantastic. Bill and I had many discussions during his days with Amiga, Inc. and he's always impressed me. He really seemed to 'get' what makes the Amiga way special and how it was different. Everyone is familiar with Fleecy's enthusiasm and drive as well.

"We're definitely hoping for a return to the plans for a leading edge platform with reference hardware and a new AmigaOS that completely kicks! We want to see an aggressive developer program targeted at existing Amiga developers first and foremost. Technological and financial support for Amiga developers, magazines and more to help them bridge these hard times into the future. Support for many Amiga concepts. ARexx especially."

Kermit Woodall,
Vice-President and Co-owner of Nova Design, Inc.

"I believe of all the buyouts, this is the best one so far. I think McEwen and Fleecy are the ones most capable of understanding, developing and keeping the Amiga spirit/platform alive. The first thing I would like to see right now is some real development, a new machine, with the same spirit, and it should happen fairly fast. I've been waiting for something new to spend my money on, and I believe Amino will make it."

Stefan Falk,
Webmaster of AmigaExtreme.com.

"To be honest, this event doesn't trigger any reaction in me. In the past years Amiga has been sold a thousand times, many people did a lot of empty promises while the Amiga market got smaller day by day. I just want to see facts, then we could deal with plans for the future.

"My dream has always been to see an AmigaOS for the Intel platform: if Amiga did it some years ago, I think it could have been a successful move. I don't know what could revitalise Amiga nowadays though."

Simone Tellini,
Developer, Vapor.

"I never really thought that Bill McEwen and Fleecy Moss would get the money together. Like most people, I felt Gateway was taking the Amiga nowhere, but after the buyout, my confidence in the future of the Amiga is firmly restored. People like Bill McEwen understand the Amiga and its potential. Amiga Flame's future is safe."

Philip Cosby,
Editor of Amiga Flame.

"My immediate reaction is one of renewed optimism. All the previous owners of the Amiga (with the possible exception of Commodore) initially wanted it for the patents, and only later discovered the community that came attached. In contrast, Amino appears to be more focussed on the community, which is a refreshing change. Not only that, but they must be the first ever company to use the word "smartass" in a press release! Amino's partnership with Tao Group is also interesting, especially since Tao recently received an investment from Sony Corporation, which hints at possible connections with the PS2. This can only be good for the future prospects of the Amiga."

James Daniels,
of Apex Designs
(developers of Payback).

"Despite the fact that Amiga is now in the hands of two of the most enthusiastic Amiga supporters I have ever talked to, it does not necessarily mean the Amiga is "saved" in any way. There is still no clear picture of Amino Corporation's plans and until more details of their direction, target market and timeframe are released it is hard to quantify what effects the buyout has."

Chris Page,
President, The World Foundry LLC.

"I am excited by the opportunities Amino's purchase of Amiga opens up. Fleecy and Bill are ambitious. They've got guts. They're not afraid to make the difficult decisions. And they have a vision of the future they wish to create. More than anything, those characteristics are what is going to be required if the Amiga is to be revived as a platform. Ambition, determination and devotion from those at the top. I see evidence of all of these characteristics coming from Amino.

"They have announced the purchase of Amiga (no small thing), discussed their plans for the future, made a big announcement with a partner at the CES show, and we already know who their next-generation OS partner is going to be (Tao Group). That's not bad for a week. I believe the future for the Amiga is going to be a bright one if this pace keeps up."

Steve Crietzman,
President of the Open Amiga Group/COSA.

"All of us at SDS are glad that the Amiga is in good hands :). Things are looking a bit brighter now. We are excited by the future."

Ashley Scott,
Developer, Satanic Dreams.

"The path I would like to see Amiga take now is the path of the PowerPC Amiga. This is the only realistic path into a stable and expanding future. Amiga should invest more money into the further development of the current AmigaOS, instead of wasting time by talking about "great plans" that only have the effect of killing the last remaining Amiga companies."

Felix Schwarz,
CEO of Innovative.

"The current owners have only one goal: revive the Amiga. No more looking over the shoulder to see if Microsoft gets too upset. Short lines of command, no mother company to account to. What more can you ask for? Money? People think Amino doesn't have enough cash. They are wrong - you can raise enough money with the current climate on Wall Street. I work for an investment company and I see millions of dollars being poured into start-ups which have far less going for them. Plus, what good was Gateway's money if they only wanted to spend it on a set-top box? We will support Amiga Corp. in any way we can. This time it's for real."

Ben Hermans,
Managing Partner, Hyperion.

"At long last we have owners of the company - rather than just enthusiasts in someone else's company - who understand both the technology and strengths of the brand, and why the several hundred thousand or so of us out here still love the product - or more specifically the clear thinking and efficient structure behind the Amiga's operating system. That must be the best news we've heard in a decade.

"I believe the big growth market is for that non-techno population who just want to use the box for entertainment, creativity or business purposes without having to understand how to coax a computer to do what you want. Switch on to start, switch off to finish - just like any other item of electrical equipment. None of this nonsense about asking the computer if you can switch it off - then hanging about until it says you can!"

"And now the big one. In order to get interest, enthusiasm and fast, free development Amiga must go for open source of the OS, but - like Linux - control the release of new components and distributions centrally. There needs to be some formal liaison with the main movers and shakers in the Amiga market - not just the developers, but particularly, those of us in daily touch with the existing user base. This must include representatives from the remaining major retailers - particularly in Europe where most of the users are - and the magazine editors - Andrew, Ben etc - on a regular - say quarterly - face-to-face basis.

"Speaking personally I'm prepared to do anything reasonable (and legal) to help Bill, Fleecy, Petro et. al. make a real success of this. This is positively the last chance for the Amiga."

Alan M Redhouse,
Managing Director, Eyetech Group Ltd.

In-depth Analysis

We've got new men at the helm - but what course are they likely to steer?

The latest buyout broke all the traditions of an Amiga buyout - it was not preceded by a financial collapse, it took a lot less than the year previous buyouts took, and it did not happen in April. It is to be hoped that Amino will avoid repeating all the other traditional mistakes. Certainly the interest that Bill McEwen and Fleecy Moss have in the existing Amiga community will make things quite different. We can expect more than lip service to be paid to retaining the wealth of talent still remaining in the Amiga market. We can also expect a greater degree of sensitivity to the wants and needs of the rest of the Amiga market.

One of the biggest problems with Amiga under Gateway was that they had a dangerous tendency to make poorly considered announcements. The classic example of this has to be the debacle of the MMC announcement at World of Amiga '98. The BlizzardPPC had just become available, and it was a shock to many prospective buyers that Amiga basically told them that PPC was a dead end. It was even more of a shock to the dealers who had large stocks of them to sell. None of which would have been so bad if it wasn't for the fact that nothing came of the announcement anyway - apart from permanent damage to the Amiga PPC market.

The new Amiga, on the other hand, has made it quite clear that they are aware of the sensitivity of things they may say, and do not want to cause this kind of trouble again. Thus we are not likely to get any specific product announcements until those products are ready to ship. Which is good, but also very frustrating - we'd all love to know what is going on.

"...we are not likely to get any specific product announcements until those products are ready...."

Above: Everyone's a Wally, by Tao Group's Chris Hinsley

Beneath the veil

Fortunately there are plenty of pointers to give us some guidance. While the details of the plan may be unknown, there are two knowns; Tao group and the new Amiga executive team.

We know that Bill McEwen and Fleecy Moss want to pursue a vision of "invisible and universal" computing. What this means can be easily understood if you read the article on Digital Convergence in issue 4 of Amiga Active. Basically, this means that the Amiga system becomes a scaleable OS that will work on all sorts of digital devices, relying heavily on networking throughout the home or office and beyond, via the Internet and broadband services. Amino have already discussed the notion of "Amigatizing" digital convergence systems.

More specifically, we can guess that a fair amount of inspiration will come from the general concepts Fleecy Moss has been working on with his earlier OASYS and KOSH programs. This means a system which is fundamentally object oriented, and in which the key information that determines how an object is used is stored within that object, allowing all elements of the computing system to exist in a kind of structureless (or more properly, self structuring) "object sea". OASYS seemed to be heading towards the IDL (Interface Definition Language) system used in CORBA for the specification for defining these properties.

One consequence of a system like this is that the system ceases to have an inherent structure. Objects in the system can be interrogated in any number of ways according how you want to interface with them. Current computer user interfaces are basically evolved disk operating systems, locked into a way of operating by the file structure. This approach allows the structure to be modelled any way you chose, which is highly appropriate to the vertical Information Appliance market, and could provide the basis of an extremely sophisticated user environment for a desktop system.

Aqua (not the band)

Amino talked about a user interface system they called Aqua. Although little has been publically said, the obvious implication of the above is that the nature of the user interface does not matter. If Aqua follows this to its logical conclusion, it could provide a system that binds interface objects to their own interrogation method, and could allow totally different types of interface to interrogate the system differently. You might, for instance, want to browse images on your computer by having a window showing a virtual drawer which has all your image files in it, each illustrated by a thumbnail icon. At the same time you might have a Opus style file lister which shows virtual directories organised into drawers for each application program, containing all files used by that application even if the file is also used by other programs elsewhere. Why not get a bit more extreme and say that these windows are opening on a 3D graphic of a wall inside a VR world representing the contents of your computer as a room in a virtual house modelling all the devices in your home network, in a city modelling the Internet...?

We know that Amiga are using Elate for the foundation of the new Amiga system. We don't know exactly what that means yet, but there are interesting possibilities and conclusions that can be drawn from the partnership. For a brief technical grounding in Elate, turn to page 18.

Tao group is an interesting company. Set up 8 years ago by Francis Charig and Chris Hinsley, a game coder who worked on Everyone's a Wally and Pyjamarama for the Spectrum and Onslaught and Frostbyte for the Amiga and Atari ST, they describe themselves as an "Intellectual Capital and Software" company. They have been working on their vision of an OS for the upcoming digital age since long before most companies had considered the notion. They have some strong patents in some key technology areas and a suite of software they are just beginning to get into the OEM market.

So far there isn't much to see. LSI's set-top box technology using Elate has been demonstrated (Java performance has been a particular selling point), but that's pretty much it. However there appears to be interesting things afoot. Along with the Amiga announcement, several other press releases from Tao Group were made at the CES show. One of these covered the intent toolkit, which is a Java based multimedia interfacing system. Motorola, who have been a principle investor in the company, are launching a "smart phone", the P1088, which will use intent.

Two other press releases are particularly provocative. Tao Group, along with QNX Software Systems Ltd. and a dozen other companies, has joined the HAVi (Home Audio Video interoperability) group, which may well be an essential part of keeping in the DC sector. Secondly, Tao group announced a new investor: Sony. There is no indication of what Sony are after or how much they have invested, but Sony are serious about Digital Convergence, so it will be interesting to see where that link will go.

Below and bottom right: Trickstyle, written with Criterion's Renderware.

RenderEverywhere?

Another very interesting partnership for Tao is with Criterion. While intent offers the core interface technology, there is a further level to it, offering an integrated 3D graphics subsystem with a full-scale gaming API (Application Programmer's Interface) in it. Tao have worked with Criterion studios, another UK software house, to develop their Renderware system for Elate. This is a sophisticated gaming development environment with built in 3D engine and world management system, which accepts plug-in modules to support other gaming features such as AI, speech recognition and more. Renderware is a multi-platform system designed to make porting from one system to another easy. Dreamcast launch title Trickstyle was made using Renderware, and was cross-compiled to the Playstation 2 in a week by a single programmer.

Yes, that's right - I said Playstation 2. Renderware is going to be part of the development middleware system for the Playstation 2. If the next generation Amiga uses the same gaming system used in many Playstation 2 games, we can expect Hyperion to be porting games faster than they can announce them!

A final thought, and a stab at explaining this mysterious "Amigatizing" business. Building everything on top of Elate makes the whole thing portable, and not only as a stand-alone OS. With a full set of interface, multimedia and gaming APIs and a Virtual Processor code all running in a hardware neutral, binary compatible mode, Elate in its hosted mode would allow the entire API to sit along side the host's API. In other words, if you write a program to these APIs, you can run it not only on a wide variety of hardware running the Elate/Amiga OS, but also on anything running another OS, such as a Mac or a PC, or a Nintendo. It's just a guess, but they have all the pieces; Amiga could become a universal, cross platform, binary compatible, system scaleable API.

Argh! Microsoft are going to go spare!

Andrew Korn A

"Tao group announced a new investor: Sony."

Rants and Raves

Storming the Gates of Redmond

Well, another year, another buyout. As a nice chap from Sony said, "What again? Sigh, will it ever stop?" It would be very easy to be cynical about this one. Yet another try, after Escom, Quickpack, Viscorp and Gateway - why should this be any more successful? It's just a pokey little start-up with Bill and Fleecy running it. Nice guys, but... But nothing!

I have a very easy attitude towards all this. Water off a duck's back. I think I decided that the Amiga was on its last legs in about 1994, and so the last five years have been a bonus. Amino's purchase is an odd one. I ought to be treating it with my normal equanimity, but I can't.

The problem is that it is all a little too believable. I know Bill and Fleecy's ideas about computing, and I think that they actually GET it. The people who own the Amiga understand what is going to happen in the computing market and how to be on top when it does happen. I can't think of any IT company that I believe understands this so well. Every time I get an e-mail from one or other telling me something about where they want to go, they're describing exactly what I would do in their position.

There's the money issue - can they afford to pull it off? I don't know, but there's no shortage of venture capitalists desperate to pump cash into the next big IT thing, so I don't see why not. The partnerships remain the big unknown, but I'm happy waiting to find out about all that. The technology and strategy is just what I want, and the company is owned by intelligent, laid-back types with a wicked sense of humour.

Maybe it'll all collapse, maybe it'll become a world-beater. Either way, one thing I am sure of is this - It's going to be a lot of fun!

Andrew Korn A

Potential for a Great Future?

Things are getting far too silly in the life of the Amiga. The platform has had more re-births than Dr Who and has a history so far-fetched it could be made into a sci-fi series.

Now in the latest chapter, Bill and Fleecy in the guise of Amino return from the dead to buy-out the business that laid them both off, while Gateway strip away the patents that until now had been the only true asset Amiga Inc had.

Personally I am struggling to be enthusiastic about the current situation, not because I don't trust them (though I'm not sure I do yet) but because the years of broken promises and shattered dreams have sapped every last drop of blind hope I had left to give.

That said, the new Amiga Inc has moved quickly in making its first announcement of substance; teaming up with Tao. But what does this company have to offer? More to the point - who the hell are they?

Tao is actually British (it's based over in Reading). Their current work is similar to that of QNX, and their product line include's cryptography technology, a very impressive real-time OS and a jaw-dropping Java engine.

More interestingly, Tao's shareholders include Motorola and Sony, while its own partners include ARM, Criterion, JVC and LSI Logic. Sadly Amiga and Tao are both being very cryptic about what exactly they are going to do together, but suffice to say Tao's RTOS technology will at least underpin the net Amiga OS, if not actually become the new OS.

Tao's expertise in working with Motorola and ARM chips also suggests an encouraging direction for future Amiga hardware. Systems based on the G4 PPC and StrongARM chips must be on the cards, maybe even Coldfire for some products, and as far-fetched as it may seem, they may even be hope for the humble 68k range - but I wouldn't put money on it.

The potential for a great future is there, but for the time being I won't be blindly evangelising about the great Amiga future as I have done in the past. I wish Bill, Fleecy and Co. the best of luck, but until I see something clear and tangible emerge from Amiga, I for one will remain cautiously optimistic.

Chris Green A

"...what does this company have to offer? More to the point - who the hell are they?"

Rants and Raves

Remember: Amiga is not a toy!

"Amiga's destiny is in the hands of a small group of people with 100 percent commitment."

At last! Someone has finally set out to buy the Amiga and succeeded, for the first time in sixteen years. Escom and Gateway may have bought Amiga following the Commodore bankruptcy, but it's not what they really wanted. Escom only wanted the Commodore name and trademark for their PCs. Gateway were acquiring patents.

In each case, it was only after the purchase that they opened the box and found they had got themselves a computer system, complete with enthusiastic, sometimes almost fanatical, user base. They were like the child who opens his breakfast cereal and discovers a free toy. For a while he plays with the toy, until he gets fed up and returns to his breakfast.

That all changed on December 31st, when Amino announced their acquisition of the Amiga name and rights. For the first time since the days of Hi Toro, the Amiga is in the hands of people with no other agenda. It's not a second string to PC production as was the case with Gateway, Escom and the latter years at Commodore.

Does this mean that Amiga will now rise from the ashes and become a major player again? Not in itself. What it does mean is that the Amiga's destiny is in the hands of a small group of people with 100 percent commitment. Everything they do depends on their plans for Amiga succeeding. They have no distractions, no other products and no large corporate structure to lead to political in-fighting.This doesn't mean it's all roses for Amino, or Amiga Corp as they will be by now. They have a long hard struggle ahead of them, not only developing their new system, but gaining acceptance for their ideas. Playing catch-up is not enough. Taking the current Amiga and bolting on a few 1999 features isn't the way to go.

The Amiga used to be about innovation, doing the unheard of, making people's jaws drop. I can't say whether Amiga Corp will succeed in this, but I sincerely hope they do.

Neil Bothwick A

Call for the Men in White Coats!

Should we call for the men in white coats? Crikey, these people are nutters. What have we let ourselves in for? If anyone thinks the roller-coaster ride is over now that Bill and Fleecy own the Amiga, they've another thing coming.

Visions of Bill McEwen's Grandma surfing the 'net and Fleecy Moss hitting PC users with a big stick are all very well, but what are we going to get out of Amiga now? Perhaps the first new hardware will be a stick. Rah!

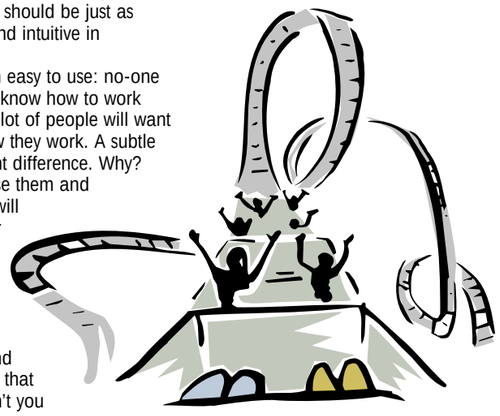
Seriously though.... No, wait a minute. "Serious" doesn't sit right when talking about Bill and Fleecy (especially after reading their latest press release). Well, it does and it doesn't. They're both deadly serious about their plans, although the way they present them may have led you to believe we were in April already. Personally, I'm glad that some personality has been injected into the stale old horse of Amiga by McEwen and Moss (now there's an image...). After the drive and vision of Collas and the facelessness of Schmidt, we needed something to laugh - not just smile - about.

Talking of sticks, your basic stick is a piece of hardware - it performs a range of useful functions and is both simple and intuitive to use. You swing it or thrust it. Sometimes both. *"Why the crazy half-baked Masterclass on sticks?"* I hear you cry. The fact is that digital hardware (I steer clear from the term "computers" on purpose) should be just as functional and intuitive in operation.

Make 'em easy to use: no-one will need to know how to work them, but a lot of people will want to know how they work. A subtle yet important difference. Why? Users will use them and developers will develop. For that is what we want: more users and developers.

But Bill and Fleecy know that already, don't you guys! You wish I'd shut up and let you get on with it, right? Very well then. Strap yourselves in tighter, folks. This rollercoaster's just about to leave the track it's been circling for the last however-many years and fly into space, or something. Wheee!

David Stroud A

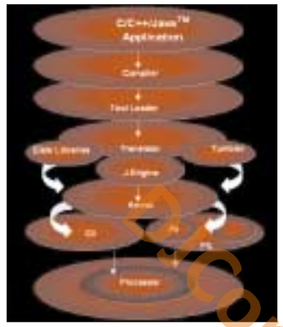


FutureOS

Elate

Amiga Corp.'s OS partner Tao Group has a range of interconnecting products. The core of the range is Elate, which is a Real Time microkernel Operating System - sometimes. Elate's unique trick is a translation technology which can be so useful that people often want to use it on other OSes. Tao's Java technology, which is said to be the best implementation of a Java machine available by quite a margin, is much admired. Bloat factors are claimed to be half those of the nearest competitors, speeds five times or better, and it's very compact into the bargain. Obviously this means that Tao's J-Engine is a tempting JVM for anyone. Not a problem - the Elate system can run as a run-time engine hosted in another OS, the slimmed-down version necessary taking up a mere 300k of additional space, barely noticeable when you consider how small the JVM is anyway.

Elate's structure is highly unusual. The kernel is a highly compact microkernel that can be scaled to meet the needs of the application - minimum versions of the kernel are as small as 12k. It uses a system of dynamic binding which allows the loading (from local storage or across a network) of code modules, called tools, only when they are called for by an application or the OS. Like the AmigaOS library system, this makes the Elate OS a highly memory efficient system. It is heterogenously multi-processing (I'll talk more about that later) and, most unusually of all, it retains cross platform binary compatibility.



Above: The structure of Elate. (illustration © Tao Group).

Virtual Processing

Let me explain this last point more fully. Elate assumes a "virtual processor," a 32 bit, little-endian RISC processor which exists in software only. The kernel and all OS and application functions happen above this layer. A hardware abstraction layer below that consists of contains a CPU Isolation Interface (CII) and Platform Isolation Layer (PIL) containing hardware drivers, and is the only part of the whole that needs to be coded for the specific hardware. This is not a major task - Tao Group claim that the translator for a new platform takes only around 12 man weeks of work. As well as having run-time engines for Dos, Linux, Windows and OS9, Elate runs natively on ARM, StrongARM, MIPS, PPC, x86, Hitachi SH, Patriot PCS1000, Motorola M-Core, and NEC V850 processors. A piece of software written for Elate in C++, Java, or the Virtual Processor machine code will run, without recompiling, on any of these hardware platforms. Translation takes place at runtime, meaning that there is little or no speed penalty for this binary compatibility.

Elate treats everything as objects. Executable modules are tool objects, which are inherited by program objects that pass message objects between each other. The object structure is highly parallel in nature, and is networkable. Elate's multiprocessing system allows objects to be processes and pass messages across multiple devices - and because of the binary compatibility, these devices don't even need to have the same CPU.

More than an OS

Although Elate is the core part of Tao Group's technology, there are other things that may or may not make their way into the Amiga product line. First and most certain of these is the J-Engine, which I have already discussed. Interestingly, QNX have licensed this for their QNX4 OS. Tumbler, a cryptography system based on the NRTU public key cipher system, is fast enough to allow transparent encrypting of networked messages, which is likely to be a key part of a successful (read: secure) Digital Convergence solution. The AVE (Audio Visual Environment) audio and windowing toolkit, and most recently the intent multimedia engines and toolkits, offers multi-platform multimedia-oriented interfaces.

"...minimum versions of the kernel are as small as 12k"

More about Elate

For more information on Tao Group and their technologies, reach the Tao Group web site at www.tao-group.com. This site contains a basic explanation of Elate, Tumbler, AVE and J-Engine. There are also downloadable PDFs and a couple of Powerpoint presentations.

Neutrino

A brief look at the technology behind the two Operating Systems battling for our hearts and minds.

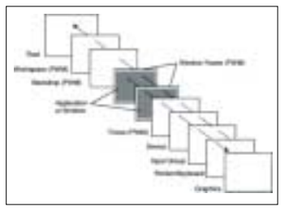
Neutrino, the OS that Amiga Inc. under Gateway originally specified for the next generation Amiga platform, is another Real-Time microkernel OS, if perhaps a slightly more conventional one than Elate. It differs from many other real-time Operating Systems in various respects. It is a small and scalable system which can run as a single binary image for small embedded applications, or it can run multiple processes in parallel from their own MMU protected memory space. OS services can thus be added at run time without compromising system integrity or requiring an Operating System reboot. Processes may also be run across a network of CPUs in SMP (Symmetrical Multi-Processing) mode.

Although Neutrino does not offer Elate's binary compatibility, it is largely source compatible across a wide range of CPUs. Neutrino is currently developed for x86, PowerPC, Mips and variants. It's apparently not a major project to get it running on new CPUs, and platform specific versions (i.e. making the PPC version run on a phase 5 G4 card or an iMac, for example) is relatively straightforward. Device drivers are source compatible, so hardware support that exists for one hardware platform can be easily adapted to another.

POSIX not Unix

Neutrino is a fully POSIX complaint microkernel, supporting the POSIX 1003.1 standards, including real-time operation and threading. From a practical standpoint, this offers API compatibility with other POSIX systems such as Linux and other UNIX derivatives. This will mean a very shallow learning curve for developers familiar with the POSIX system, and it will make applications very easy to port between Operating Systems. A principle aim of the Neutrino OS is to provide a fully embeddable POSIX system, but it should be noted that Neutrino is by no means a UNIX clone itself. The Neutrino kernel is in some ways as far from Unix as you can get, but as it is capable of providing the same set of services, it can be made to provide the same POSIX API.

As OS services are treated by the kernel in exactly the same way as user processes, and operate on an open API, the Neutrino OS is massively configurable. Code modules that would be an integral part of a monolithic kernel can be exchanged for user-supplied modules, or even hotswapped. This will allow a Neutrino system to be even more configurable than Amiga OS, and without resorting to all those hacks. It will also allow application specific OS extensions or replacements to be loaded at runtime.



More about Neutrino

For more information on Neutrino and the Photon GUI system, check out the QNX web site: www.qnx.com, and take a look at the special Amiga section at www.qnx.com/amiga. Several introductory documents are available to download, and a fairly in-depth guide to Neutrino and Photon can be read on-line.

Neutrino is a multitasking Operating System with pre-emptable inter-process message passing. The kernel hands this inter-process communication not just to pass messages across processes, but to keep track of process status, and handle scheduling appropriately. Multiple instances of the Neutrino kernel, as across a network of devices running the Neutrino OS, can use this process to talk to any thread on the network, thus sharing all resources with other computers on the same network.

"Photon contains all you would hope to expect from a traditional GUI..."

Fire Photon torpedoes!

As with the kernel, the accompanying Photon microGUI consists of a central process manager with various external processes supplying UI services. Thus, like the kernel, it is not only a very scaleable system, but a very flexible, 'hackable' system. It can be made appropriate to something as simple as a mobile phone or industrial machinery interface or as complex as any desktop OS dares to be.

Photon contains all you would hope to expect from a traditional GUI. It boasts a large set of highly configurable gadget types (hardcore MUI jockeys should be reasonably pleased) professional quality font engine and localisation, including simultaneous multi-language support.

One rather clever aspect of Photon is that it treats GUI calls transparently across a network. Thus you can control your desktop from another computer in a manner similar to Siamese, or pop the user interface of one application over a network to another computer desktop. Thus a Photon powered computer could open the GUI of any Photon powered domestic appliance (digital TV, webpad, mobile phone, PDA etc.) on its own desktop. Every application becomes, in effect, thin client capable, and if you are having trouble with a program, you can let the person on the other end of the support line fix the problem on your computer across the Internet. If you trust them not to do something stupid, that is!

Andrew Korn A

Far left: The Photon windowing system uses a beam of light paradigm for layering graphical elements - hence the name!
Left: Tao's J-Engine now runs on QNX 4.

Reviews Contents

In the Palm of your hand

Do you ever wish you could fit your Amiga in your pocket? Well tough, you can't (yet) - but here's the next best thing.

The closest Commodore ever came to a portable Amiga was the A600, but an unavailable, truncated and hideously outdated desktop machine is hardly a portable alternative to today's beefier Amiga systems. So, if you're looking for a portable addition to your existing desktop computer set-up, you're stuck, right?

Not at all. Although Amiga themselves haven't been producing hardware for a number of years, others have - and some of it is quite Amiga-like. Well, let's face it - when you're talking of producing a computer that fits in your pocket and runs a variety of applications simultaneously in a small amount of RAM, you're bound to end up with something quite neat, compact and frugal, aren't you?

Palmtops are becoming increasingly common in today's computer age, and according to a survey by International Data Corp., the market for "smart" handhelds will treble over the next three years to over 7 million. PDAs (Portable Digital Assistants) are expected to make up for over half this number, with the rest consisting of smart phones and devices used in industry.

The main contenders in the palmtop market are 3Com and Psion, both of whom have released new devices in recent months. Psion's latest, the Series 7, doesn't fall in to the category of a palmtop (see the Alternatives boxout for more information) but the smaller, trendier Revo does, as does its slightly older brother, the 5mx. 3Com, meanwhile, have done so well out of their Palm handheld sector that it was recently spun off as a separate company in its own right. Like Psion with the Revo, they are targeting a younger audience with the Palm IIIe, a cut-down version of the IIIx.

Although neither Psion nor Palm provides Amiga connectivity out of the box, both companies' devices can be made to work with the Amiga. They communicate with a desktop computer for file sharing and transfer using a standard Serial link-up, and software support does exist, thanks - inevitably - to various Amiga shareware authors.

Whilst both Palm and Psion devices are true palmtops, they really appeal to two quite different markets. The Psions are much like cut-down computers, whilst the Palms are more like super-intelligent notepads or filofaxes. If you're about to spend some of that Christmas bonus on a digital companion for your Amiga, you'll need to know what to expect for your money.

Above: The Psion 5mx unfolds beautifully.

"The main contenders in the palmtop market are 3Com and Psion..."

Above: The Psion 5mx will fit into a jacket pocket.
Right and inset: Whilst the Revo is both smaller and daintier than its older, bigger brother.

"The 5mx's software package includes pretty much everything you could expect out of the box."

The Psion 5mx

Released in June of last year, the Series 5mx palmtop from Psion boasts many improvements over the older Series 5, first released in 1997. The 5mx runs on the ARM 710T processor with a clock speed of 36.864 MHz (double that of the 5), sports 16MB of memory, a 10MB ROM, several new applications and a 640x240 greyscale touch screen LCD display.

The 5mx's software package includes pretty much everything you could expect out of the box. Supplied applications include a word processor, spreadsheet, contact manager, agenda, calculator, jotter, e-mail, spell checker, voice recorder, database, Sketch (a basic art program), the OPL programming language and, yes, even the seemingly compulsory non-serious application, Bombs - a Minesweeper clone. In general, implementations are excellent, and feature sets are good but basic compared to desktop equivalents.

The size of the device (it fits easily in a jeans pocket at 172x89x24mm) belies the power of the 5mx, and its outward appearance is of a serious computing device. Two AA batteries are located along the rear of the unit underneath a rotating cover between the RS-232 serial port, infrared window and loudspeaker. Battery life varies from about 8 - 30 hours, depending on battery quality and how much the backlight is used. On opposite sides of the unit's belly are swivel covers for the Compact Flash (CF) card port and lithium back-up battery, whilst the stylus is tucked away in a slot at the rear of the unit. Additionally, a sliding cover on the front underside hides a trio of voice recorder buttons to allow the unit to be used as a dictaphone when closed.

When opened, the beautifully clear, compact keyboard slides out beneath the folding screen. On the system screen that greets you, buttons down the right allow you to create new files and folders as well as open a recently used file or pop open the control panel from which various preferences, as well as personal information, can be set. Applications are launched with a single tap of the stylus on the icons located along the bottom of the screen at all times. Also permanently available down the left hand side of the screen are icons for setting the global zoom level (1-3), sending and receiving files via infra red, cutting, copying and pasting between applications and showing the toolbar of the front-most application.

The Psion 5mx really is a joy to use. The keyboard takes a little getting used to, but after a few minutes of typing it feels quite natural. Indeed, after using a keyboard this small, a standard-sized keyboard (which is over five times the size) feels clunky and outdated. This is the best keyboard in its size category by a mile. The screen provides more contrast than the older series 5 model - it isn't quite as clear as the one on the Revo, but the backlight is a great bonus.

...and the Revo

The newer, more stylish and slightly smaller (157x79x18mm) Revo, meanwhile, will appeal to the younger, less computer-oriented section of the public. Its keyboard is more cramped and not as easy to use (though bearable for short periods) and it lacks a backlight - irritating if you just want to look up information or make a note of something in the middle of the night. Power is supplied by two built in rechargeable AAA batteries, giving about 12 hours continuous usage.

"Phone" and "Time" replace "Word" and "Sheet" on the Revo's permanently available toolbar (though both are still available from the Extras menu). A "Today" button on the system screen pops up a list of appointments and To-Do items next to information of the battery, link and memory usage. The unit's ROM, RAM (both 8MB), and screen (480x160 pixels) confirm the Revo's intended function - as an ideal companion to the mobile computing citizen. Less meaty all-round than the Series 5mx, the Revo is great for quick notes, contacts and appointments, but you wouldn't write your magnum opus on it.

The Palm IIIx

This is quite a different beast to the Psion, taking the form of a notepad rather than a miniaturised laptop. The unit itself isn't much smaller than the Psion Revo, measuring 119x81x18mm. With 4MB of upgradeable RAM and an upgradeable Operating System (PalmOS v3.1), you shouldn't be severely limited in the number of memos and appointments you can keep, or in the number of extra applications or games you could add to the existing software.

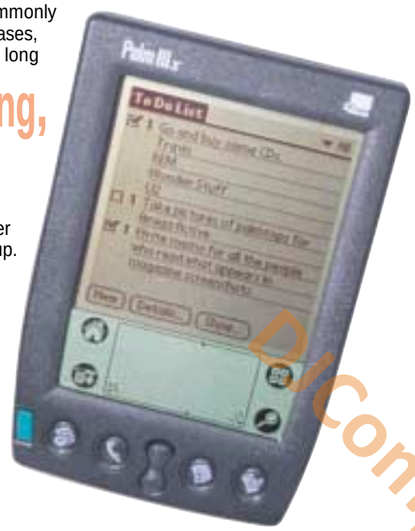
The Palm IIIx looks and feels robust enough, with a flip-up lid on the front and battery compartment (for a pair of AAA batteries which will typically last for around six weeks of normal use), contrast control, serial port and infrared window on the rear. The stylus slides out of a hole in the back of the unit located at the top right. Flipping the lid reveals the screen, above the on/off button which doubles as a backlight toggle, four buttons for immediate access to Calendar, Address, To-Do and Memo lists, and a button in the centre for quick and easy scrolling.

The display is split 75/25 into the unit's output and input areas respectively. Entering information can be done in three ways: write with the stylus in the "Graffiti" area (one character at a time), use an on-screen keyboard (brought up by tapping the bottom corner of the Graffiti area) or "Type into your desktop software, drop your handheld onto the cradle, and press the HotSync button to transfer the typed data."

The latter option is possible on an Amiga (see opposite), despite the software provided with the Palm not being of any use to Amiga owners. Having said that, you won't want to tie your palmtop to your desk by inputting information solely with your Amiga. The Palm's Graffiti writing system (which you are introduced to gently via the "Graffiti" button on the Palm's system screen) is quite intuitive - and not terribly sluggish once you get used to its quirks. Its most limiting factor is that, rather than it learning your handwriting, you have to write the way it tells you to. Whilst I didn't find it hard to adapt, this could prove awkward for some. A shortcut function allows you to enter abbreviations for commonly used words and phrases, which helps - just so long as you can remember the ones you've set up.

"... rather than it learning your handwriting, you have to write the way it tells you."

Software provided out-of-the-box includes Address, Calc, Date Book, Expense, Mail, Memo Pad and To Do List. These apps aren't packed with features, but are functional enough for their intended market.



Below: The Palm IIIx will suit the needs of the more serious user.

...and the IIIe

Unlike the upgradeable and quite expandable IIIx, the trendier IIIe (available in a transparent variety for the image conscious consumer) is a low-cost version of the IIIx, with just 2MB of RAM and the Operating System installed in ROM, rather than upgradeable flash memory. Despite the lower cost, the IIIe doesn't give the same "value for money" impression as its bigger brother. It's not just the price that's cheaper - the transparent casing and all-plastic stylus (the IIIx comes with a weightier, more robust metal stylus) makes the IIIe feel cheap too. Still, for the budget- and style-conscious individuals out there, this may just be the ideal portable companion for your Amiga.

Above: Palm's latest offering, the IIIe, is aimed at the younger, more care-free public.

Further Reading

- **Palm Europe:** www.palm.com/europe/uk/
- **Psion:** www.psion.com
- **PalmGear HQ:** store.yahoo.com/pilotgearsw/
- **W.F.M.H. Amiga software (PalmBackup and PalmIMGV datatype):** store.yahoo.com/pilotgearsw/wfmh.html
- **S5-Trans:** www.acc.umu.se/~gecko/s5-trans.html
- **Tucows PDA:** pda.tucows.com
- **3-Lib:** 3lib.ukonline.co.uk
- **Palmtop Software:** www.palmtop.nl
- **Palmstock:** www.palmstock.com
- **Purple Software:** www.purplesoft.com
- **PalmTime:** www.shoresystems.net/palmtime/
- **Palmtop Magazine:** www.palmtop.co.uk
- **Vapor:** www.vapor.com

Palmtops, add-ons, software and the Amiga

These palmtops are all very well on their own, but what if you want to add to them with more software or integrate them with your Amiga?

Connectivity software is provided on CD with each palmtop, although none will be of any use to Amiga owners. However, thanks to Aminet and a few helpful Amiga programmers, help is at hand.

The Palm series of handhelds is the best supported palmtop in terms of Amiga software - top of the pile is Spitfire from Ralph Torchia. Making good use of MUI (Magic User Interface), Spitfire will allow you to plug your Palm's HotSync cradle into your Amiga's serial port and synchronize diary, address book and memo information between systems. Installing new software is also possible, allowing you to download software from the Internet with your Amiga and send it across to your Palm via Spitfire's intuitive interface.

Psions are also supported with Amiga software, albeit at quite a basic level. Installing new applications usually requires that you simply copy a downloaded archive from your Amiga across to the Psion via serial cable, and this is quite easily done with S5-Trans from Bjorn Axelsson, or Vapor's AmigaNCP. S5-Trans is far from a pretty, intuitive utility - the documentation warns that it is far from a full software suite - but the various tools are functional and it is freeware. Vapor's AmigaNCP has a 50 Deutchmark shareware fee, but offers much more functionality. It mounts the Psion as a virtual NCP: device, allowing you access to data on the Psion via a standard Amiga window or the shell. Being able to clean up all the scattered files on your Psion using Opus Magellan is definitely a good thing. AmigaNCP also comes with a basic print server to allow you to print to a printer connected to your Amiga directly from your Psion. There's even some Amiga software which now runs on a Psion - witness Purple Software's conversion of Sim City (pictured).

"The Palm series of handhelds is the best supported palmtop in terms of Amiga software."

Add-ons aplenty

All palmtops these days are more than first meets the eye, thanks to third party developers producing both additional hardware and software to make your mobile computing experiences even more diverse than you may have anticipated.

The Psion range benefits from many commercial and shareware applications, demos of which are almost always downloadable from the Internet. From Spectrum emulators to dictionaries, scuba diving planners to astronomy programs, the Psion software catalogue is growing by the day. Hardware hasn't been forgotten either - modems, compact flash cards, coloured cases, extra styli... and if you travel frequently, how about an in-car navigation system for your 5mx? It's not at all expensive when compared to existing solutions - just £150 for a GPS (Global Positioning System) receiver, £50 for the software and around £25 for an in-car holder. Bargain!

3Com's Palms aren't left out in the cold either - modems and even a mini keyboard (the iKey Mite from Ibiz Technology) are among the available hardware to make using your electronic notepad more productive.

David Stroud A

Alternatively

If the four units covered in this article haven't quite got what it is you're looking for, you may like to investigate the following alternatives.

Psion clones such as the Ericsson MC218 or the Oregon Osaris are also available. The Osaris is only available in 4MB or 8MB versions, uses an earlier version of the EPOC Operating System (4 as opposed to 5), has an awkward 320x200 pixel screen (half the width of the series 5, which makes software compatibility a major issue) and lacks a comprehensive manual (printed or otherwise). The Ericsson MC218 is basically a 5mx with a couple of extra apps for mobile phone connectivity, and costs £479.99 (including a DI27 infrared modem and carry case), whilst the 8MB Osaris retails for £279.99. More information, at www.ericsson.co.uk/UK/mc218/ and www.oregonscientific.co.uk

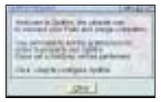
The Psion Series 7 offers a 640x480, 7.7 inch colour screen, 133MHz StrongARM processor and 16MB of internal memory (upgradeable to 32MB). In terms of size, the Series 7 is caught between being a palmtop and a laptop - 235x182x37mm in size and just over a pound in weight. It will take a hefty chunk from your wallet, too, costing £699.95. Not quite an addition to your Amiga as a whole new computer system, then.

The Palm V, Vx, VII and other Palm compatibles such as the Philips Nino, Casio Cassiopeia and Everex Freestyle are also available, although compatibility with Amiga software (namely Spitfire) is an unknown. Both versions of the Palm V sport a more modern "bead-blasted anodised aluminium design," and the Vx comes with a hefty 8MB RAM as opposed to the V's 2MB. Although smaller and lighter than the III range in size and weight, they do cost a lot more.

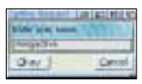
Plug and Play the Palmtop way

Palm v Psion

1 Make sure your Amiga is turned off, and connect the hotsync cradle to the serial port. The Palm comes provided with a 9-pin to 25-pin D-type adapter, so the cradle can be connected to the standard serial port or a Surf Squirrel, for example. Place the palm in the cradle.



2 Install Spitfire (provided on this month's cover CD) and run it. As this is the first time, you will need to set the program's preferences, including the serial port and baud rate to use. The provided documentation will help you out if you are unsure about some of the settings.



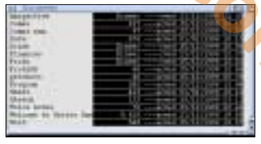
3 Make sure your Palm is seated in the HotSync cradle and press the Hotsync button in Spitfire. This will synchronize the information on the Palm with your Amiga, and enable you to edit information from either.

4 Editing information is now possible on your Amiga. The connectivity of the Palm with an Amiga, thanks to Spitfire, is fantastic. Editing notes and address details on your Amiga is a lot faster than using the Palm's Graffiti system or on-screen keyboard, but putting your A1200, keyboard and monitor in your shirt pocket is a little tricky, so this way you get the best of both worlds!

1 Connecting a Psion 5mx is as simple as plugging the provided serial lead into the back of your palmtop and into your Amiga. Not quite as handy as the Palm, however, the Psion doesn't come with a 9-pin to 25-pin adapter. Not to worry, such an adapter will only cost a few pounds from most good computer suppliers.

2 Should you want to continue writing your latest novel or film script on your Amiga when you get home, just install AmigaNCP (demo version on this month's CD) and configure it for use with your palmtop.

3 Make sure your Psion is connected to your Amiga and that it is turned on. AmigaNCP-Filesystem will allow you to copy files to and from your Psion by mounting it as if it was a disk volume (ncp:).



4 Copying a whole folder of subdirectories and files is as easy as it would be if both devices were on your Amiga - just pick up what you need and drag it across. It may be a little slower than hard drive to hard drive copying, but it couldn't be simpler.

AmigaNCP will even take care of character conversion for you, as the Psion and Amiga use different character sets. This enables you to use your Psion's files directly from your Amiga. A text file loaded from the 5mx's C: drive will be copied straight across, but AmigaNCP provides extra drawers in its root window which start with "Conv_". Loading a text file from Conv_C:documents/test.txt will automatically convert it to the Amiga's character set on the fly, whilst saving it will convert the file back into the Psion's character set automagically!

Of course, another very good reason for connecting a palmtop to your Amiga is to perform a backup of all the information stored on it. All computers are prone to failure at some point, and losing back-up as well as main battery power at the same time can be costly. That's not to mention that you can become carried away deleting files, especially when you're getting to know your way around your new handheld. So take our advice and back up your data regularly. If your palmtop goes haywire or is separated from you for any reason and you have to acquire another, it will only take you a few minutes to install your old files and get you back to how you were.

NAME: A4000 POWERFLYER GOLD EDITION
DEVELOPER: ELBOX
SUPPLIER: POWER COMPUTING
TELEPHONE: +44 (0)1234 851500
COST: £79.95
WEBSITE: www.powerc.com

PowerFlyer FastATA4000

A4000 owners get the chance to join in the Powerflyer fun at last.

The A4000's IDE hardware hasn't changed since 1992. Hard drives, on the other hand, have become many times larger and faster. The standard controller can't manage much more than 2MB/s, a speed many removable drives laugh at, let alone hard drives. Even worse, the CPU load when transferring data at that speed results in other operations grinding to a halt. The standard solution has been to buy a SCSI controller and drive, which means a fair outlay. Now we have another option, the PowerFlyer 4000. This promises increased speeds, lower CPU loads and the ability to use large, cheap IDE drives.

The card is only the length of the Zorro III connector, so it's unsupported at either end. This didn't appear to cause any problems in use. Before fitting the card, remove your IDE cable from the motherboard and connect it to the card. If you have two IDE devices, it's best to connect one to each port. This results in faster transfers between the two devices, such as when copying files from CD to hard drive. After fitting the card, switch on and... nothing happens! The Amiga is waiting for a response from any drives connected to the standard IDE port, and will wait for up to thirty seconds before giving up. Apart from the obvious solution of leaving another drive connected to the port, you can make a "dummy drive" from an IDE connector and a couple of resistors, or run a program like NoIDE (which we will include on next month's cover CD). Neither of these options are provided with the PowerFlyer - you have to sort it out yourself.

Above: FastATAPrefs showing a hard drive on the first port and a CD-ROM on the second.

Speed Comparisons

Speeds, in MB/s, were measured with the DriveTest program supplied with the PowerFlyer and a Fujitsu MPA3035ATU drive.

Standard IDE:	**2.3**
FastATA PIO 0	**1.3**
FastATA PIO 3	**4.4**
FastATA PIO 4	**5.2**
FastATA PIO 5	**6.0**

Setting up

The installer adds commands to the beginning of your startup-sequence. One initialises the card; without this it only works in the slowest mode. The others start up FastATAPrefs if you hold down the left mouse button when booting. This enables you to change some settings. The PIO mode should be set to an appropriate value for each drive. PIO 0 is the slowest, it's the mode used by the internal port. Modes 3, 4 and 5 are successively faster. Use the supplied ReadTest program to ensure that the mode you choose is suitable. Although FastATAPrefs picked PIO 4 for my Fujitsu drive, ReadTest reported errors and I had to set the prefs to the slower, but more reliable, mode 3.

FastATAPrefs has a Standby option, to shut down the drive motor after a period of inactivity. This can cause more wear to the drive than leaving it running all the time, so only use it on drives that are inactive for long periods. If you use OS 3.5, you also need to edit DEVS:NSDPatch.cfg and change the SetPatch line in startup-sequence to:

```
SetPatch QUIET
SKIPROMUPDATE scsi.device
```

The PowerFlyer provides a solution to the 4GB drive-size limit of the pre-OS 3.5 scsi.device by splitting larger drives into virtual 4GB drives. This can be turned off if you have OS 3.5 or use a filesystem without the 4GB limit, such as PFS3. It also comes with the AllegroCDFS filesystem - the installer takes care of setting this up, although it has no provision for CD changers. AllegroCDFS is the first Amiga CD filesystem with support for DVD drives. This isn't particularly useful while we have to wait for DVD player software, but will hopefully be useful later on.

What do you get?

The speed table shows a significant speed advantage over the standard IDE port. What it doesn't show is that it does this while placing a lower load on the CPU. The PowerFlyer will let you use your existing drives at higher speed, or take advantage of the low prices of fast IDE drives. It's not as fast as a good SCSI controller, but the combination of a PowerFlyer and IDE drive wouldn't cost much more than a SCSI drive on its own. The delay on booting up is a problem that needs to be addressed. At the very least, FastATAPrefs should have an option to patch out the scan for the internal port on a warm boot.

Neil Bothwick A

Powerflyer 8/10

SYSTEM: **Zorro III equipped Amiga**

SUMMARY: **Use large cheap drives at high speed, and get a DVD CD filesystem into the bargain.**

NAME: VISUAL ENGINEERING / IMAGE ENGINEER
DEVELOPER: MARKO SEPPONEN
SUPPLIER: SHAREWARE (see archive on our cover CD)
TELEPHONE: N/A
COST: See boxout on page 29
WEBSITE: http://wwnet.fi/users/smarko/visual/

Image Engineer and Visual Engineering

If you don't want to invest in ImageFX, there's a pretty good shareware alternative we think you should know about.

I'll begin this review with a confession: I am seriously fascinated by "eye candy." While cruising the Internet, I have often been mesmerised by some beautiful logo with a soft, "3D" drop shadow, or by a clever animated GIF, or by an interestingly manipulated photo. After the admiration, my next thought is usually, "I wonder how they did that!" Or, more to the point, "Wow, I wish I could do that!" Indeed, it's the Web that really got me interested in dabbling in 2D graphic design on the Amiga.

I'm not an accomplished freehand artist, so I never got very far with the bitmap graphics packages. I then discovered the fabulous structured drawing program, Draw Studio, which seemed to make cranking out beautiful logos a snap... and I was hooked. Draw Studio comes bundled with a very basic image editing program, Image Studio, which met my image processing needs for a year or two.

Some time later, at an Amiga show in St. Louis, "upgrade envy" struck. I saw Kermit Woodall of Nova Design elicit "ooh's" and "ahh's" from a crowd while demonstrating the latest version of ImageFX. "Cool! I've gotta have that," I thought - but my enthusiasm was tempered by the price tag. Admittedly it's a steal for what ImageFX can do, but overkill for my needs. Then, a few months ago, I stumbled upon the web site for Visual Engineering (wwnet.fi/users/smarko/visual/). The site featured a beautiful image - a photograph of a gorilla, altered to look like a jigsaw puzzle with a missing piece - and a caption declaring (in charmingly fractured English) "Don't block your creative mind from outputting such a beautiful pixels!" Clicking on the site's links, I was treated to dozens of beautiful logos, images and fascinating animations. Visual Engineering, it turned out, is a collection of shareware AREXX scripts that work with another shareware program, an image manipulation and graphic format conversion application called Image Engineer (home page at www.amigaworld.com/support/imageengineer/introduction.html) Originally programmed by Simon Edwards, Image Engineer's development was recently taken over by Finnish programmer Marko Sepponen, author of the Visual Engineering ARexx scripts.

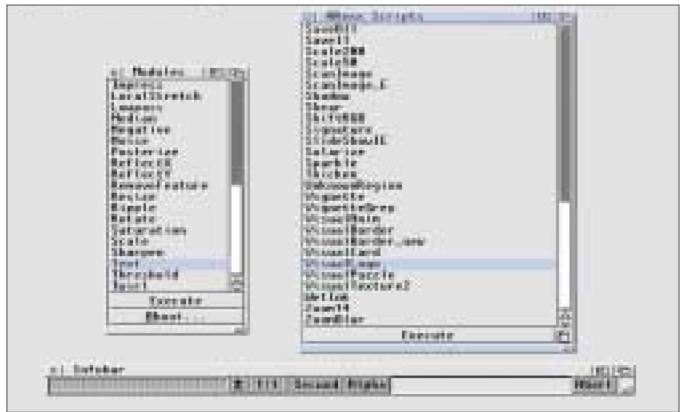
Getting started

Image Engineer itself comes in two LhA archives and is easily installed via the included Installer scripts. Documentation is provided in the form of a comprehensive AmigaGuide help file. In addition, the Visual Engineering web site is loaded with useful tutorials for the plug-in scripts, which may be read online or downloaded as archives and studied at your leisure. Each of the Visual Engineering ARexx scripts also comes with a "Notes" file containing separate explanations of the controls, usage and variables for each script. All in all, the assorted docs do a good job of getting you started. My only suggestions: it would be great if the AmigaGuide help files were context-sensitive, and if there were a way to call up the Notes from within the program itself.

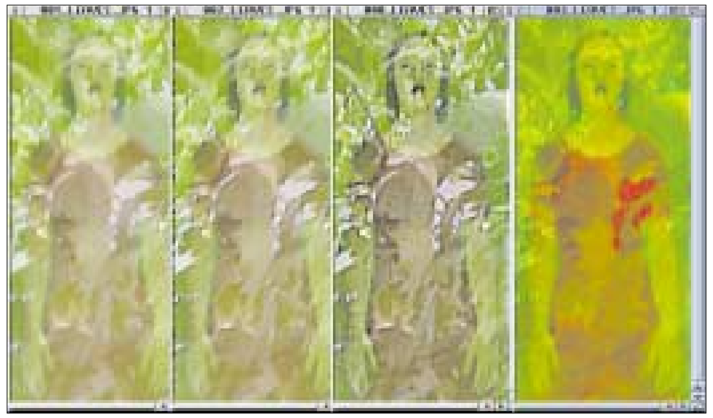
Image Engineer presents a clean, uncluttered interface. By default, it opens three unassuming windows at startup: a Status window which gives information such as the image name, type and size in pixels, the mouse co-ordinates, image status (whether the image is marked as the alpha channel or as the "second" image in a compositing operation) and a progress bar (as well as a button allowing you to abort any operation). There is also a Modules window listing the many standard convolves which you can apply to an image, and a window allowing you to select and execute an ARexx script (such as one that comes with the Visual Engineering collection).

The interface is amazingly configurable; you can completely configure the menus and even assign hot keys to your favourite functions. The entire GUI is also font sensitive, a nice feature if you want to run the program at higher screen resolutions and select a larger, more readable font for the user interface. Preview windows for many of the operations that you might want to perform on an image are also available - adjust the parameters of a filter or convolve, and you can see the results in real time in the preview windows (one of which allows you to see a small area of the preview image magnified... nice!)

Perhaps the most thoughtful feature of the Image Engineer interface, though, is the fact that it opens a new window to show the results of any operation on



Above: The basic Image Engineer interface.



Above: Two composited images with a variety of filters applied.

Engineering a text based Image

Combined with the Visual Logo script from Visual Engineering, Image Engineer allows you to turn a flat, ugly text block into something unique and beautiful. Here's a simple but impressive example.

1 You could create your black on white text bitmap in a separate paint program, but let's use the Text Module instead. Highlight "Text" in the Modules window and 'Execute' it. Select a font and enter the text you want to appear. Hit "Okay." (In this example, I've purposely used one of the ugly, jaggy bitmapped system fonts: it's Marble.font, 44 point, bold. Yech!)

2 You'll need black on white text to use with Visual Logo, so highlight the window of the text you just generated and 'Negative' it, either from within the Modules window or from the 'Balance' pull-down menu.

3 This particular font still looks a bit anemic, so before we apply Visual Logo to it, we'll run the 'Thicken' script from the AREXX Scripts window to fatten it up (be sure to fatten "Black Pixels").

4 Since the text still looks a little jaggy, we might achieve better final results with some of the 'Logo Effects' if we smoothed it by applying the "Gaussian Edge" ARexx script (try "Normal" type with a Lowpass value of 1 for starters), but...

5 Since the Visual Logo script we are about to use handles the anti-aliasing for us, we can instead go straight to the Visual Logo script and select "Shiny." (You can try this tutorial with "Strong" too.) Execute it, and as we'll be adding a nice drop shadow later which will need some room of its own, add about 10 pixels of 'Space Around'. Marvel at the lovely result!

6 Ah, but it's still just black and white! So, let's add some colour to it. Save Data (from the Project Menu) in a colour format (JPEG or ILBM will do fine) and re-open the file that you just saved. Highlight the window and select "Colour Filter" from the 'Balance' menu. Uncheck "Intensity", and play with the Red, Green and Blue components until the logo in the preview window is in a colour that you like (I used Red Low and High at 85, Green Low and High at 0, and Blue Low and High at 64 for our example).

7 We're almost done! Execute the 'Shadow' script from the AREXX Scripts window and choose "Lowpass" Type, Colour "No", Lowpass value "8", Threshold "255", X-place and Y-place = "-2", and space around = "0". Look at the beautiful logo you've created!

8 Remember that you're never necessarily "finished" with any Image Engineer project. For example, look at the "Neon Glow" effect that you can achieve just by applying "Negative" to our final result!

> "...the real fun with Image Engineer starts when you begin to play around with some of the more "exotic" operator modules."

Visual Engineering

Visual Border

Visual Border will take a photograph or other image and place one of 16 different border types around it. Each border type has many sub-type variants, and, of course, effects can be combined to provide for limitless possible results. You have no idea how much more interesting a photograph can look in a web site until you change its border from the standard rectangle to something a little more exotic.

Above: An image with one of the Visual Border "shiny shape" types applied.
Far Left: An image with two Visual Border scripts, "Raised" and "Focus" applied.
Left: Several border types composited together (based on a web site tutorial).

Visual Logo

Visual Logo will take a black-on-white text image and work magic on it. There are 11 basic effects included (again, each effect has many variables that you can adjust for a variety of results). What's really incredible is the extent to which you can simulate "bump mapping," light sourcing, "glowing" and other "ray traced" type effects with these scripts! Also, you can composite different versions of the image together for even more interesting results. Fans of Candy Factory will have some idea of what this can do.

Above: Stages of a Visual Logo tutorial, from black and white text to infinity!
Right: Candy Factory? No - Visual Logo magic!

Visual Puzzle

Visual Puzzle take an image (the dimensions must be scaled in multiples of 100 pixels) and makes it look like a jigsaw puzzle. This is perhaps not going to find as much general usage as the other two scripts, but it is a very nice effect.

Right: Visual puzzle script: before and after.

an existing image. Thus, there is no need for an "undo" feature, since the original image is always available, allowing risk-free experimentation. You can, for example, make five changes to an image, select the third version, and further modify. This is a very comfortable way to work, as long as you have a screen size of sufficient resolution for a lot of windows to be open and visible at once.

Simple conversions

One simple use for Image Engineer is image format conversion. After modifying a picture to your liking, you can either save it in its present form or "Render" it into a different format. The "operators" included with Superview support most of the image formats you can probably name (and quite a few that I bet you've never heard of).

Most of the formats have an "options" sub-window allowing you to select, for example, whether to enable progressive loading on a JPEG. One shortcoming here: the Unisys licensing fees for making a program natively capable of handling GIF files is so expensive that Image Engineer doesn't internally support this common "internet" bitmap graphic format. Image Engineer will look for an Amiga OS Datatype for any picture you load for which it cannot find a Superview "object" file, so if you have a GIF datatype installed, IE will load it, but you'll need another program, such as Personal Paint, to save GIFs. Of course, for static images on web pages you can work around the lack of GIF support by saving in the newer PNG image format.

You can also use Image Engineer to clean up a poorly scanned or otherwise unacceptable photograph. By using combinations of the Brightness, Contrast, Gamma, Sharpen, Median and other filters, I've found that you can do wonders with a pretty hopeless looking image. However, the real fun starts when you begin to play around with some of the more "exotic" operator modules. Twirl, Ripple and Bulge can yield particularly interesting and even bizarre results! Further creative effects can be achieved with two images by 'Compositing' them (laying one on top of the other in a number of different ways). Experimentation is the order of the day when it comes to compositing two images. The names of the various compositing methods (Add, Subtract, Multiply, Difference, Maximum, Minimum, Alpha) don't really indicate the outcome, but the preview window, documentation and (most helpfully) the HTML tutorials will help you to figure it out.

Above: A preview window showing the Twirl operation in action.

Above: Getting funky with the Twirl convolve.

"The strengths of the Image Engineer and Visual Engineering combination are considerable."

Compositing can also be applied by using one image as the Alpha Channel "mask" for another (allowing more of the underlying image to show through where the mask is lighter, and less to show through where it is darker). Image Engineer comes with nice selection of interesting black and white masks, and more are available on the web site.

ARexx Magic

Saving the best for last, we come to Image Engineer's ARexx capabilities. Many useful ARexx scripts come free with Image Engineer itself (such as the very helpful AddSpace, which adds... er... space (white or black) around an image). Most fascinating, however are the shareware Visual Engineering ARexx "plug-ins"). There are three Visual Engineering scripts - for more information, see the separate boxout (left).

Beyond these shareware plug-ins, you can download a number of freely distributable scripts from the Visual Engineering web site. These include scripts for adding shadows to images, enhancing the appearance of tilable textures, "stacking" images at odd angles to simulate the appearance of a pile of photographs or playing cards, and more. There's also a nifty script called Visual Anim which will take a single, static image and from it generate the frames of an animation in which the image will twirl, pulsate or ripple in a very fluid and convincing manner. Obviously, this can't be reproduced on the pages of a magazine, but we have included a sample animation you can view from the HTML front end of our CD - just doubleclick the welcome icon and look for the Visual Engineering part of the magazine section. In addition, Image Engineer comes with an ARexx-based batch processing system for automating the applications of a host of effects to your images. Marvellous!

Retrace your steps

All of the ARexx scripts generate their own tiny "config" files each time you run them, with the result that Image Engineer always "remembers" the last settings that you used with a script (or with many other features of the program, too). This is a very nice touch - if you achieved something you like but didn't note the steps you took to get to the final result, this feature can help you reconstruct the effect.

The strengths of the Image Engineer and Visual Engineering combination are considerable. As with any software, though, there is room for improvement. As I've already noted, the lack of native GIF support is an inconvenience (although a common one for Amiga graphics packages these days). In addition, a few operations, such as rotating an image, are excruciatingly slow on my 50 MHz 68060 CPU. Admittedly, this may be because Image Engineer is trying to execute floating-point math instructions which are not internally supported by the '060 chip, but even running Phase 5's Cyberpatcher program didn't seem to help much, so perhaps some optimization is needed. Occasionally, an effect module or Visual Engineering script failed to execute properly for some unknown reason. There is a workaround, though: Delete the config file for that script or module, and things will usually go back to normal.

Finally, I've experienced some intermittent, non-reproducible program lockups while running Image Engineer. This may be due to some quirk in my system, but honesty demands I mention it.

All in all, I have become quite a fan of Image Engineer. In some ways, it epitomises one of the best features of the Amiga community: shareware authors who are passionate about their projects and continue to develop them as a labour of love. Marko continually updates the Visual Engineering plug-ins with bug-fixes and new effects. He is quick to respond to questions by e-mail and once you register any of his products, updates are free for life.

Steve Folberg A

For the bargain price of...

You can register Image Engineer, as well as the Visual Engineering scripts, online with a credit card through the RegNet system. As of this writing, Image Engineer costs only US $35 or 32 Euros (plus a $5 service charge if you use the RegNet service). As a bundle, you can buy Visual Border, Visual Logo and Visual Puzzle for US $49 (plus $5 through RegNet) or separately for $25, $25 and $9, respectively. In addition, the author periodically runs special bundle prices for these products.

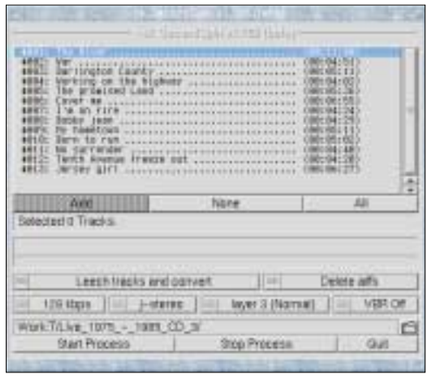
Image Engineer 8/10

SYSTEM: 68020, OS 2.04, 2MB RAM, Superview.library v15 & bgui.library (on our cover CD).

SUMMARY: Combined with Visual Engineering, Image Engineer is an amazingly powerful package that will jazz up your photos and generate beautiful anims and logos, too!

Mpeg Encoders

We look at some options for creating MP3 audio files on your Amiga...



Above: An attractive GUI for NcodeR, customisable with skins, but some advanced features are only available from the shell.
Left: A functional GUI for SecondSpin. It has just downloaded these track titles from the Internet.

The Amiga's 68K processors may be under powered by modern standards, but they do a good job of playing MPEG audio files, thanks mainly to Stephane Tavenard's excellent MPEGA. Encoding MP3 files is another matter, requiring a lot more power. A PowerPC definitely comes into its own here, although it can be done without one if you are patient. Three programs that do this job are NcodeR, LAME and SecondSpin. The first is commercial and the others are totally free. So, is there any difference? Should you pay for something you can get for free?

NcodeR has a GUI that is pretty rather than functional. It uses skins to change its appearance, but some of the gadgets are not as straightforward as they should be. Its main benefit is speed - NCodeR is significantly faster than the other two programs here. LAME and SecondSpin have options for faster encoding with reduced quality, but even with this help, SecondSpin isn't as fast as NcodeR. The quality of files produced by NcodeR is very good. In the speed tests (see boxout), the PowerUP version of NcodeR was used. The WarpOS version took 50% longer, whereas the PowerUP version ran at the same speed under WarpOS via the ppc.library wrapper as it did in native PowerUP.

The free options

LAME is a port of an all-platform freeware project. It provides reasonably fast encoding and good quality, but it has no GUI. All options have to be entered on the command line. This is alright when you want to use the default settings, but can be a little long-winded otherwise. If you are a fan of the CLI, it's worth noting that NcodeR can also be used in this way, which adds options not available from the GUI.

For GUI control, SecondSpin takes some beating. It has a plain but functional GadTools interface. This makes it the easiest to use, but it is the slowest of the three at encoding. Its encoder is based on LAME and gives the same quality, but encoding times are noticeably longer. However, it has one unique feature: it can encode direct from CD and name the tracks using CDID files. Better still, if you are connected to the Internet, SecondSpin will query the main CDDB repository if you don't have a CDID file for the current CD. The CDID file is saved, so you don't need to be online when encoding, only when setting that CD up for the first time. NcodeR can read data directly from audio CDs; it does this using BurnIT, the CD mastering program, and comes with a demo version for those that don't have the full program.

Which is the best?

For sheer speed with a PPC, NcodeR is best and also has a comfortable GUI. SecondSpin is the slowest, but is the easiest to use and has the most features. The ability to encode a CD and name the tracks, downloading the necessary data, is especially good. LAME shows a good turn of speed, although it is not as fast as NcodeR, has no GUI and is unable to read audio direct from CD. You need to use a separate program for that, such as MakeCD. Decisions decisions. We'll leave it up to you!

Neil Bothwick A

"For sheer speed with a PPC, NcodeR is best..."

How fast?

Tests were performed for each program on the same source, the first minute of the audio track from AACD03. We used an A4000 with CyberStorm PPC with a 604e/233 and 060/50. Times in the table below are in seconds, as given by each program.

Each encoding was at 128kbps level 3 with joint stereo unless stated otherwise. This is the default setting for all encoders and gives optimum results for CD audio. The 16kbps audio setting is the sort of compression you'd use for sounds on a web site.

	NcodeR	LAME	SecondSpin
Default	47	66	91
Fast	[1]	35	51
16kbps mono	[2]	13	12
320K stereo	50	63	89
Default using 060	5689	437	[3]

[1] NcodeR does not provide a faster, low quality option.
[2] NcodeR doesn't support 16kbps or mono.
[3] SecondSpin auto-detects the PowerPC so it wasn't possible to test with 060 only.

Where From?

LAME and SecondSpin are both on this month's cover CD. NcodeR is available from Epic Marketing for £30. Telephone: +44 (0)1793 514188 or visit: http://www.epicmarketing.ltd.net

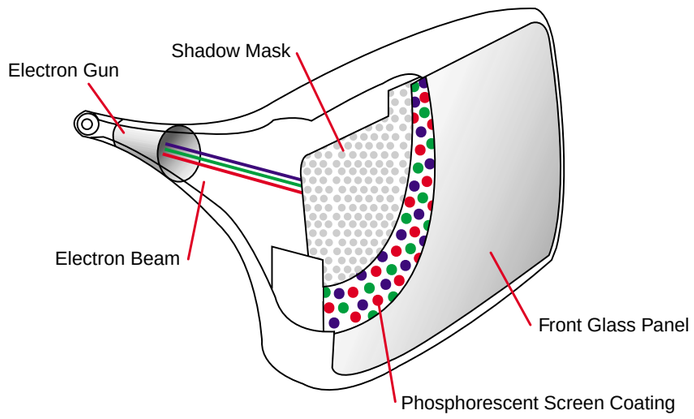
Dream Screens

Thinking of upgrading from that pokey little fourteen incher?

It is perhaps the most valuable and certainly the most used component in any computer system: You use it to input data, but it isn't the keyboard or mouse. It affects the usability of your system, but it isn't the Operating System or GUI. It tells you what your computer is doing, but it isn't SnoopDos or Scout. Indeed, if you didn't have one, your computer would be next to useless.

The importance of the humble monitor is perhaps best explained with the aid of a brief history lesson, so put your satchels under your desks and pay attention. And stop chewing at the back!

Below: The workings of the humble Cathode Ray Tube.



From the dawn of the computer age back in the last millennium (yes, yes, we know), hardware and software have advanced hand in hand. Faster computers have given rise to more complex software, which has in turn called for more horsepower in order to run faster. But computers used to be tools - it wasn't until the advent of computer games that technology really started to move. From Pong to Pacman, the gaming revolution threw open the doors of computing to the general public - a public who quickly became obsessed with the notion of "Better! Faster! More!" Some time later, as people started to tire of endless Space Invader clones and two-dimensional gaming fare, came another explosion - a revolution within a revolution, if you will. Someone added a third dimension.

3D immersed the public in computer games like nothing else, and with it came the search for the Holy Grail: realism. For games to become more lifelike, to truly immerse the player into another world, computers had to get faster, and quickly. Computers spawned a second processor - more and more responsibility for output was handed over to dedicated graphics hardware. The performance of a computer was no longer tied to one component and CPUs could get back to what they were best at - pure and simple number crunching.

But the thirst for realism isn't diminished - more colours and higher resolutions are needed to allow increased detail on screen. Displays that were once made up of thousands of pixels are now composed of millions, but there's still one potential bottleneck: larger resolutions are useless without a monitor capable of displaying them.

The ramifications of a poor display are far from purely aesthetic, however. A picture that isn't pin-sharp and rock-solid can detract from the experience of using a computer, be it for games or any other purpose. If you picked up this copy of Amiga Active in the newsagents and thumbed through the pages only to find the words were fuzzy or the pictures were unclear (the WipEout picture in last month's issue was a one-off, before you say anything), you probably wouldn't be looking at it now. Why should a screen be treated differently?

To find out how to get the most from a computer's display, we need to understand how graphics cards and monitors work together to give you what you see on screen. Armed with this information, you will be able to choose the right monitor for your computer - one that gives the best performance at the resolutions required, and one that won't need changing every time you install a new graphics card.

Cathy, Ray and who?

Today's monitors are predominantly of the CRT type, which we will focus on here. A CRT monitor is so called because it uses a Cathode Ray Tube to fire streams of electrons at a phosphor-coated screen. This phosphorescent coating is divided into a matrix of tiny dots, each of which is made up of a triad of smaller dots - one each of red, green and blue phosphors.

A colour monitor has three electron guns, for red green and blue, situated at the rear of the unit. Starting at the top left of the screen, the beam of electrons is scanned across to the right, automatically switched off and moved back to the left-hand side (almost instantaneously) where it is moved down a fraction and switched back on to start again.

As this happens, the individual intensities of the red, green and blue electron beams are controlled via information being sent from the graphics card. Controlling the individual intensities of each beam as they scan the surface of the screen produces the desired colour at each point along the line. This process of sweeping the beam from left to right continues until it reaches the bottom right corner. The beam is then switched off again and moved back to the top left corner to make the next pass.

The time it takes for a single pass of the beam over the screen's surface is called the "vertical refresh rate," and is measured in Hz (cycles per second). Therefore, a vertical refresh rate of 72Hz means the screen picture is redrawn 72 times per second. The reason for the screen being redrawn so quickly is because the phosphorescent surface of the CRT only glows for a fraction of a second before fading. A slow refresh rate results in flicker as the screen image is given a chance to fade out before being drawn again.

Return of the custom chip

So we know how a CRT monitor physically produces a picture, but how does it know exactly what to draw? To find out, we need to look at the workings of the graphics card in more detail. Older graphics chipsets were simple beasts, taking information from a computer's CPU and translating it into a form the monitor could understand.

The latest graphics processors do a lot more work - the CPU only needs to send basic information and the graphics card will figure out exactly what to draw before sending the information to the monitor. This is particularly true of the latest 3D graphics chips which are capable of numerous graphical calculations such as gouraud shading, fogging or bilinear filtering - to name but a few. Today's graphics chipsets do so much work that they can be considered co-processors. Indeed, the GeForce256 from nVidia (www.nvidia.com), which does some of the 3D graphics number crunching itself, is being called "the world's first GPU" (Graphical Processing Unit).

Of course, now that graphics cards process a lot of information themselves and the number of pixels and colours on screen have increased so dramatically in recent years, memory becomes a major issue. As well as system memory, a computer needs graphics memory. The Amiga's 2MB of Chip RAM is an early example, but the memory provided on modern graphics cards is much more advanced - it has to be both faster and a lot larger in order to cope with the large amounts of data used to define today's bigger screen modes. Displaying a 1600x1200 24bit screenmode takes up nearly 6MB of RAM.

This is why the latest graphics cards have 8MB or more onboard - to allow them to store this information. In addition, a 3D graphics card will provide further memory for storing often-used data such as textures for 3D objects, which you don't want being fetched slowly from system RAM every time the graphics chip needs it.

How Refreshing!

It is important to note that refresh rate is completely different from frame rate, which refers to the number of times per second a computer program can update the information it sends to the graphics hardware (and is commonly used in benchmarks to define the speed of computer games). A picture (or frame) need only be changed as few as 16 times per second (16 FPS) to convince the human brain that it is seeing fluent motion. Of course, the exact value largely dependent on both the individual and the nature of the images being displayed. A 'safe'24 or 25 FPS is used for television and film.

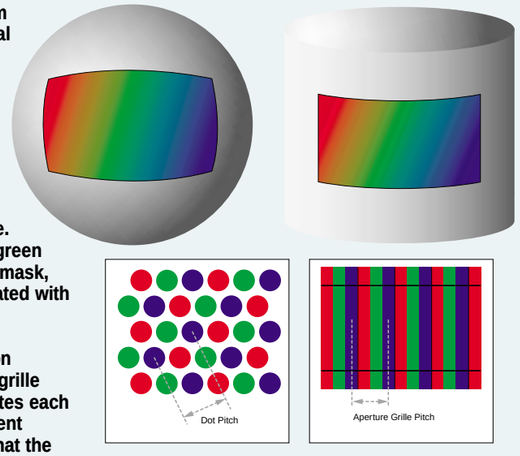
Refresh rate, on the other hand, refers to the number of times a monitor refreshes its screen per second. Slow refresh rates cause noticeable flicker, but most individuals can not see flicker much above a refresh rate of 72Hz. Once noticeable flicker has been eliminated, there is little reason to drive your monitor at a higher frequency, although the latest TCO standards require a minimum refresh rate of 85Hz for displays of less than 20 inches and recommend 100Hz refresh rates for larger monitors.

Cylindrical or Spherical?

The shape of a CRT's screen varies from manufacturer to manufacturer. Traditional screens are cut from sections of a sphere, resulting in a convex monitor, curved both horizontally & vertically. Sony's Trinitron and Mitsubishi's Diamondtron CRTs, however, are cut from a section of a cylinder. The result is a screen which is vertically flat.

These differently shaped screens use different methods of displaying a picture. Rather than use a matrix of triads (red, green and blue phosphor dots) and a shadow mask, Trinitron and Diamondtron tubes are coated with adjacent vertical strips of red, green and blue phosphor.

A different way of masking the electron beams must also be used - an aperture grille composed of thin strips of metal separates each set of red, green and blue phosphorescent bands. The drawback to this design is that the thin strips of metal do not remain perfectly straight when heated. The solution is to run a pair of thin wires horizontally across the aperture grille to hold the strips of metal in place. This manifests itself on screen as two thin grey lines running across the picture.



Some people don't notice these lines, but for those who do, it can be an annoying "feature" of their monitor which they have to put up with. The plus point of the Trinitron design is the reduction of glare and reflections from the screen's surface and in general, a sharper picture.

"...the number of pixels and colours on screen have increased so dramatically in recent years, memory becomes a major issue."

So a graphics card calculates an image from the data sent to it by the CPU. This information is stored in the graphics memory from where it needs to be sent to the monitor, but before this can be done, the data needs to be converted into a form the monitor can understand. Up to this point, all the calculations done by the graphics card have been digital, but a monitor requires analogue input. The part of the graphics card which converts the data from digital into analogue is called the RAMDAC, which stands for Random Access Memory Digital to Analogue Converter.

Limiting Factors

The RAMDAC is a key element of modern graphics cards, as it controls the speed with which digital data is read, converted to analogue information and piped to the monitor. The result of a slow or inaccurate conversion would be a slow or inaccurate screen update, so not only does the RAMDAC need to be accurate, it needs to be fast. How fast? Well, this is where we get back to the refresh rate - if a monitor is to redraw its screen at a rate of 72Hz, the RAMDAC needs to supply data at the same speed - 72 screens worth per second.

The higher the screen resolution, the larger the amount of information and the longer it takes for the RAMDAC to process it, so speed is crucial. The RAMDAC on the Cyber- and BlizzardVisionPPC cards is rated at 230MHz, which means it can deal with about 230 million pixels per second (RAMDACs have three separate DACs for red, green and blue channels). In practice, as about 25% of this time is 'lost' while the electron gun is not drawing, 175 million pixels is a more realistic figure. The RAMDAC, however, is not the only limiting factor in determining the highest possible display resolution of graphics hardware, because it has to read information from graphics memory. Newer graphics cards use faster memory architectures. The Cyber- and BlizzardVision graphics cards use SGRAM, whereas the older PicassoIV card from VillageTronic uses EDO RAM (for a description of these terms, see boxout).

So a graphics card is limited in the information it can provide by the speed of its memory, chipset and RAMDAC. A monitor, meanwhile, is limited by its size, its maximum refresh rate, and its dot pitch. You will often see pieces of information such as "0.28mm Dot Pitch" in a monitor's specifications. This figure relates to the distance between individual triads of phosphor dots on the CRT screen. For newer monitors, the figure quoted will be the "Aperture Grille Pitch." (see boxouts). The smaller the figure quoted, the clearer the resulting picture - 0.26mm and 0.28mm are normal today.

"Size is, quite literally, everything when it comes to CRT monitors. Larger screenmodes require bigger physical screen sizes."

Size matters

Size is, quite literally, everything when it comes to CRT monitors. Larger screenmodes require bigger physical screen sizes (a 17 inch monitor is alright for 1024x768 screenmodes, whilst for 1280x1024 a 19 inch monitor is preferable, for example). However, a 19 inch monitor doesn't mean your Workbench screen will be 19 inches from corner to corner.

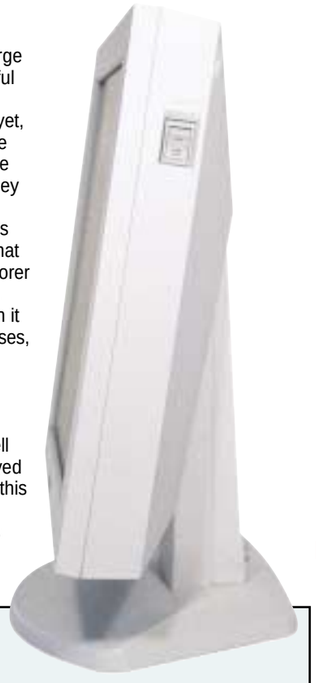
Cathode Ray Tubes are not perfectly flat, so some of the screen area (at the edges and in the corners) is not used as part of the display. Furthermore, a screen being shown on a CRT monitor will have a black border around its edges, reducing the actual screen size further. The result is around a one-inch loss, and many companies now list "viewable screen size" in a monitor's specifications. The Iiyama Visionmaster Pro 450, for example (see overleaf) is a 19 inch monitor with an 18 inch viewable area.

The future's bright... and flat!

Large CRT monitors are good, but not that good. They suffer from a number of failings, not least of which is their physical size. They also require a large amount of power and their circuits throw off harmful electromagnetic radiation. All is not well.

Is there a similarly priced alternative? Well, not yet, but the future of display technology could lie in the hands of LCD monitors. Liquid Crystal Displays are lightweight, slim-line and perfectly flat. As such, they are a highly desirable commodity. They are also much less demanding in terms of power. Nothing's perfect, however - their viewing angle isn't up to that of CRT monitors and they currently suffer from poorer colour performance and considerably higher cost.

Resolution is also something of a problem when it comes to LCD monitors - for all intents and purposes, it's fixed. Most 18 inch LCDs, for example, are designed for a resolution of 1280x1024. This is because an LCD screen is made up of a fixed number of cells and can therefore only show one resolution in full screen using one liquid crystal cell per screen pixel. Lower resolutions can be displayed by using less of the screen, and thus maintaining this 1:1 ratio, but for full screen display, only one resolution is ideal, and that's the one the LCD has been designed for.



What on earth does it all mean?

Active Matrix - A type of LCD flatpanel LCD display more advanced than earlier passive matrix screens. The most common such display is the TFT.

Aperture Grille Pitch - Measured in millimetres and alternatively known as Stripe Pitch, this is the "equivalent" of a conventional CRT's Dot Pitch for vertically flat screens such as Sony's Trinitron and Mitsubishi's Diamondtron, and is taken as the horizontal measurement between adjacent vertical bands of the same colour phosphor.

CRT - Cathode Ray Tube. The most expensive part of a monitor, responsible for producing the display by firing a stream of electrons from an electron gun onto a phosphor-coated screen. There are several different types of CRT, each with their own characteristics. Examples are Toshiba's Microfilter, Panasonic's CrystalVision, ViewSonic's SuperClear, Mitsubishi's Diamondtron and Sony's Trinitron.

Dot Pitch - Measured in millimetres, the distance between the centres of adjacent red, green or blue dots of phosphor on a conventional CRT.

DPMS - Display Power Management Signalling, a standard implemented by VESA by which power consumption of monitors is cut dramatically when not in use. Graphics cards which can send DPMS signals (including the Cyber and BlizzardVisionPPC cards) can be used in conjunction with DPMS-enabled monitors to switch them to standby or off completely when they are not required, typically when a screenblanker would usually cut in.

DRAM - Dynamic RAM, a special type of memory which relies on being refreshed many times a second by a refresh circuit. Comes in various flavours, including modern SDRAMs and EDO DRAM as used on older graphics cards.

EDO DRAM - Extended Data Out DRAM, an older and slower memory architecture than the more modern SGRAM, VillageTronic's PicassoIV card uses 4MB of EDO DRAM.

Electron Gun - The section at the rear of a Cathode Ray Tube which fires streams of electrons at the screen. A negatively charged cathode is heated in order to release electrons. These electron beams are accelerated towards the screen and focussed via positively charged anodes and steered onto the screen by a deflection grid (or deflection yoke).

GPU - Graphical Proessing Unit. The technical definition given by nVidia (creators of the GeForce256 GPU) is, "a single-chip processor with integrated transform, lighting, triangle set-up/clipping and rendering engines that is capable of processing a minimum of 10 million polygons per second."

Interlaced - A screen mode which is drawn in two passes of the electron beam in a CRT instead of one. This halves the actual refresh rate of the picture, so an 80Hz screenmode in interlaced is actually being updated at a rate of 40Hz, even though the electron beam makes 80 passes per second.

LCD - Liquid Crystal Display. Such displays offer a number of advantages over traditional CRT monitors - they're thinner, lighter and don't emit nearly as much electromagnetic radiation as their bulky counterparts. It has been estimated that LCD displays could make up for 50% of the market by 2004.

SGRAM - Synchronous Graphics RAM, a type of graphics memory used in many of today's mid- to high-end graphics cards. Phase5's Cyber- and BlizzardVisionPPC cards use SGRAM.

Shadow Mask - Located directly in front of the phosphor-coated screen (as the electron beam travels), the shadow mask is in essence a perforated sheet which masks the electron beam, fine-tuning it to hit the correct point on the screen to ensure a sharp picture.

Stripe Pitch - see Aperture Grille Pitch

SVGA - Super VGA (Video Graphics Adaptor), a so-called "standard" for video hardware. SVGA doesn't mean anything very specific, but most monitors and graphics cards are "SVGA compatible".

TFT - Thin Film Transistor, an LCD flatpanel display technology in which each liquid crystal cell is controlled by up to four transistors. Currently the best, but most expensive flatpanel technology.

Triad - A single cluster of red, green and blue phosphor dots which coat the screen of a CRT.

VESA - Video Electronics Standards Association, responsible for setting standards for video hardware.

"In an ideal world, everyone would be looking at an LCD display."

Amiga possibilities

This talk of monitors and graphics cards is all very well, but what are Amiga graphics cards capable of? Here's some information on the cards you may - or may not - be able to get hold of today.

Picasso II

From: Villagetronic
Fits: Zorro II/III
Specifications: Cirrus Logic CL-5428 chipset, 2MB memory.
Capability: 1152x900x8 @ 65Hz
Availability: Second hand

Picasso IV

From: Villagetronic
Fits: Zorro II/III
Specifications: Internal flicker fixer, Cirrus Logic GD-5446 chipset, 4MB EDO RAM, local PCI connector for 3D module (in development, based on 3dfx's Voodoo I chipset).
Capability: 1600x1200x16 or 1280x1024x24. Voodoo module will be capable of 1960x1720x16.
Availability: Second hand

CyberVision 64/3D

From: Originally Phase5, now manufactured under license by DCE.
Fits: Zorro II/III
Specifications: S3 Virge chipset, 4MB RAM
Capability: 1600x1200x8 @ 75Hz, 1024x768x32 @ 75Hz
Availability: Power Computing (+44 (0)1234 851500)

CyberVisionPPC

From: Originally Phase5, now manufactured under license by DCE.
Fits: Zorro II/III
Specifications: 3Dlabs' Permedia 2 chipset, 8MB SGRAM, 230MHz RAMDAC.
Capability: 1152x900x24 @ 75Hz, 1600x1200x16 @ 72Hz
Availability: Power Computing (+44 (0)1234 851500)

BlizzardVisionPPC

From: Originally Phase5, now manufactured under license by DCE.
Fits: A1200T trapdoor connector.
Specifications: 3Dlabs' Permedia 2 chipset, 8MB SGRAM, 230MHz RAMDAC.
Capability: 1152x900x24 @ 75Hz, 1600x1200x16 @ 72Hz
Availability: Power Computing (+44 (0)1234 851500)

However, because of the way an LCD display works, the displays are crisp, clear, rock solid and free from the problems of flicker or colour convergence usually associated with CRT monitors. There is a downside - latency is higher in Liquid Crystal Displays than CRTs, causing moving objects to smear slightly.

Slimline display, big fat cost.

In an ideal world, everyone would be looking at an LCD display tucked up flat against the wall than a bulky CRT monitor that causes desks to tremble in fear of their excessive weight. Alas, not everyone will be able to join the "slim is in" brigade due to the rather substantial amounts of money which LCD screens sell for. Sadly, as LCD monitors are a relatively new breed, they are likely to remain prohibitively expensive for mass-market appeal for a while yet. Prices will fall as more panels are manufactured, but this is likely to take several years.

There is, however, another factor aside from the number of units sold that is keeping prices of LCD screens high. The offender is analogue input, which all modern CRT monitors require and all computers are set up to provide. When you're talking about an LCD monitor which works from a digital signal, extra components have to be built into LCD displays in order to convert data received in analogue form back to digital information.

Of course, as discussed earlier, the RAMDAC of the graphics card has already converted information from digital to analogue, so the screen data is only travelling down a short length of cable to an LCD screen before being translated back again.

The DDWG (Digital Display Working Group) was set up in 1998 in order to investigate a solution to this very problem. Consisting of such companies as Intel, Silicon Image, Hewlett Packard, IBM and Compaq, their objective is to formulate a specification for a digital interface between computers and monitors. Last year, they took the first step by formulating the DVI (Digital Visual Interface) which will allow not just flat panel displays, but specially designed digital CRT monitors, to operate from a digital, rather than an analogue, input.

The future really is bright, and not only thanks to the prospect of digital CRTs and the falling prices of LCDs. There are a number of other flatpanel display technologies being formulated which will put LCD screens in the shade, but we'll have to leave that tasty topic for a future issue...

David Stroud A

Three Dream Screens

Looking to plug something a little special into your Amiga? Consider the following options...

One That Looks Nice!

Had Monty Python's Knights of Ni asked for a monitor that looked nice and wasn't too expensive, the chances are King Arthur would have sought out this one.

The Iiyama Vision Master Pro 450 is a gloriously indulgent, beautiful beast of a monitor. Based on Mitsubishi's Diamondtron CRT, this baby boasts a 19" screen (18" viewable area) with a 0.26mm aperture grille pitch, giving it a nice clear display. Everything is controlled using three elegantly styled buttons and an on-screen display, which is functional if a little on the small side.

Its compact case design means that it doesn't protrude back much further than a standard 17 inch monitor and support for resolutions up to 1920x1440 (1600x1200 at 90Hz) makes this a truly desirable New Year present. Go on, treat yourself!

Model: Iiyama VisionMaster Pro 450
RRP: £440 (excluding VAT)

As Flat...

LCD monitors are, understandably, all the rage these days, so we blagged ourselves a couple to test out with our Amigas. The Sony L181 uses, as the name might imply, an 18.1 inch LCD display, and very nice it is too. Suited to a display mode of 1280x1024, it gave wonderfully crisp results when set up with our BVisionPPC-equipped A1200.

Eight buttons arranged vertically at the top right of the unit control power, brightness, contrast, auto-adjustment and setting via the clear and intuitive on-screen display. One of these switches is also used to change between two inputs - so, if you want to connect this unit to a pair of computers, there's no need to worry about plugging and unplugging leads - just press a button to switch between the two.

The L181 is slightly more compact than the Iiyama flatscreen as it doesn't have an integrated pair of speakers or USB hub built into its base. It does have something nd its Digital Smoothing feature makes a good attempt at scaling smaller enmodes to use the whole of display.

Model: Sony L181
RRP: £2,095 (excluding VAT)

...as a Mat

If you can't get your mitts on a Sony L181, how about Iiyama's flatpanel display? Also using an 18.1 inch LCD screen and suited to a resolution of 1280x1024, the Pro Lite 46a has a couple of additional tricks up its (thin) sleeves...

Its three-button operated On-Screen Display operated in a similar way to the Vision Master CRT monitor. Built into the unit at the base of its stand are a couple of single-watt speakers, ideally suited to emitting the beeps and boings of OS3.5, for example. Just don't expect surround sound with mega bass when you're playing Quake or listening to Mpeg audio tracks. This unit is also somewhat future-proof, sporting a USB hub. See the boxout which explains why this might just be a good thing.

Although LCD screens are rather pricey, it has to be said that they are unbelievably gorgeous when compared to your average 17 inch CRT beast. If your girlfriend forgot to buy you a Christmas present, tell her she's dumped unless you get one of these. Then, if she's gullible and rich enough to fall for your little scheme, send her round to the Amiga Active offices. We all want one as well.

Model: Iiyama Pro Lite 46a
RRP: £2,239 (excluding VAT)

USB?

The Universal Serial Bus option which has started to appear on modern monitors will mean nothing for current Amiga users, but that doesn't mean we should ignore it. USB enabled monitors allow screen settings to be controlled via software, rather than a monitor's own controls. USB hubs allow a monitor connected via USB to a computer to have other USB devices (such as a keyboard) plugged in to the monitor instead of the PC. A neat solution, and one which we may yet see implemented on the Amiga.

Above: Iiyama's flatpanel LCD monitor has a built-in USB hub.

Left: Ditch that old monitor! Get yourself a nice shiny new one that's capable of doing the latest Amiga hardware proper justice.

Active Shareware

Allow us to share our thoughts about the latest utilities to have caught our collective eye this month...

Fat95

As more and more Amiga users take the plunge into using, and buying, alternative computer systems, there becomes more and more need to share information between them. Networking is the usual form of data sharing, but for those that find it overkill or uneconomical, there are other directions to follow. Both machines should, hopefully, sport a disk drive, so floppy disks are a good viable medium to transfer files from one machine to another. Nearly all personal computers nowadays are equipped with a high density disk drive, and in order to take full advantage, you should have such an item installed into your Amiga, although you can get by with normal density for smaller amounts of information.

CrossDos has been around for years, but unfortunately the version given away with AmigaOS has always been limited to the 8+3 format adopted by early versions of MS-DOS. In today's environment where computers are becoming much more powerful and running modern Operating Systems such as Windows95 and Windows98, CrossDos is sadly left behind. The later versions of Windows utilise a filesystem called Fat16, which, until now, has been unreadable on an Amiga.

Fat95 handles these Fat16 disks with ease, and is extremely easy to install. You are given some very simple scripts that copy the various components where they need to go, but I have a few suggestions that make life a little easier.

The Fat95 executable is the filesystem itself, and is copied into your Devs: assign. Next, rename the MS0 device driver to PC0 and place it into the Devs:DosDrivers/ directory. If you already have a PC0 driver, remove it to somewhere safe.

The bonus with Fat95 is that it is backward compatible with the older 8+3 format explained earlier, so that it can completely replace the CrossDos version of the device driver. Insert a Windows formatted floppy disk into your drive and now you can read it as normal via PC0:. If you want to activate the second drive, should you have one, rename MS1 to PC1 and place that into Devs:DosDrivers too.

One other feature of note is that Fat95 should access Fat16 formatted hard disks with the appropriate mountlist. Although this hasn't been tested, it could work in theory.

SGrab

If you've ever wished you could grab Amiga screens, windows or screen parts and save them as graphical files, then wish no more. SGrab, some say the best screen grabber, has just been updated to include a nice easy to use GUI front end for the grabbing of Amiga screens and windows. There are a host of reasons you may want to save screen parts as graphics - for illustration or for use in program documentation, even web sites - but whatever your reason, it can't get much easier than it is now thanks to Stephan Rupprecht.

SGrab's new list shows all the screens currently open on your Amiga and will optionally add windows to the list, sorted by name. This allows you to grab just a window, instead of the whole screen and then resort to a paint package to retouch the image if necessary. Alternatively, SGrab offers the option to mark out a section of screen with crosshairs (in exactly the same way you would draw a box in a paint package) and save it out to a file.

Above: Sgrab's smart new interface.

If you happen to be grabbing the Workbench screen, where SGrab's window is open, SGrab will close its window while the grab takes place, enabling an SGrab GUI-free image of the screen. You also have the choice to save the resulting image as an ILBM or JPEG, again ideal for web pages.

Compact

There is no shortage of CD Players available for the Amiga, but that hasn't deterred the author of Compact from releasing another one... although this program doesn't quite live up to its name: it proclaims itself as being called Compact, but at a whopping 290KB it is hardly that. To top it off, it doesn't really do anything that could be classed as special. It works, and has support for the usual CD player features, and even includes some CD index files, but that is really its limit.

Ralph Weisel has obviously spent some time on it, and decided that Compact should be shareware, but despite 10 DM (about £3.50) being relatively cheap, I personally can't see anything that makes it worth the registration fee, especially when you compare it to other, more feature-laden CD playing utilities such as MCDPlayer or YACDP (to mention just two).

Above: Compact doing what CD Players do.

"Fat95 handles these Fat16 disks with ease..."

"One handy feature is that you don't have to resume a download from the same place as an earlier section..."

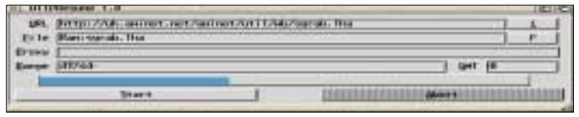
HTTPResume

Imagine the following scenario: You are 3/4 of the way through a huge download via your favorite web browser, when suddenly and without any warning whatsoever, it crashes, or you lose your TCP connection. You log in again to resume the download only to find out that you have to start all over again from the beginning. Well, Andrija Antonijevic was faced with the same dilemma and (luckily for us) decided to do something about it.

HTTPResume is a simple program that presents you with a GUI in which you enter the complete URL (Unified Resource Locator) of the file you need to download and a destination on your Amiga to download it to. A quick stab on the start button, and HTTPResume is off to do its work. It sounds perfect doesn't it? But alas, not all servers support the the "resume" command defined by the HTTP1.1 protocol. For those that do, however, HTTPResume is a Godsend, especially on those large files like MP3s and Mpegs.

One handy feature is that you don't have to resume a download from the same place as an earlier section, so you can search around to find a server that does support resume before committing yourself to another two hour wait. You can even snap the URL from your browser into the clipboard and let HTTPResume import the local file location from there. Couple this with the fact you can drop the partially downloaded file into HTTPResume's window and the destination on your Amiga is filled in automatically and this starts to become a very handy utility. The URL of the file can also be picked up from a partially downloaded file's comment, so the whole process could be carried out with a single icon drop into the window. Easy!

Simon Archer A



Above: HTTPResume is everyone's friend online.

One to watch...

There have been a number of 'Start Bar' clones appearing for the Amiga over the past couple of years, but to be honest, most are confusing to configure and take time to set up properly. That was, until yStart came along.

Billed as a startbar, yStart needs no initialisation, and no hours of endless reading of documents to fathom out its deepest secrets. In fact Makrai Jozsef has put some real thought into his creation, and it shows.

Simply run the program and you are greeted by a harmless looking gadget in the top left of the screen, but click on it with the left mouse button and you are greeted by the complete disk hierarchy present on your system. For those of you that hate to trawl through numerous directories on hard disks looking for that single file tucked away in some dark corner, this program is for you, and at a featherweight 23KB it's hardly going to break the memory bank by being launched at startup either.

As for how it works, yStart generates a menu of each disk or volume that has been mounted on your system and shows the subsequent levels of directories for each in a fashion similar to a menuing system, although it is fully multitasking and not restricted to being just two levels deep, unlike real menus.

It runs as a full commodity and can be controlled via the Exchange program or one of its many clones, although we found it so handy that we doubt you'd want to turn it off. It is also clever enough to know what kind of file you have selected and what it should do with it. For example, a tool will be executed and a project started with its default tool. Multiview is also used with the extensive datatypes system that surrounds it, and scripts can be executed via yStart too. We did, however, find a few examples on our drives that yStart chose to ignore, as well as some directories it simply didn't find, but as this is only an initial release we are hoping that future releases will fix the minor problems in this version. All in all this is a well executed and well thought out utility. One to watch indeed!

Above: How much easier can directory navigation get than with yStart.

The FoNts of all knowledge

Everyone uses them, even you. Why not get the best out of them?

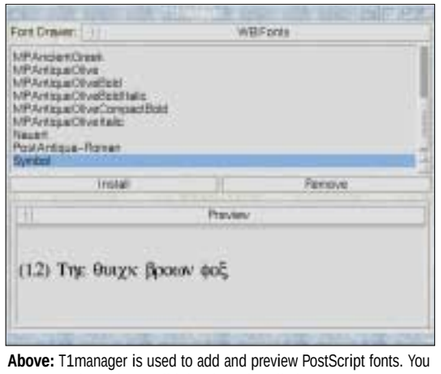
Above: Using Intellifont to create bitmap versions of commonly used sizes.

There are several different types of fonts available; most of them can be used with the Amiga in one way or another. Any discussion of fonts ends up dividing them into various categories, based on style, type or the system used to create and define them. The first distinction is between bitmap and scalable fonts. Bitmap fonts are the original Amiga system, and still the most used. In a bitmap font, each character is defined according to a grid of dots - for an 8 point font such as Topaz/8, this grid is 8x8. This system generally works well for screen fonts, where you use a fairly restricted range of sizes. Bitmaps are fastest because the data is already in the format needed to draw it on the screen. A scalable font is defined differently. Instead of specifying which dots go where, a scalable font describes the shape of each character, as with a structured drawing. The OS uses this information to generate a bitmap in whatever resolution is needed.

Compugraphic fonts

There are three types of scalable font available to Amiga users. As with so many "standards", they are incompatible with each other. The system supplied with the OS since WB 2.04 is the Agfa Compugraphic system. Each bitmap font requires its own drawer in FONTS: with a separate file for each size, whereas a Compugraphic has all the information in a single file.

"As with so many "standards", they are incompatible with each other."



Above: T1manager is used to add and preview PostScript fonts. You cannot preview a font until it has been installed.

Using Compugraphic fonts is simply a matter of installing them with Intellifont, found in the System drawer of Workbench (Compugraphic fonts are also known as Intellifonts). Select the drawer containing the .type files, click on the ones you wish to install and press "Install Marked Typefaces". The fonts will now show up in system font requesters, ready for use by your software.

Scalable fonts are slower in use than bitmap fonts, because the bitmap has to be calculated when the font is loaded. To save recalculating the same fonts over and over again, use Intellifont to create bitmap versions in the sizes you use. This is particularly useful with web browsers that preload all their fonts on startup. Providing bitmap versions in the sizes used will significantly reduce loading time. To create the bitmaps, select "Modify Existing Typefaces" in Intellifont and select the font. Use "Add Size" to make sure all the sizes you want are shown, then select each of the sizes and click "Create Bitmap". Press "Perform Changes" and the bitmap font files will be created. You can still use other sizes of the fonts, these will be created on the fly as before, but the bitmap sizes will load almost instantly.

Postscript fonts

The standard for page layout and output is PostScript, which also has its own font format. In fact there are Type 1 and Type 3 PostScript fonts, but only Type 1 work with the Amiga. That's not a limitation since it is the most common format. AmigaOS can be extended to handle Type 1 fonts by the addition of type1.library. You'll find this on the CD, copy it to LIBS: and the t1manager program to somewhere like the System drawer. T1manager works like Intellifont, but for PostScript fonts. The documentation recommends using a separate drawer and adding it to the FONTS: assign, but this can cause problems. It's safest to use SYS:Fonts.

Above: TTFmanager provides the greatest control over font installation, including previewing fonts before installation.

Language of fonts

We've used the term "font" fairly loosely here, as it normally is when used to refer to computer displays. A desktop publisher would throw his hand up in horror as such lax usage, and a typesetter would probably keel over. Strictly speaking, what we have been referring to as a font is a font family, while a specific style from that family is a typeface. A font is a particular size and typeface from a family.

Helvetica is a font family
Helvetica Bold is a typeface
Helvetica Bold 15 is a font.

The number used when referring to a screen font represents the maximum height of the characters in pixels. When referring to printed text, it refers to the height in points. A point is approximately 1/72nd of an inch, which is why DTP systems work with a 72dpi video resolution.

Fount? that's the original name for font. Presumably it changed when one of Bill Gates' ancestors designed a typeface without a "u" and defined it as a new standard.

Now run T1manager. Click install and select the PostScript fonts you wish to install. Each font usually has two files. The Printer Font Binary file (.pfb) containing the actual font data is the one you need. The .afm file is the Adobe Font Metric and contains character width and kerning information for use by DTP programs. You don't need to copy the font files anywhere special, the files are linked from the FONTS: directory.

"There are some high quality TrueType fonts on the CD for you to try."

Left: Use fonts wisely. Strangely, Topaz 96 isn't to everyone's taste, least of all the guys manning Amiga's stand in Cologne '98. (Sorry guys ;-)

True Type fonts

The third type of scalable font is True Type. This is the font system used by Windows, so there are thousands of fonts available. As with PostScript, an enterprising Amiga programmer has written a library to enable their use. Installation of ttf.libary is even easier, just run the install script. TTFmanager works much like T1manager. Once again, the actual fonts are left in their original location and a reference to them is saved in FONTS:. There are some high quality TrueType fonts on the CD for you to try. If you install them permanently, you'll need to copy them to your hard drive first. Adding fonts is simply a matter of selecting each one and clicking on Install. The preview button opens a window showing text in the currently selected font. This is automatically updated as you select different fonts. You can even open the preview window and scroll the list using the cursor keys, to view each font in succession. This is very useful when you are looking for a particular style of font and have hundreds of fonts to choose from.

The ttf.library package includes several shell tools. Most of these duplicate functions already available from TTFmanager. Bitline does something neither TTFmanager nor T1manager do. It creates bitmap versions of outline fonts. It's not limited to TrueType fonts; it works with any outline font readable by AmigaOS, including PostScript and Compugraphic.

What's in a name

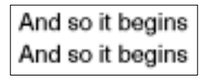
Each font is identified by its name, but things are never quite as simple as that. Helvetica is one of the 35 standard PostScript fonts from Adobe. The Amiga comes with a Compugraphic font called CGTriumvirate and Windows has the TrueType font Arial. There's nothing odd about that, until you look at the three fonts and realise they are virtually identical. Helvetica belongs to Adobe, so the other two systems use clones, close enough to appear identical but with subtle differences. On the other hand, you can find free Helvetica fonts on the Internet and on CDs. These have the same name but are often markedly different. They may have the same basic shape for the characters, but the quality of them often leaves much to be desired. As with anything else, you get what you pay for.

Which fonts to use?

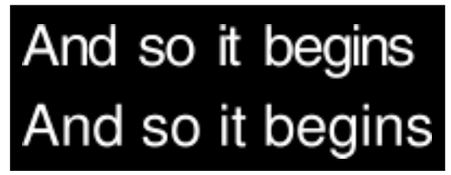
As with all such questions, it depends on what you are doing. For normal screen usage, bitmap fonts are fast and often provide the best quality. Scalable fonts don't work well at small sizes, as the Amiga font system doesn't anti-alias. If you are using a word processor to print text, scalable fonts are essential. If you aren't using Postscript then the system used is unimportant - the text will be converted to graphic data before leaving your Amiga's parallel port. If you are producing documents to print on another system, especially if it's a professional set-up, you'll almost certainly need to use genuine PostScript fonts.

Neil Bothwick

Left: The top line uses the bitmap Helvetica from AmigaOS, the bottom uses CGTriumvirate, both at 13 point. This shows how bitmap fonts actually look better at lower sizes.



Left: At 36 point, the extra quality available from the scalable font shows.



Left: At high resolutions, the differences between versions of the same typeface show up. The top line is Adobe Helvetica, the bottom line is a freeware clone. The quality of the individual characters is almost as good, but the overall effect shows a higher quality from the commercial font.

Fonts in proportion

Another division of fonts is into proportional and non-proportional (or monospaced). Many of the standard system fonts are monospaced, meaning all letters are the same width. In a proportional font, each character takes only the space as it needs. This article is printed in a proportional font; letters like m and x are wider than i.

```
This sentence is
on a monospaced
font, all letters
take up the same
amount of space so
narrow letters like
ilt appear more
spaced out than mxw.
```

Another distinction you may see is "serif" and "sans serif". A serif font has small "feet" at the ends of strokes. A sans serif font has no such strokes. Serif fonts are often considered more readable, while sans serif gives a more modern look. The most famous serif font is Times, named after the newspaper it was created for.

Hyperactive!

It's official: Hyperion Software are MAD about conversions. Absolutely lost in (free)space. They've got worms, too. Sorry to hear that, guys.

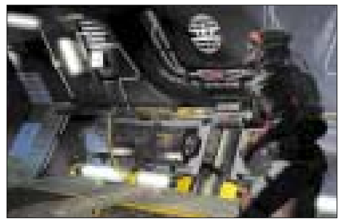
Like the Energizer Bunny, there are some Amiga companies who just don't know when to stop. This is far from a criticism, however, as without the efforts of one team of people, we wouldn't be looking forward to Worms: Armageddon, Heretic II (previewed last issue), Shogo: M.A.D. and now, Freespace: The Great War. It's a Sin! (see our news pages for more...)

Originally written by Volition and released on the PC in 1998 by Interplay, Freespace is (well, "was") the latest in a long line of conversions due to be seen on the Amiga courtesy of Hyperion Software. Consisting of only a handful of individuals, this intrepid team of Amiga programmers obviously aren't happy to concentrate on one software title at a time and are currently working on all of the above conversions.

Freespace: The Great War *(pictured here and above right)* sees you taking command of a variety of spaceships in a fight between warring races. There are three unique species, each with their own strengths and weaknesses, tactics and ships. In the midst of zero-gravity dogfights your wingmen can be called upon to help you out - and you'll need them, because your enemies are (predictably) more technologically advanced than you are at the start of the game.

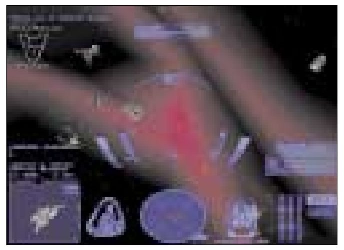
There are eight different craft to choose from, each of which can be kitted out with a mesmerizing arsenal of weaponry. Rendered cinematic sequences back up the intense gameplay and the ability to selectively target individual installations with your Heads Up Display (HUD), take over enemy craft and get your grubby mitts on advanced alien technology makes this a game for all would-be Men In Black. What's more, an event-driven soundtrack builds up the tension before an ambush and matches the music to the prevailing mood.

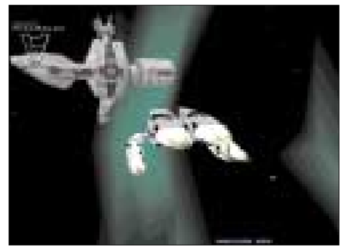
For the truly Active Gamer, Freespace keeps a record of your successes (and failures), allowing you to compare statistics with friends and enemies alike - up to a dozen players can link up over the Internet. Objectives range from espionage to "search and destroy" missions and with the gameplay proceeding in a linear fashion you will need to complete all of your basic mission objectives in order to proceed.



Features of the game include 30 single-player and 20 multi-player missions, 30 real-time rendered ships, rendered cut sequences, multi-player support for up to 12 players over a TCP/IP connection, wingmen with high levels of Artificial Intelligence and a powerful mission editor for the creation of your own unique campaigns.

Requirements at the time of writing are expected to be a PowerPC equipped Amiga with graphics card, 64MB RAM and an eight-speed CD-ROM drive. 3D will be supported through Warp3D and soundcards via AHI. A 68060 AGA version is under consideration, but if you think it will be playable compared to a PPC version running on a 3D graphics card, think again. This is one serious space combat game and it will benefit immensely from the latest and greatest Amiga hardware.





MAD for it!

Another of Hyperion's continuing projects is Shogo: Mobile Armor Division and we've got our hands on the latest screenshots *(below)*. Originally from Monolith, Shogo: M.A.D. is another first-person three-dimentional shooter which features realistic levels, plenty of exploration and giant robot fights which you may not have experienced since Transformers were all the rage in the eighties.

You may not expect it to, but Shogo will appeal to anyone who appreciates Japanese animation. From the titles at the front of the game which are displayed over a Japanese pop music soundtrack to the giant robots and in-game dialogue, the animé influence is clearly visible. Furthermore, Shogo's storyline is thoroughly engrossing and much more in-depth than you may be expecting from "yet another three-dimensional first-person shoot-em-up."

Finally, if all this talk of Freespace: The Great War and Shogo: Mobile Armor Division hasn't sated your appetite, Hyperion have posted another extensive progress report of Heretic II to their web site and announced another very promising project (see our news pages). Oh, and Worms: Armageddon should be out Q2 of this year - it's been delayed slightly. So, for all the latest information, keep your eye on future issues of Amiga Active and visit Hyperion's web site:

www.hyperion-software.com

David Stroud

Above: Andy Warhol's lesser-known portrait of Lara Croft.

Above: Darkseed featured artwork by Swiss artist and Alien designer H.R. Geiger - which didn't stop it from being a bit rubbish.

The Art of Games

Are computer games an art form? Of course they are... or at least, "of course they can be."

The last hundred and fifty years or so will have been rough on the residents of Olympus. Nine muses must have been noisy enough neighbours, what with all those rowdy bohemian parties, but their numbers have been increasing at a startling rate in recent times. Already the Olympian gods will have had to make room for the muses of new art forms such as photography, film, animation, conceptual art, graphic novels, and installations. Now the electoral conclave for mythical anthropomorphisations will be busy appointing yet another muse from amongst the candidates for the computer gaming post.

Will art historians of the future really be mentioning Bell and Braben along with Gilbert and George when discussing late 20th century artworks? Or will Sid Meier be considered a cave-wall daubing Cro-Magnon in comparison to the wonderful works of 21st century interactive artists?

Neo-Classicism

The question of computer games as art is something that has tickled the minds of the game industry, be it through philosophical curiosity or vanity, for years. Much of the focus of this debate has been towards rationalising the artistry of games in terms of the history of the visual arts, which is of course absurd. Historical influence or precedent is not an indicator of artistry, and computer games aren't paintings. There's little value in contrasting the Cubist desire to explore three dimensional space through the breakdown of traditional perspective to the development of 3D graphics in games, as the reasons for these developments are entirely dissimilar.

There is no problem in ascribing craft to games making. It is a job of creation, which makes it by definition a craft. The difference between Art and craft is not a clear one, but in general terms Art requires an act of inspired creation in which the creator is not simply pleasing the senses, but applying thoroughly considered sensibilities to create something which will acts on a deeper level than superficial appearances. When a potter forms clay into the shape of a bowl, it may be a thing of beauty, but it is not necessarily art. The same clay, formed by a sculptor into some abstract or figurative form, may provoke awe, or hatred, or any combination of rich and complex thoughts and emotions. A great craftsman can sell more bowls; a great artist can, potentially, change the way people think forever.

Computer games, even for such a new medium, have provoked surprisingly little serious criticism or analysis. When we look at an undoubted classic of the medium, such as Tetris or Sensible Soccer, how do we know whether we are seeing the results of a finely honed craft, or the beginnings of a new form of Art?

It's much easier to examine the artistic content of a game with a narrative structure, as we already have a long language of criticism and analysis to cope with the graphic, literary and musical elements of such a game. Take, for example, Delphine's Another World. In this classic game, you were presented with a fairly traditional narrative in which a scientist, cast into a parallel world through a freak accident, must fight for his freedom. The game started with a good looking intro sequence, followed by plenty of quality artwork, an atmospheric soundtrack and an unusual and evocative design aesthetic.

Futurism

When taken out of context, the images in Another World are no more than pretty but simple illustrations. They are meant to convey the narrative, and do so in a skilful manner not devoid of emotional impact. A screenshot might not individually seem like anything much, but there were genuine moments of visual artistry. The cut from the intro sequence to the game is simply brilliant. An eerie flash transports your character and the desk he is sitting at into an underwater environment. It is a sudden and unexpected change, and the visual effect (aided well by good sound effects) is startling. Swimming up and out of the lake, you see a new world, which looks very different to the one you had moments before been watching in the intro sequence. The effect of this is disorienting and alienating, and expresses with great skill the sense of entering another world - not simply in the narrative sense, but on a deeper level.

It makes you think about what the concept means, plays on the imagination and inspires a sense of mystery and wonder which enriches the experience of playing the game.

Another World fares far worse when subjected to a literary analysis. The Science Fiction story line is simplistic genre pulp at best. The game follows a very basic hero / quest plot line, which is sufficient to propel the narrative, retain the player's interest and frame a series of puzzles and challenges in a logical structure. There is no attempt to convey meaning or message in the story, no attempt to engage the player's emotions or enter any kind of debate, and no development of character. The main character is a cipher with no personality of his own, or any indication of an inner life. It may well be that the authors decided that as we are meant to quite literally identify with the lead character, it is necessary that he be a blank slate. After all, you don't want to alienate your audience by asking them to identify with a character they dislike.

Clearly a game like Another World, which is intended to be a kind of interactive movie, can be discussed in much the same way that a film can be. Although in essence a platform game, Delphine employed brief cut scenes rendered in the same graphical style as the game itself to create mood or tension. In effect, they used this to break one of the creative limitations that applied to other, more traditional platform games - the fixed camera. A cinematographer composes the subject of their image in a way that is informed by the narrative. For a tense exchange between two characters, they may use an extreme close-up of the character's face, whilst a character's introspection might be best expressed with a shot that pans out to reveal a gloomy cityscape which symbolically resembles the landscape of that character's mind.

"Another World fares far worse when subjected to a literary analysis."

Above: Egon Scheile's portrait of Mario.

Fauvism

Obviously, in a game with a fixed camera angle, there is no possibility of this particular application of artistry. This remains the case with most games that don't use a fixed camera, too. A good example of this would be Tomb Raider. The camera is limited in motion by the essential necessity of not wanting to make the game impossible. Imagine Lara Croft is running along a narrow ledge pursued by a wild and ferocious pack of wolves, intent on consuming her pixel by pixel. A cinematographer might consider a moving camera in front of her face, the pursuing pack visibly catching up behind her. The juxtaposition of her face and her pursuers might well produce a better anticipation of personal threat, but on the other hand, it would make it impossible for the player to see the pit trap around the next corner.... Less action - oriented games are easier to apply creative use of the camera to - a graphic adventure, with no demands on precise control or reactions can use one to the developer's hearts' content.

Artistic Masterpieces

Title: **Marble Madness**
School: **Surrealism**
History: **An arcade perfect conversion of this serene masterpiece was amongst the very first games released for the Amiga.**

Title: **I, Robot**
School: **Cubism**
History: **The first polygon based arcade game. I, Robot had a special mode that used the polygon engine for a sort of 3D abstract painting session.**

Title: **Lemmings**
School: **The Glasgow School**
History: **A puzzle game which poignantly encompassed the slavish blindness of the human condition and turned frustration into delight for millions of fans.**

Title: **Tempest**
School: **Vorticism**
History: **Tempest allowed the player to move in two dimensions while shooting at enemies moving in a third, a clever conceit of post-renaissance perspective.**

Artistic Masterpieces

continued...

Title: Civilisation
School: Social Realism
History: A 'God' game that found a magnificent balance between accessibility and complexity, which dressed resource management in a thought-provoking and familiar narrative concept.

Title: Elite
School: Futurism
History: Elite was a simple but compelling space / trading game which got the balance so right it is still the standard against which all space games are judged.

Title: Tetris
School: De Stijl
History: The ultimate fusion of simplicity and gameplay.

With a precise story-line in which the dramatic moments are known by the creators in advance camera angles can be employed according to the script. An arcade game like Tomb Raider has no such luxury, but it is certainly possible that clever programming could overcome this. We have seen people attempting to make context-sensitive in game music for ages. Frontier: Elite 2, for example, would play a certain piece of music if you were in battle, another if you were entering hyperspace, another if you were docking at a spaceport, and so on. Since then there have been various attempts to make music dynamically change according to what is happening in the game. It is already common for racing games to include a playback mode which uses a few simple routines to attempt an exciting use of camera angles (the best example of this is probably the "auto director" mode in 70's car chase simulator Driver, on the Playstation), and perhaps one day someone will come up with an ingenious way of making a similar system work in other types of game.

Above: I don't know Art, but I know I like OnEscapee...

Comparing these various aspects of Another World to those of the very similar OnEscapee is straightforward. OnEscapee from Team Invictus is heavily influenced by Another World, but is a significantly greater achievement in the above mentioned respects. The plot-line has a darker twist that contains rather more thoughtful content than the crude quest structure of Another World, with a distopian perspective which is perhaps informed by the Communist past of the developers' home country. The visuals and sound present an often powerful imagery which goes beyond propelling the narrative and plays an essential part in setting the theme and tone of the piece, often addressing a deeper level of narrative than simple storytelling by hinting at or reflecting the themes of the game. On the other hand, elements of OnEscapee's gameplay are perhaps not so cleanly executed as those of Another World. Is there then some other aspect of game artistry in play?

"...nevertheless you want to keep going just to find out how this next little piece of the story unfolds."

Above: Rocket Ranger - Cinemaware maybe, but Orson Welles wouldn't have been impressed.

An interesting comparison would be Playstation game Final Fantasy 7. A Sci-Fi RPG, it contains a long and involved plot, cinematic use of camera angles (permitted by a wholly scripted game structure made up, essentially, of a large string of cut scenes), lots of sound and graphics, and a bunch of puzzles to solve. Unlike Another World or OnEscapee, the sound is frivolous and empty of emotive value and the pictures are pretty but without hidden meaning. The narrative contains more depth and emotional debate between the characters, but unfortunately the scripting (in English translation, at least) is garbage, the characters vapid and the emotional landscape puerile. Why on earth did I spend so long playing it then?

The answer is, of course, that while these elements lacked any significant artistic merit, they sufficed to create a series of challenges and motivations for a highly addictive game. The underlying game in FF7 is repetitive but developmental - in effect it is far more of a Sim City style resource management game than anything else - but framed in a manner so as to make that development fascinating. You may have found that after an hour or two you are fighting according to a simple set of rules and routines, and doing little more than repeatedly hitting a single key between fights; nevertheless you want to keep going just to find out how this next little piece of the story unfolds, or to get to that next, tantalisingly close level, or to see the next beautifully rendered summon spell in the series. Repetitiveness, when handled right, can make great gameplay - as sales of Civilisation type games or Football management games proves.

The art of what?

The title of this article is borrowed from "The Art of War", an instruction manual for military leaders written by Sun Tzu Wu 2500 years ago in Wang dynasty China. While warfare might not be comparable to a Duccio altarpiece, the importance of Sun Tzu's work was that it introduced the world to the notion that the course of warfare could be steered by careful analysis. Sun Tzu's work is still read at military academies today.

Undoubtedly one thing that holds back gaming today is the lack of any serious attempt to analyse it and break it down in the way Sun Tzu analysed the deposition of armies. There are no rulebooks, and little critical thought to explain what the best way of handling game saves is, or how to achieve a challenging game without ever creating frustration.

Above: A rare example of Goya's little known Quake period.

Primitivism

So it seems that there is a form of creativity in games that exists alongside the images, the narrative and so on. Truly great games talk to us in a different language than paintings, novels or music. These forms of art all come from an abstracted use of features of the human brain which were not developed for the process. We are moved by the harmonies of music because, presumably, primitive man evolved the ability to relate patterns of sound to danger, calm, food, and so on. Images evoke complex feelings because, for the sake of survival, we react to images symbolically - it's safer to feel

"the scripting ... is garbage, the characters vapid and the emotional landscape puerile."

Above: Pisarro's Heretic 2

Abstract minimalism

Tetris has outsold any other video game in history. Indeed, if you include all the myriad clones, it boasts the kind of sales figures that would make even Michael Jackson's business manager drool. This popularity is reason enough to qualify Tetris as a masterpiece. Can such a simplistic, repetitive construction be counted as a work of art though? The graphics are bland meaningless, the narrative and music non-existent - in short is has none of the evident properties of familiar art forms such as painting, music or literature.

Alexey Pajatinov achieved enormous success with Tetris because he created a game which achieves an impressive balance of reflexes, forward thinking and spacial awareness in an extremely simple and intuitive formula. Tetris is a game that is somehow just so right. It is repetitive in a way that is hypnotic rather than boring, it is simple enough to be immensely accessible without being too simple to engage interest, and the gameplay formula is scaleable enough to suit players of any skill. All these are important elements to any game, but the beauty of Tetris is that the formula employed to produce this balance is so simple and unvaried that there is simply very little room for the balance to go awry.

disquiet at the appearance of staring eyes than it is to wait until you see how big the staring creature's teeth are. Our unique intelligence has allowed us to chose to stimulate these instinctive reactions in a manner that allows us to induce a preselected composition of responses - in other words, it has allowed us to become artists. Games, it would seem, act on some other part of the mind, presumably one which deals with the ordering of forms and variables into a manner we can control (again, a survival thing). Through clever design we can evoke specific responses in this part of ourselves - in other words, create gameplay that is a work of art.

As with any art form in its infancy, gameplay does not receive much recognition from the more established fields. It may take some time for games to develop respectability, and the frivolous, genre laden nature of gaming may make it a long time before there is a great deal of serious thought in games. A good comparison of this would be the comic strip. Although there were some early exceptions (such as George Hermann, who's Krazy Kat strip long prefigured Surrealism before Deschamp had got as far as Dadaism), it has only been in recent years, with creators such as Dave Sim, Lorenzo Mattoti, Enki Bilal and Alan Moore that the 'graphic novel' has come into its own. Even now, the ratio of art to superheroes in tights is sadly low. It may be that the masterpieces of Bell and Braben, Sid Meier, Sensible software, Delphine, Alexey Pajatinov and the like are just lucky hints of a potential in games that might not be recognised, properly discussed, or even fulfilled, for decades to come.

Andrew Korn A

Artistic Masterpieces

continued...

Title: Sensible Soccer
School: Pre-"Ref"aelism
History: Sensible Software innovated by reversing a trend - in using smaller and simpler graphics, they got more on-screen at one time, making the tactical element of Sensi far in advance of its rivals.

Title: WipEout 2097
School: Pop art
History: Not yet!... A glorious fusion of bright colours, loud noises and fast gameplay which counterpoint each other to perfection.

DETAILS: aWinQuakeppc 0.3 and aWinQuake68k 0.3 are available to download from the Aminet. QuakePPC 1.09, and QuakeWOS 1.09 preview can be downloaded from Frank Wille's web site, http://devnull.owl.de/~frank/quake.html.

Quake flood!

Now there's more than one way to Quake up your Amiga...

Unless you've been in the nether-regions of the Amiga gaming fraternity for the last year and a half, immersing yourself in the untold joys of "Kang-Fu" and "Rise of the Robots", you will know of Quake... Amiga Quake (cue James Bond theme music and some barely disguised semi-naked women). It's the seminal descendant of Wolfenstein and Doom, wherein you wander through a marvellously atmospheric 3D world killing everything that stands/flies/swims/bounces/looks-at-you-funny, in a quest to destroy the evil wotsit that tried to take over your world, or Weetabix, or something. Phew! Then it's all peace and love and la-di-da until you get your rear on-line, and start the blood-fest with even harder foes - real people!

Clickboom were kind and skilled enough to bring Quake to the Amiga in July '98, but you needed a hefty Amiga to do it justice. Well guess what? You still do, but at last, that bit of kit is the PPC. Clickboom were planning on producing a Quake PPC version or patch, but they never did, citing widespread use of illegal ports. Whatever your opinion of that episode the point is now moot, as id software released the source code to Quake on the 21st of December 1999 under the GNU licence. Several intrepid programmers are now porting it to the Amiga.

You may remember Peter McGavin for his excellent port of Doom for the Amiga. He now has the honour of being the first to bring us a working version of 'legal' PPC Quake (awinquakeppc version 0.3), uploaded to Aminet on January the 4th, just 10 days after he downloaded the source code! Does this Kiwi never sleep? He also included 'awinquake68k' for the PPC-less (try saying that fast three times in a row), but by his own admission the current version is much slower than the official Clickboom version. Hot on his heels was the collaborative 'QuakePPC' and 'QuakeWOS' from Frank Wille (pronounced 'Villa' you naughty people) and Steffen Haeuser. All of these 'wunderkind' spent their entire Christmas holidays slaving away at these ports. Nutters. They all say that the Quake source code is 'very nice' and extremely portable. Whatever gets your juices flowing, guys. We appreciate it nonetheless.

Above: Get killed with your mates on-line.

Quake vs. Quake

Awinquakeppc works with PowerUp or WarpOS (provided you have Frank Wille's ppc.library). Each is '.gz' compressed (requiring gzip or similar for decompression) and contains a different executable for each PPC kernel, each with an accompanying QuakeWorld port for network gaming. A stack size of 500,000 is needed, and it's recommended you use the "-nocdaudio" switch on the command line. QuakeWOS needs chunkyppc.lib if you want it to run faster and in a window under WarpOS (it will use CyberGfx otherwise), and if you use Picasso96 the option of Picture-In-Picture is available. Adding some buffer memory is highly desirable (using the "addbuffer" command on the partition in use).

Both early versions are multi-tasking, reasonably system friendly, and have a requester that pops up on start-up for you to choose your screen resolution, although the QuakePPC requester has a bug which won't let you choose beyond the default 320x240. I'd advise against increasing it too far beyond 320x256 anyway, particularly on-line (unless you're the type that likes a painfully slow and jerky ride through dull-dom). Quake's Internet frag-fest is heavily influenced by the computing power you have available, which is why sometimes, no matter how good you are, you'll still be thrashed by some snotty little four-year-old bratlet riding a Kryotech cooled Athlon (or maybe I'm just cack). Net Quake is not a level playing field. Roll on Amiga G4.

Peter is the first to admit that his 0.3 beta is primitive in comparison with QuakePPC. It doesn't have mouse support as yet, and although it's supposed to be networkable I couldn't get it to recognise my AmiTCP connection. There is keyboard support of course, but you have to configure the keys within the game each time you play, as the settings aren't saved. QuakePPC has both mouse and keyboard support, and even an option to play Quake within a window on your Workbench, if you don't mind the display being somewhat slow and corrupted.

Above: Quake in undersea mode?

Above: Run!

Berserk pixels

Awinquake has the better graphical quality - QuakePPC's textures behave like they're on the final voyage of the Titanic (i.e. underwater) as they wobble and ripple on the scenery. I thought it would be very distracting but once you're actually playing and in berserker mode you don't notice... probably because you're too busy just trying to survive. Awinquakeppc also has the ability to load old previously saved games, a feature QuakePPC is currently lacking.

That's about the extent of awinquake's advantage though, as playing solely with the keyboard is extremely limiting, especially in the thick of the action. Quake begs to be played with a mouse in Mouselook mode and the keyboard providing the side step. A unique feature of QuakePPC is the inclusion of joystick support.

Awinquakeppc has a slower framerate, even though the benchmark test of timing demo1 and demo2 says otherwise (19.2 fps and 20.3 fps respectively - it lies, a known bug). With QuakePPC and QuakeWOS, framerates of between 16 fps to 17 fps were the norm on a PPC 603e+ 240mhz, running full-screen 320x240. Awinquakeppc wasn't too far behind (I'd say about three or four frames per second off the pace). Compare that with QuakeWOS in a window (320x240) on workbench at 10.8 fps for demo2 - teetering on the edge of unplayability.

Sound is practically identical, with both ports exhibiting good sound throughout the game via the Amiga audio. The only negative was a 'clicking' bug while loading the next level, which both exhibited. QuakePPC has the ability to use the Clickboom CD audio.

Both of these ports require more work to come up to the standard of the 'illegal' quakeppc v10, as that has all controls, configuration and network support working, as well as slightly higher framerate. Bear in mind that this particular version was refined over nearly a year, and you'll realise what an amazing job Peter, Frank and Steffen have done in less than three weeks.

Above: Shoot!

Above: Shoot some more!

The future

It's all about to get so much better too. Peter is happy to work with or let the other authors use some of his code to improve the ports. Frank and Steffen have also continued to improve their version, and have recruited Massimiliano Tretene to work on the GL-Quake port for 3D acceleration. Supporting Warp3D on a Permedia card should make a major difference not just to the frame rate and window size, but to how good it looks. In the near future (possibly even by the time you read this), QuakePPC and QuakeWOS will be released onto Aminet and also have a GUI (no more env: variables to set). Quake and QuakeWorld will get 68k ports (minimum spec needed of 68040 - Frank compiled a 68030 version for fun but it didn't even reach a single frame per second!), the ability to load total conversions such as "Malice" and "The Demon King," and more.

If you have any interest whatsoever in good games and you missed out on the breakthrough game of the last decade, then prepare yourself to be bloodied and battered by Amiga Quake for PPC and 68k, thanks to the sterling and unselfish efforts of great people like Peter, Frank, Steffen, Massie and others. Quake on!

Gary Storm A

Above: Quake on Workbench, but it's about as pretty as a shambler's backside.

Quake variables

In a start-up file or the config file (in the id1 drawer), you can add a whole host of useful commands such as:

- **-nocdaudio (disable CD audio, definitely needed for awinquakeppc)**
- **+mlook (enables mouse-look. Essential to win in my opinion)**
- **name <*your name*>**
- **god (if you want the ultimate cheat)**

There are many more for you to choose from, details of which are easily found on the Internet.

> **"...QuakePPC's textures behave like they're on the final voyage of the Titanic..."**

> **"All of these 'wunderkind' spent their entire Christmas holidays slaving away at these ports..."**

NAME: BLACK VIPER
DEVELOPER: NEO GAMES
SUPPLIER: ALIVE MEDIASOFT
TELEPHONE: +44 (0)1623 467579
COST: £9.99
WEBSITE: http://www.innotts.co.uk/alive-mediasoft

Black Viper

Mad Max eat your heart out - er, or maybe not.

No matter what platform you use for gaming there is no escaping the craze for retro games - and the Amiga is still no exception to this rule. Everyone is either re-releasing their past gems, or are developing new games that capture the style and simplicity of the games being released a decade or more ago.

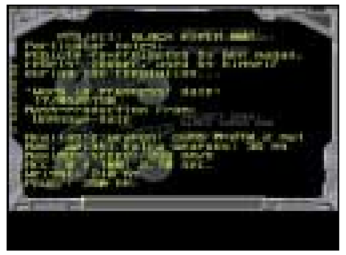
Black Viper is yet another attempt at a throwback to the arcade motorcycle racing games of the late 80s and early 90s. You are the rider of a Black Viper, a turbo-charged and heavily armed motorcycle in a post-nuclear war civilisation. Your mission is to journey across an elaborate map of roads, carved into stages, in order to find the rest of your people and liberate them from the grip of evil mercenaries.

At least - that's all you can glean from the game in terms of plot. Sadly none of this is actually apparent when playing. In reality, the game is far more simplistic. You ride your bike from stage to stage against the clock on a road heavily loaded with traffic. As you power your way along the occasional pick-up and extra life can be scooped off the road to sustain you.

Traffic control

To aid your speedy passage your bike is equipped with a cannon, capable of destroying an on-coming vehicle with a couple of blasts. In short, you need to attack each track at full throttle, dodging everything you can and destroying everything you can't.

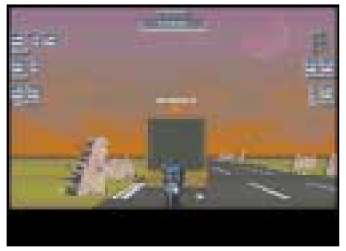
When I first sat down to play Black Viper, I was somewhat impressed. For once I had found



a game that ran straight from CD and actually worked first time. Sadly, things went rapidly downhill from that point. The lack of instructions made it hard to figure out the aim of the game, but then there's not much to it - Lotus Esprit on a bike, racing against the clock instead of against other cars.

Graphically the game swings from excellent to abysmal. The intro and tracks are separated by animated video sequences, which really are very good, if a little small. However, in-game graphics, though well animated and smooth, even on a stock 020 A1200, are unimaginative, very

> **"Graphically the game swings from excellent to abysmal."**

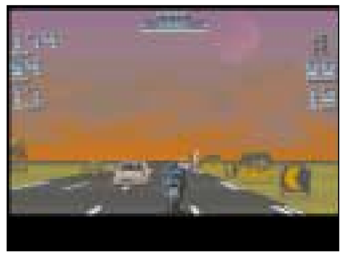


blocky and lack a sense of speed.

Control is very intuitive, with both keyboard and joystick control options and a basic accelerate, brake, left, right and fire control set to master. However, collision detection is very sloppy. Detection of the trees at the edge of the track encroaches too far onto the road causing unpredictable collisions and rebounds against thin air. Detection around the other vehicles is spot-on, however.

Drunk driving

There are three difficulty levels, which determine the amount of traffic and the degree to which the cars and lorries weave across the road, adding the only bit of imagination to an otherwise repetitive set of tracks. One area of confusion is the difference between the vehicles on-screen. Some of the oncoming cars are



marked as 'innocent' in a curious Chase HQ kind of way, though blasting them off the road seems to do nothing to impede you in completing a stage.

Before you race, you do get to choose from a selection of soundtracks, which are actually quite good and are easily the best part of the game. Sadly these are not stored as CD audio so you can't appreciate them without having to endure the tedium of the game.

In short - I have to ask "why?" Designing and programming a bad game is one thing, but at least you can still see a storyline, even if it is impossible to enjoy it. With Black Viper, the storyline is so cryptic and pointless (and certainly not aided by the tedium of the actual racetracks) that I have to wonder why anyone would use precious days, weeks and months programming it, let alone playing it.

Chris Green

Black Viper 3/10

SYSTEM: 4MB RAM, CD ROM, ECS or AGA, 020 or better CPU.

SUMMARY: Whilst it is easy to play, Black Viper looks awful and is very repetitive - for die-hard retro fans only.

Contents

Interactive

Your chance to pester the Editor! Write to: Amiga Active Magazine, 3-11 Spring Road, Bournemouth BH1 4PZ. Or, if you enjoy the pleasures of being online, send your e-mails to us at **interactive@amigactive.com**

Get lost, PAL!

Hi,

I just had to write and congratulate the whole Amiga Active Team on a magazine well done!

I have to admit having been a little disappointed having to read Amiga Format since the demise of CU Amiga magazine. That's not to say that AF produces a sub-standard publication, just that I liked the writing style of CU. However out of the blue comes Amiga Active... Oh what Joy!

Anyway enough of all that. The reason I am writing is not to express an opinion - there are enough of those flying about the news groups without me adding to them, but to ask what has happened to Phase 5's Blizzard Vision graphics card? I have a 603a PPC card and want to be given the chance to play WipEout, and to be part of ClickBooms TNT progect. Yes I know, I should have bought one before but I didn't have the money untill now. So what are Phase 5 up to? Eyetech and White Knight Technologies tell me that Phase 5 does not produce the Blizzard Vision anymore and that the rights to production have been bought by Power Computing. Is this correct and if so any ideas when they will be available again?

Yours, fed up of PAL high-res,
Nick Sawyer.

Yeah, great bit of timing that. The BVisionPPC (and CVisionPPC) graphics cards were discontinued just when the first commercial game that uses them arrives. Frankly I'm puzzled as to why phase 5 discontinued them, as there is clear demand - many dealers have turned away large numbers of people looking for them, and second hand boards are always snapped up immediately.

You will be glad to know that Power Computing will indeed be bringing them back, although to be strictly accurate it is DCE in Germany who are remanufacturing the boards - Power are their distribution partner. Hopefully the boards will be available around the time you read this.

A Reader Rants.

Hi AA,

Reading this month's Rants and Raves (issue 4) has prompted me to put fingers to keys, in order to add my view on "Read all about it! (If you can find it...)"

I too have noticed the lack of products being reviewed, a glance through the Weird Science news letter and you are confronted with software adverts sporting "New" logos next to them, along with a rave description of the product... Good is it? Well, why haven't I seen it up for review?

I get the feeling products are not being reviewed because the product is shoddy, overpriced and well out of date. "But hey! You are a dying breed. Be thankful of anything we throw at you!" - Not bloody likely! I will not buy unless I have seen an honest review, plain and simple.

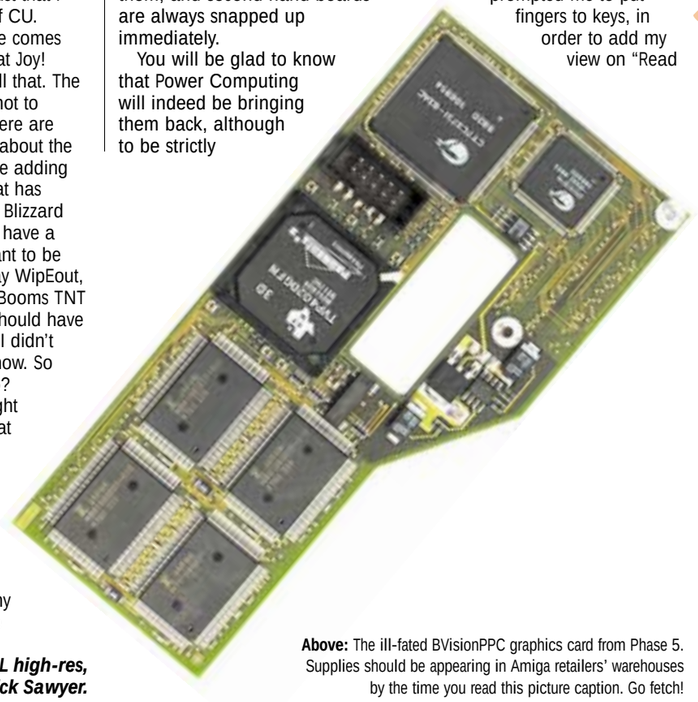
Another appalling business practice I have noticed is the down right disgusting customer support. I have one company in mind, though I will not mention them, whom is nothing but rude to anybody seeking help on a product bought from them. Items paid for, but not turning up. Unanswered mails. These are all part of the Amiga business practices these days and not just from the one company I have in mind!

Sloppy business practices will not encourage what's left of the Amiga community to buy, nor will it encourage any potential new supporter to step into the Amiga scene. It is time companies realised that we do not owe them a living. If their product is good and it is something owners need then it will be bought. If it is shoddy and over priced nobody is going to pay it any attention (Max Rally springs straight to mind).

One last thing: be realistic with release dates (Boxer, G4, et al) it only confuses and annoys potential buyers if a product is constantly delayed or total vapour in the first place (Iwin)

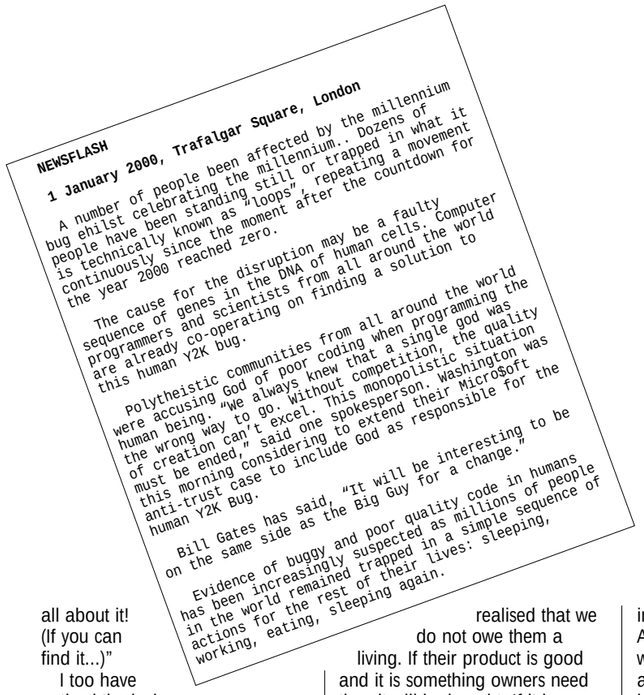
Peace,
Zanthras (Philip Meason)

Funnily enough, Weird Science are generally really good about sending things for review. It may just be that their definition of "new" is a little vague.



Above: The ill-fated BVisionPPC graphics card from Phase 5. Supplies should be appearing in Amiga retailers' warehouses by the time you read this picture caption. Go fetch!

"The reason I am writing is not to express an opinion - there are enough of those flying about..."



NEWSFLASH

1 January 2000, Trafalgar Square, London

A number of people been affected by the millennium bug ehilst celebrating the millennium.. Dozens of people have been standing still or trapped in what it is technically known as "loops", repeating a movement continously since the moment after the countdown for the year 2000 reached zero.

The cause for the disruption may be a faulty sequence of genes in the DNA of human cells. Computer programmers and scientists from all around the world are already co-operating on finding a solution to this human Y2K bug.

Polytheistic communities from all around the world were accusing God of poor coding when programming the human being. "We always knew that a single god was the wrong way to go. Without competition, the quality of creation can't excel. This monopolistic situation must be ended," said one spokesperson. Washington was this morning considering to extend their MiCro$oft anti-trust case to include God as responsible for the human Y2K Bug.

Bill Gates has said, "It will be interesting to be on the same side as the Big Guy for a change."

Evidence of buggy and poor quality code in humans has been increasingly suspected as millions of people in the world remained trapped in a simple sequence of actions for the rest of their lives: sleeping, working, eating, sleeping again.

"...he also bites the postman if our post is slow."

Bite them, Bluey!

Greetings,

I'm a Spanish Amiga Active reader, and this message is brief because I am very impressed at one specific issue: The amazing speed at which your magazine has arrived at my home. If I remember correctly, I got the news that Amiga Active was already accepting subscriptions via VISA, so I promptly got to your web site, and posted my data. Just three or four days passed, and issues one, two and three arrived home! That's amazing, are you sending the mags before checking with VISA, or what?

By the way, the magazine looks very good indeed, and that includes being different from what Amiga Format is and CU-Amiga was. I liked both of those mags, and still buy Format on a monthly basis. I've seen some complaints from readers about some articles, and I agree with them in that, but those were personal opinions from writers, not technical failures. Don't let this become an issue, and keep this good work on Amigactive!

Juan Carlos Marcos Rodrìguez,
Spain.

Bluey the mail hound is responsible. Not only does he show uncanny and undog-like dexterity at handling our mail, he also bites the postman if our post is slow.

Above: Bluey enquires as to whether or not the photographer has any spare change.

Sick Joke?

Hi guys,

My full support to your great mag. I guess this joke is too long and sick to be published but nevertheless I want to share it with you. It is the result of having to work on Christmas Day. There has been so much talk about the millennium bug that I decided to write this to spread it in my office... (see inset, above).

Happy New Year everyone!

Marcos Broc,
aka Mexicano Malo.

If anyone is wondering why Marcos thought this joke was too sick to print, - it wasn't, but it was too long to print without heavy editing, and the mildly bad taste bits got expunged to make room for the punch-line.

AA in Norway

Hi!

I just bought Issue 3 of Amiga Active, which is the first issue sold in Norway. I just wanted to tell you how impressed I was. Although the price is a little steep (£8.50) it is definitely worth the money. Much higher value per penny than Amiga Format, and finally a worthy successor to CU Amiga, the Amiga mag of all times.

I also wanted to tell you that the Norwegian distribution came to be largely because of a mail storm from the Norwegian Usenet community to our Narvesen, our equivalent to Menzies, and we all have nothing but praise to the mag.

Keep up the great work!
Balder Mork.

We're very glad you like it! We are slowly getting Amiga Active to as many countries as possible, but we can't sell the magazine to other countries unless the local magazine distributors feel there is demand for it. Distributors will take it if they know there is demand, so congratulations - and thanks - for your success with Narveson. I believe there are people in Finland and a couple of other places trying the same thing - if you know some people who are doing something like this, tell them to drop us a note, and we'll see what we can do at our end.

In print at last!

Hi AmigActive,

I've just picked up issue three following a recommendation from a friend. What a great breath of fresh air it is. (As is the CD). Great to see so many of the old CU team; your input to the Amiga community is valued and often inspired! Well done Andrew.

The magazine is fresh and bright and although I will endeavour to continue buying AF alongside AA (funds permitting), AF now looks stale in comparison.

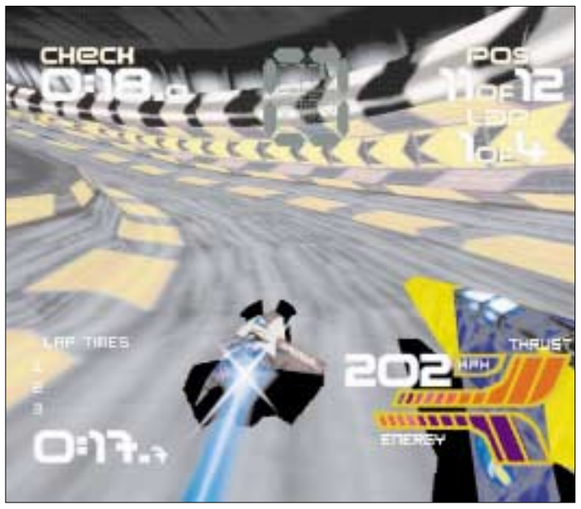
Not wanting to jump on the Tony Horgan hate mob, I sense a tone of unrest in his articles re. the Amiga Community. Just a thought anyway, don't take offence, I've had plenty of periods where I've nearly jacked it all in. (With a PPC and BVision it tends to change your mind though!) I will endeavour to by Tony's record though- surprised it's not in the charts yet though!

It's also great to see games like WipEout here to take advantage of top hardware. Having spent money on expansion, I'm trying not to support AGA games too often to encourage development! That's it really, thanks for listening and providing a great publication.

P.S. Please could you print this, I know that this is a lame plea but I've only ever written to AP before back in '94, which did not get printed. Having been with the Amiga since '92 (although I'm only 16 now) I think I deserve it!

Ashley Bartlett,
via e-mail.

Oh, go on then!



Below: The WipEout picture from last issue... as it **should** have looked.

First Impressions

Another Year, Another Buyout...

Here we go again - another year, another buyout. Although news of the latest change of ownership came through just a week before we went to press, thanks to the wonders of the horseless electrical Internet there are already thousands of opinions about it. We asked the regulars on the Amiga Active mailing list what they thought about this latest turn of events...

"The announcement is encouraging only in so much as they stated that they are putting the user first. I think I'll wait and see what they propose and produce before I open my virtual bottle of Bollinger...."
-Adrian Newman

"All I can do is wish them all the success in the world. Just don't set unattainable goals and don't for God's sake come up with a new design every few months. We don't want empty promises and certainly no more buyouts. Deliver the goods and I'll be happy as Larry." (Who, Hickmott!? -Ed.)
-Andrew Gillen

"Hmmmmmm!"
-Steve Evans

"The trial of Gateway in issue 4 of AA ended with the sentence on the bovine company from righteous Judge Korn: 'The sentence imposed is therefore to get on with it, or bldy well give it to someone who will!'**
"For once, it seems that justice has followed a true and proper course. Well done Andrew, just how much of this did you know already though?" (So I cheated - Ed.)
-Bill Eaves

"After all the talk in the last year about Linux-based systems, big technology partners (Sun, Corel, etc) AmigaObjects, MMC's and all the rest of it, I won't believe any more talk until someone comes up with a real computer and OS that actually exists." (That's "MCC," dammit! - Pedantic Desk Ed.)
-Keith Halstead

"Oh no, not again!"
-Simon Preston

"I think that we've been "bought out" so many times that it's common-place and no one really cares anymore!
-Dan Wood

"I truly hope that this is the start of a genuine Amiga resurgence, and given the people who are on board, I think that we have a very good chance of positive steps being made in this direction. I'm not saying they will definitely succeed, just that they appear to have a better chance than anybody else in the last few years, and I wish them all the best."
-Gary Waddington

"Good luck Guys, I suspect you may need it..."
-Michael J Every

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Issue 1: October 1999

Inside: Photogenics 4.2, ImageFX 4, Zip and Jaz drives, Amiga Forever 3, Voyager 3, IBrowse 2, PFS 3, T-Zer0, Wasted Dreams, Superfrog, Eat The Whistle.
The CD: Massive playable T-Zer0 demo, PPaint 6.6 full version, Octamed Soundstudio.

Issue 2: November 1999

Inside: The first review of OS3.5, Power Tower A4000, STFax 4, Teaching an Old Dog New Tricks, Polygon mod[illegible], The Third Dim[illegible], The [illegible], Click[illegible], PhotoFolio imag[illegible] program and SoftCinema - PowerPC movie player.

SOLD OUT!

Issue 3: December 1999

Inside: NetConnect 3, the first ever Amiga magazine review of the Castlewood ORB drive, Apollo Z4, AWeb-II v3.3, FXPaint, Power Flyer Gold A1200 and WipEout 2097!
PLUS Features on the Soul of a New Amiga, Total Networking Solutions, Parallel and Serial cards and Broadband Networking.
The CD: Exclusive playable demo of WipEout 2097 to accompany the review.

Issue 4: January 2000

Inside: Show reports from Home Electronics World '99 and Comdex Fall. In depth feature on Digital Convergence, OS 3.5 and Samba Masterclasses, Heretic II preview, reviews of Digital Almanac, GoldEd Studio 6, Developer CD 2.1 and a hands-on preview of Pagestream 4.
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Amiga Active Magazine
Systems House
3-11 Spring Road
Bournemouth BH1 4PZ

This month: More problems than you can shake a stick at this month - the Guru has been extremely busy.

Cannot see GVP

Hardware

Dear Sir/Madam,

I have recently acquired a GVP A2000 HC+8 SCSI board, which I placed into an Amiga A4000/40 desktop machine. The above card did not come with any documents.

After placing the card into the Amiga and booting up, the Amiga was not aware of the card at all. Having no docs, I do not know if I should be setting certain jumpers on the card or on the Amiga, or in fact if I should be doing anything else to either. Please could you help me with this query?
Any help at all would be greatly appreciated.

John W Woodgate, via email.

An interesting problem there John, and it just so happens that we have an HD8+ in an A4000 here, and had absolutely no problems whatsoever upon its installation. Boot the machine, but hold down both mouse buttons to get you to the early boot screen. From there select "Expansion board diagnostics" to see whether the card is actually present.
It should report the card as working correctly. It does sound to me, however, that your card could be faulty. Either way, early start up should tell you.

Path Problems?

Workbench

Dear Guru,

On all 3 AACDs so far, I can't get the docs of any program to run. I get the message "Multiview: unknown command 'Multiview failed returncode 10'"

All my other stuff works with multiview. Am I not setting the prefs on the CD up properly?

John Collins , via email.

This sounds like your path is set incorrectly. If you try typing 'Multiview' into a shell, does it ask you for a filename? If the command is unknown, you need to add the following line to your startup-sequence (although it should already be there):

```
path Sys:Utilities add
```

This will add the Utilities directory to the system path so it can be searched for programs.

If this turns out to be not the case, you could try looking at the AACD Prefs program, and checking that the full path to your version of Multiview is correct. The default setting for Multiview (in the 'other' section of the preferences) is to look for it on the CD in the 'utilities' drawer. Try changing this to point to where yours is.

Faulty floppy

Hardware

Hello Amiga Active,

Firstly what a great looking mag you have created.
Let's hope you go from strength to strength!

I have recently had my A4000 desktop repaired but I am now having some difficulties.

1) When I boot up, everything goes great but the internal floppy light comes on even when there's no disk in it. The drive seems to work OK but occasionally I get read/write errors. After removing the floppy cover I can push the 2 switches that tell the computer a disk has been inserted and when released the light goes out. What's the best way to clean these switches? What I would like to know is how can I go about replacing the drive with a High Density drive. Is there any way I can get a PC floppy to work as DF0:? This seems to be easy on the A1200 but not the A4000.

2) The second problem is that if I try and upgrade to Workbench 3.1 my Amiga will not boot up. I have the Kickstart 3.1 ROMs and all used to work fine up until about a month ago, shortly after replacing my 68030 CPU board with an Apollo 4060.

Your help or advice would be most welcome. Kind regards,

Paul Arnold, via email.

I have come across your floppy problem before Paul, but admittedly on an A2000. It sounds like the drive itself could be faulty, but check the cabling and power connector for correct seating. The A2000 in question cured itself when the power plug was wiggled, which narrowed the problem down to a dry solder joint. Failing that, you can replace DF0: with a PC HD drive, but it will involve fitting a Catweasel card with the Kylwalda adapter if you want to be able to boot from this disk. Alternatively, you could fit an external high density drive which would be bootable, or even fitting an LS120 drive, which doubles up as a high density floppy drive, and gives a good storage medium in 120MB disks. All of these options are available from Power Computing. You may find a dealer who still has a half-speed Amiga high density drive left - these are straight drop-in replacements.

Onto your second point about upgrading to Kickstart 3.1. This is something that throws quite a few people when upgrading to 68060 based accelerator. Install Workbench normally using the supplied installer, and once finished, boot into the early startup screen by holding down both mouse buttons, and select 'Boot with no startup sequence.' Then, in the shell, copy the 68040.library and 68060.library from the disks supplied with your accelerator into your Libs: directory. When OS 3.1 is installed it will copy an incompatible 68040.library which, when Setpatch loads, will cause the machine to become unstable or crash.

Browser bother

Software

Greetings blue one,

Compliments on the new magazine, nice to see AWeb used as default. Which brings me to my query: is it possible to get the AACD to use my internal registered version of AWeb rather than the demo on the CD as it does by default?

Kevin Codd, via email.

Unfortunately, there was no way of doing this on the earlier CD's, but you'll be pleased to know that as of AACD04 the scripts will now detect and use a registered version of AWeb if it finds one.

Above: There's one problem the Guru can't solve...

Strange scripts

Workbench

Dear Guru,

I have a problem with OS3.5. Everytime when I boot my computer I get message saying:

```
SetPatch (V44.2) has
already been installed.
Patch list:
 68040 Support Code
Loaded (etcetera)
```

and

```
No ROM updates have
been installed by
Setpatch.
```

Why do I get this message? Any ideas? Thank You,

Serkan Boran, London.

Oh dear, this sounds strangely like you are running Setpatch twice in your startup-sequence. I would suggest checking it with a text editor and seeing if the C:Setpatch line appears twice. If it does, then you'll need to delete one of the lines. Setpatch normally appears very early in the startup-sequence, as it's job is to apply the system patches and updates, so try commenting out the second occurrence of the line and rebooting. If all went well, you can permanently delete the commented out line. Later I will meditate deeply on what might have happened to that script to make it inherit a second Setpatch command. Strange indeed.

Moody monitor

Hardware

Dear Guru,

I was recently lucky enough to get a 17-inch monitor for free. When I got it home however, I realised that it was in fact a Unix Workstation (SUN systems SPARC ELC - a monitor with built in PC mainboard) and it didn't even have any SIMMs in the slots.
So, can I use this with my Amiga? It is a lovely display and would be much better than the 1485S I currently have, which flickers rather a lot in hi-res interlaced mode, my preferred sort of resolution. I have an A1200 in power tower with Apollo 1240/40 and 64 MB fast RAM. I am also thinking of getting a Z4 board and PPC / 3D Graphics card.

Please Help!

P.S. Is it still viable to be a 'Bedroom Programmer' and develop quality software primarily on ones own, or these days is it all done by large teams of people with corporate finance support?

Arthur Doe, via email.

Unfortunately Arthur, this equipment won't be usable on your Amiga. Interlace screen modes are not good for your eyes after any length of time, so that graphics card or a flicker fixer could be the right upgrade for you.

Being a bedroom programmer is quite rewarding so long as you only program for yourself, just don't expect to make a million from it. There are examples of excellent software titles being produced on the Amiga by single programmers, but as it stands it's very hard to make a living from it.

The Guru A

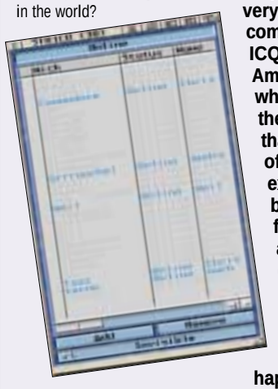
Feeling blue? Ask the Guru

It's not necessary to climb the Himalayas to bring your problems to the *Amiga Active* Guru. If you have any technical problems, tips you'd like to pass on, or requests for in-depth coverage of a particular problem, please send them to: Ask The Guru, *Amiga Active* Magazine, Systems House, 3-11 Spring Road, Bournemouth BH1 4PZ - or alternatively, e-mail them to the Guru's personal mailbox: guru@amigactive.com

Please don't send us an SAE with your letters, as we cannot enter into personal correspondance due to time constraints. Also note that techincal queries cannot be answered over the 'phone, as the *Amiga Active* Guru spends most of the month meditating.

I can't see you!

Probably the best ICQ client in the world?



Gary Catchpole asked: "StrICQ is a very good program, but the Amiga community needs more software on ICQ. Will Mirabilis make a official Amiga ICQ client?" He and others who have written in about ICQ on the Amiga will be glad to know that apart from StrICQ, alternative offerings dICQ and mICQ also exist. StrICQ is regarded as the best client, but you can choose for yourself, as we've included all the ICQ clients we could find on the CD this month.

There was a petition doing the rounds trying to get an 'official' port of ICQ to the Amiga, but as yet it hasn't happened. Mirabilis were originally contacted about this more than two years ago but showed little interest and the likelihood of them getting involved in the Amiga market right now is slim.

What do they mean?

Our lovely Guru will sort out your silicon.

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Say WHAT? You must be bonkers!

Ethereal 3D

"The explosion of broadcast is opening up a world of opportunity for small design houses such as Ethereal 3D..."

Show Us !

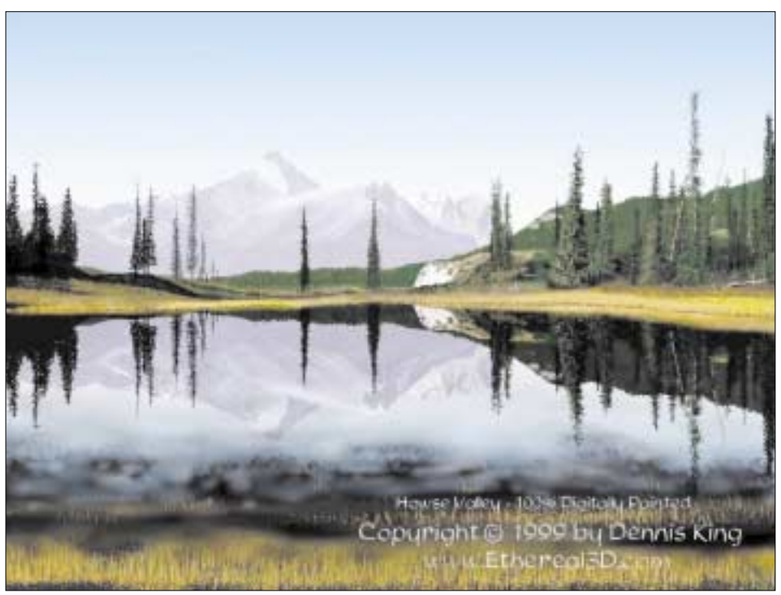
If you use Amigas in a professional capacity and would like the opportunity of having your work exhibited in the Active Gallery, please get in touch. You can reach us via e-mail or write to us at the following address:

Active Gallery,
Amiga Active magazine,
3-11 Spring Road,
Bournemouth BH1 4PZ.

active.gallery@amigactive.com

The Amiga may not be the hardware platform of choice for the Hollywood special effects houses that make things like Star Trek or Babylon 5 any more, but Dennis and Michael King of Ethereal 3D don't let that stop them.

A few years ago, 3D computer graphics was a costly and expensive business, and only large companies could afford (or need) the services of those Hollywood effects houses. These days there are not only many small TV stations that have an insatiable appetite for idents and spot graphics, but the ubiquity of the internet makes a multimedia corporate image essential.



Why not have a logo that actually does something? The explosion of broadcast is opening up a world of opportunity for small design houses such as Ethereal 3D. Dennis King told us more:

"Ethereal 3D is a part-time business operated as a partnership in Calgary, Alberta, Canada. We specialise in 3D graphics and animation for broadcast, multimedia and the web. We offer our clients personalised service and customised 3D animation that suits their application and budget. We currently contract out required video production and editing to minimise the cost and overhead associated with expensive video equipment. We also do logo design and 2D digital art work."

One of the main problems the Amiga has faced in the graphics arena of late has been a lack of speed. Naturally, Dennis and Mike use several Amigas, each of which is kitted out with the best technology available to them. Of course, for the ultimate rendering speed, PowerPC is the only way to go. Dennis continues:

"We have been hooked on Amiga for over a decade, since the days of the Amiga 1000. We have two Amiga 4000's each with 604/233MHz 060 PowerUP, CybervisionPPC, and 9-12GB UW SCSI drives. We also use a Yamaha 4416 CDRW, HP 5P SCSI scanner, an HP laser printer, plus a few other peripherals. Tornado3D version 3 is our latest software addition and we are currently exploring its potential."

If you are curious about Ethereal 3D's work, you can find some samples on this month's ***Amiga Active*** cover CD. If you would like to contact them to discuss their services, you can e-mail info@ethereal3D.com, 'phone them on (+1)403 2830524 or visit their web site which contains plenty of further information (and a few hints and tutorials):

www.ethereal3D.com

Electronic mail

We may take e-mail for granted these days, but there's much more to it than clicking "send..."

E-mail is such a basic part of Internet usage that we tend to take it for granted. It's there and it works, what more is there to think about? There is a lot more to e-mail than typing in an address and a message and pressing "Send", both in terms of what you can do and how you can do it.

Firstly, which software should you use? I'm not going to try and tell you which e-mail program best suits your needs, only you can decide that. However, it is best to use a dedicated e-mail program, rather than a web browser. Even with a permanent 'net connection, a web browser is nowhere near as useful for dealing with e-mail as a program designed for the job. There are a selection of e-mail programs on this month's CD, try them and make your own mind up as to which suits you.

What's in a header?

Most e-mail programs have the option to hide much of the header information of an e-mail. This mainly means routing information, which is useful if you want to complain about spam (a topic for another month maybe) as well as details of the sender's e-mail program and other information. Many mailing list servers now put unsubscribe information in the header of each mail, making unsubscribing as simple as turning on full header display and clicking the link.

Two headers that can be added by you before sending a mail are CC and BCC. CC stands for Carbon Copy, a metaphor from the olden times of the last millennium when people actually used paper to exchange messages. You can include as many extra CC addresses as you like; your mail program will split them into multiple CC lines if there's too many for a single line. The advantage of using CC over sending a separate mail to each person is that you only have to send the mail once. The mail server takes care of sending a separate copy to each addressee.

BCC stands for Blind Carbon Copy. This works the same way as CC except that the BCC header and addresses are not repeated in the mails. The recipient doesn't know that you have sent copies to others. The rules only state that the main recipient, the address in the To: header, doesn't see the BCC headers, whether the people receiving the copies see this information depends on the program used to send the mail.

Netiquette

Net etiquette is basically common sense and consideration. It's about making your mails as readable as possible. If it's worth taking the time to write a mail, it's worth spending that little extra time to make sure people will understand what you're trying to say, or even bother to read it. Otherwise, what's the point in sending it? Mailing lists magnify most aspects of netiquette, since you are affecting hundreds of people with each mail you send.

As with so many things, first impressions count, and a poorly quoted mail creates a bad impression. It's not just about how your mail looks - if it's hard to read, people may skip it. Good quoting is the key to this. When you reply to a previous mail, quote only the parts you are actually replying to. Write your comments to each section immediately below that section. This makes it easiest for the readers to follow the thread of the discussion. Do not quote material that has no relevance to your reply, it only obscures the real content of your message, and don't quote signatures and list footers. If your mail contains more quoted material than reply, read it again before sending.

"...from the olden times of the last millennium when people actually used paper to exchange messages."

Above: A well quoted mail. It's easy to see who said what, and only information relevant to the reply is present.

Above: A badly quoted mail. See how less clear it is? The reply comes before the message it is replying to. It's less clear which parts of the original mail the reply applies to, since the whole mail, including the signature, is quoted.

Above: Deleting mails the hard way. Using telnet to communicate with the mail server requires a sound knowledge of the POP3 mail commands.

Above: Deleting mails the easy way. Using a web browser to view your mailbox and delete mails (if your ISP allows you to) only requires knowledge of how to click a button.

One thing that does add to the readability of a message, especially one that contains comments from several people, is correct use of attributions. These are the "On xx-yy-zz, Fred Smith said," lines inserted at the start of the mail. If your mailer doesn't do it by default, check the settings to see how to add it. Without them, it's hard to see who said what.

Most of netiquette is common sense and manners; treat a mailing list like any other social situation and it all makes sense. You wouldn't walk into a pub and immediately start forcing your opinions on everyone. The same idea applies to mailing lists (or newsgroups). Lurk for a few days, read the posts but don't reply. Get an idea of how people on the list behave and then join in.

Remember that in e-mail, no one can see you smile. Face-to-face communication relies more on expressions, body language and intonation than the actual words. It has been argued that words only account for 7% of total face-to-face message content, so you're losing 93% of the message when using e-mail. You may be joking, but it's hard for others to tell whether you're serious or not. Hence the invention of the smiley (or emoticon as the Americans call them :). Use them to add meaning to your mails, but don't overuse them or they become meaningless.

Attachments

E-mail is an easy way to send files, but the convenience comes at a price. The encoding system used to attach a file to a mail increases the size by 33%. Adding 1K to a 3K file is no big deal, but attaching large files can cause unnecessary expense for the recipient. If possible, find another way to send the file, like uploading it to your web site and just e-mailing details of its location. Finally, if attaching a file to e-mail is the only way to send it, do what you can to reduce the file size - use PNG instead of GIF for images and LZX instead of LhA for archives. Size matters, but in this case, smaller is better :)

Neil Bothwick A

"Remember that in e-mail, no one can see you smile..."

Deleting mails

Sometimes you'll receive an e-mail in your mailbox that you can't download, or don't want to. People sending out junk mail don't care about your inconvenience, so they're hardly likely to worry about sticking to the rules. As a result, many "spam" mails contain headers that break the rules on maximum length, or other oddities. Some mail programs are unable to deal with these and break the download when finding one. This effectively blocks your mailbox, so you need to delete it before you can continue.

If your ISP allows you to access your mailbox via the web, you can usually read or delete the offending mail easily. Users of Directory Opus can install the POP3 module to display the contents of your mailbox in an Opus lister. From here you can copy or delete any mail.

If neither of these options are available, you can telnet into the mailbox and delete the mail manually. Telnet sets up a direct connection to the server, meaning you can communicate in the same way that a mail program would. Telnetting into a server isn't a very user-friendly experience, so don't expect nice prompts or online help. You're using an interface designed for use by a program that knows what it's doing. Each command should return a response of "+OK", possibly followed by some extra information. To access a mail server, point your telnet client to port 110. The first two commands you use are:

```
USER myname
PASS nochance
```

(Remembering to substitute your name and password accordingly). You are now logged into your mailbox. The response may show the number of messages, something like:

```
+OK myname has 3 messages (7142 octets).
```

(Here, "octets" is UNIX-speak for bytes). If you don't get this information, use the "STAT" command:

```
stat
+OK 3 7142
```

The "LIST" command shows the size of each mail:

```
list
+OK 3 messages (7142 octets)
1 2234
2 2348
3 2560
```

Now you need to see which e-mail is causing the problem and decide whether to read or delete it. "RETR 2" will download the second mail, displaying it in the telnet window. You wouldn't want to download an entire mail just to see if it's spam that you don't want to download, which is where the TOP command comes in. "TOP 2 10" shows the headers and the first ten lines of the body of the second mail. Use "0" for the second number if you only want to see the headers.

Once you've identified the bad mail you can remove it with "DELE *n*", where *n* is the number of the mail to be deleted. You must now log out of the server, using QUIT, or the deletions may not be applied. A mail server shouldn't delete the mails marked with DELE until you QUIT - this is to prevent mails being lost if you crash partway through a download. It also explains why you may get duplicate mails after such a crash.

Cool Sites

...and News Bytes

Above: How swift is your web site?

Above: Printer drivers aplenty.

Loading... please wait...

There are plenty of sites that will check the HTML on your web pages, but what about the server hosting your site? How reliable is it? How fast is it? There's no point is spending time creating a superb site, only for visitors to find it unavailable or slow to load. Alert Site will regularly check your site, making sure it is available and checking the response time. The basic service will check a single page, once per hour, and mail you a daily status report. Best of all, the basic service is absolutely free.

Alertsite.com

Driving miss daisywheel

OS 3.5 comes with very few updated printer drivers. Apart from the HP drivers, most are the same as OS 3.1. However, someone has been busy creating updated drivers, even if it's not Amiga. Peter Hutchinson's site contains printer information and updated drivers for a range of printer as well as other useful Amiga information.

www.blizzard.u-net.com

Virii - the Truth

Every few weeks we receive an e-mail warning us of the dangers of a new e-mail virus. These have always been dismissed as kind of virus themselves - one person posts the warning and the recipients think they are helping others by passing it on. Until recently, this was always the case, but there have been genuine e-mail virii recently. Fortunately, none of these affect the Amiga, but many of us have to use other machines as well. The authoritative site on e-mail virii is at F-Secure, formerly known as Datafellows. If you get an e-mail virus warning, check here for the truth.

www.datafellows.com/hoax_new.htm

Revenge! Mwuahahahaha!

Computers can be great fun, and sometimes they can be so infuriating that you feel like taking a hammer to them or setting fire to them. Generally, you resist such impulses and find a more constructive solution to your problems. One person not only gave into the temptation; he captured it on film and put the results on his web site for all to see. The next time you feel like attacking your computer, visit M5's Hardware Torture Site and see the results without the expense.

www.members.home.net/marshallj/

Complimentary Software

The majority of freely distributable Amiga software is uploaded to Aminet, but not all of it. This site has information on several categories of software and often contains beta versions of software that not available on Aminet. A useful alternative indeed.

www.amiga-software.com

Above: Don't just look at Aminet...

Above: Stay safe and up to date with the truth about virii.

Above: Burn, baby, burn! Revenge is sweet, if a little costly...

Heading for meltdown?

Two months ago, we reported that Usenet news traffic had reached the ridiculous level of fifty megabytes per day. Unbelievably, in the intervening eight weeks, it's shot up to one hundred megabytes per day.

Daytona Beached

Holger Kruse has stopped work on Daytona, his Java Virtual Machine. He is now working for Rebol Inc as Director of Network Technologies. This is a full time position, leaving little time to work on the products of his own company, Nordic Global. Kruse cites "Declining revenues from Amiga software sales and increased software piracy" as the reason for seeking employment outside of his own company. He will continue to support the Miami range of products and plans new versions of all of them. Work on Daytona has stopped completely although Holger is hoping that development will continue in some form, such as passing the source to someone else. We wish Holger well in his new position.

The new piracy?

Amiga shareware authors appear to be the target for credit card fraudsters. The online registration services for Vapor products and NewsRog are both suffering from a highlevel of bogus or stolen card transactions, sometimes outnumbering the legitimate transactions. The problem is so great that credit card registrations of NewsRog have been suspended until an alternative method of payment can be arranged. As if the few Amiga developers we have left aren't finding times hard enough, without more parasites trying to steal from them.

AMIGACTIVE MAGAZINE
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142 Mexican Whooping Llamas can't be wrong.

AMIGACTIVE MAGAZINE
Issue 6 - March 2000*

Our A la carte menu for Amiga Active magazine, issue 6

Appetisers:

All the latest on Amiga, Tao and QNX
Tao Unmasked
(served with popadums and onion bhaji).

Main courses:

Monitors!
CDRs!
Digital Cameras!
(all dishes come with an assortment of seasonal games and applications).

Desserts:

Desserts from the trolley will include a selection of our fine regulars, features and masterclasses.

A complimentary bottle of chilled AACD6 for all our customers.

Finest home style cooking.
Service included.

Book early to avoid dissapointment.

Your meal will be served on February 24th, 2000.

To find out in advance just how well we've predicted the future this time around, or if you want to find out how to join our electronic mailing list, keep an eye on our web site

Amigactive Online:
www.amigactive.com

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