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ISSUE 1 October 1999 £4.95

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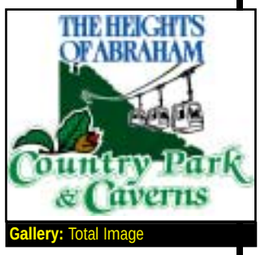

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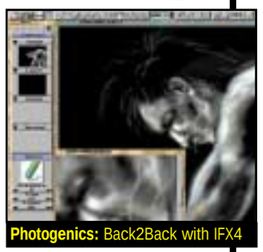

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AACD 1

Unique Interface
Enhanced for OS3.5

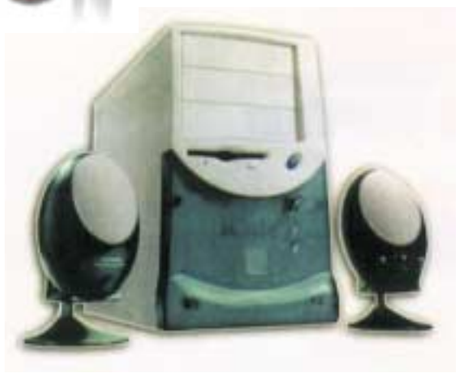
PPaint 6.6
Full Version

Octamed
Soundstudio

T-Zer0
35MB Playable Demo

Please note: Some software installed on your system may interfere with the intended functionality of AACDs. Pinprint Publishing cannot be held responsible for any ill effects caused as a result of using any of the software on its cover CDs.

Seconds out... round two! BoXeR



The BoXeR Amiga clone from Access Innovation Ltd. is on target for a release in the next few months. Official distributors Blittersoft have announced final specs and pricing and hope to ship the first few in mid October, with a full launch at the Cologne Amiga show in November.

Two models of BoXeR machine have been announced. The BoXeR - 4 comes with a 68040/40MHz processor, priced at £680.81 +VAT (£799.95). The BoXeR - 6 comes with a 68060/50MHz processor but an otherwise unchanged spec for £765.92 +VAT (£899.95). Both systems include a case in a choice of colours, 64MB DIMM RAM, a 6.4GB hard drive, a PS/2 keyboard and mouse, multimedia speakers, Kickstart 3.1 and Amiga OS 3.5. Specifications of the BoXeR system have improved significantly since it was first announced. The feature set now includes:

- 100% Amiga compatibility.
- Integrated single chip custom chip set with register compatibility to AGA, significant performance increases, and no chip RAM limits.
- DMA support for most peripheralds.
- 2MB Flash ROM for Kickstart and resident modules.
- Dual UDMA IDE interfaces.
- High density floppy drive as DF0: 68040/'060 slot switchable from 25-75MHz.
- 64-bit expansion connector for cheap G3/G4 upgrade modules.
- 4 active PCI slots.
- Amiga video slot.
- Optional expansion board for 2 Zorro 3 slots.
- Industry standards including ATX form factor, PS/2 keyboards, PCI and DIMMs.

No specifications have yet been anounced for the AGA replacement chipset, but we understand that it is considerably more advanced than AGA. No prices have yet been released for bare motherboards or systems without CPUs included - it may be a little while before BoXeR is released as anything other than a complete system. We hope to be able to bring you more details, and a hands-on report of the BoXeR, next issue.

Jim Beams out...

Jim Collas has resigned as president of Amiga Development LCC after only eight months at the helm. Collas took over the Amiga parent company in February of this year, leaving his position at Gateway as VP of Global Products and Marketing. Collas has become a popular figure amongst Amiga users and the Amiga market in general; the enthusiasm and drive he showed during his time at Amiga reawakened a lot of people's belief in the future of the Amiga.

Collas' unexpected departure is something of a mystery - the official word from Gateway is that he left to *"pursue other interests and opportunities"*, for what that is worth. It has been widely speculated that Collas left after a falling out with Gateway over the relationship between Amiga and their parent company; it is known that Collas was keen on loosening the corporate umbilical cord.

Tom Schmidt, previously Chief Operating Officer at Amiga, has stepped up to take over from Collas as president. Schmit has only been with Amiga since April, when Collas brought him into the company. Previously he had been a VP and General Manager at AlliedSignal.

The appointment of Schmidt, a manager rather than a technologist, has been seen by some as an indication of where Gateway wants to take the Amiga. Very little is known about Schmidt's stance. Shortly after he took over, he posted a reassurance to the Amiga web site that read: *"I have been with Amiga since April of this year as the Chief Operating Officer and I continue to be extremely excited about the plans and strategies we have been working very hard on the past several months. Those plans will continue with a great business and technology leadership team focused on the emerging Internet Appliance market space. As we finalize our plans in this area, we will communicate those to the community."*

It seems inevitable that will the change in manager and management style, there will be some changes in direction, although how significant those changes will be, no-one is saying. According to Petro Tyschtschenko, who heads Amiga's German based sales division, the MCC (Multimedia Convergence Computer) is still on course for launch early next year, although he suggested there may be slight delays.

Innovative Graphics

German software company Innovative have announced their new graphics package FXPaint will be available at the beginning of November. FXPaint appears to be an attempt to combine features from other well-known Amiga graphics software such as Photogenics and Art Effect.

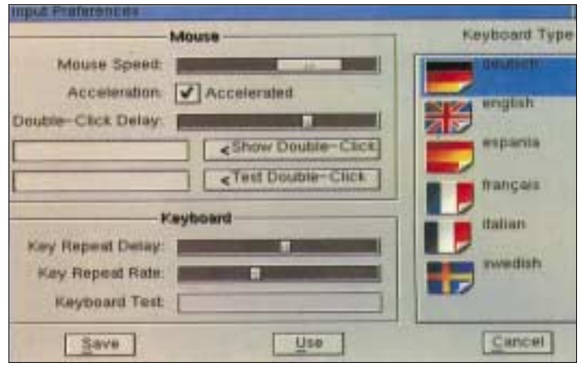
It promises some important features such as colour calibration, support for PPC accelerators, distortion effects, effects such as lighting and fire, comprehensive brushes and ARexx support.

Stop Press

Word has reached Amiga Active magazine of a very intriguing new development being promoted by two ex employees of Amiga. Bill McEwen, who was PR and software evangelist for Amiga until his surprise departure just hours before Jim Collas resigned, has joined forces with Fleecy Moss, who was similarly let go by Amiga just under a year ago. Along with several other partners, they are shaping a business plan that they believe will help stabilise the market and allow it to start growing.

The details of the plan are currently highly secret, with a number of different parties involved in discussions. Fleecy Moss told us "We have good contacts with technical partners, venture capitalists and other investors, and most importantly the Amiga community. In the next few weeks, we hope to have some real information, either one way or the other." Amiga Active will be tracking events closely and will update you on the situation next month.

Oh yes... OS 3.5 is here!



OS3.5. should be available around the time you read this. The first official OS upgrade in more than five years, OS3.5 is being produced for Amiga by Haage & Partner, the software company behind Art Effect, Warp UP and many others.

OS3.5 is a software-only upgrade that uses 3.1 ROMs and contains many enhancements to OS3.1 to bring it more up to date. Networking and been included for the first time, in the form of "Lite" versions of Miami and AWeb. Miami is a TCP stack for automatic configuration of Internet and network connections and AWeb is a web browser. There's also support for e-mail.

The GUI system has been extended, using a variant of the ClassAct BOOPSI system. Because it is based on the old system, there are no conflicts with older software. Other GUI systems, such as MUI, will work with it the same way they do with the current GUI system. Icon support has been brought up to date with 256-colour support, and colour paletteinformation stored in the icon. This gives the advantages of NewIcons without the problems caused by the NewIcons hack.

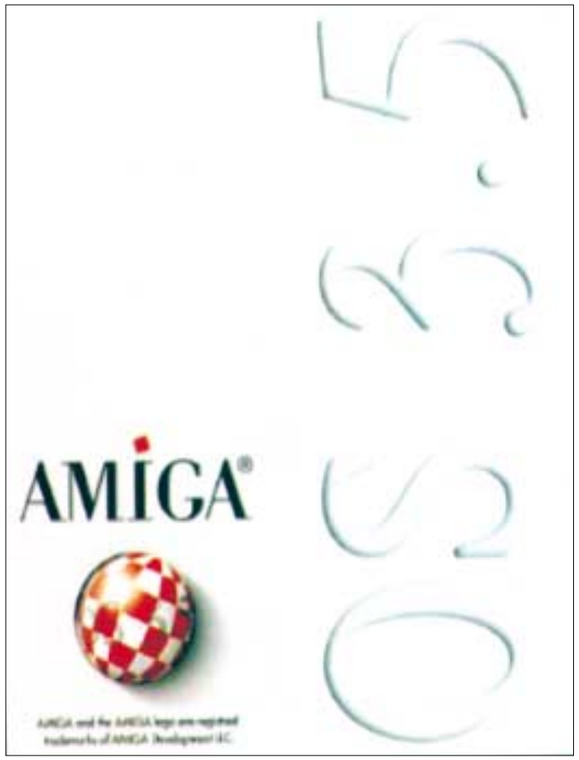
Workbench itself has been enhanced. A new API enables other programs to control it. An example of this is the way the search program on our CD can open the Workbench window of any found file if using OS3.5. It won't be long before someone releases an ARexx library to control Workbench from scripts. A new preferences program configures the appearance of Workbench. You can change icon display from here, selecting whether or not to use NewIcons and hiding the icons of specific devices. No more PC0:BAD icons or icons of networked drives cluttering the Workbench.

CDROM handling has been improved and now supports PC "Joliet" discs and Mac HFS discs. There's still no auto-booting from CD (that would require a ROM change) but the installer creates an "Emergency Boot" floppy you can run to install from the CD again if your hard drive fails. Larger hard disks are supported with a new scsi.device, Fast Filesystem and Format command. HDToolBox has been updated too.

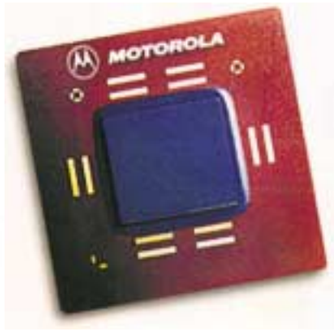
Printing now works in 24-bit colour and has enhanced drivers. The Printer and PrinterGfx preferences program have been combined. Owners of I/O cards can use a different parallel port, and there is support for up to ten different printers at once. Ten seems a bit excessive, but people who want to use two printers and a fax "printer" will find this useful. PowerPC support should reduce system load when printing complex images.

WarpUP has now been integrated into OS3.5, giving a consistent interface for PowerPC software. Providing consistency is a large part of OS3.5's significance. So many people run heavily patched systems that it's a nightmare for developers. OS3.5 provides an opportunity to set a new standard for developers to work with, which should benefit all of us.

The price will be around £35 in the UK. If you currently run Kickstart 3.0 or earlier, you'll also need to budget for the 3.1 Kickstart upgrade, soft-kicking will not work. Dealers will be offering a pack of CD and ROMs at a reduced price.



G3 & G4 are coming...



New accelerator cards using the Motorola G3 and G4 Altivec variants of the PowerPC processor family are due to be launched in the next few months. In a year that has seen a flurry of PPC cards announced but no new models released, two old faces say they're nearing completion of what you need to take your Amiga to light speed.

Phase5's announced Blizzard and CyberStorm G4 cards represent a significant departure from the original 603 and 604 models produced for the A1200 and A3000/4000, respectively. Aside from carrying a substantially faster CPU, the G4 boards will not have an '040 or '060 processor onboard. A software emulator will be provided to enable backward compatibility with AmigaOS 3.x and classic applications. Phase5 have dropped plans for a G3 version of their board in favour of the extremely powerful new PPC 7400, commonly termed the G4. This adds dual vector units (Altivec technology) for ultra-fast parallel data streaming, and is capable of outperforming a top of the line Pentium by a factor of two or three in Altivec optimised tasks.

Compatibility is taking a back seat to a larger agenda. Phase5 is making a major push for their customers to embrace the QNX Neutrino operating system, which they licensed from QNX shortly after the collapse of the Amiga/QNX partnership. Neutrino will run natively on the G4, and the AmigaOS and '0x0 CPU emulation will run as a protected task in Neutrino. Support for most existing PPC apps is promised, but it remains to be seen how much Amiga hardware will be supported under the Neutrino-based emulation. Phase5 has also pledged to make their Neutrino port freely available to existing 603/604 card owners.

In addition to support for upcoming dual-G4 CPU modules, the company plans a variety of cards, which will connect through the standard Mini-PCI ports on both the Blizzard and CyberStorm G4 models. A 32-bit colour 3D graphics card, as well as cards for SCSI, IDE and even FireWire are described, ranging from £55 (for the UW SCSI or IDE modules) up to £120 (for the CyberVision NG).

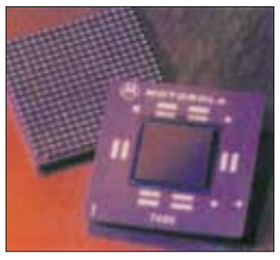
Met@box (formerly PIOS) announced the AmiJoe G3 accelerator earlier this year, but have provided few solid details since. Like the Phase5 offerings, the AmiJoe will have the PowerPC as its sole CPU. Met@box have not indicated what, if any, existing PowerPC Amiga software will be supported on their cards, nor have they provided any details of their classic emulation scheme. They have announced that their first release will be for the A1200 only, with A2000 and A3/4000 versions to follow. An I/O card and a graphics card are planned, but no details are currently available.

Phase5 projects its 350MHz Blizzard G4 at Eur 649/£430 and the Blizzard and CyberStorm G4/400MHz at Eur 799/£530. Meanwhile, Met@box touts a range of specifications from 250MHz and a 512k backside cache at around $420 to a 400MHz/1MB cache for $714. All prices exclude VAT.

The proposed cards share certain features, and certain mysteries. It remains to be seen how a 68K-less Amiga will function. Phase5 have described but not demonstrated their solution, and Met@box have yet to tell how they plan to solve the problem. Both companies offer USB ports on their accelerators and tout the benefits of cheap, plentiful USB devices but neither has offered to venture just how many devices will ever have driver support.

Both manufacturers plan to use laptop SDRAM modules, plentiful but generally slightly more expensive than their desktop cousins. The decision is a space issue - the 168-pin full-size monsters take up far more room than SIMMs.

What sets the AmiJoe and the Phase5 G4 promised offerings apart from the other PPC cards that have been announced in the last year is the fact that Met@box and Phase5 both have actually designed and shipped PowerPC-based accelerators in the past. Met@box have produced Mac PPC cards, Phase5 have produced them for both Mac and Amiga. Both companies promise delivery by winter. If either - or both - are successful, it could finally represent the liberation of the Amiga from the 68000-series CPU.



Cologne Approaches

The Annual Amiga oriented computer show in Cologne is back this year with a different name. Now called Home Electronics World, the show will be held over the 12-14th of November at the normal venue, the Cologne Messe.

Announced attractions include OS3.5, Amiga dance band Annex, and an exhibition of Amiga models throughout history. Other events are anticipated from the Amiga companies that traditionally attend.

It is interesting to notice that the show is being held immediately before the autumn Comdex show in Las Vegas. Comdex fall is the premier showcase event for the computer market and Amiga are likely to be there in force. Whether or not this affects Amiga's announcements at the Cologne show remains to be seen.

The Worms returns!

The final instalment of Worms, the hit game from Team 17, is making a return to its roots. The original Worms was written by Andy Davidson on his Amiga in Blitz Basic, and helped propel Team17 into the big league.

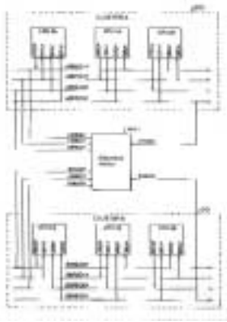
The final instalment of the series will be converted to the Amiga by Hyperion Software, who also have licenses for bringing Heretic II from Raven and Shogo from Monolith to the Amiga. Visit Hyperion's website for more info: http://www.hyperion-software.de A

Amiga Patents Appear

The first patents of the Gateway Amiga era have been issued during August. 18 in total were issued, covering multiprocessing technology, user interface ergonomics and design and systems for controlling multiple data streams within an Information Appliance environment.

Most of these patents are filed by Theodore Wugofski of Gateway subsidiary Over The Moon Productions, a specialist in convergence delivery standards and one of the principal architects of BHTML, a standard for integrating streamed data (such as digital television) with client side information processing and web pages.

The patents are as follows:



US5935230:
Multiprocessor arrangement including bus arbitration scheme involving plural CPU clusters that address each other as "phantom" CPUs
WO9935849A1:
System for Combining Electronic Program Guide Data
WO9935848A1:
Multichannel Conflict Resolver for Convergence System
WO9935560A1:
Mutably Transparent Displays
WO9935845A1:
Associating Web Sites to Television Programs
WO9935844A1:
Scheduled Caching of In-Band Data Services
WO9935843A1:
Internet Source into TV Program Database
WO9935842A1:
System for Invoking Channeland Event Functionally
WO9935841A1:
System for Managing Favorite Channels
WO9935833A1:
Multipurpose Channel Banner
WO9935829A1:
Individualized Parameter Control for Multiple Media Sources
WO9935828A1:
Channel Tuner for Television
WO9935823A1:
Event Time Shifting for Convergence System
WO9935822A1:
Channel Map Manager for Multiple Input Devices
WO9935584A2:
Reminder System for Scheduled Recordings
WO9935569A1:
Architecture for Convergence Systems
WO9935561A1:
Displaying Layered Information Using Lenticular-Like Interfaces

Editorial

We Must Be Mad!

I've never believed in mind reading, but I bet I can guess what you are thinking right now. Somewhere amongst the thoughts of new hardware, upcoming software and intriguing antics within the industry that these news pages have no doubt engendered, there is a little voice telling you *"These guys must be mad."* I don't blame you, it is exactly what went through my mind when I first heard about *Amiga Active*. Amiga magazines close, they don't open - do these guys know nothing?

When Paul Lesurf of Blittersoft first alterted me to Pinprint Publishing's plans, my initial thoughts were *"These guys must be mad."* Apparently I must be a sucker for this sort of thing, because only a few weeks later I found myself in a swanky central London club allowing myself to be persuaded by publisher Mark Hinton that at the very least there was method in his madness.

CU Amiga closed a year ago. If EMAP couldn't hack it, why could Pinprint? EMAP own titles such as FHM, which sold 30 times as many copies as CU every month. EMAP is a multi-billion pound giant, one of the biggest publishers in the world. It wasn't built for anything so small. Pinprint is the opposite, a new publisher launching their first magazine. The overheads are much lower, the profit structure fundamentally different. More unusally, Pinprint's extensive contacts in publishing and pre-existing infrastructure balanced out the normal cost advantage a big publisher has. *Amiga Active* seemed financially viable.

However, this in itself was not enough. We've seen shadow publications of abysmal quality released to cash in on the dwindling market before. What persuaded me is that Pinprint have the desire to be the best and the motivation to go through with it. When Mark Hinton started talking about high production values and a commitment to top quality, forward looking journalism, I was sold. The chance to work from the ground up on a new magazine, to help make it what a magazine could be, rather than what a monthly schedule forces it to be, was irresistible.

Developing *Amiga Active* has been a long - but interesting - haul. It's the work of a team of people working at Pinprint in Bournemouth and around the world via the Internet. Mark Hinton, Russell Trent, David Stroud, Jason Compton, Neil Bothwick, Simon Archer, Tony Horgan and myself (not to mention Richard Drummond earlier in proceedings) have all contributed to the shape the final magazine has taken. We think you'll like it, and that we'll have a long future together.

Maybe we all are mad, but we like to dream. It's the Amiga way.

Andrew Korn A

Amiga Active Online: http://www.amigactive.com

What's in a name?

Some people may wonder what value remains in the Amiga name - perhaps it is inestimable.

It's not uncommon for people to claim that the Amiga name just doesn't pull the weight it used to, or even that it is somewhat stigmatic. *"Omega? Isn't that just a games machine?"* The answer most commonly given by advocates is that the name is tied to a community of evangelists that is small but immensely vocal, but that's a two-edged sword at best.

The real value in the Amiga name isn't in the community of dedicated users so much as the community of ex users. With 1.8 million Amigas sold in this country alone, there are a lot of people out there who remember the Amiga as what computers were like before they became absurdly clumsy. Those are the people to whom the name will mean a lot; most of them will want to know about any new machine that comes out staking a claim to the Amiga heritage. What's more, a lot of them are now working the high-tech industry.

It's not as good as it used to be

One effect of the huge money in gaming these days has been an inflationary process in games development. Budgets averaging around $1m make publishers wary. The result is that a lot of games developers aren't happy. Many of them remember a time when smaller teams were able to develop a title in a year at a fraction the budget: happy days where creative freedom ruled. One name a lot of people associate with that era is Amiga. If you regularly check out any kind of public games developers' forum, you'll notice that conversations about the Amiga and *"the good old days"* are common; in British oriented forums they tend to crop up every week or two. Now, this is no hardcore fan base; these are games publishers and developers with a lot of experience and an emotional bond. These people won't all jump on any box with an Amiga label on it, but they will be curious, and if they like what they see they will want it to succeed. If they thought that it offered an open platform, good development environments, a democratic approach to publishing (a dedicated web machine offers interesting possibilities) and exciting hardware, many of them will want to jump on board. If you were to name your company, say, VMLabs instead, you may not find things so easy.

Of course, it's not just a bunch of old Britsoft games industry types that are interested. Amiga have claimed for a while that they want to remain *"under the radar,"* and thus only talk to the Amiga press and users. Some of us have suggested to them that this is a rather futile step, as it seems to imply there is some kind of boundary between people who are interested in the Amiga and the rest of the industry; there is not.

Under the radar or under the microscope?

An article I wrote for the *Amiga Active* website (http://www.amigactive.com) a couple of days after the Linux decision was made soon got linked to from the Slashdot website (http://www.slashdot.org). As is traditional, this garnered a fair few visits to the website from interested parties: the day it was linked, that page was accessed 23,000 times. Looking through the logs of those visitors is fascinating. Nearly any major computing company you can think of took a peek at what Amiga is up to, and that's just the start. If you've been wondering what all the logos are about, now you know - although what appears on this page is just a tiny selection. Numerous news organisations, investment companies, industrial giants, communications firms and so on were represented. Many more visitors weren't immediately apparent due to only their IP number appearing in the logs, and a number of others came through anonymizers to protect their identities. It is impossible to analyse the figures that closely. Certain some came due to the mention of Transmeta. Others are just odd Amiga fans surfing from their work account (this probably explains the visitors from Electrolux, unless there really are plans for *"powered by Amiga"* hoovers). It's interesting to note that 72 separate IBM hosts visited, as did 16 Microsoft hosts and 16 Intel hosts. Only one Transmeta host, but that's probably a web proxy, so it could represent one person or a hundred. A surprising 52 visitors from NASA probably represents interested techies, while the visitors from QNX, Corel and Sun presumably had a rather more specific interest. The visitors from Lucas Film, Disney and Pixar are presumably old Amiga fans, while the various biotech firms are a mystery. Potential partners or rivals of Amiga such as Sony, Toshiba, Be, Philips, Nokia, Netscape, VMLabs, Panasonic, Hitachi, nVidia and so forth were legion. Game companies were no surprise, but some people from the US Department of Justice appear to have been doing the rounds too. It i impossible to draw any firm conclusions except one; the Amiga brand is a mindshare goldmine. Journalists, developers, chip manufacturers, investors, technologists, opinion makers and artista are all keeping an interested eye open, waiting to see how the Amiga story unfolds.

Andrew Korn

"The visitors from Lucas Film, Disney and Pixar are presumably old Amiga fans..."

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Back for the Future

Part one: History Lessons & Mystery Chips

Viva la Revoluçion! Even IBM admits that the era of the PC is coming to a close. A new generation of computing devices is coming, and for the first time in fifteen years, Amiga is marching out at the front.

Some of you may have picked up this magazine out of curiosity, wondering what was going on to justify the launch of a new magazine about a computer for which you may harbour no more than fond memories; others will have been keeping a close eye on the Amiga situation. Either way, the recent history of "the computer that would not die" will benefit from review. I will start at the end....

Commodore Electronics International, the Commodore umbrella company, went into receivership in April 1994 after a series of costly mistakes threw the company heavily into debt. The rights to the Amiga were bought a year later by the German PC clone manufacturer Escom. The year's delay saw already dated Amiga hardware fall even further behind the opposition, but Escom embarked on a promising venture to replace the ageing 68000 series CPU with the PowerPC line, a move Apple had taken with the Macintosh a couple of years previously.

Unfortunately, almost exactly a year later, Escom folded. Over-investment in the high street at a time when their low cost, low mark-up PC clones were not selling well was blamed for the collapse. Escom was just another PC box-shifter gone bankrupt, but to many in the Amiga community, it seemed like one blow too many.

A number of other companies declared their interest in picking up the technology, but none seemed a credible chance for a major revival. The second sale dragged on even more painfully than the first. People noticed that the Amiga had been bought or bust every April for the last four years, so as April 1997 approached an almost morbid expectation arose in the industry. The news turned out to be so unexpected that the many people who heard it for the first time on April Fool's day thought it was a hoax.

A Painful Rebirth

Apparently out of the blue, Amiga had been purchased by Gateway 2000. This was a different story; Gateway were no small scale technology start-up funded with a pocketful of venture capital, but an $8 billion dollar giant of the PC world, a parvenu with an impressive performance shouldering its way into the Dell and Compaq stratum.

It rapidly became clear that Gateway did not really know what they had bought. They were after intellectual property (IP) patents, but exactly what caught Gateway's eye is still not entirely clear. According to one rumour, they heard that Dell were interested but prevaricating and just went ahead on the assumption that if Dell wanted to have it Gateway could probably find some use for it. When Gateway first met the Amiga industry at the World of Amiga show in London less than two months later, it seemed that they had decided to do something with the IP after all. Gateway legend has it that the company was flooded with phone calls and emails for weeks after the buyout, after which they apparently decided that the Amiga could become a viable alternative computing platform.

It is possible that this was the idea all along for some of the Gateway executives. Gateway's Chief Operational Officer Rick Snyder and founder Ted Waitt had been publically speaking out against the unhealthy Windows / Intel duopoly, telling the audiences at several technology conferences that they believed the world wanted something easier, friendlier and more efficient than the WIntel world had to offer.

The German rump company Amiga Technologies, run by long time Amiga sales executive Petro Tyschtschenko, was renamed Amiga International and given reign to sell old stock and merchandising. Meanwhile, Gateway's South Dakota HQ was to host a separate R&D wing, Amiga, Inc. To head up the US arm of the operation, Gateway appointed Jeff Schindler, a Gateway exec who had previously headed up their 'Destination' product line - PCs connected to large screen televisions for multimedia presentation and home entertainment systems.

Unfortunately, the downside of having such a large company calling the shots was that progress took place at the normal behemoth lumber. The departure from Gateway of Rick Snyder, the Gateway CEO whose pet project the Amiga had been, left the newly appointed Amiga, Inc. team shuffling from gate to post in their attempt to sell one strategy or another to the Gateway board. After a reported 12 different business plans had been presented to Amiga, Inc.'s Gateway minders, a fortuitous chain of events lead to the broad vision of the future Gateway's Amiga subsidiaries are now pursuing.

One important champion of the cause was Gateway's Vice President in charge of global products and management, Jim Collas. Early in 1998, he shared a flight with Jeff Schindler, and in discussing the small corner of his empire Schindler was managing, found it riper with possibility than he had imagined. All those years without any kind of development or direction would be expected to kill any computing platform, so to have a look at the goings on of the Amiga market and see a lively community of companies producing hardware, magazines, websites, applications, artworks and games was something of an eye opener. Amiga Inc was taken under his wing and taken into account for his plans to take Gateway into the future.

Diversification

Many people who have looked into the Gateway / Amiga question have asked themselves the simple question: why? What does a PC giant with an intimate business relationship with Microsoft and Intel want with the Amiga? Quite simply, they want an alternative. Heavy competition in the PC sector is making life as a PC seller hard. As profit margins reduce, the production of PC clones becomes a less attractive proposition. With growth in the user base expected to bottom out in the immediate future, the lesson is clear - for a major company in the clone business, the only ways to go are down or sideways. The unavoidable price of installing Windows (referred to by some as the Microsoft tax) has not been dropping in line with other price reductions. Slowly but surely, the PC sector is cutting its own throat. Diversification into growth areas is a must.

One area of growth with particularly high forecasts is the "information appliance" sector. This is the growth market of consumer appliances with embedded computer power. The notion behind this is that media content delivery will become increasingly unified: Digital Convergence. Your television will have access to the Internet, your computer will have access to digital TV, your stereo system will be able to download MP3s and your games console can word process or tell you the weather. Microsoft would love to believe that Windows will be the key to this future path, with WinCE running on everything from your TV to your microwave, while Windows 2000 runs on your computer. Fortunately, most companies who want to actually supply these devices aren't too happy with this notion. Years of trying to crowbar more performance from such a dated and primitive platform architecture have lead to a main horsepower solution - the inefficiency of Windows demands powerful hardware and thus higher hardware costs unsuitable for the target products. Clearly a tight, efficient multimedia friendly OS (sound familiar?) running on a modern hardware architecture has a lot of potential in this sector.

In November of 1998, Amiga Inc announced a new partnership to bring the OS up to date. They had decided that the changes that had to be made to the operating system would have to start at the most basic level; the kernel. Rather than starting from scratch, they sought out a pre-existing kernel that would suit their needs, and they found it in Neutrino, the POSIX compatible real-time microkernel from QNX Software Systems Limited. QSSL had some exciting technology and were already working on a personal version of their OS for the consumer market; it looked like a marriage made in heaven.

New Man at the Helm

The next major change came in early 1999. Frustrated at the inability of his favourite subsidiary to push an agenda past the cautious Gateway board, Jim Collas decided to take action. He approached his old friend and Gateway CEO Ted Waitt and told him that it was past time for Gateway to make up their minds: use it or lose it. Collas felt that losing it would be a mistake and made Waitt a startling offer - to step down from his leading role in Gateway to take charge of the tiny subsidiary.

Reactions amongst Gateway staff were largely astonished. Many Gateway staff couldn't believe that Collas would take on such a tiny, quiet subsidiary of the company, but it was not Collas' plan for Amiga to stay that way; he had a much bolder idea of where he wanted to take it. Collas appeared to be in his element. A technologist turned executive who had years previously made his own Apple 2 accelerator and written Commodore 64 software, he seemed to see Amiga as the ideal opportunity to lead computing to the next generation.

In Early February, Collas called his staff together for a series of meetings at the new Amiga HQ in San Diego to hammer out a strategy for their future plans. This strategy would involve a scalable architecture to run $100 games consoles and $1000 workstations. Modern hardware architectures would provide superb performance at minimalist prices. Implicit networking and broadband technologies would make the Amiga a true network computer and an ideal internet machine, while Java based networking object technology would bring unparalleled interactivity between networked components. It was a plan that would be aggressively pursued and aggressively marketed.

"Slowly but surely, the PC sector is cutting its own throat..."

Collas started hiring some very impressive talent. To the team of Jeff Schindler, ex Commodore OS engineer Dr. Allan Havemose, user group and shows co-ordinator Darreck Lisle and long term Commodore / Amiga man Petro Tyschtschenko, he brought some interesting names. Gateway's Jim VonHolle became VP of marketing and OEM sales, CORBA architect David Curtis became Director of Object Technologies, Dr. Rick LeFaivre, one time head of Apple's advanced technology group, became new Chief Technology Officer and Tom Schmidt, VP and General Manager at AlliedSignal, came on board as COO. Schmidt was rumoured to have had the chance of a similar post at Gateway itself - people were taking the new Amiga company very seriously.

The First Casualty

Launching a new "fast track" development policy, Collas propelled the company into high gear. Details and partnerships were hammered out, an aggressive time-scale chosen, and many of the details that had been up in the air were finalised. Amid this flurry of activity, there were inevitably going to be a few changes, and the first casualty was QNX. After spending eight months getting used to the idea of QNX and learning about its architecture, the Amiga market was informed that the kernel would now be Linux. Unsurprisingly, some cheered, some shrugged and some cried.

PCs handle multimedia by brute force; in theory they have so much computing power that they don't need to worry too much about ensuring real-time processing. In practice, they aren't really up to multimedia usage because the operating system is so bad at scheduling tasks. With an OS that handles task scheduling as well as AmigaOS does, basic multimedia is possible on an ancient 7MHz 16-bit processor - how good would it be on a really fast modern processor? Fast enough, even without the real-time properties of QNX. The problem here is that Linux isn't really quite up to the task either - yet.

Linux author Linus Torvalds now works for mystery start-up Transmeta, who are producing "alternative VLSI engines for multimedia." It is widely speculated that he has been working on modifications to the Linux kernel that will clean up scheduling, threading and various other problems with the Linux core, specifically for multimedia use. It is also certain that Amiga have some connection with Transmeta and Linus,

Above: Collas meets the Amiga crew. From left to right; Darreck Lisle, Lisa Matherne, Dr. Allan Havemose, Jim VonHolle, Jim Collas, Jeff Schindler, Petro Tyschtschenko and Michael Reese.

Below: A selection of initial design concepts for the next Amiga, produced by industrial design consultants Pentagram.

"...an unbeatable Quake box and a machine that runs Corel Word Perfect Office 2000 very nicely indeed."

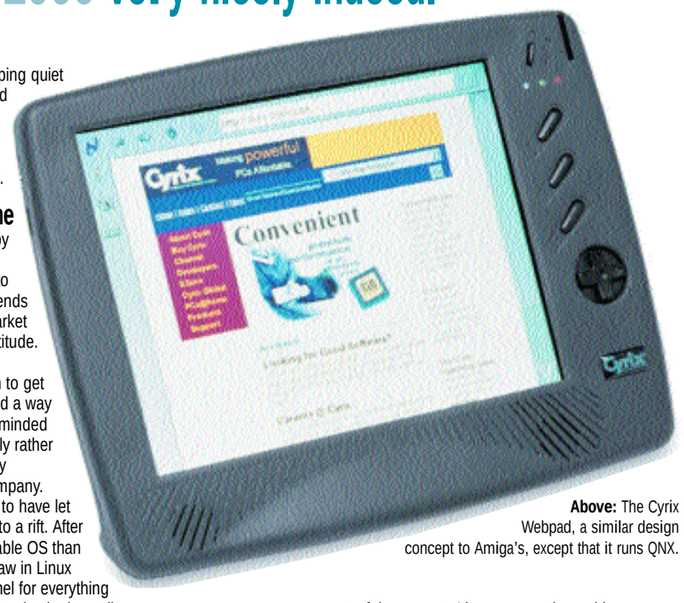
although they are certainly keeping quiet about the details. When pressed on the matter, Amiga told us only that the kernel they were using was not a version currently available to the public.

Two for the Price of One

While some users were upset by the Linux decision, it was QNX themselves who had the most to lose. QNX have made many friends for themselves in the Amiga market with a very helpful and open attitude. They saw the whole Amiga development as a way for them to get out into the domestic arena, and a way to pick up a community of like-minded developers. Their OS is arguably rather Amiga like, and they're a deeply enthusiastic and pro Amiga company.

It was perhaps unnecessary to have let the change in emphasis turn into a rift. After all, QNX remains a more scaleable OS than Linux, and the advantages AI saw in Linux didn't tie them to the Linux kernel for everything they produced. Amiga's plans involved a low reliance on any individual platform, and so selecting Linux as the kernel for their first desktop machine should not have closed the door on QNX. Amiga seemed to be dismissing all the good work QNX had done, although subsequent statements indicated that they were not rejecting QNX outright. QNX themselves had no intention of politely waving goodbye to their new friends and disappearing back to the realms of embedded control systems, and stretched out a hand to the Amiga development community.

On the 8th of July (confusingly a day before the public announcement of the move to Linux was made, and in anticipation of it), QNX CTO Dan Dodge issued a press release on the QNX website:



Above: The Cyrix Webpad, a similar design concept to Amiga's, except that it runs QNX.

> "Last November at Computer 98 in Cologne I promised to deliver an advanced operating system that would once again put Amigans at the forefront of technology. Over the past 7 months we have had a team of over 40 engineers working towards making that promise and vision a reality. We are now in the final stages of development and are poised to put these new technologies into the hands of thousands of serious, enthusiastic developers like yourself."

QNX announced the QNX developer network for Amigans - if QNX weren't going to be allowed to come to Amiga, they decided they would ask Amiga users to come to them instead. They offered beta code of their new, functional multimedia operating system, a developer's programme and some very attentive support. With everything from Amiga looking distinctly vague in comparison to this solid, exciting development, it wasn't surprising that QNX has retained more than a passing interest from many in the Amiga market. Some claimed that a fatal schism in the Amiga market would be the inevitable result. The more optimistic have pointed out that given both Amiga and QNX are POSIX solutions, cross development should be easy. What's more, the Amiga market is now in the unusual, happy position of being courted by two companies moving towards an Amiga (or Amiga like) future of computing. Amiga's plans involve an operating system that would come in different shapes and sizes, running on a number of different hardware platforms. These would share functionality through the Amiga Object layer, and each would have to fulfil certain minimum specifications (principally a supported networking architecture, ideally wireless, and a Java Virtual Machine). Other specifications called for would depend on the use the device was going to be put to. For example, a palmtop PDA (Personal Digital Assistant) would not require a TV tuner, which would of course be necessary for a digital television, whilst a games console would require 3D graphics but not much I/O or expandability, and so on.

The initial technical announcements from Amiga have outlined the first two products that will come directly from them, although negotiations are underway with several computer and electronic appliance manufacturers about further variants on the theme. Amiga's initial products will be a webpad (a colour flatscreen handheld device that can access the Internet wirelessly), and the "Multimedia Convergence Computer" or MCC, a desktop computer representing a kind of superset of functionality, doing all the things that might be embedded in Amiga appliances in one box. Amiga stated that the MCC would arrive in two forms; as an ATX form factor motherboard to be used for constructing OEM or DIY Amiga towers, and a smaller version with less I/O and custom casework developed by industrial design consultants Pentagram.

The specs may seem impressive, but it will take more than a nice box and a shiny new OS to sell in the numbers Amiga would like it to. A rival to the Mac would be lucky to sell a million units a year, while Amiga are planning on using the vertical deployment of their technology (from graphics workstation to smartphone) to put the boing ball on tens of millions of boxes over the next few years. Amiga know that to succeed, it must have a persuasive and unique functionality; to put it simply, it has to have "wow" factor. It's fair to say that it should score plenty of "wow" points even in direct comparison to what is out there at the moment. According to the technical brief issued by Amiga, the MCC will be the fastest computer around for running Linux and Java, which should mean we get an unbeatable Quake box and a machine that runs Corel Word Perfect Office 2000 very nicely indeed. That, however, is not enough. Amiga aim for their architecture to be something other than another slightly faster computer.

Computers have increased in speed so much and so consistently over the last decade that faster isn't exciting any more. On the other hand, they haven't improved much in ease of use - on the contrary, now they do more, people understand them less, and as a result, the home computer is too complex. Can you imagine people spending hours on the phone to an expensive technical help line to set the timer on their VCR? The Digital Convergence market calls for ergonomic user interfaces that can present the information rich environment of the Internet, on-line and off-line gaming, e-commerce, music on demand and pay per view films in a manner which suits the domestic consumer.

New Amiga, New Patents

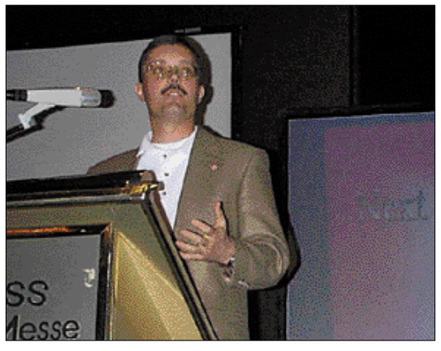
In late August of this year, a number of patents were assigned to Amiga Developments, LLC from Over the Moon Productions, another subsidiary of Gateway. These patents largely deal with the solutions to these issues in a broadband environment. We are rapidly heading towards fast, permanent Internet access through cable modems, ADSL technology and similar developments. One of the biggest problems facing the designer of an Information Appliance is how to cope with all the information it will be providing. The Amiga patents deal with displaying maximum information in as straightforward and clutter free a manner as possible.

You may wonder what exactly all this has to do with a desktop computer - the answer is, "more than you might think." The solution to the delivery of multimedia content favoured by Gateway (largely developed by Over the Moon Productions) is to treat every multimedia 'event' as a Java based object within XML (eXtensible Mark-up Language), a standard termed Broadcast HTML, or BHTML. The idea behind this is that any object within the 'web page' can be pretty much anything - a streaming video film, a hypertext page on the World Wide Web, or a 3-D real time render done on the computer's own graphics hardware. This has the potential to provide an enormously configurable front-end. Application front-ends for embedded appliances can simply be an XML page, while the potential for customisable desktops is huge. In theory, an entire interactive desktop GUI can be written in XML, transparently using data structures across a network for different parts of the desktop environment.

The ability to entirely "roll your own" environment would put even Directory Opus to shame. Imagine a computer desktop that defaults to a sophisticated file handling system similar to DOpus Magellan, but can be switched to a digital TV front end

Below and opposite page: Neutrino and the Photon GUI system from QNX Software Systems Limited.
Below Right: Amiga VP of engineering, Dr. Allan Havemose, spells it out.

Below: Amiga VP of Engineering, Dr. Allan Havemose.



Below: Part of Gateway and Amiga headquarters, San Diego.

"Want to watch TV on your desktop? No problem. Read e-mail on your games console? Ditto."

with a picture-in-picture replay window when the football starts. It might also, for instance, flip to a games oriented front end when you insert a game disc in the drive. In the case of a games console, the games oriented front end would be the default, but you could always switch to another one. What's more, in an AmigaObject environment, it wouldn't matter where the facilities are. The console could reproduce the full functionality of the desktop computer, because the resources used by the desktop could be accessed by the console across the network. Want to watch TV on your desktop? No problem. Read e-mail on your games console? Ditto.

Collas Departs

At the beginning of September, the Amiga market was shocked by the sudden departure of Jim Collas from Amiga. He had gained great respect as president for Amiga; a manager who understood and appreciated technology, with the drive, determination and contacts to pull it off. The day before Collas' departure, Amiga's press contact and general evangelist Bill McEwen was told that his services would no longer be needed. The reason for Collas' departure has not been made public, but it seems likely that there was a rift in administrative direction. McEwen and Collas were two of the most popular people at Amiga and their departure was not taken well by many. The following day, Gateway announced that Amiga's COO Tom Schmidt would take over as president. A few days later Schmidt issued his first statement to the public via the Amiga website: business as usual.

Where next for the Amiga? If nothing much changes under Tom Schmidt, the MCC is due to ship some time early next year and evolve from there on in. No doubt some things will change, but how far, for what reason and to what end only time will tell. Partners are being lined up (Sun, Broadcom, Corel and Transmeta are known already, more are to come) and plans are being hatched. Amiga are expecting around a dozen software titles to be available for the Amiga at launch (excluding whatever Linux applications people will be running on these boxes), with another dozen or so in development. Many more companies are likely to sign on when the machine is launched. The entire picture is going to become a lot clearer this November, when a whole lot more is due to be revealed about the Amiga at the Comdex show in San Francisco. What's more, with a number of partner companies in on the act, not all the revelations are going to come from Amiga themselves - and don't expect QNX to let Amiga have all the fun, either. The Amiga market has been quiet for a while now, but all that is about to change.

Andrew Korn

Above: Embedding computer power in domestic appliances: the Eyris Concept PC TV by Palo Alto Products and Delta.
Photo courtesy of Intel Corporation.

AmigaObjects

Sitting on top of the new Amiga OS kernel is another software layer, the networking object layer. The AmigaObject technology, based on Java2 and Jini from Sun, treats all AmigaObjects available through the network as local. Objects associated with hardware functionality allow that hardware functionality to be used across a network.

The thing that is important to understand about the AmigaObject system is that the object does not 'care' where it, or any associated hardware, is. For example, you are working on your computer when a programme you want to watch starts on TV. You pull your flatscreen monitor out of the stand, and it becomes a standalone type of webpad. The software package would run on your main computer while the webpad device has only to handle input and output, displaying the GUI but not having to use any of its own minimal computer power. Suppose you want to order a pizza. No problem, your webpad has a speaker and a microphone in it, so you can use it as a 'phone. It can find the dialer object and the modulator object in your Amiga 'phone, and use them.

Above: The basic structure of the Amiga operating environment.

The power of AmigaObjects is not limited to allowing your Amiga devices to share hardware resources, it could also give rise to new ways of selling software. For example, Adobe's PhotoShop costs hundreds of pounds and comes with a lot of filters you may never use. Adobe might consider giving the program away free, whilst keeping many of the functions as objects stored on their own server. With broadband networking and e-transaction, it would be perfectly feasible to rent out filters and functions by usage. As with mobile phones, a software company could offer various tariffs so that heavy users such as publishers would still purchase the full unit, while casual users could afford to run the program for odd jobs that would not justify the purchase price.

This is just one example of the way that function, rather than just software, is delivered. Designing new virtual appliances would allow the kind of development and sales only previously attainable by companies with significant hardware resources to be achieved in software and small developers could make a living selling or renting simple but useful objects. The Object system lends itself to so many new and different uses that we probably won't know half the things people will do with them until they're done.

the Amiga MCC

The "Multimedia Convergence Computer" is the first planned release of the next generation Amiga line. Although full specifications have yet to be announced, the following rough specs have been given:

- Powerful next generation CPU (unannounced) with hardware assist for Linux kernel, Java and classic Amiga emulation.
- 2D graphics up to 1920x1200 in 24-bit or greater.
- 3D graphics to include trilinear filtering, texture lighting & compositing, bump mapping, anti-aliasing, chroma keying and video textures. Performance better than any currently available PC graphics card.
- AC-3 Dolby digital surround sound.
- DVD with MPEG-2 hardware decoding and motion compensation.
- Real-time MPEG-2 video compression.
- TV tuner.
- Analog TV inputs, digitisation and outputs.
- S-Video and composite video out.
- 32MB of SDRAM expandable to 288MB.
- 2 Ultra-DMA IDE interfaces and 2 hard drive bays (more with ATX board and tower case).
- Touchscreen controller.
- Microphone input.
- Various connectivity options: V90 modem, Ethernet, Wireless 2.4GHz, cable modem, DSL, ISDN etc.
- 3.5" bay (probably to include a storage device such as the LS120).
- 7 USB ports.
- 2 PCI slots (more on ATX board).
- **Price:** unannounced. **We estimate approximately £500 - £600**

This specification looks very interesting indeed, but two main question marks hang over the machine: which CPU and which graphics chip? The graphics chip doesn't matter much so long as it has a rich feature set supported directly in the Amiga APIs. Amiga have mentioned the next generation ATI chipset, but time constraints will probably mean that an nVidia GeForce (or possibly a 3dFX Napalm/Voodoo 4) will be used at first. This is the first of a next generation of 3D graphics processors that actually do some of the 3D number crunching themselves to reduce load on the CPU. The GeForce is quoted as doing upwards of 10 million polygons per second, with a pixel fill rate of 480m filtered pixels/second.

The CPU is a bigger mystery, although Transmeta are strongly rumoured. Little is known about what Transmeta are doing, but the best guess is that they are producing a CPU which combines a VLIW (Very Long Instruction Word) architecture for multimedia parallelism with a memory controller unit which performs anon-the-fly native VLIW instruction set translation on bytecode it is fed with. Their patents discuss this in deeply esoteric terms, naming it "Code morphing" technology. How good would this Transmeta chip be? No one who knows is telling. The performance in emulating x86 code, for example, is likely to be some way below top of the line native performance, but at a significantly lower cost. However functions natively optimised should be very fast indeed, and the code morphing engine may make it possible to utilise mix and match instruction sets to allow code from other platforms to be optimised piece by piece.

It is hard to determine exactly how powerful the machine will be in comparison to other high power modern architectures. It would seem that it will not be quite up to the level of the Playstation 2, although it should outperform any PC in many functions. However, the 3D graphics market moves fast and by this time next year there will be other graphics chipsets available for the Amiga (and PC) utilising embedded CPU cores and very fast RAM. Amiga indicated to us that about the time the Playstation 2 reaches Europe and the US, Amiga hardware will "match or possibly exceed" it in performance.

Below: Evolva, from Computer Artworks, running on an nVidia GeForce 256 graphics chipset.

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In the Dock... Linux ...on trial!

Presiding over the Amiga Active courtroom this month, Judge **Chris Green** (QC) puts on the powdered wig and threatens the Linux kernel decision with a possible 10 years to life...

Amiga surprised the community when they announced that they were dropping QNX as the kernel provider for its new OS. Instead, they have embraced the latest computing fad by choosing Linux as the donor of the kernel needed to power the Amiga OE.

Amiga stand accused: Was this a sound decision or have they, as some peoplecharge, betrayed the lean and mean multimedia heritage of the Amiga for the hype-laden Linux bandwagon without weighing up all the implications?

What must be emphasised is that Amiga are just using the kernel, or core - not the entire Linux OS. As with many technologies, the new Amiga OE intends to offer new degrees of innovation, but by using an existing 'tried and tested' element at the centre to make it all work to an acceptable standard.

Case for the Defence

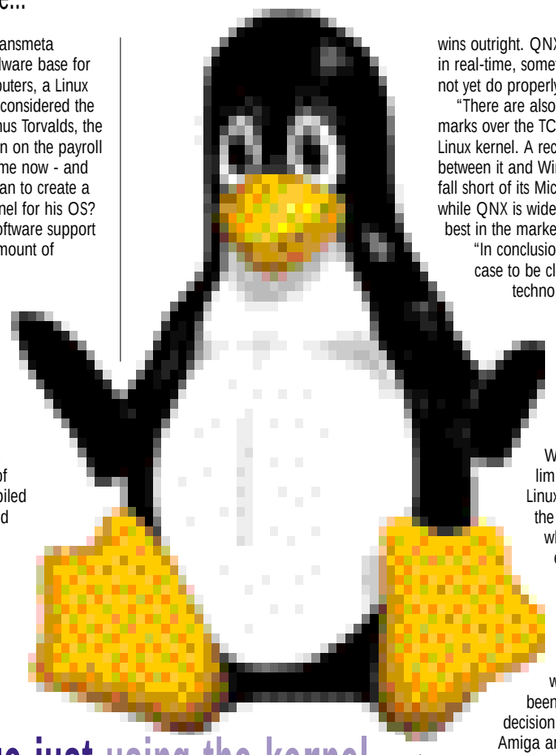
"Linux as a whole is extremely robust, hence its popularity as a web server OS (where uptime is critical). Given that the Amiga OE is being pushed as both a computer OS and embedded device controller, I put it to you that reliability at the lowest level is a must - and the Linux kernel has benefited from years of closely monitored refinement.

"Both the OS and the Linux kernel support a modular design, again necessary if the OS is to be used in both traditional and embedded computing environments. One of the reasons Windows CE has proved so popular is its modularity, allowing developers to select only those pieces of the total OS package necessary to operate the embedded device.

"In theory at least, all that would be necessary to make the OE achieve basic functionality on different hardware sets would be an appropriate kernel for the OE to sit on top of. Linux has been ported to almost every modern CPU platform already - unlike QNX - and is available right now, rather later.

"If the much-fabled Transmeta processor forms the hardware base for the first NG Amiga computers, a Linux kernel would have to be considered the most practical choice. Linus Torvalds, the creator of Linux, has been on the payroll of Transmeta for some time now - and for what better reason than to create a Transmeta-optimised kernel for his OS?

"Finally, there is the software support situation. An immense amount of branded software already exists for the Linux OS - everything from WordPerfect Suite 2000 to Lotus Notes. In addition there are the freeware apps available from a huge army of programmers embracing the open-source nature of Linux that can be recompiled for use with a Linux-based Amiga OE more easily. It is also our contention that major developers will be further inclined to embrace the Amiga OE for native apps with a visible Linux kernel rather than a relatively invisible QNX one."



"Amiga are just using the kernel, or core - not the entire Linux OS."

Case for the Prosecution

"Your Honour, Ladies and Gentlemen of the Jury, unlike the operating system we are used to now and that which has been promised by QNX, the size of the Linux kernel and its associated OS are far from small. The average QNX kernel weighs in at around 20K, compared to Linux at over 600K. These figures may not appear to be much of an issue given today's mass storage devices, but the implications are important.

"The Linux macrokernel has much more built directly into it. This increase in mass may reduce its capabilities, as the code is more bloated than it needs to be. In contrast, the QNX kernel boasts impressive speed advantages.

"The QNX kernel also has significant technological advantages over its Linux counterpart. With the exception of some network-transactioning features, QNX wins outright. QNX executes operations in real-time, something that Linux does not yet do properly.

"There are also serious question marks over the TCP support within the Linux kernel. A recent comparison between it and Windows NT saw Linux fall short of its Microsoft counterpart, while QNX is widely regarded as the best in the market.

"In conclusion, I consider the case to be clear - QNX is technologically superior, and that's what the Amiga has always been about."

The Verdict

While there are clear limitations in using a Linux kernel, mainly in the form of baggage which it retains from existing notions of operating system technology, the benefits more than vindicate drawbacks which may have been introduced by the decision to use it.

Amiga are still in a position to produce all the benefits that have been promised in the new Amiga OE. Only now, this can be achieved faster (as half of the work has already been done by various different partners) and with a wider range of processors, removing the short-to-medium term constraints that would have been imposed by QNX.

Whilst we will have to wait and see whether or not Amiga have made the right choice, the Linux decision does increase the probability of a successful comeback of this court's favourite computer. I therefore find Amiga Not Guilty of all charges.

Chris Green

NAME: PHOTOGENICS 4
DEVELOPER: PAUL NOLAN
SUPPLIER: PAUL NOLAN SOFTWARE
TELEPHONE: Credit card order hotline: +1 (800) 243 1515, EXT. 400.
COST: £59.99 / $99.99. (upgrade deals available).
WEBSITE: http://www.photogenics.co.uk

ACTIVE GOLD AA ACTIVE GOLD

Photogenics 4

It may be called version 4, but this latest incarnation of Photogenics is an entirely new beast. Chiaroscuro ahoy!

The surrealist painter Max Ernst was a great proponent of the techniques of frottage and raclage. Nothing kinky here, these techniques are to do with forming the surface in an oil painting by scraping or rubbing the canvas. The surrealists held great store in automatic drawing, producing images straight from the subconscious mind. Ernst attacked the paint he put on his canvas, moulding it and working, taking his cues from the nature of the materials themselves and developing the marks into fantastic landscapes of the subconscious.

The relationship between artist and material can be seen as a debate; the painter negotiates an image with the medium. It may be Ernst scraping paint away to show the texture of the canvas, or Hokusai using the patterns formed by a single watery ink soaking into a soft, fibrous paper to imply the intricacy of a cloud - in any case the medium is at least a part of the message. It could be argued that what distinguishes fine art from illustration is that the illustrator conveys an image despite the medium while an artist conveys an image because of it.

Mouse or brush?

Computer paint packages have always produced a relatively limited, predictable mark on the digital canvas, denying the artist much of that sense of a debate with the materials. Packages such as Fractal Design's Painter, Newtek's Aura and Corel's Photo-paint have tried to bridge the gap by simulating some of the properties of natural media and materials, but have never achieved more than a clever aping of the appearance of traditional techniques. No graphics software has so far managed to simulate the process rather than the appearance of painting, and thus none have really managed to offer the fine artist a competitive medium. Paul Nolan's Photogenics 4, however, while somewhat quirky and incomplete, has taken a step in the right direction.

Photogenics works from a somewhat idiosyncratic but very neat front end constructed from the author's own GUI system. The main icon bar at the top of the screen allows you to select all the normal drawing tools such as lines, curves, freehand, circles, rectangles and polygons, as well as selecting zoom, experiment mode and paint modes, and navigating undos. The icons are not all as clear as they might be, but a tool tips feature will always remind you if you forget which is which. Down the side of the screen is a master options palette, from which you can chose colours, set any options for your mode, navigate between image layers and alpha channels, and select the brush type. This is rather a lot to fit in one side panel, so a group of click tabs allow you to flick between the various function palettes. The GUI supports tear-offs, allowing you to customise the layout of the function pallets entirely - you can have any sub palette in its own window, or pair any two or more with click tabs.

The two palettes you are presented with on the 'front page' are the control and media palettes, the ones you will use most. The control palette shows a thumbnail of the current image, the current layer, and a secondary image or alpha channel, if used. Menu pop-ups from here allow you to do perform various functions, such as load and save, rotate, scale, move to alpha etc., the exact list depending whether it is an image, layer or channel submenu. A nice touch for handling multiple layers / images / whatever is the scroll-out thumbnail menu - click on the image and thumbnails all the current images scroll out, allowing you to slide the mouse pointer to the one you want and release.

Not so multi-media

The media options use a similar scroll-out to allow you to select the media; these consist of airbrush, chalk, smear, smudge, pencil, brush, sponge, and fire media, which folds out its own submenu of variants. This is a rather limited list in comparison to rivals such as Fractal's Painter, although the incredibly modular nature of Photogenics 4 (which is basically a GUI system with a lot of plug-ins) means that in theory new media can be added very easily. All you need is a brush image, an icon for it, and an extra entry into a text script. Unfortunately this is currently undocumented and a little tricky; it would be much better to have a configuration GUI to do the job drag 'n' drop style, and I hope this will make it into a new version soon.

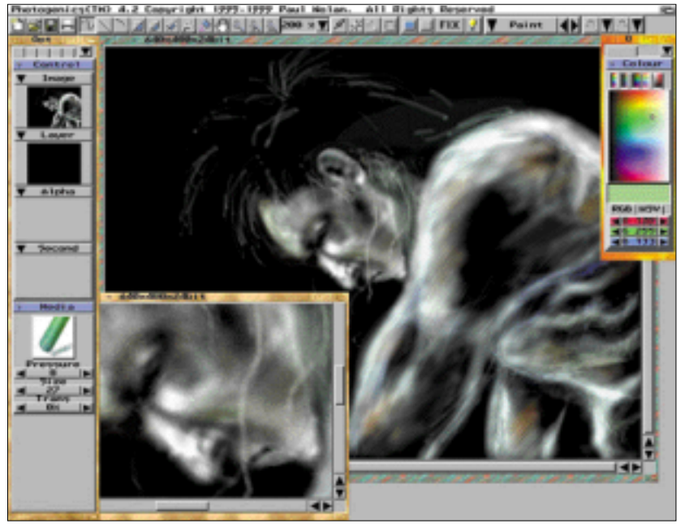
You aren't likely to get bored of the current selection of media too quickly though. They're not the best mimics of natural media that I have seen, but they cover a good range of marks, and by altering the brush size, pressure and transparency (not to mention painting mode) you can usually get what you want. Three of these modes stand out a little from the others. Smudge and smear move the pixels beneath the brush rather than recolouring them, in a very similar way to the goo features of Fantastic Dreams or Kai's PowerGoo. The fire media paints the image but builds the paint up to white rather than to saturation of the selected paint, and can indeed produce some very nice fire effects or spooky lighting - perfect for painting Steven Spielberg style glowing blue ghosts.

It sometimes takes a little time to remember where, in all the configurable options and menus, a particular function can be found, but when you become familiarised with it, the interface is very convenient and nicely transparent. There are still extra user interface features called for, unsurprising given that this is in effect a brand new program. It often takes software until version four to get really good, but this version four has jumped far enough ahead of its predecessors that it is more like a version one, take two. However, anyone who has used a few paint packages in the past should find it familiar enough to be comfortable using it quite quickly. What they won't find quite so familiar is what exactly you can use it for.

"...it often takes software until version four to get really good..."

Pixels vs Vectors?

To understand why Photogenics 4 is so different, it's important to understand a little of the way it works. Traditionally graphics packages have been either vector based or pixel based. Vector packages store images mathematically as a series of lines and curves, defined by points along the line. These lines are 'stroked' with a brushstroke that could be anything from a single pixel black line to a simulated watercolour brush. Areas bound by these lines can similarly have various types of fill applied. Pixel paint packages, by contrast, apply pixels directly to the image, according to the media settings, under the path of a brush applied with the mouse. Photogenics adopts a middle ground - it remembers the bitmap paths you draw with the mouse as you would in a pixel paint package, and also applies a stroke to the line in much the same way a vector package would.



Above: Photogenics in full flow.

This technique has a major impact on the way the program works. As the whole image can be broken down into a series of commands (such as changing the size of a brush) and mouse movements, it could in theory recreate your image from a script - and indeed recreate it differently if you change the script. Therefore, Photogenics 4 has an undo / redo feature that will let you - in effect - rewind and fast forward through your work (although fast is perhaps not the appropriate word; as Photogenics has to retrace its steps and repaint according to instructions, the undo / redo feature can be slow). What's more, it is even possible to go back and change the type of stroke made earlier, so that a line drawn as a paintbrush can be changed into, for example, an airbrush line without having to repaint it. Alternatively, you can recolour the line, or change the paint mode used - it's a very flexible system.

Living Without Selection

You may think it's impossible to live with selection tools, but Photogenics' powerful layers and alpha channels allow you to do much the same tasks in a different way. This is an example of how you would do a task you might normally use a magic wand selection tool for; replacing part of an image.

1 Load the image in and use the bucket tool to fill the sky with white paint - don't worry, it's not permanent! Set the tolerance in the tool options palette high enough so that most of the sky will be covered without the paint "leaking" into the pyramid.

2 Now set the tolerance lower and start filling in the remaining areas. This is in effect exactly the way you would approach this with a magic wand tool; the only difference is that in this case the selected area is filled white - and of course that with this technique you can easily paint in tricky areas with a brush.

3 Select "Move paint layer to Alpha" in the layer submenu. The white paint moves from our image to the alpha channel. These areas can be painted right through, while empty areas are masked. Now when you paint, you will only paint on the area you had previously filled. We can now paint on the sky without marking the pyramid.

4 Fill the sky with broad airbrush strokes processed using solarise and negative paint modes for the unworldly effect. Finally, add the sun coming out from behind the pyramid by painting with a huge brush using the fire/lensflare medium. The mask keeps it from overlapping the pyramid.

Project: Alien Temple

This project brings together a number of the features of Photogenics. It puts to good use the masking techniques described in the "Living Without Selection" boxout, and shows how you can use Photogenics' mode painting to achieve some very unusual effects.

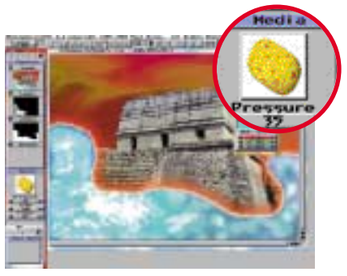
1 Using the fill / move to alpha technique already described in another part of these pages, mark out the sky area and airbrush in a few broad bands of colour. We've used a striking contrast of yellow, orange and red here.

2 Now select the Smear media and smear the sky colours into each other to build up a whispy, cloudy effect. The yellow, orange and red isn't quite alien enough, so let's use some extreme effects to add a whole new atmosphere to the scene.

3 Select colour/solarize from the mode menu and hit the 'Fill the Paint Layer' button. This produces a psuedo negative (how negative depends on image brightness). Now we'll return the sky colour to the original colour scheme with the colour/differenceRGB paint mode. You'll need to use a darkish red for this.

4 Figuring out the right colour for a "differenceRGB" mode off the top of your head is tricky unless you are very familiar with colourspace manipulation, so select the lightbulb (experiment) icon before you fill the layer. You can now select different colours and see which works best.

Now block in the foreground. Let's go for odd alien rocks, with a gooey lava like texture and a bit of a glow. Select the fire/lensflare media, set size and pressure to max and block in the area, bleeding the glow into where you want it. Now we mask out the main area and protect the glow by filling all the burnt in white space with white paint and moving it to the alpha.



5 At this stage, we could do with a dark, hardened crust on the rocks, but rather than doing this by hand, we can cheat.

The fire effects build to white, whereas we want to build up to black - so we'll have to do everything in negative.

Select the sponge tool, but keep fire as the paint mode - the sponge gives a more mottled texture than the default fire media.

Ideally, we could do with some dark reds and oranges, but as we are going to apply a negative afterwards, we'll need to paint with the complementary colours - light cyans and blues.

6 Once that is done, paint in negative mode and the colours come out. Now let's get a little more crinkliness into the texture. Select the sharpen mode, push the radius up a little in the mode options palette and just paint away until the texture meets your approval.

All that is left to do after that is a final tweak. Crop the image slightly, and with the light-bulb button pressed and the colour/adjust paint mode selected, brush lightly over the cloud areas. Now slide the sliders in the mode options palette until you have the effect you like - we've settled on a touch more brightness and gamma and the tiniest hint of extra red. Finished!

Dark Skies

This project demonstrates the reverse process - superimposing one image onto another. Both images are loaded into Photogenics.

1 Here, using the same technique as shown in the previous mini tutorial, the mesa scene is given a new, starry sky courtesy of some black paint and the star shaped fire media.

2 Now we mask off the part of the other image that we want to overlay - in this case the moon. We make the mask with the paint bucket fill option as before, and then "Move paint layer to Alpha". Now we select the landscape as our main image and the moon as secondary. We will have to reselect the Alpha channel we made.

3 Now we need to manipulate the area that wasn't filled (the moon) rather than the area that was (the black sky). To do this, go to the "Layers" menu and select "Invert Alpha" to flip the parts that aren't masked with those that are. Then select the "rubthru" paint mode and rub the moon onto the picture.

4 Wait a minute, the moon's in the wrong place! No problem, it's just a paint layer, so it's easy to change: Select the "move" tool, pick the moon up and slide it to where you'd like it to appear, and...

Bingo! The finished picture of a beautiful moonrise, and an example of Photogenics' powerful layers.

The paint modes include all the normal variations such as paint, overlay, dodge, burn and so on, but you'll also find a lot of unexpected inclusions in there as well. Processes which other programs treat as area effect filters are actually paint modes in Photogenics 4. Thus you can apply a global blur by selecting the blur mode of your choice and hitting the "Fill the Paint Layer" button, or alternatively you can paint delicate areas of blurring with the paintbrush - or indeed the airbrush, the chalk, the pencil and so on.

Being able to paint these filters on suddenly makes what had frequently been gimmicks into the past into far more useful tools. Painting an effect or convolve on gradually can take it from the realms of pure image processing and turn it into a much more creative tool. Sharpening and edge detection can subtly enhance textures, blur can be used to control the surface quality - you can even paint on increased contrast.

Missing features

Advanced as it is in some areas, there is quite a bit that Photogenics 4 still lacks. Constant development has brought many improvements; the current v4.2 release is no longer plagued by the stability problems of earlier versions (the GUI remains a touch unstable but I've never lost any work) and new features are arriving fairly rapidly, but there are still a lot of things missing. There are no selection tools (although see the boxout), you can't pick up a brush, default media types are limited, the on-line help is rather brief, there are no colourspace or colour depth controls, the loaders and savers are limited, there are no surface texture options, no virtual memory, no path tools, no bezier curves, no tablet support, no PPC support, no colour mixer, no perspective tools.... and perhaps the oddest omission is the lack of any form of automation or macro scripting. Given the way the undo / redo system works, it ought to be very easy to add the ability to record and play back macros. Adding an ARexx interface would be a rather harder task, but combined with macro scripting could be very useful.

What Photogenics does do, it does with unparalleled elegance - not to mention very impressive speed. It doesn't seem terribly bothered by working on large images or using large brushes, it works its way through some tasks at a rate that would make Adobe quail. On my '060 machine with a CV64/3D graphics card, I generally have less lag in paint modes than I would expect out of PhotoShop with a processor clock speed 4-5 times higher. The smudge tool is even more impressive by this comparison, running several times faster than PhotoShop's equivalent tool on my PC. Even with AGA it remains impressive - colour mapped 8 bit screens just about convey what you are painting and will work on a fairly basic machine, while a powerful machine can cope quite nicely with ham8 Multiscan, which works surprisingly well.

"...the first paint package that has made me lose track of entire nights"

The fluidity, the speed and the flexibility of Photogenics 4 gives painting with it a plastic, almost tangible quality. It is an experimenter's dream, allowing you to play far more subtly than with most paint packages. The program delivers features that normally seem like a technologist's tools in a manner that makes them seem like an artists', and challenges you to paint with your intuition rather than a manual. Yet there are missing features... are they worth putting up with? In a word, yes.

It's true that there are things that are a bit clumsy or impossible to do in Photogenics 4 as it stands. Yes, you'll want some other graphics software as well, but what's new? I can't think of another paint package I have used which presents quite such a range of creative options than Photogenics, and manages to do so in such an unobtrusive manner. Probably the most similar Amiga package would be Newtek's TVPaint, which is seriously fiddly and intrusive by comparison. This is the first paint package that has made me lose track of entire nights the way oil painting so easily can; I can't think of much higher praise than that. If you want something to suit the technical requirements and precision of a graphic designer, Photogenics isn't it, but if you want the ultimate painter's graphics package, don't bother looking any further.

Andrew Korn A

ACTIVE GOLD AA ACTIVE GOLD

PHOTOGENICS 4 9/10

SYSTEM: CD-ROM. Graphics card and more RAM highly recommended.

SUMMARY: Extremely configurable and very fast, with some unparalleled options at a ridiculously cheap price, but missing features standard in much more basic software.

BACK2BACK

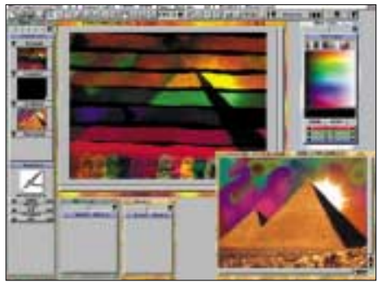
ImageFX and Photogenics operate in very different ways and have quite different uses. Rather than compare them feature by feature, which would be unfair to them both, we are reviewing them back to back.

Photogenics 4.2

Photogenics' GUI offers many convenient features. Tear-off tool palettes allow you total control over the working environment. Foldout thumbnails offer easy and flexible image selection and multiple views allow you to work on a small area of an image and see the effects on the image as a whole in another window. The GUI is configurable and can be customized to suit your own individual way of working - once trained, it's an extraordinarily fluid and unobtrusive front end.

Photogenics 4 renders all effects to brush strokes as well as fills. This means that you can, for instance, paint in a blur effect, building it up gradually with a low pressure on the brush. Using the experiment (lightbulb) mode, you can tweak the effect after painting. The screenshot illustrates this in use for digital photography - instead of intricately dodging and burning this darkroom printer's nightmare, paint is applied in adjustment mode and contrast and gamma are tweaked from the mode options palette until the effect looks right.

Photogenics' alpha channel system is unusually easy to use - and unusually 24bit. In this screenshot, the pyramid image is used as a full 24 bit alpha channel. The large picture is rainbow stripes, the alpha channel showing through where the alpha image has colour data that matches the colour of the brush - thus with a red brush, red pixels show bright and cyan pixels show dark.



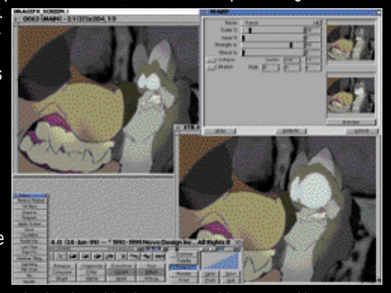
Brush marks are easy to correct or remove with Photogenics' paint layer system. When you paint, the pixels are automatically rendered out to a new paint layer, which isn't merged into the image until you need a new layer. If you paint with the right rather than the left mouse button, you 'unpaint' from the current paint layer, allowing you to cut into a paint area and reveal the backdrop, or delete an erroneous mark without affecting the image beneath.

ImageFX 4.0

ImageFX is absolutely bursting with features, from basic painting functions to support for Photoshop project files and Filter Factory effects. It covers a wide range of applications, with a variety of blurs and compositing techniques, and a solid repertoire of "eye-candy," including Fire, Lightning, Liquid and Clouds. ImageFX is very modular; the API is open and well documented, which has encouraged third-party developers to add custom "hooks" to ImageFX.

ImageFX's compositing features are its long suit, and the built-in blue screen Cinematte module is the ace in the pack. It's more than a simple chroma-level keyer, which produces flawed results if the screen is not illuminated perfectly. In addition to being able to key against several solid colours, Cinematte can use an empty bluescreen "blank plate" to help with compositing decisions.

ImageFX has one of the best special effect previews in the business. Virtually every function has a variety of user-configurable parameters. You can position area-effect functions with the mouse or pixel co-ordinates, and zoom and pan through thumbnails when necessary. Some effects also offer real-time preview, allowing you to make interactive changes without committing to a finished product.



If you can do it in ImageFX, chances are you can script it and use AutoFX, IMP or the Layer Manager to do the work for you. Using the macro recording functions, you can automate repetitive tasks (such as blurring or smoothing a set of images, or resizing a mismatched set of pictures) by performing the operation once, then turning the rest of the work over to the AutoFX module. With IMP, a more powerful automation engine than AutoFX, you can perform elaborate automated operations, including animated effects such as lightning, dancing fire, and bolts of plasma.

Now that we have explained some of the unique features of both programs it is up to you to decide for yourself whether either - or both - packages are appropriate for your needs.

NAME: IMAGEFX 4
DEVELOPER: NOVA DESIGN
WEBSITE: http://www.novadesign.com

ImageFX 4

ACTIVE GOLD

Don't close the book on classic Amiga software development just yet - the full-featured ImageFX is back for more in version 4.

Thankfully, Nova Design have finally caught up with those of us who added CD-ROM drives to our systems in the mid-90s and made ImageFX 4 (IFX 4) a CD product. In defence of their now abandoned Luddism, it should be pointed out that many of their best customers are graphics and video producers who don't know the first thing about cracking open their computers to install a new piece of hardware. That's why Nova will still provide you with floppies if you ask nicely.

But for the rest of us, the CD is a welcome change. In addition to speeding the installation process considerably, it gave them room to include a number of sample animations and project material from commercial video clip compilations on the disk, along with a large batch of fonts which are inexplicably still in LhA archives - there's plenty of room left on the CD.

In case you missed it, ImageFX's interface improved markedly in version 3, when the developers finally added true windowed operation to the program. Previous versions used a full-screen buffer with an overlaid control panel. This made sense for the early 90's when most serious graphics work was done with 24-bit framebuffer cards that didn't support a windowed GUI, but in the days of CyberGraphX a change was necessary, and Nova Design finally provided.

Animation station

The main attraction in ImageFX 4 is the new, built-in animation support. The layer manager engine introduced in version 3 has been expanded to support sequences of frames which can all be loaded into memory at once. You can apply any ImageFX operation to the frames, play the animation in a window without leaving the program, and save your work in either Amiga or GIF anim format.

For all its new features, however, the layer manager remains fixed in size - you cannot make it larger. This problem began with the introduction of layers in version 3. You're always restricted to seeing a list of just seven layers or sequence frames in the manager window at any one time. In a very large project, this is annoying at best. Nova should have fixed this obvious GUI inflexibility before releasing version 4.

The sequence loader is quite intelligent - it does a very good job of detecting numerical sequences, even embedded within filenames rather than as an extension (.001, .002, etc.) It can load GIF and Amiga anim formats as well as Video Flyer clips directly, and always asks how many frames you wish to load, in case you only want to work with a subset of a numbered sequence or a small clip of a larger animation.

The method for applying effects across a sequence of frames is inconsistent, and requires some trial and error. For example, certain operations, such as "color to grey," which changes 24-bit palettes into 8-bit greyscale images, are automatically applied across all frames in a project sequence. Others such as Blur and Flip are applied only to the range of frames you select using shift-click in the layer manager window. Still others will only be applied to the active frame no matter what you do, such as Gaussian Blur. You'll have to build a quick macro and apply it through the layer manager's "process frames" option in order to get features such as Gaussian Blur to work across a large number of frames.

There's a major, glaring flaw in ImageFX's animation playback system. Although you can easily jump from frame to frame with the layer manager window and start playback from any point in the animation, the playback window does not indicate what frame is being shown, and when you hit stop, you are returned to the frame you started at. This makes it nearly impossible to identify exactly which frames contain trouble spots (a badly rendered effect or a problem in the source image, for example) with the animation tool. In essence, it requires you to page through by hand, one frame at time.

It's an unnecessary inconvenience. However, IFX 4's built-in animation playback offers a hidden bonus: it's one of the few ways to view Amiga ".anim" format files within CyberGraphX. Expect performance to vary: playback was smooth if a bit slow on a Cybervision 3D, but quite choppy on a Retina ZIII.

The rub of all ImageFX's animation support is that any effect applied across a sequence of frames cannot be undone. This was undoubtedly a trade-off between security and performance, as creating undo buffers for dozens, if not hundreds of images takes up time and valuable space in RAM. Although it means there is an extra incentive to save your project whenever possible, this also takes time.

Worthy of V4?

Frankly, IFX 4 smacks somewhat of version inflation, although nowhere near as bad as has sometimes been seen in this or most other software markets. The major attraction is the animation control. ImageFX has always been a superb program for creating animated effects, but the techniques involved were always rather opaque. You'll still want to learn some ARexx and read the documentation carefully to attain truly elaborate animated effects, but the built-in animation control makes the basics a whole lot easier.

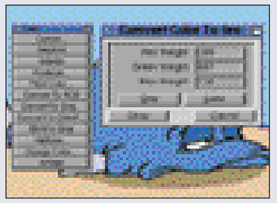
As an upgrade, IFX 4 feels a little "light." The animation controls are welcome but not as revolutionary for the product as the new GUI and layer systems were in ImageFX 3, and the new plugins don't seem to be "must-haves." That's not to say that they're not worth using: Distort is definitely a powerful effect, and hopefully IFXers will soon learn to exploit the particle engine in Fireworks for more elaborate effects than generic starbursts. Tossing a bone to PowerPC users, even if it were just the PPC JPEG load/save module, would have given more weight to the upgrade. As it stands, all of ImageFX's PowerPC capabilities still require the PowerStation add-on (highly recommended for the graphician in a hurry).

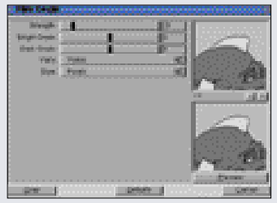
Considered as a complete product, though, it's reassuring to see that ImageFX continues to evolve. Although it has never been the most glamorous path to great graphics on the Amiga, it continues to be one of the best.

Jason Compton A

Making a classic more classic

ImageFX 4's built-in animation tools let you create some clever effects. In this mini-project, we'll send Amiga animation genius Eric Schwartz back in time, giving his cute short "The Big Sneeze" an old-style 'Steamboat Willy' look.





1. Load the animation using ImageFX's standard "open" tool. Now we'll convert to greyscale. Select "Color to Grey." in the "Color" menu. Use the default Luma settings to achieve a nice, high contrast. Click "OK." All frames will be converted to greyscale.

2. Now we can apply IFX's Film Grain effect to all of the frames. Unfortunately, Film Grain is one of those effects that by default will only run on one frame, so first we have to create a quick macro. To do this, press Shift-1 to start recording. Go into the "AutoFX" directory and call the new macro "filmgrain1." Drawing settings aren't important. Click "Effect," then "Film Grain" to bring up the Film Grain window.

3. If the film grain strength is too high, the effect will appear blocky. We want it to be subtle, so turn it down to about 25. Leave the rest of the defaults alone and click OK. As soon as it finishes applying the effect to the current frame, press Shift-2 to stop recording the macro.

4. We want to use the macro to apply the filmgrain, so hit "Undo".

5. Select all of the frames in the Layer Manager by holding the shift key, clicking on Frame 1, scrolling down and clicking on the final frame in the sequence.

6. Click and hold on the Layer Manager's drop-down gadget, and select "Process Frames." Select your "filmgrain1" macro.

7. Filmgrain is a pretty simple effect but there are 130 frames, so it might take a little while.

8. You're done - you now have a grainy black and white classic!

10. Before saving, you have to use the Color-Convert to CMAP function in order to create colormap data required by both Amiga anim and GIF anim formats. Once that's done, hit save and choose the output format for your finished animation!

Above: ImageFX gets a particle engine, whilst **Left:** The main interface just keeps on improving.

"You'll still want to learn some ARexx and read the documentation carefully..."

IMAGEFX 4 — 9/10

SYSTEM: 2MB RAM, hard disk, OS2.1+. Graphics card and more RAM highly recommended.

SUMMARY: Still a champ, but limited upgrade value for owners of version 3.0

Top Gear

Feast your eyes on some of the coolest widgets, software and miscellanea the Amiga market has to offer.

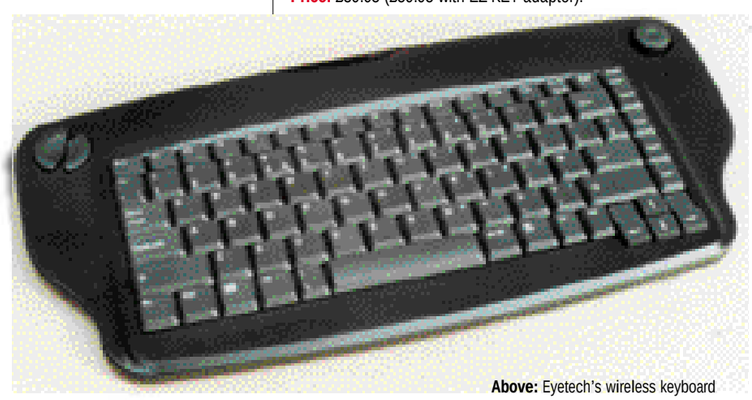
Wireless Type

Eyetech's sleek black keyboard gives a taste of tomorrow's wireless computing revolution today. Although this device is actually designed for PCs, it will work with an Amiga sporting a PC keyboard adapter. Eyetech sell their EZ-KEY SE adapter separately or bundled with the keyboard at a reduced price. The IR transceiver system works on a good range of angles (although you will want to find the optimum position for it) and at up to four or five metres away. The receiver sends an acknowledgement when you type, so the keyboard 'knows' when the signal isn't getting through and tells you with a beep.

The keyboard itself has a soft, satisfying action, but the slightly odd positioning of keys can cause problems (having keys outside the shift and return keys isn't ideal) but I like it, and I'm a pretty demanding typist.

Of course, typing at range isn't much good unless you can use your mouse at range too. This keyboard includes a thumb mouse similar to - but larger than - the type found on laptop keyboards; you'll need to connect the receiver to the serial port and use a serial mouse driver (check this month's AACD) to get it working. Used for typing while you lounge about in a comfy chair, this keyboard is perfect.

Product: Eyetech remote keyboard.
Contact: Eyetech, +44 (0)1642 713185.
Price: £39.95 (£59.95 with EZ-KEY adaptor).



Above: Eyetech's wireless keyboard

Geek Chic

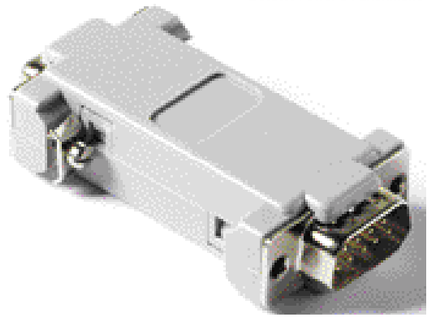
If anyone could make coding seem cool, it was bound to be Cloanto. The Italian software maestros responsible for PPaint and Amiga Forever have always had a flair for the stylish and eyecatching - who could forget the PPaint special edition on a CD single, the 3D boing ball sticker that used to be given away with Amiga Forever, or those cool advertising banners on the CUCUG website?

Now, Cloanto's ever excellent design has made its way onto t-shirts, with a variety of logos relating to obscure programming trivia. Logos include the almost infinitely self referential meta - comment "/*you're not expected to understand this bit*/," and classic error messages of our times such as "Keyboard not found. Press any key" and my personal favourite, "You can't do that in horizontal mode" - an error message from the TeX typesetting language, but wonderfully suggestive. Really gorgeous t-shirts with slogans so geeky they're far, far too cool for geeks.

Product: Cloanto t-shirts.
Contact: Weird Science: +44 (0)116 2463800.
Price: £12.99.
Further info on Cloanto's website: http://www.cloanto.com/t-shirts

Below: Wacky Cloanto t-shirts

Below: Power's Punchinello



Above: Wacky Cloanto t-shirts

Mouse on Wheels

The Punchinello is a PC serial mouse adapter - nothing more, nothing less. This unassuming little grey box plugs straight into the Amiga's mouse port whilst the lead from the wheel mouse - should you choose to purchase the two together or have one lying around already - slots neatly into the other end. That's it. No software patches are required, and your PC serial mouse will work like a generic Amiga rodent.

The only problem with this natty little device is its length, although this probably can't be helped due to its internal circuitry. The problem here is that, in a way not dissimilar to the old TV modulator units which stuck out of the back of A500s, it extends the footprint of your Amiga by a good inch or more, so if your computer is up against a wall you may need to invest in a 9 pin D-type male-to-male extension lead. Yes, you may end up with surplus cable, but it's all you can do to reclaim those extra few centimetres of valuable desk space.

All in all, the Punchinello is a handy device, should you need it, although the asking price is a little steep if you only want to connect a PC mouse to your Amiga.

Product: Punchinello PC mouse adapter
Contact: Power Computing, +44 (0)1234 851500
Price: £14.95 or £24.95 with wheel mouse.

Above: The wheel mouse bundled with the Punchinello.

Mmm... Candy

One of the coolest pieces of software in the history of the Amiga, Milan Polle's Candy Factory Pro is a simple, limited, but lovely bit of code. This well named program takes a short text in any proportional font (usually a logo) or a bitmap and renders textures, lighting and other visual effects to it.

You'll need - at least - a good 68k processor in your Amiga and ideally a graphics card to get the best out of it, while a decent PPC setup will let you watch everything update in real time. Either way, it's fast enough and flexible enough that it's as much a fun piece of software as it is a great tool - there's more playability in here than in most games!

If you want to produce a really impressive logo, you can't do better than this. You don't even need to worry about artistic talent; if you can recognise something that looks good when you see it, you can twiddle the controls until you're happy.

Product: Candy Factory Pro
Contact: Epic Marketing, +44 (0)1793 514188
Price: £35.00

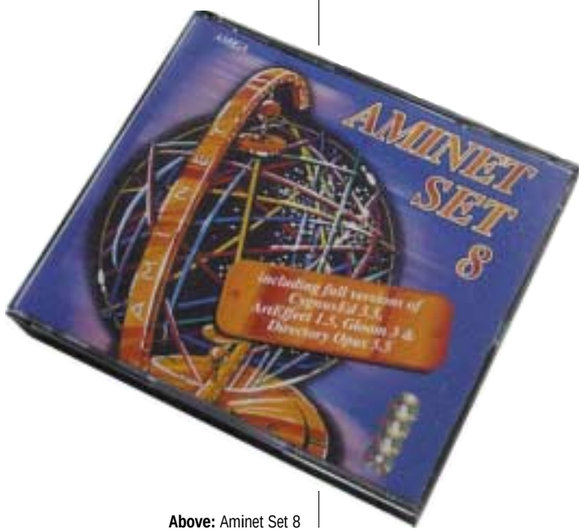
Get Set

If Urban Muller had a great idea when he decided to assemble Aminet uploads onto CD, he had an even better one when he decided to assemble Aminet CDs into Aminet sets. Three gigabytes (archived) of Amiga games, programs, art, documents and sounds for under £30 represents absurd value for money, but as usual it's not just the Aminet uploads that make up the total content of this four-CD set.

It has become a tradition for Aminet CDs to include commercial applications, and this collection is particularly impressive. Art Effect v1.5 may be some way behind the current version, but it's still a strong 24 bit graphics package; and CygnusEd is a hardcore beast of a text editor much favoured by those who place power over glitz. The real star, however, is Directory Opus 5.5, a major improvement on the only previous 'free' version of Dopus (v5.11) if not quite up to the latest incarnation, Opus Magellan 2.

You may find the price of this CD is deceptive as there's a pretty decent chance that one or more of these gems will have you forking out for an upgrade; the best type of hidden charge. Aminet Set 8 is a true gem and one of the best value releases ever to have graced the Amiga.

Product: Aminet Set 8
Contact: Weird Science: +44 (0)116 2463800
Price: £29.99



Above: Aminet Set 8

Say Goodbye to 880k

Adding a Zip or Jaz drive to your system will improve its functionality no end. In an extended review feature, we look at the implications and benefits of adding such a device to your Amiga.

There are jokes about 3.5 inch floppies, and rightly so. They're small, practically useless little bits of plastic, and if you haven't pulled one apart in sheer frustration at least once in your life, you're probably the Dalai Lama. Chances are you probably still use them on a regular basis. Time to stop.

The heyday of the 880k floppy was the era of Monkey Island 2 - a cardboard box full of disks that made you feel like you'd got your money's worth even before you'd walked out of the store. Even before you'd played your eleven-disk epic, there was always something comforting about its weight. Those days are gone, consigned to the waste disposal unit like your floppy disks should be right now. Throw them away, turn to a relevant advert within these pages and order yourself a more capable replacement: a Zip or a Jaz drive from Iomega, for example.

Zippity-Do-Dah

The Zip drive adds a unique versatility to any computer system, especially the Amiga. Thanks to the Amiga OS's compact nature, and because a Zip drive gets treated just like a small removable hard drive, you can easily use separate Zip disks to provide custom boot partitions for individual users, while leaving all shared files on a hard disk.

That's just one example of the benefit of a Zip drive over a 3.5" floppy. Want some more? Okay, how about backing-up the best part of 200MB of data from your hard drive (archived using ABackup, for example) to a single 100MB Zip disk, or cleaning up hard drive partitions by moving all non-essential files like pictures, animations - even whole websites you might have leeched over the weekend - to a Zip or two. Fancy doing that with an 880k floppy? Didn't think so.

Put simply, just about anything you can store on a fixed hard drive that only takes up a modest amount of space can be stored on a removable and portable Zip disk. If you've never used one, try it. After five minutes you'll be wondering how you ever managed with floppy disks. It's a clichè, but it's true.

100MB not enough? Not a problem! The latest member of the Zip family is the Zip 250, which, as the name implies, uses newer, 250MB Zip disks (although to be entirely accurate you'll only fit about 240MB on them, as Iomega use "Megabyte" to mean 1,000,000 bytes rather than the technically correct 1,048,576 bytes). The Zip250 supports 100MB disks as well as 250MB ones, albeit with a slower write speed than the original 100MB unit, and it looks quite funky. There's only one disadvantage: it costs more.

Right: You'll be able to use one of these on your Amiga soon... an external USB Zip drive

"After five minutes you'll be wondering how you ever managed with floppy disks. It's a clichè, but it's true."

We've Got Connections

The 100MB Zip unit comes in four flavours - ATAPI, SCSI, Parallel and USB. The first three can all be used with an Amiga, but you'll have to wait a short while before you can think about using a USB Zip drive with your Amiga.

Of the four flavours, only the SCSI Zip comes in both internal and external varieties. If your Amiga doesn't have a SCSI port and you want an external 100MB device, you'll have to buy a Parallel Zip. If you want an internal drive, you'll need the ATAPI version - and a spare drive bay to put it in.

An internal Zip is the sensible solution for those of you with towered Amigas who aren't worried about a rather less portable drive unit. Connecting it up couldn't be simpler with the supplied power splitter cable and 40-way IDE lead, and once it's plugged in, you're ready to go. The SCSI version of the internal Zip 100 works in very much the same way, except of course that you connect it to a 50-way SCSI lead and have to set a device ID.

Using a parallel Zip 100 on an Amiga used to be impossible. Not only did this mean you couldn't buy one for your Amiga, it also meant that if you already had access to one with another computer at home or work, you couldn't transfer files between systems simply by plugging it in to the Amiga's parallel port.

However, thanks to a clever little dongle from Stafford Weston Technology (if you can get hold of one - see the "Parallel Solution" boxout), these problems are no more. All you need to do is plug this piece of gadgetry into your Amiga's parallel and joystick ports (unfortunately there isn't a pass-through to allow connection of a joystick at the same time so if you are a gamer expect some plugging and unplugging), attach the parallel Zip 100 to the other end, and power up your Amiga. Once your system has booted you just have to run the supplied software, and you'll be able to access your parallel Zip drive just like a native Amiga device.

The parallel Zip 100 isn't awfully quick, but this is mainly due to the poor performance of the Amiga's parallel port. Speed can be gained with the addition of a third-party I/O card like the IOBlix, as well as a faster filing system. Having said that, if you're only using it to transfer a few files between systems, you probably won't be losing sleep over its lack of, well, "zip."

No Blues, Just Jaz.

Then again, 250MB may not be enough for you either, in which case you could always leapfrog the Zip range altogether and plump for one of Iomega's Jaz drives instead. The external 2GB model with its straight lines and curves looks rather like an amalgamation of the freehand and structured styles of the two Zip models. You might think a 2GB unit would require a larger space on your desk, but you'd be wrong: The external Jaz boasts almost identical width and height measurements, only being larger than the Zip by about an inch in length.

Being a SCSI unit, connecting the 2GB Jaz drive to your Amiga is easy. There are two high-density 50-pin female SCSI2 connectors on the rear, along with a more inclusive SCSI ID selector than the one present on the SCSI Zips. Select a unit ID number from 0-7, flick the termination switch to the desired position, plug it in and boot your Amiga. Once your SCSI device is configured correctly, you're away.

When you flick the power switch on at the rear of the unit and insert a cartridge, the access light on the Jaz drive flickers briefly before the mechanism spins up with a happy, quiet clicking. The spinning up procedure has you keeping a beady

Parallel Solution

The ZipPar dongle produced from Stafford Weston Technology is a rather bland looking piece of equipment designed to give you access to parallel 100MB Zip drives with your Amiga.

In the box is a black and grey plastic dongle, a floppy disk containing the necessary software and a few sheets of stapled-together paper that, whilst it could just about pass for a "manual," does give the impression that this is nothing more than a hastily cobbled together hack. You should only need to read them once though, and installation of the hardware is quite painless.

The software installation, whilst not using the standard Commodore installer, is intelligent enough to copy the necessary files to "Sys:storage/dosdrivers" as opposed to the default path "Sys:devs/dosdrivers/" so that the driver isn't loaded every time you boot. You don't want this to happen because once started, the driver takes over the parallel port completely and cannot be bypassed, so you won't be able to use a printer connected to the same port unless you reboot.

The instructions do mention the port problem, and the dongle does what it's supposed to. You can't really ask for anything else, but a more professional set of instructions wouldn't have done this product any harm.

Unfortunately, the future of this little gizmo is uncertain, as a software driver for parallel Zip100 drives should be available by the time you read this. For details about the product try the Stafford Weston Technologies' website:

http://www.efn.org/~jstaff/

Installing a Zip Drive

Don't be scared about adding an internal Zip drive to your Amiga. It's this easy. This step-by-step is based on installing a 3.5" 100MB Zip unit, mounted in a 5.25" tray, into a desktop A4000.

Turn off and disconnect your Amiga, then take the cover off the A4000, and connect the IDE Zip to the PSU using either a spare power lead or - if you don't have one free - the provided power splitter cable.

If you have a spare connector on the IDE lead coming off the motherboard, connect it to the rear of the Zip. You should only be able to put the connector in one way around (notice the raised section in the middle of the connector), so don't force it if it won't slide in comfortably.

If you don't have a spare connector on your existing IDE cable, you'll need to invest in an IDE splitter. Such devices are available from Eyetech and Power Computing. See their adverts within these pages for contact details.

Once your Zip drive is wired up, put the case back on your Amiga, reconnect it and turn it on. The LED on the front of the Zip drive should flash whilst the unit initializes itself - if you insert a Zip disk before turning on the power, you'll hear it click away to itself briefly. Now all that's left to do is format a Zip disk, and away you go!

Above: CrossDos 7 and CrossMac

"On encountering this problem, you might think the disk is of no use... but you'd be wrong."

"The spinning up procedure has you keeping a beady eye on it at first, just in case it starts to hover across your desk..."

eye on it at first, just in case it starts to hover across your desk - it's rather therapeutic, to tell you the truth. Conversely, ejecting a Jaz cartridge when the unit isn't sleeping results in the drive spinning down with a mechanical sigh before spitting the disk half out like a tired baby, which almost makes you feel sorry for depriving the unit of its favourite fodder.

Now, some of you might be wondering about the point of spending a sizeable amount of cash on a 2GB Jaz, when for the same money you could buy an ordinary hard drive with a much larger capacity. It's a good point, but the main advantage of this unit over your basic hard drive is the media's portability and expandability. Adding more storage space to your system is simply a case of buying another Jaz cartridge, and you won't need to worry about running out of SCSI IDs each time you buy one. True, the access speed of the 2GB Jaz drive isn't as nippy as a top of the range SCSI hard drive, but being able to transfer large amounts of data quickly between systems makes up for it.

RDB vs Mountlist

So, those are some of the choices open to you in terms of removable media drive units. Of course, once you've got one of these devices, you'll need to get your Amiga to speak to it, and you can go about this in either of two ways.

The first method is to treat them just like a hard drive and mount them using a Rigid Disk Block (RDB). To do this, you'll need a program like HDToolbox (most likely located in the "tools" drawer of your Workbench partition). First, ensure the "DEVICE" tooltype of the HDToolbox icon contains the correct name of the device on which the drive is located. Load it up, and select the new drive entry. Click on "Change Drive Type," then "Read Configuration" to let HDToolbox gather the necessary information directly from the device. You should then be able to "Ok" any requesters and click "Ok" again to return to the main window.

Now proceed in the same way as with a hard drive - select "Partition Drive" and make one partition spanning the whole of the disk (of course you can have more if you want, but let's keep it simple for now). Call it "Zip0" or "Jaz0" for example. If you tick the "Advanced Options" checkbox, you'll be able to increase the number of buffers (300 is a good value provided you have a decent amount of RAM) and make the device bootable by ticking the "Bootable" checkbox. Remember to set the boot priority lower than any hard / floppy drives on your system ("-5" should be okay). Setting the priority this low will enable you to leave the disk in the drive, and boot from it, should you wish to, by selecting the unit from the Amiga's early boot screen (accessed by holding down both mouse buttons after turning on or resetting your Amiga). Alternative filesystems (such as PFS) can also be applied to the drive here; consult the software documentation for details.

Once you have the HDToolbox settings the way you want them, saving the RDB to the disk will allow the Amiga to recognise the disk as a hard drive next time the computer boots up.

The other way of getting your Amiga to recognise a Zip disk is to run a mountlist, or leave one in "Sys:devs/dosdrivers/", where it will be run automatically when you boot your machine. CrossDOS and CrossMAC use this approach to recognise foreign Zip disks formatted under MSDOS and MacOS respectively, but mountlists for Amiga Zip disks formatted with FFS, AFS and PFS2 are also available.

Don't Get Mad - Get CrossDOS!

The software packages CrossDOS and CrossMAC give your Amiga the ability to read and write MS-DOS and MacOS formatted disks respectively. Whilst CrossDOS is included with the more recent incarnations of Workbench, the latest version, "CrossDOS 7 Gold," is only available commercially. Not only does it boast improved "Format" and "Diskcopy" commands, but also provides much-needed support for long filenames, eliminating the frustration that the "capitalised 8.3" restriction inherited from the bad old days of MS-DOS inevitably causes. CrossMAC provides a similar level of support for disks formatted under MacOS, but there's no cut-down version distributed with Workbench. However, not many people seem to know about CrossMAC. It is very convenient if you want to read Mac disks under Workbench, although most Macs can save PC formatted disks for compatibility anyway.

The manuals for CrossDOS and CrossMAC are very good, giving in-depth information on the installation and use of their respective packages as well as providing a FAQ, Glossary and information on technical support. All in all, if you'll be transferring more than a few files between a Macintosh or WIntel box and your Amiga, these packages are essential and well worth their asking prices. Both are available from Weird Science (+44 (0)116 2463800).

Getting the most out of your Zip or Jaz drive is a tricky business unless you know exactly what parameters affect the performance of such devices. Top of the list, and often forgotten, are buffers, These can be changed in HDToolbox; tick the "Advanced Options" checkbox in the "Partition Drive" window. The default of 30 is pitifully small - each buffer is the same size as one block - usually 512 bytes. 30 buffers therefore take up a mere 15kB, so unless you have absolutely no fast RAM, you should change it. 300 buffers (150kB) will result in a good speed increase without taking up too much memory.

Filesystems also play an important role in the performance (not to mention stability) of storage media. Tests comparing the Amiga's native Fast Filing System (FFS) with Professional Filing System showed both huge speed increases and greater storage capacity (thanks to the better allocation of disk blocks) under the latter. For more info about PFS3, turn to page 47.

Useless Tools?

Finally, when you open your new Zip or Jaz box, chances are you'll find a "Tools" disk. Those nice people at Iomega have provided you with a suite of tools to make managing your new storage device as painless as possible. However, these tools are (predictably) only of use to you if you own a PC or Macintosh. Furthermore, both the Zip and Jaz Tools disks are write-protected with a password, which means you'll be greeted by an "Error 28 on write" requester if you try to format them on your Amiga with HDToolbox. On encountering this problem, you might think the disk is of no use... but you'd be wrong.

On this month's ***Amiga Active*** CD, you'll find a selection of Zip tools for the Amiga. Using "SafeZ100," part of the "Z100" package, you can unlock your Zip Tools disk by entering the password "APlaceForYourStuff" (case sensitive) in SafeZ100's GUI and clicking the "Unprotect" button. All being well, you will then be able to re-format the Zip with an Amiga filesystem. But that's not all: Perhaps surprisingly, the "SafeZ100" tool designed to work with 100MB Zip disks also works on the 2GB Jaz Tools disk, so what would otherwise be 2GB of useless removable storage media can soon be formatted with an Amiga-friendly filesystem. Which is nice.

David Stroud A

100MB ZIP 5/10

AMIGA-COMPATIBLE VARIETIES:
External SCSI and Parallel
Internal IDE and SCSI

SUMMARY:
Now outdated in terms of storage capacity, but still the best solution for anyone needing to store or transfer anything relatively small on a portable medium larger than a floppy.

250MB ZIP 7/10

AMIGA-COMPATIBLE VARIETIES:
External SCSI and Parallel
Internal IDE and SCSI

SUMMARY:
Not a lot more expensive than the original 100MB drives (check adverts for current pricing), and perhaps the best all-round portable storage medium. As with the other devices here, the SCSI option is perhaps the better of those available. What's more, the external devices look cool.

Alternatively, ORB it!

Iomega have it pretty easy at the moment; the reason being that there simply aren't a lot of rivals. The LS120 supperfloppy was a challenger to the 100MB Zip, but apart from the lower price and the ability to read PC formatted floppy disks, it's just not up to the standard of the current Zips.

A more interesting challenge is coming in the form of Castlewood's ORB drive - the drive unit will cost about the same as a Jaz but the disks will be much cheaper - possibly as little as £20 for a 2.3GB disk. As soon as we find someone in the UK stocking them, we'll try one out and report the results.

2GB JAZ 8/10

AMIGA-COMPATIBLE VARIETIES:
External SCSI
Internal IDE and SCSI

SUMMARY:
Truly a giant among removable storage media, the 2GB Jaz might be a little expensive compared to an ordinary SCSI hard disk, but remember that you only pay once for the drive mechanism and extra cartridges will upgrade your Amiga's storage capacity in one or two Gigabyte steps.

NAME: AMIGA FOREVER 3
DEVELOPER: CLOANTO
SUPPLIER: WEIRD SCIENCE
TELEPHONE: +44 (0)116 2463800
COST: £39.99
WEBSITE: http://amigaforever.com

Amiga Forever 3

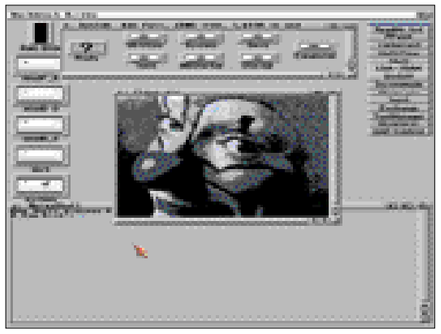
Turn your PC into an Amiga. Worse things have happened to it.

So, you've agonised over it and you're finally a part-time PC user. You may even be spending more time with your dumb but nippy PC instead of the slow but comfortable Amiga. It's time to stop feeling bad about it and make your PC seem just like home, with Amiga emulation.

Amiga Forever from Cloanto is not a revolutionary product. At its heart, it is "just" the freely available WinUAE. But it includes fully licensed versions of the AmigaOS (1.3 and up - OS3.1 is now included in this package, presumably so that it will be able to run OS3.5), a ready-to-run Amiga hard drive structure for the emulators, and part of the proceeds go to support further Amiga emulation efforts.

Welcome Home

Cloanto has preconfigured two OS1.3, 68000-based emulation (mostly for playing A500 games), one with sound and one without for better speed. There are similar preconfigured set-ups for OS3.1, 68020-based emulation (for playing accelerated non-AGA games), and a 3.1/'020 emulation intended for power usage, including access to the PC's Internet resources through BDSocket emulation and an impressive new addition to UAE's powers, AGA graphics emulation mode. In addition to these basic configurations, you can pull up WinUAE's settings to roll your own specifications.



Above: Takes you back, doesn't it? Amiga Forever's emulation, out of the box...

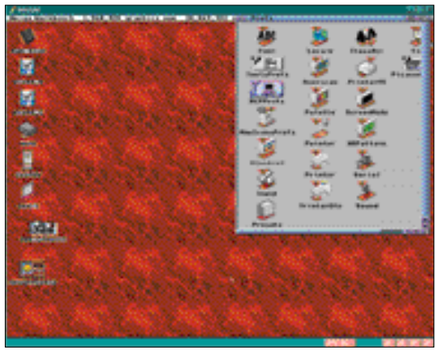
Note that in UAE, an '020 is the best class of CPU you can emulate - although with a sufficiently fast PC, you can achieve speeds far beyond a common or garden - variety '020. A 68881 FPU is also supported.

In previous incarnations, WinUAE and Amiga Forever only emulated an ECS chipset. This was wonderful for playing Cannon Fodder, but slowed down the emulation considerably for most applications. Fortunately, the authors have very cleverly written drivers to use virtually any Windows graphics card as a Picasso96 display. This gives you rock-solid and extremely fast access to 16- and 24-bit screens, with display memory capacity up to 8 megabytes (depending on your card.) For users who want to take advantage of Amiga productivity apps on their PC, this feature is a godsend. For those games and applications that only run on an AGA equipped machine, AGA emulation mode now allows you to display its full 256-colour glory.

Amiga Forever's AGA support is a seriously impressive piece of work. The AGA graphics hardware is a kind of voodoo (think chicken's blood rather than 3DFX here), playing a lot of tricks that aren't supported in VGA mode PC graphics. Inevitably, the emulation can slow down horribly when it is asked to reproduce these magic tricks, but to the UAE coders' enormous credit, it will take pretty much whatever AGA software can throw at it. Wasted Dreams ran fine, although scrolling jerks on anything less than about 400MHz. Scopex's 40k masterpiece 1000%, a very tricky AGA demo, amazingly also worked. The emulation clearly struggled with such esoteric AGA trickery (you need a seriously powerful CPU to hit the bottom rung of watchability), but it did make its way through the whole thing.

The included virtual hard drives are also very nice, particularly because of the way they are installed. Instead of "hardfiles" (large files that pretend to be disk drive volumes), they are actual directory paths on your Windows hard drive (such as C:\WinUAE\Workbench). This means the emulated Amiga's drives are very easy to modify even from outside WinUAE. Hardfiles and floppy images are also supported, but the PC cannot read Amiga floppies directly.

It has always been a shame that a better Workbench set-up wasn't offered with Amiga Forever. This time round Cloanto have succumbed a little to temptation, including a few unobtrusive extras. The extra datatypes and KingCon installation are transparently and obviously beneficial; the toolmanager toolbar is mostly of use when you're getting started. I understand the desire to keep it simple, but an optional set-up with all the extras would have been nice.



Above: Doesn't take long to improve things, 'though.

The Amiga Forever CD contains a bunch of nice bonuses (on top of the easy set-ups, the launcher and the included ROMs) that you wouldn't get by downloading UAE. There is comprehensive online documentation with many pages of additional information of interest to Amiga users, a few of Cloanto's apps, including PPaint, and audio tracks of an interview with Jay Miner. There is also the excellent Amiga Explorer (see boxout), an experimental version of MacUAE, and another emulator - Fellow. WinUAE emulates a much more complete, up to date Amiga than Fellow, but the latter copes better with some older games.

Benchmarking: Difficult at Best

Adequately benchmarking a complex emulation like Amiga Forever is extremely difficult. The basic concern will always be to achieve a full-speed A500 emulation, and any new PC has no trouble. For older PCs, tweaking the framerate and audio quality is usually enough to get an enjoyable experience.

Much beyond that, the waters get murky, because of the varying requirements and capabilities of the machines. A conventional 3D render test is somewhat unfair, because it heavily weighs the emulation's FPU performance, which is not optimised as vigorously as the main CPU performance. With that caveat:

Is an '060 Amiga really 5 times as fast as a P-II's Amiga emulation? If you're running Cinema4D, yes. If you were running DirOpus, for example, no. In general, the more a program relies on FPU routines, custom chip access, or sound, the slower it will be. Running the Scala editor is quite fast, while a very active Scala slideshow stutters even on fast machines. It can be a little unpredictable, with the occasional relatively simple task appearing to take forever on UAE while others feel like they are running on a pretty reasonable Amiga.

We can drop the cracks about "Unusable Amiga Emulator" now. Given the progress in the software and the increasing baseline performance of PCs, this is now a pretty useable emulation. Don't believe anyone who tells you it's even close a top end Amiga yet 'though - Intel need about another GHz to match current top end Amiga speed. You could save some money by installing WinUAE, scavenging your own ROM files and building your own Workbench volume on the PC. It's a false economy 'though - the work Cloanto has already done for you (plus the fact that part of the money supports Amiga emulation authors) is invaluable if you're serious about making your PC walk and talk Amiga.

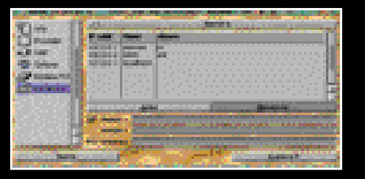
Jason Compton A

Amiga Explorer

The Amiga Forever package is rounded out by Amiga Explorer, a small networking system designed to allow PCs to access the drives of a real Amiga, connected either via serial cable or TCP/IP network. As well as offering you direct access to your Amiga drives in Windows, it sees them as hardfiles too, allowing you to duplicate your Amiga set-up by copying the Workbench partition as a .hdf file. Similarly, it sees your Amigas ROM as a ROM image for easy ROM installation, and it sees any floppies in your Amiga drive as a .adf file, for easy .adf conversion.
Serial connection is very straightforward, but if you want really decent networking speeds, you'll need to set up an ethernet LAN. There's not enough space to cover all the details, but here is a short, get you going guide to making Amiga Explorer work with TCP.

Make sure that your PC network card appears under network preferences in the Settings window. Your card should have an associated TCP binding; if one isn't there you'll have to click add, select protocol, and install TCP (listed under Microsoft as manufacturer).
Check that under the properties of the network card, there is a binding for TCP.
Select TCP properties and set an IP number. Make sure you choose something unique - I use 100.0.0.1 for my PC and 100.0.0.2 for my Amiga. Set the subnet mask as shown.

Now you'll have to set up details of your LAN on the Amiga. I've used Genesis here, but the procedure in Miami is similar. Add a new provider (I've called it LAN). Select the interface tab, and under Sana-II, specify the device drivers for your network card (eg devs:networks/ariadne.device for an Ariadne card). On the interface page, select static addressing and give the stack IP info matching what you gave the the Windows stack - same subnet mask, but different unique IP number, of course.



Finally, enter the details of the network hosts. Make sure that those IP numbers match. Save the config, fire up Genesis and launch a shell; you should now be able to ping your PC by using "ping 100.0.0.1" (or whatever IP address or alias you have given it).
The Amiga side of AE is automatic, but the Windows side needs configuring. Right click on the Amiga computer icon, select TCP/IP under type, and enter the IP number you gave your Amiga under the settings / address option. Your network should now be working - welcome to the world of Amiga / PC filesharing at hundreds of Kilobytes a second. Bliss!

Speed Demon?

A speed comparison was made between a an Amiga4000/060, a Pentium-II/450 and a Celeron/333. The test used the Cinema4D "Staircase example," and rendered the scene at a resolution of 320x400.

Amiga 4000/'060 w/CyberPatcher:	*35 seconds*
Pentium II-450, Windows NT:	*185 seconds*
Celeron 333, Windows 98:	*813 seconds*

Maybe it's not quite time to ditch your Amiga in favour of emulation just yet...

AMIGA FOREVER 9/10

SYSTEM: **Pentium class PC, Windows '95 or newer, 2MB free RAM.**

SUMMARY: **One-stop Amiga emulation kit. Great networking facilities, although a fast PC is required to do much serious work. Emulation is a good thing.**

All about Graphics Cards

Graphics cards - not sure what all the fuss is about? Read on, and find out what you have been missing.

Your Workbench screen isn't big enough. Viewing all but the simplest of images is a nightmare because the colours don't remap properly. You thought Amigas were responsive and easy to use, but you're tearing your hair out over small, slow and unresponsive screens. Have you ever thought of buying a graphics card?

Graphics cards are almost a necessity for anyone who uses their Amiga on a more than occasional basis. Art, video, 3D rendering, word processing, desktop publishing, computer aided design, games and the internet - all of these areas benefit greatly. Not only will it give you more colours on screen at higher resolutions than AGA, a graphics card will make your Amiga more responsive, faster and more pleasurable to use.

A byte of your CHIP

AGA might be old, but what about those unique features of the Amiga's display that you've become accustomed to? Using a graphics card doesn't necessarily mean doing away with auto-scrolling, screen-dragging and multiple screens. These features don't have to be directly supported in the hardware, software can simulate the effects. Auto-scrolling is available should you need it, screen-dragging is still possible if both drivers and hardware support it (CybergraphX does, although CyberVision and BlizzardVision cards don't), and you can have as many separate screens as you like provided they all fit into the graphics memory situated on the board.

Joseph's Technicolour Dreamscreen

Graphics cards for the Amiga seem few and far between, not to mention slightly overpriced, but this isn't surprising when you consider the relatively tiny quantities which are produced. If you want to add a Cyber- or BlizzardVision graphics card from Phase5 to your Amiga you'll need to invest in a PPC card too, but this is an incentive, not a drawback (see the separate boxout on installing a BVision to see how easy it is). For a couple of hundred pounds, your Amiga will be faster, more responsive and much more pleasant to use. Money well spent in any serious Amiga user's book. If you don't have a PPC and don't want one, you can get the CyberVision64/3d or the Picasso 4 Zorro cards, both of which perform well. A1200 owners will have to buy a Zorro busboard to use one of these. Alternatively, Ateo offer their custom Pixel64 system. This isn't as good as a true Zorro 3 machine, but is comparable to a Zorro card used in an A1200 Zorro 2 busboard and represents excellent value.

But what will one of these graphics cards do for you? Give your Workbench a whole new lease of life for a start. You can plaster bigger and brighter patterns all over your MUI applications without giving yourself time to make a cup of tea each time you resize a window. Utilities such as VisualPrefs and Birdie also improve the look of your Workbench far more than they can under AGA screenmodes, and NewIcons will be eternally grateful for a high-resolution screen with a 1:1 aspect ratio to stretch itself on.

"Not surprisingly, graphics applications are major beneficiaries. 3D graphics can be fully appreciated in higher resolutions..."

This last point deserves a little elaboration, so dust off those technical hats and don them for a brief explanation. Screens are measured in width, height and depth. Screen depth is measured in bits per pixel, the amount of data given for colour information. Thus 8 bits/pixel allows 256 different colours, while 16bits/pixel allows 65536. AGA is normally limited to 8 bit screenmodes, or 256 colours (trick modes such as Ham8 are significantly slower). Current Amiga graphics cards allow 24 bit screens, or 16,777,216 colours.

AGA stores screen data in 2 MB of Chip RAM. In comparison, the latest cards from Phase5 have 8MB of much faster on-board SGRAM. This allows larger screens with many more colours. A 1024x768x24 screen (the last number being the depth of the screen in bits) takes up 1024x768x24 bits of memory in total, which equates to a mere 3MB.

Not surprisingly, graphics applications are major beneficiaries. 3D graphics can be fully appreciated in higher resolutions and screen depths, as can 2D graphics software. Photogenics, ImageFX, Cinema4D, Tornado3D, Imagine - if you've never used one of these packages on a graphics card, you've never used them properly.

Higher resolutions also give greater detail over a smaller physical screen space. If you've ever run a piece of Desktop Publishing software - or even a Word Processor like Wordworth - on an AGA screen, you'll know the frustration of having little or no space to work with on-screen. Larger screenmodes allow for far more detail for DTP and CAD (Computer Aided Design) packages or higher resolution, smoother fonts for word processing. Not only that - screen refresh rates will improve beyond recognition.

"A graphics card isn't the only thing faster than AGA: You are too."

Try this on an AGA screen: Take a single page document in Wordworth and add a 256 colour picture with text flowing around one side of it. Move the picture. Wait for the screen to redraw. Chances are it takes longer to see the result of moving the picture than it does to move the picture in the first place. Now try the same operation on a graphics card screen, in 16 bit, with full-colour picture previews. Heaven, isn't it? The fact is that once the CPU has done all its work, you don't want to have to wait any longer for your graphics hardware to update the screen, do you? It's like pouring sand through a funnel - the larger the hole in the bottom, the quicker the sand pours out. A graphics card isn't the only thing faster than AGA: you are too.

Making the Most

To fully appreciate your graphics card, you'll need a decent monitor. There's certainly a bewildering array of these available - but for a graphics card, nothing short of a 17-inch screen will cut it these days. Monitors will be discussed in further detail in an upcoming issue, but suffice it to say for the moment that the lower the dot pitch, the higher the resolution and the larger the visible screen size, the better.

There is one problem with adding a graphics card to your system though: old software. Just when you thought it was safe to ditch your old 15kHz monitor, you run an old piece of software expecting it to run on your new piece of hardware and your Workbench screen freezes. It may look like your Amiga's crashed, but the chances are your old software's just opened on a screen that isn't being routed through your graphics card. Old software which doesn't let you choose a screenmode to open is the only real drawback of adding a graphics card - and where the Amiga's concerned, there's plenty of it about.

Modern SVGA monitors which will show off a graphics card to its full potential can typically handle input signals as low as 31kHz, whereas AGA outputs its screens at 15kHz. There are two remedies to this problem, using either hardware or software. The latter comes in the form of "mode promotion," a piece of software (typically shareware available from Aminet) charged with the task of intercepting OS calls to open AGA screenmodes and forcing them to open via your graphics card. Such solutions have varying levels of programs that open screens "illegally" (i.e. in a way not compatible with AmigaOS), but are worth it because they usually cost nothing to try out.

Unclear Vision?

You may have been put off by scare stories from a number of people who reported problems when they first plugged a BlizzardVisionPPC card in to their A1200s, but most - if not all - of these have now been remedied in one way or another. If you're an existing BVision owner, here are a few tips to ensure you get proper functionality. If you're considering buying a BVision today, rest assured that Phase5 have had plenty of time to look into everyone else's problems and fix them with later revisions. The BlizzardVisionPPC performs superbly, so don't let anyone put you off!

1) Supply enough power

If your system won't boot with your BVision plugged in, make sure that enough power is getting through to it. The tracks on the A1200 motherboard which supply power to the expansion slot weren't designed to carry the amount of power needed to feed both a PPC card and a graphics board at the same time. There are two possible remedies:

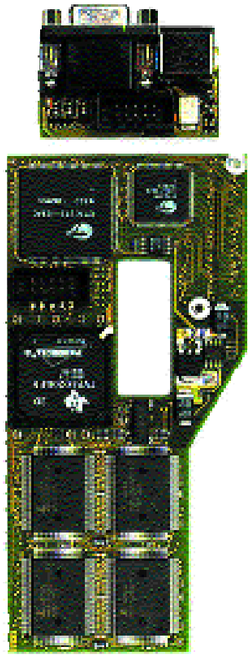
a) Take a 5V lead (with a small connector) from the PSU in your tower and plug it in to the connector on the A1200 motherboard which originally supplied power to the internal floppy drive. This back-feeds the motherboard with extra power so that the expansion slot receives a higher voltage, and hopefully your BVision will spring into life.
b) Connect the fan on the PPC card to a 12V output from the PSU rather than the power connector on the PPC card. This will lessen the power drain on the PPC card and hopefully allow a higher voltage to the BVision.

2) Cool it

If you can open a screen on the BVision, but this screen becomes corrupted or your system inexplicably freezes minutes - or even hours - after turning your machine on, chances are something is overheating. There are several places to target with extra fans and/or heatsinks:

a) Mount a large fan inside your tower, behind the small fan on the PPC card. Such a small fan may not be cooling the PowerPC chip as much as is required for stable operation, which may mean the PPC is overheating and cutting out. A larger fan will push more air into the air inlet under the PowerPC chip and hopefully prevent this from happening.
b) If your BPPC has an '040 as a co-processor, mount a heatsink and fan on it. '040s in general run a lot hotter than '060s.
c) Try adding a fan to the Permedia2 graphics - chip on the BVision itself -these can get pretty warm too.
d) Underneath the black cooling block on your BlizzardPPC card in the corner where the words "Caution: Hot!" appear are two similarly-sized black chips. Neither of these chips touches the underside of the cooling block. Tests have shown that if the chip closest to the expansion slot connector gets too hot, the board will lock up. The easiest solution, if not the most elegant, is to take a metal washer about the diameter of a penny and slip it between chip and cooling block, aiding in the transfer of heat away from the chip's surface.

Below: The BVisionPPC graphics card from Phase5.



"No longer will you be cursing at the bad colour remapping of pictures or icons..."

Doing it the hard way

The trouble with adding a graphics card to an Amiga is that you typically end up with two outputs - attaching your graphics card to a monitor doesn't disable the Amiga's original video output. A monitor switcher has two inputs - one for your graphics card and one for AGA - and one output for your monitor. Whilst this saves you having two screens attached to your Amiga, there's still the problem of having a monitor which won't sync down to display AGA screenmodes.

Scandoublers do just as their name suggests - double the scan rate of an input signal. Feeding it a PAL or NTSC AGA signal therefore results in an output of around 31kHz, which most SVGA monitors will be able to display comfortably. Flicker fixers, meanwhile, deal with interlaced screenmodes - without a flicker fixer, your monitor draws every other line on the first pass, then fills in the blank lines on the second. This virtually halves the refresh rate of the picture and puts a great deal of strain on the eye. With a flicker fixer, these two separate refreshes are combined and drawn in one, resulting in a stable on-screen picture and no flicker.

So, adding a graphics card to your Amiga may cost you a few hundred pounds - especially if you combine it with a PPC accelerator and / or some extra hardware like a scandoubler / flicker fixer or monitor switcher, but your Amiga will love you for it. No longer will you be cursing at the bad colour remapping on pictures or icons, sluggish screen updates or a complete lack of space to work with on-screen. The faster screen refreshes graphics cards provide are better for the eyes too, so get one and your eyes will love you for it.

David Stroud A

Above: The EZVGA scandoubler/flicker fixer from Eyetech.

CVisionPPC

Because it is designed for a big box Amiga, the CyberVisionPPC suffers none of the power and cooling problems reported by BlizzardVisionPPC users. However, the design is not perfect. In an A4000, the card sits back-to-back with the Zorro daughterboard. It is supplied with a piece of card to slip between the two to provide electrical insulation. A sheet of tough plastic would be preferable, as the card can puncture easily, causing the Amiga to crash as soon as startup-sequence runs the monitor driver. Otherwise, there are no problems - the card gives a superb display and is very fast.

CyberGraphX v4.1

CyberGraphX3 was a totally free product, produced for Phase 5 but available for other cards too. Now the programmers have severed their arrangement with Phase 5 and version 4 is back in the commercial arena. The CyberVisionPPC and BlizzardVisionPPC cards are still supplied with CyberGraphX3, so why pay out for an upgrade to something you got for free?

Version 4 is evolutionary, rather than revolutionary: it builds on the previous version, adding features and ease of use. The previous versions of CyberGraphX were a bit of a pain to set up. Some settings were controlled by environment variables and some by tooltypes in the monitor driver's icon. CyberGraphX4 continues to store settings in the same places, but comes with a single preferences program that makes it much easier to work with.

The CGXmode program has also been improved, with more feedback in the screenmode creator. The range of default screenmodes is also greater. The CyberVisionPPC drivers had no pre-defined screenmodes for the higher resolution capabilities of the card, so it's well worth the minimal effort of defining your own.

CyberGraphX4 supports Rave3D for hardware 3D acceleration. The CyberVisionPPC and BlizzardVisionPPC cards are currently supported, with plans to add CyberVision64 ands Picasso IV. The number of programs utilising Rave3D is very limited, the only commercial program advertised as supporting it is Tornado3D. This is claimed to make previews between three and six times faster. The more popular Warp3D API will run happily with CybferGraphX4, but isn't supplied.

Is it worth upgrading from CyberGraphX3? That depends on how happy you are with CyberGraphX3. If you don't use software that supports Rave3D, the main benefits are the ease of use and some relatively minor feature enhancements. There is one major benefit; CyberGraphX4 is still being developed. CyberGraphX 4 is available from Schatztruhe dealers - in the UK call Weird Science on +44 (0)116 2363800. An update patch to v4.1 can be found on this month's AACD.

NAME: VOYAGER 3
DEVELOPER: VAPOR SOFTWARE
SUPPLIER: ACTIVE TECHNOLOGIES
TELEPHONE: +44 (0)1325 460116
COST: £25 (£15 upgrade from v2.x)
WEBSITE: http://v3.vapor.com

Hands on... Voyager 3

"...a major step forward from previous versions..."

Let me start by admitting that I was never a fan of earlier versions of Voyager. It was nothing in particular; I was just never that comfortable using it. Although Voyager 3 (V3) has a lot in common with its predecessors, certainly enough to keep existing Voyager fans happy, it's also sufficiently changed to make it worth another look.

The full version of V3 hadn't been released at the time of writing, we are looking at the second pre-release version. While it appears fairly complete, we are assured that there are improvements in the pipeline, in terms of features, speed and stability.

Now I've mentioned stability, let's get the bad news out of the way right now. V3 is unstable on some Amigas. This is a classic sign of unfinished software, rock solid on one machine and fragile on the next. I suspect the instability is related to Voyager's use of MUI, particularly the new Tear Off class. However, it's almost certain that at least one more pre-release will have been issued by the time you read this, so these stability issues may well have been resolved.

The good news for existing Voyager or NetConnect users is that the pre-release versions of V3 will work with their keyfiles. There is no need to pay out to evaluate V3, although the final version will require an upgrade fee.

JavaScript and more

OK, so we've established that it's not finished, but what has V3 got that's new? First off, it's got JavaScript. Not to be confused with Java, JavaScript is an inline scripting language that can be embedded in web pages. This has a variety of uses, from adding eye candy to a page to creating dynamically generated content. JavaScript can be used for form validation, password protection, and running databases from web pages, although it's most common use it to make buttons change colour as you move the mouse. JavaScript is made more difficult to implement thanks to their being two versions, the standard one and the Microsoft "standard". Since many site owners only consider their own browser when developing their site, it's sometimes the case that the JavaScript will only work with that browser. This presents unavoidable problems, but V3 managed pretty well with many of the sites we tried it on, although some JavaScript functions have yet to be implemented.

There are two other significant additions to V3. Tear-offs enable the user to configure the GUI in a way not possible before. Elements of the GUI, such as the navigation button bar, may be "torn off" from the main window and placed elsewhere. These panels may be resized and placed in a different position on the browser window, or they may be placed outside of the window entirely. The first option is good for people with high-resolution graphics card screens; they can move elements of the GUI to the side of the HTML display, to gain maximum page height. Users of native screenmodes will welcome the second option, as it allows them to push the panels behind the main display, to use as much of the screen area as possible for the HTML display.

Shocking plugins

The other major addition is support for Shockwave Flash files. This is via a plugin API that means other programmers can write modules to render images and animations with in the browser window. Both AWeb and IBrowse have plugin APIs too, the difference is that V3 is the first to have a decent program actually using it.

Flash is an animation format that has a very compact file size, so it downloads quickly. It can have embedded sound but what really sets it apart for any other animation is that it can contains clickable links. These links can control the animation, moving to a different part of it, or they can load URLs. One thing you must remember about Flash is that it is very CPU intensive; even with a fast 060 the animations were a bit jerky. However, a PPC version of the Flash plugin will be available by now. Not only will this be faster, but it will also leave the 680x0 processor free to get on with other tasks.

V3's image decoding follows in the tradition of previous versions, being very fast. Version 2 had very slow table handling, which has improved significantly for V3, although it still lags behind other browsers.

V3 is a major step forward from previous versions. The addition of JavaScript and Flash should make it a worthwhile upgrade. Unfortunately, stability of this version is a serious concern. It would appear to be caused by a conflict of MUI classes, running V3 can also cause YAM to lock up. The features are there, and once the MUI conflicts are fixed this should be an excellent browser.

Neil Bothwick A

Laden with features, if a little unsteady at times, we take Voyager 3 for a walk round the block.

What's New

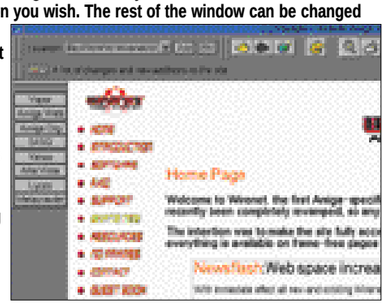
- **JavaScript.**
- **Shockwave Flash support, with PPC decoder coming soon.**
- **Configurable interface, using Tearoffs and toolbar.**
- **Faster table handling.**
- **Plugin API allowing support to be added for embedded objects.**
- **Updated SSL security.**
- **Contact Manager support for bookmarks.**
- **Uses HTTP 1.1 for greater network speed.**

BACK2BACK

Both of these browsers should be considered "work in progress." Early versions were released at the World of Amiga, and it was apparent that they had been rushed out for the show, ready or not. There's nothing wrong with that, people expected to see them there. The later releases have shown improvement, although in different ways. IBrowse appears stable now, although a number of features are still not working correctly, notably JavaScript. Voyager has a larger range of new features, but stability is still an issue.

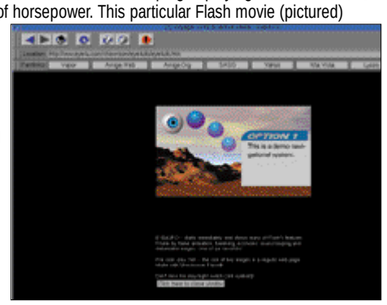
Voyager 3

The GUI of V3 is totally configurable. The toolbar buttons are separate images, they can be changed individually. You can also add new buttons to handle any function you wish. The rest of the window can be changed simply by rearranging the tear-off panels. This layout (pictured) with navigation and information gadgets at the top and fast link buttons down the side of the browser window gives a more vertical aspect to the HTML display, which is much easier for reading than a window with the same aspect ration as your monitor.



The cache browser has gone, to be replaced with an HTML listing of the cache in the main window. This means you can use the standard document search requester to find any entry in the cache. V3 has an offline browsing mode where documents are loaded from the cache with no attempt made to fetch them across the network. This is a much cleaner system than the old cache browser.

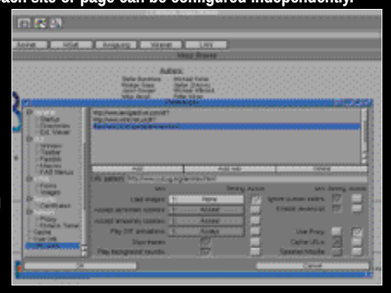
The Shockwave Flash plugin works well, although they are quite CPU intensive. Even on an '060 it wasn't as smooth as it should be, but the PPC version should be well worth trying. This isn't the fault of V3 or the plugin, playing Flash animations does require a fair amount of horsepower. This particular Flash movie (pictured) shows the various features of flash. Not only is there animation with sound, but the text pops up when you move the mouse over one of the spheres, and clicking on the spheres produces various effects.



Voyager 3
http://www.vapor.com
£25
(£15 upgrade from 2.x)

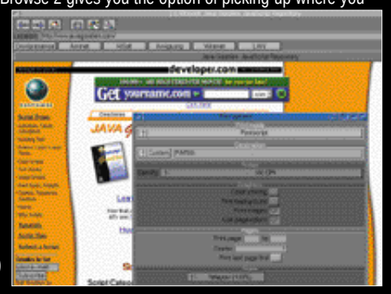
IBrowse 2

IBrowse2 has a huge range of configuration options, although this can make finding the setting you want a bit tricky at times. Here is the URL Prefs window, showing how each site or page can be configured independently. The URL here is the "What's New" page of the Amiga Web Directory. As this is a news page, you could set IBrowse not to use a proxy server so that you always see the latest version. All the links on this page are text, so you can disable image loading as well, for a much faster download.



Printing now supports Postscript printers. This should preserve the layout of the page, as you would get with a graphic print, while printing in high-resolution fonts. A normal graphic print is generally a screen dump to the printer, so you get jaggy fonts. A text print gives clear text, but loses the layout. Combined with TurboPrint 7 (or Ghostscript), this should give good results on any printer, and very fast printing on a Postscript printer.

Resumed web downloads come to Amiga browsers. IBrowse 2 introduces the option to resume an interrupted HTTP download, something which was only previously been possible with the external program HTTPResume. If a download is interrupted for any reason, IBrowse 2 gives you the option of picking up where you left off when you next try to download it. You no longer need to download huge archives in one go, you can grab them a piece at a time as you are online doing other things like collecting email. A Good Thing.



IBrowse 2.1
http://www.hisoft.co.uk
£34.95
(£12.95 upgrade from 1.x)

Both browsers may be downloaded from their suppliers' websites. IBrowse runs as a demo until a keyfile is installed. V3 will work for a limited time with a NetConnect or older Voyager keyfile, but will then require a V3 keyfile. IBrowse and Voyager keyfiles can be obtained via the secure online ordering systems at the respective sites.

NAME: IBROWSE 2.1
DEVELOPER: STEFAN BURSTROEM
SUPPLIER: HISOFT
TELEPHONE: +44 (0)1525 718181
COST: £34.95 (12.95 upgrade from v1.x)
WEBSITE: http://www.hisoft.co.uk

Hands on...

IBrowse2

The release of IBrowse 2 has been one of the most awaited and discussed events in various newsgroups and mailing lists. Various release dates have been given, and then passed, but it's finally here. Like Voyager, IBrowse 2.0 was released just in time for this year's World of Amiga show. Like V3, the version available there was unfinished. Unlike V3, it was not available in any evaluation format; you had to buy it to try it.

HiSoft have now released version 2.1. This is really what 2.0 should have been, it is more complete than 2.0 and there is a demo version available, on the ***Amiga Active*** CD. Virtually every element of the GUI can be altered. The navigation and fast link buttons can be customised, or turned off completely. The popup menus can be edited, with a different menu depending on what is under the mouse. You can add macros to the Rexx menu, accessible from the screen menu bar. However, this didn't appear to work in this version. The macro is added as a URL of the form x-rexx:///macroname.ibrx, but selecting it produced a "Please insert volume x-rexx:" requester. Another useful option is setting different cache sizes for pages and images. Generally, images change less often than pages. The content of a site may change daily, but the logos and buttons remain the same. So being able to cache images for longer than pages, by allocating more space to them, makes a lot of sense.

Sites for sore eyes

The usual options regarding fonts, HTML display colours and so forth are available of course, but there is one new section in the preferences that is very interesting. IBrowse 2 lets you configure different settings for individual sites or pages. You can change image loading, JavaScript, cookies, frames, proxies and spoofing according to a URL pattern. This is potentially very powerful. IBrowse effectively switches to a different configuration for each site listed, enabling you to browse quickly with images turned off, but have them loaded on certain sites where you know you'll want them. Equally, you may have JavaScript switched on, but disable it for sites where the JavaScript is either buggy or incompatible with IBrowse.

Site specific spoofing is particularly useful. A browser normally sends its name and version number in a User-Agent: header when requesting a page. Some sites are set up to respond differently according to the browser used, or check that the browser is a sufficiently recent version. Sadly, they normally only recognise Netscape and Internet Explorer. Users of anything else often see a curt "upgrade to IE" message. Spoofing means having your browser pretend it is something else; with IBrowse, you only get the option to spoof as Mozilla (Netscape). Naturally, you only want to use this when necessary, so setting it on a per-site basis is the ideal solution.

"...lets you configure different settings for individual sites or pages."

JavaScript

JavaScript is probably the most eagerly awaited addition, yet it hardly worked here. Almost every site reported errors, even though the JavaScript was known to be good, and work in other browsers. Even the basic onMouseOver (the instruction that changes an image as you move the pointer over it) failed to work at http://www.javagoodies.com, a standard repository of JavaScripts. A simple text scroller example on the same site gave an out of memory error, when I had 102MB of fast RAM and 1.8MB of Chip RAM free, even after increasing IBrowse's stack to 32KB.

Welcome new features include a resume option when downloading, so losing a connection 95% of the way through a large download is no longer such a major pain in the butt. IBrowse will give you a choice if you attempt to download a file when one of the same name already exists on your hard drive. You may resume the download, overwrite the previous file or save the new one under a different name. Speed seems to have improved, although that's a somewhat subjective opinion, and table handling is definitely better. Sites using nested tables, like Czech Amiga News, now display quickly and correctly. Printing, however, still needs work. The print requester gives the choice of text, graphic or Postscript printing, but the graphic option isn't available yet. Postscript printing didn't work correctly with my Kyocera Postscript printer, although the lack of a manual may have meant that this was a problem with the settings. The manual was about to be released as we went to press.

IBrowse 2.1 is a definite improvement over previous versions, although I would have expected more given the time it has taken. The JavaScript support is seriously flawed, but this is a work in progress. The features that do work appear to be stable; it's just those features which don't work which need to be looked at.

Neil Bothwick A

It has been a long time coming... has IBrowse 2 been worth the wait?

What's New

- **JavaScript.**
- **Large range of configuration options.**
- **Individual site configurations.**
- **Resume on HTTP downloads.**
- **PostScript printing.**
- **Improved table layout.**
- **SSL V3 support.**
- **Contact Manager support.**

NAME: PFS3
DEVELOPER: GREAT EFFECTS DEVELOPMENT
SUPPLIER: RAMJAM CONSULTANTS LTD
TELEPHONE: +44 (0)118 946 5940
COST: £40 INCLUDING P&P (upgrade from PFS2: £27)
WEBSITE: http://www.ramjam.u-net.com

Professional to a T

PFS3

Professional File System 3, acceleration for hard drives - now with added repair utilities.

Hard drive sizes have increased more than a hundred-fold since WB 1.3, access speeds by nearly as much. Despite this, we still have basically the same filesystem. Professional FileSystem (PFS) started life as a shareware program in 1993 before going commercial as AFS (Amiga File System). Distributors Fourth Level Developments collapsed and it spent a couple of years in limbo before Great Effects Development relaunched it as PFS. It was always fast, and PFS2 gave higher levels of reliability. Now PFS3 adds several more features, including the all-important repair tools.

PFS3 uses a different method of storing file and directory information, with two main advantages: speed and safety. PFS3 is substantially faster than FFS. Reading, writing and directory listings are all improved. The comparison tables show some of the differences, but don't tell the whole story. It's not just copying files or opening file requesters that's faster. Every program that uses the hard drive will benefit. The faster directory handling particularly benefits programs using directories with many files, like email programs and web browsers.

Say goodbye to invalidated disks

Any interruption when writing to a FFS disk is bad. The disk is usually invalidated, and at least one file lost. You can expect a long wait while the disk whirrs at boot-up, revalidating itself. PFS3 doesn't update the directory structure until the write operation is complete, and it saves the file on a different part of the disk to any previous file of the same name. If anything goes wrong, your disk will be just as it was before you started to write to it.

When you overwrite a file, the new file is written in a different place on the disk and the old one is linked to a special directory called the "deldir" (as are deleted files). Recovering files is therefore as easy as copying them back from the deldir. With PFS3 the size of the deldir is configurable - up to 992 files.

PFS2 was criticised for its lack of recovery software. The truth is that it didn't really need it. PFS3 has a couple of recovery tools, DiskValid and PFSDoctor, although I didn't get to test them because I couldn't corrupt a disk, no matter what I tried. Ejecting a Zip disk during a write, pulling the cables out of a hard drive while saving (don't try this at home, folks! -Ed.), I tried everything short of putting the disk in the microwave. There is a good reason FFS has so many more recovery tools - it needs them.

PFS3 is almost completely compatible with FFS at DOS level. Any program using the normal system disk handling should work as before. I found only one program that had problems - the Apache web server's log files didn't work on a PFS3 partition. Software that accesses FFS at a low level, like recovery software, won't work with anything else. However, backup programs do work with PFS3.

Take care when installing

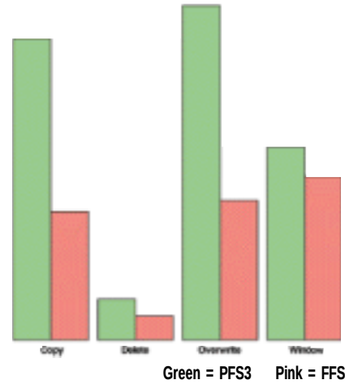
Installing PFS3 over PFS2 is simple, since PFS3 can read PFS2 drives. Upgrading from FFS takes a little more work, and care. PFS3 comes with the HDInstTools drive preparation software. First, you install PFS in the Rigid Disk block (RDB) of your drive. This makes the filesystem available to your partitions but changes nothing. Then you can change individual partitions to use PFS3. This way will destroy any data on the partition; back it up first. You can change partitions individually, moving files from the partition you are changing to another, and back again after reformatting. There's no need to resort to floppy disks.

Is PFS3 worth buying? It's faster and safer. Either of these would be reason enough to buy it. Getting both at once makes it a bargain. I've been using previous versions of PFS for years. PFS3 is another step forward, and well worth buying.

Neil Bothwick A

Speed improvements

These tests used the AACD/Online directory from AACD01. It was copied to an otherwise empty partition and timed copying it from there into another directory. The Workbench window test involved opening a window containing 165 icons. The 18% speed increase is an indication of the general system performance gain when using a more efficient filesystem.



Green = PFS3 Pink = FFS

All times in seconds	*FFS*	*PFS*	*PFS speed-up*
Copy Online directory (40MB)	162	69	230%
Delete Online directory	22	13	170%
Overwrite Online directory	180	75	240%
Open Workbench window	10.4	8.8	118%

PFS3 9/10

SYSTEM: The faster your Amiga, the better.

SUMMARY: If you're sick of invalidated disks with another filesystem, buy PFS3 and kiss them goodbye.

Active Shareware

Allow us to point you in the direction of a few highly desirable Workbench add-ons...

Welcome to Active Shareware, the pages where we will introduce you to all the best that is happening in the world of public domain software. We kick off this month with a look at some of the all time classics - utilities we think you ought to install right now if you haven't already. Just to make it easy, you'll find the software on this month's AACD. From next month, we will be looking at a range of the latest freeware, shareware or licenseware products, available on our CD, the Internet or from PD libraries. Each month we will expand on the must-have notion with an 'unmissable' pick that we will not only tell you about but show you how to use.

Above: MagicMenu improves the funcionality of Workbench menus no end.

ToolsDaemon

Why Workbench wasn't designed to allow user definable menus has always been a mystery, as Workbench supports additions to the Tools menu via the AppMenu facility built into versions 2.04 and upwards of the ROM. Strangely, including a full menu bar was impossible until the arrival of Nico Francois' ToolsDaemon. Included with version 2.1a is a menu editor, which allows full drag'n'drop and font sensitivity.

Separator bars and keyboard shortcuts are supported in menus and sub menus and each program can be configured to run as a Workbench or CLI program. Each program can also have parameters passed to it, so that selecting an icon on Workbench and then selecting a menu item will result in that program being started with the icon as an argument. If you don't have Opus Magellan, ToolsDaemon really is an absolute must.

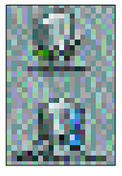
KingCon

As powerful as the Amiga shell is, it is hardly feature ridden - so it comes as no surprise that replacements are available. David Larsson's KingCon is a completely compatible Command Line Interface (or "CLI") that can - and should - be installed to replace the CON: device. This is done via the user-startup script, and once installed is invisible to the system.

KingCon offers many advantages over the standard shell, but the most notable is filename completion. If you press the TAB key, KingCon will match a filename with the first few letters you type. If you give too few characters for a match, KingCon will pop up a file requester for you to browse with. Other welcome additions include the review and history buffers which can be saved to disk - very useful for testing and debugging. Although it has not been updated for a long while, KingCon is still an essential tool, and delivers the features that the shell really should havehad from the start.

MagicMenu

Development of MagicMenu was dormant for a while, but has now been taken over by Mario Cattaneo and Olaf Barthel. Boasting a whole host of new settings that can change the way menus look and work, MagicMenu can take some getting used to. The automatic reflex action of moving the mouse pointer to the top of the screen to access menus can be forgotten, as menus can pop up right under the mouse pointer. After pressing the right mouse button, you are presented with a replica of your application or system menus, but in a vertical rather than horizontal form. The new 3D look to the menus is extremely well done, and the drop shadows cast from each one is a very nice touch, although you can opt to have them look just like the standard menus. The preferences editor offers plenty of configuration options, and all in all this is a nice and well executed systemenhancement.



NewIcons

The Amiga's dated icon system is one of the issues that OS3.5 will address, as Haage & Partner have been designing the new icon system on this very utility. NewIcons, now at version 4.5, is compatible with the old system, but extends functionality through the NewIcons.library.

Installed as a patch to icon.library calls, it decodes image data held in the icon structure where there is a variable space meant for tooltypes. NewIcons update the system by providing images for any colour depth, remapped to the Workbench palette to avoid the kind of false colour problems MagicWB icons can produce, and allows several options associated with their display to be configured with the included prefs program. The ability to disable icon borders, dither icon images and allow the background colour to be transparent are all configurable.

NewIcons comes with an icon set for your system drawers and files, but there are many extra NewIcon sets available. GlowIcons is one particularly nice set, and can be found on this month's CD along with a few others to help give your Workbench a facelift.

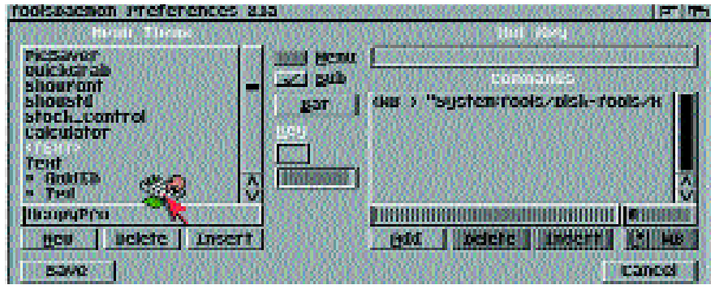
Powersnap

The idea of global cut-and-paste never caught on in the Amiga world. Although clipboard support was developed, most developers decided not to implement this handy facility. Way back in February 1994, Nico Francois created Powersnap, and it is still in wide use today. Powersnap interacts with all applications supporting the clipboard, and works equally well with MUI interfaces which support clipboard usage internally.

Despite its age, Powersnap is one of those programs that you're not going to miss until you install it on your machine and ever have to use another Amiga without it. As a result, it has to be one of the greatest Workbench addons of all time.

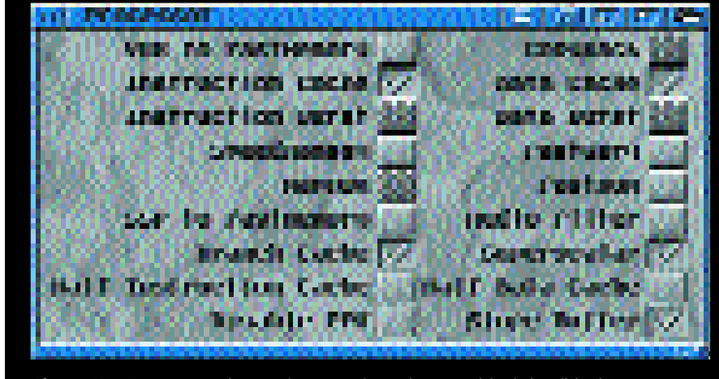
Simon Archer A

"Powersnap...one of the greatest Workbench addons of all time."



Below: ToolsDaemon works best when used in conjunction with MagicMenu.

The big guns: MultiCX vs MCP



Above: MCP's "processor" options - make sure you know what you're doing before diving in!

With an increasing number of system addons and hacks becoming available, it was only a matter of time before someone combined the best of the bunch into one package; in fact it was so inevitable that it happened twice. MCP and MultiCX operate in similar ways, offering a configuration program to manage a whole host of different patches. Both systems offer similar features, and here we show you some of the more useful options and how to set them up.

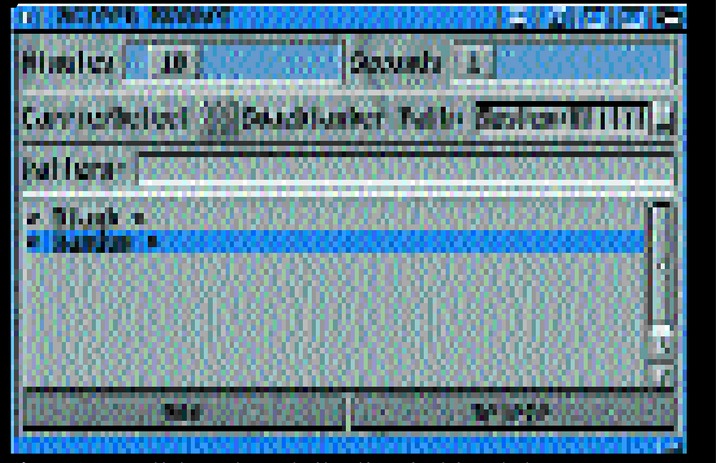
Today's monitors are pretty resilient to "phosphor burn," a side effect of leaving the same image on screen for a prolonged period, so screen savers are now considered more of a toy than a useful feature on modern computers. MCP has an extensive screen saver option which will blank the screen or work with Swazblanker modules. The blanker module in MultiCX allows you to set the task priority of the blanker and both commodities can halt the blanker if a modem carrier signal is detected, although currently only the internal serial port is monitored.

Trackdisk Prefs are another "must have," and work similarly in both systems, although MultiCX steps ahead with "NoFormat" and "NoBootWrite" options. These protect disks from being formatted or having a bootblock written to them - especially handy for System partitions.

MultiCX will allow you to cycle through any open screens with a middle mouse button, if you have one, but MCP leaps into the lead again with the wonderful ScreensMenu feature. Pressing the right mouse button on the screen tab gadget in the top right-hand corner of the screen reveals a small menu showing all open screens, and selecting the screen you want pops it to the front.

A lot of files now come with their default tools (set in the icon file and revealed by hitting RAmiga-I after selecting a file's icon) pre-configured by the author. It may be "More" for a text file, or "CyberShow" for a picture. Chances are these settings won't be ideal for you, and having to change all those default tools can be a real pain. MultiCX and MCP both come with a facility called "ToolsAlias," which will trap an icon's default tool calls and redirect them to applications that you specify. MCP is, again, a little ahead in the configuration stakes with this feature, allowing you to create a list of multiple aliases, whereas MultiCX only allows one.

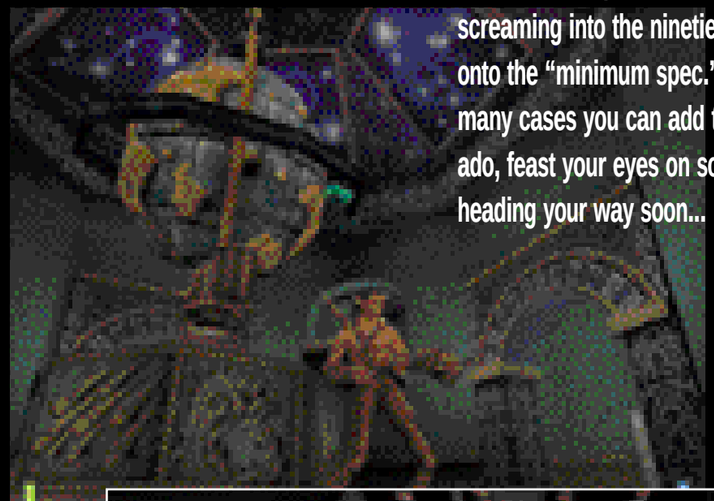
Both have their merits and pitfalls. As a guideline, it's best to install one option at a time and test it for a while to see if your system remains stable. MCP is the worst offender, but each system is robust when used properly. What's more, both packages are on this month's AACD, so why not give them a go?



Above: MCP's screen blanker. Not that you should need it too often, being such a busy person!

3D graphics GAMES

Current developments are dragging Amiga gaming kicking and screaming into the nineties. A graphics card is slowly making its way onto the "minimum spec." listings of more and more games, and in many cases you can add the word "3D" to the front. So, without further ado, feast your eyes on some beautiful graphics card-only games heading your way soon...



Above Right: An early screenshot of Main & Mangle, an RTS in true 3D from The World Foundry. Spokesman Ed Collins has this to say:

"M&M has progressed very well in recent months with rapid improvement in the overall appearance of the game engine as well as the decision that a 3D card will be required to play the finished game. More units are being modelled and textured by our GFX people and the game storyline has been put onto our website at http://www.worldfoundry.com/M&M/ for people to read.

"Massimiliano, our main programmer, is taking a well deserved holiday after adding dynamic lighting, explosions, transparency, shadows, gourand shading and other effects.

"A release schedule hasn't been decided yet - it could be early next year. An e-mail mailing list for discussing M&M game ideas is currently running. Info on joining is on our website."

Far right: Heretic II by Raven software is a superb cross between Doom and Tomb Raider using a modified Quake 2 Engine, and...

Top left and middle right: Shogo from Monolith Productions, a first person shoot 'em up with manga style giant robots. Both of these titles are being converted by Hyperion Software, whose team includes the admirable Frieden brothers who were largely responsible for the development of Warp3D, the defacto Amiga 3D graphics API.

Top right and below: Two pictures from ClickBOOM's forthcoming conversion of Nightlong, the cyberpunk graphic adventure from old time Amiga stalwarts Team17.

Bottom left: Digital Images' conversion of Psygnosis' WipEout 2097 in action. As anyone who saw it running at this year's World of Amiga will know, there's still some optimisation to be done, but it's looking very good indeed.

Oh, and if you can't wait until it's released, make a note that we'll have an exclusive demo on next month's ***Amiga Active*** CD. A

NAME: T-ZER0
DEVELOPER: CLICKBOOM
SUPPLIER: WEIRD SCIENCE
TELEPHONE: +44 (0)116 246 3800
COST: £29.99
WEBSITE: http://www.clickboom.com

T minus 5...4...3...2...1... ZerO

ACTIVE GOLD AA

Horizontally-scrolling shoot 'em ups? On the Amiga? Ah yes, now we remember...

If you keep your ear to the ground, you may remember that this game once went by the title "Trauma Zero." Clearly ClickBOOM excised the word "trauma" from the title because it just wasn't appropriate. You don't get a physical shock from playing a computer game, and it's not likely to cause mental disorientation or severe confusion either. I've been playing this game all week, I still know who I am, where I am, and I know precisely how long it took me to fly here in my spaceship!

In true ClickBOOM style, this game doesn't just assault your senses, it kidnaps them, gives them a good spanking, then hurls them back in your face. From the moment you click the icon, your eyes are bombarded with frenetic sound and graphics that make you yearn for an audio-visual set-up to rival the local multiplex (although a 25" TV, several large speakers and understanding neighbours will do). Have no doubts: T-Zer0 needs to be played big in order to be truly appreciated.

Pause for thought

Don't ignore the intro - take a moment to appreciate the pictures that fade in and out over the atmospheric soundtrack. Marvel at the beautifully presented menu screen sporting a flickery blue flame, the high score tables fading in over a looping fly-over animation of gravestones and the spinning renders of the available craft on the ship selection screen.

This is a game from ClickBOOM, so the quality of presentation doesn't stop at smooth intros and fancy menus. The game itself is equally polished, if not more so. Enemies fly towards you fast enough to keep you thoroughly engrossed while letting you progress far enough on your first attempt to want more the moment you plough your spacecraft into the scenery.

"When your lives are used up, you'll want to keep going..."

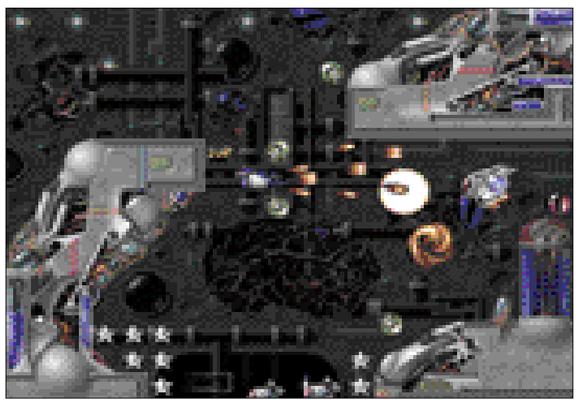
The mark of any discerning shoot-em-up is the need to think about where you're heading rather than assuming that enough hyperactive pummelling of the fire-button will see you out of any tight spots. Controlling your ship can be a delicate operation, and one of the most pleasing aspects of T-Zer0 is that it has you planning ahead - as far as you can - right from the outset. The difficulty curve is just right, confronting you with some particularly tricky sections that you probably won't get past on your first attempt whilst not throwing up any challenges which will make you quit out of sheer frustration.

Game Over

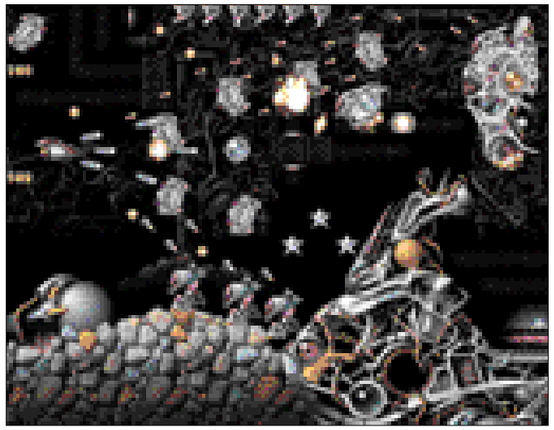
When your lives are used up, you'll want to keep going. The screen continues to scroll enticingly for a few moments before returning you to the menu. It's a shame that ClickBOOM omitted a "continue?" option at this stage, although it does give you time to curse your faulty joystick.

T-Zer0 complements the single player game with a co-operative two-player mode. You can't shoot each other but you'll be easily confused if your ships are a similar colour, so make sure they contrast nicely before you begin - there are ten colours available on the ship selection screen.

The save-game feature in T-Zer0, alas, couldn't have been more obtuse. To start a new game, you highlight the "Start at" option along with one of the ten numbered save slots, (e.g. "start at 5") and hit fire. When you die, you can select "continue 5" and carry on from the section you reached on your last attempt. Although T-Zer0 remembers what sort of game each slot holds, this information isn't passed on to you. A small window showing the type of game, the level you were on etc. for each save slot would have allowed you to select the correct game without having to choose one at random and hope for the best.



Above: Throw all your firepower at the bonus-providers - and don't miss the extra life.



Above: Some ships... and some more ships! Good job you're loaded up with weapons.

ClickBOOM ContraDICTION?

That apart, there's little to find fault with in T-Zer0. The gameplay's addictive, there's little or no slowdown with all features like transparency (for explosions) and background animations set to maximum - even when the screen's cluttered with a bewildering array of sprites. It looks, plays and sounds great. It's just a shame there are a couple of oversights, like the unfathomable save game feature and the fact that your "Nuclear Blast" special weapon needs to be activated via the keyboard - not an easy manoeuvre when you're juggling a joystick. Why no second button support for joypad owners?

A minimum configuration of an '030 and 8MB of fast RAM is required to play T-Zer0. ClickBOOM recommend an '060, but it's hard to find fault with it on an '040, and everything bar the CD audio tracks can be installed to hard disk if you have 255MB to spare (yes, other options are available - a minimum installation is just 30kB). It's a fast, frenetic and sizeable game by Amiga standards, with just the right learning curve to ensure a certain amount of longevity - and when you've finished the game you can even design your own levels with the supplied editor.

However, whilst ClickBOOM may have fashioned another mighty golden statue for their Amiga courtyard, many would accuse them of achieving little more than pinning us to old technology. Had this game been programmed for graphics cards, it would save the hassle of dusting down the old 15kHz monitor or hooking up the TV to the Amiga again.

So why wasn't it? Put simply, because it wasn't necessary. It's because of AGA rather than in spite of it that ClickBOOM have been able to produce something this good that runs on such a low-spec Amiga. Chances are you'll have the required horsepower to get the most out of T-Zer0 if you own a graphics card, so do yourselves a favour and give it the day off while you play a little of ClickBOOM's latest epic. On second thoughts, scratch that. Make it a week.

David Stroud A

T-ZERO 9/10

SYSTEM: 68030, AGA, 8MB RAM, CD-ROM.

SUMMARY: Another jewel in the ClickBOOM crown: highly polished, but with a few minor flaws.

NAME: SUPERFROG
SUPPLIER: EPIC MARKETING
TELEPHONE: +44 (0)1793 514188
COST: £15
WEBSITE: http://www.epicmarketing.ltd.net

Superfrog

So it only took five years. Who's counting?

Worms: The Directors Cut was the last game Team17 developed for the Amiga, but it wasn't their last Amiga release. Now, Islona has published the AGA-only cutefest Superfrog.

You'll party like it's 1994 with our hero, an Eric Schwartz-penned creature who, never mind the plot, must complete five levels of jumping, running action. Collect enough coins on a level while jumping over, squashing, and throwing a little sidekick projectile at the baddies, and you may proceed. There are obvious parallels to the platformer of your choice - the big hill that appears early on in the game begs comparison to Sonic, while the bright colors and product placement invokes shades of Zool.

Platform games designers seem strangely keen on gratuitous and annoying powerup systems. To my surprise, I didn't mind Superfrog's at all. I did mind the gratuitous and annoying fruit machine game played between levels, however. Of all the computer simulations that have failed to excite over the years, fruit machines are high up on the list. It seemed an unnecessary way to earn extra points and level codes. "Tacked-on as filler" quotient: high.

Control is a little easier with a CD32 joypad, as you get a choice of jump buttons rather than relying on the joystick alone, which true platform gamers usually abhor. Other than that, there are no real system requirements.

The game can be run comfortably on a stock CD32 or an A1200. The gameplay is extremely polished and smooth - obviously, the game had cleared the playtesting phase before it was shelved. So, this cryogenically preserved project of a half-decade ago is actually one of the better games released in 1999 - take that as you will. A

NAME: EAT THE WHISTLE
SUPPLIER: EPIC MARKETING
TELEPHONE: +44 (0)1793 514188
COST: £10
WEBSITE: http://www.epicmarketing.ltd.net

Eat the Whistle

Another challenger to the Sensi Soccer throne.

With PPC, AHI, and full graphics card support, Eat the Whistle had a chance to become the modern answer to the now slightly-moulding Sensible Soccer. From a promising demo which appeared over a year ago, it could easily have grown into a great little footy game.

Unfortunately, ETW has grown up into a very unremarkable little footy game instead. The heart of any computer soccer game lies in being able to quickly take control of the correct player. Due to what I can only describe as a brain-dead player selection method, I spent most of my time controlling men who were behind the play, unable to make any sort of impact on the game, while the computer's players craftily dodged the AI-controlled defenders and came in for the kill.

There are a lot of rough edges in the design. The option to turn off the crowd noise and turn on the announcer's voice was not always obeyed. Said announcer was dispassionate at best, and sampled at an embarrassingly low rate (and / or with an equally bad microphone.) Also, while you can play on the Workbench, it's not obvious how. You enter the screenmode requester, but the Workbench screen isn't listed. Hmm. Once I got it working, however, the Workbench mode was clever. Scaling the window worked better than I expected, although the game usually had the wrong scaling settings when it first opened the window. Alas, I fear nothing will save ETW, which clearly needed to eat something a little more nutritious during its developmental years. Sorry, ref. A

NAME: WASTED DREAMS
DEVELOPER: DIGITAL DREAMS ENTERTAINMENT
SUPPLIER: WEIRD SCIENCE
TELEPHONE: +44 (0)116 246 3800
COST: £29.99
WEBSITE: http://www.dd-ent.com

Sleepless Nights and Wasted Dreams

ACTIVE GOLD AA

Digital Dreams Entertainment's new think 'em up dips an experimental toe into the waters of good old-fashioned gameplay.

The atmosphere of Another World, the plot of Flashback (or OnEscapee), the tactics of Cannon Fodder, the appearance of Chaos Engine and the dialogue of a cheaply translated Japanese space opera. Yep, I think that about covers it. Can I go now? No? Oh well, it was worth a try...

Wasted Dreams is the first game from Digital Dreams Entertainment, a Croatian video effects company that has recently taken a step into games design. Their first game is an intriguing indication of the abilities of this development house. It is quite obvious that there has been serious thought and talent put into the development of this title, which begs the question: why couldn't they devise a more original start to the game which didn't involve your character climbing from the wreckage of a crashed spaceship?

Deja Vu?

Wasted Dreams is an entry into the much-loved genre of spooky Euro Sci-Fi action adventure thingy. It is a one or two player, top down, forced perspective title along the lines of The Chaos Engine, with rotoscoped character animation reminiscent of Flashback. There are plenty of 'find object, carry object, use object with other object' puzzles common to every true adventure, and a combat system which, while joystick driven, brings to mind Cannon Fodder.

This roll-call of influences may sound like a criticism of unoriginality, but it's only fair to say that by mixing all those familiar elements, DDE have achieved a game that is not only comfortable but also familiar to play, while retaining sufficient freshness to appear brand new.

You play the sole survivor of a spaceship crash. You were returning home from a new colony to tell the people of crime-ridden, overpopulated Earth that the new world is ready for them. As you are leaving orbit, your ship is mysteriously destroyed and you only survive by fleeing to a lifepod.

Your return to the planet Agillera is not a happy one. Shot at by aliens whose existence on the planet you had not known of previously and then shot

at by members of your own race, you discover that you have stumbled into a dark conspiracy. At first it doesn't seem to make a lot of sense, but as the game progresses, more and more pieces of the puzzle slot neatly into place. Slowly, you realise that not only are you fighting to escape and save your own life, but the fate of an entire race may hang on you escaping from Agillera, returning to Earth and alerting the authorities to what is happening.

Brains and Brawn

While Wasted Dreams clearly borrows from many other games, it's noteworthy that the titles mentioned are all classics. Wasted Dreams is clearly meant to be a bit of a classic too. Of course, it isn't just the appearance of a game that makes it a classic, the melding of gameplay elements is of utmost importance as well. Happily, Wasted Dreams lives up to its illustrious predecessors in this respect too. Combat is very tactical, being heavily biased towards stealth, shelter and divide-and-conquer tactics. The puzzles require thought and experimentation without ever becoming frustratingly illogical. Even the two mazes (so often dismissed as a lazy challenge from an adventure game designer) involve quick reactions and carefully planning rather than just being simple exercises in patient mapping.

Combat is straightforward but challenging, and requires careful thought as well as quick reflexes. An automatic aiming system gives you the freedom of positioning to allow you to either run in guns blazing or wait in hiding to perpetrate a cunning ambush. It's your call, although without stealth and subtlety your life span is going to be a little short.

The adventure elements are focussed on a plot which drives forwards very nicely, and allows a reasonable amount of flexibility in the path you take; however, it is inevitable when you tie a game so closely to a plot line that there are going to be limits to that flexibility. You can change path here and there depending on whom you talk to and whom you shoot, but the route to victory is fundamentally linear. This is true of any action / adventure game, but it is a bit more noticeable in Wasted Dreams than it would be in a longer game with more varied environments.

Production polish

It is sadly rare these days for Amiga games to feel thoroughly professional, but Digital Dreams Entertainment prove here that they can provide am impressive polish on at least most fronts. The video clips are good, the backgrounds skilfully drawn, the sounds simple but effective. The dialogue isn't quite up to standard - acceptable but not great - and I can't help but be amused watching an alien fall into a "comma." The voice acting is the worst offender here - it's abundantly clear that the voice artists are not professional actors and in some cases sound very unnatural or downright hammy. They're fun at first, but it's good the game gives you the option of switching them off.

Wasted Dreams has the mark of carefully playtested gameplay. Icons are admirably clear, the combat system works well, puzzles are sensible and logical, and the balance between difficulty and frustration is well managed (although I wasn't convinced the second maze was a good idea). There are flaws, such as enemies in plain sight of your character being obscured from your view by a wall. There might have been a better solution to the control system that meant you didn't put your gun away mid-fight if you decided to move at the same time, but overall, DDE have done a great job.

Perhaps the best way to play Wasted Dreams is with a friend. The game scales the challenges up nicely, and if anything it's rather more difficult with two players than with one. Thankfully, you can select to play in co-operative mode so that you can't accidentally shoot your partner - probably for the best when you're starting out. The only tricks DDE have missed here is that the dialogue doesn't change - your player can sound awfully self centred describing himself as the only survivor when his partner is standing right next to him - and the fighting lock during speech only applies to one player.

While you converse, you cannot help your buddy out if he is attacked, and this encourages you to get through the text as quickly as possible so you can join the fight, a recipe for missing an important clue.

The biggest issue I have with the presentation is that, skilful as they are, the graphics look dated. They are gorgeously drawn and the range of animation is impressive, but the low-resolution images are strongly reminiscent of the Bitmap Brothers' mid 90's work. Had this game come out back then it would have been an instant classic, but it's hard not to look at the similarly themed PC game "Outcast" with a little jealousy. Having said that, if you're prepared to look past the dated appearance, you will be rewarded; Wasted Dreams is a brilliantly executed and absorbing game.

Andrew Korn A

Left: Bye bye, far Agillera, hello tasty FMV end sequence!
Above: *sigh*... Another terminal that doesn't work.
Far left: Hurrah! Looks like I've won!

In The Beginning...

1 No time to sit around mourning your misfortune, check the ship and see if there is anything worth salvaging.

2 Hey, what's this mysterious alien doing? Oh, he's shooting at me. Hey, hang on! This planet was supposed to be uninhabited!

3 Three aggressive aliens later - ooh, who's this guy? He looks injured. Lucky I picked up the medical kit from the crashed ship.

4 There, that's better. He's recovering nicely. Time to pump him for information, I want to know what's going on!

5 Hmph! Oh well, he did give me a laser cutter and some info before he left. Now, where's this cave he was on about...?

Save Games: The Dilemma

Students of gameplay theory have long struggled with the savegame problem in action / adventure games. To achieve a reasonable challenge in an action game it is a good idea to space out save points, or the risk is devalued.
The puzzle aspect conversely begs for save on demand - there is no gameplay advantage in making the player repeat a puzzle they know how to solve. Wasted Dreams avoids the frustration of the latter problem with a save on demand feature, but this does lessen the gravity of the action scenes.
An interesting case study of this problem is the Tomb Raider trilogy. Part one offered save points, which many found frustrating. Part two adopted save on demand and ended up too easy. The third game tried in vain to find a balance of the two, with a limited number of collectable save on demand crystals, but that meant success could be seriously affected by the gameplay mechanics - never a good sign. A system that allows you to save your position more often during puzzle sections than action sections would be ideal, but it's a solution that would require careful planning to be done correctly.

WASTED DREAMS 8/10

SYSTEM: 2MB CHIP, 2MB FAST RAM, CD-ROM.

SUMMARY: Would have been a world-beater five years ago.... a modern classic today.

An insight into ISDN

Once just a high-priced option for businesses and total 'net-heads, the introduction of Home Highway by British Telecom last year has opened up the world of ISDN to almost everyone.

The telephone network was originally designed for voice communications, an analogue system. To use a digital device such as a computer, you need to convert the outgoing digital signal to analogue (sounds) and the incoming sounds back to digital. A modem has to do this, but it also has to negotiate and monitor a connection, which often involves reducing speed to deal with line noise. Nowadays, most of the telephone system is digital; when the analogue data from your modem reaches the exchange it is converted back to digital, using a process similar to sound sampling. All this messing around with analogue to digital conversion, rate negotiation and error correction is for the sake of a couple of miles between you and the exchange. ISDN takes things to their logical conclusion by making this last part of the link digital too.

Normal audio phone calls are sampled at 8kHz, using 8 bit samples, giving a digital data rate of 64,000 bits per second. This is the speed that ISDN uses. 64kb/s may not sound much of an improvement over the 56kb/s offered by a V90 modem but there are several factors to consider. 56kb/s is the theoretical maximum speed of V90. Most people achieve connect speeds between 4kb/s and 5kb/s, depending on the quality of the phone line. This speed will often drop during a call, as the modems "retrain" to account for varying line quality. There is no analogue line noise to affect a digital ISDN connection, so a correctly set up system will connect at the full 64000 bps every time, and hold that speed for the duration of the call.

What Do You Need?

You need three things to connect your Amiga to the Internet with ISDN: an ISDN telephone line, a terminal adapter and a fast serial port. BT have halved the cost of upgrading an existing phone line to ISDN to £58.75 for home users. This gives you two phone lines that can be used for any combination of digital and analogue calls. You can access the Internet while talking on the phone, two people can make calls at the same time, or you can use both lines for Internet access at the same time for a 128K connection. The current rental charge is £40 per month, including £15 of calls. The true cost is therefore £25 per month, a little more than two normal phone lines. Call charges are the same and the same discount packages apply.

A terminal adapter (TA) is the ISDN equivalent of a modem. They used to be quite expensive because they also needed to convert the digital data back to analogue so you could plug a normal phone in the back for voice calls; you were effectively buying a modem as well as a TA. BT Highway has analogue and digital sockets on the wall box, and you keep your original extension sockets too; there's no need for this to be built into the TA, meaning the price is dropping to around the same as modems. The TA appears as a fast modem to your software. The only setting you need to change is the "modem" init string.

The standard Amiga serial port dates back to the days of 2400 modems. It simply can't cope with the demands of V90 modems, let alone an ISDN connection. If you want ISDN, a new serial port is a must. There is one alternative that doesn't need a fast serial port, the ISDN Blaster. This is a Zorro card terminal adapter that bypasses all the serial shenanigans, although the current drivers work poorly with BT Highway.

Before ordering BT Highway, BT will check your line to ensure it is suitable. You need to be within roughly 3.5km of the exchange, depending on the quality of your line. Installation takes around two hours, your existing phone sockets stay and a new box is installed near your computer, connected to the mains using yet another of those transformer plugs. If mains power fails, your first line works as normal, but you lose ISDN.

How Good is ISDN Really?

It all sounds good, but what difference does it make in practice? The first thing you need to get used to is the speed of connection. There is no dialling, no negotiating speeds. The connection is established in a second or so, plus a couple more to log in and get IP address - you can be online within five seconds of clicking the Connect button. It's not only the initial connection that is fast, everything happens more quickly and the whole Internet becomes more responsive. For any sort of interactive use, such as online gaming, this is very useful; it can be the difference between life and death in Quake. Web browsing is also much smoother and more responsive. Everything becomes more enjoyable when you get a faster response to each action - it's like adding an accelerator.

Downloads are noticeably faster, (see table). The 56K figures were obtained using a Pace 56 Voice modem on a cable phone line to an ISP on the same telephone exchange, so represent about as fast as it gets with analogue technology. 56K modems may download faster than their predecessors, but they cannot upload at more than 33.6K and most only achieve an upstream connect of 31.2K or 28.8K. If you regularly upload files, such as maintaining a web site, or even uploading mails, you'll find ISDN more than twice as fast as a 56K modem.

If you want the ultimate speed, you can use both ISDN lines at the same time to give a 128K connection. This sends and receives at twice the speed, but is charged as two phone calls. Most of the time it may not be worthwhile, but it's a very useful option when you have a lot of information to transfer urgently.

There are few disadvantages to ISDN. It is more expensive, although the difference is far smaller now. Most TAs don't have voice/fax features, so you need to keep your modem connected to another serial port if you want to run voice/fax software.

Is It Worth It?

This depends on how much you use the Internet and what you use it for. If you only connect a few times a week for email, it's not worthwhile. IRC won't benefit from the extra speed unless you do a lot of DCC transfers, although the rest of your family may appreciate the second line. Anyone that uses the web or FTP extensively will benefit from the increased download speeds and more responsive nature of an ISDN connection, no more drumming your fingers while waiting for a page to load or FTP directory to list. ISDN used to be the province of the total net addict; now BT Highway has made it a feasible proposition for many serious Internet users.

Neil Bothwick A

Above: The BTHighway ISDN box

Above: BT's statement on ADSL; there's nothing concrete enough to make a decision

Broadband technologies

This term covers many of the forthcoming Internet connection methods. These are high bandwidth connections, usually permanent. The ones that get the most publicity are ADSL (Asymmetric Digital Subscriber Line) and cable modems. ADSL is currently being trialed by BT and planned for large-scale availability next year. Cable & Wireless and NTL plan to launch cable modems towards the end of this year.

While these would appear to provide significant advantages over ISDN in terms of speed and permanent connectivity, none of them are actually available. If you want higher performance now, ISDN is the only option for most.

Broadband is an interesting topic, particularly for the Amiga MCC with its usage of networking, and we will keep a close eye on developments in this field and bring you the news as it happens.

MagicXpress TA

The MagicXpress terminal adapter (which is available from Active Technologies for £89.95 - 'phone them on +44 (0)1325 460166) looks almost identical to its analogue brother. The different line socket on the rear and extra LEDs on the front of the device are the only outward differences.

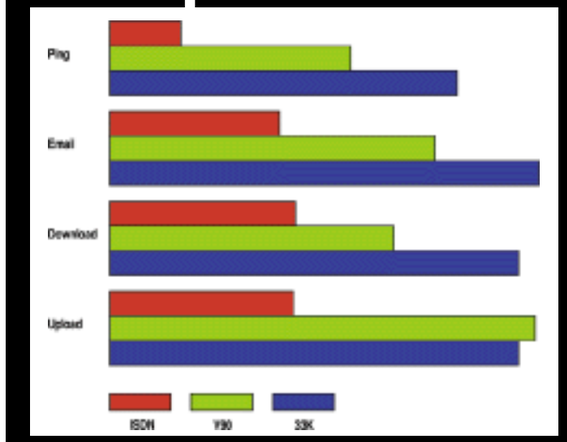
Installation is only a matter of plugging in the various leads, switching on the device and changing the initialization strings in Miami and/or Genesis.

The init string is more important for a TA since there are several ISDN data protocols and the default setting is, more often than not, for direct communication rather than for Internet use.

There was no option for this TA in either Genesis Wizard or MiamiInit but the string suggested by Active worked first time with both TCP stacks.

It's difficult to find a great deal to say about a good terminal adapter because ISDN is so hassle-free. Bad devices have set-up problems, good ones just get on with the job. This particular unit did everything asked of it, transferring hundreds of megabytes without ever complaining. What more could you need?

Comparisons



	ISDN	V90	33.6K (estimated)
Ping	35ms	118ms	170ms
Email	83s	159s	210s
Download	91s	139s	200s
Upload	98s	208s	200s

Email: Connect to ISP, download 135 emails (360KB) and disconnect.
Ping: Average of 10 pings to a local server. **Download:** Get a 675KB file from uk.aminet.net. **Upload:** Send the same file to local web space.

Total cost of upgrading to ISDN		Analogue equivalent	
Home Highway installation	£58.75	Second phone line	£49.50
Terminal adapter	£89.95	K56/V90 modem	£69.95
Serial port	£39.95	Serial port	£39.95
Total	£188.65		£159.40

Whilst the cost of setting up Home Highway isn't cheap, if you need to add similar facilities to an analogue set-up the difference is now minimal.

Contents

Interactive

Send your letters to: Interactive, Amiga Active Magazine, 3-11 Spring Road, Bournemouth BH1 4PZ.
Or alternatively, e-mail interactive@amigactive.com

Dear Reader,

Welcome to the letters page of *Amiga Active* magazine. This is where you will normally see reader's letters and our answers to them, but seeing as this is the first ever issue, we've decided to write a letter to you instead.

We've put a lot of work into creating a formula for ***Amiga Active*** that we think is fun, informative and educational. We believe that you are a passionate and active readership, and it is our intention to match that in the magazine. Amiga users are doers; we have stuck with our computers because we aren't the kind of computer users who sit back dumbly and accept what's doled out - mouse potatoes, if you like. This is why ***Amiga Active*** is about doing things with your Amiga - we take the "active" part of our name seriously.

We believe that you, our readers, don't want to be told what to do and what to buy. That doesn't mean that we aren't interested in bringing you reviews of all the latest products - it does mean that we want to do more than just voice our opinions. Reviews in ***Amiga Active*** will try to give you a sense of the product being reviewed. We will show you what a program is like to use through demonstrations and mini tutorials, we will demonstrate how hardware is fitted, we will show you what a game is like to play. We will, of course, tell you what we think of them too.

Reviews in ***Amiga Active*** will also emphasise context. This means that you can expect to see themed review / features, like the one on Iomega drives in this issue, and round-ups which cover a group of products, such as scan doublers, monitors or printers. When there are a couple of products in the same class, you will often see a "Back 2 Back" comparison, where we try to help inform your purchasing decision by showing you the unique points of each.

Amiga Active also has a policy about who does a review. Each reviewer is matched to the review; they must really understand the type of product, and be a long-term user of similar products. We also pick a reviewer who is likely to appreciate the good points of the product we are reviewing - there's no point asking someone who isn't keen on flight sims to review a flight sim. You are only likely to buy a product we recommend if it's the kind of thing you are interested in, so we want you to read an informed review from a like-minded reviewer.

Our scoring system is simple - everything is marked out of ten. The score is, after all, only an indicator of what is said in the review. Given differences in taste, expectation, Amiga set-ups and local currents in the space-time continuum, trying to fine tune a score beyond this point isn't terribly useful - and we don't want to get in any arguments about a couple of percentage points!

On the scale of one to ten, ten represents a superb product everyone should have, while a 1 represents something so bad you'd not just regret buying it, you'd regret being given it. An average product scores a 5 or 6, while anything that scores an 8 or above is strongly recommended. To achieve a 9, it would have to be good enough to demand a fairly universal appeal, while at 10 it would have to do everything you would ask of it faultlessly. We've been lucky to be blessed with a lot of good things to review this issue from the post World of Amiga rush, so don't expect so many high scores every month.

We have two awards to complement the scores, the ***Amiga Active*** Gold award, and the ***Amiga Active*** Editor's Choice award. The former marks out a product that we feel is a really major release; substantial and well executed. It is not directly tied to scores, so that a perfect text viewer might score 10 but isn't substantial enough to get an award, while another product might score a 7 because it is appallingly hard to use, but still gain an award because it is hugely powerful. The Editor's Choice award indicates an absolutely standout product. When a writer feels that a product deserves an Editor's Choice award, the editorial team is consulted, and only if all agree will the award be made. Don't expect to see more than three or four of these awards in a year.

Amiga Active is a heavily feature lead magazine. You'll find plenty of in-depth analysis and investigative journalism, but you can also expect plenty of opinion, interviews and sideways looks at the news behind the headlines. We'll have tutorials dealing with a range of subjects, with a few beginners' guides to go with the advanced techniques, and many mini - features covering one-off topics, such as this month's ISDN feature. We have a flexible and integrated plan for our features too; you'll find that we often blur the borders of feature and review. You'll also find that features appear in one of the sections - a news feature will appear at the front, a games feature will appear in the games section, and so on.

We could go on about the theories and thinking behind ***Amiga Active*** for many more pages, but there's a Gallery taking up the next spread, so we'll have to stop there. The results, after all, are in your hands for you to judge. If you like what you see - or don't like it - then please tell us. We want to produce the best magazine possible, and to do that we need to know what you want. We have total editorial independence and can enact tweaks and improvements to our formula instantly. ***Amiga Active*** will continue to evolve, to improve, and to better suit your needs. Like we said at the beginning, we take the "active" part of our name very seriously.

Yours,
The *Amiga Active* team.

The Team

Just who do we think we are?

A brief introduction to the people behind *Amiga Active*...

Mark Hinton
Position: Publisher.
Profile: Mark is the head of Pinprint Publishing, a publishing house based in Bournemouth, UK. He has been using Amigas for many years and is a specialist in professional print solutions for the Amiga.
Total lie: Mark spent the first 17 years of his life in a Shaolin temple learning martial arts.

Andrew Korn
Position: Editor.
Profile: Andrew was Deputy Editor of CU Amiga Magazine when it closed a year ago, and still hasn't managed to escape the Amiga, with the World of Amiga show and ***Amiga Active*** Magazine taking up much of his time since.
Total lie: Andrew was the world's first test-tube baby.

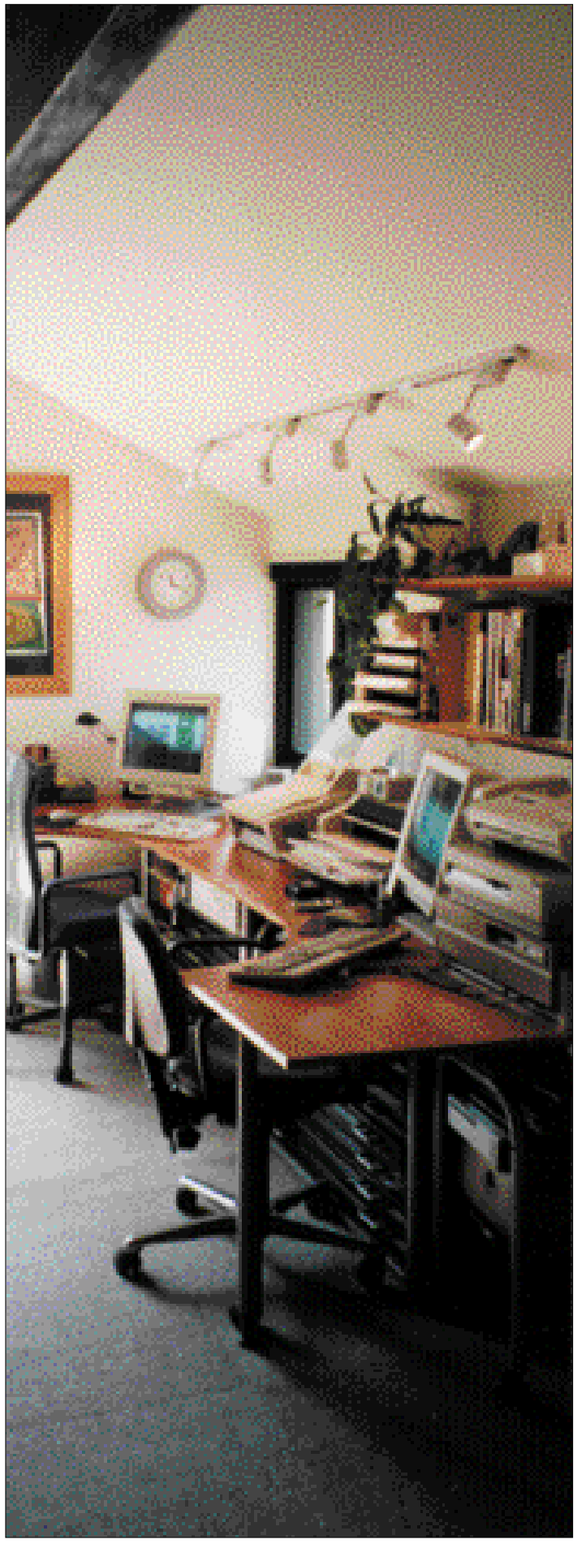
David Stroud
Position: Desk Editor.
Profile: David has recently graduated from a degree in Journalism, and used to work as a freelancer for CU Amiga Magazine. He's the editorial anchorman and main point of contact for ***Amiga Active***.
Total lie: David has designed several bridges for Iranian construction companies.

Neil Bothwick
Position: New Media / CD Editor.
Profile: Neil is the owner of Wirenet, the world's first Amiga-only internet service provider. He has written for CU Amiga Magazine and Amiga Format, was CU Amiga's CD compiler, and is a leading expert on Amiga internet issues.
Total Lie: One of Neil's ancestors built the Bothwick Flyer, the world's second train.

Simon Archer
Position: Technical Consultant
Profile: Simon is a hardcore Amiga tinkerer to whom the words "I picked them up in a job lot" have become ritual. He is best known as the creator of "Suzanne," a portable Amiga based on an A600 motherboard.
Total Lie: Simon inherited 14,000 acres of snowbound Canadian wasteland back in the mid 80's.

Jason Compton
Position: Stateside editor
Profile: The editor of "Amiga Report" (an online Amiga magazine that was, to many, the journal of record for the Commodore bankruptcy era), Jason is writing for a number of computing titles in the UK and US, and working on a book about emulation, his favourite subject.
Total Lie: Jason owns 2/3rds of a racehorse.

and presenting... Chris Green
Position: Author of this month's "In the Dock".
Profile: Chris is the Technical Editor of Computing and editor of "Amiga Insight," the Kickstart User Group magazine.
Total Lie: Chris used to teach origami to Sikhs.



Total Image

In the first of a regular series of profiles on companies and individuals using Amigas in industrial design or the arts, we take a look at Amiga based design house Total Image. If you think you or your company should be featured in these pages, then please contact us: E-mail gallery@amigactive.com.

Design consultants Total Image are involved in two main areas of business; graphic and interior design. They have worked for both large international companies and small businesses. Total Image has been in business for twenty years, and for eleven of those, Amigas have been an integral part of the production team.

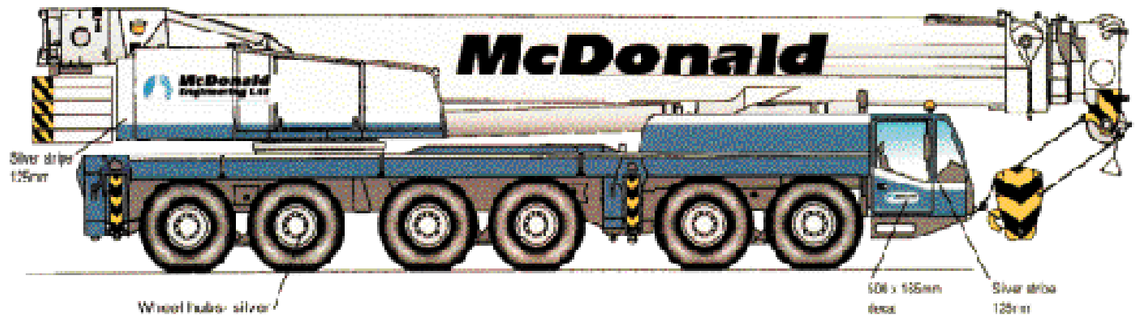
Total Image's Steve Keeling explains why the Amiga plays such an important role in his business:

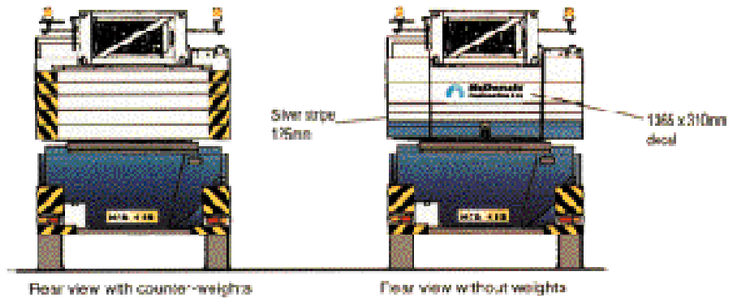
"Our main graphic design work is in the corporate identity sector, although we do everything from advert designs to exhibition stands. When the A500 appeared, I bought my son one for Christmas and started to see the possibility of using them in the business. One company was selling a drafting package called X-CAD. I gave them a call and arranged to visit their offices to see an Amiga 2000 in action. In 1988, a Macintosh CAD system with plotters and graphic tablets etc. was £20,000, while we were able to buy an equivalent X-CAD set-up on the Amiga 2000 for a quarter of the price.

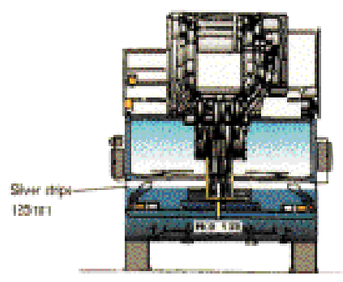
"Initially the change over from drawing board to computer created a steep learning curve, but our clients were very impressed. Most people thought of the Amiga as a games machine, so it was good to be able to show how capable the Amiga was for other things. At the time, we could produce better working drawings than our industry based clients, their AutoCAD systems were just so slow!

"We now have an 060 powered Amiga 4000 with graphics card, loads of ram and fast serial port as our main machine. I have considered a PPC upgrade but the programs I use do not support it (yet). The older '030 machines are fitted with graphics cards and enough ram to do the jobs required of them, such as printing corporate identity manuals on our Epson 1520 printer. If I felt that the business was seriously missing out by using the Amiga I would have to change to another platform but the Amigas still perform well. The latest version of PageStream has brought the Amiga up to date and has the benefit of importing old ProPage documents. It also works well with Art Effect and Personal Paint. PageStream allows us to export Adobe Illustrator files across platforms and PDF files are promised for version 4.

"While we have only upgraded when necessary, many of our competitors invested in state of the art equipment (plus state of the art problems) and have come and gone. Also, because we use the Amiga, our design work has remained individual and thus not so obviously computer generated, which for me is important. The Amigas work every day, are a pleasure to use and part of my life. When something's become that integrated, it must be working well." A







To contact Total Images, call Steve on +44 (0)1539 431143

PGP - Pretty Good Privacy

Writing an e-mail is like ending a postcard: PGP is the Internet equivalent of the sealed envelope.

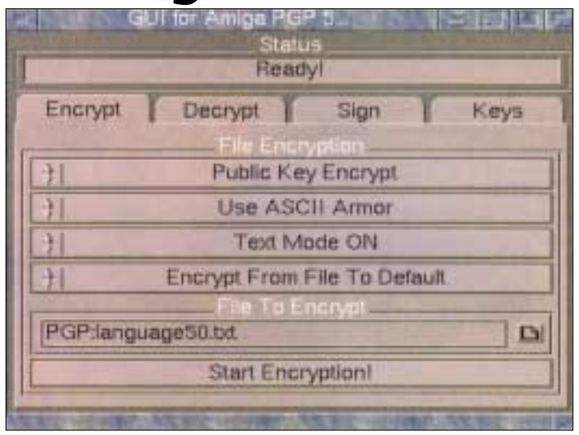
Mention encryption and many people immediately think of spies, criminals, industrial espionage and other shady dealings, but secrecy isn't only for those with something sinister to hide. Encryption is a means of keeping private communications private. You wouldn't want your bank to send your account statement in an unsealed envelope so anyone could read it. Encryption gives similar privacy for e-mail, which is generally less secure than snail mail. If the postman were to open and read one of your letters you would see that the envelope had been opened, but email is completely different - it passes through a number of machines between the sender and recipient, and anyone who reads your e-mail wouldn't leave a single trace of having done so.

You probably wouldn't want to encrypt every mail you send, although there are those who argue that you should, saying that occasional encryption itself signals that the mail has private or valuable content. However, there will be a time when you either need to receive or send secure mail, such as sending a credit card number to register some software.

Public Key Encryption

Encryption has traditionally relied on some sort of key, used by both sender and recipient to translate the message from plain text to something unintelligible. This means the key itself has to be distributed, so you need a secure communication channel to send the key before you can use the key to set up secure communications. The recent Channel 4 documentary on the Enigma code machine, used by Germany in World War II, showed that many of the codes were broken by intercepting the encryption key itself.

All this changed with the concept of public key encryption. This uses two keys - one public and one private - with one used to encode and the other to decode a message. The public key is used to encrypt a message and can be distributed freely. The private key is needed to decode the message and doesn't need to be sent anywhere. This eliminates any chance of the key being intercepted. Furthermore, there is no connection between the two keys that would allow anyone holding the public key to determine the private key. The encrypted message is, to all intents and purposes, totally secure. Even the writer of the message cannot decode it since he only has the public key. This concept revolutionised encryption - there was no longer any need to find secure methods of distributing code keys - instead, a public key could finally be distributed anywhere, by anyone, with absolutely no security risk.



Above: The PGP5 GUI makes using PGP on the Amiga as easy as licking a stamp.

Above: The PGP5 GUI makes using PGP on the Amiga as easy as licking a stamp.

"...arms export laws prohibit its export from the USA."

PGP

The most widely used implementation of public key encryption is the modestly named Pretty Good Privacy (PGP) by Phil Zimmerman. PGP is available for just about any computer platform you care to mention. Zimmerman has become something of a hero among civil rights groups, championing the rights of the individual to keep their personal correspondence private. PGP encryption is "military grade" - something some governments are less than pleased about. Its use is prohibited in some countries, notably France, and arms export laws prohibit its export from the USA. You may hear claims of PGP being broken from time to time, but these are either hoaxes or examples of deliberately encrypting the message with a very low-grade key to make cracking possible. Using the default key size, PGP can be considered unbreakable in any reasonable amount of time.

There are two versions of PGP in common use, 2.6 and 5. The latest Amiga versions are 2.6.3 and 5.1. PGP 5 uses a different method of encryption, although it will also handle 2.6 encrypted messages. However, a key pair generated for versions 5.x will not be usable by 2.6. Since a lot of people are still using 2.6, it would be worth installing a copy of that too - they work fine side by side - so you can also send out keys in the earlier format.

PGP Signatures

PGP has another use: proving that a message is authentic. PGPS adds a signature to the end of a message, and anyone with your public key can use this to verify that the message came from you and has not been altered since it was signed. Any alteration to the message will result in a warning when the recipient verifies it.

Using PGP

The PGP software is on this month's AACD. First copy pgpv, pgpe, pgpk and pgps to C:, Create a PGP directory somewhere and assign PGP: to this in user-startup. Copy pgp.cfg and Language50.txt to PGP: and create a directory called PGP:Keys50. Finally, set up the PGPPATH environment variable with:

```
setenv PGPPATH PGP:
copy ENV:PGPPATH ENVARC:
```

If you have OS 3.1 you can do this in one step with:

```
setenv ENVARC:PGPPATH PGP:
```

That's all you need to use PGP, but life is a lot easier with a GUI, so copy PGP5GUI (along with the various .guide files and its icon) to PGP:.

Before you can receive PGP messages, you need to create a "key pair," your public and private keys. Select the "Misc" tab in the Keys section of PGP5GUI and click on "Generate Key Pair." The default settings are fine for most purposes, so don't be tempted by the highest grade key possible - it will just increase the encryption time. Now press the "Extract key to file" button to create a text file containing your public key, ready for you to mail to people or put on a server, for example.

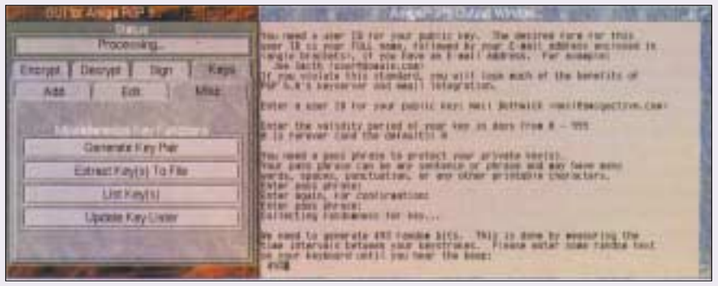
Your private key must be kept safe, so don't lose it! The pass phrase you gave is your last line of defence. Even if someone gets hold of your private key, they won't be able to use it.

To encrypt a message, save it as a text file, select the file using the file requester button near the bottom of the Encrypt page, press "Start Encryption!" and select the recipient's key from the list that appears (for now it will only contain your key).

The file will be encrypted and saved with a .asc or .pgp extension. The ASCII Armour option should usually be used too, as this keeps the encoded data in ASCII form, suitable foe e-mail. Decrypting is simply a matter of selecting the file on the Decrypt page. After giving your pass phrase, the message will be decoded and saved.

Before you can send an encrypted file to anyone, you need their PGP key in your public keyring. PGP can extract a public key via the "Add Keys From File" button in PGP5GUI.

Most mail programs have an option to extract a PGP key from an e-mail. PGP is well suited to e-mail and most programs have some means of encoding and decoding mails using PGP, either through an internal feature or via ARexx scripts.



Above: Generating a PGP 5.0 key.

Above: Encoding with a public key.

News Bytes

There are two kinds of news; things that have happened and product announcements. Unfortunately, the Amiga market is suffering from too many announcements and too few releases.

The latest epidemic of Vapour Fever to hit the Amiga newsgroups and mailings lists was brought about by the announcement of a new "Amiga compatible" computer by Iwin Corporation. Scheduled for release in September, people are falling over themselves in their rush to get hold of this new machine from a company no-one has heard of, announced at an unrealistic price. It's a pity that people aren't as enthusiastic about product announcements from established companies.

There have been some real announcements though. YAM2 is now out of beta and has been released. Pre-release versions of Voyager 3 and IBrowse 2 were available at the World of Amiga show, with updates released since then - IBrowse 2.1 is now available from HiSoft.

EuroCAUCE

Spam legalised in Europe

The European Parliament has voted against a move to make it illegal to send unsolicited commercial email by almost two votes to one. There is already a ruling against unsolicited bulk advertising by fax, but the move to have email treated the same failed. This is note so much an endorsement of spam by the EU as an indication that the people in power don't understand the issues involved.

Anti-piracy campaign

Piracy has long been regarded as one of the main reasons for software failing in the Amiga market. Markus Nerding of Haage & Partner is now trying to organise a combined effort to deal with this. If you would like to contribute to this campaign, follow the link from Haage & Partner's website: http://www.haage-partner.com or get in touch via email: nopiracy@haage-partner.com

Cracking Keys, Grommit!

The Amiga RC5 Team effort has overtaken the Japanese Linux team in the Distributed. Net/RC5-64 challenge and is now ranked fifth overall out of over 7000 teams. All online Amiga users can help by contributing to the team effort, not only with their Amigas. For more information see http://distributed.amiga.org

"PGP allows encryption of a message using multiple keys"

Remember the "Even the writer of the message cannot decode it" bit? Before sending a PGP encoded mail, make sure you keep a plain text copy if you're going to need it. Once you encode a message, only the holder of the private key and pass phrase will be able to read it. If keeping an unencrypted copy of a message isn't acceptable, don't worry: PGP allows encryption of a message using multiple keys, meaning any of the intended recipients can decode it. Just add yourself to the list of recipients to allow you to decode it later with your own private key. Later versions of PGP have an option to do this automatically.

Distributing your key

Once you've created your PGP keys, you need to get your public key to whoever may want to send your encrypted mail. The simplest way of doing this is via private mail - just send it to anyone who asks for it. Setting up an e-mail auto-responder takes the effort out of this; for instance, you can get my key by mailing pgp@wire.net.uk. You could put your key on your website, and some ISPs still provide the facility to upload a .plan file that is sent to anyone via the finger command. To make your PGP key truly public, there are collections of keys on key servers, such as pgpkeys.mit.edu. PGP 5.0+ allows you give an e-mail address instead of a user ID. It will then contact the keyserver to download their keyfile if it isn't already in your keyring.

Neil Bothwick

Passwords

Choosing and changing passwords is an essential part of any secure system. It's surprising how many people choose a password based on their road, house or dog's name, and continue to use the same password for years. If someone gets hold of the password for your ISP account, they could be using it for a long time without you ever realising.
Similarly, if your PGP private key and pass phrase ever fell into the wrong hands, you could have no way knowing that your private mail was being read. The two golden rules of password security are:

Do not choose a password or phrase that is easily guessed. This includes any real word. So called "dictionary searches" are a common method of password cracking. Use a word that is a combination of two unrelated words, preferably with some numbers mixed in. If the system permits it, use mixed case. With PGP, use a phrase - not a single word - and not a common phrase. "Open sesame" is not a clever choice of pass phrase, and neither are words such as "love" or "God."

Change your passwords frequently. You can never be certain that a password has not been compromised, so limit the potential damage by "expiring" old passwords and pass phrases frequently. Click on the "Edit a key" button in PGP5GUI to change your pass phrase. It only takes a few seconds, and you'll be kicking yourself if you forget to do it and the worst happens.

Cool Sites

Amigactive Online

http://www.amigactive.com

Since this is the first issue, we get to plug our own work. Amigactive Online is a lot more than a site about this magazine. Latest news and inside stories will appear here as we get them. Amigactive Online readers will get the best of both worlds, hearing the news as soon as it breaks (or before) and reading in-depth analysis of what it means when the next issue of the magazine is published.

The Register

http://www.theregister.co.uk

The Amiga community has had to live with a general lack of hard news for longer than is healthy, and outside of the community, the Amiga was considered dead. All that changed when it was first announced that the Linux kernel would be a core part of the new OS. The Register is one of the top sites for UK computer news, and it seems that hardly a day goes by now without at least one Amiga-related article being posted here. Some of these are based on statements from Amiga, but many more come from "mainstream" publications, showing just how much interest the Linux announcement generated for the new Amigas.

Czech Amiga News

http://www.realdreams.cz/amiga

There is an abundance of Amiga news sites these days, although they inevitably cover much of the same information. Czech Amiga News is one of the best. It's well laid out and easy to read, with plenty of content. One of its strong points is that it is updated every day, at around the same time. Even if you only go online once a day, you can rely on this site to tell you something you probably didn't know yesterday. The way it uses colour coding to differentiate between different types of news items, software announcements and so forth is excellent. It even uses a different colour for bad news, although thankfully not too often.

Books online

http:// www.amazon.co.uk

Do you want to read up on Linex or Java, or would you prefer something lighter? Whatever your preference, there are times when it is much better to sit own with a book, rather than read from a web page. Thanks to Amazon, you can combine the two and order your book online. Amazone were one of the first bookstores to realise the potential of the web and now have over 1.5 million books available from their website. With its search facilities and good prices, it's an excellent place to start when looking for a book.

South Park

http://www.southpark.co.uk

Are you looking for some new themes to spruce up your Opus Workbench? If you're a South Park fan, pop along to Southpark Online for a wide selection of themes, images, samples and clips from the cult cartoon show. Unfortunately, the themes are in Windows format, but don't worry - you can easily convert them for use with Opus. Be warned, though; you may soon tire of hearing "Oh my God, they've killed Kenny" every time you close a lister.

Questions for 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, then please send them to: Ask the Guru, *Amiga Active* Magazine, Systems House, 3-11 Spring Road, Bournemouth BH1 4PZ or email 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 correspondence due to time constraints. Also note that technical queries cannot be answered over the 'phone, as the Guru spends most of the month meditating.

This Month: Brighten up your Workbench with colourful windows, what to do when your hard drive gives you grief, solving scrolling in Multiview, overclocking a Cyberstorm Mk. II, networking your Amigas to each other and the 'net, investigating Linux in preparation for the next Amiga, and whether or not you can use an iMac scanner on your Amiga...

"NewIcons is an excellent system enhancement, but luckily, it is not the only one."

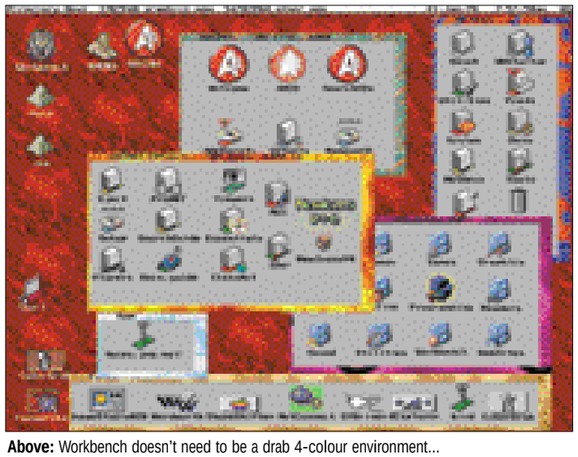
Give me colours!

Dear Guru,

I've suffered with a four-colour Workbench for too long, and have decided to bring my desktop into the nineties before they run out. I've set up a backdrop pattern and I've installed NewIcons to keep me going until OS3.5 is released, and the improvement is amazing! However, I keep seeing screenshots where the windows have colour patterns in the border - how do I get this to work? I've got an A1200 and I plan on getting a G3 card with a graphics card to go with it, but until then I only have AGA so if I want a fast screen I'm limited to 32 colours.

Keith Ridley via EMail.

NewIcons is an excellent system enhancement, but luckily, it is not the only one. The window border patterns are achieved with a program called Birdie. This can be set up to look at a directory full of patterns and use them randomly each time you boot your machine. If you are feeling really adventurous, you could try SysIHack, which changes the way the Gadtools gadgets appear, and has plenty of configuration options.



Above: Workbench doesn't need to be a drab 4-colour environment...

Multi/SingleView

Dear Guru,

I'm having a problem with Multiview. I have version 40.8, and amigaguide docs won't scroll properly, i.e. when I press "down," the page goes down by one line as expected, but when I press "down" again it goes back up to the top! Sometimes, when I'm running "fblit" or "viewin" with some really large amigaguide files, it will work - but otherwise it's virtually unusable. What gives?

Blasio Muscat via EMail.

This often happens if you are using the version of Multiview that came with OS3.1 on a WB3.0 machine. The easiest thing to do is replace your version of Multiview with the one on the original Workbench 3.0 disks. If this doesn't cure it, maybe it's time to update your datatypes with the latest ones - you'll find a collection on this month's cover-CD.

Parting Partition

Dear Guru,

I hope you can help. I recently bought a new hard disk, a 9.Gb Fujitsu, and set it up to use PFS (Professional Filing System). All went well until I tried to rearrange the drive and accidentally formatted my system partition. Normally this wouldn't be a problem, as it was a quick format, but I can't find anything that will allow me to undelete from this PFS partition. I've created another bootable partition on my hard drive so I can get up and running, but all my important stuff was on the one I lost! Please help me!

Steve Stasos - Barnet.

Unfortunately there isn't any software out there yet that will fully recover PFS2 partitions. The commercial version of DiskSalv (v4.0) will only work with the AFS Filing System, and will only return you the top layer of directories. PFS3 should be available by the time you read this, so get in touch with RamJam Consultants on +44 (0)118 946 5940 to order a copy. For more information, check out the review this issue, on page 31.

Amiga Gateway

Dear Guru,

I've got an Amiga 1200 and an Amiga 4000. The 1200 only has extra RAM and the 4000 has an '040 processor, so I mostly use the 4000 these days.

However, the serial port on my 4000 has stopped working, which means I can't get online any more! Is it possible to use the modem with the 1200 to get online, and network the two Amigas with a parallel or serial cable so that I can surf the web and read my email with the 4000?

Robert Dale - Surrey.

An interesting problem, but there's not enough space to cover in depth here. Such a network is possible using Miami Deluxe and a SANA II driver for a Parnet Cable, connecting the machines by their parallel ports. You'll need the "spar.device" from Aminet. Set it up according to the documents included. Miami Deluxe is only available to registered users, so it may not be worth buying unless your network will be online full-time, although that's for you to decide.

There is another alternative however - invest in a Multi-I/O card for the A4000 to give you extra (functional) serial ports. The IOBlix and the Hypercom cards both offer four serial ports as well as extra parallel ports. Check the adverts for Active Technologies or Blittersoft for current pricing and availability.

Tasting Linux

Dear Guru,

With all the talk about Linux being the kernel for the new Amiga OS, I thought I would install it and find out what all the fuss is about. The trouble is I don't really know where to start.

I hear that you need a second hard drive to install Linux on, is this true? Would it be possible for me to install Linux and keep Amiga OS as well so I can chose which one to run when the computer boots? Where can I get a good version of Linux for my Amiga? By the way, I do not have PPC card.

Keith Bartlett - Poddington.

As with any machine that has more than one boot partition, you'll need to keep the two systems apart, but you don't necessarily have to have two hard drives - you'll just need to install Linux onto a separate partition which can then be selected at boot time to choose which operating system the Amiga will boot into.

Schatztruhe currently distribute Linux on CD. Downloading all the files you would need for a Linux install would take ages on all but the fastest Internet connections, and take up hundreds of megabytes of space. Some people get around this by downloading the files they require in batches, but when you total the cost of all that online time, the small price of the Schatztruhe CD can make a lot more sense.

More information on Linux can be found at http://www.linux.org - there's plenty on there to keep you going for a good while - but you'll also be able to find out more by keeping your eyes peeled for the forthcoming feature in *Amiga Active*.

Cyberstorm in a tea-cup

Dear Guru,

I've got a Cyberstorm Mk. II 68060 card and I've been thinking about overclocking it to 64MHz because I can buy a crystal from Maplins.

1. Is a crystal all I need, or are there other modifications I have to make?
2. Will I need a fan to cool the overclocked card, and if so, what type?
3. Is there any risk of damaging my computer or my Cyberstorm card?

Greg Bateman via EMail.

Overclocking will always have its dangers, and as a result it is not something that is generally advised, although it can be a beneficial upgrade if you are prepared to take the chance. I don't foresee any problems with fitting a new crystal unless your A4000 desktop case is crowded. The 68060 chips run fairly cool, but if the chip feels excessively hot, a PC 486 fan can be bought from most computer or electrical component outlets and should be more than adequate for the job.

Bear in mind that modifying your card in any way will invalidate any warranty that may be in force, and you should understand that modifications are made at your own risk. *Amiga Active* cannot be held responsible for any loss or damage that may arise from such changes, so please be careful.

Having said that, if you'd like to give it go, it is pretty unlikely that you'll damage the card. The worst that will probably happen is that it just won't work, so if all else fails, you'll only have to refit the 50Mhz oscillator to get your old board back.

Scanning Solution

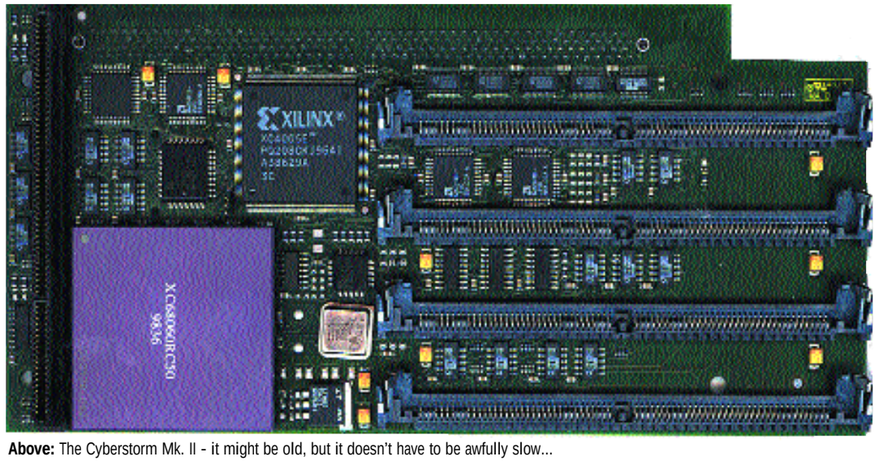
Dear Guru,

I own an Amiga 1200 with a Blizzard 1230 accelerator, 32MB of RAM, 8x CD-ROM, 1.2GB hard drive and a Sportster modem. My brother has an iMac with a scanner which I'd like to make use of with the Amiga as well. Is this possible?

Sue Miller via EMail.

The short answer is "not yet." iMacs depend solely on the relatively new USB (Universal Serial Bus) standard for connectivity, and there are no USB ports on your Amiga. There are, however, a few USB solutions for the Amiga in the pipeline - several of the upcoming G3 cards promise USB connectors which will mean you'll be able to connect a USB scanner. The issue of software drivers for the scanner shouldn't take long to solve either - with the high level of standardisation in USB interfaces, drivers for any popular brand of USB scanner - or any other peripheral - will appear before long.

The Guru A



Above: The Cyberstorm Mk. II - it might be old, but it doesn't have to be awfully slow...

Monthly Meditation

Random crashes have been attributed to various things on the Amiga, but many users experience problems after upgrading hardware, specifically memory, which can be very hard to test. Commercial SIMM (Standard Inline Memory Module) testers can cost hundreds of pounds, but for your benefit, here's a great way to find out if your SIMM's are working fully:

Select a source directory on a hard disk or CD-ROM, and make sure that the size of these files is greater than the total size of your Ram Disk. Next, copy the entire contents of this directory into RAM, leaving it to copy until the "Volume Ram Disk: is full" requester appears.

Now delete all the files you just copied. You should end up with the same amount of memory you started with, give or take a few Kilobytes.

Assuming no errors have occurred, the chances are your memory is working OK. Should you encounter any errors in this process, make a note of the amount of free RAM and restart the test. If the error occurs at the same point, this could indicate that a SIMM requires replacing. Therefore, it is always advisable to purchase memory from an Amiga-aware dealer, as this can simplify the exchange of RAM if anything should go awry.

What do they mean?

- HARDWARE — Our lovely guru will sort out your silicon.
- SOFTWARE — Help with choosing the right software.
- COMMS — Networking and the art of zen explained.
- WORKBENCH — Get the most out of your Workbench.
- CREATIVE — Confused about your creative potential?
- DIY — Save money by doing the job yourself.
- HAND OVER — Say what? You must be bonkers.

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Retroactive

Information Appliance? Convergence Device? Multimedia Computer? Amiga's plans are decade-old news...

Why wait for Amiga to come out with information appliances? Commodore beat them to the punch almost a decade ago! Join us for a moment of solemn reflection as we look back on the CDTV; the first Amiga information appliance.

It wasn't called an "information appliance" back then though. Oh no. That's 1999's term for the next, revolutionary generation of computing. Nor was it a "set-top box" - that's trés 1995. No, the CDTV was a plain old "multimedia computer."

It was to be both extensible and scalable, with a variety of I/O ports allowing new devices to be added without any additional hardware or software support. It caused flutters in the Commodore and Amiga industries, where journalists struggled to explain how Commodore could turn their back on their bread-and-butter, the desktop computer. It would take the 90's by the throat and redefine the way people thought about computers.

Or not. In the end, the CDTV will perhaps be best known for looking cool. Oh, and for finally answering the age-old question, "can Defender of the Crown single-handedly carry a new platform to success?"

"...you needed a hacksaw to install a Newtek Video Toaster."

Multimedia Failure

The CDTV was, in effect, the first unqualified failure of the Amiga era at Commodore. Not that there hadn't been close calls before: The A1000 never really sold very well, and the A3000 was elegant and feature-filled, but so expensive that it was hard to justify. Plus, you needed a hacksaw to install a Newtek Video Toaster.

The CDTV failed to meet its goals, despite garnering tremendous interest from the industry - a list of CDTV licensed developers fills several pages of very small type and reads like a who's who of high-tech corporations. Commodore did their job of pre-production hype, and it looked like an embedded consumer appliance Amiga could be a real success.

The problem Commodore never really managed to address, however, was that no-one wanted one. Unlike its contemporary, the Philips CD-I, it died a quick death rather than being released and re-released in a series of increasingly inane infomercials on late-night American TV. When it came down to it, the CDTV looked like a super-slick, super-expensive hi-fi CD component.

The only afterlife for the CDTV was the A570, Commodore's single-speed CD sidecar for the A500 that could in effect turn a 500 into a CDTV - they shared the same heritage to begin with. However, few jumped on the chance to give up their sidecar slot for an expensive single-speed CD in the days before the Amiga CD-ROM explosion of 1994-1995 - we were demanding a far superior performance by then.

It seemed that the CDTV was doomed to failure. It was the first product of its type to market, beating Philips' CD-I despite the latter having a considerable head-start in Holland. We've all been subjected to the anecdote about how you can identify a pioneer - he's the one with the arrows sticking out of his back.

Then there's the tale from Commodore legend of the CDTV sales promotion that never was. The story goes that Commodore would give away a CDTV for free with purchases of an Amiga 3000, and include a network cable and software to link the two together. Genius! Commodore's high-end multimedia authoring station paired with a sample of their multimedia delivery system! It's going to work! It's going to turn the tide!

But someone wrote down the specs for a ParNet cable incorrectly, and Commodore received a big batch of worthless cables. The promotion was scrapped, and the CDTV became a big black shiny footnote.

Be Elite!

Remember the days of the 200+ page Amiga magazine? Unthinkable today, and even in the Amiga's heyday they were imported novelties in the States.

I would buy one when I could afford it. One of the first I bought, back in 1993, gave what would go down in history as their highest-ever rating to a little game called Frontier, the sequel to the much revered Elite.

Much to the embarrassment of those responsible for that scorebox, Frontier was generally accepted as an interesting experiment in first-person astronomy, and a dead cert winner of the 1993 "Worst Space Combat Engine" award.

If you just can't get enough of Elite and Frontier, and want to read about the fun everyone else is having with Frontier: First Encounters (which never materialised on the Amiga), look at: http://www.sslmit.unibo.it/zat/frontier.htm. Don't worry, non PC owners - when we get a PowerPC IBM emulator (or an AmigaNG with similar trappings), you'll get your chance to play First Encounters.

If you're wondering which of the Elite authors was cooler, point your browser at http://www.cix.co.uk/~ibell/elite, where Ian Bell's released many versions of Elite as freeware. David Braben, on the other hand, wrote Frontier.

As for that dubious magazine, well, some of us got together later and decided to try to save it from itself. I think we did a pretty good job, even if we never did find a game "better" than Frontier. I think we're going to keep on doing a good job over here.

Jason Compton

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