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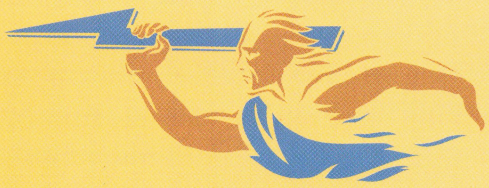
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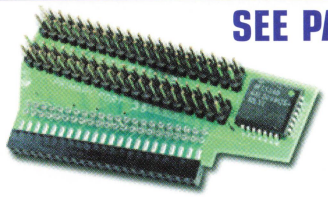
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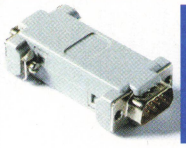
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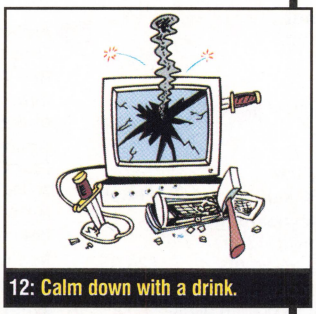
56 Interactive
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12: Calm down with a drink.



56: Perhaps a cup of coffee.



60: Followed by a burger.

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Does the latest version of Audiolabs' professional audio package sound as good as it, um, sounds?

28 NextGen Watch
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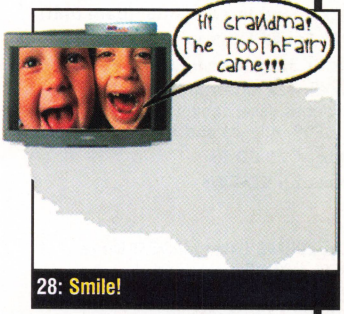
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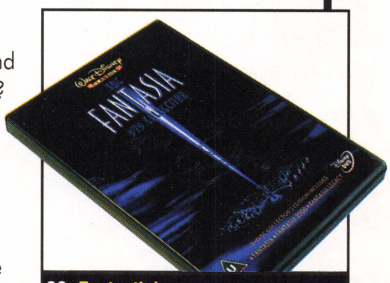
54 Exodus
How does this Polish take on the age-old real-time strategy genre fare in the modern age? Why are we asking so many questions? Is it just to fill space? (No!)



28: Smile!



30: Say 'cheese'!



36: Fantastic!





Features

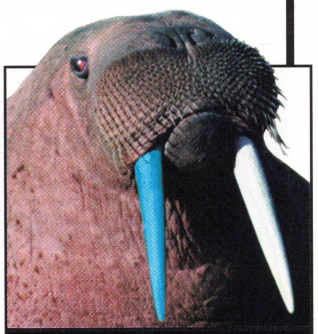
15 Cordon Bleu!
What's this Bluetooth thing all about? Where are all the snazzy, wonderful, wireless devices we keep being told are about to make our lives so much more enjoyable?

20 Internet - RIP?
The Internet - perhaps the ultimate 'boom and bust' economy. First, companies' values sky-rocketed with the mere launching of a web site. Next, free ISPs start to tumble. Is the dream over?

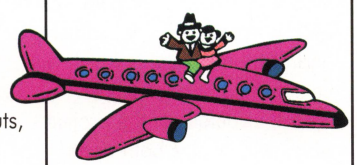
38 Drawstudio
In the second part of our Masterclass, we discover how to create entire layouts, the organised way.

42 Linux
Last month, there was a problem with our coverdisc. This month, we rectify the situation and continue to explain the installation of Linux on an Amiga.

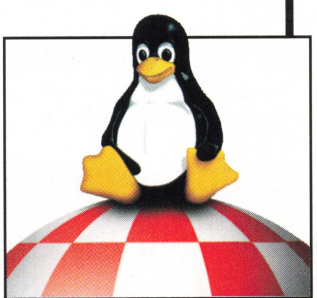
46 Active ARexx
A new series of tutorials show you how to get the most from ARexx, starting with a look at how you can improve Workbench's functionality with a few simple scripts.



15: "I use rope for flossing"



38: "We do all our own stunts"



42: Tux, meanwhile, has a double.



AACD 18

Boing Bag 2
Still using OS 3.5? If you're not ready to upgrade to 3.9 yet, look in AACD/System for the latest update for your Amiga.

Commercial Software
This month we have an exclusive demo of Payback, in advance of the release of the full game. Updates for Simon the Sorcerer II and AmigaWriter are in AACD/Commercial.

Sound
In addition to the quality mods you've come to expect from our coverdiscs, we have two new mod players, plus some more skins for AMPlifier and AmigaAMP.

Magazine Articles
See AACD/Magazine for anything related to articles in Amiga Active. This month, we've included a demo of ProStationAudio, reviewed on page 24; all the files for the Online tutorial on page 62; and the programs reviewed in Active Shareware on page 34.

Information
Are you looking for used Amiga gear? Online Amiga users can buy and sell through AmiBench. We have a special offline version in AACD/Information/AmiBench.

Resources
This drawer is on every AACD and contains a range of essential programs. If you get stuck, or you need to start again after a hard drive problem, this is the place to look.

As always, this is only scratching the surface. Double-click the Welcome icon and have a good browse around the CD for yourself. Our easy-to-use Search program will help if you're looking for something in particular.

Finally, don't forget that if you have any problems with the CD, you can let us know by e-mailing as many details as you can to aacd@amigactive.com. If you don't have access to e-mail, use the postal address on p64.



ACTIVE News

Amiga Active brings you the latest news from the Amiga industry. news@amigactive.com

Amiga Seek Developers

Market Estimate: 7 million?

AmigaDE content running on millions of palmtops by the end of the year?

Amiga Inc. are inviting developers of Amiga applications and games to contact them in connection with an unnamed company who will be using the AmigaDE content delivery platform for their PDA (Personal Digital Assistant) products.

Specific requirements have yet to be revealed, but they will be looking for games, applications and other forms of digital content that suit the handheld mobile computing formula - as well as aspects of style, content, and distribution rights which will be specified at a later date.

Further details of the project - which will involve both open source and commercial games and applications for the specific hardware supplier - will be closely controlled under an NDA (Non Disclosure Agreement) from Amiga, and will be discussed on a closed mailing list operated by Amiga for participating developers.

Amiga, which should see next generation Amiga content being a leading provision in the PDA market. It should also provide Amiga with the funding and market penetration to enable them to push the next generation Amiga product line into the Operating Systems mainstream, and provide them with the muscle to promote the AmigaDE as a universal software platform.

The only fact revealed at time of going to press is that the company concerned is one of the world's largest manufacturers of PDA hardware. According to the AmigaDev.net web site, *"The projection is for more than 7 million units to be sold by the end of 2001 and there are already several million units on the market at this time."*

Unless the figures or timescales are wrong, this is extraordinary news. Even if there's a missing decimal point in there, this first next generation Amiga platform should outsell the A1200.



"...the company concerned is one of the world's largest manufacturers of PDA hardware..."

Interested parties should contact Amiga's product manager Matt Fontenot on matt@amiga.com, or go to Amiga's developer web site at www.amigadev.net for more information.

A landmark deal

While the nature of the deal that Amiga have struck with this manufacturer and the identity of the manufacturer themselves have yet to be revealed, the information currently available hints at a landmark deal for the



Editorial



Hello again, girlfriend

So, it looks as though Amiga is finally stepping up a gear - and about to get personal. Personal Digital Assistants, however, have never been a favourite computing device of mine - mainly because, once I'm away from my desk, I see no need to start tapping away at a tiny monochrome screen with a stylus, inputting notes at three words per minute. What's the point?

Sure, it's neat - but when you're a guy who's grown up with computers, so's anything with a microchip in it, let's be honest. Show me an intelligent toaster that knows exactly how long to warm my bread, and I'll show you a man wandering happily around the kitchen, eating five rounds of toast every morning. Women, on the other hand? They'd probably shy away from being given even the dumbest food-related appliance, on the pretence that *"you can't expect me to spend all my time in the kitchen."* But I digress.

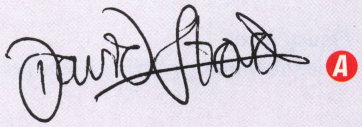
No, the thing about computers - or should that be 'computing devices' or, better, 'consumer electronics' - is this: you either understand them or you don't. A long-standing example is, of course, the humble VCR. You have to plug them in, set them up and program them, the same as you have to do with a computer - it's just the user interface and the intended function that differs. Ergo, if you understand computers, you can work out how to operate a VCR without too much fuss.

But the computer, like the electric motor before it, is about to disappear. Until recently, all we've had is the in-your-face, *"this is a computer! Marvel at its power, its ability to negotiate this tricky little maze, and the fact that a thousand of its processors would fit on the head of a pin!"* approach - which works, but only for men who learnt the difference between RAM and ROM long before they ever thought about politics. With the PDA, on the other hand, we're experiencing a different approach; one that hides the fact there's a computer inside that wallet-sized lump of plastic.

This is a good thing, because those who understand computers will already know - and therefore don't need to be told - that a PDA is one. But those who don't know - the very people who need to be buying these devices if they're going to be successful - don't care how much RAM is inside it. They just want to know if it will let them write notes and use this thing called e-mail that they've heard about. If it will, you've sold them a computer. What they've bought, however, is a Personal Digital Assistant. The word *"computer"* - like *"motor,"* which is now used solely by men who think *"car"* sounds too girly - will all but disappear. The PC acronym will be frowned upon. People will need another word to describe computing devices.

"Amiga" has a certain ring to it, don't you think?

David Stroud, Editor.



The quoted figures are highly significant; 7 million sales is an extremely high projection, and the suggestion that there are already several million units on the market certainly limits the possibilities. The PDA market, as it currently stands, is dominated by Palm and derivatives running PalmOS. Palm's two main competitors are the Symbian Consortium's EPOC platform - currently used by Psion for their PDAs and several mobile phone manufacturers whose future plans involve integrating PDA functionality into mobile phone handsets - and Microsoft's WindowsCE.

Small PDAs, big market

To give some idea of the scale of the projected market, it is worth noting that 7 million sales in a year is greater than any single manufacturer has ever achieved. Market leaders Palm sold under 5m units last year in a market of about 9m, while newcomers Handspring, a PalmOS licensee, notched up a little over one million sales. The leading WinCE or PocketPC (the palmtop-flavoured WinCE derivative) PDAs sold closer to half a million units, around the sales figures achieved by Psion.

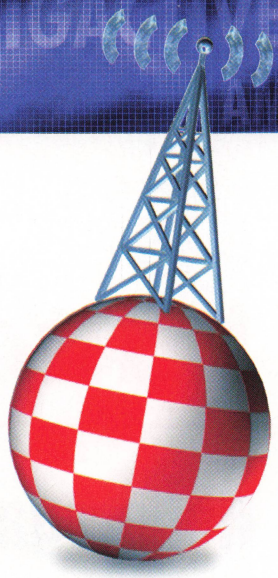
Market growth in this sector is very strong, but it's hard to imagine any PDA vendor other than Palm achieving sales of 7m units in the next year. Palm's upgraded OS, launched at the end of last year, could do with the AmigaDE multimedia stack - but Palm's claim of 100,000 PalmOS developers suggests they are confident in being able to provide their own content.

UK PDA pioneers Psion, who originally developed the EPOC platform, fit into the category of companies with a few million sales, as do the top two or three WinCE vendors.

7 million sales (about half the projected worldwide market next year) would be a wildly high projection for any of them, as most analysts believe that the market for Clamshell-style PDAs (like the Psion handhelds) is on the decline, while demand for Palmtops is increasing.

www.amigadev.net ▶

Worthwhile Technology



In the first installment of a new regular column for *Amiga Active*, Amiga Inc.'s Chief Technology Officer, Fleecy Moss, waxes lyrical about Amiga's plans for the future of technology.

As I write this, I am looking out on a frozen landscape. Thick frost covers the car windows of those unlucky enough not to have a garage. People are wrapped up tight. Even birds are preferring to stick to the branches, assuming that they haven't been frozen to them.

Worse, my two boys, my little girl and my long suffering wife are all ill with a flu that seems to have decimated the north of England (80 kids out of a school of 300 out last week). Everywhere, there is a lack of energy, of activity, of laughter. Almost as if the very point of life has been sucked clear away from the world. This feeling has struck a chord with me.

The news of the last few weeks in the technology industry has also suggested another landscape frozen, companies sick and languishing, very little humour at all. I speak, of course, of the personal computer industry. Growth is down. Profits are down. People aren't buying like they used to buy. Even Apple, the darling of the innovation crowd is rocking back on their heels.

The big question currently vexing all the high paid analysts and corporate monkeys is *"why?"* Computers are good, after all. They are technology, and people like technology. Shame that they don't spend some time with a few Amigans.

We have known for a long time that technology for its own sake is worthless. People will use it if they have to, but they won't enjoy it. Make it too complex, or too costly or too confusing or provide a lacklustre experience and no amount of moulded, tinted perspex will change that fact.

Most people buy devices not for the device itself, but for what it enables them to do; whether that be a car or a hairdryer or a pair of skis or a computer. This is the basic fact that Amigans have known for a long time, one that the rest of the world is now discovering. Amiga is moving forward to take advantage of this illness - we hope to offer the cure.

The next version of the SDK (1:1) will be coming out soon, providing a whole plethora of new multimedia and foundation capabilities to the thousands of developers already creating content for it. Eyetech's AmigaOne boards are shaping up nicely, and promise a great transition purchase for those who want both the AmigaOS and the AmigaDE in the future. Further out, bPlan are working hard on a next generation PowerPC-based machine.

Exciting times are ahead for the Amiga community, and for the rest of the world. It does take time, as do all good things, but the waiting is coming to an end.

Fleecy Moss,
Chief Technology Officer, Amiga Inc.

The Dream is o

In the biggest departure from the games platform market since the collapse of American rivals Atari and Commodore, Japanese console manufacturers Sega have announced that they are leaving the hardware business. The move comes as no surprise in the light of poor sales performance for their Dreamcast games console.

Arcade giants Sega entered the games console market during the early years of the Amiga, as part of the first revival of games consoles. Their Master System, while something of a failure in America and Japan, was hugely successful in Europe, and made them a serious competitor to arch-rivals Nintendo. Sega's 16-bit follow-up, the Mega Drive, was the first machine to challenge the supremacy of the Amiga as the gamer's machine of choice.

This triggered a small rivalry between Commodore and Sega, culminating at the launch of Commodore's CD32 games console, which competed directly with the Sega MegaCD, Sega's first real failure in the console market.

Famously, Commodore UK spoofed Sega's *"To be this good takes..."* advertising campaign with a large billboard poster of a CD32 and the slogan *"To be this good will take Sega Ages"* placed right outside Sega UK's office building.

It'sony a game...

Sega's consumer hardware business has been in collapse ever since. The revitalisation of the console market which occurred with the introduction of the 32-bit consoles and Sony's entry into the ring was probably the straw that broke Commmodore's back. It may have taken rather longer, but it broke Sega's aspirations too.

The Sega Saturn was the first of that generation of consoles, and sales suffered badly from the public's anticipation of Sony's Playstation. This mistake was repeated with their current console, the Dreamcast, which sold slowly while most people waited for the Playstation 2.

Sega will continue in the Arcade hardware business, as well as reinventing themselves as a multi-platform third party software developer. Software is generally considered a great strength for Sega, and with titles such as Shenmue and Sonic Adventure 2 mooted for



(cast)
over!



the Playstation 2, X-Box and other platforms, Sega's future as a games publisher looks strong.

Sega insist that they will release around 30 more games for the now defunct Dreamcast console, but will be a truly wide-ranging games developer, producing for many disparate platforms. Sega are already working with Motorola to produce gaming content for Java and mobile phone platforms, and have been investigating the possibility of developing games titles for PalmOS. This enthusiasm for alternative gaming platforms will be something that Amiga Inc. will undoubtedly have noticed.

Increase the Pace!

However, Dreamcast hardware is not going to disappear entirely: as discussed in last issue's lead feature, it has potential in other markets, and coinciding with Sega's announcement that they were giving up hardware was the announcement of a deal between Sega and Pace, the world's leading set-top box (STB) manufacturer, to produce a Dreamcast compatible STB, currently named the "Games Gateway". This hardware platform will combine the functionality of a digital TV receiver, a TiVO and a Dreamcast. It will come with a 40GB hard drive that can be used for temporary video recording or timeshift viewing.

The Games Gateway is said to be able to record from two channels simultaneously, or to record one channel while allowing you to watch another. It will provide a range of Internet based services through broadband connection, and will provide casual gamers a route to subscription based or pay-per-play gaming. The STB will not include any form of CD-ROM drive; instead, end-users will download titles onto the hard drive, which has the capacity to store up to 60 games. Online as well as offline gaming will be supported.

Tao Group and Amiga have an interest in the mooted market for embedded Dreamcast hardware, as the Elate OS runs on the Dreamcast, and this sort of usage requires software which they can already provide but Sega can't. We don't believe that Pace have a deal with Amiga at the moment, although Pace are apparently aware of the Elate / AmigaDE compatibility.

Talking Tao

Content is King

The New Amiga should be about content everywhere. Certainly that is how we have driven the intent(TM) platform and it is the only way that any platform can now seriously expect to succeed.

In the last edition of *Amiga Active*, the Tao-Grundig relationship was reported. Grundig will be working on integration of intent in digital television products, and you'll see a variety of key blue chip companies going down this same route. Now, to a lot of Amiga people this perhaps represents the technology that is nearest in terms of feel to the kind of products that they have been historically involved with. The same is not true of PDAs.

A lot of the community question why they should be involved in such low-end, mobile devices. Hello? 133MHz Hitachi SuperH-based devices, 233MHz StrongARMs, with a lot more memory than anything the traditional Amiga boxes ever had. These are great appliances to display the Amiga community at its best, they can get the Amiga brand well known once more, and so this represents an opportunity both for Amiga and for you.

> **"...great appliances to display the Amiga community at its best..."**

The problem with the high end computer games is that they now require huge investments in terms of time and money. This has disenfranchised the majority of the games engineers. The PDA space represents a market with low barrier to entry because the games are low cost to produce and quick to develop. Yet the calibre of the intent-based content is simply sensational, a long way beyond the kind of games that people are playing on PDA-type devices with alternative technologies.

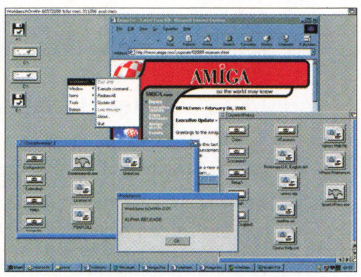
The content will be available for download, it will be revenue generating and will be available to clients of major operators. My hope is that all of the disenfranchised small companies, all the skilled programmers working in their bedrooms, all Amiga supporters, will take up the chance to get involved once more in providing a new generation of media content for mobile devices that will be proliferating across the globe based on the intent platform.

Francis Charig,
Chairman of Tao Group.



Workbench for Windows?

If you crave the 'look and feel' of Workbench every time you have to use a Windows PC, Meschiari Stefano may have the answer for you, with his WorkbenchOnWin (WoW) project.



WoW doesn't attempt to replace the OS in any way - it's just a fun replacement look for Windows which emulates the look and feel of Workbench 3.1 with SysIhack and Magic Menus. Development still has a way to go, but it's an excellent toy for homesick Amiga users, and does allow you to navigate drawers and drag-and-drop icons in a spookily realistic fashion. For more information (and to download the alpha preview) check out the WoW project's temporary web site.

www.geocities.com/workbenchonwin/woweng.htm

Kickstart your sales!

Due to the success of the Kickstart usergroup's commercial and shareware sales venture, the group have decided to launch a dedicated company, Kicksoft, to provide direct sales of Amiga products.

Kicksoft will deal with both commercial software and top quality shareware which, Ray McCarthy hopes, will make it both easier for Amiga owners to buy software and more rewarding for developers to create Amiga programs in the first place.

Currently on offer from Kicksoft are DrawStudio 2, GoldEd 6, MooVid, Image Engineer and Metaview. Online Credit Card ordering is available, and to celebrate the launch, Kicksoft are offering visitors the chance of winning a copy of DrawStudio 2, simply by filling in a form.

With promises not to cash cheques until dispatch (which will usually be within 24 hours anyway) and a no-quibble refund policy, you'd be asking for a kick in the soft bits if you didn't at least give it a look!

www.kicksoft.co.uk

White Knight Sale

UK computer video retailer White Knight Technologies, who have specialised in the Amiga for a decade, have announced that they will be leaving the Amiga market.

Citing the demise of Ateo Concepts and Phase 5, companies they have been leading UK distributors for, and the difficulty of obtaining products from DCE, White Knight regret that they are no longer able to carry on supporting the Amiga market.

If new Amiga computers, appropriate to the desktop video market, become available in future, White Knight will no doubt be interested in returning to the market, but until such a time, they will be concentrating on other business.

White Knight do however have a significant amount of Amiga hardware and software still in stock, including a lot of ex-demo and used gear, which is now surplus to requirements. This is being disposed of in a stock clearance, so if you are after something rare, or simply a bargain, take a look at White Knight's web site.

www.whiteknight.ukf.net

Waitt Returns

Failed saviours of the Amiga, Gateway, have announced the return of founding CEO Ted Waitt, who left the company just over a year ago.

Waitt's original replacement, Jeff Weitzen, has retired after an extremely stormy 13 months as CEO, during which Gateway became one of the biggest losers of last year's technology sales downturn. Weitzen's reign saw a 28 percent drop in the company's profits, and during his last days at the helm the company was forced to lay off ten percent of its workforce.

Amiga supporters will be interested to note that Gateway's initial purchase of the Amiga was very much driven by Ted Waitt. However, his involvement declined prior to his departure in late 1999, while Weitzen's ascension effectively sealed the fate of Gateway's plans for Amiga and opened the door for the buyout by the current owners.

Waitt has promised to try to revive Gateway's flagging fortunes by focusing on what he considers their strength: shipping products that are well rated and well priced. He is unlikely to try to buy back the Amiga, though.

Now *that's* Smart!

Adequate storage space has long been a stumbling block for the likes of digital cameras, MP3 players and PDAs. But now, Samsung Electronics has developed the world's smallest 512MB flash memory chip.

Incredibly, using a 0.15-micron design process to produce the industry's highest capacity monolithic die, the Korean manufacturer points out that stacking two of the dies will produce a 1GB chip. Full-scale production is expected to start in Q3, 2001.



Above: Samsung produces world's highest-capacity after-dinner mint.

You See Potato...

As many of you noticed, we had some difficulties with our last coverdisc, AACD17, due to the way we integrated the Amiga and Linux filesystems in order to provide the files to go alongside our "Linux on Amiga" Masterclass.

The upshot of all this was that the symbolic links used by the Linux filesystem were broken, causing the installer to fail. We have fixed this for AACD18 and repeated the Linux installer this month, in working form. This change also means that people without multisession-capable CD-ROM drives can now read the Amiga content of the CD, as it is now the first track.

News In Brief

Press F1 to race

Formula 1 Manager Enhanced - a freeware CD-ROM from Patrick Henz containing Formula 1 Manager, information about 50 years of the sport, pictures, mpeg video clips and other sundries - is now available to buy from the author, Patrick Henz for the paltry sum of five Deutsche Marks (less than two pounds), plus post & packaging. E-mail him for more details.

phenz@gmx.net

Amiga tunes set MPfree

Five years ago, a CD-ROM containing various Amiga-related modules was released at The Party 5 in Denmark. Today, now that sales of the original CD have tailed off, those same modules have been converted to MP3 and are being uploaded to the Internet for free download.

If response is favourable, the authors plan to remaster the songs directly to the Internet-friendly format for better quality - and there's always the possibility of another compilation at a later date.

www.mp3.com/tbotas

Scratch and sniff

The Vinylizer plugin for ProStationAudio is available online at the AudioLabs web site. As the name suggests, the plugin will add vinyl characteristics - rumble, dust and static - to your ProStation sounds.

http://www.audiolabs.it

Swedes launch Amiga news site

Our Swedish readers will be interested to hear that a new Swedish Amiga news site is now online. *"Amigarulez.org has up to date news, forums, surveys, links and much more,"* Mattias Karlsson tells us knowingly, before adding, *"It's simply a Swedish Amiga portal."* for the benefit of anyone who might not be able to grasp the concept.

www.amigarulez.org

Aussie service with a smile

Service Manager, a small business management program which Colin Wenzel tells us he has been keeping under wraps since he began writing it, has now been released as freeware.

His decision, prompted by the impending release of the AmigaDE, means that you can now download the program from his web site.

www.hotkey.net.au/~colstv/

Forty one!

Aminet CDs, like a batch of calculators with dodgy buttons, just keep on multiplying. With disc number 41, the unstoppable collection of Amiga shareware is beginning to threaten the dominance of *"Now That's What I Call Music"* discs in the sequentially-numbered compilation CD stakes.

So much so, in fact, that the purveyors of shiny shareware-filled platters could find themselves the recipients of some Capital Punishment if they're not careful!

By pure coincidence, it turns out that Capital Punishment is exactly what you'll get if you buy Aminet 41, for aside from the bountious offerings of public domain is the classic ClickBOOM beat-em-up.

Aminet 41 can now be yours, thanks to Schatztruhe, for just DM 25 (£8.13) or a precise £11.38 including European postage & packaging.

www.schatztruhe.de/order.html

Pay it again, Sam

Have you played Payback yet? No? Why not? There's a demo on this month's *Amiga Active* coverdisc, and the game is now available to buy via Apex Designs' web site, or through traditional bricks-and-mortar Amiga retailers, Blittersoft. Meanwhile, if you're waiting for our review, make sure you pick up the next issue of *Amiga Active*.

Know something we don't?

E-mail news@amigactive.com

Product Watch

Not a great deal has surfaced so far this year, but *Amiga Active* has been told that the following should be making an appearance soon.

Details are correct at time of going to press, but we're not responsible for release dates! Please e-mail any corrections/additions to us at the usual address - upcoming@amigactive.com

Imminent:

- **Alt.WoA show** - Just two days after this issue hits the shelves, so you'd better get a move on!
- **Payback** - AA19.
- **Earth 2140** - AA19.
- **iFusion** - Hopefully.
- **G-Rex/Predator PCI** - Or so we're told.
- **Mediator A1200 Z4** - C'mon, we want some more new hardware!
- **Shark PPC G3/G4** - ...like, for example, a dozen of these!
- **AmigaOne PPC** - or one of these. We're not that fussed, really.
- **Amiga 2001** - See page 14 for more info.

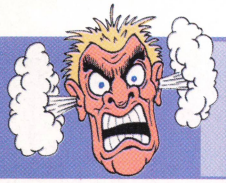
2Q 2001:

- **Dafel: Bloodline** - Pagan have gone quiet. We hope they're busy working on it.
- **Shogo: MAD** - We'll be MAD if we don't get it!
- **BoXeR** - *sigh*
- **Mediator PCI 4000**
- **Gilbert Goodmate**

3Q 2001:

- **Pianeta Amiga 2000** - Florence. Sep 30 - Oct 1.
- **Standalone AmigaOne**

upcoming@amigactive.com



Rants and Raves

Rocco's Modern Life

Amiga usergroups may be few and far between, but their importance shouldn't be underestimated.

Amiga usergroups. Remember them? Count yourself fortunate if there's still a group where you live. I'm one of the lucky ones, I suppose. On the second Tuesday of each month, I get together with a multifarious group of Amiga die-hards calling itself CTACS, the Central Texas Amiga Computer Society.

Austin, Texas, USA is a high-tech town (the PowerPC chip is designed here!) so our group is peppered with current and former employees of Dell, IBM and other big-time computer firms... a knowledgeable group, indeed — yet, Amiga-heads, all.

January, 2000's meeting saw a great turn-out, by current standards. Eight of us were present! (We'd have surpassed ten if a few of the regulars hadn't been away on business). Instead of our normal Public Library venue, we met at our member, Rocco's house. He was presenting the monthly demo this time around: *"Amiga Video Effects and Editing Without a Toaster."*

> **"Rocco's Amiga setup elicited grins and gasps"**

Rocco's Amiga setup (see photo) elicited grins and gasps from the group. Similar scenes will not be unfamiliar to any long-time Amiga user. The tangle of gear included two Amiga 2000's (one accelerated, one not, cases off, guts exposed, of course), several MIDI keyboards, two monitors, an A500 (*"dedicated solely to creating echo effects"*) a frame grabber, at least four loudspeakers, and various other bits and bobs that I couldn't quite see.

Rocco inventoried his production tools for us: an assortment of freeware music stuff from Aminet, the aging Brilliance paint package, and the even more ancient Deluxe Video from *"the Golden Age"* of Electronic Arts.



Above: *"Nice keyboard!" "Thanks. Which one?"*

"I've been experimenting with this piece non-stop for three late nights," he told us. *"Some of this software, the music stuff especially, I'm using in ways other than those intended by the programmer..."* He grinned.

I kept thinking, *"I wish Bill McEwen were here to see this..."*

Rocco fired up his equipment and showed us what he'd been working on. As pounding rock power chords poured from the speakers (throughout, the music was perfectly sync'd to the video) we watched footage of a surfer (rendered in deliberately jiggly motion and odd colours) riding a huge wave toward the camera, then turning to the right and leaving the camera awash with ocean spray. In the wake of the water, several other effects flew by in rapid-fire succession, then a quick cut to a day-glo peace sign, fading to footage of Rocco himself, flashing a peace sign with his hand. And to end the production, a title, *"Remember when computers were FUN?"*

A new philosophy?

Over dinner following the meeting, picking up where the closing title of Rocco's video had left off, we reminisced about the fun we'd all had (and continue to have) with the Amiga. We debated what made it all so special: the lean multimedia OS that enabled Rocco to do smooth, full-screen video on such modest hardware, the hacker/demo culture that the Amiga virtually created, the community spirit, the endless rewards inherent in the way that the Amiga revealed its elegant soul to you the more you played with it, the intrepid developers who stretched the hardware (clockport expansions! PPC cards!) in ways its designers never imagined.

Then we began to wax philosophical.

Is true hobbyist computing (Amiga, Atari, C64/128...) gone forever? (*"Linux is supposed to be that, but I mean, yech!"* someone responded.)

Does Bill Gates even like computers? (*"Not as much as Steve Jobs,"* somebody quipped).

Would an adolescent 'bedroom coder' ever write the next hit game again? (*"Teenagers aren't gonna develop for the Playstation 2, that's for sure,"* someone commented.)

Would the new Amiga elicit the passion and creativity of the Amiga community as the original Amiga had? There was a long silence.

"Well," I ventured, *"Bill McEwen keeps saying that he bought Amiga because of the community, because of guys like us who kept it alive all these years since the Commodore bankruptcy. And he keeps saying how cool, how creative, how much fun the new Amiga will be."* [long pause...] *"Maybe the spirit's not dead. Maybe Microsoft hasn't totally bludgeoned the computing world into bland, bloated, buggy conformity. Maybe the new Amiga can make computers fun again..."*

We all sighed a deep sigh as the waiter brought the check. CTACS waits and hopes, for now.

Steve Folberg A

interact !

We know we're talking sense...

...but if you don't agree, we'd like to hear what you think. Write in to Interactive at the usual address, or e-mail your thoughts to us at...

interactive@amigactive.com

Rants and Raves

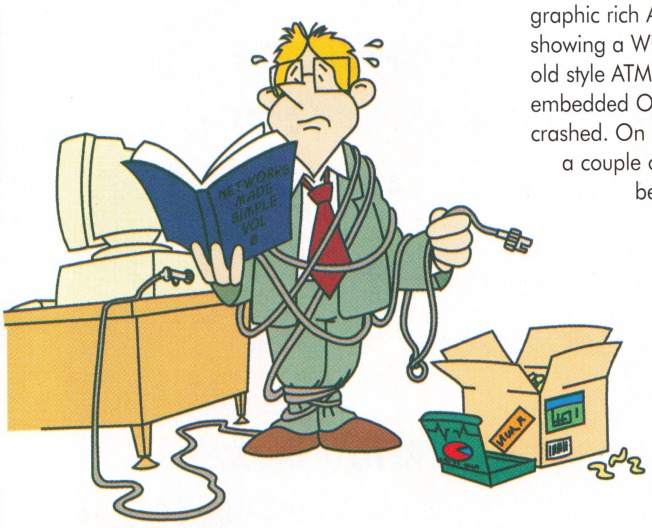


When Computers Go Bad!

Computers automate processes which would otherwise be complex or impossible, making the world a better place for us. In theory, at least.

As a long-standing computer user, I've always been a strong advocate of the computerization of our society. Computers are a wonderful tool. Yet all too frequently, the implementation of computer systems leaves more than a little to be desired.

How many times have you found that a simple process - one that should be made so much easier by computers - turns out to be far more complex and time consuming than it would have been if paper and ink were all that was involved? How many times has a computer operator on the other end of a phone or the other side of a desk apologised to you about some delay, stating that it's all *"...because of the new computer system"*?



"The whole point of this sort of technology is to make our lives easier, not more difficult."

Blame the tools

As with any tool, a computer needs to be used correctly if it is to provide the advantages it is capable of providing. This has been a fundamental truth of all technological innovation - the invention of the wheel would not have helped transportation so much if people had made them square, and a metal knife isn't a better cutting tool than a flint knife if you use the unsharpened flat edge of the blade. The computer, being a complex tool, is more prone to errors in use than these simple tools, however.

Now we have a whole range of new computer problems on the way as we move thoroughly into the multimedia age. Recently a poster to *Amiga Active*'s mailing list mentioned seeing one of the new style of colourful, graphic rich ATMs (bank cash machines) showing a Windows 2000 crash screen. The old style ATMs, using simple, low powered, embedded Operating Systems almost never crashed. On a similar theme I recently missed a couple of TV programs I wanted to watch because my digibox crashed, and an engineer had to be called out to reboot the system.

This is not clever. The whole point of this sort of technology is to make our lives easier, not more difficult. As the demands on these "domesticated" computer systems grow, it becomes increasingly critical to get the formula right, as the increased complexity makes it that much easier to make mistakes.

The real problem is that while the demands on computing power have escalated, the development of computer software systems has barely progressed in the last 15 years or so. Systems such as Windows 2000 are in effect bodges - architecturally ancient systems with modern capabilities strapped into place. Going back to the invention of the wheel, this would be like Neolithic man carving the wheels of his new cart out of the same stone blocks he was using to build Stonehenge a few years previously.

Domestic computing power has increased a hundredfold over the last 15 years. Why has the software stood so still? By now we should have new interface paradigms, computers that are vastly easier to program, that almost never crash and can reset themselves in seconds if they do, that don't require kid-gloves treatment such as a shut-down process that has to be run before powering down.

You say you want a revolution?

If Amiga want to be revolutionary with their new Operating System, they aren't going to have to do anything extraordinary or forward-looking. They just have to catch up to the point where an OS ought to be today. If they can supply an OS for the desktop and embedded markets which is capable of producing the multimedia functionality people demand in these sectors these days - while doing it in a sensible, human fashion - they will be on to a winner.

What ATM manufacturer in their right mind is going to pick Windows 2000 for their OS if there is the option to use an OS which can do all the fancy things they now deem necessary while retaining the uptime the old systems were capable of? What office manager will put up with the estimated 25 percent of time wasted every working day by the average computer operator who has to deal with computer "issues" if there is a properly designed desktop OS available that can cut that down to five percent?

Much emphasis has been put on the word "revolutionary" by various owners of the Amiga over the past few years. Screw revolutionary! Give me something that isn't 15 years behind the times and I'll be more than happy.

Andrew Korn A

AMIGA2001

the

Our 7th Show!



Gateway Computer Show

March 30, 31 & April 1

Sheraton West Port - Chalet Hotel

191 West Port Plaza Drive, St. Louis, MO. U.S.A.

Fri. - Amiga Developers Conference

Sat. - *Classes, Sales, Seminars, Prizes 10 am - 5 pm

Sat. Even. - Banquet & ROAST of Petro Tyschtschenko 7 pm

Sun. - Classes, Sales, Seminars, Prizes 10 am - 4:30 pm

Banquet tickets must be ordered in advance

http://www.amiga-stL.com bscharp@icon-stL.net

Check the web site for details on admission & reservatioins.

*Attention!: Petro, is sponsoring an appreciation Saturday afternoon . It will be held in the main exhibit hall and consist of snacks. A $2 charge is requested to help defray the costs. Petro wishes to express his appreciateon to all the Amigans. So be sure to attend Amiga2001 and say hello to Petro.

Owned and produced by Amigan-St. Louis

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Amiga2001 is going to be exciting!

News you have never heard before.
Products you have never seen before.
Announcements you have been hungry for.

"Whatever shows you have been to before ... this is the show you don't want to miss." - Bill McEwen

"When future generations talk about where they were when specific events took place, all previous events will pale. This will mark the beginning. This will be the epic event that all Amigans will relate to. This will give you something to brag about for years. Something to tell your grandchildren about. Don't miss Amiga2001. This is the show where dreams come true." - Bob Scharp

Bluetooth™

Cordon Bleu!

Ericsson are about to drop-kick wireless communication firmly into the 21st century, with a little inspiration from a former Danish king.

What images does your mind conjure up when you think of future technology? Robot servants who will mow the lawn on a Saturday afternoon whilst you stretch out in your hammock with a cold beer? Matter transporters that will get you to and from work in less time than it takes to lose your cool in a traffic jam? Or maybe you dream of space cruisers circling the earth like asteroid-sized tour-buses, ready to whisk you and your friends off for a quick weekend's jaunt on a remote planetoid, while your robot servants are left to wrestle with the grass-box attachment. Whatever you find yourself thinking about, chances are it isn't Vikings. But then, you've only just started reading this feature....

History, it is said, often repeats itself - and after uniting Denmark and Norway at the end of the first millennium, an ancient Danish king is set to revolutionise communication once again, this time at the start of the third. Harald Blåtand - or, translated to English, "Bluetooth" - was king of Denmark between 940 and 981AD. One of his most celebrated skills was getting people to talk to each other, and it was this that inspired mobile communications company Ericsson to name potentially one of their greatest innovations after him.

"Whatever you find yourself thinking about, chances are it isn't Vikings..."



Bluetooth started life when Ericsson decided to look into a way of linking mobile phones to their accessories without using wires. It was hoped that a low-cost, low-power radio interface would prove sufficient for transferring small amounts of data reliably from one device to another, but as research continued it became apparent that the technology could have much wider-reaching benefits, including the ability to integrate with existing networks and serve as a communications link between other devices, such as desktop computers and their peripherals.

In February 1998, IBM, Intel, Nokia and Toshiba joined forces with Ericsson to form the Bluetooth Special Interest Group (SIG). Since then, major industry players like 3Com, Lucent, Microsoft and Motorola have also joined, and over 2000 other companies have signed up as adopters, showing their interest in developing Bluetooth-enabled devices.

"...over 2000 other companies have signed up as adopters..."

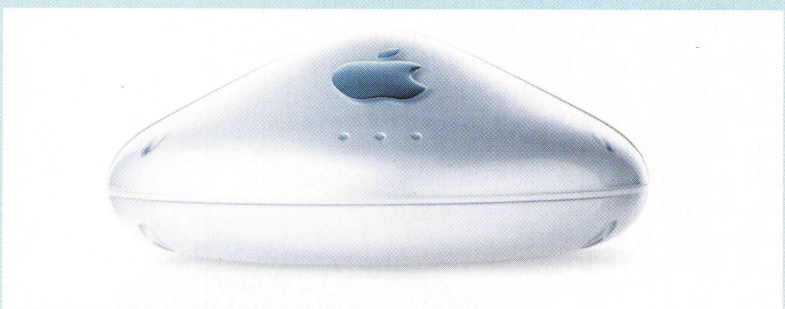
The SIG's aim is to form an open, global standard for Bluetooth in order to prevent it from falling under the control of a single company. In July 1999, they published the first Bluetooth specification and the world's media began fantasizing about its potential to revolutionize communications - but so far, very little actual product has appeared on the market, so what's become of Ericsson's dream?

Radio Ga-Ga

Before we go any further, an explanation of Bluetooth wouldn't go amiss, so put your technical caps on for a moment. The first Bluetooth specification - produced by the SIG just over a year and a half ago - defines a radio frequency (RF) link with an optimal range of 10 metres (a 100m range is optional). Both voice and data can be transferred via this RF link which operates in the Industrial, Scientific and Medical (ISM) waveband at 2.4 - 2.48GHz. The raw throughput of the Bluetooth radio signal is a modest 1Mbit/s, with an actual data rate of 720kbit/s with the first version of the specification - you won't be winging huge files backwards and forwards, but you wouldn't want to be doing that with portable computing devices anyway.

Because it uses radio signals, Bluetooth offers significant benefits over optical wireless technologies (infrared or laser, for example), which require a clear line-of-sight between devices. Radio signals will pass through walls and around objects between the transmitter and receiver. Furthermore, thanks to the global availability of the ISM waveband, Bluetooth devices should work in harmony (and free from interference from other electrical equipment) wherever they happen to be in the world. So, one-nil to Bluetooth on the user-friendly side of things, but what's to stop unscrupulous, shadowy hackers from listening in?

A spread-spectrum, frequency-hopping, full-duplex signal, that's what! Technical caps still on? Good: To ward off eavesdroppers, the Bluetooth signal spreads itself across the 2.4-2.48GHz spectrum by 'hopping' between 79 separate frequencies up to 1600 times every second. Yes, that's fast - not even military-grade radio signals hop that quickly. Both the security and the integrity of the signal benefit as a result. People won't be able to tap in to an established Bluetooth connection, and signals should reach their destination intact without a problem, even in a noisy radio environment. Built-in encryption and the ability to adapt the output power of signals (reducing the signal range to the exact requirement) should also ensure security. That's the theory anyway - we've still to see it working in practice.



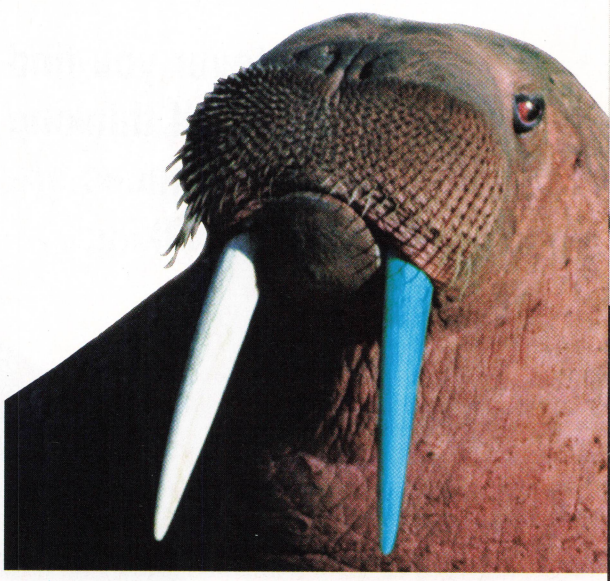
Above: Apple's Airport is an implementation of 802.11 Wireless Ethernet. Picture courtesy of Apple Computers Inc.

Wireless, Take 2: Wireless Ethernet

Otherwise referred to as 802.11 - because it is based on the IEEE (Institute of Electrical and Electronics Engineers) 802.11 standard - Wireless Ethernet has been widely adopted in America. There are three versions of the specification: 802.11, 802.11a and 802.11b.

802.11 and 802.11b operate in the same 2.4GHz waveband as Bluetooth and give speeds of around 2Mbit/s and 11Mbit/s respectively, with a maximum range of around 150m. 802.11a, meanwhile, is mainly used for wireless ATM systems (as opposed to wireless LANs), operating at the 5-6GHz point of the radio spectrum. Speeds as high as 54Mbit/s are achievable, although 24Mbit/s is a more practical limit.

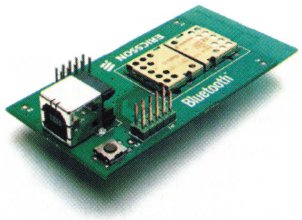
More info:
http://standards.ieee.org/wireless/overview.html



Wireless, Take 3: HiperLAN

Similar to 802.11 Wireless Ethernet, HiperLAN is a standard that is widely used in Europe. There are two versions: HiperLAN/1 operates in the 5GHz range and gives up to 20Mbit/s transfer rates. HiperLAN/2 allows up to 54Mbit/s in the same waveband, and is used to provide high-speed access to a variety of networks, including 3G mobile networks and wireless LANs. Because the 5GHz band is allocated to wireless LANs worldwide, HiperLAN/2 has the potential to be adopted on a global basis.

More info: www.etsi.org/technicalactiv/hiperlan2.htm



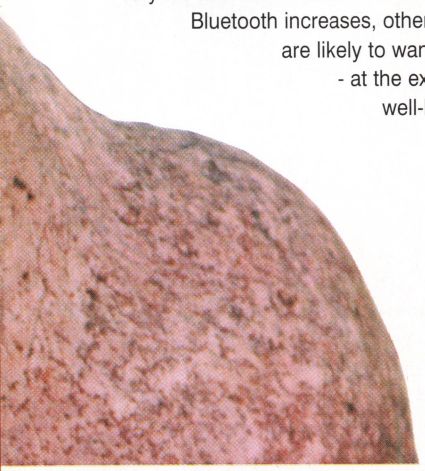
Above: Bluetooth chips (a baseband controller and transceiver are both mounted on this PCB) are tiny! Picture courtesy of Ericsson.

Small teeth, big bite

The other contributing factor to adoption of new technology is, of course, price. Ericsson didn't overlook this either - they designed Bluetooth from the outset to fit in a single chip. Cost is therefore kept at a minimum, and OEMs (Originating Equipment Manufacturers) only need to incorporate two tiny chips (see picture, above) into their devices to achieve full Bluetooth functionality.

The benefit runs deeper than a simple cost issue, though. Because Bluetooth is an open standard, it will be even more enticing for manufacturers to add to their products, as they won't have to worry about supporting multiple wireless networking standards and can optimise products around a single protocol. Finally, small chips also mean less power consumption; all of which combined makes Bluetooth ideal for portable devices.

The Bluetooth specification, however, is just that - a specification. Someone needs to put it into practice and make the silicon, or it wouldn't be much use! This is currently being done by several companies including Ericsson, Intel, Lucent, Philips and Texas Instruments. Manufacturing isn't dominated by the big boys though - a number of smaller manufacturers like Infineon, Digianswer and BrightCom have jumped at the opportunity to get their foot in the door of a potentially very lucrative new market. However, as demand for Bluetooth increases, other larger companies are likely to want a slice of the pie - at the expense of the less well-known guys.



This might be bad news for the smaller manufacturer, but it's good news for the consumer - costs should be driven right down as the different companies fight it out for that all-important market share. According to research group Cahners In-Stat, the market for Bluetooth is going to be big: they predict that 670 million devices will be using Bluetooth by 2005. Ericsson themselves are saying that by 2003, mobile devices will have surpassed computers as the main internet tool, and, whilst it's easy to dismiss such a statement given that they invented Bluetooth in the first place, it's also difficult to see them being wrong.

"...they predict that 670 million devices will be using Bluetooth by 2005."

Infrared Data Association sm

Wireless, Take 4: IrDA

IrDA, the Infra-red Data Association, was formed in 1993. The IrDA standard which they published in June 1994 *"is recommended for high speed short range, line of sight, point-to-point cordless data transfer - suitable for HPCs [Handheld PCs], digital cameras, handheld data collection devices, etc."*

With transfer speeds of up to 4Mbit/s (although typically 115kbit/s) at a relatively meagre 1-2 metre range (a low-power version requiring 10 times less juice reduces the range to 20-30cm), IrDA is already used in over 100 million electronic devices.

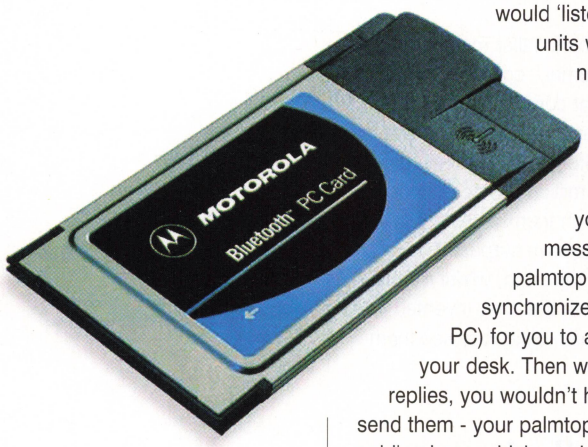
More info: www.irda.org

Endless possibilities?

So, technicalities out of the way, let's think about what Bluetooth will allow us to achieve. Remember that Ericsson's original intention was to allow short-range communication between mobile phones and their accessories. To do this efficiently, Bluetooth needs to be intelligent enough to set up links between devices on the fly. If you imagine you've got a Bluetooth-equipped Amiga on your desk (most likely implemented through a PCI or PCMCIA card) and a mobile phone in your pocket, you wouldn't have to manually start up any networking software on either device.

Instead, both your phone and computer would 'listen out' for other Bluetooth units within range, automatically negotiate a link when they spot each other and transparently synchronize their address books, for example. Before you leave, any important e-mail messages could be sent to your palmtop (which would also be synchronized with the phone and desktop PC) for you to answer whilst you're away from your desk. Then when you've written your replies, you wouldn't have to return to your desk to send them - your palmtop could beam them to your mobile phone which would then use its own link with the wider telecommunications network to forward them on to an e-mail gateway on the Internet. Simple!

The underlying operation, however, would be totally transparent to the consumer. Those who knew nothing about Bluetooth would assume that sending e-mail from your palmtop required a built-in modem, when in reality the Internet connection is provided by the mobile phone in your pocket. Of course, you could buy a phone with a built-in modem, but the process would remain the same.



Above: Adding Bluetooth functionality to your Amiga could be as easy as slipping in a PCMCIA card. Picture courtesy of Motorola.

"...it's the process that matters, not the implementation..."

That's the most important point: in the new age of consumer electronics, it's the process that matters, not the implementation - in much the same way that you, as a consumer, don't *need* to know what CPU or OS your phone uses, you shouldn't have to know how e-mail is being sent from your palmtop, whether it's via its own built-in modem, your mobile phone or your desktop computer. As long as it works, and works reliably, does it really matter? Bluetooth will bring the concept of invisible technology closer to reality, in much the same way as the new Amiga Digital Environment (AmigaDE) hopes to.

"The AmigaDE means digital environment, a combination of physical devices and content seamlessly coming together," enthuses Amiga's CTO Fleecy Moss. *"The ultimate aim is for what we call the development of the new WWW - Whatever, Whenever, Wherever. Wireless technologies are obviously a key part of that since they render the action practically invisible - we are all for the concept of invisible technology - trailing around with a wire behind you doesn't achieve that."*

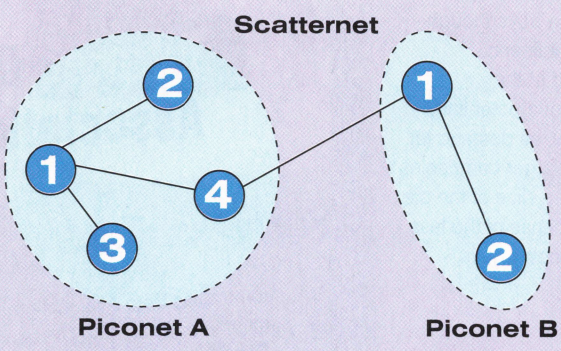
ERICSSON

Pico-boo!

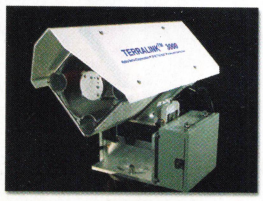
Bluetooth is all about networking between portable devices - devices which might be within range of each other one minute and out of range the next. Traditional forms of networking, which require user intervention and/or more than a few seconds to establish a link (whether using a cable or not) are of no use as far as mobile computing devices are concerned.

Introducing the ad-hoc Piconet! Bluetooth devices within range of each other can establish a one-to-one or one-to-many network on the fly. Such networks are dubbed Piconets, several of which can link together to form a Scatternet, as shown in the diagram. If several Piconets are within range of each other, each one works independently and has access to the full bandwidth of Bluetooth's radio frequency (this is possible because each Piconet is assigned its own frequency-hopping channel to avoid interference).

To control the flow of data between units, one of the Bluetooth devices in each Piconet assumes the role of master, with the other devices (up to seven in the current Bluetooth specification) becoming slaves. To get around this limit, however, an almost unlimited number of slave devices can be attached 'virtually' to one master, listening out for a signal so that they can switch in to (and out of) a Piconet as and when required.



"Introducing the ad-hoc Piconet!"



Wireless, Take 5: Laser

High-end solutions for wireless communication don't come much beefier than the TereScope 3000 from Optical Access - one of a number of devices from a small range of manufacturers primarily used in the business sector to transmit data between buildings where a dedicated high-speed wired solution would neither be possible or practical. The TereScope uses three parallel laser beams and offers speeds of up to 1000Mbit/s at a range of up to 3.75km. Serious kit, but at US$40,000 per link, chances are you won't be getting one to play network games with your best mate on the other side of town.

More info: www.opticalaccess.com

More teeth!

It's not just the consumer electronics industry which will benefit from Bluetooth either. Hundreds of other industries will doubtless find thousands of other uses for the technology once it becomes available. Suggestions have already been made about using Bluetooth in the automotive and medical industries, for example. Cars that you can link to with your laptop for reports on fuel consumption, tyre pressures and other vital statistics? Why not? It might not be useful for the average man in the street, but it could be a killer application for fleet managers the world over.

So, with hundreds of millions of Bluetooth-equipped devices predicted to be in circulation within the next few years, what happens when you've got lots of Bluetooth chips within range of each other, all vying for precious bandwidth? Won't the system get completely overloaded and/or confused? Hopefully not, because the Bluetooth specification defines separate 'Profiles' for different types of devices. After all, you wouldn't really want your Bluetooth-enabled mouse to know about your wireless telephone headset - there's not a lot of point. Nor would you want your rodent to talk to your keyboard, but you would want both your keyboard and mouse to communicate with your Amiga. And, as well as being split up into groups with separate profiles, there's a limit to the number of devices which can network together at any one time (see boxout, left).

What's available?

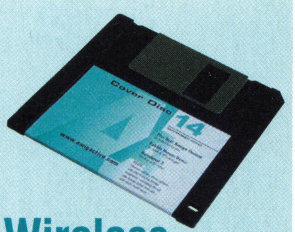
For the moment, however, Bluetooth devices are few and far between. At the time of writing, just 91 Bluetooth devices were listed on the official Bluetooth Qualification Program web site (at http://qualweb.opengroup.org). Most are components or development tools, but a few end-user devices are listed, including Ericsson's wireless headset (released on December 22, 2000); mobile phones by Ericsson, Motorola and LG Electronics; USB and PCMCIA cards; a laptop PC from Fujitsu; a wireless modem station from Toshiba; a Bluetooth printer adapter from NEC Corporation and even a CompactFlash card development kit produced by Signia Technologies, which will allow manufacturers to implement Bluetooth functionality into portable devices with Compact Flash slots (such as Psion handhelds and various makes of digital camera). All devices which are to have Bluetooth functionality have to be approved by the Bluetooth Qualification Review Board (BQRB).

So what are the reasons for this apparently slow take-up of Bluetooth? The finger could be pointed at the Bluetooth SIG themselves, for talking about the second-generation Bluetooth specification (which should double the maximum throughput to 2Mbit/s) almost before the first one had been published, causing manufacturers to hold off development longer than necessary - but that would perhaps be a little harsh. With numerous companies still working on initial Bluetooth chip designs and other components required to build devices in the first place, it's no real surprise that it's taken a year and a half for Bluetooth-enabled products to start appearing on the market.

One thing we can be sure of is that Bluetooth will become ever more popular over the coming months, and we'll finally get to experiment with portable devices which use the technology. Then we'll discover just how much of an influence Harald the Viking is destined to have on the future of computing. A



Left: Use a wireless headset to talk to people, whilst you keep your mobile phone in your pocket: just one of Ericsson's proposed applications for Bluetooth.



Wireless, Take 6: Floppy disk

Quite literally at the bottom of the 'wireless data transfer' pile is the humble floppy disk. Holding very little information and suffering from slow read/write speeds, transfer rates vary depending on how hard they are thrown across the office and how many people and/or inanimate objects get in the way. Not recommended.

More info: You could have someone's eye out with that.

Internet - RIP?



Doom-mongering stock-market prophets forecast (or should that be profit forecasts?) the imminent death of the Internet. Is the dream really over?

Only a year ago it seemed as though any company could double their market valuation overnight by adding ".com" to the end of their name and launching a web site. Now, it seems, the Internet bubble has burst and everything the nay-sayers propounded was true. Was the whole notion of the Internet as the new business frontier fundamentally flawed?

According to analysts Pricewaterhouse Coopers, European "e-businesses" lost more than £60bn from their share prices over the last quarter of 2000. Across the industry, companies are making sweeping redundancies, cutting expenditure, and in many cases closing their doors altogether. The problem is quite straightforward - all those investors who saw the Internet as a goldmine have found that it has more often been a money pit. Much vaunted Internet ventures have failed to cover costs, let alone make a profit. Only 28% of the companies surveyed by Pricewaterhouse Coopers for their recent report are actually profitable.

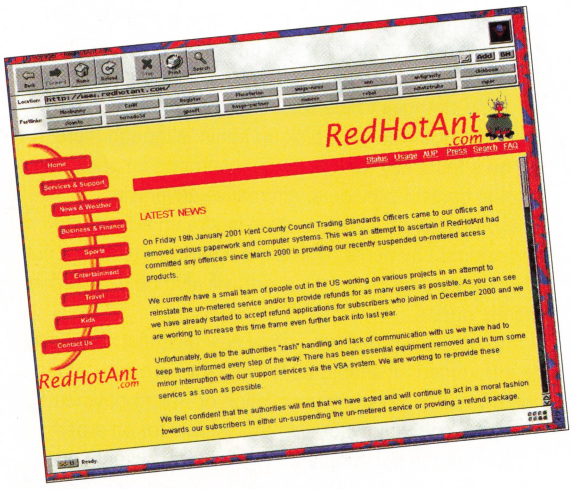
The seeds of failure

"Told you so" is a refrain that not just the doubters have been using recently. Most technology pundits with an understanding of the Internet have been warning that many companies have rushed into the Internet revolution too quickly and without enough understanding of what it is all about. While the collapse of Internet companies has been likened to the South Sea Bubble, the California gold rush is a better parallel - it's a wild frontier where fortunes certainly can be made, but anyone believing that the gold is just lying on the ground waiting to be picked up is bound for disappointment.

Clearly there is a great deal of profit to be made out of the Internet; but that fact in itself is not sufficient to base a business venture on. This gold rush mentality gave rise to huge amounts of investment in companies which didn't have any kind of solid business plan, absurdly over-estimated their revenue streams, or simply failed to realise that you can't just take any business venture and expect it to work on the Internet.

The world of dotcoms is all too full of companies that quite simply got over-excited by being involved in the new Internet economy and spent their investment capital unwisely. Unnecessarily large and prestigious offices have been a common theme. Unwise advertising expenditure has been another. UK readers will undoubtedly remember that the year 2000 was littered with ubiquitous and incomprehensible advertising campaigns for dotcoms that failed to convey any information about the company being advertised whatsoever. It's not surprising to see a company go under if you've seen their advertisements a hundred times and still don't have the first idea of what they are actually selling.

"...the year 2000 was littered with ubiquitous and incomprehensible advertising campaigns..."



Above: Red Hot Ant. Bless 'em.

Stone Cold Ant

One closure that will have had a direct impact on many of our readers is that of Red Hot Ant. RHA was one of the first companies to offer Internet access with no phone bills, which at the time seemed to be the way the UK ISP market would inevitably head. When Dixons started their Freeserve ISP, they changed the way users viewed Internet provision by (apparently) showing that there was an alternative to charging a subscription. The theory was that the high income generated by expensive telephone calls could be offset against the costs of running an ISP. Being first to the punch amongst the subscription free ISPs and having the marketing muscle of the Dixons group behind them, Freeserve achieved a seven-figure subscription base in a scarily short time.

However, for anyone using the Internet more than a few hours a month, the major cost of Internet access in the UK was not the ISP subscription but the cost of phone calls. With a huge public demand for toll-free Internet Access, it wasn't long before companies looked to methods of offering free calls to their users. In the case of Red Hot Ant and a number of other companies, this involved siting their dial-ups on free 0800 numbers. The problem is that the company owning an 0800 number still has to pay the telecom provider for the calls, and this service does not come cheap. The initial subscription costs for Red Hot Ant's free Internet service raised many eyebrows in the ISP business because few people could understand how they thought they were able to break even. It was not long before RHA started to increase their prices, a process which continued throughout the year - but it was too little too late, and earlier this year, Red Hot Ant announced that they were closing their freephone lines.

Opening a portal

There's another area of "free" service which has been suffering badly over the last few months, and that is the once much vaunted "Portal" market. The Internet was not designed as a commercial publishing medium, so the primary model publishers have employed is the freesheet concept.

If you can't easily charge people to look at the material you are producing, you just have to make it pay for itself through advertising. The world is full of large circulation, paid-by-advertising journals, so why not apply the same principle to web pages? Given the advantage of near zero distribution costs, it would seem that the Internet is the ideal medium for this sort of publication. What's more, because of the difficulty of navigating the Internet, companies reasoned that they could encourage huge readerships by offering good links alongside content of their own.

While the principle may seem sound, in practice there have proven to be many problems. The first is that many people simply don't want to be steered around the Internet from the same starting point. The second, and in some cases most significant problem, is that many companies forgot what the real strengths of freesheets are. Most printed freesheets have a captive, geographically centred audience - local newspapers, for example - so they are ideal for local advertisers to maximise the number of people in their potential market who will see an advert.

Many sites have also suffered in the past few months from a dramatic drop in advertising revenue. For a while the huge rises in Internet stock values encouraged large-scale investment which allowed companies to spend a lot on advertising. The last quarter of last year saw European Internet firms receive just 15% of the investment they received half a year previously; as a result, many sites that relied on advertising revenue have seen their income dramatically slashed. Much-loved online gaming resource Barrysworld cited the drop in advertising revenue as the main reason for being unable to sustain their business, despite the fact that they were generating millions of hits on pages with banner ads.

The Critical List

Over 100 dotcoms closed their doors in the last quarter of 2000. Here's a short list of some of the better known amongst the dead, the dying and those fighting on.

- **Amazon.com - Just laid off 1300 staff, but losses are down to $60m in Q4 2000 from $175m in Q4 1999**
- **uk.buy.com - Losses down to $27.5m in Q4 2000, but sales down too. Currently looking for a buyer**
- **Go.com - Closing down**
- **News International - Online division to close**
- **NY Times - Scaling back online presence**
- **Letsbuyit.com - Just surviving thanks to recent cash investment**
- **Boo.com - Given up the ghost**
- **RedHotAnt - RestInPeace?**
- **Breathe - Breathed their last breath**
- **Clickmango - Clickmangone**
- **Lastminute.com - LastRites.com?**



Right: Barrysworld's closure is a major blow to the online gaming community. From their announcement: *"Those that tried to survive on the funding from dialup call revenue and/or advertising are dead or in their death throes, this market has collapsed."*

"...75% of last year's Internet start-ups are expected to last less than five years..."

Time to give up?

While all this doom and gloom might make it seem that the Internet is destined for commercial oblivion, what we are really seeing is the result of a lot of very short-sighted companies throwing huge amounts of cash at a market without understanding it. While 75% of last year's Internet start-ups are expected to last less than five years, there's no denying the potential strength of the Internet market, and clearly those companies that do get the formula right are going to make a lot of money.

The first thing that companies have to realise is that being on the Internet is not in itself a business plan. The key is to provide customers with a service that they either can't get elsewhere or which offers them some convenience they would not get from a traditional business. For example, it is generally accepted that the Internet will become a powerful medium for selling or renting music and videos - the facility to try before you buy is a strong selling point.

Amazon have made a huge business out of selling books, music and video on the 'net. Although they have had a tough time getting the formula right (indeed, they recently announced that they are laying off 15% of their workforce), they have reported sales of $2.8bn for last year. While they have yet to make a profit, the business is getting more efficient all the time, and is expected to enter profitability by the end of this year. Another company to watch is supermarket chain Tescos, whose on-line grocery delivery service has proven so popular amongst "convenience" shoppers that they have rapidly become the world's leading Internet food supplier.

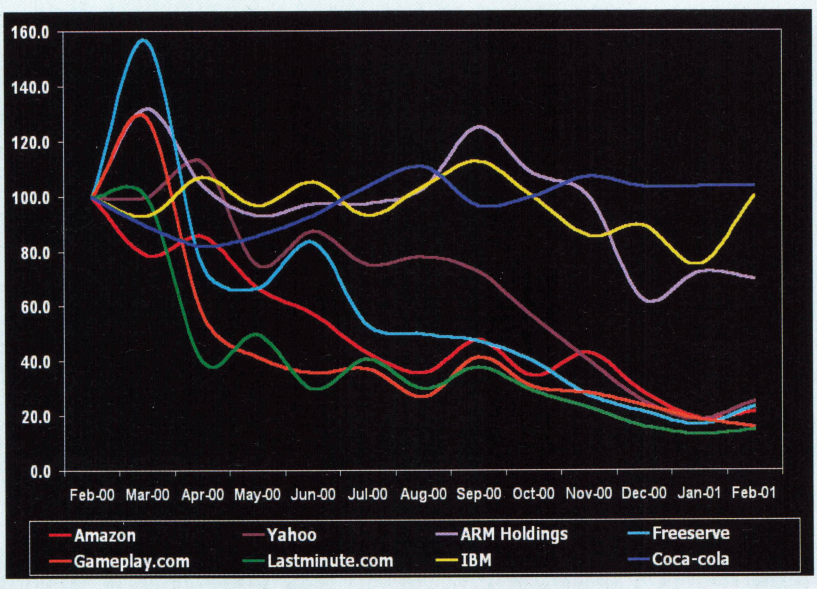
Into the future

All of this, however, is short term. The real cause of the collapse of Internet businesses is not any problem with the Internet per se, but more the result of a lot of foolish decisions by corporate executives. Long term, there will be many changes to the way money is made on the Internet. Advertising will pick up again, although there will be a tendency for it to be concentrated amongst the biggest content providers. Alternative advertising methods such as television style in-stream advertising and referral payments (where the referring site gets a cut of sales generated by the advert) will also be explored in greater depth.

Internet banking will also allow new payment models to be introduced - it should be far easier to provide paid-for content, either through subscription or "micro-payments". The latter concept, where content is paid for on a per-usage basis (something the long-defunct Micronet and Compunet services used to offer) may seem like an anathema to the free-ride philosophy of the Internet, but can make feasible a far wider range of material.

Whilst we may all joke about Internet fridges and the like, they do hint at another area in which the Internet will become increasingly important to the profitability of many companies. At the moment, businesses see the Internet as a means of delivering content and advertising, but the Internet is not a means of content distribution, it is a means of information sharing. If the manufacturer of your fridge can log into it and run diagnostic software to ensure that their engineer turns up to your doorstep with the correct part, they are not only providing a better (and thus more tempting) service, they are also saving themselves money. There are other revenue and cost-efficiency streams that have barely been considered yet.

What we are seeing now is not the death of the Internet, but the end of a brief era of foolishness. The Internet cannot transform the economy overnight any more than the industrial revolution did. In time, however, it will transform it just as much.



Laughing stocks

This graph shows the share price trends of a number of companies covering the period March 1st 2000 to February 1st 2001. The values listed are not actual share values but percentage trend values related to the share price at the start of the time period.

You can see from the graph that the depression in tech stocks at the end of the year has hit the pure Internet stocks significantly harder than hardware stocks. The Coca Cola company is listed as a non-tech comparison, although we note with interest that the dotcom collapse appears to have coincided with a rise in Coca Cola's share price. Insert your own joke here.

Note 1: Yahoo's stocks split 2:1 at about the start of the graphing period.

Note 2: Lastminute.com floated shortly after the start of the graphing period.

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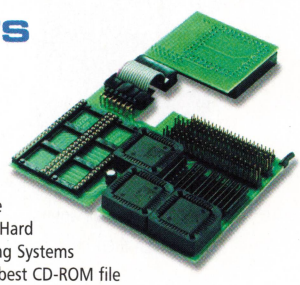
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4-way buffered interface, EIDE99 and AllegroCDFS software. The former allows to set the IDE/ATAPI devices, to use Hard Drives bigger than 4GB on Amigas with 3.0 or 3.1 Operating Systems and to access ZIP and LS120 drives. The latter is simply the best CD-ROM file system around and is also the only one compatible with DVD drives (a DVD decoder should be available for the Mediator PCI soon). The included manual of 18 pages describes with the help of many photographs, diagrams and tips the simple step-to-step process of fitting the interface in your A1200. **£24.95**

Name ProStationAudio
Prices From US$125 (Remix Edition - around £85). Millennium Edition US$329 (around £220)
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ProStationAudio

This big professional audio program is growing fast and now has two smaller brothers.

ProStationAudio (PSA) is a program for using an Amiga as a professional-level audio workstation. A workstation is simply any desktop computer that is powerful enough to be used for serious work - the computers that were sold at high prices as "workstations" ten years ago are less powerful than many upgraded A1200s today.

The heart of PSA is an emulation of a mixing desk, which in turn is the heart of any modern recording studio. It allows you to load in sound samples of any length, position them exactly where you want in time, and combine them into a final stereo recording, while having complete control over the relative loudness and left/right balance of each sample from moment to moment.



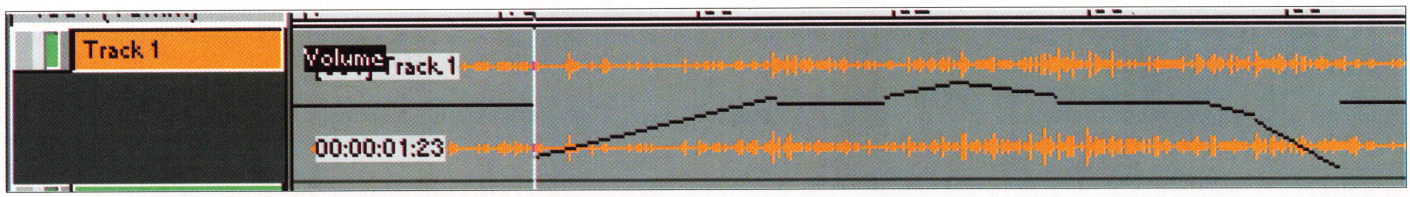
Above: The Magic Wand sets a range to match the beat, or sound, or silence. A sample can then be split at those points.

How does mixing work?

A digital sound recording, or sample (PSA calls them "regions" for some reason), is stored on disk as a file which is simply a long list of numbers. Each number represents the voltage which you would find on the microphone cable at a moment in time. The voltage is measured at regular intervals, which could be from around 8,000 times a second up to 44,100 times a second (41KHz - the standard rate for CDs) or even higher in the latest equipment. If the sound is synthesised digitally, there is no real microphone, but the string of numbers is the same as for a natural sound.

A mixing program reads in from the hard drive all the numbers that correspond to the various sounds as they are at one moment, and from them calculates two numbers (for the left and right channels) for the output sound. For mixing at CD quality, it has to do this 44,100 times every second.

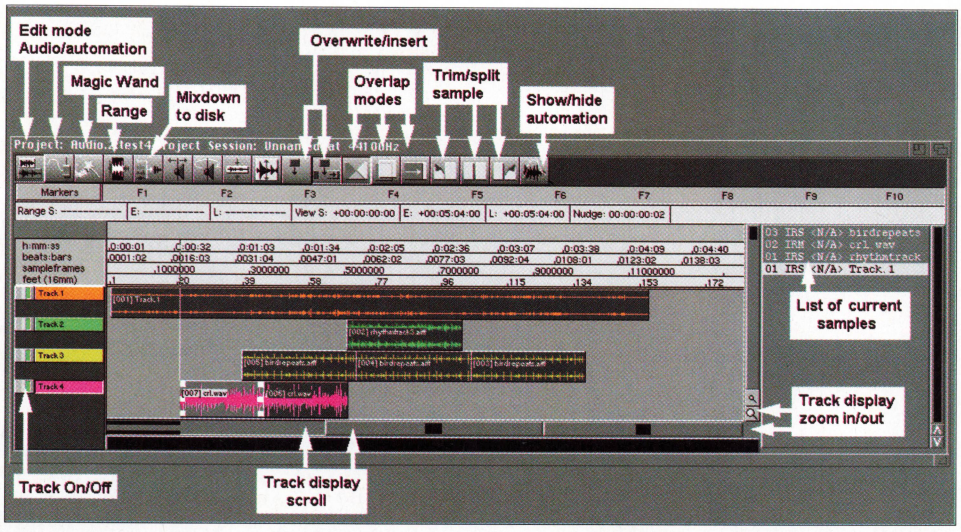
If all the original sounds were to be left at their original volume, they could be mixed by just adding the numbers and dividing by the number of samples. But they also have to be adjusted to give different and changing level and balance settings for each track. If these settings are changing, their exact values will have to be calculated before they can be applied. All these calculations could easily take up 1,000 clock cycles in the computer's processor. If the processor runs at 40MHz, you could do the calculations 40,000 times a second (these are, of



Above: Lines can be drawn on or recorded to a track to control volume or panning.

24 Prostation Audio	28 NextGen Watch	30 Sony Digicam	32 AmiCamedia	34 Shareware	36 Active Media
A look at the latest offering from Italian audio buffs Audiolabs.	New hardware running the AmigaDE coming soon.	It's got a Carl Zeiss lens, you know. But is it any good?	Download images from your serial-only digital camera.	What's hot - not what's not - in the land of shareware.	Fantastic books, DVDs and web sites from all and sundry.

Reviews Contents



Left: The Timeline gives you complete control over your sounds.

course, just ball-park figures).

The problem is, if we want to mix in real time, we need to do the calculations 44,100 times a second. Also, we need some CPU time for disk operations, the sound card software will need some time (quite a lot, if AHI is used), the Amiga Exec kernel wants a little time, and so on. In other words, it can't be done.

Power up for ProStation

Rigorous programming (using routines written in assembler for critical sections) can bring down the time required. But we haven't yet allowed for equalisation and effects such as echo or reverb, some of which need much more calculation than plain mixing does. The fact is that if you want to do real-time mixing to CD standard, using 16-bit numbers at 44,100 per second, a 50MHz 68060 processor is the absolute minimum, and a PowerPC is really needed for reliable performance. Otherwise, the output will have breaks and jumps as the processor runs out of time.

While the obvious solution is to use a faster processor, there are other ways out. The first thing to try is reducing the load on the CPU by switching off graphic features such as moving cursors during playback. If the sound is to be played back from a computer, not recorded to an audio CD, you can use a lower frequency. A 40MHz 68040 can easily cope with 16,000 calculations per second, for instance. Or, you can use simpler numbers - 8-bit instead of 16-bit. Both of these strategies were used in the traditional Amiga tracker programs, to compose music by mixing samples played at varying pitch.

"...if you want to do real-time mixing to CD standard... a 50MHz 68060 processor is the absolute minimum..."

The other way out is to mix not in real time, but to a file on disk. That allows the program to operate at whatever speed the CPU allows, so you can mix any number of tracks with all kinds of effects even with a slow processor. OctaMED SoudStudio uses this method for music modules with 16-bit samples, and PSA uses it to make mixes possible which could not be done in real time. For example, you can mix a few tracks down to one file, so that the final mix uses a smaller number of tracks.

How PSA operates

Work is organised into Projects and Sessions. Each Project is a drawer containing a configuration file, account data and drawers for audio files and session records. The account data file records the time you have spent on the project, for billing purposes. The User Audio drawer contains imported audio files and graphics files of their waveforms.

Audio files in all the usual formats can be imported from the Regions menu. As they are imported, they are converted to AIFF format. The progress bar, however, works its way along to the end, then rather annoyingly stays there while the waveform graphic is created. If the file is already an AIFF, you may be able to link to it - i.e. read it directly without importing.

PSA can also record through a sound card, download MP3 files direct from the Internet, and generate simple beeps and test tones. You can easily make new sample files with various effects applied by recording from the tracks.

As samples are imported, they are added to a list at the right of the screen. You can then click on a sample name, click a position on the timeline (or type in a time), and hit Return to place the sample on the track. There is an Insert Edit button which is useful for samples such as drum loops - hitting Return repeatedly will place a sequence of copies in the track. In this case, it is a good idea to record the whole sequence ▶

ProStation needs ProAmiga?

ProStationAudio is a demanding program. It is written for Amigas with a 68060 and PPC, a graphics card, and a sound card. You can do most things without the PPC. A 68040 will allow limited use, but you will have to use lower sample rates. If there is no graphics card, AGA at 800x600 can be used, but the display will be cramped. Without a sound card, you can monitor to the Paula chip and mix to disk, but not use Bars and Pipes at the same time.

Most newer hard drives should be up to the job of running a demanding application like PSA, but the built in IDE interface of the A4000 is very slow and could be limiting. A Phase5 SCSI interface would be best. This review was done with a Phase5 68060 (no PPC), SCSI drive and Prelude Zorro card. The demo version of PSA is complete enough for you to test your system - it's on this month's *Amiga Active* coverdisc, so give it a try.

to a single file, to avoid accidentally moving one copy.

Samples can be dragged around on the same track, or dragged to another track. If samples overlap on the same track, they can be set to cross-fade, or moved up so that one starts where the other stops, or left so that the first sample cuts out as the second starts.

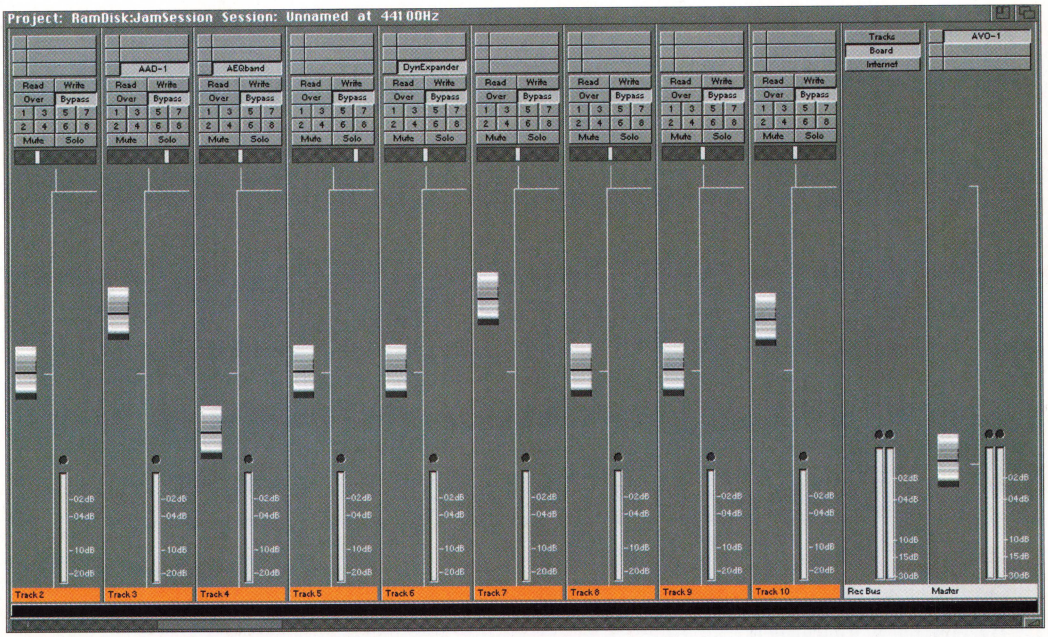
Samples can be trimmed or split in the track. This creates new Regions in the Region list. In my opinion it would be clearer if the whole file was called a sample, and only these shorter sections were called Regions. Creating Regions doesn't alter or duplicate the file on disk: it is just a list of start and end points. There is also a powerful facility to "Conform" a sample by scaling it to fit a given length of time. The sample can be scaled to between half and twice its original time, and this can be set either in seconds or in beats per minute. (PSA includes a beats-per-minute detector). A new Region is generated as a disk file for the scaled sound. This would allow you to match a sampled rhythm track to match a MIDI tempo in Bars and Pipes, for example.

Any track can be either mono or stereo, but mono and stereo samples can't be mixed on the same track. The three versions of the program differ mainly in the number of tracks they allow: the full Millennium edition allows up to 16 stereo tracks, the T8 version 8 stereo tracks, and the Remix version (aimed at DJs) two. The number of effects plugins is reduced in proportion.

Mixing Desk

The two big windows in PSA are the Timeline, containing the tracks, and the Mixing Desk. If you have two graphics cards, it is even possible to put these on two monitors. I found that putting one window above the other worked well in practice; you can always enlarge the Timeline temporarily if necessary. Screen resolutions can be up to 1600x1280.

The Desk display gives a good simulation of a real mixing desk. Like all computer mixers, it suffers from the fact that one mouse is no substitute for two hands: you can only adjust one slider at a time. However, tracks can be grouped. All the sliders for tracks with the same group number button depressed will move together. Or, if you are lucky enough to have a real mixer with MIDI output, you can use it to control PSA's sliders. I was not able to test this, but it should be an ideal solution.



Above: PSA has all the features of a real mixer plus computer-controlled automation.

Below: Mixer controls are clear and well laid out.



Each channel has three slots for plugin effects units, and there are three more on the output. The current range of the "ALPS" plugins is 27, and more are added regularly. Users can download them from the Audiolabs web site, as they are all free to use, even with the demo version. There is a highly professional collection of equalisers and filters, as well as an analog-like delay unit, a voice-over control and a tube-effect unit.

"...if you are lucky enough to have a real mixer with MIDI output, you can use it to control PSA's sliders."

The voice-over control allows you to put speech on one track, music on another, and have the music automatically fade out when the voice is active. This is very effective. The tube preamp aims to give the sound the warm quality of a traditional tube (or valve) circuit: whereas a digital system gives hard clipping on overload, this simulation overloads gracefully, with distortion containing mainly even harmonics. It sounds good in practice. For instance, a rather dry recording of acoustic guitar was warmed up very nicely. I could imagine some users leaving this one permanently in place on the output.

The whole range of plugins is one of the most impressive aspects of PSA. However, the interfaces used are not ideal. These have been made by scanning in images of real rotary control knobs. They look great (as you can see in the surrounding screenshots), but they are awkward to use in practice. There is no way you can grip and turn a rotary control with a mouse like you can in real life with your fingers, so the control movements are illogical. If the pointer is at 9 o'clock, moving the mouse to the right moves the pointer up; if it is at 3 o'clock, the same action moves it down. I would strongly recommend the programmers to consider at least an option of sliders rather than rotary controls. Sliders are far more natural to operate with a mouse.

The intention is that you should adjust the plugins in real time

(indeed, they can only be changed while the track is playing), but more often than not, one wants a fixed setting of equalisation throughout a track. It would be better if the plugins could also be set before hitting Play, if the settings could be stored to disk for later use, and if there was a requester for numeric entry next to each slider.

In other words, the emphasis of the mixing desk's interface has been placed on visual appeal at the expense of functionality. Elsewhere in the program, the interface both looks good and works well, although there is a tendency to rely on combinations such as CTRL-clicking when a small second button might have been clearer. For instance, the interfaces for the plugins are brought up by CTRL-clicking on their names; a small button with an up/down arrow could probably have been fitted in without losing too much of the name.

"This is one of the most impressive programs yet written for the Amiga"

AutoMotion

ProStation Audio's plugins are also part of the AutoMotion system, which allows the user to record all changes of settings in realtime for playback later. If the Write button for a channel is depressed, changes made to the level and pan settings are recorded during playback. They can then be seen as lines on the track in the timeline. A button in the toolbar cycles between the five possible variables, and the displayed lines can be edited with a useful range of drawing tools.

However, when recording live, both parameters are recorded at once. The Over button gives some control over this, by recording relative changes, so that if you don't touch the Pan, for instance, it will remain unaltered. But there is no way to record absolute settings of one or the other, and the on/off settings for plugins can only be drawn, not recorded.

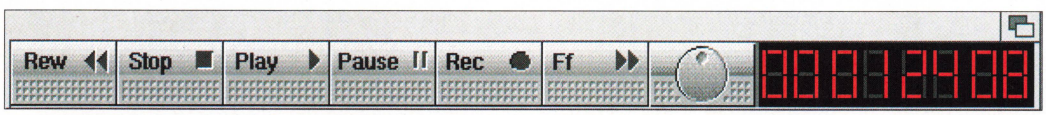
The cycling button could usefully be extended with a popup control panel to enable or disable recording for level, balance, and the several controls found in each plugin. The AutoMotion system is a very powerful engine which has a lot of potential for future development.

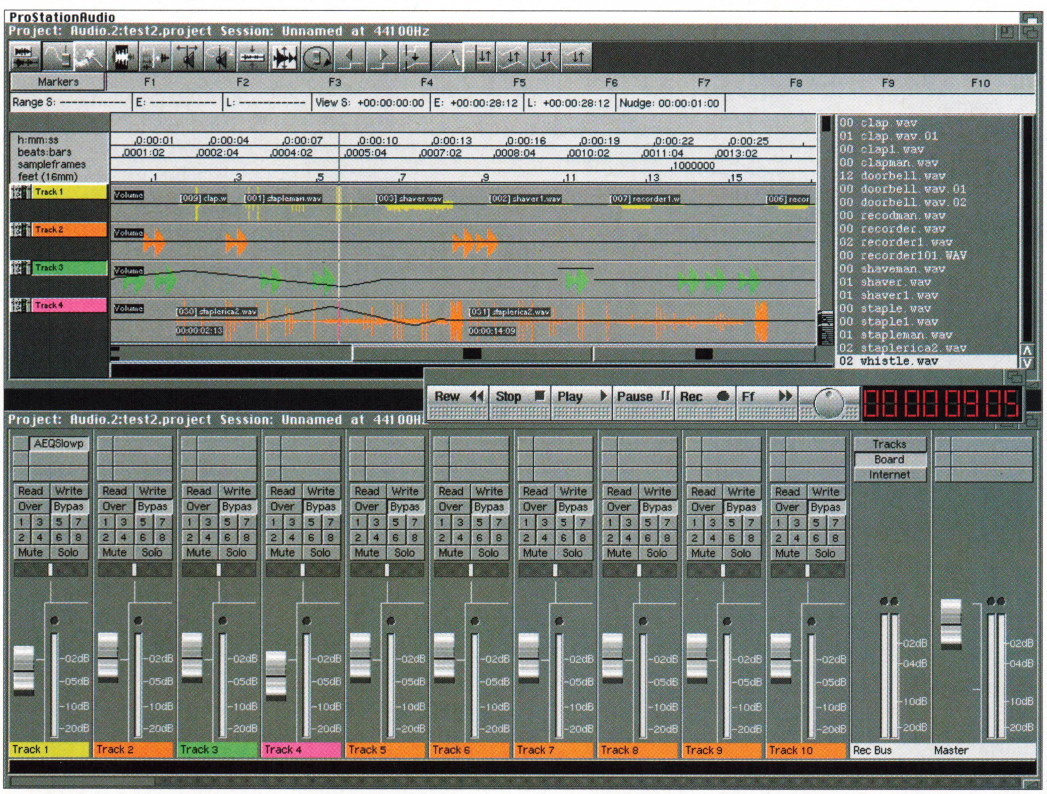
Conclusions

This is one of the most impressive programs yet written for the Amiga platform. It has been programmed with a real understanding of what will be most useful and is being steadily developed. The price of the full version is relatively high for an Amiga program, but anyone who is doing any professional work in audio or video will find that it soon pays for itself (the same applies to DJs with the 2-track version) and updates have been free since version 1!

The interface, despite the minor aforementioned criticisms, is in the best tradition of elegant Italian design. It is hard to think of a better looking screen display on an Amiga program. The general attitude of Audiolabs is clearly "only the best will do", which is as it should be. This is a working tool for serious users, not a money-grabbing commercial product. I hope it will be made available for the new AmigaDE in due course.

Don Cox A





ARexx and MIDI

There is a small set of ARexx controls to operate the transport, which would allow an external program such as Scala or Bars and Pipes to send a command at a particular moment to start PSA playing. Alternatively, PSA can stop and start playback of a MIDI or multimedia sequence in Bars and Pipes. It cannot so far issue ARexx commands itself.

Top: The transport controls are typical of the elegance of the graphics.

Above: This shows the whole program in operation.

Prostation Audio

SYSTEM: Amiga with 68040 (68060 plus PPC preferred), sound card, graphics card.

SUMMARY: A professional quality mixing desk program with a big range of effects.

NextGen Watch

Infomedia Networks never meant to make hardware. So what made the Houston, Texas-based company decide to produce AmigaDE-powered set-top boxes?

Following the announcement of their *"strategic relationship"* with Amiga on August 16th last year, and the subsequent arrival of the TVision portal - announced on January 3rd - Infomedia are moving quickly towards their goal of releasing one of the first devices to run the Amiga Digital Environment. Should we be pinching ourselves? Are Infomedia's plans any more concrete than the dozens of other startups who have been planning revolutionary set-top boxes in the past, yet failed to deliver? Patrice Haftman, CEO of the company, is quick to stamp out such conjecture.

On the path to set-top boxes

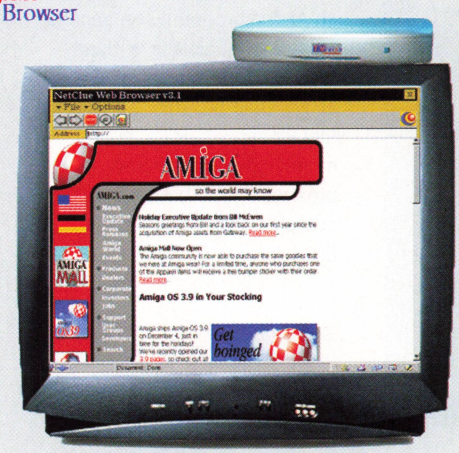
"Infomedia is unlike typical hardware manufacturers. We certainly didn't start out with a mission to build hardware," Patrice explains. *"As a company, we developed commercial software, performed systems integration and deployed high-speed communications networks. As the company evolved, we saw digital convergence as the future and began to move in that direction. It was also obvious that new hardware would be required to marry these functions within a single device.*

"As fate would have it, we tried purchasing some TV set-top boxes back in 1996, to develop an application for a customer who wanted to stream video from a central server over a fibre optic network to big screen TVs throughout a downtown office complex. At that time, all the major equipment manufacturers made announcements about the set-top boxes they were building. The only problem was, we couldn't find any that were actually for sale.

"The common response we heard was that they would require a purchase order for a million units before they would actually build any. We decided that type of mindset was typical of widget builders, not innovators, so after literally searching the world for set-top boxes and finding none, we decided to develop our own."

Infomedia Network™

JAVA Web Browser



"I'm sure there are lots of talented programmers out there today who owe their inspiration and their careers to their first Amiga."

On partnering with Amiga and Tao

"I remember the Amiga from years ago." Patrice recalls, fondly. *"My nephew had one of the early machines on which he first learned to program. Later, when he began developing commercial software for DOS and Windows systems, he would often remark how much better his Amiga was, and how he could do things with it that couldn't be done under DOS or Windows. He turned out to be a brilliant programmer and has been very successful in his career, partly due to getting hooked on the Amiga. I'm sure there are lots of talented programmers out there today who owe their inspiration and their careers to their first Amiga.*

"Last year, I was having a conversation with Francis Charig, who mentioned that Tao were providing the operating system for the 'New Amiga'. It had been such a long time since I had heard anyone mention the Amiga. Needless to say, I was delighted to learn that it was making a comeback.

"Being software developers, the operating system was of utmost importance to us. We made a list of all the applications that we wanted the set-top box to run, then proceeded to look for a platform that could support them. The silicon was secondary.

"During R&D, we evaluated products from many different vendors. We found that many of the embedded operating systems had their origins in industrial automation. We didn't find anything exciting about them. We were building a device that would be utilized primarily for entertainment, therefore we needed to find a platform that was designed especially for multimedia. Eventually, we contacted Tao and asked for a demo.

"I can still hear Francis telling me that the demo they sent to us would only need 3 or 4MB of memory to run, including the entire OS. I was a bit sceptical, so to give it a good road test we installed it on the oldest, slowest machine we had in our lab - a 66MHz, 486 PC with 8MB of RAM and no graphics acceleration, running Windows 3.1. What I didn't expect to see was a multimedia demo rendering 3D graphics in real time while simultaneously playing a movie.



What was even more amazing to me was that I knew it was doing it all in software on that bare-bones machine. We were inspired, and in that moment we could not only see what the platform was capable of, we could envision what it could eventually become.

On being ahead of its time

"I remember seeing the Palm Pilot back in 1988," recounts Patrice, wistfully. *"Many of your readers may be unaware that it has been around that long. We were exhibiting at a trade show and our booth was set up next to Palm. We were introducing a new software product at the show and were swamped with visitors the whole time, while the folks at Palm had very little foot traffic.*

"They invited me to stand in their booth when I wasn't busy to make it look like they had some interested customers. They then proceeded to demonstrate their products and asked me why I thought they weren't attracting anyone to their booth. I told them the answer was quite simple: it wasn't because they didn't have a good product - it was because people weren't ready for it yet - their technology was ahead of its time. The rest of the world would have to catch up, and it might take a few years before folks would come to realize its value.

"We feel the same way about the new Amiga. The technology is still ahead of its time. Most folks aren't ready to take advantage of its full potential. As an employer, we see first hand that the programmers coming out of university today are ill-equipped to develop applications for anything other than PCs running Windows. That's why we're very excited about interfacing with the Amiga community. With Tao supplying the foundation for the Amiga Digital Environment, users have a system to work with that is radically different. It requires that 'Amiga state of mind' which we find to be a refreshing change."

On the potential for TVision

"Markets for TVision span the globe. It is not only a consumer device, but can be utilized in a corporate environment on enterprise networks, schools, college campuses, medical facilities, hotels, government buildings, home offices, and in every country on the planet. Television suggests entertainment to most people, but Interactive TV is a new industry that's only just beginning, and it's not just for entertainment. We believe there is significant opportunity for new Interactive TV applications to be developed for education, healthcare, government, banking, finance, travel, customer service, sporting events and informational TV as well as new services delivered directly to consumers via their television sets.

"As a company, Infomedia is delighted to provide a commercial outlet for the talent and creativity of the Amiga development community. We are in the process of implementing a Developers' Corner on our web site catering to Java and Amiga Developers who are seriously interested in creating content targeted for TVision. The content may be in the form of games or Java applets to share with others just for fun, or they may be new interactive TV applications for the commercial market developed in Java or VP code. Personally, I think the two are a winning combination.

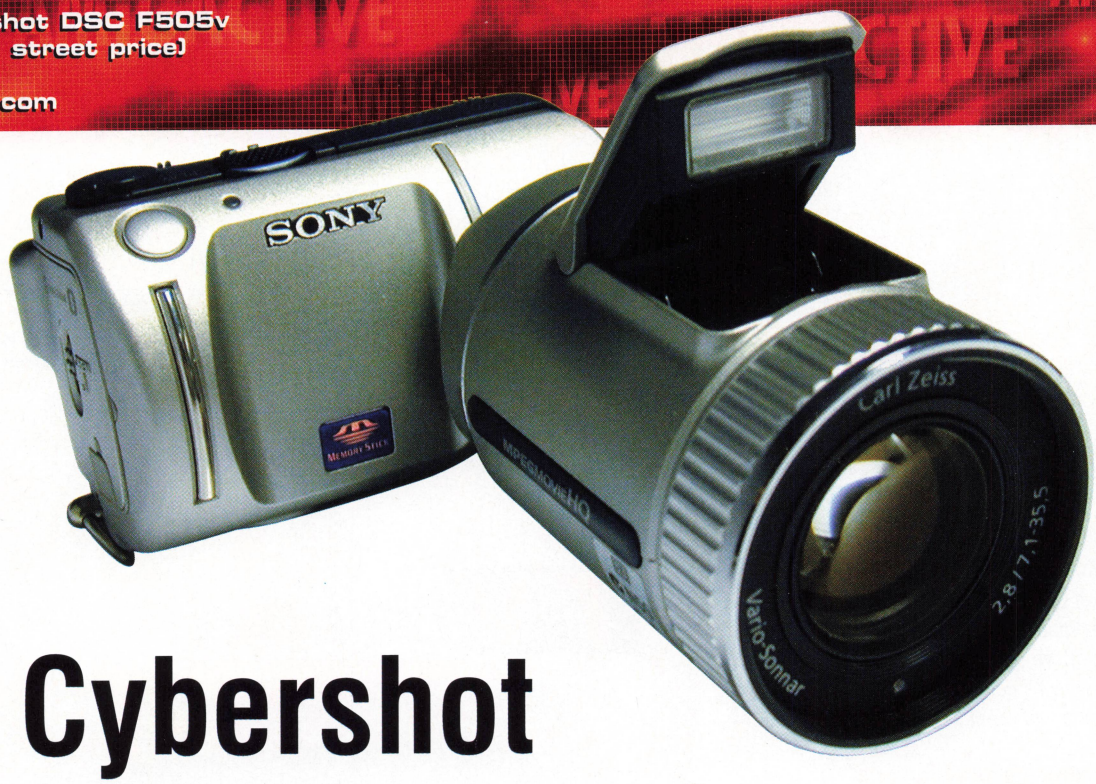
"To help facilitate content creation, Infomedia is planning to release a software development kit for TVision. We would like to include additional tools that will assist Amiga and Java developers in creating content especially targeted to the TVision platform. TVision operates quite differently than a typical PC, and presents greater programming challenges. But Bill [McEwen] tells me there are plenty of clever Amiga users out there just waiting for something to sink their teeth into.

"As we continue working with TV broadcasters and advertisers, we anticipate many opportunities for the skills of the Amiga development community. We will post this information on our web site as those requirements become more defined. We have been very impressed with the Amiga developed content that we've seen so far, and are anxious to see what new and exciting applications are yet to come. In fact, we are planning a product roadshow in the fall, and we encourage all interested Amiga users who would like to have their content showcased to contact us via our web site."

To reach Infomedia's web site, point your browser to www.infomedia-network.com. A

"...Infomedia is delighted to provide a commercial outlet for the talent and creativity of the Amiga development community."

Name Sony Cyber-shot DSC F505v
Price £700 (typical street price)
Supplier Sony
Contact www.sony.com





Sony Cybershot F505

Electronics from Sony and Optics from Zeiss should add up to something special...

The digital camera sector has generally shown a sharp division between the professional and amateur halves of the market. Recent improvements in CCD technology have allowed relatively low-cost cameras to produce high-resolution images, a development which has started to blur the boundaries between these two markets. By collaborating with the world's most highly respected lens manufacturer, Sony have attempted to blur the boundaries a little further.

The DSC-F505v reviewed here is an upgraded version of the F505. On the plus side, the new model has a flash synch connection and an increased resolution. Only part of the 3.3m pixel CCD is used, so true resolution tops out at 2.6m Pixels (1856x1392), but interpolation boosts that to 2240x1680 pixels.

On the down side, the camera has lost its serial connector, relying on USB for connectivity. Given the file sizes involved this actually makes a lot of sense, although given the current lack of a USB connector for the Amiga, this means you'll have to budget for an EZ-CAM (reviewed last issue) and an appropriate card reader, although given the amount of time it would take to download the contents of an 8, 16 or even 64MB memory stick via a slow serial connection, that makes an awful lot of sense anyway. True, this adds to the already significant price, but this is not a digital camera for the casual snapper anyway.



Handling characteristics

The camera itself weighs in at roughly half a kilo, much of it being the lens, which is designed to swing through 140 degrees in relation to the body to allow easier taking of subjects at tricky angles. The body sports a simple ergonomic hand grip, although I found the shape and balance of the camera makes it more stable and more comfortable held by the lens. The heavy lens on the possibly much-travelled review model we had tended to droop slightly when the camera was held by the body. Held this way, the rotating design is particularly useful; I often found myself twisting the body so the LCD panel pointed up, like a waist-level viewfinder. The mounting bush is situated on the lens barrel, allowing the body to be twisted for easy viewing when using a tripod.

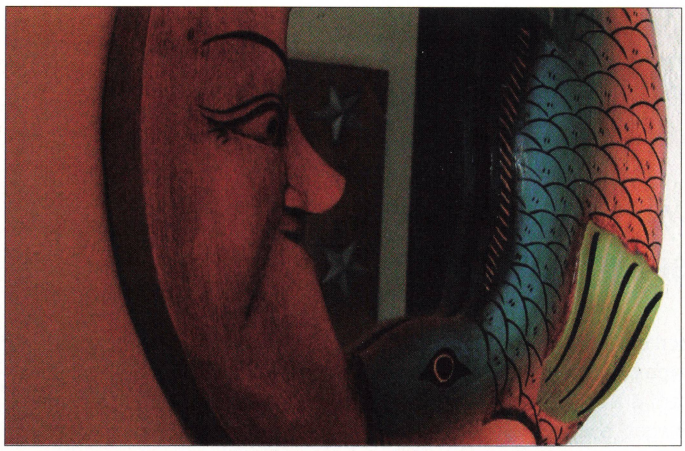
The camera comes with a rechargeable infoLithium battery, which proved to have an excellent battery life, and uses Sony's Memory Stick technology for storage. Image finding is through a 2", 559x220 pixel TFT screen which is of excellent quality, although the camera lacks a fall-back optical viewfinder. Although the camera body is covered with buttons, the interface is logical and very easy to learn.



There are a variety of exposure modes available, including both aperture and shutter priority modes and low-light settings that

compress highlights to avoid smearing. There is no true manual exposure mode, although the camera allows exposure value adjustments of plus or minus 1.5 EV in 0.5 EV steps. If you aren't happy with the settings the camera chooses for exposure, you can force the issue with an exposure lock. In combination with a spot meter, this allows a great deal of creative control over exposure - you can in effect choose to expose for any part of the image.

One niggle is that the lens stops down before you take a picture, so the LCD image can get a little too dark when you select a smaller aperture. Other features include comprehensive white balancing, a macro mode allowing focusing to about 8cm, a built-in variable flash, sharpness settings and several effects modes (see below). It can also record audio and video in MPEG format, and can save pictures in lossless TIFF format (if you have a big memory stick!)



Below: Detail resolution at maximum resolution is impressive.



Optical superiority

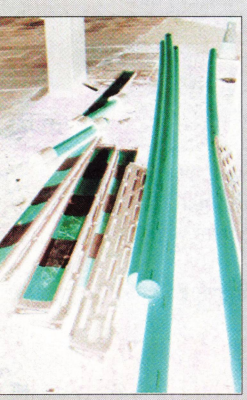
The star of the show is the Carl Zeiss lens. It's a Vario-Sonnar 7.1-35.5mm zoom lens (roughly equivalent to 40-190mm on a 35mm camera - digital zoom takes this twice as far, but at a significant cost to image quality). Aperture range is f2.8 to f8 - I would have like to have seen it go a little smaller. This is an extremely well regarded Zeiss design, the optics consisting of 10 elements in 7 groups, with two aspherical elements and Zeiss' advanced multicoating for optimal image quality. It did not objectively seem quite as sharp as I would expect from this marque. Perhaps the engineering isn't quite up to the normal standard lens (which, incidentally, normally costs more than this entire camera), or perhaps Sony didn't use the extremely good optical glass Zeiss have boasted since the days of Otto Schott a hundred years ago. Nevertheless, optical quality is excellent.

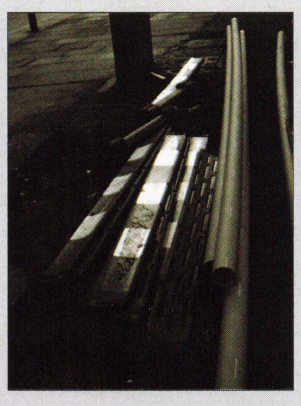
Autofocus is fast, but for those cases where it's not giving the right results, there's a manual focus ring. While focusing manually, the display zooms in for finer focusing accuracy - a very nice touch. Serious photographers will be glad to know that the lens also features a standard 52mm thread for filter and lens hood attachment.

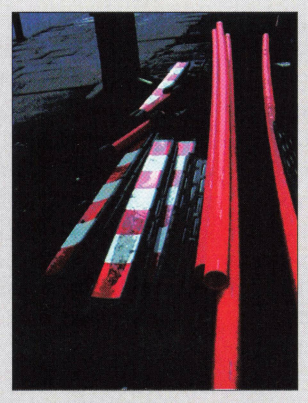
The important thing for any digital camera is, of course, image quality. Here, Sony's partnership with Carl Zeiss has clearly worked. Colours are beautifully rendered even in difficult lighting situations, and fine detail is crisply yet smoothly rendered in the manner characteristic of German optics.

Given careful handling, the Sony Cybershot DSC-F505v is capable of results as good as any I have seen from a digital camera.

Andrew Korn A







Left: Effect mode allows you to take images in black and white, "negative art", sepia toned and psuedo-solarized.



Specs

F505

Lens:	Zeiss Vario Sonnar 5:1 zoom lens, f2.8-8
CCD:	3.3M pixels masked to 2.6M effective resolution.
Resolution:	640x480 - 1856x1392 uninterpolated, maximum 2240x1680.
Shutter:	8-1/1000s.
Storage:	Sony Memory Stick (8MB supplied).
Finder:	2" TFT screen.
Exposure Modes:	Aperture priority, shutter priority, twilight, twilight plus, landscape & panfocus.
Focus Modes:	Manual, macro and autofocus.
Metering Modes:	Matrix and spot metering.
White balance:	Three presets or white-card balancing.
Power:	InfoLithium rechargeable gives about 1hr usage.
Video:	320x240 or 160x120 MPEG recording with sound.
Flash:	Pop up multimode smart flash or external Sony flash unit.

Cybershot F505v

SYSTEM: Sony Memorystick reader and EZ-Cam adapter.

SUMMARY: Some minor handling niggles and feature omissions are easy to live with given the image quality.

Name AmiCamedia 1.1
Price DM 69 (around £22)
Supplier Haage & Partner
Contact +49 6174 966100 or visit www.haage-partner.com

AmiCamedia 1.1

Have digital cameras with serial connections ever been easier to use with your Amiga?

With digital camera image quality and resolution constantly improving and prices steadily dropping, the temptation to take the plunge into digital photography is stronger than ever. Pair a high-pixel-count digicam with a good colour inkjet printer and the right paper and you can produce printouts that really do rival traditional photographs.

Of course, you need the proper software to download the pictures to your Amiga, and these days, that software is not going to come in the box. Have no fear: there's a fairly miraculous range of software choices for driving serial-port-equipped digital cameras. Aminet offers several freeware, CLI-only, bare-bones tools for doing this (see our digital camera feature in AA6 for details). Commercially, Vesalia Computer's Cam Control software does the job competently and offers a nice GUI to boot. Now, the prolific Haage & Partner bring us Stefan Robl's AmiCamedia.

Snappier snaps

Setting up the program is as simple as identifying your serial port driver (in my case, this was hypercom1.device - a faster serial card is a big help with large images) and unit number, and selecting the serial port speed. Installation is straightforward, and includes an AmigaGuide manual.

AmiCamedia's interface is polished and easy to understand. Once you have loaded the thumbnail preview images, small buttons across the top of the main window allow you to perform a variety of operations on pictures in the camera's memory, including selecting, deselecting, delete-protecting, downloading, and deleting. Left clicking on any of the thumbnails calls up a small button dock offering similar functions, and there's a simple 'download all' button.

AmiCamedia also offers a handy Camera Information window, which displays some interesting details about your camera, including battery capacity and number of pictures taken. There's also a button which allows you to set the camera's date and time from your Amiga's built-in clock.

It should be pointed out that more advanced Olympus models like the C2020-Z will capture brief QuickTime movie clips. AmiCamedia recognises and downloads these with no trouble, although for some reason, both MooVid and CyberQT choke on the files. Only the ancient QT program from Aminet was found to be able to play them, and at a rather slow frame rate.

"Program performance is impressive."

AmiCamedia supplies some thoughtful configuration options. For example, you can select from three different picture naming conventions, two of which include the time and/or date the picture was taken. AmiCamedia will automatically sense the picture format and append the appropriate file extension to the file name if, for example, you are using TIFF format.

Program performance is impressive. Thumbnails appear much, much faster than they do in Cam Control. Actual picture downloads, at least subjectively, seem faster too.

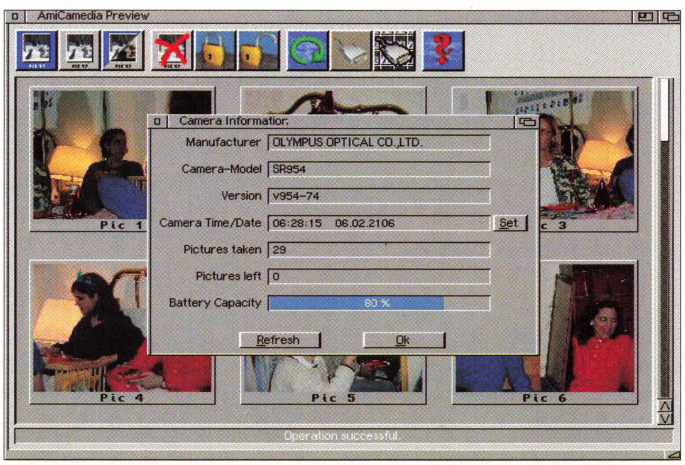
Pesky portaits

I'd recommend AmiCamedia over Vesalia's Cam Control software without hesitation, if only AmiCamedia incorporated two features present in Cam Control. First, for all those "portrait" oriented photos that you take holding the camera at a 90-degree angle, CamControl allows you to rotate thumbnails (and hence the corresponding downloaded image) in 90-degree increments, saving you the trouble of doing so later in an image manipulation program.

The only other "missing" feature is the ability to open AmiCamedia on its own screen. The programmer intends to incorporate this feature into future releases.

I like AmiCamedia a great deal. If it allowed image rotation and custom screens, it would be pretty close to perfect. Stefan Robl is a very clever programmer (see his web site at www.qdev.de for more of his wizardry) who wants to continue developing the program further, which is good news for anyone contemplating using a digital camera with their Amiga!

Steve Folberg



Only Olympus?

The docs for the freeware program, DigiCam, available on Aminet, state that digital cameras from Agfa, Epson, Olympus, Sanyo, Nikon and possibly Toshiba all use the same chipset and "operating system," and thus, the same download protocol. Although I wasn't able to test this (and neither has Stefan Robl) it's quite possible that AmiCamedia will also work with all these makes of digital cameras. It would be a great service to the Amiga community (and a huge selling point for AmiCamedia) if Haage & Partner ran some tests and posted a list of other compatible cameras on their web site.

AmiCamedia 1.1

SYSTEM: OS3.0, 68020, 6MB of RAM and an Olympus digital camera with a serial connection (although other camera brands may work; see boxout above).

SUMMARY: A nearly flawless and quite elegant way of getting Olympus digital cameras to work with your Amiga.

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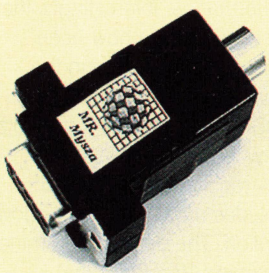
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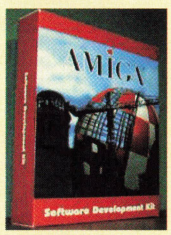


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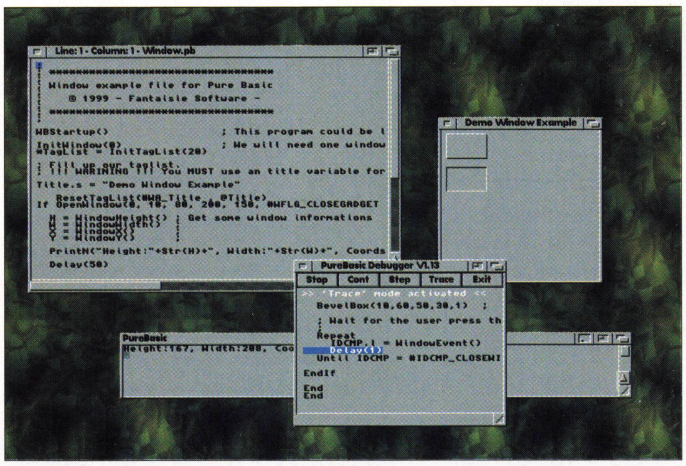
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Active Shareware

These long winter nights are the perfect time for shareware authors to get on with coding. Let's see what they've been up to...

Back to BASIC?



Way up there on my list of all-time least-favourite programming languages is that staple of the 80s home micro, BASIC. These old implementations of the language were typically slow, cumbersome and inelegant, with no support for modular programming. Even the Amiga itself has been cursed with some truly awful versions of BASIC, from the woeful but official AmigaBASIC to the OS-trashing AMOS.

But now, there's a new shareware project to redress the balance: Pure BASIC. Pure BASIC is a compiled language, so overcomes the inefficiencies of interpretation, and it has many of the programming constructs that you would expect from a modern language - such as structured data types and procedures with local variables. Best of all, it uses AmigaOS in a completely legal manner and comes with libraries of functions to handle most tasks including windowing, networking and graphics.

The core of Pure BASIC is a simple command-line compiler that takes a source file containing a BASIC program and churns out an executable. No support for separate compilation is provided, but you can include other files into a source file. Code generation is rapid and object code is optimised for 68000 or 68020 CPUs. The developers were working on PowerPC compiler, too, but this appears to have been abandoned due to a lack of user interest.

"Pure BASIC has the makings of a fairly sophisticated development environment."

Most users won't call the compiler directly, though, but will use the GUI-driven IDE (Integrated Development Environment). This provides a single-window text editor with simple editing facilities and a rudimentary debugger. The debugger allows you to halt your compiled program at any point and single-step or trace its execution, displaying the line of source code currently being run. There's no option to start a program in trace or single-step mode, however, and no way to set break points.

The editor is very basic with no syntax-highlighting - although a Pure BASIC parser is supplied for GoldED, should you prefer to use that. The editor does have a neat feature whereby you can look up and display various structures used by the Pure BASIC libraries. This sort of reference facility is a real boost to productivity whilst entering code and helps to eliminate errors.

Pure BASIC has advanced in leaps and bounds since I first looked at it a year ago. As alluded to previously, the IDE in the latest V2.0 release is much improved, and there's a lot of more support libraries supplied, many of which have been rewritten for better performance. Interestingly, the system has also now been ported to Windows and the developers claim that Pure BASIC source code is portable between the two platforms.

A registration fee of £40 includes a copy of the Windows version. The demo (see Aminet: dev/basic/PureBasic.lha) is restricted to the point of being unusable - only four of the support libraries are supplied and source code is limited to 200 lines - but there are plenty of demos to show what the system is capable of, even if you cannot compile them.

Pure BASIC has the makings of a fairly sophisticated development environment. It's never going to be a complete replacement for C, but it is ideal for beginners.

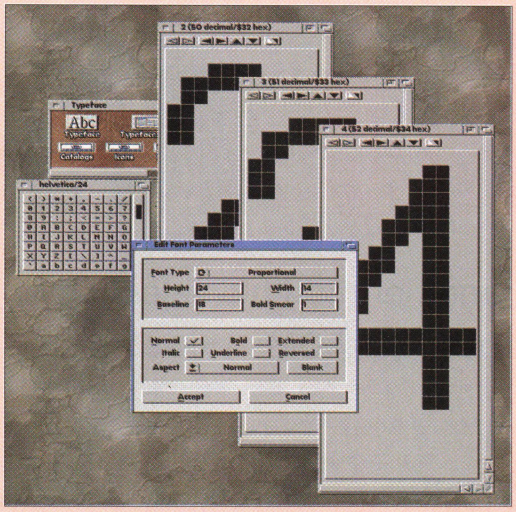
You can learn about programming and the capabilities of AmigaOS without picking up the nasty habits that one usually does with BASIC and yet without worrying about all the headaches of C programming in AmigaOS. The integrated environment means that you don't have to worry about obtuse compiler options and cryptic switches like you do with most C environments for the Amiga.

DIY fonts

Vector fonts are generally preferable to bitmap fonts, but bitmap fonts do have some advantages. They are more efficient to render, for one, and - an often overlooked fact - much easier to design. Typeface (text/misc/Typeface124.lha) is a simple GUI-driven application for creating and editing monochrome bitmap fonts on the Amiga.

Typeface allows you to load in an existing bitmap font and edit it or create one from fresh. Thanks to the way the diskfont.library works, you can even load in a vector font, and, since it gets rasterized on the fly, use it as the basis for a bitmap font.

The program's interface is dead simple, and provides a main window with an array of all the glyphs in the current face, and you can click on each of these to pop up an editing window to modify them. Drawing tools are very basic, just featuring painting with the mouse and basic scrolling and flipping operations. You can configure an edited font to your liking, though, and specify all the usual flags and the kerning and spacing for each glyph.



"Typeface makes full use of BGUI to create a fast and configurable user interface."

The newest release of Typeface has been updated to use the latest BGUI library, a much under-rated GUI toolkit for the Amiga, and Typeface makes full use of BGUI to create a fast and configurable user interface. Improvements could be made, however. For example, you have to close an edit window and re-open it for any preferences changes you make to be applied, and the zoom function only works in powers of two, which isn't really a fine enough control over how much of a glyph can fit within the window. It would also be rather nice if the size of the edit window would adapt automatically to the size of the font's 'canvas' and zoom level.

Still, those few minor niggles aside, Typeface is an easy-to-use and comprehensive tool for chiselling out your own bitmapped fonts.

Who you gonna call?

One thing that has always annoyed me about Workbench - with the majority of filesystems, at least - is that you must have a drive mounted multiple times as different devices, one for each type of filesystem that you want to access on that drive. A familiar example of this is the floppy drive. Typically, you'll have it mounted as DF0: for FFS-formatted floppies and as PC0: under CrossDOS for MS-DOS-formatted ones. The problem, then, is that when you insert an Amiga floppy in the drive you get a ghosted PC0: icon displayed on screen, and when you insert a PC floppy you get a ghosted DF0: icon. It's all rather ugly, don't you think? The author of Ghostbuster did, anyway, and has solved the problem.

Ghostbuster (Aminet: util/cdity/GhostBuster.lha) is a neat commodity (for OS3.5 and above) which uses the new 'hide devices' feature in OS3.5's Workbench preferences to hide these ghosted icons. So, for instance, it can take care of the floppy problem just described or hide your CD0: icon from view when you have an audio CD in your CD-ROM drive.

To install Ghostbuster, you simply put it in your WBStartup drawer and supply the devices you want it to watch as a tooltype. It will then monitor those devices and update your Workbench prefs settings on the fly so that any icons for invalid disks are hidden safely from view.

Ghostbuster is an incredibly clever idea for a rather niggly problem. It's simple to use and does the job admirably. The author mentions that he intends to make a clone of the Workbench prefs editor with an extra option in the 'hide devices' section to hide drives which are invalid. When that's done, Ghostbuster will be pretty much perfect.

Richard Drummond A





Left & Right: Now you see them, now you don't. Ghost removes ugly icons!

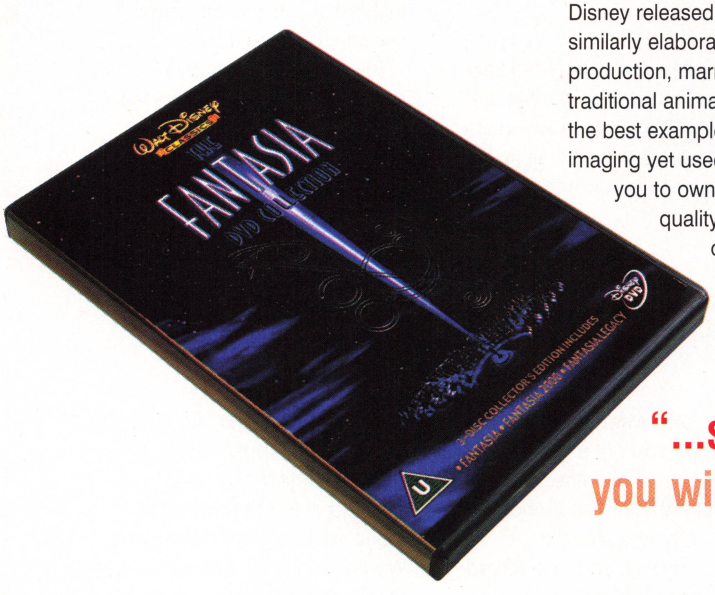
"...an incredibly clever idea for a rather niggly problem."

Active Media

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Fantasia DVD Collection

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- RRP: £50.99
- Amazon.co.uk price: £43.99



Walt Disney's 1940 feature film Fantasia, setting a selection of musical pieces to lovingly-drawn animations, has long been regarded as one of the highest points in the history of animation. Last year, 60 years on, Disney released a followup, Fantasia 2000 - a similarly elaborate and high-budget prestige production, marrying tried and tested traditional animation techniques with some of the best examples of computer generated imaging yet used. This DVD boxed set allows you to own both movies in the high quality DVD format, with the bonus of a third DVD, Fantasia Legacy, containing a wealth of information about both Fantasia movies and some of the Fantasia projects which were mooted but never came to pass.

Most connoisseurs of the animated arts will pop the disc of the original Fantasia in their machines first. They will not be disappointed - despite the age of the movie, the images are sharp and colours well saturated. I guess this DVD was made from the 1990 restored print. The audio is a new remastering, and is similarly high quality, but there is one disappointment: the 4:3 aspect ratio.

Those with widescreen TVs will particularly appreciate this point after watching Fantasia 2000. While nothing can compare to the awesome Imax presentation the movie was originally offered in, the reproduction here in full 16:9 wide screen is nothing short of

"...some of the most awesome images you will see coming out of a DVD player."

The Darwin Awards

- Paperback, 286pp
- Author: Wendy Northcutt
- Publisher: Orion
- ISBN: 0-75283-871-7
- RRP: £5.99
- Amazon.co.uk price: £4.79

Have you heard the one about the guy who tried to mount a jet engine on the back of his car for the ultimate go-faster custom modification, and ended up embedded in the side of the mountain? If you're on the Internet you probably have, and it's probably thanks to the Darwin Awards.

Ever since 1993, Wendy Northcutt has been collecting stories of people who removed themselves from the gene pool in a stupid fashion, giving to the individuals concerned a "Darwin Award". Stories of crass stupidity, especially where the perpetrator pays for their lack of common sense in a spectacular manner, it seems, appeal to a lot of people.

The Darwin Awards are well known to many who have never even visited the official web site (www.darwinawards.com) because all the good stories are rapidly disseminated by visitors to everyone they have in their address books. If you've never received a Darwin Award story from a friend via e-mail, it's a fair guess your e-mail account is broken.

It seems inevitable, given the Darwin Awards' cult-like popularity, that there would be a market for this material beyond the Internet. Bypassing the relatively profit-free medium that gave birth to the awards, Wendy Northcutt has gone practically Neolithic on us with this paper-and-ink book. Technophiles note: until somebody actually starts selling a webpad you can use while on the toilet or the train, this is the best medium for this material.

Interspersed with a few short and light-hearted essays on evolution and the methodology of award granting are 180 of the funniest stories that have come up during the history of the awards, classified by type and many accompanied by editorial comments. It's an easy read, and a lot of laughs. Put simply, it's the Darwin Awards in one easy package. Need we say more? **AK**





stunning. While it is generally agreed that the program doesn't quite live up to the original, pieces such as "Pines of Rome", "Rhapsody in Blue" and "The Firebird Suite" provide some of the most awesome images you will see coming out of a DVD player.

The third disc contains a host of information and short "making of" clips about both movies. The information is plentiful and there is plenty of archive material on show. This includes a reconstructed "Clair de Lune," originally intended as part of the first Fantasia.

As it turns out, omitting it was a good move, but, like all the design sketches and storyboards, it is of historical interest. The disc is interesting but marred by a huge menu system - you'll spend more time pressing buttons than watching the screen. **AK**

Oh, get lost!

➤ Web site
➤ URL: www.multimap.com

Even the most avid net-head occasionally needs to find that thing called a front door and venture outside. The real world is quite a big place; we sometimes need help finding our way around it. That's why sites like Multimap exist. Multimap provides detailed road and street maps of anywhere in the UK. Enter the postcode of your destination, or click on the main map, and you'll get a street map that you can zoom in and out of.

But wait - it gets better! On entering two postcodes, the site will give detailed directions for a journey between the two. Once you have a map of an area, there are links for local information too. While it's best to do this on your computer before setting off, there is also a WAP version, which may come in handy if you get lost en route.

The maps can also be linked to from your own web site. This means you can give others directions to come to you, saving you from venturing outside. **NB**

Going all googly-eyed

➤ Web site
➤ URL: www.google.com

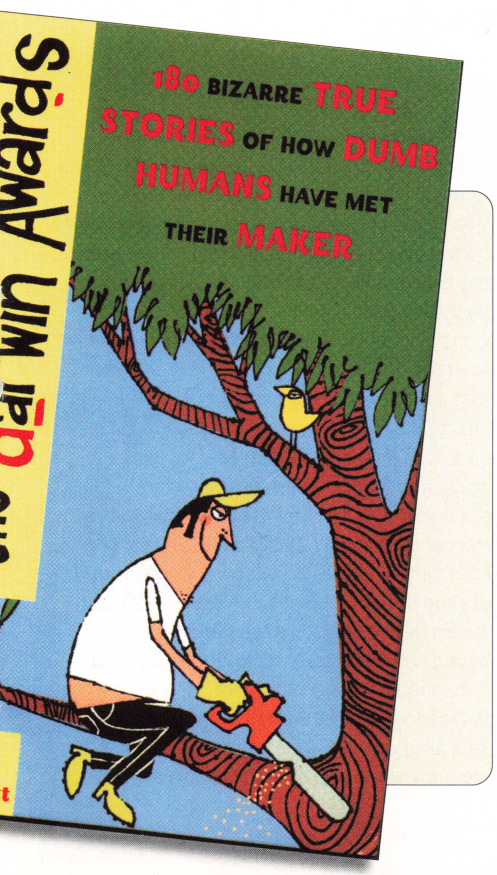
We have looked at the Google search engine before, but they now have a web directory too. At first glance, this appears similar to other web directories like Yahoo!. The key difference is that you can view pages in Google's own PageRank order instead of alphabetically. Pages are ranked according to how many other sites link to them. As more people are likely to link to a more useful site, this tends to put the most useful links at the top. **NB**

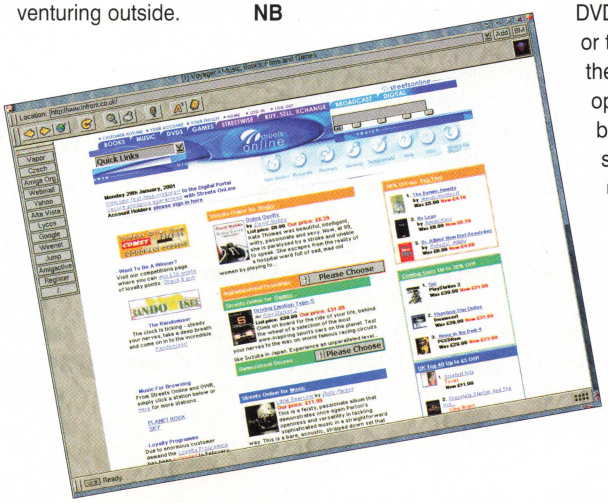
"Even the most avid net-head occasionally needs to find that thing called a front door..."

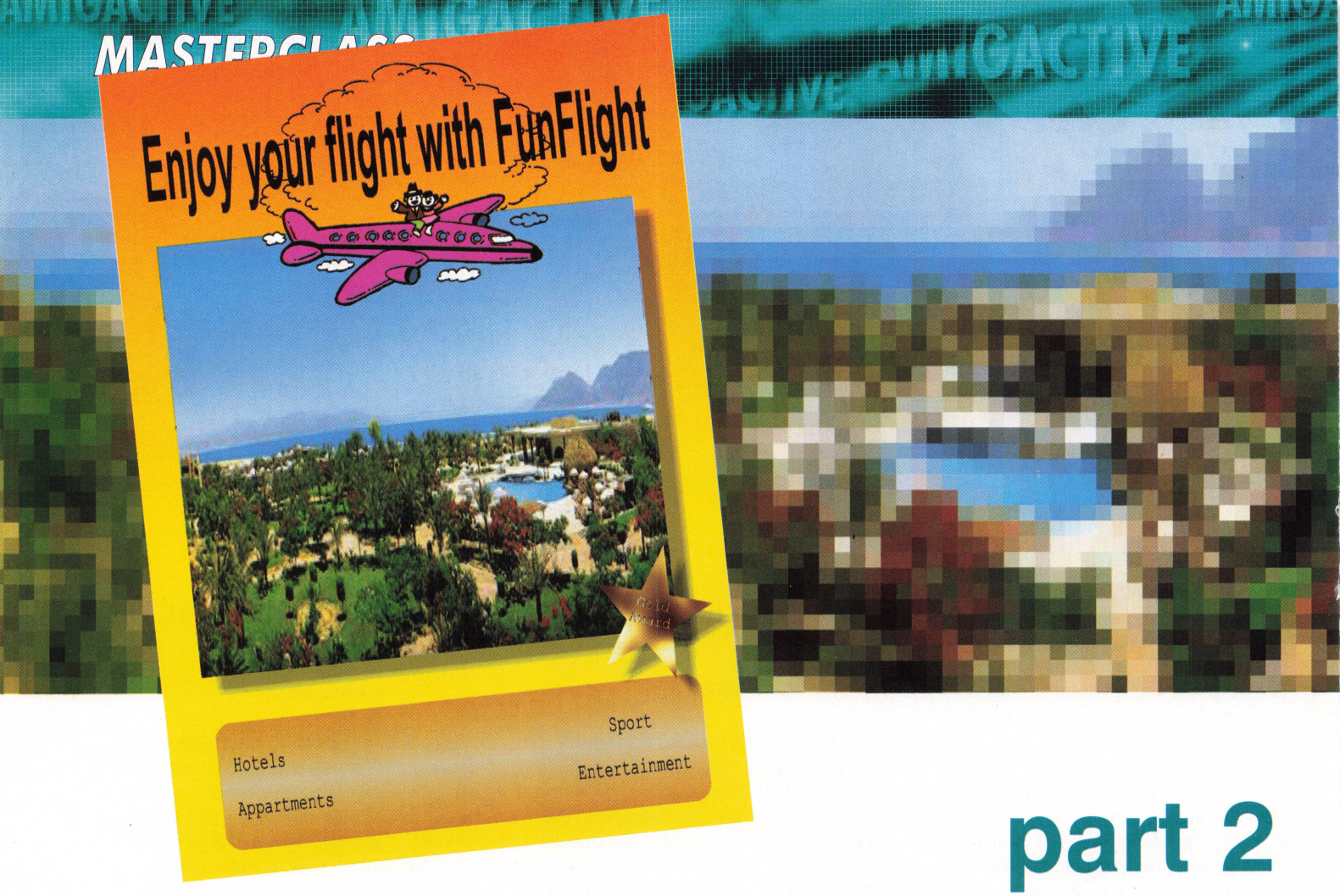
Shop, but don't drop

➤ Web site
➤ URL: www.StreetsOnline.co.uk

Some products are particularly suited to online shopping, such as books, CDs, games and videos/DVDs. StreetsOnline is actually a combination of four shops, selling each of these products: a kind of online department store, if you will. Many of the CDs and DVDs have "try before you buy" clips or trailers. Unfortunately, these use the RealMedia format rather than the open standard MPEG, so they can't be played on Amiga browsers. The site is clearly laid out and easy to use, although some of the database links seem a little suspect. Clicking the "More DVDs like this" link on a list of Stargate SG-1 DVDs gave a list that included Shakespeare and The Carpenters. We must be missing something. **NB**







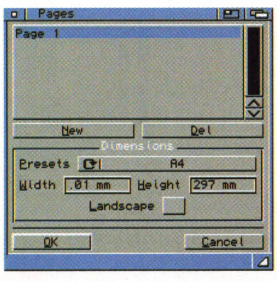
part 2

DrawStudio tutorial

With the basics out of the way in part one, we now look a little further into what you can do with DrawStudio.

You can not only create a single image in DrawStudio; you can create an entire layout with it, which is what we will do in this instalment. We will see how DrawStudio can help you create a layout.

A project in DrawStudio can consist of as many pages as you want. Even if you only create a single-page layout, you can use the different pages as scratch pages, where you create the different images you need. This way, you keep all clipart for one project in the same file, saving you the trouble of having to search your hard disk each time you change your layout. To create a new page, click on the 'Page' button near the bottom left, and click on 'Pages'. Next, click on 'New', and you have created a second page. With the arrow buttons next to the page button, you can change the page.



Let the computer do the work!

For the first bit of clipart, we will use some automated functions of DrawStudio. To create the star, select 'Rexx' from the Effects menu, and from the list that appears, select 'Star5'. There are a number of predefined shapes in the ARexx menu, which are there to make life easier for you. Now select the text tool, and click somewhere on the page. Select 'Centre' from the Text-Alignment menu, and type the two lines of text you need.

To create the bevelled effect, we need three copies of the text, at a fixed offset. To get this, make sure the text is the selected object, and select the Edit/Duplicate menu item. In the requester, set the number of copies to two, and set 'move x' and 'move y' to 0.5 mm per copy. You now have three copies of the text. Bring the centre text to the front, and fill it with the bitmap containing your pattern. Fill the right text with white, transparency 75%. Next, fill the star with the same bitmap as your text, group your texts, and position them over the star.

Of course, it would be nice to let the computer do even more of your work, wouldn't it? This is where the ARexx interface comes in. You can write your own scripts from scratch, or change the scripts that came with DrawStudio to suit your needs. If you find you often need to make bevels like we did here, you could write a script that does it all for you. We already have a script that does half of the work: the "shadows" script creates a black copy of your object at a fixed offset. If you change the script to create another copy at the negative offset, colour white





"...it would be nice to let the computer do even more of your work, wouldn't it?"

and opacity 75, you can create the bevels by just calling an ARexx-script. The best way to learn this technique is by experimenting with the supplied scripts.

After creating the star object, copy it, and paste it on page 1. Draw a box across the entire page, and fill it with a nice gradient. Draw out another box, a good size for a central image, and fill it with a bitmap to have a picture on your page. Now place this picture box and the star in the right place, shift-select them, and select the 'softshadows' script from the Rexx requester. To create a shadow of a picture, you need to use this technique of filling a shape with this picture - if you just place a bitmap on the page, the shadow script would create a copy of your bitmap.

Object layout

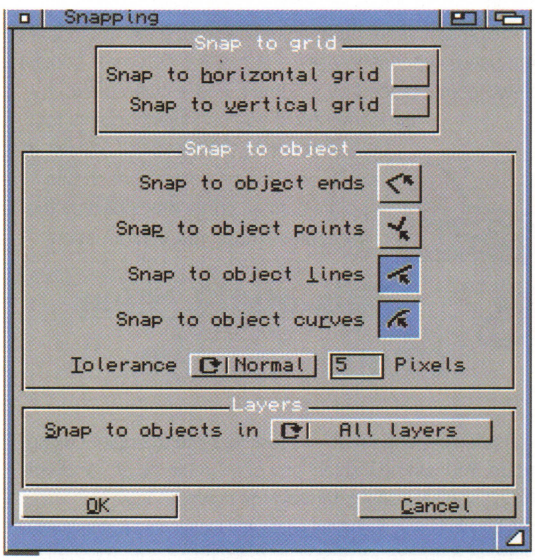
You will need a way to align objects, and place them on specific spots on your page, if you want to create a nice looking layout. You can use different methods to place your images. The most basic method is to call a grid, using the menu, and set 'Snap to Grid'. This option gives you a non-printing grid over your page (as the name suggests), and the images you draw will snap to the nearest point of this grid.

The next way is to use the Objects/Align menu item. This brings up a requester, where you can set the horizontal and vertical alignment. Object can be aligned relative to the page, or relative to each other. The radio buttons let you select a left-alignment, centre or right alignment. You can also select distribute. This will space out your objects even spaced across your page.

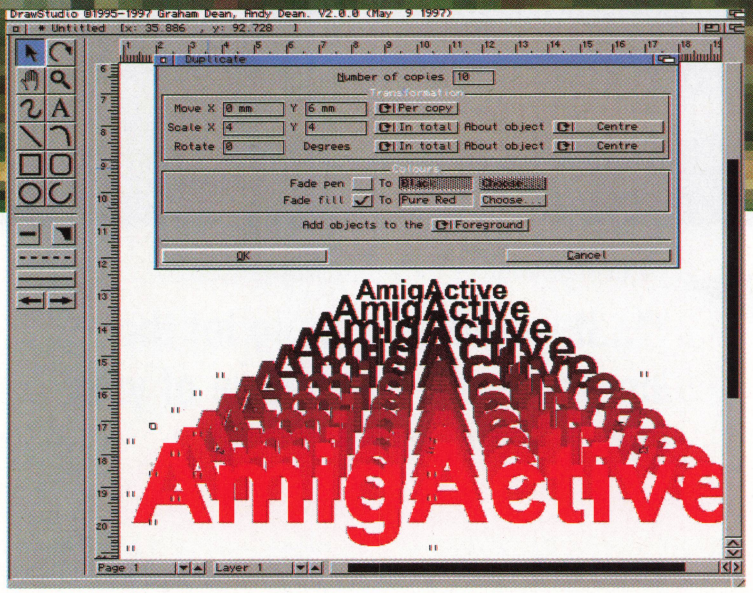
The last way, and possibly the hardest to get to grips with, is the snap to objects option. You can make objects snap to each other in a number of ways. To use this method, select the menu-item 'layout-snapping'. In the requester that pops up, you can select to snap to grid, and snap to object ends, curves, lines or points. You can also choose any combination of those. If you now draw, or move an object across the page, the mouse-pointer will change it's shape to show when you are near to a "snap-point", making positioning easy.

On the example page we need a simple layout for the texts underneath the picture. The different texts need to be spread across the page. First, enter the different blocks of text.

Even though we don't need it for the page we are creating now, it's time to take a closer look at snapping to objects. Along the way, we will also look at layers. We will create some guidelines on a spare layer, and snap the objects on the main layer to this guideline. The first thing you need to do when you want to work with multiple layers is create multiple layers. The process is similar to creating a new page: at the bottom of your work screen, you will see a button labelled "layer 1". Click on this button, and the layer requester pops up. Click 'New', and select 'greyed' for layer 1. Using the Layers button, make sure you have layer 1 as the current layer. Now draw some lines on this layer. These will serve as guidelines on your artwork. You will notice that the lines appear "ghosted". Now switch to layer 2, and select the menu "layout-snapping".



Above: DrawStudio offers a range of methods for snapping objects - to a grid, to each other...



Left: Copying and pasting an object multiple times is easy - but it doesn't have to be cheesy. This is just an example!

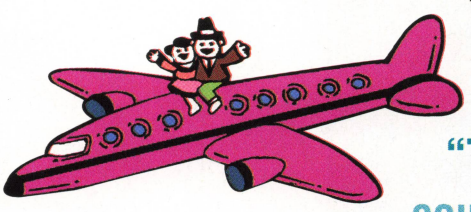
Below: Bend! Stretch! You too could have a body like this. In DrawStudio, anyway.

Set the snapping settings so that "Snap to object lines" and "Snap to object curves" are selected, and click "Okay". Now draw some objects, and move them toward your guidelines. You will notice how the mouse pointer changes shape when you are near one of the guidelines. This indicates that you are in the "snap-zone". Move your objects until the mouse pointer changes, and place it there. After you have placed all your objects, you can use the layer requester to delete the layer with your guidelines. You should now be able to finish your page with some text and a bit of clip-art.

Editing structured artwork

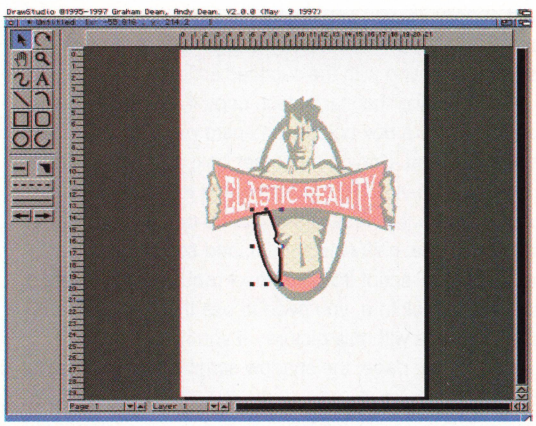
You will no doubt find that your artwork isn't exactly what you imagined when you started drawing. In other words, you will need to edit existing work. When editing a drawing, keep in mind that you should always use as few points as possible. If you can define a shape with four points, don't use twenty points for it. More points not only increase the file size, but as you use more points, the curves will become less smooth.

This might seem counter-intuitive, but think about it: if you use two points to draw a curve, the curve will consist of two points placed by a human, and a curve drawn by the computer. If you use twenty points for the same curve, the curve will consist of twenty points, and between each two points a small curve described by the computer - much more information.



"This might seem counter-intuitive..."

Double clicking an object puts you into the point-editing mode. You can now select any point in the object, and edit the point by moving it, moving the curve handles, or deleting it. Using the menu-option 'Bezier/Add Points', you can add points to an object. If you click on a line, you get an angle point, and if you click-drag on an existing line, you get a curve point with two curve handles.



Copying and tracing

To create a copy of an object, you can use the 'Edit/Clone' command. This creates an exact copy of your object at a fixed offset. If you want more control over the final outcome, use the duplicate command instead. This brings up a requester which allows you to tweak settings, such as how many copies you want, the offset, scaling of the copies, rotation and fills. Of course, you can use the well known editing functions such as cut, copy and paste for your basic editing needs.

Sometimes you might want to use a bitmap template to create a drawing. For instance, you have a scan of a logo, which you want to transform to a structured drawing to use on letterheads and other stationary. To do this, open a new project, and create a second layer. Place your bitmap picture on the first layer. Now draw a box filled with 50% transparent white over your bitmap, and make the second layer the active layer. Now start drawing, and just follow the lines of your bitmap.

After you're done, you can give your drawing colours, and delete the "bitmap layer". As an alternative, you can use a program designed for auto-tracing, to let the computer do the work for you. Such a program doesn't get the same results as you would get by drawing by hand though.

Dirk Harlaar

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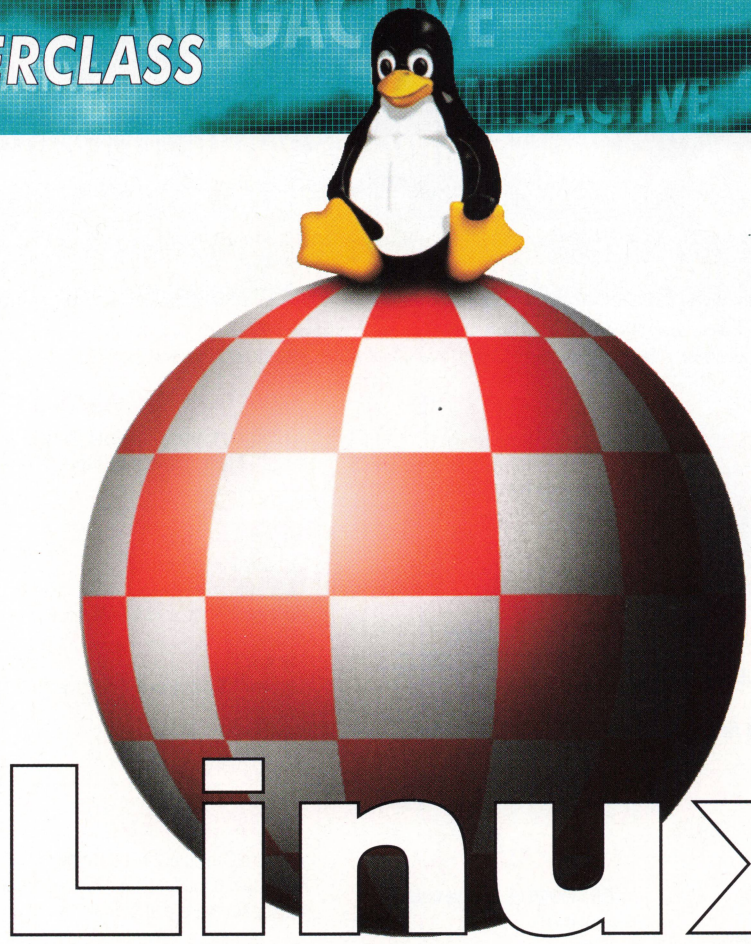
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Linux on an Amiga part 2

In the second part of our Linux Masterclass, we look at installing some basic packages and getting to grips with the Linux shell.

Firstly, apologies to all readers who tried to install Linux from last month's CD. Unfortunately, a problem crept in at the mastering stage, which made the CD unusable for installing any of the additional Linux software packages. While you could perform the base installation, when you booted into your installed copy of Linux, Debian's package-handling system wouldn't recognise the CD as a valid Debian CD. This left you with a very basic Linux installation that wasn't very useful. So, once again, sorry.

Not ones to put out heads in the sand, however, we have fixed the problem for AACD18, and a functional copy of the packages that were on the last CD are available on this month's coverdisc. To complete the installation which you started last month, carry out the base installation as described in AA17, boot into your Linux installation and put AACD18 in your drive. You should be ready to proceed now, and we'll go through things in a bit more detail here.

"For the day-to-day use of Linux, you should be logged in as a normal unprivileged user."

Base configuration

When you boot Debian for the first time, it takes you through a dialog-based configuration. This allows you to set up your system and install additional software. The first question you are asked is *"Shall I enable MD5 passwords?"* followed by *"Shall I install shadow passwords?"*. Answer *"Yes"* to both of these because it will make your system more secure.

Next, you'll be asked to enter a password for the root account and asked whether or not you wish to create a normal user account (see "Possesion" boxout). This is all quite straightforward, so follow the instructions on screen. Create at least one user account - you only want to be logged in as root when absolutely necessary. For the day-to-day use of Linux, you should be logged in as a normal unprivileged user. Don't forget the passwords you entered, especially the root password, because it will make logging into your machine again extremely difficult.

Next, you'll be asked *"Shall I remove the pcmcia packages?"*. If you don't have an A1200 or A600 or if you don't plan to use any PCMCIA cards, reply *"Yes"*. It'll save you a bit of disk space.

The next question you will be asked is, *"Do you want to use a PPP connection to install the system?"*. If you say *"Yes"* here, you will be able to configure a dial-up Internet connection and use that to download the extra software that you need. However, hold off just now -

Possession

Linux is a multi-user system. It is designed to let several users live within the one machine without treading on each others' toes. This is enabled through accounts and ownership. Each user is allocated an account to identify them when using the machine, and every object within the system is owned by somebody. Every file, directory and system resource has access permissions associated with it, specifying which users can access them.

There is one special user account on a Linux system and that is the 'superuser' or 'root' account. The superuser can access any object within the system and so has control over all the other accounts. Generally, to perform any sort of system administration, you must be logged in as root.

unless you have a fast, unmetered Internet connection - because it'll be quicker and cheaper to install the packages we have provided on the CD first. You can get extra packages from the net later. So, say *"No"*.

Packaging

You are now ready to begin installing software from the CD. But before we go any further, a word about how the software is stored on the disc and how it is installed.

Software for Debian Linux is distributed as Debian packages, or 'debs'. A deb is a compressed archive format, a bit like an LhA or tar archive, but includes lots of meta-data about the software stored inside. This tells the installer tool what's contained in the package, what dependencies there are (that is, what other software must be installed first to be able to use it) and how to install, configure and, if necessary, remove the software.

Debian packages are managed by the dpkg suite of tools. Dpkg takes care of installing, updating, configuring and removing Debian packages. It maintains a list of which packages are installed on your system and which files are associated with which package. This makes the whole process of installing new software on your machine so much easier. It won't let you install software if it has unfulfilled dependencies and it won't let you remove software that is required by other packages.

The other half of package management is obtaining the packages in the first place. While you can manually access packages from CD or download them from the net and install them directly with dpkg, it easier to use apt, Debian's Advanced Package Tool. Apt can automatically retrieve packages from the net via the HTTP or FTP protocols or access them from a local CD-ROM drive or some other filesystem. All you need do is give it a source where packages are stored.

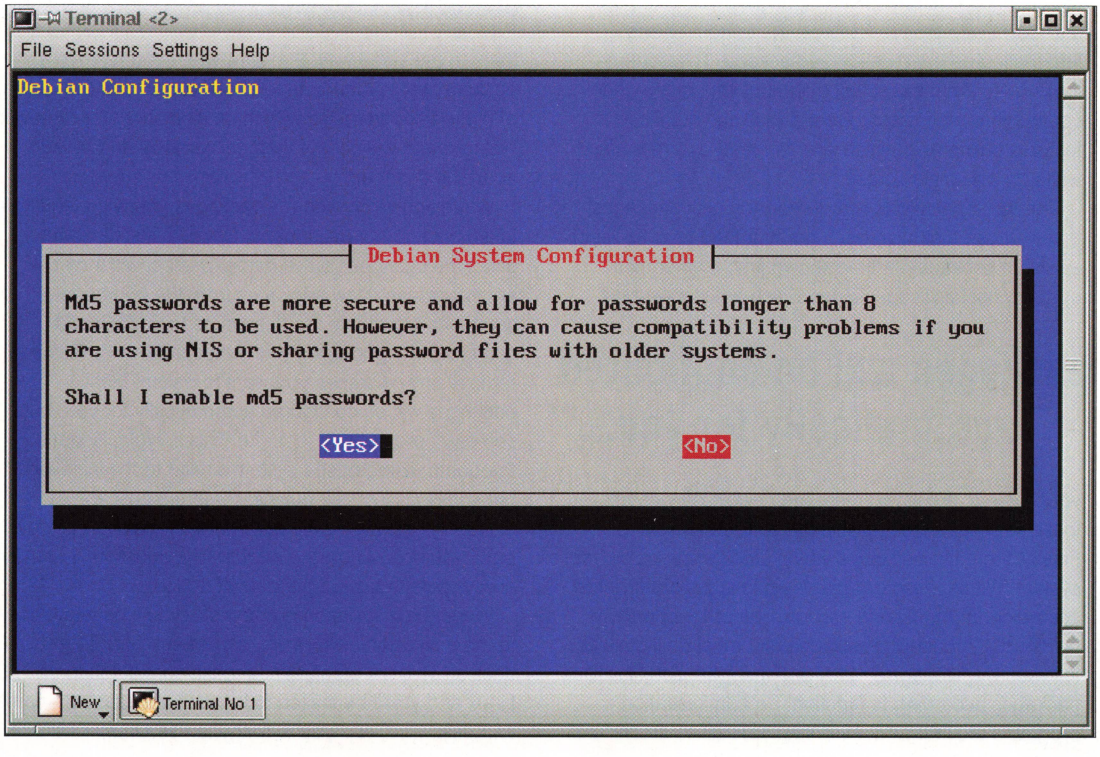
"...it easier to use apt, Debian's Advanced Package Tool."

Again, while you can use apt manually, an easier option is to use a friendlier front-end. The default front-end to all package handling is called dselect - this is the tool that is used by the Debian installer to perform the initial install of any packages you want.

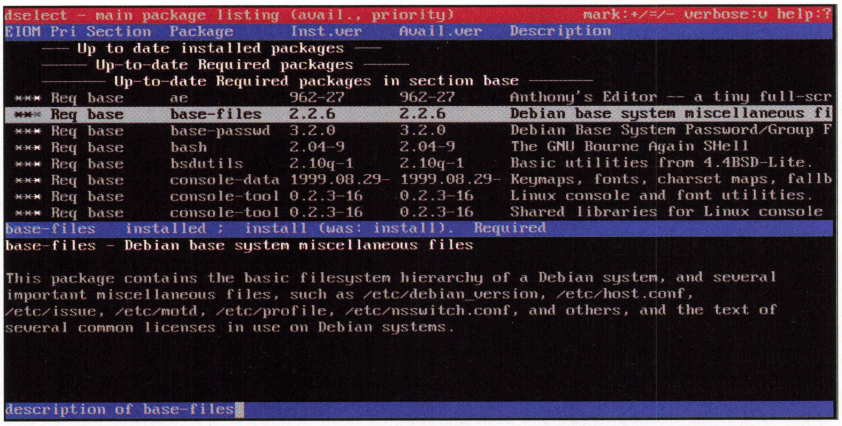
Directory structure

What goes where in Linux? Here's a quick run-down.

/bin	Standard shell commands
/dev	Device files
/etc	Global configuration files
/home	Users' home directories
/lib	Standard shared and static libraries
/root	Superuser's home directory
/sbin	Standard admin commands
/tmp	Temporary files
/usr/bin	More shell commands
/usr/doc	Documentation
/usr/include	Header files of C/C++ programming
/usr/lib	More shared and static libraries
/usr/sbin	More admin commands
/var	Files that change frequently (e.g., mail and printer spools)



Left: On booting into your newly installed Linux system, you'll be led through a basic configuration process.



Left: Dselect is used to select which packages you want installed on your system.

Below: If a package you try to install conflicts with an existing package, dselect will inform you.

Sourcing software

The Debian base configuration will set up an apt source for you and launch dselect for you to choose what software you want to be installed on your system.

If you have AACD18 in your CD-ROM drive, this will automatically be used as a source of packages. Apt will scan the disc and build a list of packages that are available for you to install. When done, it will ask you if you have another Debian CD. Since you don't have AACD19 yet, say *"No"*. It'll then ask you if you want to add another apt source. Again, say *"No"*. Next you'll be asked to choose between the 'Simple' or 'Advanced' install methods. Go with 'Advanced' here, and the installer will run dselect.

When dselect is started, you'll be presented with a menu. For now, choose the "Select" option, ignoring the others for the time being. This will allow you to select which packages to install on your system from those that are available from any of the apt sources you may have defined.

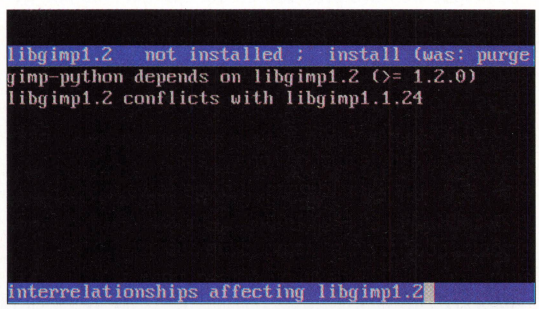
The select screen is split in two. The top shows a list of packages, which you can highlight by scrolling up and down with the cursor keys; the bottom shows information on the highlighted package. This screen looks quite daunting at first sight, but isn't really when you begin to understand what it's telling you. Dselect features online help which you can read by pressing '?' while on the select screen.

The list of packages is ordered. Any new packages, that is, those that have been newly added to apt's list of available packages, will be shown first; then comes updated packages (packages which are installed on your system, but which there are newer versions of) followed by the packages which you have installed. Finally, there the packages which aren't installed on your system. Within these groups, the packages are ordered according to priority and section. The order of priority starts with "required" (packages that must be installed), followed by "standard," and "optional." Section classifies packages according to function. So administration programs are in the "admin" section, utilities are in "util."

"Most packages will be configured automatically for you..."

Normally, you would scroll down and choose the packages you want to install, pressing the plus key to mark a package for installation and the minus key to mark it for removal. However, when dselect is called from the installer, it will automatically select all the required and standard packages for you. On AACD18, there aren't any other packages to choose, so just accept the choice by hitting return. Hitting 'X' will abort any selections made.

When you change a package's state, dselect automatically checks its dependecies. If you mark a package for installation and it requires other packages to be installed, it will tell you this by bringing up another list with those packages automatically marked for installation as well; again hit Return to accept those changes or 'X' to abort, and you'll be taken back to the main select screen. If a package to be installed conflicts with an already installed package, you'll be shown a list of the conflicting packages and be allowed to choose between



them in the same way. Similarly, when you remove a package which others depend on, you'll be shown a list of those dependencies with them all marked for removal; hitting return will accept them for removal and 'X' will abort the changes.

When you've chosen the packages you want, you'll be taken back to the main menu. Choose 'install' here to effect the changes you've made. Dselect will then call apt to fetch any new packages from the appropriate source and then use the dpkg suite to unpack and configure any packages you want installed as well as to remove any packages you want to delete. Most packages will be configured automatically for you, but some will prompt you for input. This is typically done through a dialog-based system similar to the installer, but some will just ask question via the console. Generally you will be provided with help along the way, but if you don't know the answer to a question, it usually always safe to accept the default option.

When the installation is complete, you'll be taken back to the main menu where you can select 'Quit' to exit dselect. This will complete the base configuration of Linux and you'll be invited to log in. Enter you user name and password, and you're ready to use Linux.

An Amiga user's guide to the shell

So, what next? Well, until next issue, you still don't have any applications to play with under Linux - you just have the basic set of commands, development and networking tools. We don't have the space to cover these in detail here, so, if you are new to Linux, it's probably a good time to just acquaint yourself with the shell. No, don't worry: if you are logged in under a user account and not root, you can't do any serious damage.

"...if you are logged in under a user account and not root, you can't do any serious damage."

Each user has a part of the filesystem allocated to them called their home directory. The default location for home directories is the path /home. So, if your user name is 'fred', then your home will be /home/fred. Typically, an ordinary user won't have permission to create or modify files elsewhere on the system, so the home directory is used for storing any local programs, data and configuration files that a user will create.

The Linux shell should be fairly familiar to anybody used to the Amiga shell: you enter a command and the shell executes it for you. Like the Amiga shell, you have a history of previously entered commands, which you can step through using the up and down cursor keys. And, like some Amiga shells, you have access to filename completion. Hit the TAB key and the shell will try and complete the filename being entered. If this is the first word on the command line, the shell will search through its list of commands to find a match, or, if it's an argument to a command, it will try and complete it as a filepath relative to the current directory.

Most AmigaDOS commands have an analog in Linux - have a look at the "Useful Commands" boxout (right) to see a few. For example, you can list files with 'ls', copy files with 'cp' and delete them with 'rm'. Let's have a closer look at the 'ls' command.

If you enter 'ls' with no arguments, then just the names of the files and directories in the current directory will be listed. If you enter 'ls -l', it will output a long list - in other words, each file's attributes will be displayed along with their names. This is much more like the AmigaDOS List command. The '-l' part is called a switch, and switches are commonly used to alter the behaviour of Linux commands. You can usually find out what arguments and switches a command understands by using the '--help' switch. This is somewhat like the AmigaDOS '?' function. Try entering 'ls --help' to see what we mean. There is also a database of system documentation which can be queried with the command 'man'. For instance, to show the man page for the command 'ls', enter 'man ls'.

As with AmigaDOS, the output of commands in Linux can be redirected to a file with the '>' operator. Under Linux, the output can be piped to another command as well. This allows you to chain several commands together, each processing the output of the previous command. It sounds complicated, but it isn't really.

Such commands are sometimes called filters, and one particularly useful filter is the command 'less' which pages its input a screenful at a time. This is handy when a command generates more output than will fit in a single screen. For example, enter 'ls -al /bin | less' to comfortably list the contents of /bin.

Next issue

If everything goes according to plan, next issue's coverdisc will contain Linux software so that you can begin to add some useful packages to your Linux system. These will include the standard graphical environment (X Windows), the GNOME desktop and the Mozilla web browser. We'll also tell you how to configure a dialup Internet connection and use apt to download software from the web.

Richard Drummond

Useful commands

cd	Change current directory
pwd	Print current directory's path
ls	List files and directories
cp	Copy files and directories
mv	Rename or move file
rm	Delete file
rmdir	Delete directory
ln	Create link to a file
mkdir	Create new directory
chmod	Change file's access permissions
chown	Change file's owner
cat	Concatenate file(s) to output
more	Display text a page at a time
less	Better than more
su	Become superuser
exit	Exit current shell
login	Begin a login shell
logout	Exit a login shell
ps	List running processes
kill	Signal a process
tar	Process tar archive
gzip	Compress / uncompress

```
debian login: newuser
Password:
Last login: Fri Feb  2 10:37:33 2001 on pts/4
Linux debian 2.2.18 #2 Tue Dec 19 11:56:50 GMT 2000 i686 unknown

Most of the programs included with the Debian GNU/Linux system are
freely redistributable; the exact distribution terms for each program
are described in the individual files in /usr/share/doc/*/copyright

Debian GNU/Linux comes with ABSOLUTELY NO WARRANTY, to the extent
permitted by applicable law.
newuser@debian:~$
newuser@debian:~$ pwd
/home/newuser
newuser@debian:~$
newuser@debian:~$ ls -al
total 32
drwxr-xr-x    2 newuser  newuser      4096 Feb  2 10:37 .
drwxrwsr-x    5 root     staff        4096 Feb  2 10:36 ..
-rw-r--r--    1 newuser  newuser       266 Feb  2 10:36 .alias
-rw-------    1 newuser  newuser         5 Feb  2 10:37 .bash_history
-rw-r--r--    1 newuser  newuser       175 Feb  2 10:36 .bash_logout
-rw-r--r--    1 newuser  newuser       430 Feb  2 10:36 .bash_profile
-rw-r--r--    1 newuser  newuser       504 Feb  2 10:36 .bashrc
-rw-r--r--    1 newuser  newuser       375 Feb  2 10:36 .cshrc
newuser@debian:~$
newuser@debian:~$ ae .bash_profile
```

```
BASH(1)                                                    BASH(1)

NAME
       bash - GNU Bourne-Again SHell

SYNOPSIS
       bash [options] [file]

COPYRIGHT
       Bash is Copyright (C) 1989-1999 by the Free Software Foun-
       dation, Inc.

DESCRIPTION
       Bash is an sh-compatible command language interpreter that
       executes commands read from the standard input or from a
       file.  Bash also incorporates useful features from the
       Korn and C shells (ksh and csh).

       Bash  is intended to be a conformant implementation of the
       IEEE POSIX Shell and Tools specification (IEEE Working
       Group 1003.2).

Manual page bash(1) line 1
```

Left: Before you can access a Linux system you must log in. Each user gets some disk space allocated to them, their home directory.

Above: If you get stuck while using a command, remember to read the man page!

ARexx & OS 3.9

Workbench now has an ARexx port - what does it do and how can you use it?

"Oh no! Not another ARexx tutorial!" we hear you cry, and you are right. This isn't just 'another ARexx tutorial' - they have been done to death over the years. This is the first in an occasional series of Masterclasses on using ARexx to control and work with various pieces of software. We won't try to teach you the basics of ARexx scripting; there are plenty of tutorials on the web for that, and some of them can be found on this month's Amiga Active coverdisc - but you don't need to be an ARexx expert to follow this series of tutorials. That's because we're going to teach you about actually *using* ARexx. Consider it more of a recipe book than an instruction manual - we will look at some of the things you can do with ARexx, and give you some pointers to find out more for yourselves.

In a stroke of genius, Commodore recognised the power and flexibility of ARexx in the late eighties and licensed it for inclusion with AmigaOS from version 2.0 onwards. In typical Commodore fashion, they made a mess of it. They dumped the files on the install disks, included some out-of-date documentation and left it at that. Where was the Workbench ARexx port? Nowhere, until last year when it was added to OS 3.5. Now that we finally have an ARexx port for Workbench, what can we do with it?

Working with windows (with a small "w")

The WINDOW command will open a Workbench window showing the drawer given as its argument. This is the command used to open windows from the AACD front end. For example:

```
/* Open a Workbench window */¶
parse arg path¶
address 'WORKBENCH' 'WINDOW "'path'" OPEN'¶
```

The quotes are used in case the path contains a space, as with "Ram Disk:". By mixing ARexx and AmigaDOS we can extend this to integrate shell and Workbench operation. Load S:Shell-Startup into a text editor, add the following line, save it and then open a new shell.

```
Alias wincd rx "address WORKBENCH WINDOW
""*`cd*`"" OPEN"¶
```

The commands in S:Shell-Startup are executed each time a new shell is opened. This one aliases the ARexx command to "wincd". CD to any directory you like in the shell and type "wincd". A Workbench drawer should open showing the current directory. It's fairly straightforward apart from the messy bit around `cd`. What look like single quotes are actually backticks. Any part of a command enclosed in backticks is executed and replaced in the command with the result. The backticks are "escaped" with * to ensure the command within is run when the alias is executed, not when it is set up. The double quotes are doubled up because they are already within a set of quotes enclosing the entire ARexx command. When you type "`wincd`" the "`*`cd*`" part is replaced with the output from the `cd` command, in other words, the path to the current directory.

We are effectively running the same command as in the first script, but using whichever directory the shell happens to use. This is a useful command when you are working in the shell and want to switch to Workbench. What happens when you want to do the reverse? Add this to S:Shell-Startup:

```
Alias cdwin cd *`rx "address command;'wait
2';address 'WORKBENCH' 'GETATTR
WINDOWS.ACTIVE var' Path;say Path"*`¶
```

This one works the other way round. The entire ARexx call is in the backticks, it outputs the path of the active window, which is then passed to the `cd` command. The ARexx part is actually a three-line script, with the lines separated by semicolons instead of the usual linefeeds. The first part delays for two seconds so you can select the window you want to cd to. The next part does the real work, getting the path to the active window be sending the `GETATTR` command to the Workbench ARexx port. The result of this is stored in the variable `Path`, which the final part outputs to be used by cd to change the path of the shell.

These two aliases in your Shell-Startup give the sort of integration between shell and Workbench that was previously only possible with DOpus. They also show one of the strengths of ARexx: its ability to use other programs and combine them to do what you want.

Cleaning up after yourself

After double-clicking a few drawer icons, your Workbench can become cluttered with windows. Here's a short script that will close all but the active window.

```
/* Close all but active window */¶

address 'WORKBENCH'¶
drop WinList.¶
'GETATTR WINDOWS stem' WinList¶
'GETATTR WINDOWS.ACTIVE var' ActiveWindow¶

do i = 0 to WinList.COUNT - 1¶
      if (WinList.i ~= 'root' & WinList.i
~= ActiveWindow) then 'WINDOW "'WinList.i'"
CLOSE'¶
      end¶
```

We use the GETATTR command again, this time to get a list of open Windows. As it's a list we use a stem variable to hold the information, so the first thing to do is clear it. This isn't strictly necessary in this example, as there's no way for the stem to contain previous data, but it's a good habit to get into. We also grab the name of the current window, because we don't want to close that one.

"This isn't strictly necessary... but it's a good habit to get into."

The number of windows is stored in WinList.COUNT so we use that to loop through all available windows. For each window, we check that its name isn't equal to the name of the active window or "root". This is the name of the main Workbench window, which we really don't want to close. Then we use the WINDOW CLOSE command to close each window. Attach this script to a hotkey or menu and you have an instant, simple way of clearing up your Workbench.

A variant on this script would be to close all windows for a particular device. This is useful when removing a CD or killing a connection to a network device. Try to send a "die" command to Samba while a Workbench window is open and it will fail.

```
/* Close windows on a particular path */¶

parse arg Path¶
address 'WORKBENCH'¶
drop WinList.¶
'GETATTR WINDOWS stem' WinList¶

do i = 0 to WinList.COUNT - 1¶
      if abbrev(WinList.i, Path) then
'WINDOW "'WinList.i'" CLOSE'¶
      end¶
```

In this script, the Abbrev() command tests whether each window's path starts with the argument given. If it matches, the window is closed. You may have noticed a drawback to this approach: If you give "AACD18:" as the path, it will work, but if you use "CD0:" it won't close any windows because all the paths start with "AACD17:". The solution is to use rexxdossupport.library. This provides a number of useful functions, including several for working with file and directory names. Try adding these two lines after the line beginning "parse...":

```
call addlib('rexxdossupport.library',0,-
30,0)¶
Path = AbsolutePath(Path)¶
```

The first of these two lines ensures the library's functions are available, the second calls a function that converts device names and assigns to full paths. If you have ever used an AACD, this library will already be installed.

Keeping it tidy

Closing all inactive windows is one way of tidying your Workbench, but it may be a little extreme. This script will move all open windows to the side of the screen, overlapping them just enough to see the title bars.

```
/* Tidy up Workbench windows */¶

address 'WORKBENCH'¶
drop WinList.¶
'GETATTR WINDOWS stem' WinList¶
'GETATTR APPLICATION.FONT.SCREEN.HEIGHT
var' Offset¶
Offset = Offset + 4¶
/* [1] */¶

do i = 0 to WinList.COUNT - 1¶
      if WinList.i = 'root' then iterate¶
      /* [2] */¶
      'CHANGEWINDOW' WinList.i 0 OffSet * i¶
      'WINDOWTOFRONT' WinList.i¶
      end¶
```

This is the basic version, with a couple of limitations. First, we get the window list as before. The next line gets the height of the screen font. We add four pixels to this to get the title bar's height and use this as the amount to offset each window. Then we walk through the window list. If the window is root, we skip it. Incidentally, it appears that root is always the first window in the list, so we could simply avoid it by starting the loop at one instead of zero. However, this isn't documented so it may not always be so. Looping through all windows and checking for root may be slower, but it's safer.

For each window, we change the left position to zero and the top to the offset for that window. Changewindow takes two more arguments, width and height, but these stay the same if not given. Finally, we bring the window to the top. After running the script, your windows will be neatly cascaded down the side of the screen.

Have you noticed the limitations of this script yet? One is that when you get a window that is too tall to fit into the space allocated, it will be placed higher up, obscuring the previous window. We can fix this by including this line at [1] to get the height of the root window (there isn't a command to get the screen height).

```
'GETATTR WINDOW.HEIGHT name root var'
ScrHeight¶
```

Quoting

ARexx can sometimes appear to be fussy about quoting, although it doesn't appear to matter at other times. The key word is "appear"; quoting removes ambiguity from statements. As with spoken languages, you can often get away with an ambiguous statement, but sometimes the result is far removed from what you meant. Compare:

```
Name = 'Fred'
Data = Name
say Data
```

with

```
Name = 'Fred'
Data = 'Name'
say Data
```

If you remove the first line, both expressions give the same result. This is because ARexx treats an uninitialised variable as a literal string. If you don't assign a value to Name, it is treated as the string "NAME". If a line begins with an unrecognised string, ARexx assumes it is for the external host and passes it to the current port. You would expect

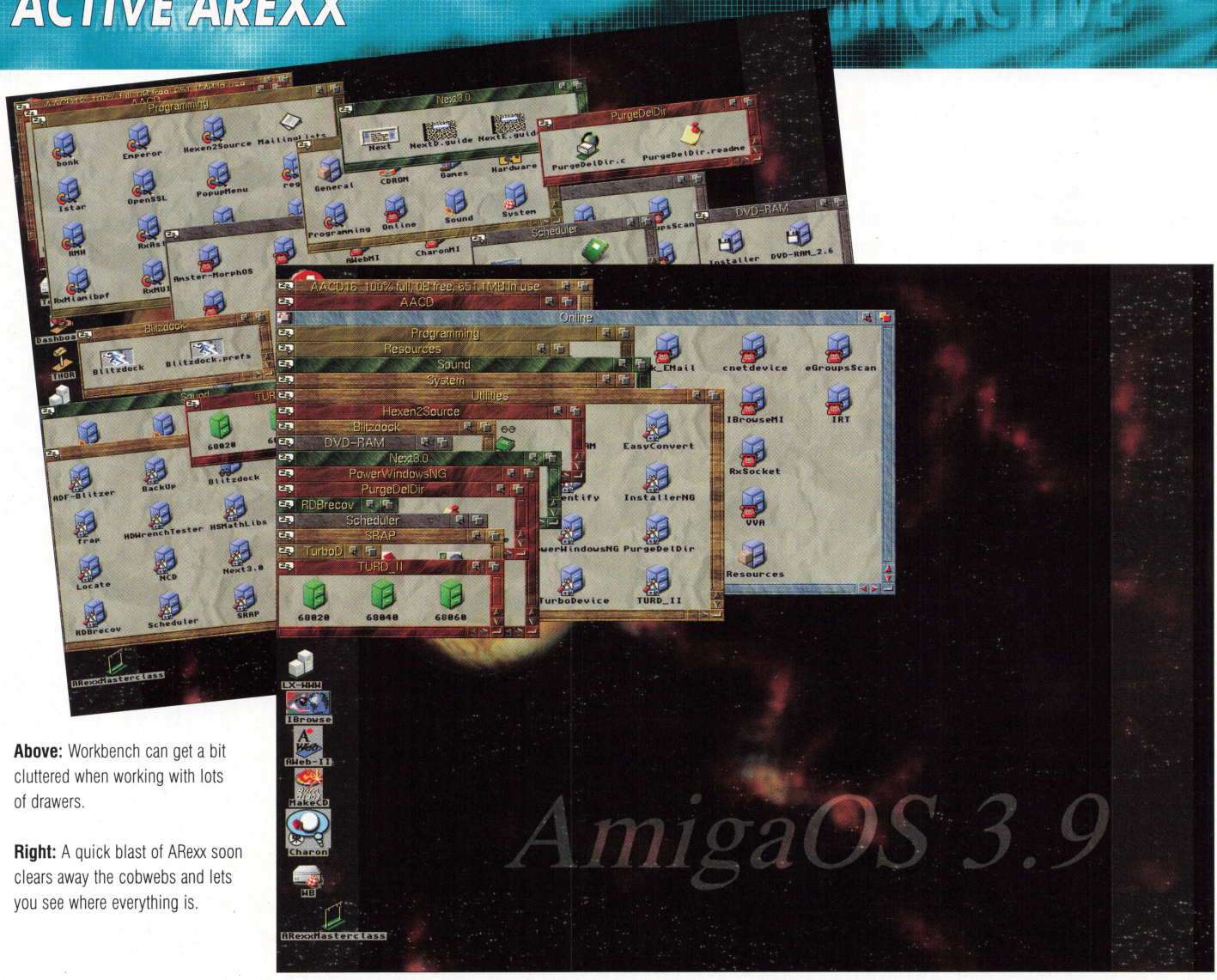
```
address SOMEPROG
SET PRINTER ON
```

to send the command "SET PRINTER ON" to the program. Usually it will, but if you have earlier used a variable called Set, say with something like "if Config ~= '' then Set = 1", ARexx will interpret the second line as "1 PRINTER ON" and try to execute it.

To avoid this, always enclose commands for external hosts in single quotes, saving double quotes for enclosing strings in those commands.

```
address 'SOMEPROG'
'SET PRINTER ON'
```

will work, even if Set and Someprog have been used as variables elsewhere, because the quotes force ARexx to interpret them as strings.



Above: Workbench can get a bit cluttered when working with lots of drawers.

Right: A quick blast of ARexx soon clears away the cobwebs and lets you see where everything is.

Now we add these lines at [2]:

```
  drop WinWidth WinHeight¶
  'GETATTR WINDOW.WIDTH name' WinList.i var
WinWidth¶
  'GETATTR WINDOW.HEIGHT name' WinList.i var
WinHeight¶
  WinHeight = min(WinHeight, ScrHeight - i *
Offset)¶
  'CHANGEWINDOW' WinList.i 0 OffSet * i
WinWidth WinHeight¶
```

These use GETATTR to get the window's dimensions. The height is then adjusted to ensure the window fits the allocated space. This doesn't handle the situation where you have a lot of windows, where there isn't space for them all even with the lower ones shrunk to the minimum height. We'll leave that as an exercise. You don't expect us to do it all for you, do you?

Menus and hotkeys

OS 3.9 also allows you to bind commands to hotkeys and create user menu items from ARexx. You could include a script in WBStartup to set up hotkeys and menus. The script should have a project icon with a default tool of "rx" and a tooltype of "CONSOLE=NIL:" to prevent a window opening with any output. Hotkeys are set with the KEYBOARD command. You can execute a script or an individual ARexx command. Scripts should be in REXX: with a .wb extension. To attach the previous script to Alt-T, save it as REXX:Tidy.wb and put the following in a script:

```
  address 'WORKBENCH'¶
  KEYBOARD ADD NAME Tidy KEY '"alt t"' CMD
"Tidy"¶
```

To execute an individual command, prefix it with a single quote:

```
  KEYBOARD ADD NAME Test KEY '"alt t"' CMD
"'address ""Path:to/myprog"""¶
```

The extra quotes are needed to stop ARexx trying to interpret the string. Otherwise it would try to interpret the directory separator as a division sign.

Menus are added similarly:

```
  MENU NAME Tidy TITLE '"Tidy WB"' SHORTCUT
'T' ADD CMD "Tidy"¶
```

OS 3.9 also includes the option of creating extra menus instead of piling it all into the Tools menu. You do this by using a TITLE string of the form "\Menu title\menu item".

This is really only scratching the surface of what can be done with OS 3.9's ARexx port. Full documentation on all the commands is in the ARexx.doc file, installed as part of the OS3.5 package.

Neil Bothwick

"This is really only scratching the surface..."

AMIGA®
OS3.9

Features include:

- **Multimedia programs** (MP3 player, AVI & QT player, new CD player)
- **Web browser AWEB 3.4 SE** (new version)
- **GENESIS** (full Internet and network access)
- **AmiDOCK** (new program start bar)
- **WarpOS 5.0** (new version)
- **IomegaTools** (for Zip and Jaz)
- **New powerful Shell** (with extensive prefs)
- **Automatic datatype recognition**
- **Integrated unpacker** (lha, lzx, dms, zip...)
- **Fast search** (search for, and in, files)
- **New picture datatype** (PPC-optimized)
- **Many new tools** (ASLPrefs, new Info requester, new watch, font cache, new colour wheel, etc.)
- **Extensive HTML documentation** (in English and German)
- **Available middle of December 2000**



more information on www.amiga.com

In 1988, Juergen Beck bought himself an Amiga 500. Ten years later, he and a friend set up a web site. Its name?

back 2 the ROOTS

http://www.back2roots.org

Its legacy?
To serve as a reminder to everyone that the Amiga was a great games machine - and much more besides.





Above: Agony from Psygnosis and Team 17's Alien Breed: Tower Assault.

Right: Fictional sporting team Brutal Deluxe were doubtless responsible for many an aching wrist. If you now find yourself remembering how you frantically waggled your joystick playing The Bitmap Brothers' classic hybrid of sports sim and beat-em-up, Speedball II, we salute you. If not, you may have picked up the wrong mag.

Shortly before Christmas in 1988, Atari 1040 ST owner Juergen Beck was jealous. His friends all had Amigas, and were playing games that looked so much better than the ones he was able to play on his computer.

"...it takes a great deal of effort to make a legal web site..."

The Amiga's ability to churn out wonderful music composed by the likes of Huelsbeck and Obarski was fascinating. Then, Psygnosis released a game whose music Juergen describes as simply, *"awesome"*. That game was Blood Money. It was time to buy an Amiga.

Four years later, Juergen swapped his A500 for an A1200. Spin on to the present day, and that A1200 now resides in a tower with just 16MB of RAM and a 1GB hard drive. *"Not high-end Amiga hardware,"* admits Juergen, *"but still great until the AmigaDE becomes available."*

Back to BTTR's roots

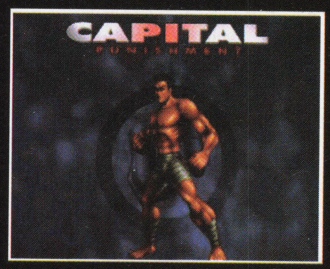
In early 1998, after seeing WinUAE, Juergen teamed up with friend Ralf Steines to create a web site for the Amiga emulation scene. *"It was impressive how easily you could get all the classic games to run and how comfortable it was to use, because there was no disk-swapping and everything loaded in seconds,"* Juergen remembers.

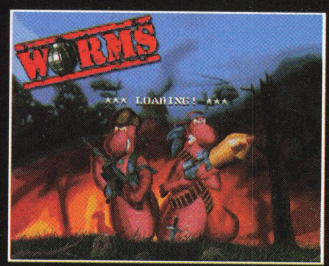
Sadly, at the time Back to the Roots started, the only sites which existed were illegally supplying Amiga software. BTTR was launched with the commendable aim of showing the world that offering Amiga software legally was not only perfectly possible, but preferable and all the more rewarding for it. Nobody gave them a chance. Everyone thought that ex-Amiga companies wouldn't even want to give Juergen and Ralf the time of day, let alone games from their back-catalogues - but they hadn't counted on the irrepressible spirit of the Amiga.

"It's not always easy to get permission from a company, and it takes a great deal of effort to make a legal web site instead of just uploading software without permission," explains Juergen. *"It's a lot of work to get in touch with the right people, to find out what some companies/people are doing today, and to convince them to grant permission. It can be very frustrating - until you get in touch with someone who can remember the glorious days when the Amiga dominated the computer market.*









Above: It's not just dusty old games that can work under emulation. Take ClickBOOM's Capital Punishment or Team 17's classic Worms, for example.

Left: Impressions eventually said yes, so you can now find their games (including Lords of the Realm) on BTTR - much to Juergen's delight.

Below: Blood Money from Psygnosis - without which, BTTR might never have been started.

"It can take months for a company to say yes. I think it took me four months of my life until the people from Impressions finally agreed! But it's simply great when you get another license, give your visitors some cool stuff for free and keep another important part of the Amiga alive forever."

The classics?

"I'm very well informed about what's going on in the Amiga scene," Juergen goes on to explain, proudly. *"Personally I'm 'just' a gamer and demo scene freak. I'm especially interested in playing Amiga games - even the new releases. Wasted Dreams, T-Zero and Foundation Gold were really awesome games. Also Tales from Heaven was far better than most people think, as it works great on just a simple 030 CPU! In the last weeks I've played Bubble Heroes and Simon the Sorcerer 2 a lot and I'm really looking forward to playing Payback."*

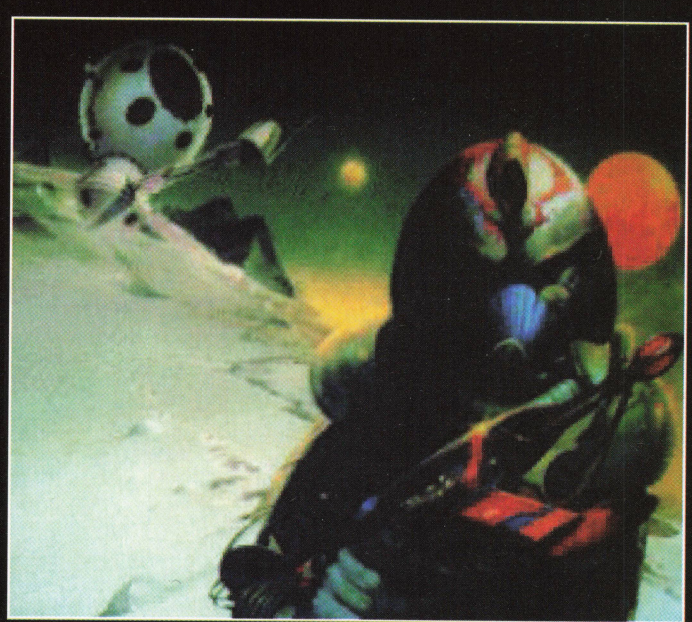
Now with so many games available to download from their web site, it might be impossible to single one or two out, but everyone has their favourites.

"It was a game I dreamt about during the night..."

In Juergen's case, one particular game stands out.

"Probably the best Amiga game which I ever played was Ambermoon from Thalion. Excellent story, impressive technique. It was a game I dreamt about during the night. Also, I shouldn't forget to mention Player Manager, which had simple, but very addictive gameplay and which I played nearly every day for over a year! Other games which are true classics for me are all Lucas Arts and Sierra adventures, all games from the Bitmap Brothers (except Chaos Engine 2), the Turrican series, Battle Squadron, Dungeon Master, the Sensible Soccer and Kick Off series, Pinball Fantasies and many others!"

Juergen and Ralf are extremely proud of the comprehensive databases which form a part of their web site. Their online games list contains more than 4200 titles, so if you want to know which games a company produced whilst they were releasing games for the Amiga, just searching for their name in Back To The Roots' online database will give you the answer. There's also plenty of background information on companies who used to - and still do - produce Amiga games.



Emulation - good or bad?

Emulation has always been a hot topic in the computer industry - hardware manufacturers don't like the idea of sales being taken away because someone can run games intended for one platform on another system, but many advocates of the Amiga would cite the lack of real hardware as the main reason emulation is not just a good idea, but a necessity. Juergen, as you would expect, is a keen supporter of emulation.

"I can understand the point of view from the Amiga hardware manufacturers - it doesn't help them to sell hardware if someone uses an emulator," he reasons. *"But the software developers shouldn't say that emulation kills the Amiga. Most new software works on an Amiga emulator. Except for PPC-only stuff, games like Napalm, Foundation Gold or Bubble Heroes are working perfectly with WinUAE. Applications also work. There are already many emulator users who are running OS 3.9!*

"The Amiga emulation community is currently bigger than the real Amiga community. Maybe some day companies will notice that they could sell a few more copies if they would support the emulation community, too. I'm sure PC users would be surprised how good today's Amiga games are and how much fun you can have playing them.

"As an example, take Simon the Sorcerer 2 which has just been released for the Amiga. The original PC version is a DOS program, which doesn't run on modern Windows PCs. With an Amiga emulator, you can still play this game on modern machines!



"The Amiga emulation community is currently bigger than the real Amiga community."

We'll soon include a new section on BTTR which will inform the emulation community about how good new Amiga games are, working on an emulator.

"What's more," he goes on to point out, *"emulation is platform independent! UAE is available for Linux, BeOS, MacOS, Windows, Acorn and other systems. Users with different computer systems can all enjoy the beautiful world of Amiga entertainment! If both Amiga communities would co-operate, the market could grow again before new Amiga systems and the new OS are ready."*

So, if you want to introduce a PC-owning friend to the delights of Amiga games and demos, point them to Back To The Roots. Oh, and suggest they pick up a copy of *Amiga Active* for some offline Amiga reading whilst you're at it, if you wouldn't mind.

Log in to BTTR at
www.back2roots.org





Top: The infamous Turrican. You can almost hear the music in your head...

Above: Ambermoon, one of Juergen's favourite Amiga games of all time.

Left: Battle Squadron. What's best? Orange flamey weapons, green lasery ones, blue chevron-shaped things or red balls? Err, are you still sure you've got the right magazine?...



Whizz! Bang! Super Stardust.



Get outta my way! Project X.



"Into...the wonderful..." Gods.



Chaaaaarge! Defender of the Crown.

W A N N A G E T

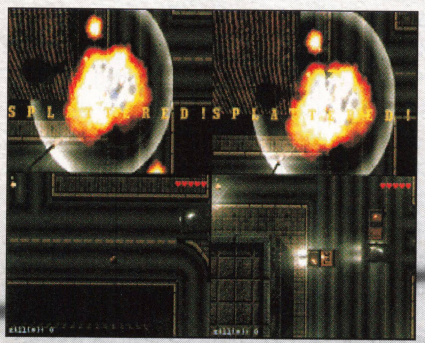
PAYBACK?

. . . WELL NOW YOU CAN!

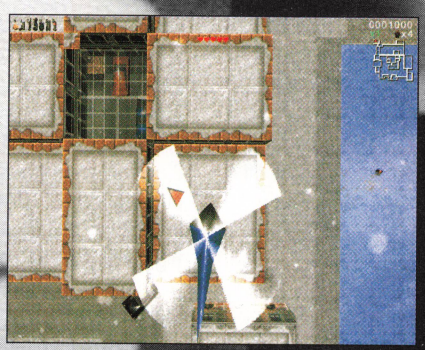
Features Include: 3 huge cities to explore, with dozens of varied missions to complete • Drive tanks, helicopters, boats, buses, remote controlled cars and dozens of other exciting vehicles • Different weather conditions - rain, snow, sunshine, day or night • Stealth missions • Full multi-resolution graphics card support • 12 channel stereo sound • PSX and CD32 pad support • Professional CD soundtrack • Available in many languages, including English, German, French, Italian, Spanish, Swedish, Czech, Slovenian and Serbian • Deathmatch multiplayer mode • Includes a map editor and a raytraced introduction

Requirements: 020, AGA or graphics card, CD drive, 16Mb RAM, 15 Mb free HD space.

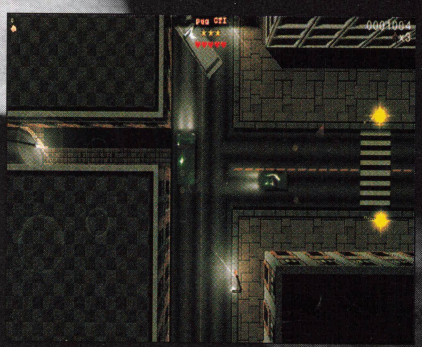
"a really impressive piece of work"
Amiga Active



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Exodus

The Last War

Another Real-Time Strategy from Eastern Europe - but is it as hot as Napalm?

Cor, a game with a proper box. That's a rarity. For most Amiga games these days, a CD case has to suffice. Ephemeral as it may be, it's nice to see a new Amiga game presented in this way, and nicer to see that this level of professional presentation is carried through into the game. The question is: does the game boast more than simply presentation, or will it, like the box, be put back on the shelf after a few days?

Gobldijguk

The English text of the manual is translated by someone who is clearly a native Polish speaker, and who has mistaken conversational for professional copywriting. Installation instructions, for example, are not made clearer by phrases such as *"Only this catalogue is used and there is no danger to put the game date in any other place"*. There are plenty of native English speaking Amiga users who would have been happy to clean up the English translation for nothing.

After having installed the game and setting up the preferences, Exodus can be launched - and immediately, the sense of professionalism returns with an FMV back-story sequence, which is so well done it wouldn't look out of place on Babylon 5 - apart from the low-res presentation, which will have you cursing. This deserves to be seen more clearly! When the FMV is over you get through to the standard set of front-end pages, all very pretty, and on to the game proper.

Anyone remotely familiar with the real-time strategy concept will find Exodus extremely familiar. The gist of it is that there are two races at war over a planet. You get to choose which of the races you play as, before going through a set of 20 missions. You start off with a single HQ building and a few military units. By mining natural resources, you can create buildings and constructions that will allow you to build more military units to help you achieve victory.



Above: Run away! Run away!

> **"Originality is not something that Exodus scores highly on..."**

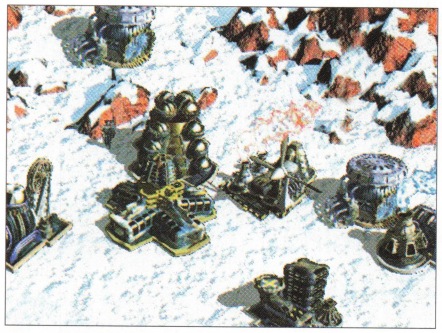


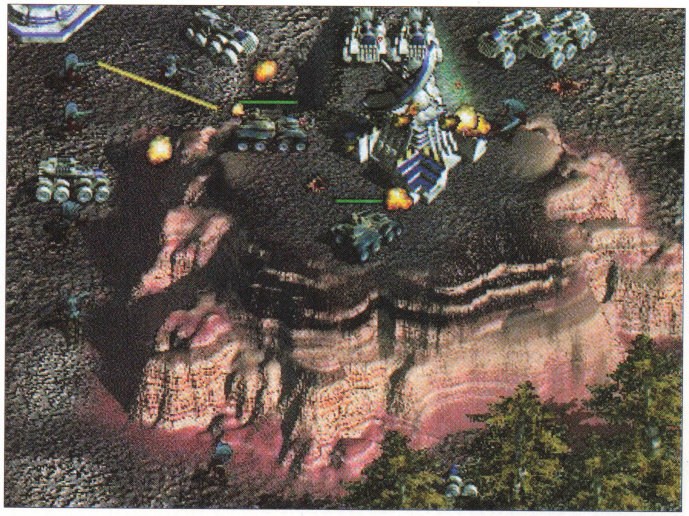
Don't ring the changes

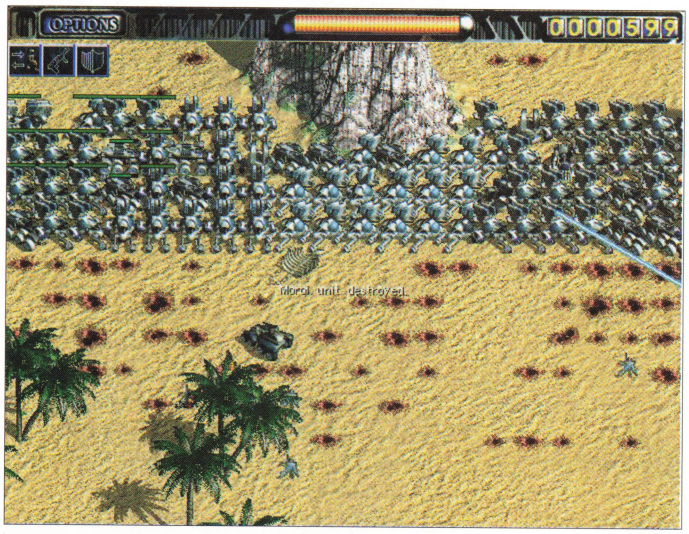
One problem the real-time strategy genre has suffered from is the success of the earliest versions of the game. Developers tend to find it hard to make their game stand out, and most of them are fundamentally pretty similar to the old Amiga title Dune 2, widely recognised as the father of the genre. Originality is not something that Exodus scores highly on - it's all a bit too familiar.

The principle innovation Sland Media have brought in is that you can mine two different resources. As well as the standard mines, which extract *"ixomit,"* you can build oilrigs and off-shore refineries. Other than that, the game is somewhat behind the state of the art for RTS games. Most of the better RTS releases have added a few tweaks to the Dune 2 user interface to make it better, but Exodus sits roughly two generations back in these terms. There are quick jump keys to move around the map, but there's no order stacking (ordering more than one of any type of unit, for development to be queued). In this respect Exodus lags a good way behind the polished interface of Napalm.

Unit design is another area in which a little more originality would be good. Ever since Dune 2, there have been infantry units with short and long range weapons, light armoured vehicles and a long range attack vehicle, a couple of heavy tanks that can be built in a heavy factory, and so on - the problem is that we've seen it all before, and people who've played other games in the genre will find that the tactics they employ whilst playing Exodus are all too familiar.







Above: C'mon! I'll take you all on!



Brains as well as looks

From a technical viewpoint, Exodus fares rather well. The display engine is good, whilst sound and visuals are excellent. As usual, lower end machines can run the game at 320x240, but the limited view of the screen makes 640x480 a much more enjoyable experience. You'll need a decent machine and a graphics card to run the high-res version at speed, although there's an 'economical refresh' option which improves speed significantly, albeit at the expense of a few minor graphical glitches. On an '060 and graphics cards the game really flies, and its ability to manoeuvre large numbers of units around the screen without slowdown is impressive. Backgrounds and units are all very nicely drawn and the overall visual impression is very good.

"its ability to manoeuvre large numbers of units around the screen without slowdown is impressive."

Getting to the nitty-gritty of gameplay, Exodus has its good and bad points. The pathing Artificial Intelligence (AI), which chooses the route units take to get to where they're going, is extremely good - a little too good, in fact, as you'll find when you see how quickly enemy tanks will drive straight through the smallest hole in your defences! The only complaint here is that it won't queue units very well, so if you try to move a mass of units through a small gap, vehicles at the back have a tendency to wander half way across the world looking for shortcuts rather than waiting.

Gameplay and level design is pretty much par for the course. The landscapes do the job perfectly well but there's no great imagination in using them to spice up the levels. Level design is certainly familiar - if you like the RTS genre you'll have no complaints (apart, perhaps, from a suspect difficulty curve), but you won't be humming with excitement either.

I found the worst aspect of gameplay to be clumsiness in unit selection. Selecting a group of units by drawing a bounding box around them is harder than it should be; not only can you not scroll while selecting, but if the pointer goes to the screen edges you can't select at all. There's no provision for shift-selecting to allow you to combine groups, and sometimes the game just fails to notice your bounding box at all, which can be really frustrating - especially in the middle of a battle.

The good news

To set the record straight, Exodus is a long way from being a bad game. There is plenty of fun to be had with this game, but the lack of originality does mean that there's really not a lot to talk about apart from the flaws, which stand out to anyone familiar with the RTS genre. If you are a keen RTS player you'll probably get a real kick out of Exodus, even if you curse the odd missing feature. It does perform nicely enough and the presentation is certainly excellent. If you are new to real-time strategies, Exodus will be fresh and exciting, and I have little doubt you'll find the game awesome. If you're looking for something new and innovative, however, you may be disappointed.

Andrew Korn A

Exodus

SYSTEM: 68030, AGA or graphics card, 16MB RAM, 4x CD-ROM. 68040 and 32MB RAM recommended.

SUMMARY: It looks good and plays well enough, but it's a little old hat now.

Your chance to pester the Editor! Write to: Amiga Active Magazine, 3-11 Spring Road, Bournemouth BH1 4PZ. Or, if

InterActive

Something on your mind? Don't just sit there and mope about it! Don't sit on it, or keep it under your hat! Put it in an envelope or the electronic equivalent and send it to us, now!

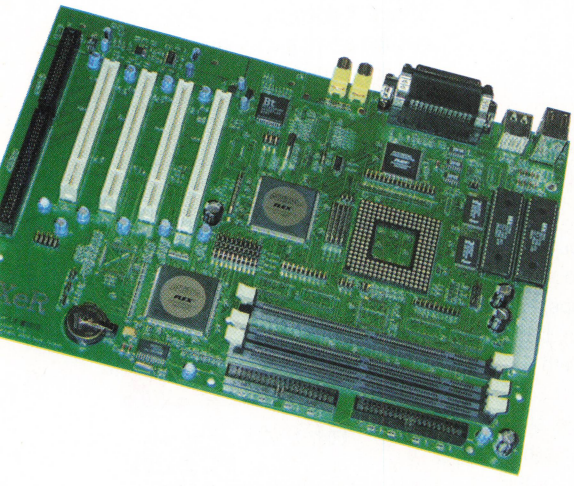
Remember BoXeR ?

I read your magazine every month here in Holland, and I am curious if you have seen a working BoXeR. There should some kind of test in late December I have read on the net or a magazine lately.

Regards,

Berend van der Meer.

Blittersoft did say that they thought there was a very good chance they would be able to demonstrate one to us in late December, but a month later neither we nor they have seen a working model. The BoXeR saga continues, but we do have reason to believe it will arrive shortly. Rest assured, as soon as there's something solid to report, we'll let you know.



Voodoo for you too!

Dear AA,

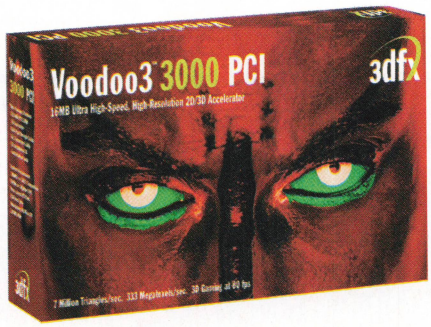
Just a quick note to say to Amiga owners everywhere - buy a Mediator and a Voodoo card for your Amiga!

I did and it's wonderful. I got mine from Power Computing, and despite a few initial problems, which to their credit they helped me to sort out, I now view my Workbench in 800x600 24bit and 16 million colours. It makes such a difference to art packages and the screen update is rapid, even with my ancient Blizzard 1230/IV with 64MB RAM.

I shall certainly be going PowerPC as soon as I can afford it, if only to take even more advantage of what is surely the best thing to come to the Amiga for a long time. Do your Amiga a favour and invest in this under-priced piece of wizardry.

I'm designing a game on a low budget at the moment, and as it's just me doing it in my spare time at the moment, this piece of kit will certainly improve my work rate. So well done Elbox, I shall probably buy one of your SharkPPC cards as well.

Pete Casson.



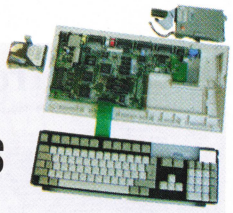
Another satisfied Mediator customer! People who haven't used an Amiga with a graphics card much (or at all) tend to be quite impressed with the transformation. Remember folks, this is without seeing the real strength of the Voodoo card - 3D graphics. Just think, Pete's positive impression is with a 50 MHz '030 processor - how impressed will he be when he gets to trade it for a 400MHz G4? Make sure you write in to tell us, Pete!

56 Interactive	60 Guru	62 Online	64 Next Month
You write to us, we respond in these pages. Sounds easy, doesn't it? Yes? Go on then!	He's big, he's blue: if you are too, write in to... the Active Guru! That's it, rhyme's over!	Thick line or thin line? Pitman's or Teeline? Either way, we're on one, with an Apache. Join us!	*"Tomorrow never comes,"* so some people keep telling us. But it does, doesn't it. Indeed.

Back Section Contents

you're too lazy to use pen and paper, send an e-mail to interactive@amigactive.com. Just try not to scare us too much.

Amiga Repairs



A couple of readers have responded to recent mentions of the difficulties our readers have had getting their Amigas repaired. Aside from Analogic (see their ad this issue on page 41), Nigel French informs us that he offers a repair service in his spare time - email him on nvc@bun.com for details, or check out his web site at www.nvc.currantbun.com. Meanwhile, Darren Smith informs us that Fast Computers of London Bridge are still in business and can repair A3000/4000 motherboards. They can be contacted by phone on (0207) 252 3553.

A few ads more

Dear AA,

Just a quick mail to say that I like your mag - not just because it's the only Amiga mag here, but because it's full of informative Amiga news, tips etc. What I would like to see though is a little bit of thickness between those pages, so why don't some hardware companies that sell PC components advertise, since the Mediator will allow us Amigans to use them now?

Oh yeah, why not save the mag contents on the web site in PDF format, or just some extra sections not included in the magazine itself?

John Anthony Kinsella.

It's not for lack of trying that we don't have PC component companies advertising in *Amiga Active* - but we'll keep trying!

We've considered putting older content on the web site - indeed, we've just started doing this with our older Active Media reviews. We've also thought about releasing back-issue collections in PDF format on CD. What does everyone else think?

Better than none

While I agree that benchmarks aren't usually that accurate, I'd like to thank you for including some in your test of the Windows version of the Amiga SDK, particularly the Caffeine marks for Java performance. With a lot of claims about the performance of the Java engine, it's nice to see some hard and fast figures, even if they can only be taken as a rough guide.

Although the Amiga Java doesn't come close to the '22 times faster than any other Java' claims that some have mentioned, it does seem to give an impressive performance, especially when you consider that it's not running natively! However, I noticed that the Sun JDK does a lot better with the embedded Caffeine mark, and the best overall mark is the Windows JDK result.

Anonymous.

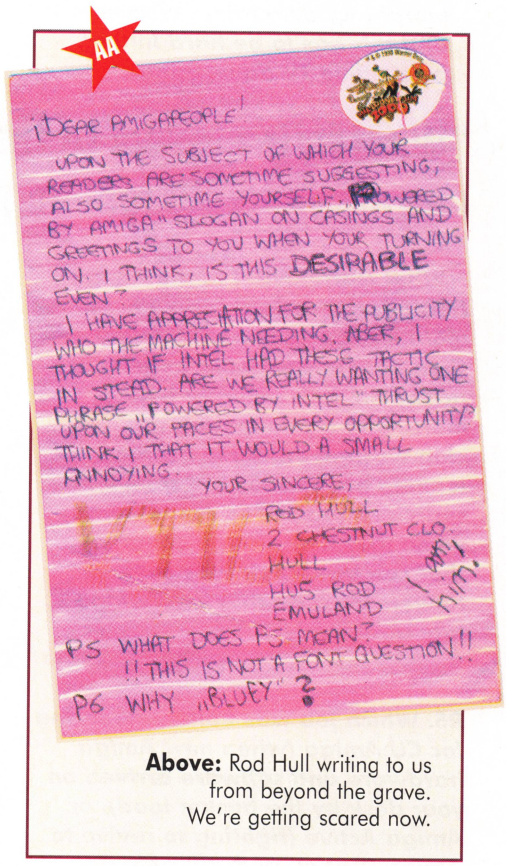
The Embedded Caffeine Mark is designed to compare the performance of Java solutions in an embedded environment. It doesn't include some of the functions in the full Caffeine mark, and clearly it is these functions that the Amiga Java solution particularly excels at.

Tao have always emphasised that it is in multimedia applications that their Java solution particularly excels. Indeed, Francis Charig, Chairman of Tao Group, also commented on the inclusion of those benchmarks in our SDK review:

"Windows applications tend to run at about half the performance of the Linux applications using identical hardware - but look at the results [which show better results for Windows compared to Linux]. *And we're not using any hardware graphics acceleration in the SDK, whereas the Sun JDK does. So again, what's the point?"*



Left: Caffeine marks in *Amiga Active*! (*groan*)



Above: Rod Hull writing to us from beyond the grave. We're getting scared now.

The path to success?

Dear AA,

If Amiga is to be successful, then the following must happen:

1. A hardware standard for a low end, affordable by everyone, especially students, must be enforced.

2. A new OS, visually comparable with Windows etc, and as intuitive to use as Intuition was in 1985. Non-computer literate people don't care what the computer is, as long as it's easy to use and looks pretty, sad but true.

3. It must be able to do something cool, as standard, that no other system can do without

expansion. This of course is extremely difficult to produce.
4. People have to see the Amiga producing desktop video, mixing, morphing, animating, whatever - and this has to be hard hitting, prime time TV advertising.

UW-SCSI, and they would also like the new Shark PPC, which connects to the PCI slots - would it then be possible to have both PowerPC processors working together? And if desired, would it be possible to add another SharkPPC board to 'double' the processor speed? Please say it can be done!

Bård, Norway.

"What is irrelevant to the Amiga's future is the current fad with mobile phone computing."

What is irrelevant to the Amiga's future is the current fad with mobile phone computing. Very soon people are going to get pissed off with trying to type e-mails with a phone pad, and will stop wasting valuable battery time looking at the 100212 irrelevant search results Yahoo gave them when they try to find a company that can send their wife some flowers because they're working late again.

Andy Bright, Alaska.

P.S. Which job was better? Working for CU Amiga (when new Amiga hardware and software arrived on your desk by the bucket load), or Amiga Active (fighting to revive to Amiga Dream, and still getting some nice toys to play with)?

I don't think anyone would disagree with your four main points (although I don't think the third is really that hard. Imagine selling machines with the OS on flash ROM for instant bootups). I disagree with the mobile computing issue though. Yes, computing on a mobile phone basically sucks, but that's the whole point - for it to work, much more sophisticated machines and OS's are needed.

There's no easy answer to your final question. *Amiga Active* is harder to produce than CU, but on the other hand, having a Publisher who actually understands and appreciates the Amiga is nice.

GHz Amigas?

Dear AA,

I just read in Power Computing's advert (AA16, p19) concerning the Shark PPC, that "both processors on the Amiga (680x0 and PPC) run simultaneously." If Cyberstorm PPC users would like to keep their old PPC board for the benefit of a native 680x0 processor and the

We can't give any hard and fast answers about the SharkPPC until we see one - but multiprocessing isn't a simple business. In theory, the multiprocessing abilities of the Elate powered AmigaDE should allow it to run on multiple PPC cards if the appropriate software interface is provided, although we don't know if this is planned. Running current "classic PPC" software over two PPC processors isn't going to happen though.

Are you mad?

Andrew Korn must be mad. The Rant and Rave in issue 17 is nonsense. How can you compare Tetris to the sheer majesty of Shenmue? Above all, Shenmue allows you to wander around town wearing the same white T-shirt, jeans and dodgy 80's haircut for days on end, while still being in with a chance of getting off with the gorgeous Nozumi. You certainly can't say the same for Tetris.

Richard Baird.

OK, everybody stay calm, nobody make any sudden moves. I don't think he's dangerous, but we'd better not provoke him.



Above: Better than Tetris?



Retroactive?

RetroActive was retired a few issues back. Nobody seemed to notice. We awaited letters of complaint, but none came. Finally, someone plucked up the courage to ask what happened to our back page slot on the *Amiga Active* mailing list.

Responding to such a bold question, we invited other list members to e-mail us if they thought we made the wrong decision. This was the result:

"Please bring RA back into the glossy folds of the mag."

- Alan Buxey

"Consider yourself mailed."

- Jonathan Day

"Retroactive is always the first thing I look at in the magazine, and the thing that gives me most pleasure (sad or what?) That said, if it's run its course, so be it, but I really did enjoy the feature."

- Anthony W. Prime

Now, if those are the typical responses we had to our question, it sounds like we made a mistake in dropping RetroActive from within the pages of AA, doesn't it?

Only those weren't the typical responses - they were **all** the responses. We'd be happy to reverse the decision if a lot of people request it, but the way it stands, it looks like RetroActive will remain InActive.

Disagree? interactive@amigactive.com

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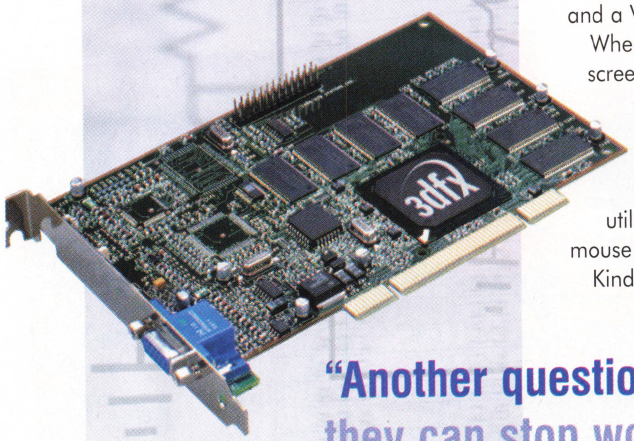
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Ask the Guru

Now recovered from his near-fatal skiing accident, the Guru gets to work answering more questions.



Can't boot, won't boot!

Hardware

Hello,

I have an Amiga 1200 in a huge tower case with a PPC 603/040 25MHz, Mediator PCI and a Voodoo 3 3000 graphics card.

When I reboot my machine, the boot screen is not viewable on my SVGA monitor, and if I plug in my old 1084S monitor, the screen looks like a corrupted 1280x256 PAL mode.

Also do you know if there are any utilities/hacks around that will allow two mouse pointers on screen at the same time?

Kind regards

Dimitrios Athanasiou, Greece.

Naughty A1200

Hardware

Hello Maestro,

I hope you can toss some pearls of wisdom my way. The case in hand is my A1200 and its nasty habit of "auto" rebooting. The Amiga has had a nice parking space on the floor for a few years now, where I have to admit it sat unused, but now I am trying to get it back to life once more.

The problem is that after just a few minutes of use, it reboots into a 'guru meditation', and from here it just keeps rebooting with some 2-5 minute delays.

At first I thought it might be because it was getting hot, but after installing a cooling fan and aiming it directly at the suspected powerflyer IDE controller, I have ruled that out.

My Amiga's motherboard is a revision 2B, with a 270MB hard disk running off the PowerFlyer IDE controller and a Scandex scandoubler hooked up to a SVGA monitor, which is all powered by a hefty 250W power supply.

Another question I have is about oscillators. Is it true that oscillators are so delicate they can stop working just from bumps? When I got my Apollo 1260 it never worked from day one, so I asked the techies from Eyetech about it, and after a replacement oscillator was fitted it works fine. But now the same problem seems to have arisen after a period of sitting on the floor.

Finally; I, like others, have some money that I never got back from Phase 5. Do you know anything about that? There was an article in issue 11 about DCE, so I kind of thought someone might be able to give some good news.

Stay cool.

Filip Sondergaard, via e-mail.

"Another question... is it true that oscillators are so delicate they can stop working just from bumps?"

I'm not quite sure why the screen display should be corrupted on your old PAL monitor, but the Voodoo card cannot show a screen until the software drivers have been loaded. If anything appears on the screen beforehand, the Voodoo card will not have been initialised, and the screen mode will default to a PAL one which should be viewable on the 1084.

As a scan-doubler has not been developed to suit this card, your only choice would be an external unit running through a monitor switcher, making it easy for you to jump between modes.

As for the dual mouse-pointers, no, it is not possible as a rule. The pointer is a hardware generated sprite, and always tracks the mouse's movements. The only way to bring up a second one would be to program it in software. This is assuming that the second pointer would possibly track a mouse in another port, though. After all, tracking the same one would be pretty pointless! I wouldn't lose anyt sleep over it if I were you.

Feeling Blue? Ask the Guru

If you have any technical problems, tips you'd like to pass on, or requests for in-depth coverage of a particular problem, please send them to:

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Alternatively, e-mail them to the Guru's personal mailbox: guru@amigactive.com

What do they mean?

Our lovely Guru will sort out your silicon.

Sloppy software? Bug the Guru!

Networking and the art of Zen explained.

Oscillators are made of finely cut crystal, and are extremely tuned, so hard impacts on the floor, or anywhere else, could theoretically damage them. I've never had the misfortune to have one go wrong, but I am not in the habit of dropping hardware!

The best advice would be to strip the machine down to its basics, and see if you can get some reliability from it before adding back items one at a time. Start off with a really minimal OS installation too, or better yet run it from floppy disk. This really is a matter of elimination by trial and error.

As for the Phase5 thing, your claim for money is with them. DCE is a separate company who only took over the manufacturing rights to the hardware, not their debts as well. As is usual in these cases you will have to file a claim with the receivers for your money, but this case could well be closed by now. Sorry.



What printer driver?

Dear Guru,

After upgrading to OS3.9 (which is a great upgrade) I have found only two problems:

1. The new 24-bit printer system sounds great, but where are the printer drivers for the Lexmark series printers? Mine is a 5700 model.
2. After reading about scanner software and checking up online, I cannot seem to find anything that will let me use my Funline TS 600 scanner from Targa. Any ideas?

John Kinsella, via e-mail.

Unfortunately, not all printers can be supported in such a short time after an OS upgrade is released. You may find that this printer is supported at a later date in an update to OS3.9 if the printer proves to be popular enough, but don't hold your breath. The only other option would be support from TurboPrint, developed by Irseesoft. You might like to look at their web site for more information - www.irseesoft.de

I must admit I have never heard of the Funline range of scanning devices, and as it is obviously not a common model it may be another device that won't see any support on the Amiga. It is possible that it runs in some emulation mode, similar to the way printers do - time to contact the manufacturers I think.



Gaining a day

Dear Guru,

I have been using Wordworth 7 successfully since its release in 1998 but, as we go from the year 2000 to 2001 I have noticed that the "date insert" tool has been adding one to the day of the month so that 1st January became the 2nd and so on!

Can I do anything to overcome this or must I learn to live with today always being tomorrow from now on? My workbench (OS 3.5) clock shows the correct date as does Organiser (another Digita program).

Many thanks,

Tony Smith, via e-mail.

Regretfully, it is not only Wordworth that is suffering this problem, as Money Matters is doing exactly the same, to which there is no cure without a patch or fix of the executables. It looks like you will have to just remember to correct the date after insertion.



Screenmode changes

Dear Guru

I have two small problems with my BVision & CyberGraphX setup. If I attempt to change the Workbench screenmode, all I get is a requester asking me to close all windows which I do but still the requester reappears. If I save my screenmode settings and reboot



"...no PC floppy drive will read Amiga disks"

"If I wanted to reboot just to change screenmode, I would be running Windows!"

then I can get the new screenmode. I have tried removing all programs from the WBstartup and disabling the user-startup but it makes no difference.

I have also tried reinstalling CyberGraphX and I still get the same problem. If I wanted to reboot just to change screenmode then I would be running Windows!

Alex Harrison, via e-mail.

The first problem is easy, there is still a window open on the Workbench screen that needs shutting. On the CD this month we have included some software for you to be able to check and see which windows are open. It is possible that there could be a backdrop window open, or something may have locked the Workbench screen.



Fitting floppy

Dear Guru,

Can you tell me where I can buy an external 3.5" floppy drive, for my Windows 98 PC, that will read my old Amiga .bmp graphics files so that I can copy them to my PC hard drive (for using in Windows programs and archiving onto by CD burner)?

Gerald Piwowar, via e-mail.

Unfortunately, no PC floppy drive will read Amiga disks, external or not, but luckily you can format - and read - MS DOS disks on the Amiga. If your graphic files are not too big (typically under 720KB) you only need double density disks which are standard Amiga floppies. Format them using the PC0: device and copy the files to them. Shove them in your PC (not too hard, mind - you'll kill the gremlins) and copy them back off. Easy!

The Guru A

Serve the Web!

Ever thought of setting up a web server on your Amiga? This month, Active Online takes you through the process, step by step.



There are several reasons why you could want to run a web server on your Amiga. To test CGI and other server-side elements of a site before uploading it to your public web space, to serve documents across a local network, or simply because you can.

There are a few web servers written specifically for the Amiga, including at least one in ARexx. These have the traditional attributes of Amiga software, small size and efficient operation. However, the de facto standard webserver on the Internet is Apache. This is open source and available on many platforms, including the Amiga. Most servers run it on Linux or a Unix variant, but the Amiga version is based on the same code. This means you can test a site on a local copy of Amiga Apache and expect it to work in the same way when you upload it to your web space.

The down side of this is that Apache can be tricky to get started and a little daunting for first time users. So here is a step-by-step guide to getting started with Apache. All the files you need are on this month's AACD, in AACD18:AACD/Magazine/Online.

Geek time

Because the Amiga flavour of Apache is a straight port of the Un*x sources, it needs a few programs from Geek Gadgets. Create a 'GeekGadgets' directory, say SYS:System/GeekGadgets. Copy the contents of the GeekGadgets directory of our CD to here. The Sys/libs directory contains various versions of ixemul.library and ixnet.library for different processors. Rename the appropriate ones and delete the rest. Now load S:User-Startup into a text editor and add these two lines, changing the path in the first to match your setup:

```
Assign GG: SYS:System/GeekGadgets
Execute GG:Sys/S/GG-Startup
```

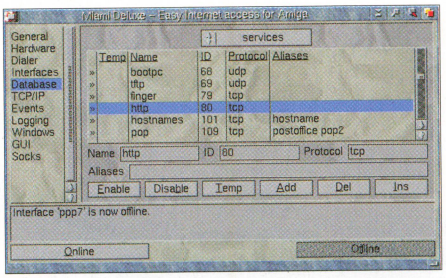
You'll need about 22MB of free space to copy all the Geek Gadget files (19MB once you've deleted the unnecessary libraries). If you need to reduce the size further, you can safely delete the contents of the dvi, guide, info and ps directories (leave the empty drawers, though) to free up another 9MB.

Unix specifies directory paths differently to AmigaDOS. UnixDirs3 lets the Amiga version of Apache handle paths in the same way as on other platforms. Copy the program and its icon to WBStartup.

Now it's time to install Apache itself. There are two directories on the CD, Apache and Apache-PHP. The latter has built in PHP support. Copy whichever you need to your hard drive, keeping the name Apache. In the 'Apache/bin' directory you'll find 040 and 060 versions of some files. Delete these if you use an 020 or 030, otherwise rename the appropriate files and delete the others. You must assign 'Apache:' to the Apache directory you've just created and add the bin directory to the command path. Add these lines to S:User-Startup.

```
Assign Apache: SYS:Internet/Apache
Path Apache:bin ADD
```

"Most of the settings don't need to be touched..."



Above: The http service should already be set up in your TCP/IP stack.

The next step is to set up your TCP stack to create the required users and services. In the Services section of the Database, check that there is an entry for the following:

```
Name:       http
ID:         80
Protocol:   tcp
```

Then go to the Groups section and create a WWW group:

```
Group Name:   www
Group ID:     45
Users:        www
```

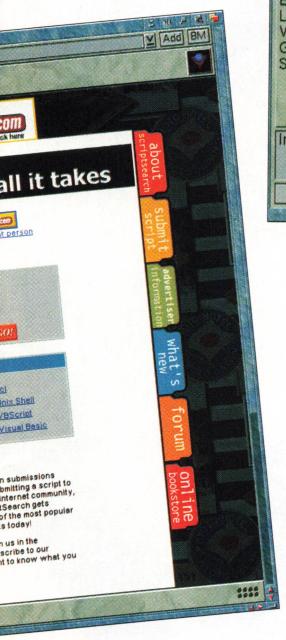
Finally, create the www user:

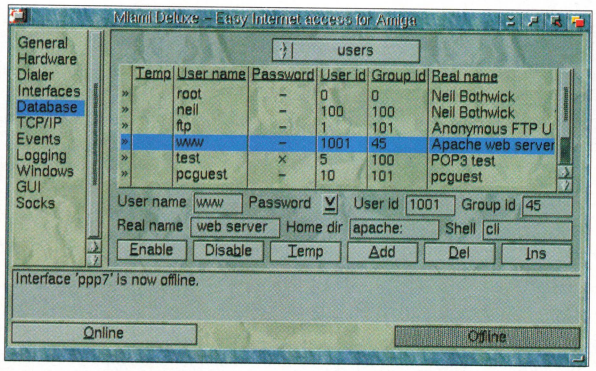
```
User Name:    www
Password:     Leave blank
User ID:      1001
Group ID:     45
Real name:    Apache web server
Home dir:     Apache:
Shell:        cli
```

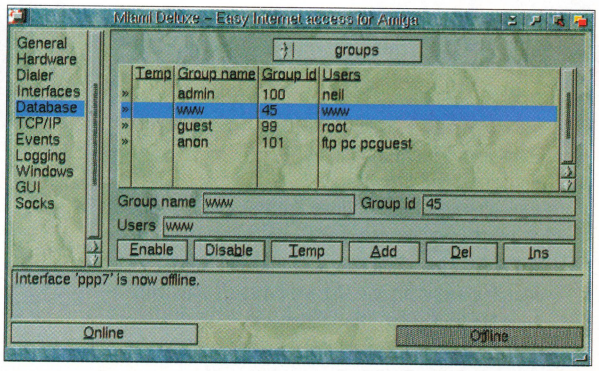
Reboot to activate the changes and start Apache by typing 'rx Apache:bin/starthttpd' in a shell. Now start your browser and load http://localhost. You should see the default Apache index page. If you don't see this, have a look at Apache:logs/error_log to see what may have gone wrong. If the error message says the logfile couldn't be opened and you run PFS, see the boxout.

Apache configuration

Now that you have Apache working, it's time to configure it. The Apache:conf directory contains many config files, but the only one used nowadays is httpd.conf. The base versions of the other files must be there, but you can delete the #?.default and #?-amiga-dist versions. Load httpd.conf into your favourite text editor and take a deep breath before diving in. At almost a thousand lines, this is a BIG config file. Don't panic, the majority of this is comments, the file







Left: Once Apache is working you'll want to find some CGI scripts to try. Naturally, this site full of scripts is running on an Apache server.
Above left: Creating a user entry for the web server.
Above: Creating a group entry for Apache.

"...test things locally then transfer them to your web space..."

contains its own documentation. Most of the settings don't need to be touched but a couple must be changed before you can serve web pages.

Find the line that says 'DocumentRoot "/Apache/htdocs"'. This specifies the base directory from which Apache will serve pages. Change it to wherever you keep your HTML files. It uses Unix-style path notation, so 'Work:Internet/HTML' would be written as '/Work/Internet/HTML'. Now go to the line '<Directory "/Apache/htdocs">' and change the path to the same as in DocumentRoot. The <directory></directory> tags contain settings to control access to files and services in that directory.

The configuration files are only read at startup, you need to stop and restart Apache to invoke your changes. The scripts starthttpd and stophttpd handle this. To save typing out the full path as above, type "protect Apache:bin/st#? +s" in a shell to set the script bit on each file. You can now start and stop Apache by typing the command name only. The NewScripts directory contains our home-brewed StartHTTPd and StopHTTPd scripts, along with a RestartHTTPd script for restarting after a configuration change. Feel free to use these instead of the standard ones.

Once you have Apache serving basic web pages, you may want to try something a little more adventurous. One of the advantages of running Apache is that you can test things locally then transfer them to your web space with little or no changes. As well as the main configuration file, you can put settings into a file called ".htaccess". The settings in here override the main settings for the directory containing the file and any below it, provided Apache is set up to allow this. By default it is, but you may want to check that your web host has a similar setup. You can use this to password protect part of your site. Password protection requires two files. '.htpasswd' contains the passwords, encrypted. Create it with the "htpasswd" command as follows:

```
htpasswd -c path/to/.htpasswd
UserName
```

You will be prompted for the password for UserName and the file will be created. To add further users, use the same command without the "-c". Now create '.htaccess' in the directory you want to protect and add these commands:

```
AuthUserFile
/Work/Internet/HTML/.htpasswd
AuthName "Private login"
AuthType Basic
require user Admin
```

The first line gives the path to the .htpasswd file, the second is the text that will be displayed by the browser when asking for the password. The last line gives the usernames that may login here and should be one that appears in .htpasswd.

"This is only scratching the surface... You'll run out of ideas long before you run out of options."

As easy as P-H-P

Another good reason for a local server is to test CGI scripting. PHP is easy to set up, you simply install the PHP version of Apache and start writing scripts. Perl scripts require the Perl interpreter. This is also on the CD. Copy the contents of the bin, lib and man directories into the corresponding directories in GG:. Perl scripts have the path to the Perl interpreter on the first line of the script. If your web host has it somewhere other than /bin/perl, copy the Perl file from usr:bin to the corresponding path on your hard drive. Now the same scripts should work locally and on your web space without modification.

This is only scratching the surface of what can be done with Apache. You can use mSQL to create databases with a web interface, or run many of the thousands of available Perl scripts. You'll run out of ideas long before you run out of options.

Neil Bothwick A

Professional Filing System and Apache logfiles

Apache is one of the few (only?) Amiga programs that attempt to open several write connections to the same file. PFS2 and the original PFS3 didn't support this and the error_log file will contain a message stating that Apache couldn't open the error_log file. If you use PFS3, upgrade to the latest version - the update files are on this month's AACD.

If you use PFS2 you will have to edit the config file and change the settings for the error.log and access.log files to a partition that doesn't use PFS. You can use RAM: but the logfiles can grow quite quickly so watch your memory usage. Only the logfiles need to be elsewhere, Apache itself is quite happy running from a PFS2 partition.

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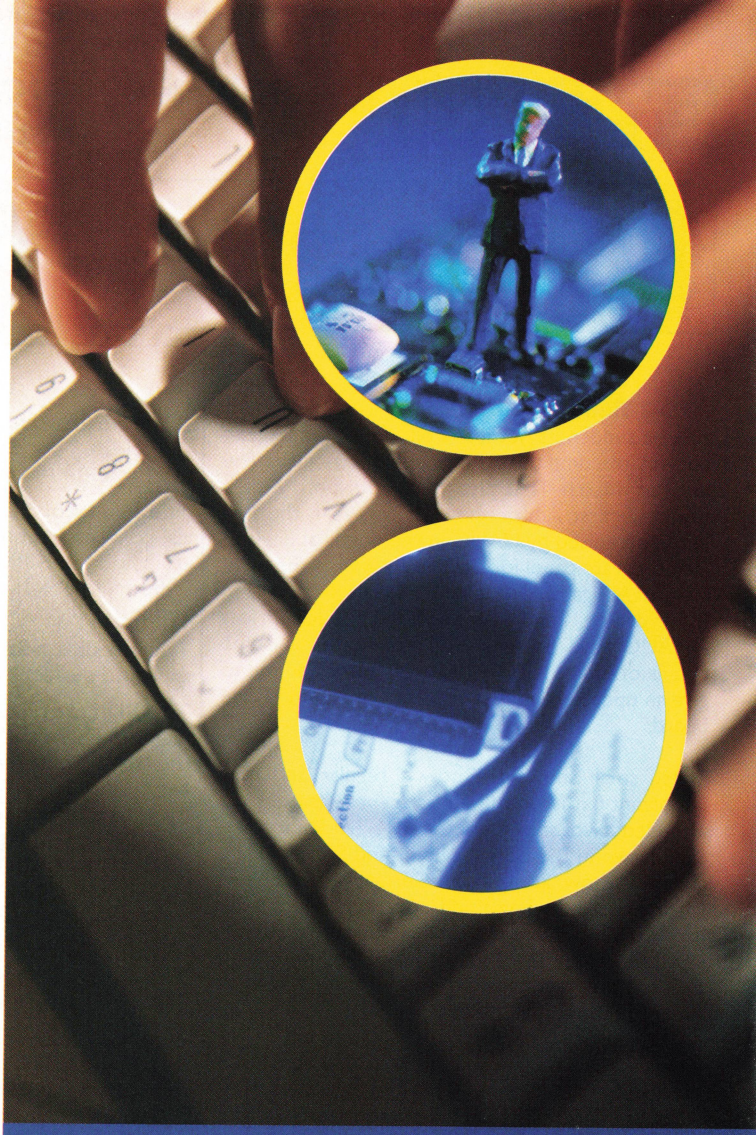
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Amiga news from Eyetech

March 2001

Editorial

Its showtime again!

All of a sudden its not just a bit into the New Year, but - by the time this issue is published - just a few days off March. That also means its only 2 days from the first Amiga show of the year, the Alt-WoA, organised by HAUG in the north of England (see separate panel for details). As well as the usual array of Amiga hardware and software from us and other dealers - and all at some very special prices - HAUG have persuaded Fleecy to reveal some details of Amiga Inc's forthcoming plans and me to give an update - and first sighting - of an AmigaOne board.

These small shows are now a regular and very important fixture in the Amiga scene - last year we attended two shows in the UK (Kickstart and SEAL), two in the USA (St Louis and Sacremento), and the show at Koln in Germany just before Christmas. And when I add up the numbers what is remarcable is that the total cost to us of attending these five shows was considerably less than that for the two days we spent at the World of Amiga in London in 1999.

How's that you might well ask. Well all these shows - including the US ones - are organised *by* enthusiasts, *for* enthusiasts on a non-commercial basis, with us and other Amiga companies chipping in to cover the costs of stand space and to provide raffle etc prizes.

These shows really seem to work well for all concerned, and I would like to take the opportunity - on behalf of all Amiga retailers - of giving a big thankyou to everyone involved in the organisation of such shows. You really are helping keep the Amiga alive in a very practical way whilst next generation products are in development by Amiga Inc, ourselves and others.

All of which brings me to the main point (at last). There seems to me to be a definite hole in the show calendar around June/July, particularly in the UK and Europe. Are there any user groups out there who would like to have a show in their area around this time? If so please contact me - we'd love to help out and - as it happens - will have some really great new generation Amiga products to release around that time!

In the meantime I look forward to meeting as many of you as possible at the Alt.WoA at Huddersfield on 24th of February, or if its later than that date whilst you are reading this - at the next club-organised show in the calendar - in St Louis, USA.

Finally if you have a requirement for a product or accessory for your Amiga that either doesn't exist yet - or is just impossible to find at a reasonable price please email us at sales@eyetech.co.uk with details of your request and we'll see if we can do anything to help.

Thats all for now - see you next issue. Alan Redhouse.

Predator-SE or AmigaOne : Which is for you?

When we first announced our intention to build the Predator range of PCI/AGP boards last Autumn, and released the philosophy behind the design of the boards we received an overwhelmingly positive response. At that time we announced two board families, the Predator-SE and the Predator Plus.

The Predator-SE is a low cost PCI-only expansion bus designed to attach to the localbus (graphics) connector on the BlizzardPPC accelerator (and equivalent for the CyberstormPPC/Mk3 accelerators for the A4000). This is the board to go for if you have an existing phase5/DCE PPC (or Cyberstorm Mk3) accelerator and wish to upgrade the graphics performance significantly to eg - a Voodoo 3-D graphics card and/or use low cost PCI ethernet/sound/etc cards.

The Predator-SE - now upgraded to 5 PCI slots - will be available direct from Eyetech and our approved dealers from February 2001 priced at £129.95.

The Predator Plus took this design a stage further and incorporated an AGP graphics slot, SDRAM memory and a G3/G4 cpu on board. However in October last the Predator Plus was uprated and used as the basis of the **AmigaOne** 1200/4000 design at the request of Amiga Inc. The new design has 6x PCI + 1 x AGP (graphics card) slots and can be used as either a stand-alone board (running the Amiga DE) or in conjuction with an existing A1200/A4000 motherboard to run Classic Amiga O/S & applications at high speed with a very high degree of compatibility. In this latter mode the AmigaOne functions as a very fast G3/G4 accelerator with the added benefit of 6xPCI & 1xAGP expansion slots for graphics and other I/O expansion. The AmigaOne does not require (or use) any other Amiga accelerator. The AmigaOne should be your choice if you want to give your existing Amiga a major boost in terms of cpu and I/O power or run the forthcoming AmigaDE and applications - or both.

The AmigaOne is currently in prototype form with end user boards on schedule to ship in March 2001. Final pricing will be announced when the board goes into final production.

Both the Predator-SE and the AmigaOne will be available in separate form factor versions for the A1200 and A4000 (with versions for other Amigas following if there is sufficient demand). A1200 versions are designed to fit into a standard tower conversion (including Eyetech's EZTower Z4, the Elbox A1200 tower and its Power/Winner tower variants). The A1200 version will also fit in a standard ATX tower case for use as a standalone system running the Amiga DE. A4000 versions are designed to fit in an A4000 Desktop conversion tower such as our own EZTower 4000 or the Elbox A4000 tower.

The 3D graphics drivers for both the Predator-SE and the AmigaOne are being ported by Hyperion Software. Initially drivers will be available for the Voodoo3, 4 & 5, Permedia2 and Virge 3 graphics cards.

AmigaOne Update

See www.eyetech.co.uk/amigaone for the latest information on the AmigaOne 1200/4000.

- Agreement reached with Amiga Inc on a staged Operating System upgrade path for the AmigaOne 1200/4000 from OS3.9 functionality right through to the full Amiga DE for desktop/sever systems
- Happy Machines N.V., have agreed to port their 3ivx codec to the AmigaOne 1200/4000. Using the 3vix codec it is possible to view streaming video with acceptable quality and framerates even using a 56Kbd dial-up modem internet connection.
- The A1 Beta tester list now fully subscribed. Responses will be given by email to applicants in early March. Thanks.
- 'Unbelievable performance' 3-D games from Hyperion to be bundled with the A1

Alt-WOA show 24 February - Don't miss it

The Alt-WOA show - which is being organised by the Huddersfield Amiga Users group (HAUG) and sponsored by Eyetech - is to take place at the Old Corn Mill, Huddersfield, adjacent to junction 25 of the M62, on Saturday 24th February. As well as excellent road connections and free carparking there are good rail services to Huddersfield from most of the UK.

For bargain seekers we will be publishing a list of the main items that we will be taking to the show - and some very special prices - on our web site around 6pm Friday 23td February. Stocks will be strictly limited - so if there is something specific that you wish to buy its best to arrive early. Please note that due to the short duration of the show it will not be practicable for us to install credit card facilities, so make sure you bring sufficient cash for your anticipated spending needs.

New EZMouse PS2- to-Amiga mouse adapter + super mice bundles

Following requests from our customers we have brought in a new range of hi res mice/EZMouse bundles. All bundles come with commodity software allowing you to assign the 3rd/4th/buttons &/or scroll wheel to Amiga functions such as screen flipping, window scrolling etc.

- EZMouse plus 520dpi wireless mouse - £49.95
- EZMouse plus 520dpi wheel mouse - £39.95
- EZMouse plus 520dpi 3-button mouse - £29.95
- EZMouse plus EZKey-SE/P + infrared keyboard with mouse facility - £59.95
- EZMouse alone still just - £19.95

Shogo to be released in March 2001

After a seemingly interminable wait Hyperion are now very close to the completion of their next major 3-D game release for the Amiga - Shogo. Our own estimation is that it will be with us - the first in the UK - in early March.

Eye-Play will be taking no-payment, no-commitment, advanced orders from the publication date of this issue, so please ring, email or use our webshop to make sure that you get one of the first copies of this superb 3-D FPS game

Shogo will be priced at £39.95 and requires a PPC with 64MB, CDROM and 3D gfx card.

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This is just a small selection from our vast range of Amiga products and accessories. Please see our web site, see our full price list on this months AmigActive CD or send 39p in stamps for a full product listing and price list.

EZTower and Tower accessories

EZTOWER OPTIONS - *The EZTower-Z4 is the latest state-of-the-art tower specifically designed to take the A1200 Z4 expansion busboard. Available as a DIY kit, ready assembled or via our fitting service.*

EZTower Mk5 with 250W PSU, 6x 5.25" bays & 3x 3.5" bays, floppy drive cable & faceplate, LED adapter and full instructions. (62x42x19cm) **£89.95**

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EZKey Mk2 Ribbon cable slot PC/Amiga keyboard adapter with ***free*** PC keyboard. 5pin DIN **£28.95**

EZKey-SE/A CIA-fitting A4000 keyboard adapter for A1200/A600/A4000. 5pin DIN socket **£18.95**

EZKey-XS CIA-fitting PC/A4000 autodetecting keyboard adapter for A1200/A4000 with xMON control, infrared decoding for CDTV remote with full alphanumeric mapping, 4 x PC keyboard mappings, keyboard operated ATX PSU on/off control etc. 5pin DIN socket **£39.95**

Z4 BUSBOARDS AND BUNDLES

Z4-Bus A1200 expansion busboard 5x Z2 slots, including 2 x high speed slots & video slot, 2x Z4 slots for future ultrafast cards, 4x clock ports and accelerator pass through connector **£99.95**

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Z4-Bus & CV64-3D, AMON/F **£289.95**

Z4-Bus & CV64-3D, INSD2, AMON/F **£339.95**

Z4-Bus & CV64-3D, INFF2, AMON/F **£369.95**

Z4 Tower, Z4-Bus, PC k/b, EZKey-SE **£199.95**

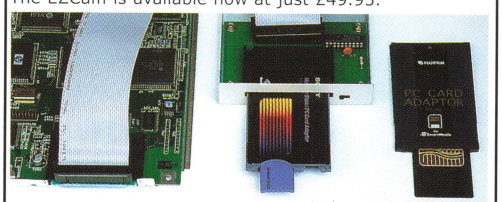
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Read & Write Digicam memory cards direct from Workbench with the EZCam adapter

The EZCam hardware extends the PCMCIA slot so it can be mounted in a 3.5" drive bay for easy access and adds hardware logic to allow digital camera cards (memory stick, smartmedia, compactflash) used with a PCMCIA card adapter (not included). When used with the supplied driver the camera card automatically mounts as a drive on the desktop, allowing picture files to be copied or displayed directly. A front panel switch disables the additional logic for full compatibility.

The EZCam is available now at just £49.95.



MASPlayer - an MP3 player which works with all Amigas from the A500 upwards. The MASPlayer uses the same hardware decoder chip used by the award-winning Diamond Rio MP3 players. It plugs into the parallel port, has a 3.5mm mini stereo output jack and draws its power from a pass-through connector on the serial port. Unlike software MP3 players it makes very low demands on the CPU allowing full, usable multitasking. The MASPlayer suports all bit rates (including variable bit rates) when used with an '020 cpu or above and gives excellent sound quality. It is ideal for turning your old Amiga into a sophisticated MP3 player, or simply as an add-on to your existing configuration.
The MASplayer is now in stock priced at just £69.95

A1200 ACCELERATORS '030 from £44.95, '060 fr £179.95
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EIDE HARD DRIVES - from £29.95 to 30.0GB
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Eye-Surf: full secure internet connectivity via your TV for just £78.95!



The Eye-Surf is complete Plug-and-Play internet solution that works entirely independantly of your Amiga (or other computer). It has a built in modem, SCART RGB/composite output and pass-through sockets, a printer port, an infrared keyboard and SCART and phone extension leads. The Eye-Surf has a fully de-interlaced, hi-colour display, with antialiased fonts and selectable text rendering sizes to accommodate different sizes of (TV) display. The Eye-Surf has full SSL support built-in for secure web site ordering. Best of all we are offering 10% off the list price of any Amiga orders placed using the Eye-Surf within 6 months of its purchase!

UK NEXT DAY* INSURED DELIVERY CHARGES : OS 3.9, S/W, Cables, EZCD I/F = £3 ; 2.5" HD's, Accel'tors, Manuals = £7 ; 3.5" HD's, FDDs = £9 ; CDPlus, Scanners = £11 ; Systems, Monitors = £15 ; Tower + monitors = £23

UK Bank/BS cheques, Visa*, Mastercard*, Switch, Delta, Connect, Solo, Electron. Postal/Money orders accepted. (* 3% clearance charge applies to all credit card orders). Due to space limitations some of the specs given are indicative only - please ring/write for further details. Please check prices, specification and availability before ordering. **If ordering by post, please provide a daytime telephone number.** All goods (excluding opened or used software) may be returned in perfect condition within 7 days of invoice date for a refund (excluding carriage, services and card clearance charges) . A1200 items are tested with a Rev 1.D.1 motherboard - other boards may need modification. Items subject to mechanical wear & tear (eg keyboards) are limited to 90 days warranty on those components. E.&O.E. All prices include VAT at 17.5%. Orders sent outside the EC do not incur VAT - divide the prices shown by 1.175 to arrive at ex-VAT prices. All goods are offered subject to availability and our standard terms & conditions, copies of which are available upon request. **AA18**

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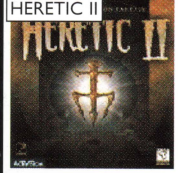


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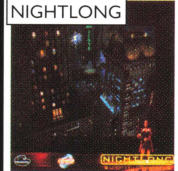
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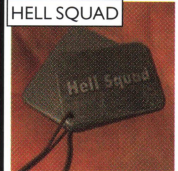
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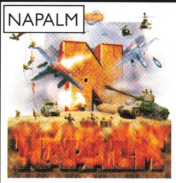
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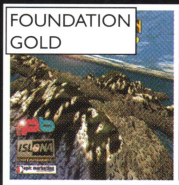
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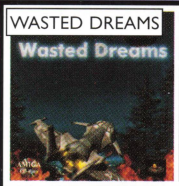
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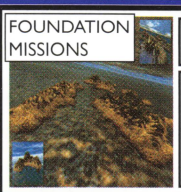
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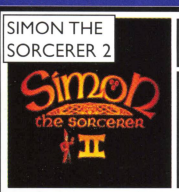
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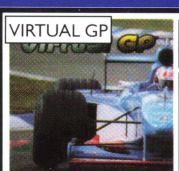
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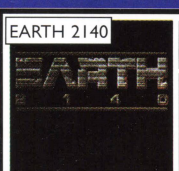
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SO THE WORLD MAY KNOW



Begin exploring the new AmiVerse

This SDK is a good first look at the architecture and framework of the new Amiga Operating System.

It is designed to introduce Virtual Processor (VP) coding: the language of choice for the new Amiga OS. With it, developers can begin creating tools to aid themselves and others in porting and creating applications.

Today, you can shape the Amiga of tomorrow.

System Requirements:

- A compatible AMD or Pentium Processor based personal computer.
- Red Hat Linux 6.1 running XFree86
- 32 MB of RAM (64 recommended)
- 100 MB of hard drive space.

Developers may contact Amiga Inc. by phone at the Amiga support line: +1 425-396-5640 or get more information at http://www.amigadev.net

Some portions of the AmigaDev site will be under NDA. If you wish to obtain an NDA, simply e-mail your request to developer@amiga.com

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