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ISSUE 11 AUGUST 2000

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Reviewed: ArtEffect, Amiga Writer, Imagine, Audio Evolution

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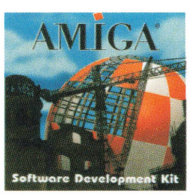


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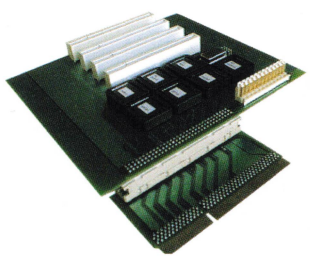
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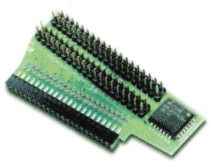


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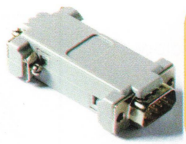
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Power Graphic Tablet £159.95

Regulars

06 News
A huge influx of developer boxes due any time now...

10 Rants & Raves
Take a trip to the AmiVerse, and look out for techno jargon!

48 Active Gamer
Eye-Play's plans for the future of Amiga gaming.

54 Interactive
Our Editor answers more of your letters.

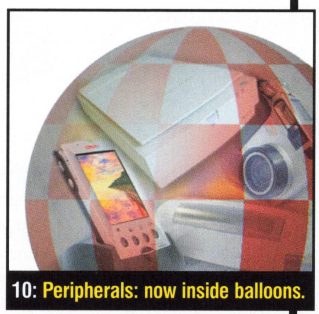
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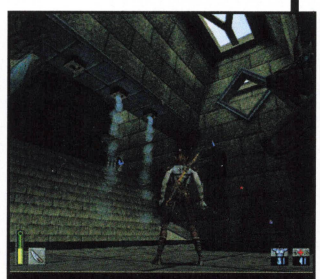
58 Guru
More meditations on some of your technical problems.

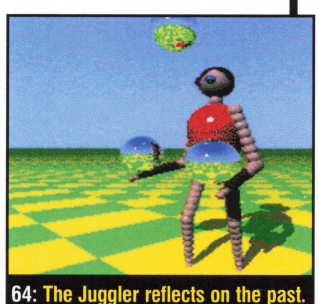
60 Online
Dealing with online junk mail the civilized way.

62 Next Month
A month after Amiga's 15th, it's our first anniversary!

64 Retroactive
We don't look forwards all the time. Sometimes, we like to look back in fondness at some of the things we used to (and still do) love about the Amiga...


10: Peripherals: now inside balloons.


48: Corvus the plumber gets to work.


64: The Juggler reflects on the past.

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Haage & Partner's word processor promises much...

26 Audio Evolution
How good does this audio package really sound?

28 EZTower Z4
Eyetech's A1200 Z4 tower solution deconstructed.

30 Art Effect 4
Haage & Partner's graphics package gets another update.

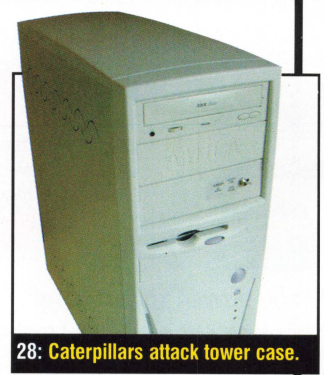
36 YAM 2.1
Yet another update to the freeware mailer.

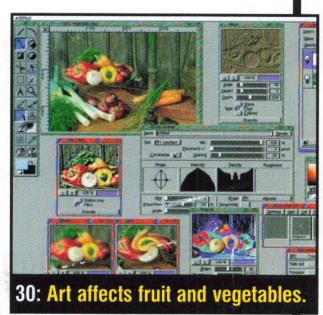
37 Imagine
The latest version of the 3D package under scrutiny.

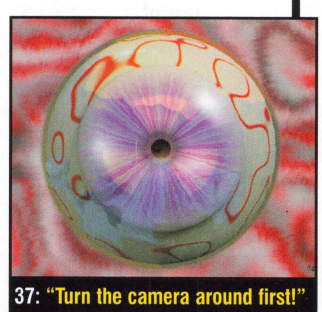
40 Active Media
Books, CDs and web sites rounded up for your perusal...

42 Shareware
...and the same can be said about public domain software!

53 XTR
Racing at the extreme, or just a dated Mario Kart clone? We don our racing helmets to whizz about a multitude of tracks and make our minds up.


28: Caterpillars attack tower case.


30: Art affects fruit and vegetables.


37: "Turn the camera around first!"


ACTIVE GAMER

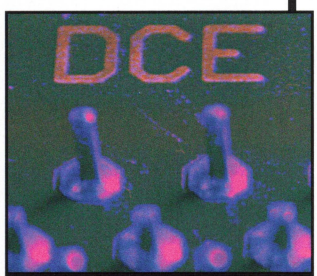
You Play, Eye-Play, Everybody Play!

Following the launch of Eyetech's games division, *Amiga Active* puts Managing Director Alan Redhouse in the hot seat.


WORK IN PROGRESS

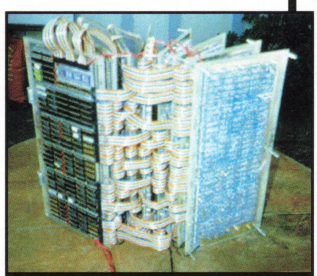
Features

13 Who are DCE?
Chances are you've got a piece of hardware that has been manufactured by DCE, but just who are they? We track down Thomas Dellert and ask him about their plans for current and future Amiga hardware.



13: DCE lurks In the petrified forest.

16 Happy Birthday!
This month, we celebrate 15 years of the Amiga, so come with us on a journey through the last decade and a half of personal computing. You never know, you might meet some familiar faces along the way. Cheers! Here's to the next 15!


16: Fat Agnes? You should see Joe!

44 Programming in C
In the second part of our programming tutorial, we take an in-depth look at improving code through the use of structures.

50 Payback Time!
James Daniels talks us through the development of his potential GTA-beater for the Amiga. The conclusion of our Work In Progress is followed by our own thoughts on how the game is shaping up.


52: "Road Rage? Haha!" *KABOOM!*

AACD 11

After another month with all pretense at a social life sacrificed in order to spend more time searching the backwaters and byways of the Internet for quality material for the CD, we bring you yet another choc-full coverdisc. As always, make sure you double-click the Welcome icon the first time you use this CD (unless you use Autorun, of course).

What's on AACD11?

The Magazine drawer contains additional programs and information for articles in the magazine. Read the review of Amiga Writer, Art Effect and Audio Evolution and then try the demos. This drawer also has a database of all articles from the first six issues of *Amiga Active*, to be expanded next month.

Commercial

Exclusive to *Amiga Active* is a NetConnect 3.1 update. This provides later versions of all the programs in the suite as well as dealing with the problems caused by the faulty NetConnect 3.0 CDs.

Demos

The Gathering 2000 was one of the major scene parties of recent months. We have a selection of the top demos on this month's CD, as well as some classic Amiga demos from recent years.

Programming

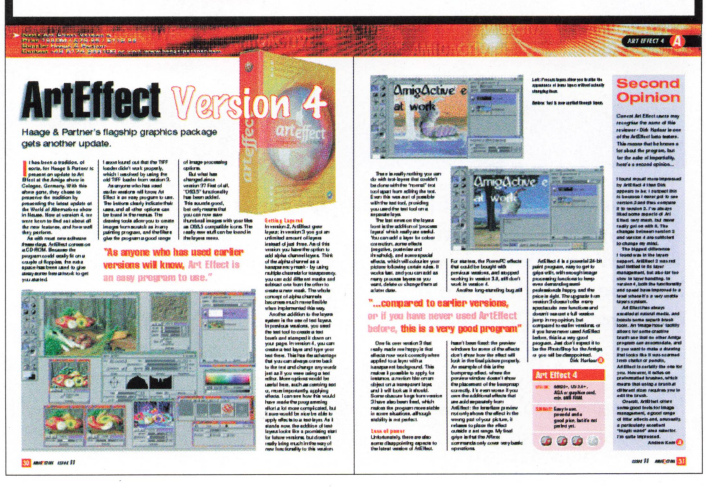
The Programming drawer has several items for coders. The Barfly assembler system has been updated and contains full support for MorphOS. Classic Amiga programmers can find the latest version of the BGUI user interface system. If you're just starting out in C programming, have a look at the source code from the Programming Masterclass.



There's more, much more

This is only scratching the surface (not that we'd recommend scratching the surface of your AACD). AACD11 contains a wealth of utilities, system enhancements, mods, anims and programs. There's something for everyone and we're giving you a whole month to spend exploring it.





Dev Box Frenzy

Power Computing, Eyetech and Computer City have all launched their own development systems.

The Power Amiga DevBox from Power Computing retails for £699.95 and incorporates an ATX form factor Super Socket 7 motherboard, an AMD K6 processor clocked at 500MHz, Matrox G400 Dual Head graphics card, SoundBlaster audio card and 64MB of SDRAM. Peripherals include a 20.4GB hard disk, 48x CD-ROM, v90 internal PCI modem and a PCI network card with RJ45 connector.

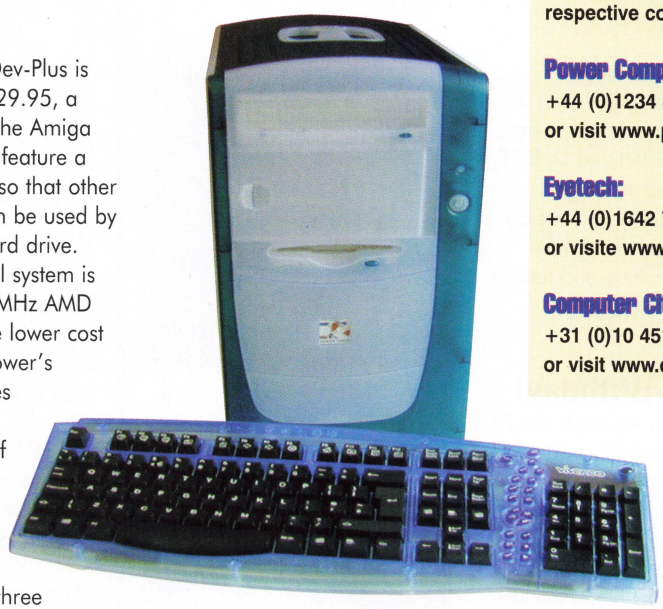
Linux 6.1 - required to host Amiga's Software Development Kit - is also provided, but the SDK itself is not included in the price of this set-up. Neither is a monitor. The Power Amiga DevBox is available in a choice of five colours.

Eyetech Foursome

Not satisfied with just the one product, Eyetech have launched four development systems to suit different tastes and budgets. Each set-up is available in either the stand-alone EZDev-Plus form (in three different case styles), EZDev-Tower (Mk4 or 5 case) or as an upgrade to existing EZTower owners (excluding the Z4 tower). For the latter, Eyetech also offer a collection, fitting and delivery service.

The entry level EZDev-Plus is available now for £429.95, a price which includes the Amiga SDK, and all systems feature a removable drive bay so that other operating systems can be used by slotting in another hard drive.

Eyetech's entry level system is also based on a 500MHz AMD K6 CPU, although the lower cost when compared to Power's offering also translates to a slightly lower specification. 64MB of PC100 RAM, an 8.4GB hard drive and 40x CD-ROM are packed into a mini tower case with three external drive bays.



Upgrading to an AGP graphics card will require a change of motherboard, however - the one supplied in the entry level system is an integrated board with sound, graphics, Ethernet and a 56k modem as well as a pair of USB slots already on-board.

Eyetech's top-of-the-range "Level 2 Multimedia System", meanwhile, is aimed at commercial developers and is based on a Gigabyte Super Socket 7 motherboard with PCI and AGP slots. A Matrox G400 graphics card, Soundblaster Platinum sound card, 128MB of RAM, PCI Ethernet card, 17.2GB hard drive, CD Re-Writer, 48x CD-ROM and internal V90 modem round off the 500MHz AMD K6-2 based machine.

Two intermediate levels of tower are also available, aimed at "leisure" computing programmers wanting to experiment with porting games, applications and utilities to the new Amiga OE.

To complement these systems, Eyetech are also offering the EZDev-A1200 integration pack comprising PCMCIA Ethernet card, CC_Reset adapter, 3 metres of crossed UTP cable and Ethernet software, keyboard switcher, monitor switcher and Amiga-EZDev audio integration cable.

If, on the other hand, you want a complete ready-to-run integrated A1200 and EZDev-Tower system, Eyetech can include an A1200 with all the known manufacturing faults fixed, a 4.3GB hard drive, 40x CD-ROM, buffered IDE interface, PC keyboard interface and EZVGA internal scandoubler/flickerfixer Mk2.

DevBox City

The proliferation of Amiga development systems isn't limited to UK Amiga companies, however. Computer City over in the Netherlands have put together their own box, consisting of a 500MHz AMD K6-2 motherboard, Matrox G400 graphics card, Soundblaster Live 1024, 128MB of SDRAM, 15GB hard disk, 40x CD-ROM and Ethernet card. The Linux operating system and Amiga SDK are also available as part of the bundle, which retails for fl.2499 (about £785 pounds).

FURTHER DETAILS

For more information on all these towers, contact the respective companies.

Power Computing:
+44 (0)1234 851500
or visit www.powerc.com

Eyetech:
+44 (0)1642 713185
or visite www.eyetech.co.uk

Computer City:
+31 (0)10 4517722
or visit www.compcity.nl



Digital Images reach Deadlock

Following the porting of WipEout 2097 to the Amiga, Digital Images have been working on a new project, "Deadlock".

This is a space combat game, featuring a variety of missions from dogfights to flying escort, investigating missing ships, rescuing crew from endangered craft and saving damaged battle cruisers from impending plasma storm destruction.

The usual mind-boggling selection of advanced weaponry will help you in your missions, whilst pre-rendered cut-scenes will help advance the story as the game progresses. Digital Images hope to break the mould with Deadlock rather than follow all the clichèd rules of space combat. Shooting the same area of a ship won't necessarily destroy it, for example. We'll bring you more information on Digital Images' latest project when we receive it.

SEAL-O-RAMA! 2000

Basildon, Essex

The South East Amiga Link (SEAL) user group will be holding a small Amiga show on the 10th September in Basildon, Essex. The one day show, open from midday to 5PM, will be held at Northlands Park Community Centre, Felmores, Basildon, Essex, SS13 1SD.

A number of Amiga retailers have already promised to exhibit, including Analogic, Blittersoft, Eyetech and Fore-matt Home Computing, while Crystal Interactive Software will also be there demonstrating upcoming games. There will be events including gaming competitions and practical demonstrations of Amiga productivity software. Admission will be £1.

www.seal-amiga.co.uk

Amiga Show in California

The AmiWest 2000 show is being held at the Holiday Inn, Sacramento North East, Sacramento, California, on the 29th - 30th of July. The show will feature Bill McEwen, President of Amiga Inc, and Petro Tyschtschenko, head of Amiga Deutschland Inc., as special guests. McEwen will be the keynote speaker at the banquet to be held on the evening of the 29th.

Other exhibitors will include AEMail, AntiGravity, AudioLabs, Compuquick Media Center, Eyetech, Hyperion, Merlanica, Nordic Global Inc., Nova Designs, Inc., the Sacramento Amiga Computer Club, and the User Group Network (UGN), who will be providing live IRC feeds from the show floor.

Entry will cost $8 for one day and $12 for two if purchased in advance, or $10 and $15 on the door. Tickets to the banquet and keynote will cost $35 and must be purchased in advance. For more information visit http://www.sacc.org/amiwest/ or email the organiser, John Zacharias, on jzachar@calweb.com

Voyager revamped

The Voyager web browser is to get a major revamp. Oliver Wagner, lead developer for Internet software specialist Vapor, has revealed in his .plan file that the well-featured browser will shortly have an entirely new layout engine.

Voayger's weakness has always been in the layout engine. Without a major upgrade since the days of HTML 2.0, new features have been added in a less than optimal way. The current layout engine is a simple flat non-incremental stateless layout engine, unable to alter layout on the fly. This meant that as HTML is parsed, the engine has to continually redraw the whole page internally, the reason why incremental features such as complex embedded tables tend to be rather slow on Voyager.

While Voyager's developers have done an impressive job of hiding the failings of Voyager's current layout engine, more advanced new functionality such as JavaScript and the Flash plug-ins have clearly suffered from the stateless layout engine, causing graphical glitches and a less than optimum layout speed.

The new layout engine, built from scratch, will make the code cleaner and thus far easier to debug, but there will also be far more important differences from the user viewpoint. The new engine will make it easier to implement a fully compliant JavaScript; current problems with Voyager's JavaScript implementation are largely due to the engine relaying all the JavaScript elements each time the page is modified, which causes major problems for an object based language. The new engine should mean fewer JavaScript errors, and should allow a more compatible Macromedia Flash player too. It will also allow features currently missing from Amiga browsers such as long-term Vapor target CSS (Cascading Style Sheets) to be implemented - something quite impossible with a non-incremental layout engine.

The new Layout engine is currently undergoing early beta testing and is understood to already offer significant advantages over the older version, notably in rendering speeds of complex pages with nested tables. While the current version of Voyager is still noticeably slow at such pages, the beta of the new version is reported to stunningly fast.



New Amiga ISP

A new Amiga dedicated ISP is being launched in co-operation with Blittersoft. Amiga.uk.net will follow the free ISP model introduced by Freeserve, charging just £9.95 for a one-off set up fee, or £49.95 including the excellent Netconnect 3 Internet software suite.

www.amiga.net.uk

TechEd REPORT - Microsoft to compete with Tao?

Over 7,000 of Europe's leading PC software developers descended on Amsterdam recently for TechEd 2000, Microsoft's gargantuan developer conference. TechEd is an annual event designed to educate and train developers in how to use Microsoft applications and development tools and to better understand the Windows platforms and technologies.

This year the conference has been dominated by sessions and briefings designed to explain to developers how to cope with the next generation of Windows products. Prior to the show, Microsoft made the public announcement of .NET, the next generation of Microsoft Windows and its main developer tools and office applications. .NET will see both Windows and major applications reinvented as XML applications and delivered through a web browser, rather than installed on a desktop computer or on a local server. This is basically thin client computing, which is nothing new, but for Microsoft it represents a significant U-turn from its long-term strategy of 'a computer on every desktop running Windows'.

For developers, this shift in strategy by Microsoft will require a fundamental change in the way they develop and in the tools they use. TechEd was also used to fully explain C# (pronounced C Sharp), Microsoft's new XML-based application language aimed at developers building .NET applications.

C# is a direct move to compete with Sun's Java technology. Both are object oriented, but C# has the added advantage of many of the programming conventions of C and C++, enabling a large base of existing programmers to use it with little or no retraining. C# probably represents the closest thing Microsoft have planned as a challenge to the platform neutral API policy being pursued by Amiga in that it aims to provide user services from an OS neutral perspective, but follows a significantly less ambitious path.

While C# is intended to be a "write once, run anywhere" system like Java, Microsoft are not offering something as abstracted from the underlying platform as Elate. While all the OS services are part of the abstraction of Elate, C# is merely attempting to provide a cross-platform standard applications language.



Above: IBM Server press conference.

.NET services will mainly be hosted by external application service providers (ASPs), allowing for faster and more simplified maintenance and upgrading, and for centralised application and policy administration. Devices capable of receiving and using .NET Windows services need no longer be conventional computers, but rather anything from a PDA to an intelligent fridge can connect to remote .NET hosted environments provided they have a compliant browser, which will almost certainly mean Internet Explorer, but at the same time will open up the prospect of access to next generation Amiga-powered computers and appliances.

However, Microsoft is already pushing its own Windows CE and Embedded NT platforms as the client environments of choice for .NET. At TechEd, Dilip Mistry of Microsoft's Mobile Solutions division explained how .NET would be supported across an array of mobile embedded devices, from mobile phones running the Microsoft WAP microbrowser through to PDAs, laptops and even televisions using Microsoft's WebTV system.

It remains to be seen how the Department of Justice, who have demanded that Microsoft stop trying to lock Internet functionality into their desktop environment, will react. On the one hand this can be seen as an attempt by Microsoft to take their current policy a stage further; on the other hand it's a way to migrate their business away from a locked-in OS to retain their powerful position without the necessity of unfairly leveraging their market dominance in the desktop OS market.



Above: Developers looking at devices in the Mobile Solutions Pavillion.

DEAD OR ALIVE?

Alive Media Soft have announced that they are ceasing all retail operation, effective immediately. After a difficult few months in which they came under increasing criticism from disgruntled customers, they have stated that they have no further plans to sell hard- or software beyond fulfilling outstanding orders.

Alive's software publications will also cease, and they are discussing the transfer of any copyrights they hold back to the developers to allow the continuation of their projects through other publishers. Alive plan on continuing their catalogue The Pulse as a commercial venture, selling it on an extension of the magazine content rather than as a showcase for their product lines.

Elate gets another PHYSICS ENGINE

With Renderware and Lithtech already on the horizon, it looks like the Amiga is going to be well served in the game development engine sector. On July 4th, Tao Group of Reading, UK, and MathEngine PLC of Oxford, UK, entered an agreement that will see the MathEngine physics - based graphics handler appear on the intent platform which makes up the foundation layer of the New Amiga.

MathEngine is a dynamic physics system which can help games developers bring a product to market quickly by providing all the software necessary to generate accurate interactions of physical objects. MathEngine can cope with complex object collisions, analysing the predefined mass and velocities of those objects to determine how they should react. It also encompasses mathematics based behavioural code.

MathEngine is a powerful and flexible technology which has already been put to use by in a variety of primarily games-oriented applications. Amongst the first developers working with MathEngine are Japanese games company Virtual Image, who are using it to create accurate modelling of catwalk models with clothes and accessories for a rather strange Playstation 2 'game' where the player is a fashion photographer.

Mathengine is amongst the game development tools selected by Sony for the Playstation 2 "middleware" collection.

Last gasp for modems

With Broadband technologies set to sound the death knell for the analogue modem, the modem standards are undergoing one possibly final revision. The ITU (International Telecommunications Union), who act as the standards body for Modem technology, have announced an upgrade to the V90 56k modem standard.

The new standard, v92, is a minor modification of the v90 standard, offering the same download speeds but an increased upstream transfer rate. Downstream will remain a theoretical 56kb/s, while upstream will increase to over 48kb/s from the current 33.6kb/s. The standard also offers quicker start-up times on connection recognition, and additional functionality for exploiting voice response facilities.

A new data compression scheme, V.44 has also been introduced, based on the LZJH compression algorithms. It offers an improvement of up to 25% over the current v.42bis standard.



Editorial

Come full circle?

As you'll probably have noticed, the theme feature for this issue is a celebration - it's the Amiga's Birthday. The greatest computer in the world is 15 years old this month. She's been a troublesome teenager since Commodore shut their doors, but she's heading into adulthood now, so perhaps we can finally put that behind us.

It's probably Roger Wyatt's fault for getting all Beatles-ish in his Rant&Rave this month, but since we started work on this issue, I've had a tune rumbling around in my head. *"It was fifteen years ago today, Sergeant Miner taught the band to play...."* Corny, I know, but what can you do. What's really annoying is that it's a peculiarly apt lyric.

The original team, lead by Jay Miner, certainly knew how to play. Anyone who has spent some time looking into the history of the Amiga's development will know that the team behind it was not conventional. They messed around, they put hidden joke messages into the OS, they turned up to the office without shoes on. Jay Miner himself had it written into his contract that he could take his little dog Mitchie into work, and when the A1000 was released and the designers signed the inside of the moulding for the casework, Mitchie added a paw print. This was their way of managing the hothouse environment and long hours of work that they put into their work.

The Amiga was a work of genius and a labour of love. Whatever Microsoft may think, these things do not come easily from cubicle hell. Dilbert would never have designed the Amiga. I'm a great believer in the creative process, and I'm sure that without the richly creative environment of the early days, the Amiga would never have been the revolutionary creative computer it was.

Take two

Fifteen years on and the cycle has started again. A new Amiga is coming out, and a new team is working to develop it. Sure they aren't Gateway with billions of dollars in the bank, but then the original Amiga team never had billions of dollars either. The original Amiga team had spirit, imagination, vision and a sense of fun. The thing I find most positive about the new Amiga team is that they share those values.

While I liked some of the individuals who worked for Amiga at Gateway, they were part of the traditional PC industry culture. The new Amiga are not. They are a team of people who know how to have fun, and know how to work hard to fulfil their dreams while having fun. Best of all, they're people I like. I like the fact that Bill McEwen talks about computers like he really understands the forgotten importance of user friendliness (it was no coincidence that the name Amiga means *"friend"*). I like the fact that when I send an e-mail to Fleecy ranting about my bizarre concepts on the future of computing he sends me replies that say *"Yep. :)"*. I like the fact that Tao Group's Francis Charig and Chris Hinsley have formed a company that rates so much respect (and investment) while being a pair of clowns who can't resist the lure of a bad pun or dirty joke.

Producing a successful computer platform requires a lot. Whether they can pull it off remains to be proven. Producing an Amiga requires imagination, creativity and fun - as far as those things go, we are certainly in good hands.

Andrew Korn



Rants and Raves

Strange Attractors: The AmiVerse, Systems Theory, a

Roger B. Wyatt of the techhead web site takes you on a magical mystery tour into the new Amiverse...

"Let me take you down..." Sound familiar? "Because I'm going to..." It's the Beatles of course. *Strawberry Fields*.

The Fab Four are a great example of a self-organising system. They broke up nearly thirty years ago, one of their members is dead; and yet they are releasing new material. Real Love. Who knows what they will release for Christmas this year? A bit like the Amiga, no?

What other computer company can you think of that is still going strong six years after the original owners tanked the company, the next two owners went bankrupt, and then was spun off after the third owner sat on their hands releasing no product for nearly three years? Certainly that history alone qualifies Amiga to be called "Fab."

But what's this self-organising stuff? For starters its a term that comes out of science - biologic systems theory to be exact - dealing with the dynamics of living organisms and their remarkable ability to organise themselves into complex structures without outside intervention. Plants aren't built; rather they organise themselves around a few rules.

Self-organisation

This concept of self-organisation has become a powerful metaphor in the digital network technology industry. It is increasingly utilised as a means of reducing complexity in computer hardware and software.

For example, the Palm and Handspring PDAs and the Java and New Amiga platforms are deploying self-organising systems. Pop an accessory module - a modem for instance - into a Palm or Visor, and the operating system recognises the addition, auto configures, loads the software, and all without any user intervention (that's you) at all.

Systems theory has some other interesting concepts as well. Take co-evolution, the term for when two separate organisms co-operate as they evolve. Sort of a boffin's way of saying *"you rub my back and I'll rub yours"*. Self-maintaining is another systems term. Here an organism has the ability to repair itself. Don't you wish your operating system had this feature? Well, the AmiVerse has the potential to do this.

The AmiVerse, the central element of the New Amiga, is the embodiment of a cybernetic self-organised system. That's why it is such a leap over legacy computer systems such as Windows. Since the AmiVerse isn't in distribution yet, the best way to highlight its capabilities is through scenario. Allow me to present...

Tales of the AmiVerse

Time to get going. Time to boot up the AmiVerse. We turn the machine on and it's there. Instantly. This was a real surprise - after so many years of using WIntel machines and apps, one gets used to getting a cup of Joe while the machine boots up. Not any more.

We have been working on this image for our web site for some time now. It is evolving quite nicely. During our last session, we loaded in an IFF file created with PPaint years ago on a Classic Amiga. The AmiVerse has no trouble loading such a file. As a matter of fact, the AmiVerse has opened up all sorts of new ways to search through our huge collection (nearly fifteen years' worth) of Amiga images now that the new concepts of persistence (saving) and organisation have filtered into the Amiga developer community. The new programs are great.

"The AmiVerse, the central element of the New Amiga, is the embodiment of a cybernetic self-organised system."



Much of our software is very modular. It all goes together like some sort of cyber-Lego system. Some of it has been created in Elate from Tao. Other modules are Java applets. As a matter of fact, some of those Java applets are Sun's new Java Web Start software, which is a technology for Web-based applications.

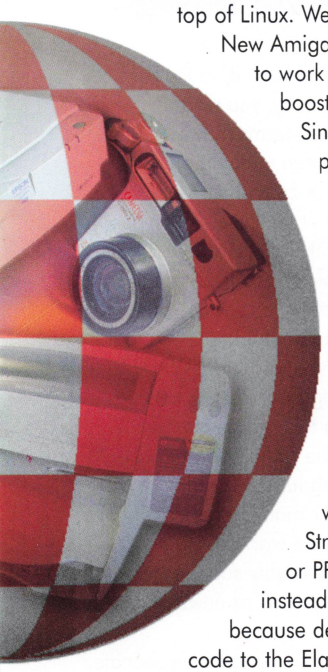
Announced in June 2000 at the JavaOne conference, Web Start software enables developers to create Net-based apps that are just a click away. The nice thing about using applications on the Web is that they are always current and always ready. They are updated transparently each time they are launched. Using Java Web Start means we never have to install, let alone think about upgrades. We just think about the graphics we are making. With the Sun certified Tao Java Virtual Machine, all our Web apps work just like they're supposed to. They also run fast.

New Amiga showed foresight and leadership when they combined various pre-

Rants and Raves

nd Scenarios of Possible Futures

existing technologies and made them work together. Our AmiVerse is working for us. For a while we were running our AmiVerse on top of Linux. We weren't sure the New Amiga system was going to work as well as its boosters said it would. Since it runs on many processors, we had a lot of choice about which hardware to use. Since we thought that Intel hardware had the best ratio of price to value, we're running Pentiums. Many of our Amiga friends don't agree with us and use StrongArm, Coldfire, or PPC hardware instead. It's all Amiga, because developers write code to the Elate virtual processor that runs on top of all these CPUs, and many other chips as well. The Java stuff, as we expected, runs everywhere.



AmiVerse Calling

Our reverie is interrupted by a signal from AmiVerse. A friend of ours is phoning in from a road-trip out somewhere. Because AmiVerse is HAVi compliant, our telephone is part of a home media network appliance system, and is accessible to the AmiVerse.

The call is patched into a screen in the AmiVerse. In his note, our friend tells us he has sent us a digital postcard of a beautiful sunset that might be useful element for our graphic. We want to clip out some cool looking clouds he has mentioned and insert them into our graphic. The only problem is that our friend has used some new type of fractal compression algorithm on his digital postcard and we can't open it. It's not on our system.

"We, the users, have been allowed to concentrate upon what it is that we are doing; creating and printing an image, not becoming a digital plumber..."

That isn't our problem. We indicate we want to display the image. AmiVerse, after doing an inventory and analysis, determines what code is required to open our image. Since it's not on our system, it searches the 'net and finds that it is available for free. However, AmiVerse also notes that an advanced version is available for a small fee. We authorise purchasing the advanced version. In minutes, the transaction is completed and the code is now part of our system. The image opens.

While we were working on opening the digital postcard, the AmiVerse also downloaded some texture data we were looking for. It seems funny to call these objects 'files' these days. How paper oriented. How twentieth century!

After positioning the texture, we find that we're done. As AmiVerse makes working on images so easy, it it's hard not to go overboard and do more than is needed on a particular image. As we save our work AmiVerse also autosaves our image to an on-line depository of Amiga art. Maybe somebody will see it and be interested in buying it.

Besides being saved on system storage, a thumbnail of the image is now stored in a database of all our graphics. It's keyword searchable and soon will be upgraded with new neural net code to provide an AI search capability by colour, shape, and subject matter. The AmiVerse is like ARexx on steroids.

Plug 'n' play for real

The doorbell rings. The printer that we ordered yesterday has arrived. Good time to check it out: Plug in. Attach to system. No rebooting. No software to set up. The printer presents itself to the AmiVerse, announcing its requirements and capabilities.

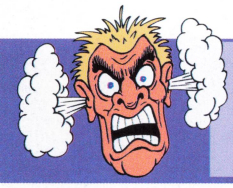
The system integrates this new information into the already existing lists of capabilities, requirements and services. The systems broker sees that our new printer requires some additional code, not currently within our AmiVerse, in order to work with the fractal compression code that we have just used. Since it is our desire to print now, AmiVerse goes outside of itself, first into our hard drive storage and then out on to the 'net, searching for the appropriate code. It finds it on the Amiga Inc. web site and downloads it into our system. The printing proceeds.

Our AmiVerse has expanded without any of the usual "plug and pray" activities that haunt hardware expansion on WIntel, Mac, Linux, and even old-school Amiga Classic systems. We, the users, have been allowed to concentrate upon what it is that we are doing; creating and printing an image, not becoming a digital plumber adjusting hardware-software interfaces, registries and other non-productive activities.

Later, we decide it would be interesting to print our image as a poster five feet tall. We know that our AmiVerse will go out on to the 'net and broker the entire transaction from moving the file to supplying our home delivery information. But that is for another day. We need something to do for tomorrow.

At every stage of this scenario one can see the role of Systems thinking. Without user intervention, the AmiVerse reconfigures itself or gathers resources to accomplish a task. The users and the AmiVerse are in a co-evolutionary relationship where our new Amiga system evolves to help us accomplish our goals. While this may be a dream today, based on what we now know of the AmiVerse it will become fact tomorrow. I can't wait. Can you?

Roger B. Wyatt



Rants and Raves

Addicted to E

Ever fearful for the good of mankind, David Stroud fires a warning shot across the bows of hyphenated techno-jargon.

It took a while, but it had to happen. Years after the invention of the Internet's *"killer application,"* e-mail, new buzzwords for the electronic world have been appearing more frequently than games announcements from Hyperion.

Nothing wrong with that, you might think, and I would agree with you - if these buzzwords were new and exciting, generating an air of mystery and intriguing all who heard them, inspiring the average man in the street to wonder what they might mean. But they're not.

Like the vegetarians before them, denizens of the electronic revolution have fallen prey to the oldest trick in the 'new movement' handbook: creating new names for things by prefixing old ones with another bunch of letters. First there were burgers, then there were *"Vegetarian Burgers"*. Probably even *"Vegetarian Beefburgers"*, although I couldn't back that up with paperwork. Merely adding the word *"Vegetarian"* is a no-brainer, which is probably the reason for it. But that's not the point. The point is - it's *dull!*

It doesn't stop there either - you've then got to deal with the abbreviations for these new terms. *"Vegetarian Beefburgers"* became *"Veggieburgers"*. Likewise, when people started selling things over the telephone, it became known as *"tele-sales"*. It seems the Internet generation is taking this method of abbreviation to its logical conclusion.

"...you might be advised to improve your e-business and e-sales with e-advertising..."

"e-mail" is acceptable. Like the phone (*"telephone"*) and fax (*"facsimile"*), it has become a word in its own right. It was originally referred to by its full name, *"elecronic mail"*, but was reduced to the more acceptable *"e-mail"* when it turned out it would be more usable in everyday conversation that way. *"Can you e-mail it to me?" "Did you get my e-mail?"*. It works. Not a problem.

That is where it should have stopped, but alas, every marketing term known to man is now being prefixed with *"e-"* whenever it transpires that it can be made to work electronically. Probably because *"e-"* is the only plausible abbreviation of *"Electronic"*. After all, you'd feel a bit of a wally talking about *"Electro-mail"* or *"Elly-mail"*.

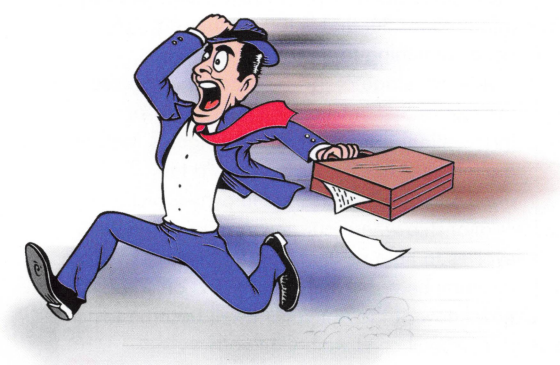
"e-commerce" is a popular, particularly well-used term these days. It's perhaps excusable, but beyond that it starts getting irritating. Open a newspaper today and you might be advised to improve your e-business and increase your e-sales with e-advertising. You can read about the latest e-opportunities in the field of e-publishing, send an e-card to your friend for their birthday, even read an e-book or (should one abbreviation not be enough), an e-zine. Nowhere is the word *"electronic"* used. At all.

It wouldn't matter so much if, in the first paragraph of a news story, you were introduced to these new terms in full (e.g. *"Bill Gates has been yapping on about electronic businesses (e-businesses) for months..."*) but this isn't the case. Either people have become extremely lazy and uninventive, or the word *"electronic"* has suddenly become too complicated for anyone to spell.

When will this curse on the English language end? It won't. Already, another onslaught of abbreviated marketing jargon is set to plague the world's media. In fact, it has already started. Listening to the radio the other day, during a discussion about new services that are being offered over mobile phones, I heard its first plaintive cries. Be warned, *"m-services"* are on their way, presumably soon to be followed by such delights as m-news, m-sales and m-advertising.

Before long, we'll all be using this hyphenated techno-speak in everyday conversation. You may scoff, but mark my words - if this trend continues, you'll soon find yourselves discussing the m-opportunities for your e-business over lunch with your colleagues. That's not the worst thing that could happen, though. No, a far darker fate awaits the world if we submit to using such buzzwords: the comeback of the M-People!

David Stroud A





interact !

Agree? Disagree?

If what you've read on these pages has made you think, we'd like to hear your views. Write to us or email the usual address...

interactive@amigactive.com

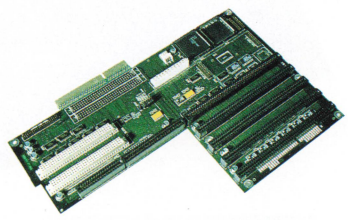
Who are DCE?

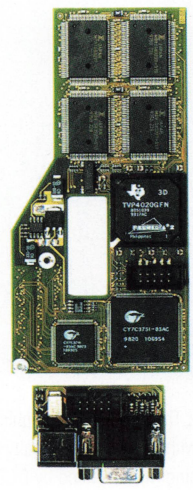
If you're buying add-on hardware for your Amiga any time soon, there's a pretty good chance it's made by DCE... who?

DCE are not the best known of Amiga companies, despite the fact that they are one of the biggest. The bulk of their business has been as a contract repair facility for various large computer and computer peripheral manufacturers in their native Germany, but they have had a sideline of designing and fabricating Amiga parts for a while now. Look on your IDE splitter, for example, and you may well see the letters DCE.

As other companies have left the market, DCE has been eager to expand their operations and use their own facilities to fill the gap. Most prominently, they have acquired the rights to a large range of the phase 5 back catalogue, keeping these five star products available to Amiga users after the lamented fall of phase 5. The product line-up now being remanufactured by DCE includes the Blizzard 1240, 1260, 2040 and 2060 accelerators, the Blizzard SCSI kit, Blizzard and Cyberstorm PowerPC accelerators, CyberVision 64/3D, CVision and BVision PPC graphics cards and the Cyberstorm Mk III accelerator.

Ever eager to keep our readers informed, we tracked down DCE's Thomas Dellert to ask him about the company and their plans for Amiga products.





Amiga Active: *DCE obtained exclusive rights to the aforementioned phase 5 products in April last year. What are the terms of these licenses?*

DCE: Well, the list is pretty comprehensive. In fact, it encompasses all phase 5's Amiga products sold over the last three years. The licence we have covers the right to use (and modify if we wish) all the intellectual property embodied in those designs. Phase 5 had separate agreements regarding the distribution and maintenance of the associated software libraries with third party developers, so we have also entered into separate agreements with these developers.

The agreements also covered the purchase of existing stock - chips, PCB's and the like - which has given us a flying start in getting back into production. Oh yes, and these are exclusive licences, although given the overall size of the market it is very unlikely that any other manufacturer would really have been interested in second-sourcing these products.

"We have been Germany's biggest repairer of Amiga products for over 10 years now..."





Above: The BVisionPPC graphics card, along with proof that they really are now being manufactured by DCE.

AA: *Around half of these products are already available again, but most people are still waiting for PowerPC cards and Permedia II graphics boards which have been hard to come by for a long time now. What is the situation with producing more of these cards?*

DCE: As anybody in the computer business will be aware, there has been a worldwide shortage of graphics and related chips over the last 12 months. This has both pushed out lead times and pushed up prices. And quite often if you can't place an order for 100,000 or more chips then many chip manufacturers just don't want to know. In fact, it was the lack of availability of video RAM and PCI bridge chips that really forced phase 5 to suspend their PPC & BVision production - despite continued high demand. DCE has invested very heavily in automated, fully-CAD linked, small batch manufacturing facilities over the last few years. This, together with our long association with - and understanding of - the Amiga marketplace and technology, made the phase5 Amiga products a very good fit for our own manufacturing capabilities.

Last autumn - long before phase 5's financial problems began to surface, two of our main distributors - Eyetech in the UK and Vesalia here in Germany, started pushing both us and phase 5 very hard to come to an agreement to start remanufacturing PPC/BVision products under licence. Both companies gave DCE very sizeable firm orders for these products, and continued to put the pressure onto phase 5 and ourselves to reach an agreement. This we did at the beginning of the year, and as a result the first new DCE manufactured BVision cards were in Eyetech's and Vesalia's hands by the beginning of May (and with end users shortly afterwards).

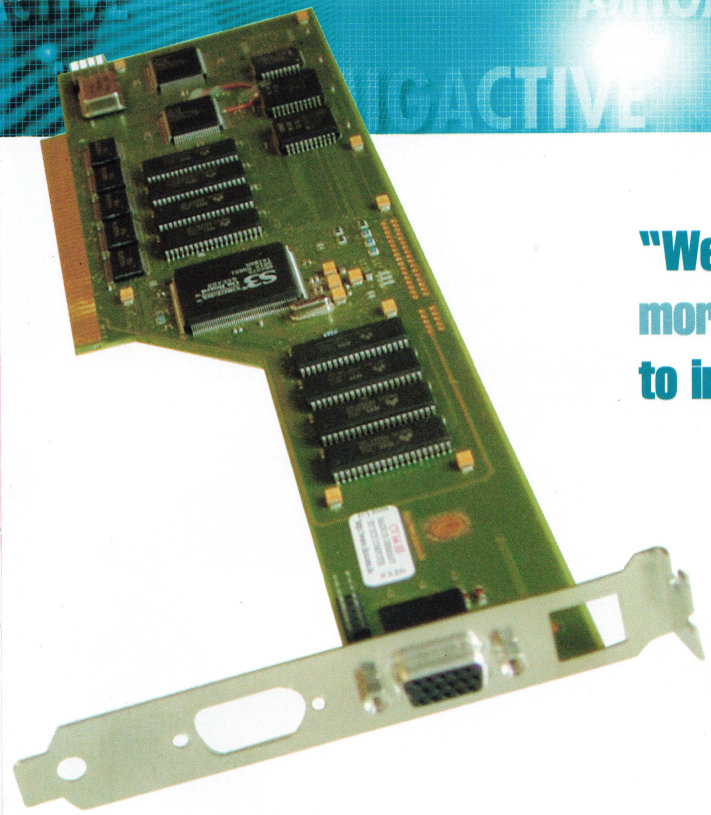
AA: *You've also taken over repairs of existing boards from Phase 5. How can people get in touch with you if their Phase5 board needs attention?*

DCE: We have been Germany's biggest repairer of Amiga products - including undertaking contractual repairs for Amiga themselves - for over 10 years now, so we are already geared up to handle such repairs. We always have - and still do - carry out repairs for individuals (as well as companies) in Germany. But clearly there are potential language, currency and time zone issues outside Germany and so we will be dealing via our existing product distributors for these areas, including the UK where Eyetech and Power Computing will be able to accept repairs on our behalf.

In theory this should also help streamline the process because we should be able to provide these companies with 1st-level diagnosis tools, which will - in most cases - allow a repair estimate to be given by the distributor without prior diagnosis by us. However, it is important to recognise that we have not taken over responsibility for any outstanding warranty claims on products purchased from phase 5 - or, for that matter, any deposits paid to them in advance for G3/G4 boards. If any of your readers have any outstanding claims against phase 5 they should get in touch with phase 5's administrators directly.

AA: *What is the situation with the products that were in planning at the time of Phase 5's departure from the Amiga market, such as the G4 cards?*

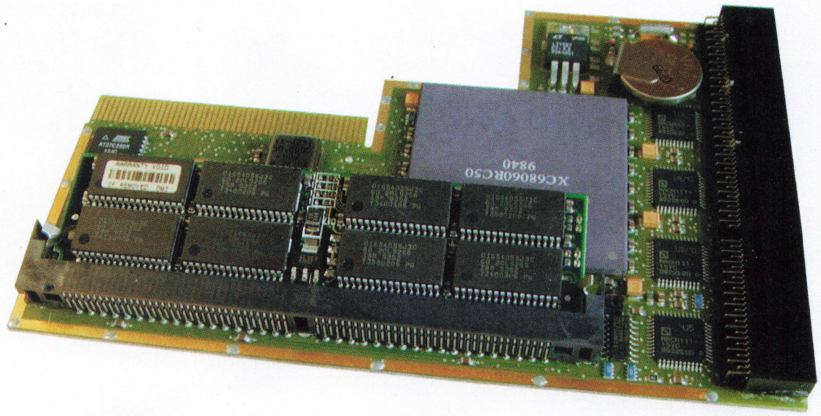
DCE: According to phase 5 at the time they left the Amiga market, the G4 was already at an advanced stage of design. However, there was still some more



"We've always got more ideas than time to implement them..."

Left: The CVision 64/3D graphics card.

Below: The Blizzard 1260 accelerator.



work to do and prototype hardware to be built before the boards are ready to go into production, so they were clearly not in a position to be adopted. Gerard Karda's head was not part of our agreement!

We are in discussion with the relevant parties to find out how best to achieve a production-ready design, and if one does become available, the G4 card (and CyberGraphics-NG) are certainly products which we'd love to make, as our production facilities are ideal for the manufacture of relatively small (less than 10,000) runs of state-of-the-art hardware designs such as these.

***AA:** What was your reaction to the disappearance of Phase 5 from the Amiga market?*

DCE: We were very sad. Phase 5 took a high-risk stance to support the Amiga market with their development of the PPC boards and Permedia graphics cards. However, the lack of any co-ordination from Amiga International/Gateway resulted in a feud between phase 5 and Haage & Partner regarding the direction and support for Amiga PPC products, which meant that software developers were reluctant to write or port for the platform.

Jeff Schindler's announcement (subsequently reversed, but only when it was too late) scrapping PPC support at the 1998 WoA show, just after phase 5's PPC cards first became available, was probably the biggest nail in the coffin. These factors, coupled with the indecision of the Gateway management throughout their ownership of the Amiga inevitably paralysed users' wallets with the resulting consequence for phase 5.

***AA:** We understand that Frank Mariak and Ralph Schmidt will be continuing to provide software updates for the products you are now manufacturing. When, and how, will these be available?*

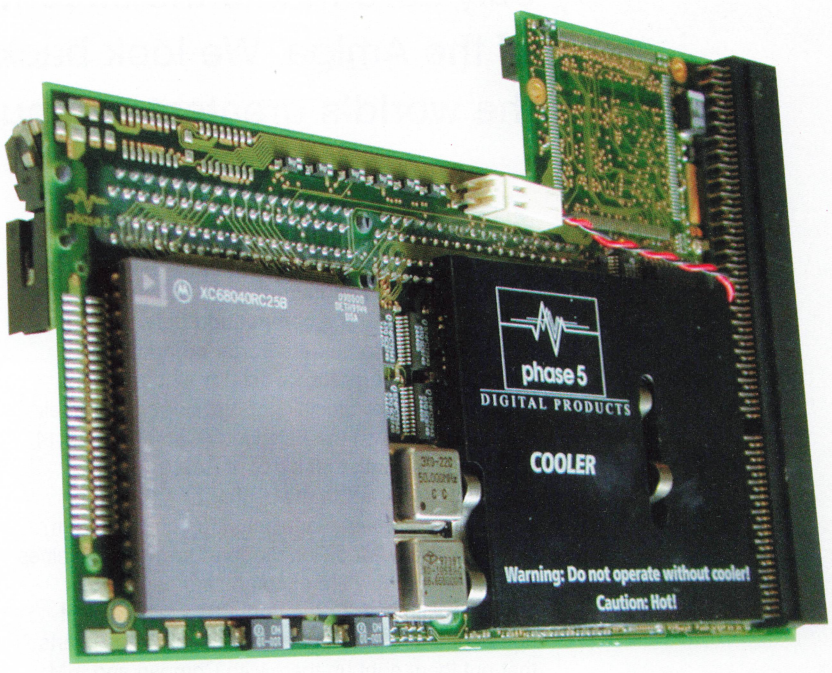
DCE: Yes, these are two of the developers I was referring to earlier - they will be paid a royalty for each board we ship enabling them to provide support to users directly. Minor updates will be published free of charge on our (and our distributors') web sites, with major updates being distributed for a small charge, probably via our existing product distributors.

***AA:** Finally, do you have any plans for future products?*

DCE: We've always got more ideas than time to implement them, but we must also look very hard at the commercial realities of needing to make a profit on any new products.

The main problem faced by all hardware and software developers and distributors is, as always, knowing where the Amiga's future lies and what we can all do to make it successful once more. We are in regular communication with Amiga Inc. to see how we can help make the new Amiga a success.

Below: The Blizzard PPC accelerator.





15 Years of AMIGA®

July 23rd marks the fifteenth anniversary of the launch of the Amiga. We look back at a decade and a half of the world's greatest computer.

Back in the dim distant early eighties, the Personal Computer was not synonymous with IBM or Microsoft. The world was filled with companies producing home computers, and nobody doubted that competition between the manufacturers to make a better computer was driving technology forwards at a fantastic rate.

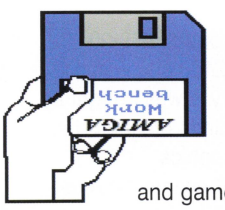
Companies like Sinclair had developed from their radio days through the Science of Cambridge Mk14, a kit computer with 256 bytes of RAM and a calculator keyboard to the mighty ZX-Spectrum. An office equipment manufacturing company from North America called Commodore Business Machines had found the new era of computing particularly pleasant, with their Commodore 64 selling in vast numbers and a position in the unit shippings charts that put them right up there with Compaq and IBM.

At this time, a small group of American financiers and engineers were working, like so many other teams around the world, on a next generation of computers. They started with a simple mission: to produce the best games computer ever.
The San Jose team was lead by a chip engineer called Jay Miner, whose work for Atari had already produced some of the best gaming systems around. As the project developed, Miner grew more ambitious. He wanted to produce a machine that ruled the world for gaming, but he wanted it to be more than that. He wanted a machine that would scale upwards; not only would its custom graphics and sound hardware make it the ultimate machine for gamers, it would also usher in a realm of new possibilities for creative computing, a set of functions we know today as multimedia.

Dentists' dreams

This small company, founded by a group of dentists with $7m to invest, was called Hi-Toro. The machine they were developing was code-named Lorraine, after the wife of one of the investors. It was to be a 16-bit machine, one of the first - Jay Miner insisted on being allowed to use the new Motorola 68000 CPU. It was going to have a connector to allow expansions, and an internal floppy drive holding a massive 880kb (the Commodore 64 floppy drive, by comparison, was a large external unit that stored 170k per disk).

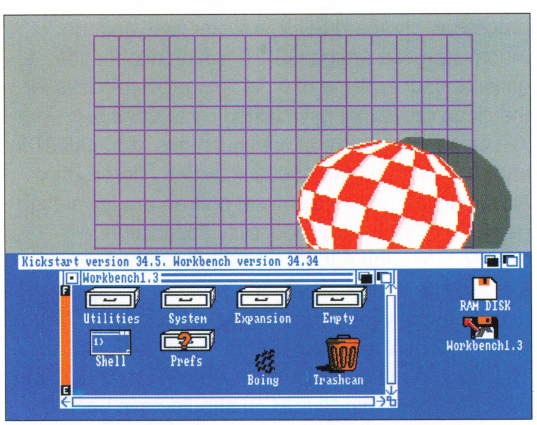
It was going to use a Graphical User Interface inspired by the one developed by Xerox at the Palo Alto Research Centre, using a mouse as a standard input device. It was going to have 4096 colours when 16 was considered a lot, and it was going to play multi-channel stereo sound when many competitors could just about manage to beep. Using several co-processor chips would allow the computer to use these advanced graphics and sound features with minimal demands on the CPU.



They would give it plug-and-play expandability and a multi-tasking operating system a decade before the rest of the market could catch up. All the while they worked under cover, developing peripherals and games for the Atari games console to distract attention from their revolutionary aims.

As development continued, Hi-Toro hired an extraordinary team of individuals. David Morse was brought in from Tonka Toys as Director of Sales. RJ Mical was hired from arcade machine giant Williams. Ron Nicholson, Joseph Decuir, Dale Luck, Carl Sassenrath and others soon koined, forming a team of hardware and software engineers of extraordinary vision, and at times equally extraordinary behaviour.

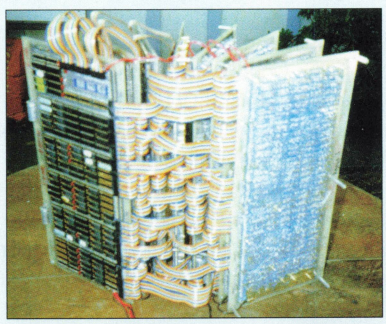
One of the original products developed at Hi-Toro was a specialised joystick called the "Joyboard", intended for use in skiing or surfing games. The Amiga team wrote a game called 'Zen Meditation' to help relieve stress when their programs refused to work, the aim of which was to sit as still as possible on the Joyboard. It was in tribute to this that the first few models of Amiga computers reported fatal error messages as 'Guru Meditation' errors.



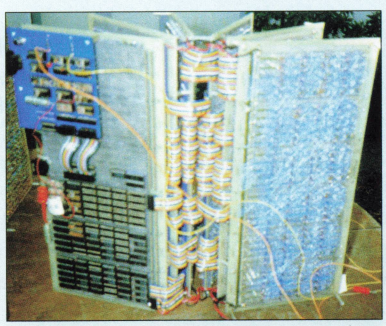
Joe Pillow

The names of those early developers of the Amiga have entered legend. Jay Miner, chief architect, has been widely dubbed "the Father of the Amiga" and is held in almost worshipful regard by some Amiga fans. Software developer Carl Sassenrath wrote the Exec kernel in two weeks flat, and in that time produced an OS kernel still admired today, even if the age is showing. He has gone on to produce the fascinating REBOL cross-platform scripting language, and of course can not resist ensuring that it runs on the Amiga too. RJ Mical was the genius behind Intuition, while Ron Nichols, to whom the clever trickery of the Amiga graphics hardware owes so much, went on to be a lead designer at Silicon Graphics. Meanwhile, companies like Scala, Met@box, 3DO and countless others thrive on ex-Amiga engineers.

One name in some of the early credits and documentation that you will not see elsewhere is Joe Pillow. Joe did not go on to work for any other firms for the simple reason that he never really existed. When Amiga planned to show their prototype at the Winter CES show in 1984, the custom chipset was not yet in silicon. The large prototype boards were too delicate to trust to the baggage handlers, and too large to take on an aeroplane as hand luggage. To solve the problem, Amiga bought a seat for the boards, and sat them on pillows to keep them safe for the journey. Needing to supply a name for the occupant of this seat, some unknown Amiga joker proffered the name "Joe Pillow", and it stuck.



Above: This is the original prototype board of the Agnes chip...



Above: ...and here is Denise. Photos courtesy of Joe Torre.

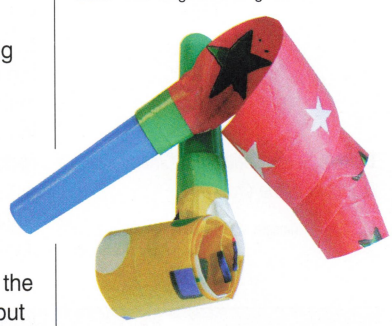
"...an extraordinary team of individuals..."

One day, the people at Hi-Toro decided they needed a real name for project Lorrainne. They wanted something that would sit near the beginning of the alphabet, and they wanted something that emphasised friendliness. They came up with the name Amiga. This is history.

Boing is born

In January of 1994, the Amiga was presented to the world for the first time at the Consumer Electronics Show. The custom chipset which gave the Amiga its unique advantages had been designed but not yet put into silicon; the prototype shown at CES consisted of a number of breadboard circuits carefully wired to the main board. Teething problems with the early prototype kept the engineers working on it all night before the show. During the night, either (or both - no-one seems entirely sure now) Dale Luck or RJ Mical of the software team wrote a demo of a bouncing red and white chequered ball, the origin of the Boing Ball logo. When it was shown to the world's press the next day, it set the show alight.

Left: The original Boing demo.



The following months nearly saw the Amiga die before it was born. The cost of the project easily exceeded the original seven million dollar investment and it became clear that a buyer would have to be found for the company.

Amiga had been courted by Atari, whose boss, Jack Tramiel, had loaned them a million dollars. When Amiga failed to pay the loan back on time, he offered them 98 cents a share for the company. Believing the company was worth more, they held out for $2 a share, but Atari, knowing the desperate situation that Amiga were in, only lowered their bid in response. With three days to go before they had to make a final decision, and with a deep sense of gloom within the company, Atari's rival Commodore Business Machines stepped in, paid off the debt to Atari and bought Amiga for $4.25 a share. Commodore desperately needed a successor to their world-beating but ageing Commodore 64, and immediately invested $27m in development.

"...the first computer to make computing cool."



Above: The A1000, presented to the world on July 23, 1985.

On July 23 1985, the Amiga 1000 (pictured left) was presented to the world at the Lincoln Centre in New York by Andy Warhol and Debbie Harry. It was a far cry from the games system originally envisaged; a $2000 dollar computer unrivalled at several times the price and in many ways a decade ahead of the competition. It was a dream machine for artists and musicians as well as computer programmers, the first computer to make computing cool.

A slow starter

The Amiga did not by any means become an overnight success. Although it was much admired, it was also considered by many to be a little too expensive. In 1987, Commodore released two replacement machines, the A2000 and the A500. Little was changed internally; the Kickstart ROM was upgraded and put on chip (the A1000 required a Kickstart disk), more memory was added and the form factor was improved. The A2000 was aimed at the heavyweight end of the market, equipped with improved card slots (Zorro 2), while the A500 was put in a Commodore 64 style console case at a much reduced cost. The 256kb of memory the A1000 came with was considered too little; this was doubled.

The A2000 quickly developed a major niche for itself. This was the ultimate machine for video users and artists, providing unprecedented power for graphics, genlocking, audio and so on, while the A500 finally delivered the killer games machine the original investors had envisioned. Atari's spoiler, the Atari ST, was launched at £100 less than the A500, but every gamer's ambition was the A500. Cinemaware's first game, Defender of the Crown, with stunning graphics by Jim Sachs, made that very clear. This 1986 launch was like nothing seen before in computer gaming, and showed very nicely just what the Amiga was capable of doing.

It took a little while for the Amiga to beat off Atari's challenge. The lower price of the ST made it a more popular machine, briefly. At first, a lot of Amiga software was ported from the ST (which was a similar but more primitive device), but the Atari's days were numbered when developers started to use the superior features of the Amiga. Only Atari's foresight in including a MIDI port as standard kept the Atari alive: indeed, today, there are still Atari ST machines being used in many music studios.

Amiga on top

The Amiga reached its heyday in around 1989-90. The A500 had dropped in price by £100 and was now very much in the affordable category. It was bought by millions. While the higher end machines prospered in America as low-cost, high-power graphics workstations, in Europe, the Amiga became the must-have games machine.

The spread of small cable TV companies in the US generated a lot of demand for a machine that could produce broadcast quality titling at such a low cost, helped in no small part by Newtek's unbeatable (at the time) Video Toaster hardware.

In Britain it took the mantle of the ZX Spectrum as the machine every games company wanted to develop for, and gave a platform to countless games companies that are now household names, such as Psygnosis, DMA Design, and Gremlin. Unfortunately, confusing (and often confused) management decisions were already dogging Commodore.

Enter 32-bit

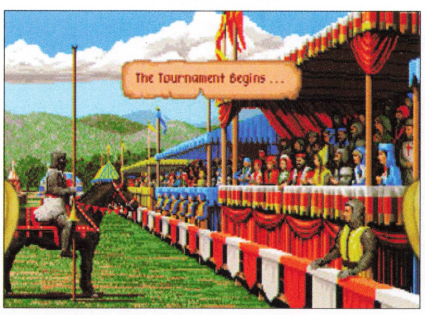
1990 saw the launch of new products in the Amiga line. The A3000 was a major upgrade and is still viewed by many who knew it as the best Amiga ever released. It was the first full 32-bit system, with a powerful (for the time) 16 or 25 MHz 68030 processor, on-board SCSI, a flicker fixer, and the much improved Amiga OS 2.0, which ditched the garish colour scheme of older AmigaOS releases for the clean greys that have lasted up to OS 3.5.

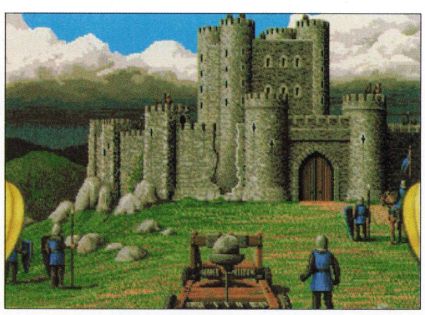
It came in a couple of configurations: the A3000T in a tower case, and the A3000ux, which offered Unix. An enhanced graphics chipset offered modes at high resolutions, ideal for productivity applications. Unfortunately, the A3000, a flagship product, was far too expensive to be much of a success.

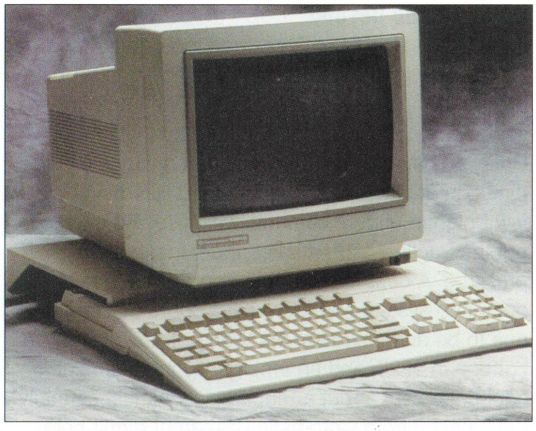
Later in the year, Commodore launched the A500+, generally considered their first major mistake. This upgraded A500 with more Chip RAM, OS2.0 and the Enhanced Chip Set (ECS) should have been a

Below: Screenshots from Cinemaware's *Defender of the Crown*.

(Images ©1986-2000 Cinemaware, Inc. All Rights Reserved).







good thing, but so much software had been written to "bang the metal" on the Amiga, that the release was plagued by incompatibility problems.

Another development that year (although not making it to market in most places until 1991) was the CDTV (Commodore Dynamic Total Vision). This was the first CD based machine to be released and as such should have reinvigorated Amiga's lead in multimedia.

Sadly, this was not to be. It was shaped like a CD player rather than a computer, and was little more than a very expensive (£700) Amiga 500 with an infra-red remote control and no floppy drive or keyboard as standard. Commodore planned on sneaking it into the homes of computerphobes, but the price was too high and the world just wasn't ready for this sort of device.

"...but the price was too high and the world just wasn't ready for this sort of device..."

In early 1992 Commodore launched another badly conceived model, the A600. Originally the A300, this was meant to be a cheap, low end Amiga to fill the gap left by the Commodore 64. It had a small case, cheap and reliable surface mount technology, and an IDE interface. Someone in Commodore decided to market it as a replacement for the A500 instead, which it failed miserably to be. The A500 needed an upgrade, not a downgrade.

Too little, too late.

Upgrades finally arrived in late 1992 with the A4000 and the A1200. These were 32-bit machines, with the new AGA graphics chips and OS3.0. These machines also suffered from cost cutting. While advances were significant, they were behind the technology curve; the competition was catching up all the time.

The Christmas 1992 period should have been a good one for Commodore, but it wasn't. Shipments of the A1200 were far too small to fulfil demand, and nobody was going to buy an A500 just because the shops were out of stock of the A1200.

The next year, Commodore were in desperate trouble. While their engineers were working on powerful new hardware, they couldn't wait for it - they needed a success. Using the basic A1200 design, they produced a CD based games console, the first 32-bit console to hit the market, in September of that year. At first, it looked like they might have succeeded, as the CD32 rapidly became the leading platform for CD-ROM games, but shortly after it was released, whispers came from Japan of a rival machine with 3D hardware built in, the Sony Playstation. Amiga's own 3D chipset, Hombre, was not ready in time, and the CD32 wasn't able to compete. Commodore were never to release another Amiga.



1994 was a desperate year for Commodore. Their losses were spectacular, and their share price dipped to 75 cents, from a high of $61. In March, the New York stock exchange suspended trading of Commodore stocks. Commodore went on developing new hardware, the much anticipated AAA chipset, but it wasn't to be.

Production of machines halted in early April, and on the 26th of that month, all the engineering staff were dismissed. Shortly before close of business on the 29th April 1994, Commodore issued a brief press release:

"Commodore International, Ltd., announced today that its Board of Directors has authorised the transfer of assets to trustees for the benefit of its creditor and has placed its major subsidiary, Commodore Electronics Ltd., into voluntary liquidation. This is the initial phase of an orderly liquidation of both companies, which are incorporated in the Bahamas, by the Bahamas Supreme Court."

Then, on June 20th, Jay Miner, the father of the Amiga, died of heart failure in El Camino hospital, Mountain View, California, the result of complications of a kidney problem.

"...whispers came from Japan of a rival machine..."

Top left: The A500.
Above left: The CDTV.



Lightning strikes twice

Various bidders stated an interest in purchasing the Amiga from the liquidators. Sony, Samsung, Dell, Amstrad, Commodore UK, and Commodore's main US distributor among them, but the proceedings dragged on and on. Just nine days short of a year after the bankruptcy, only one bidder remained, a German PC shipper who everyone had assumed wanted only the Commodore name: Escom AG.

The Escom purchase took a lot of people by surprise, but quickly started to look like a good thing. The Amiga was relaunched under the subsidiary Amiga Technologies, with Petro Tyschtschenko being put in charge. They restarted production of the A1200, launched the first ever Internet ready computer (the Amiga Surfer bundle), the excellent A1200 Magic Pack bundle, and developed a new Amiga machine, the Walker, boasting an upgrade path to PowerPC. However, within a few short months, the situation started to look awfully familiar.



"If the Gateway purchase seemed too good to be true - it was."

Escom were an ambitious company; too ambitious. They bought out the defunct Rumbelows retail outlets to give themselves a mass high-street presence in the UK, but their sales were not able to justify the expansion. In February 1996 they announced an $83m loss, and the German exchanges suspended trading of their stocks. By July, Escom were bankrupt and Amiga was once more in the hands of the liquidators.

A Chicago start-up called Viscorp offered a glimmer of hope. With several long-standing Amiga aficionados on board, including Carl Sassenrath, they had already licensed the Amiga technology from Escom AG to produce set-top boxes. They stepped in with an offer to buy the Amiga, but there were doubts about the company from the offset.

Their interest in desktop machines seemed limited, as did their finances. Several times they asked for extensions on the sale, and tried to reduce the offer price. Several notable people resigned from the company, including Sassenrath and *Amiga Active* writer Jason Compton. By December, they had withdrawn their bid, and faded into obscurity.

There were many rumours of other buyers, notably Canadian company Quickpak, who had manufactured the A4000T for Amiga, but little hope remained. Petro Tyschtschenko fought with the liquidators to keep the company as a going concern. Support for the Amiga was left in the hands of third parties, notably phase 5, who independently continued with the PowerPC project which they had started in collaboration with Escom. Finally, on March 30th 1997 a miracle took place (or so it seemed). Out of the blue, the Amiga had been sold to a company with the capital to make it work - PC giant Gateway 2000.

Below: The San Diego home of Amiga Inc.



Gateway and beyond

If the Gateway purchase seemed too good to be true - it was. Under the leadership of Jeff Schindler, they promised much but delivered little. Their enthusiasm seemed real, but was not matched by that of their Gateway paymasters. They wandered vaguely in the direction of a solution, but managed little beyond a few botched announcements which served only to put the fragile Amiga market under increased pressure. A deal with Be, Inc. to provide the new operating system floundered just hours before it was due to be announced at the World of Amiga show in London in 1998, and an emergency replacement announcement about a "superchip" (almost certainly the Mpact 3 from Chromatic Research) didn't help sales of the newly released PPC cards.

Amiga, Inc. seemed to be suffering from political infighting at Gateway. Some in Gateway's corridors of power believed the Amiga had huge potential - others thought it was a lame duck. The nay-sayers had the upper hand until one of Gateway's top executives, Jim Collas, made an astonishing request - he asked Ted Waitt, Gateway CEO, to accept his resignation as VP in charge of products and marketing to head up the tiny Amiga division. Many people in Gateway saw this as a crazy move. At the very end of January 1999, Collas took over.

Under Collas, Amiga Inc. seemed to thrive. He had the personality to drag people into his dream of a new Amiga in every home, and the clout to talk to the top people at Gateway on even terms. He moved Amiga to shiny new offices in San Diego, courted Transmeta and Linus Torvalds, brought in some high-powered new staff, and had a design team work on a new machine, the Amiga MCC (or "Multimedia Convergence Computer"). He even revived the OS3.5 project, licensing German developers Haage & Partner to produce the first OS update since 1994. Everything suddenly seemed very rosy.

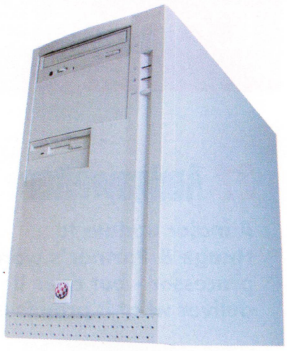


No longer hardware or software?

Then, just as suddenly, it all collapsed again. In early September, Amiga's popular "software evangelist" Bill McEwen, who had become a great enthusiast of the Amiga since starting work for Amiga, Inc., was mysteriously given his marching orders. The following day, Jim Collas announced that he was leaving Amiga and Gateway.

It seems that Collas, too busy with the Amiga, had forgotten to pay close attention to the office politics surrounding Gateway's Amiga project. Amiga Inc. Chief Operational Officer Tom Schmidt took the helm, and promptly made himself unpopular with some badly worded comments. He famously wrote that the Amiga was not about hardware or software, leaving many people wondering what was left. Amiga radically downscaled their plans, cancelling the MCC and letting staff go. It seemed that it was all, finally, over. Then, Bill McEwen returned and bought the company.





"The AmigaOne is likely to be launched in the first quarter of next year..."

And again...

Bill McEwen had been planning this with another ex Amiga employee, Fleecy Moss, and Randall Hughes, formerly of QNX. Their company, Amino, announced that they had acquired Amiga on December 31st, 1999. Almost immediately afterwards, they announced that they were in partnership with Tao Group. Tao's unique Elate OS would provide the new Amiga Foundation Layer with a range of unusual and potent features, such as transparent multi processing, the ability to run as a native OS or hosted under another OS, very fast Java, and true freedom from hardware compatibility.

The new Amiga opened offices in Snoqualmie, Washington, and started hiring. In an attempt to ensure that the new system was going to be a worthy successor to the Amiga, they hired from within the Amiga community, seeking to put together a "dream team" of Amiga developers. Just six months after the buyout, they did what none of their predecessors had; provided a next generation system.

In June of 2000, Amiga released version 1.0 of their SDK (Software Developers Kit). This is basically Tao Group's work, but behind the scenes they were working hard on the content for the next release, which is due by the end of Summer. As well as their own work on BOOPS, the equivalent of the BOOPSI classes for the new system, an interprocess scripting language, and the Amie object model, various partner companies are developing tools and API systems. Hyperion Software, the games developers behind Amiga Heretic 2, are well advanced with their version of Mesa, the OpenGL compatible 3D API, while other media APIs from companies partnered with Tao Group are also set to appear. Although details haven't been announced, Criterion's Renderware games development environment, and Sseyo's Koan, a dynamic audio system, are strong contenders.



AmigaOne and beyond

By the date of the 15th anniversary, Amiga are expected to properly announce their first new computer system. This will be called the AmigaOne. Specs have not been announced at time of press, but it wouldn't be surprising to see it roughly match the announced Devbox specifications. We expect it to be aimed at the £500 price point and include a high-end Matrox graphics solution, possibly the forthcoming G800 *(wild, unsubstantiated rumour corner: 250MHz DDR RAM, 1.8 Gigatexel fill, 20-30m polys/sec, SLI mode and many DirectX8 features in hardware)*.

We understand that the motherboard design may be modular enough to allow a variety of CPU configurations, although initially it would be no surprise if it was to use a more powerful chip in the AMD processor family as used in the devbox, such as the Duron or Athlon. The AmigaOne is likely to be launched in the first quarter of next year with a fully functional desktop environment, although it's not likely that the final OS featureset will be fully implemented at that time.

We know that Amiga has a palmtop design. While this is really just a technology demonstrator, it's an indicator of where they are likely to go. We also understand that Amiga's European contingent uses the names of footballers for their internal motherboard codenames. What will this next machine be? The logical assumption would be the AmigaTwo, but maybe "One" isn't a model number...

Early on, Amino discussed two machines, a low end single CPU A1200 equivalent and higher end A4000 type with multiple (four were rumoured) CPUs, a possibility allowed by Elate's transparent multiprocessing. Thus the next model may in fact be the AmigaFour. That certainly would not use an AMD CPU - four in one box would be a heater, not a computer. Low power consumption CPUs would be needed. My personal favourite would be the ARM10 Thumb processor. Starting at 400 MIPS at 0.6 watts and 300 MHz, with the potential to trade power consumption for speed, a vector FPU at 600 Mflops, highly advanced cache architecture, 64-bit internal data paths and high levels of internal parallelism, this is set to be a very impressive processor, and is aimed at the embedded consumer market, so it should be very cheap too.

Here's to another 15 years!

Andrew Korn



Name Amigawriter 2.2
Price 149DM / £69.95
Developer Haage & Partner
Contact +49 6174 966100 or visit www.haage-partner.com



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AmigaWriter

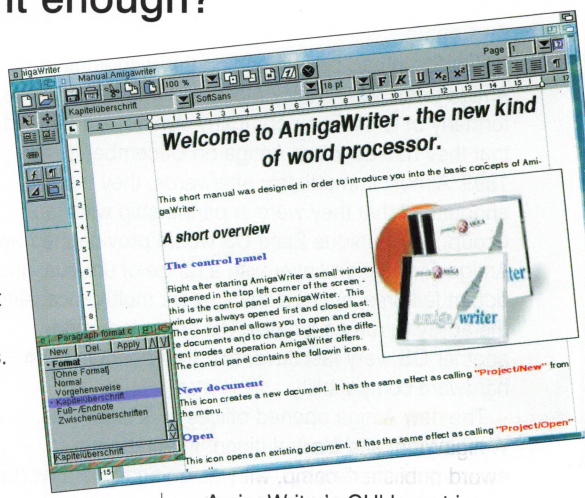
The Amiga's newest word processor gets a major update - but is it enough?

It's about time someone had a go at producing a new word processor for the Amiga. There are few types of software that are as universal in appeal as word processors, but while other popular apps such as graphics programs and web browsers have seen plenty of update action, AmigaWriter is the only attempt at this particular market since WordWorth 7, more than two years ago.

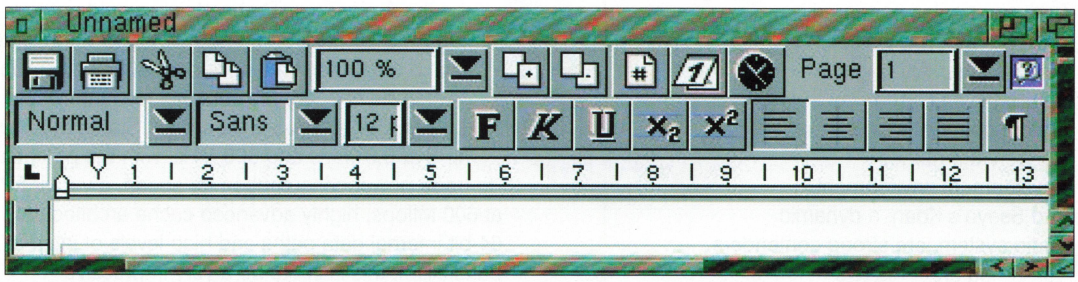
The first release of AmigaWriter was promising, but simply lacked too many features to make it a worthwhile contender. AmigaWriter 2 adds many features, notably import of Microsoft Word documents (a sure-fire winner for people who need to transfer documents from one platform to another), and support for anti-aliased Truetype fonts, which makes the screen display more readable than any other Amiga word processor.

Getting started

After a painless installation (dictionary problems aside - see boxout), AmigaWriter is ready to go... well almost. By default it opens up on your Workbench screen, and it's not an easy task to do anything about this. For some bizarre reason, rather than using the standard Amiga screens system, Haage & Partner have used their own custom screens handler, StormScreenManager. This commodity has to be separately installed to your WBStartup drawer, and a specific named screen set up before you can use Amiga Writer on it. Why they think it's a good idea to add this extra layer of complexity to a simple task I do not know. The documentation states that Haage & Partner *"are striving to establish the open product StormScreenManager...as a standard for managing screens"*. No thanks.



AmigaWriter's GUI layout is straightforward and logical, and moderately good looking. The main window allows you to select all the commonly used functions, alter font face and size, jump to page number and so on. A toolbar at the side allows you to manage documents, chose between text and box edit mode, add or link boxes, or open up one of the style catalogues (more on that later). Perhaps screen space would have been better employed integrating the latter into the toolbar at the top of the main window, but it's all simple enough: In use, you'll find that



Above: The Amigawriter toolbar. From left to right: (top) save, print, cut, copy, paste, zoom, box to front, box to back, insert page number, insert date, insert time, jump to page, show bubble help (bottom) type style, type face, type size, Fett, Kursiv, Unterstrichen, subscript, superscript, justify left, centre, justify right, justify spaced, show symbols. Fett, Kursiv and Unterstrichen are German for Bold, Italic and Underline - these and the names of colours haven't been properly localised yet.



"...which makes the screen display more readable than any other Amiga word processor."

almost everything is easily at hand, and a bubble help system clarifies anything you aren't sure about.

Publisher or Processor?

AmigaWriter sits firmly in the "word publisher" camp, with support for multi-column layouts, floating text boxes and picture import. From the start, these features impress.

You can easily create multiple columns with text flows from one column to the next in the manner of a DTP program, while pictures can be embedded in the text or turned into separate floating picture boxes. Box outlines, backgrounds, internal borders and print DPI settings can all be chosen. Text and picture boxes can be stacked over or under each other, although text wrapping is a simple on / off choice, so you can't select an irregular wrap shape.

One significant omission on this front is that there are no drawing options, so you can't add simple scaleable shapes or dividers, and while picture import supports datatypes, there is no scalable graphics support.

One thing you will rapidly notice using AmigaWriter in this role if you are used to FinalWriter or Wordworth, is that screen updates and scrolling are very fast indeed - a definite score for AmigaWriter. This is just one aspect of this program's strength in screen display.

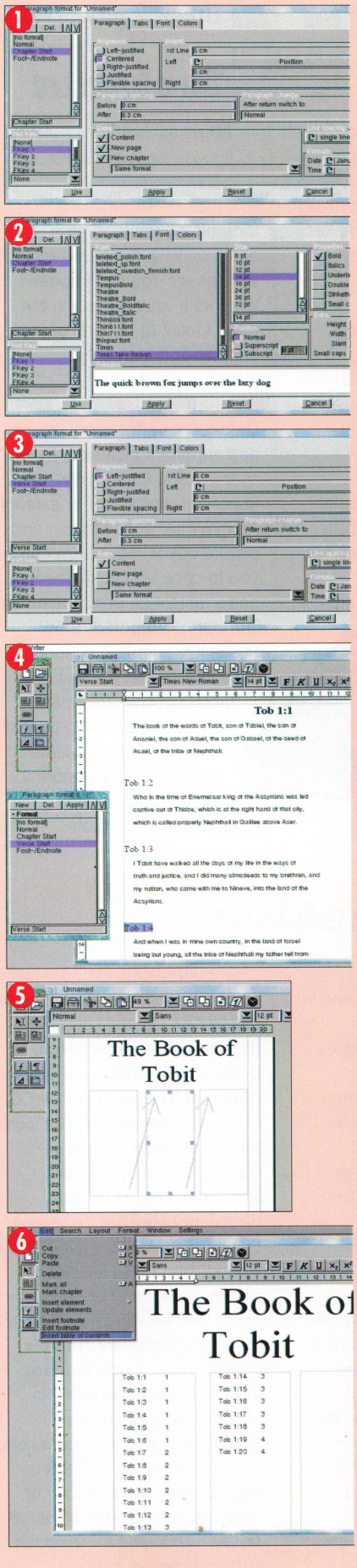
Another important aspect is the anti-aliased True-type font display. Not only does this open up a vast range of Windows fonts for AmigaWriter's use, but it makes the screen display far easier on the eyes than any other Amiga word processor, especially when using low point sizes, where unaliased text can often be unreadable.

Document layout

AmigaWriter's authors have obviously thought long and hard about providing a good system for styling text. Font face, size, style and position information can be defined in character formats which in turn can be defined in a character format catalogue and associated with a Function key for quick application.

Thus, if you want a specific format for headers and another for body text, for example, you need only set up the formats once, then highlight the text you want formatted and hit the appropriate F-key.

Similarly, you can provide styles on the paragraph level, defining justification and indentation, spacing, date and time formats, tabs, and default font information - very useful if you are going to use an



Mini Tute

1 Here's a little guide to AmigaWriter's layout functionality. First we are going to define a paragraph style. This one is bound to the F1 key.

2 For this style, which I've called Chapter Start, I'm using a larger, bold font, with centred text and a pagebreak before it.

3 Now a second style, Verse Start - yep, we're getting biblical. No indent here, so this style will appear further left than the indented "normal" style. It's larger than the normal text, but smaller than Chapter Start.

4 Now we just have to click in the paragraph we want to style, and hit the appropriate F-key, F1 for chapter headings and F2 for verse headings.

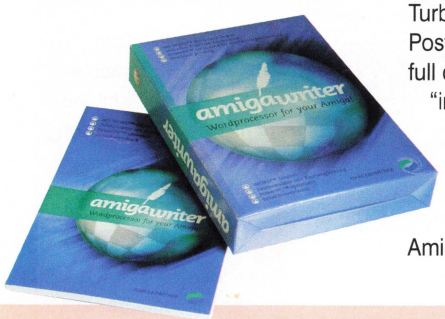
5 Look back at the styles set up - you'll see the "Extra/Contents" box checked. This allows automatic Table of Contents creation. I've made three text boxes on the front page and linked them. Note that you can't copy boxes, but you can draw one on top of another to make them the same size.

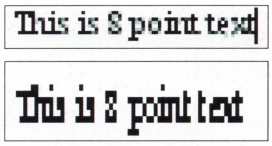
6 All I have to do now is select the Edit/Insert Table of Contents menu option, and all those headings appear as a contents listing, with page numbers. Note that I've cheated slightly - the tabulation of the page numbers isn't forced, so the verse numbers in single digits had to have the page numbers moved across to line up. Ooops, never mind!

alternative formatting for, say, paragraphs of quoted text.

Page formatting allows you to change the column layout and header/footer information, chapter styles control page numbering and master page formats. AmigaWriter's multi-level formatting is better than anything outside Pagestream, and makes it an excellent choice for laying out carefully formatted documents.

People working with long documents will also find AmigaWriter's Footnote and Table of Contents (TOC) creation abilities a godsend. Chapter headings can be defined in a paragraph format so that paragraphs marked as chapter headings can be automatically sorted into a TOC. Inserting footnotes is easy and very flexible - just select the insert footnote option, and an automatically numbered footnote will appear. You can choose whether it will show up in the page footer, at the end of the chapter or document.





Above: antialiasing in action - the same text in Amigawriter (top) and Wordworth (bottom).

Missing words

Unfortunately, for every clever and important inclusion, there seems to be an equally important omission. For example, AmigaWriter supports text and picture boxes, but doesn't allow you to copy and paste them. It has a fast 24 bit print engine and Turboprint support, but no Postscript output. It supports a full character set but has no "insert special character" option. People who bemoan Wordworth's poor table support will have more to moan about here as AmigaWriter lacks table functionality altogether. There's auto-hyphenating, but no drag and drop text editing. There's a good printed manual if you can read German, but everyone else has to sort their way through several different documents and an AmigaGuide file, and still don't get full documentation.

There's not even a word count feature - some people might not care, but this is a killer for a professional writer, and the reason why I haven't even written this review in AmigaWriter. If there was an ARexx port then no doubt a lot of those things could be fixed, but there isn't.

Version 2.0 introduced Microsoft Word document import; in theory a killer feature, although very little formatting is actually brought into AmigaWriter. Similarly, version 2.2 (there's an update on this month's CD for 2.0 and 2.1) finally brings in support for Wordworth and FinalWriter documents, but again only minimal formatting is preserved.

Exporting is in native AmigaWriter format, ASCII text or RTF-ASCII, so again there's not much in the way of formatting available unless you are sharing documents with another AmigaWriter user.

Clearly a lot of work has been put into AmigaWriter, but not quite so much thought. Perhaps it is a result of a beta testing program with a too-limited range of users, but for many people AmigaWriter will lack certain features that are so important that they won't be able to use it stand-alone. The formatting features are useful enough that I can see people wanting to use this to format documents originated in another package, but as a primary word processor, Amiga Writer still lacks too many essential features.

Andrew Korn A

Amigawriter 2.2

SYSTEM: 68030, OS3.0, 8MB RAM.

SUMMARY: Potentially superb but missing far too many features. Roll on version 4.

Speel cheking

When AmigaWriter was first released, it had one glaring, and in most people's opinion fatal, omission: it had no spellchecker. AmigaWriter 2 does. It uses a freeware dictionary system from the UNIX world rather than the relatively expensive licensed dictionaries of the older Amiga word processors. The question is, can it compare to the impressive Collins proximity dictionary system used in Wordworth, for example?

The first problem I had with the AmigaWriter dictionary was that it simply did not work. Even after reinstalling several times and trying it on several machines, the spelling options did absolutely nothing the first time I selected them, and after that the menu options were ghosted. No explanations, no error messages, nothing. Not a good start.

AmigaWriter boasts a collection of extra dictionaries. As well as the default German and English dictionaries, there are Czech, Dutch, Danish, Italian and Swedish dictionary files stored on the CD, each with their own installer icon. Along with these are a larger German dictionary, and two alternative sizes of English dictionary. I installed the largest English dictionary file (2MB) and it worked. Hurrah! I'd imagine few people are so short on hard drive space they wouldn't want to install the largest dictionary available.

AmigaWriter's spell checking function is somewhat retro. No checking while you type or underlining misspelled words here; you have to run the spellchecker over your document, chapter or word. There is no "skip all" option, so you have to add a word to the custom dictionary or skip it repeatedly if you don't want to add it permanently. Fortunately, the custom dictionary is a straight ASCII text file, so it's very easy to edit.

Annoyingly the "add" option adds the word in the replace box rather than the word being checked to the custom dictionary, so you have to re-enter the word in the replace box before you can add it. On the plus side it will read capitalisation, so you can add *"AmigActive"* to the custom dictionary, and it will stop you when it gets to *"Amigactive"* and offer the capitalised *"A"* in the middle.

The dictionary checking does use some proximity checking, so a check on *"koping"* will offer *"coping"*, *"moping"*, *"loping"* etc, but there doesn't seem to be much phonetic checking, so type in *"foto"* and you will be offered *"foot"* and *"goto"*, but got *"photo"*. It's not too smart on pluralisation either, allowing *"sheeps"*, although it managed to offer *"fishes"* instead of *"fishs"*.

The dictionary seems to accept both English and American spellings of many words, so if you expect it to correct *"color"*, forget it. More worryingly, I stumbled across a number of out and out spelling errors that it accepted, including *"targetted"* and *"wellcome"*.

You can't really blame Haage & Partner for the quality of the dictionary, as they're unlikely to sell enough copies of Amiga Writer to justify an expensive license of one of the professional dictionary systems, but alas this one is simply not good enough. Given the widespread ownership of Wordworth and FinalWriter, a little reverse engineering to allow the import of their dictionaries would have made a lot of sense.

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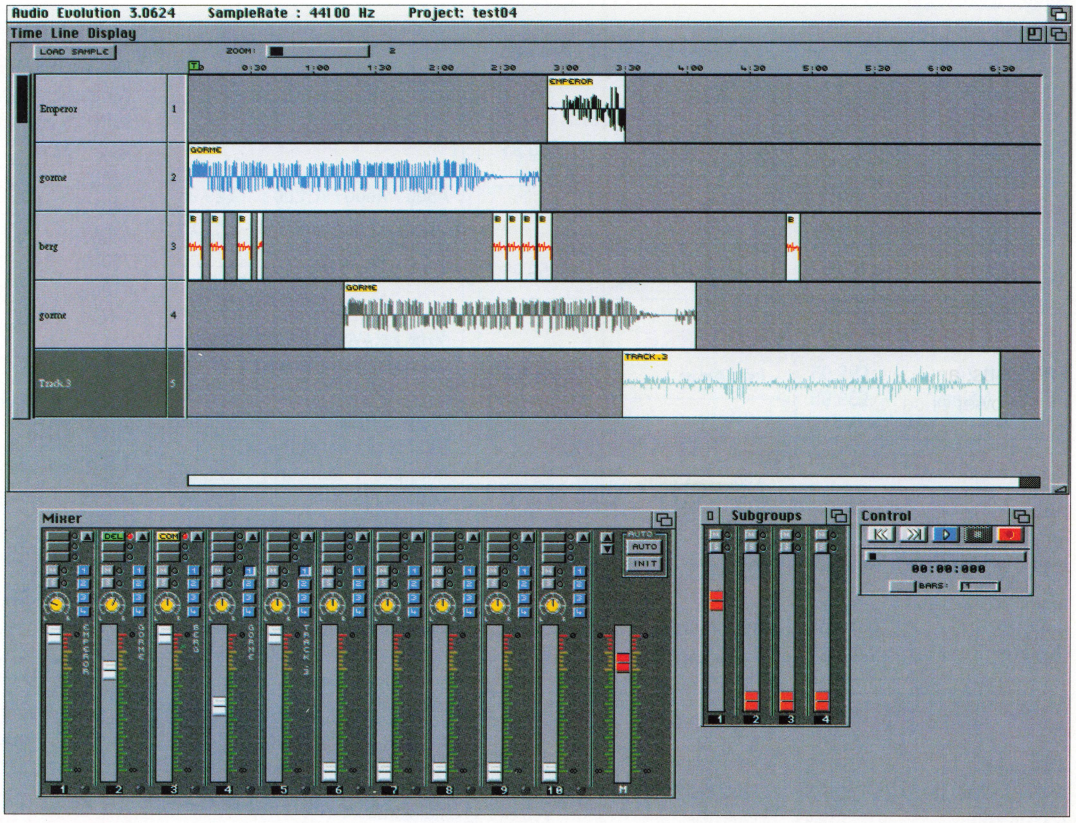
Audio Evolution

Audio Evolution is the latest music package for the Amiga. Just how far has the genre evolved?

Audio Evolution is a program for recording, editing and mixing sounds. Sound files tend to be all called "samples", but this is confusing as there are several distinct types. Some of these are:

Single notes from a particular instrument. These are played back at various speeds to get a sequence of notes, giving a melody. This is the type of sample used in a Tracker program such as OctaMED. MIDI-based sequencers normally use single-note samples stored in a ROM either in a keyboard or in a "wavetable" card. (A "wavetable" is just a sample group), but they can also use custom samples as in a Tracker.

Sequences one or two bars long. These longer files are most likely to be recordings of percussion, and can be copied and repeated many times to assemble sections of a drum



"...track mixing is one of the most demanding computer applications..."

track. The program used has to have a good way of placing the copies so that they repeat with exactly equal timing, by snapping them to a grid on a timeline display, for instance.

Longer recordings lasting from a few seconds to several minutes are used by musicians wanting to work in the way that is traditional for rock music. Before computers, the usual method was to use a multi-track tape recorder. First, the drum track would be recorded, then the bass guitar, lead guitar, other instruments and finally, the vocals. Each time, the tape is rewound and the existing tracks can be heard as the new one is performed. Finally, the tracks are mixed down to a stereo pair, using faders to control the relative volume. This is the process that is imitated by Audio Evolution.

Using a computer has several advantages over the traditional tape recorder: more tracks are (usually) available, it is much easier to edit the tracks to remove small noises and mistakes, and more sophisticated processing effects are available.

But there are disadvantages too - track mixing is one of the most demanding computer applications, and demands a fast hard disk system and a good operating system with real-time or near real-time response. If these conditions aren't met, the resulting audio will suffer from break-ups and drop-outs. Also, controlling a picture of a mixing desk with a mouse is much less convenient than controlling a real desk with both hands.

Above: Audio Evolution in action. The Time Line (top) shows several samples in place ready for mixing. They can be dragged to different time positions or from track to track with the mouse. Below is the mixer display, with subgroups which allow you to control several channels at once, and the Play and Record control panel.

Amiga Recording Programs

There have been several Amiga programs for multitrack recording. One of the best was Studio16, for use only with the Sunrize sound cards. Long discontinued and still sought after, this combination provided a fully professional set-up with

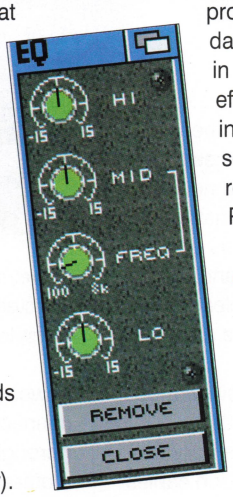


Above: The recording control panel.

many very practical and well thought out features, aimed particularly at film and video soundtrack assembly. It could operate in sync with the PAR animation card and the Bars & Pipes MIDI sequencer.

ProStation Audio is aimed at a similar professional market. It also syncs with Bars & Pipes, but not with the PAR card. It has an impressive-looking interface. Samplitude is another useful program for multitrack recording. Its strongest side is sample editing, the mixing facilities being rather simple.

Audio Evolution has very similar features to ProStation Audio (PSA), but is aimed at musicians, and has a much lower price. One major difference is that PSA uses direct drivers for specific sound cards, whereas AE uses the AHI retargetable audio system.



What You Need

Audio Evolution will work to some extent on most Amigas with a 68020 processor or better. It needs either AGA or a graphics card (and will not work on an A2000 without the latter). As the display uses only 24 colours, it shouldn't be too difficult to make it work in 16. A 16-colour screen display should be supported - there are still plenty of Amiga musicians without a graphics card.

Any sound card supported by AHI can be used, such as the Prelude, Delfina and Melody1200. The Delfina Light and Concierto are said to give problems. Output can be through Paula, but the program does not support 8-bit parallel port digitisers. You really need a 16-bit card.

The speed of your hard drive is important. A fast SCSI drive is recommended, but setting up the audio partition with large blocks and plenty of buffers also makes a big difference. Probably the slowest drive interface on the Amiga is the built-in IDE on the A4000. With this, I found that the program could handle three stereo tracks (six in total) before running into trouble. Any other set-up is likely to allow more tracks, up to about twenty stereo tracks with a fast SCSI interface. If you try to record more tracks than the set-up can handle, the program either reports a recording error or locks up.

A typical budget multitrack tape deck would allow four mono tracks, a better one eight tracks; even in the worst case, Audio Evolution is competitive with traditional methods.

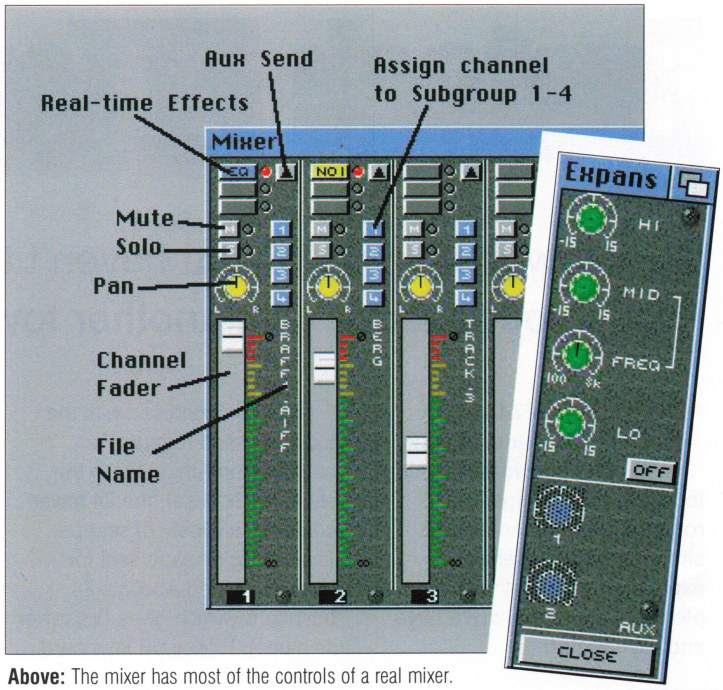
Processor speed has some effect on the number of tracks you can use, but particularly impacts the use of effects. Simply mixing tracks is not a very heavy task for a computer - the problem is getting the data off the hard drive in time - but most effects require intensive calculation, so their reliable use really requires a PowerPC processor.

Applying Effects

Audio Evolution comes with a good selection of effects modules, such as Parametric Equalisation, Echo and other delays, Chorus, Noise Gate, and various FIR filters. Some effects are only available for PPC.

Effects can be applied off-line, or in real time while mixing. Unless you have a fast processor, the off-line method will be the only practical way. In this case, hitting the right mouse button while over a sample in the Time Line invokes a pop-up menu from which you select the effect.

A good control panel allows you to set parameters quickly with a slider or carefully by changing the numbers. The effect is then applied, and a new copy of the audio file is saved to disk and placed in the Time Line. The original file is untouched.



Above: The mixer has most of the controls of a real mixer. The equaliser controls are in separate windows.**(inset).**

Left: The parametric equaliser. Several other equalisation filters are available.

Real-time application of effects is controlled by buttons on each channel of the Mixing Desk. Up to three effects can be applied to each channel. Trying to run too many effects can result in a crash.

Working with MIDI

It's very useful to be able to combine your own recordings and samples with MIDI sequences, or with other MIDI features such as the Bars & Pipes tool which can send an ARexx message at an exact time in a song, or MIDI-controlled lighting.

Audio Evolution can sync to MIDI in several ways. Playback can be triggered from a copy of Bars & Pipes running on the same computer, or from messages from the camd.library. Also, an external MIDI sequencer (or another computer) can be synchronised by sending or receiving a MIDI start command, using a standard Amiga MIDI adapter. This is a strong feature of the program.

There are good facilities for adjusting the exact timing to match that of the sequencer, although AE will not chase MIDI Time Code. This is something that the author should consider adding in future, along with use of SMPTE time code to calibrate the Time Line. Audio Evolution would then be useful for assembling film or video sound tracks as well as for composing music. A snap-to grid in the Time Line would also help.

This is a serious and well thought out program for musicians, full of practical and useful features. The Mixer gives a good simulation of a real mixer, but the graphics are not as clear as they might be. In my opinion, the author needs to think about how to make the interface work well on screens from 16-colour 640x512 up to 256-colour 1200x1024. A single non-resizable bitmap image of a mixing desk is not going to work over that range. Support for the common WAV format as well as AIFF would also be a benefit.

Don Cox A

Audio Evolution

SYSTEM: OS3.0, 68020, 6MB RAM, 16-bit sound card. PowerPC recommended.

SUMMARY: A very capable multitrack recording program, but with a few glitches.

Name EZTower Z4
Price Packages from £99.95
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Eyetech EZTower Z4

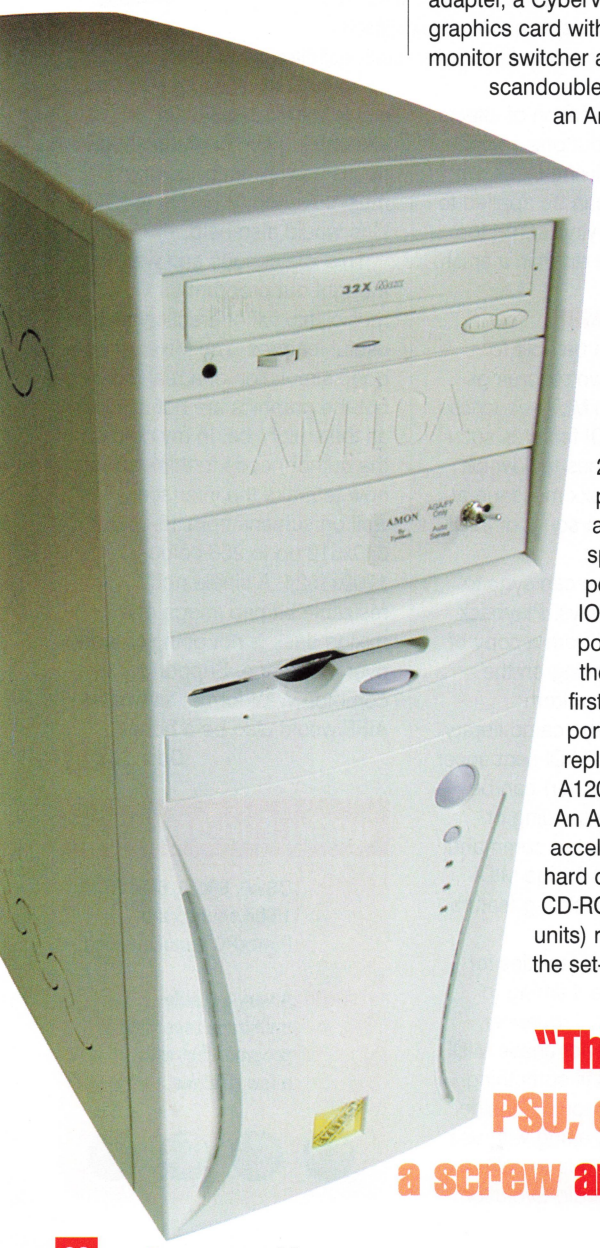


We know that some of you haven't taken the plunge yet. Now's your chance with another tower case to choose from!

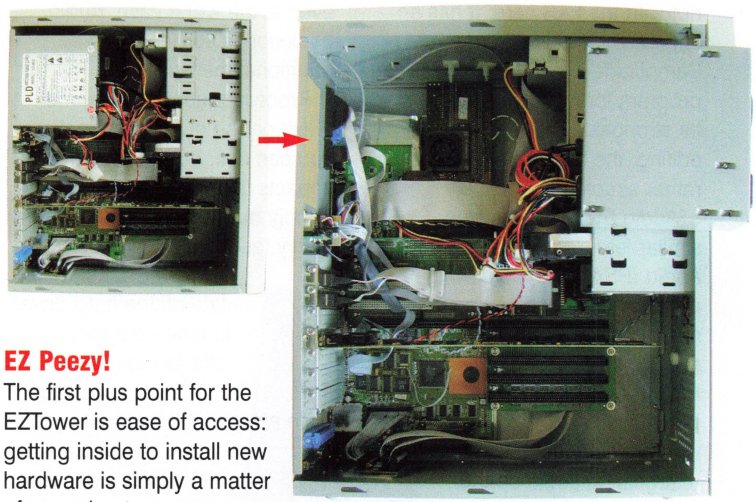
The EZTower Z4 is Eyetech's latest offering for A1200 owners wishing to house their Amiga in a roomier environment whilst simultaneously offering expansion potential with plenty of additional drive bays and card slots.

Not to be confused with the EZTower Mk 5 (Eyetech's combination Amiga/PC in the same tower case), the Z4 tower comes in a variety of set-ups. The model we were sent for review included Apollo's Z4 busboard (which gives this tower its name), EZKey-SE keyboard adapter, a CyberVision 64/3D graphics card with AMON monitor switcher and EZVGA scandoubler attached, an Amiga/CD adjustable audio mixer, right-angle PCMCIA adapter and a buffered IDE interface.

Attached to the Z4 busboard were a PortPlus Mk 2 (providing a pair of serial and one high-speed parallel port) and an IOBlix parallel port adaptor (on the Z4 board's first of four clock ports which replaces the A1200's original). An Apollo '040 accelerator, 4.3GB hard drive and 32x CD-ROM (both IDE units) rounded off the set-up.



"...a clear bonus for frequent upgraders and tinkerers."



Above: Taking the power supply out of the equation is simple, and gives greater access to the EZTower's insides.

EZ Peezy!

The first plus point for the EZTower is ease of access: getting inside to install new hardware is simply a matter of removing two screws on the back of the case and sliding off the side panel; a clear bonus for frequent upgraders and tinkerers.

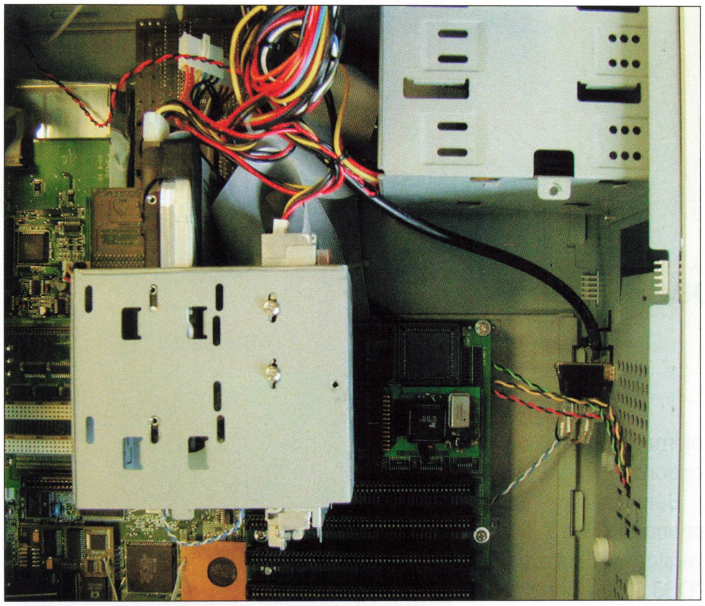
Everything in our review model of the EZTower was fitted internally, and all quite tidily arranged, with the ribbon cables for CD-ROM and hard drive units running neatly behind the Z4 busboard up to the drives above, proving that it *is* possible to put your A1200 in a tower, add plenty of extras and keep it looking the part.

The power supply unit (PSU) in our tower was an AT style, but production models of the EZTower Z4 will be shipped with an ATX PSU with an ATX-AT power cable adapter to facilitate connection to the Z4 busboard (through which the Amiga motherboard takes its power). This should appeal to owners of Eyetech's EZKey XS keyboard adaptor, as it will allow users to turn their systems on and off via a three-key keyboard shortcut. Handy for keeping your tower out of the way under a desk, no doubt, but we were unable to test this feature with our unit.

Solid but flexible

There are two drive bay units inside the tower, one housing up to three 5.25" devices and the other holding four 3.5" units. This lower drive bay, like the PSU, can be removed by undoing a screw and sliding the cage back half an inch to free it from the four clips that hold it in place.

"This lower drive bay, like the PSU, can be removed by undoing a screw and sliding the cage back..."



Above: The lower drive bay in the EZTower, like the power supply, can be moved out of the way nice and easily. Just undo a screw and unclip it by sliding it back. Wonderful!

Removing the panel on the other side of the EZTower reveals the mountings for the A1200 motherboard and gives easy access to the accelerator expansion slot. The patterned cut-outs on the EZTower's side panels aren't purely for decoration. On the right-hand panel at least, these gaps in the metal casing facilitate the flow of air from the fan on the accelerator card.

The Z4 board is secured to the custom made mounting plate, and above the A1200, by five brackets which offset the mounting holes from the Amiga motherboard. Were it not for these brackets, the mounting holes would be too close to the Amiga motherboard for comfort. As it is, another bonus is that the A1200 can be mounted inside the tower without removing the lower half of the motherboard's metal shielding.

EZ Extras

There are several additional features of the EZTower Z4 which also deserve a mention. A pair of plastic clips - stuck to the top of the tower with double-sided sticky pads - are used to secure the accelerator in place so that it cannot wobble and put strain on the expansion connector - a simple but effective remedy.

Eyetech's internal audio mixing circuitry takes input from an internal CD-ROM and the Amiga's default phono outputs (via a lead which emerges from the back of the tower) and outputs a single audio signal through a pair of phono sockets as well as a headphone style minijack. This allows either full-blown stereo systems or PC style external speakers to be connected directly to the audio output without the need for extra conversion leads.

A small black knob on the mixer sets the level of CD audio being output, as CD-ROM drives output their audio at a higher level than the Amiga audio. Once set, you shouldn't need to touch this again, so being internal makes sense.

Eyetech appear to have thought of everything. Indeed, they bill the EZTower as being a third-generation product, built to eliminate the shortcomings of older tower systems.

Aesthetically, the unit looks the part - light beige in colour, with nice mauve buttons and a couple of curved slots which both add to the facade's looks and aid ventilation into the bargain. The internal A1200 floppy drive fits perfectly behind the integrated fascia with a nicely styled eject button (also in mauve), beneath which is another removable panel for the addition of another internal floppy, Iomega Zip or LS120 drive.

Loading bays

The three 5.25" bays at the top of the unit should be enough for all but the most expanded Amiga. On our unit they were filled with a CD-ROM, a faceplate engraved with the Amiga logo (presumably just because it looks better than a blank faceplate) and a panel reserved for the AMON monitor switcher.

This is perhaps the only element of the EZTower which detracts from its professional look. Had it not been here, we would have given the EZTower pride of place in our office, but the two-way flip-switch looks like - and is, let's face it - a bit of a hack. To be honest, you won't need to flip this switch very often, so it would have been better off round the back, or as a push-button to complement the existing buttons on the front of the tower. The fact that it was taking up one of the three drive bays on our tower felt a little unnecessary, but to be fair, it doesn't *have* to be on the front of the tower either.

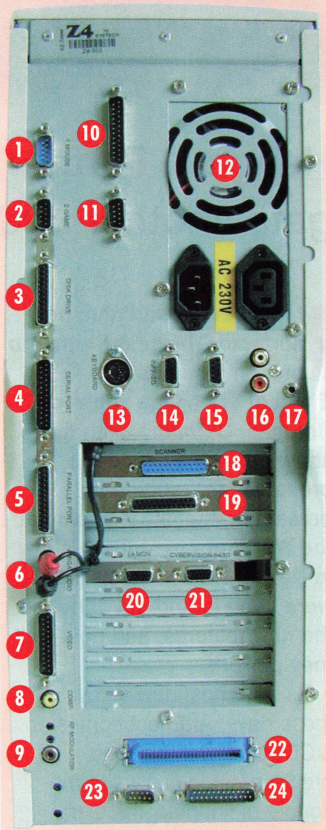
Overall, there's little to fault the EZTower Z4 on. Eyetech have done a sterling job in putting together a solidly built unit that looks nice both inside and out (apart from that switch, anyway). It's by far the best A1200 tower in terms of ease of access we've seen, offers good expandability and starts off at just under a hundred pounds for the bare tower with PSU. Finally, thanks to the custom-made backplate, the A1200's connectors fit flush with the rear of the tower, eliminating the need for extenders as with some other tower designs.

David Stroud A

EZTower Z4

SUMMARY: **A solidly built A1200 Z4 tower solution which looks the part both inside and out. Ease of access is a big plus point, and the range of knockouts allows for good expansion potential.**

More Ports Than Hyperion



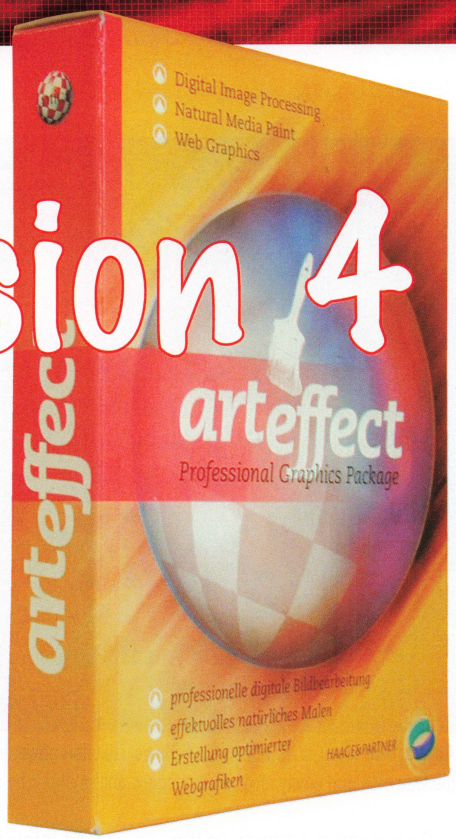
The rear of the EZTower is practically awash with ports and knockouts, all of which come properly covered in the production model of the tower, but which in our model were filled with dummy sockets to show off the unit's expandability.

(1) Mouse
(2) Joystick
(3) Disk drive
(4) Serial
(5) Parallel
(6) Audio
(7) Video
(8) Composite
(9) RF Modulator
(10) 25-pin serial and
(11) 9-pin serial ports, coming from Hypercom 3 card.
(12) Power supply
(13) Keyboard
(14) Internal Flicker Fixer / Scandoubler output
(15) 9-pin D-type connector*
(16) Audio mixer L&R outputs
(17) Audio mixer minijack output
(18 & 19) 25-pin parallel ports, one from Hypercom 3, the other from an IOBlix.
(20) AMON output
(21) CV64/3D output
(22) Centronics SCSI connector*
(23) 9-pin D-type connector*
(24) 25-pin D-type connector*

* Dummy sockets.

Name Art Effect Version 4
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ArtEffect Version 4



Haage & Partner's flagship graphics package gets another update.

It has been a tradition, of sorts, for Haage & Partner to present an update to Art Effect at the Amiga show in Cologne, Germany. With this show gone, they chose to preserve the tradition by presenting the latest update at the World of Alternatives show in Neuss. Now at version 4, we were keen to find out about all the new features, and how well they perform.

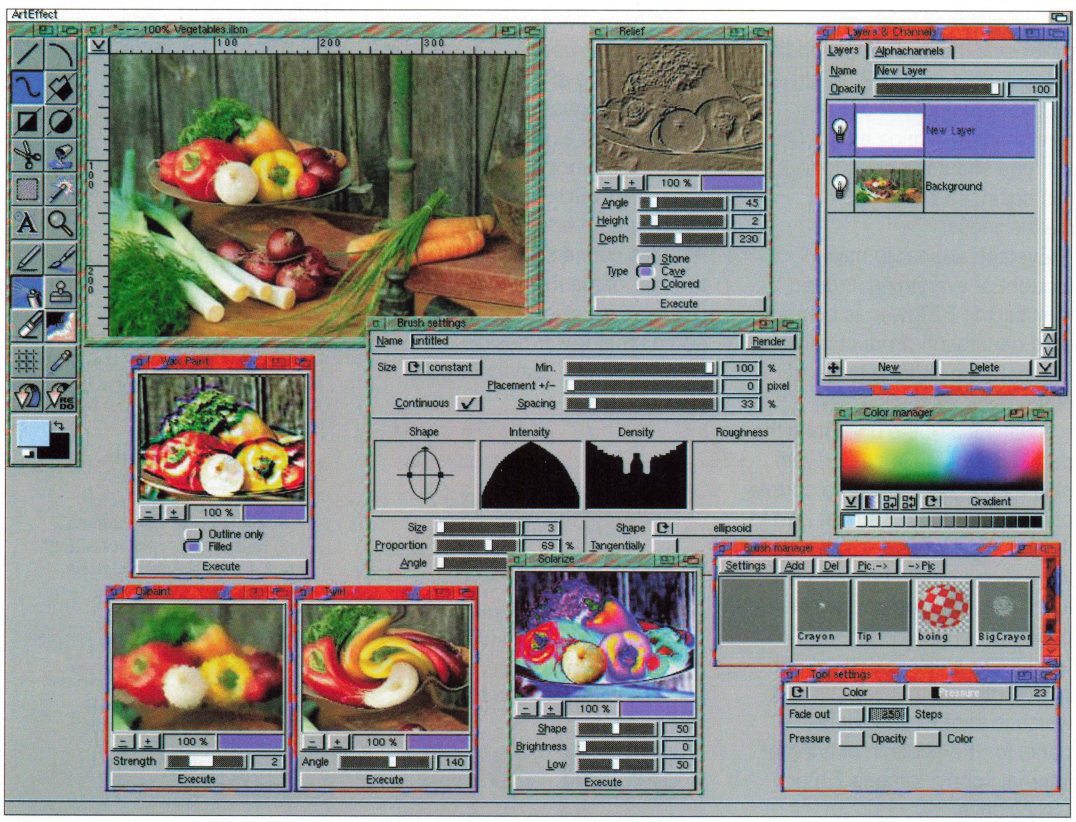
As with most new software these days, ArtEffect comes on a CD-ROM. Because the program could easily fit on a couple of floppies, the extra space has been used to give away some free artwork to get you started.

I soon found out that the TIFF loader didn't work properly, which I resolved by using the old TIFF loader from version 3.

As anyone who has used earlier versions will know, Art Effect is an easy program to use. The buttons clearly indicate their uses, and all other options can be found in the menus. The drawing tools allow you to create images from scratch as in any painting program, and the filters give the program a good range of image-processing options.

But what has changed since version 3? First of all, "OS3.5" functionality has been added. This sounds good, but only means that you can now save thumbnail images with your files as OS3.5 compatible icons. The really new stuff can be found in the layers menu.

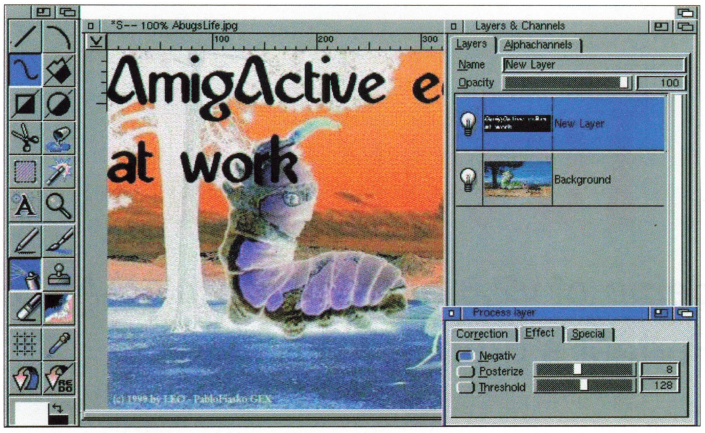
"As anyone who has used earlier versions will know, Art Effect is an easy program to use."



Getting Layered

In version 2, ArtEffect grew layers; in version 3 you got an unlimited amount of layers instead of just three. As of this version you have the option to add alpha channel layers. Think of the alpha channel as a transparency mask - by using multiple channels for transparency, you can add different masks and subtract one from the other to create a new mask. The whole concept of alpha channels becomes much more flexible when implemented this way.

Another addition to the layers system is the use of text layers. In previous versions, you used the text tool to create a text brush and stamped it down on your page. In version 4, you can create a text layer and type your text there. This has the advantage that you can always come back to the text and change any words just as if you were using a text editor. More options would be useful here, such as centring text or, more importantly, applying effects. I can see how this would have made the programming effort a lot more complicated, but it sure would be nice be able to apply effects to a text-layer. As it stands now, the addition of text-layers looks like a promising start for future versions, but doesn't really bring much in the way of new functionality to this version.



Left: Process layers allow you to alter the appearance of lower layers without actually changing them.

Below: Text is now applied through layers.



There is really nothing you can do with text-layers that couldn't be done with the "normal" text tool apart from editing the text. Even this was sort of possible with the text tool, providing you used the text tool on a separate layer.

The last news on the layers front is the addition of 'process layers' which really are useful. You can add a layer for colour correction, some effects (negative, posterise and threshold), and some special effects, which will colourise your picture following certain rules. It works fast, and you can add as many process layers as you want, delete or change them at a later date.

For starters, the PowerPC effects that could be bought with previous versions, and stopped working in version 3.0, still don't work in version 4.

Another long-standing bug still hasn't been fixed: the preview windows for some of the effects don't show how the effect will look in the final picture properly. An example of this is the bumpmap effect, where the preview window doesn't show the placement of the bumpmap correctly. It's even worse if you own the additional effects that are sold separately from ArtEffect: the lens-flare preview not only shows the effect in the wrong part of your picture, it refuses to place the effect outside a set range. My final gripe is that the ARexx commands only cover very basic operations.

"...compared to earlier versions, or if you have never used ArtEffect before, this is a very good program"

One fix over version 3 that really made me happy is that effects now work correctly when applied to a layer with a transparent background. This makes it possible to apply, for instance, a motion blur on an object on a transparent layer, and it will look as it should. Some obscure bugs from version 3 have also been fixed, which makes the program more stable in some situations, although stability is not perfect.

Loss of power

Unfortunately, there are also some disappointing aspects to the latest version of ArtEffect.

ArtEffect 4 is a powerful 24-bit paint program, easy to get to grips with, with enough image processing functions to keep even demanding semi-professionals happy, and the price is right. The upgrade from version 3 doesn't offer many spectacular new functions and doesn't warrant a full version jump in my opinion, but compared to earlier versions, or if you have never used ArtEffect before, this is a very good program. Just don't expect it to be the PhotoShop for the Amiga, or you will be disappointed.

Dirk Haarlar A

Art Effect 4

SYSTEM: 68020+, OS 3.0+, AGA or graphics card, min. 8MB RAM.

SUMMARY: Easy to use, powerful and a good price, but it's not perfect yet.



Second Opinion

Current Art Effect users may recognise the name of this reviewer - Dirk Harlaar is one of the ArtEffect beta testers. This means that he knows a lot about the program, but for the sake of impartiality, here's a second opinion...

I found myself more impressed by ArtEffect 4 than Dirk appears to be; I suspect this is because I never got to see version 3 and thus compare it to version 2. I've always liked some aspects of Art Effect very much, but never really got on with it. The changes between version 2 and version 4 are sufficient to change my mind.

The biggest difference I found was in the layers support. ArtEffect 2 was not just limited in its layer management, but also far too slow in layer handling. In version 4, both the functionality and speed have improved to a level where it's a very usable layers system.

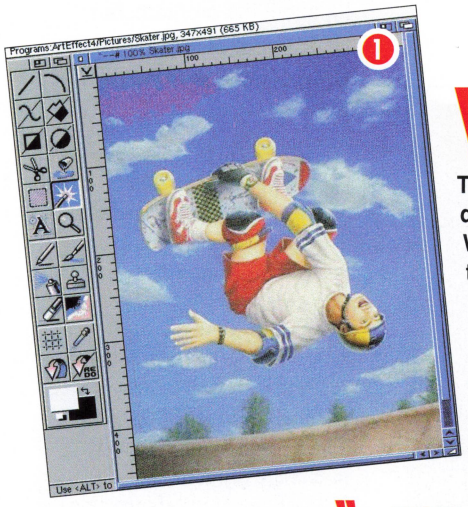
Art Effect has always excelled at natural media, and boasts some superb brush tools. An 'image hose' facility allows for some creative brush use that no other Amiga program can accomodate, and if you want to make a drawing that looks like it was scanned from chalks or pencils, ArtEffect is certaily the one for you. However, it relies on preformatted brushes, which means that using a brush at different sizes requires you to edit the brush.

Overall, ArtEffect offers some good tools for image management, a good range of filter effects and, unusually, a particularly excellent "magic wand" area selector. I'm quite impressed.

Andrew Korn A

ArtEffect Tutorials

You've read the review, now use the demo of v2.6 on this month's AACD to get to grips with Haage & Partner's graphics package.



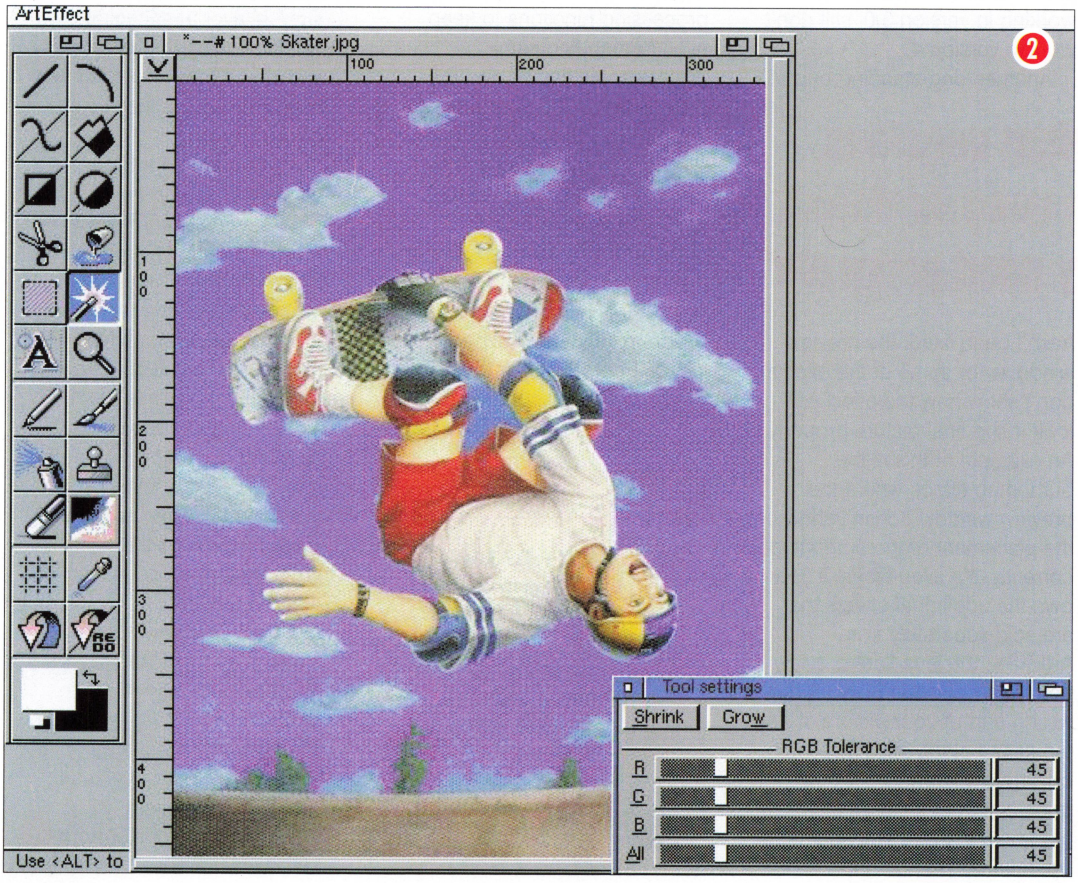
Want to get a better idea of what ArtEffect is like? These brief tutorials are designed to do just that. Whether you run through them yourself or just read these pages, you should get a good idea of what ArtEffect is like in operation, and you might pick up a few tips along the way.

"...you might pick up a few tips along the way."

Wave your wand

After starting ArtEffect, you will see a toolbar running down the left-hand side of the screen. Most of the buttons found here are similar to corresponding tools in (most) other paint programs, but there are some that may need explaining - and some of those tools are the ones that give ArtEffect its more powerful functions, so let's use them to do some work.

First of all, you will see the "magic wand". This is employed to create a stencil. Let's use it now to cut out an irregular brush from a picture. Start by loading the picture "skater.jpg". We will try to give the image the feeling of movement, by using a motion blur on the guy on the skateboard.



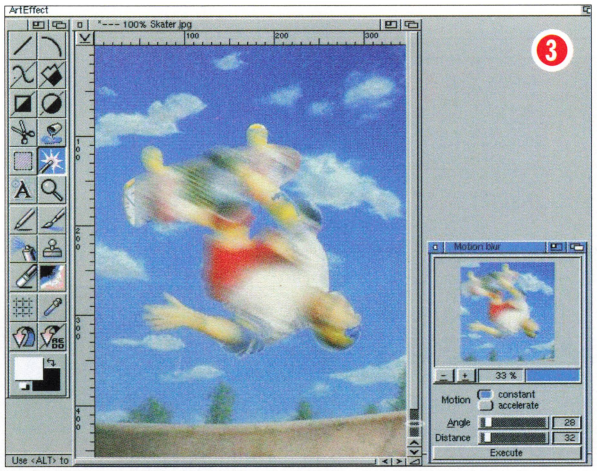
1 First, we need to make a mask of the background. Click on the magic wand tool, and with the left Amiga key depressed, click anywhere in the blue sky area. You will notice that a small part of the sky will be highlighted as a mask. The sky contains lots of blue shades, and it would be a very lengthy process to select them all by hand. To save yourself a lot of time, double click on the magic wand tool. In the requester that now pops up, move the "All" slider to the right, until the value next to it reads 40.

2 Now click the 'grow' button in this requester. This sets the tolerance of the magic wand. In other words, if you set it higher, more colours with similar values will be selected

Keep the left Amiga key depressed and select the clouds, ground and trees, until the only thing not selected is the guy and his skateboard.

In theory, you should now be able to add a motion blur to the picture, because an effect will only be applied to the part of the picture that is not part of the stencil. Let's try this, and see what happens.

3 Select Filter->Blur->Motion Blur from the menu, set it to your liking, and hit Execute. Eek! This is not what we wanted! The motion blur is applied, but since the program can't paint over the stencil, the effect is only applied





A demo of version 2.6 of ArtEffect, along with the pictures from this tutorial, can be found on this month's coverdisc.

within the image of the skater. We need to do some extra things to get the effect right.

First hit Undo, to get back to the original picture with stencil. Now select the scissors and double click on the square tool. Make sure in the requester that transparency is turned on. Next, cut out a square brush, including all of the skater.

Press F6 to open the layer requester and select New. Stamp down your brush so that it covers all of the original skater. Turn off the stencil from the menu, and select the motion blur effect again.



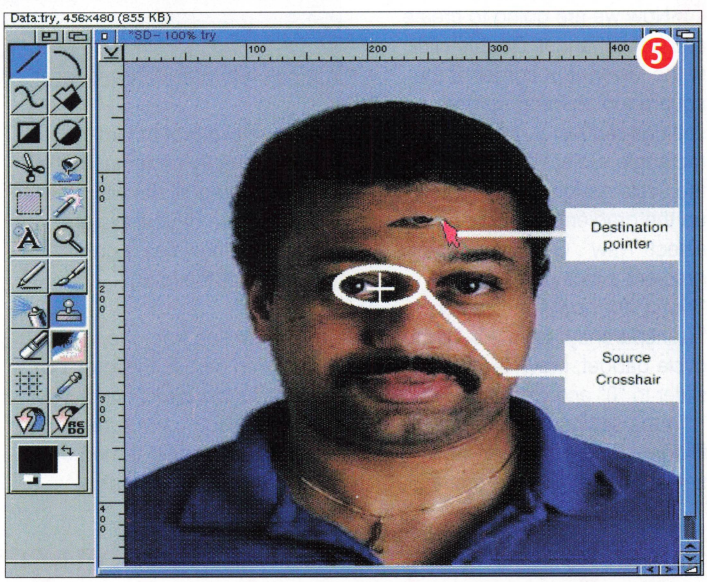
4 If you now apply the filter, you will find you get the effect you wanted in the first place: the skater guy is blurred according to your wishes, but the background remains untouched by the blur. To finalise the picture, you can drag the layer called "new layer" on top of the background in the layer manager, and the two layers are merged.

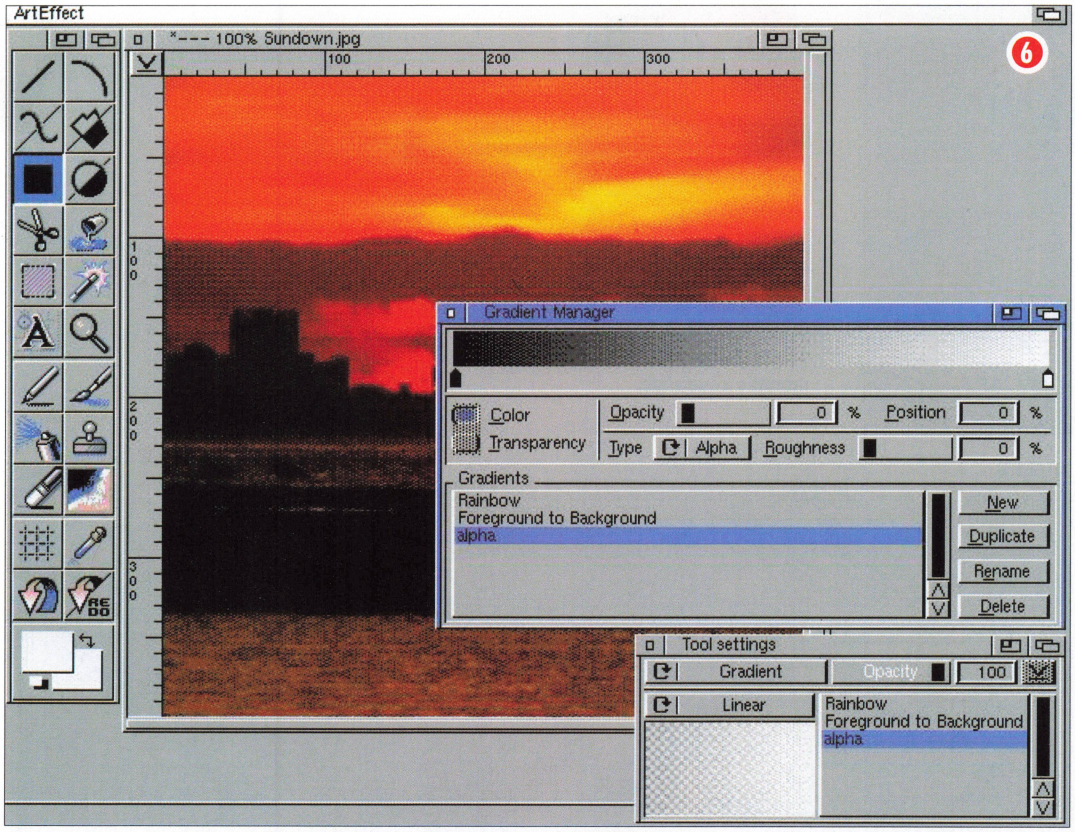
Dolly the paintbrush

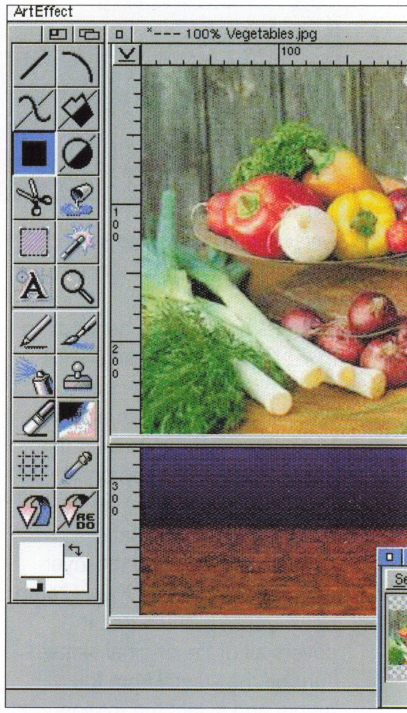
Another tool you might not know about from other paint programs is the stamp-like tool. This is called the pantograph, and is used to copy parts of a picture to another place in the same image, or to another image, all without cutting out a brush. Let's load in a picture of a man's head, and see if we can give him a third eye in the middle of his forehead.

5 With the picture loaded, select the pantograph tool. Holding down the Left Alt key, click on one of the man's eyes. This will now become the source for copying. You can verify this by looking in the window title bar; it should show an "S" for "Source". Now click on the forehead of the man. This location will become the destination (notice the "D" which has been added to the title bar).

If you look at the source part of your picture, you will notice a crosshair. To copy the eye, simply paint over the existing eye with the crosshair and it will appear on the destination spot you selected.



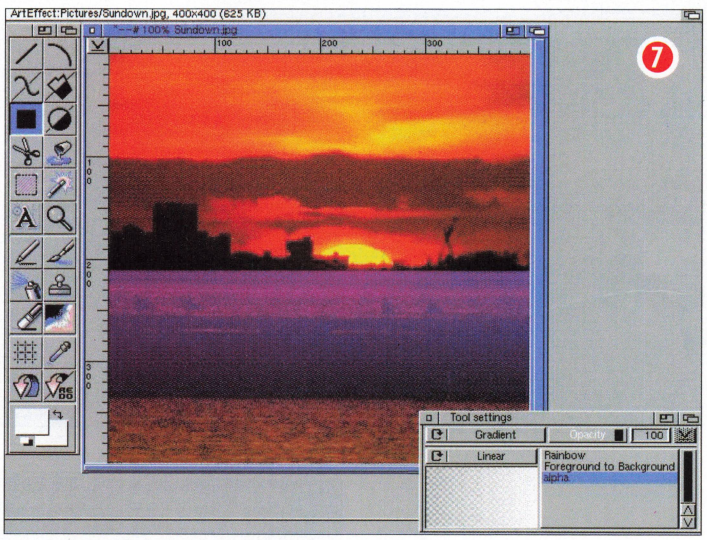




Alpha Channeling

One great way of composing images is through the use of alpha channels. You can create transparency masks, where some parts are more transparent than others. If this sounds complicated, it's because it is - but start playing with it, and you will soon get the hang of it.

We will combine two images in this exercise. First, load our main image, "sundown.jpg".



6 Now we are going to create an alpha channel. Double-click in the lower right corner of the square tool to bring up the settings requester for the filled rectangle. Select "Gradient" from the cycle gadget. Hit F9 to bring up the gradient manager and select "New". Give your new gradient a nice name (call it "Alpha" for now), and select "Transparency" from the "Type" cycle gadget. Move the Opacity slider to "0" and close the window.

In the settings window for the filled rectangle, you can now select "Alpha". Draw a rectangle the entire width of the image, starting directly underneath the sun and going all the way down to the bottom of your picture. You should now see a grey overlay over the image.

7 Draw a line from the top to the bottom across this grey box - this shows the direction for your gradient. Also, make sure you have "show stencil" turned on in the stencil menu, as this helps a lot when you are placing the brush.

8 Now load the image "Vegetables.jpg". Hit F4 to open the brush manager, and click the "Pic ->" button. The vegetables picture is now your current brush. To save on memory, you can close the vegetables picture, because we won't be needing it any more. Before pasting anything down, double click on the freehand line tool and make sure that the cycle gadget reads "matte". Now you can stamp down your brush, with the top aligned to the top of the stencil (this is why we turned on "show stencil" earlier).

9 Turn off the stencil to see the result. You can do the same with circles or any form of stencil you can imagine. Play with the different settings in the gradient window to get a feel for them.

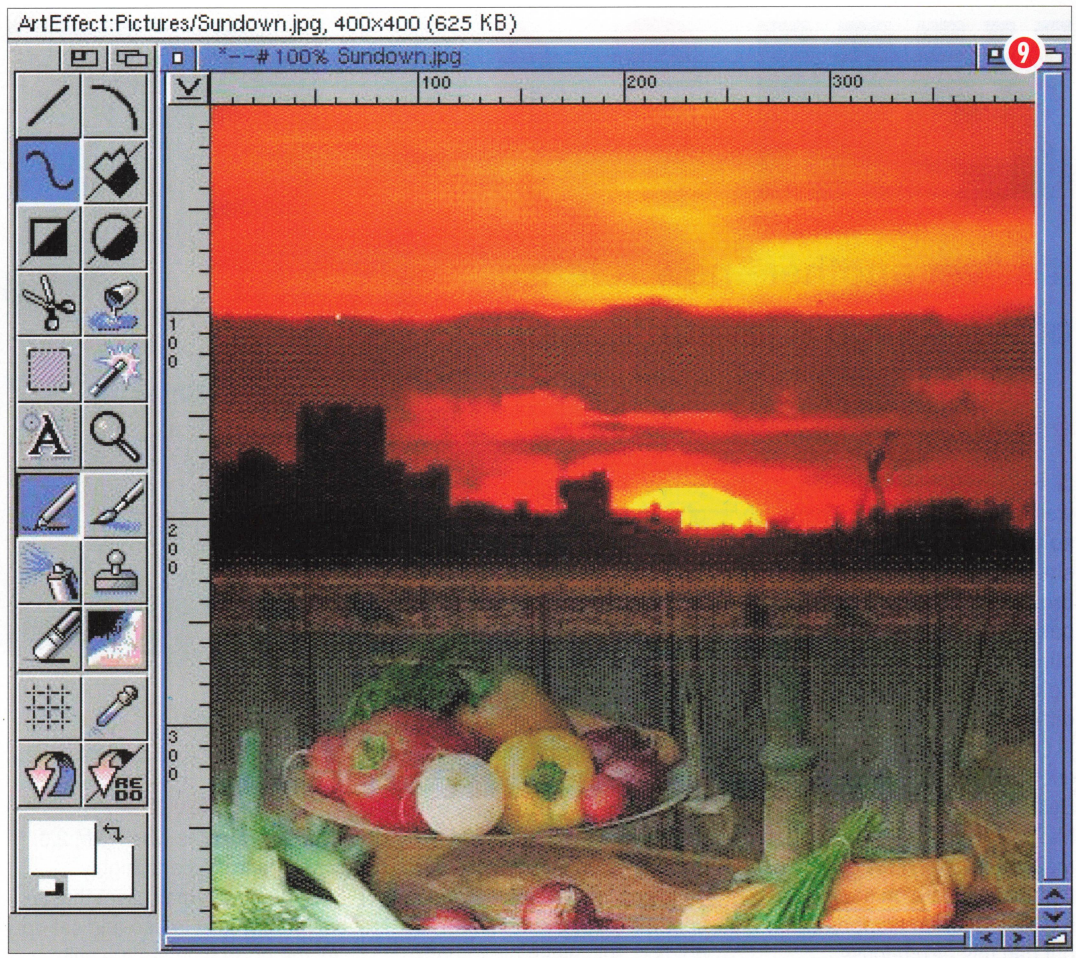
"Use layers to your

Transparent GIFs

You can also use ArtEffect to create transparent GIF images, which can add a lot to your web site, should you have one. Here, we've loaded a picture of a red and white checkered ball on a blue to white gradient background. Using the magic

"One great way of composing images is through the use of alpha channels."





advantage: if you're happy with your background, create a new layer..."

wand tool, we can mask out all of the background. Next, select the "Indexed colors" from the Edit menu. Make sure you have the checkbox for "Map Masked out Regions to Color 0" selected, and choose whether you want to use Floyd-Steinberg dithering.

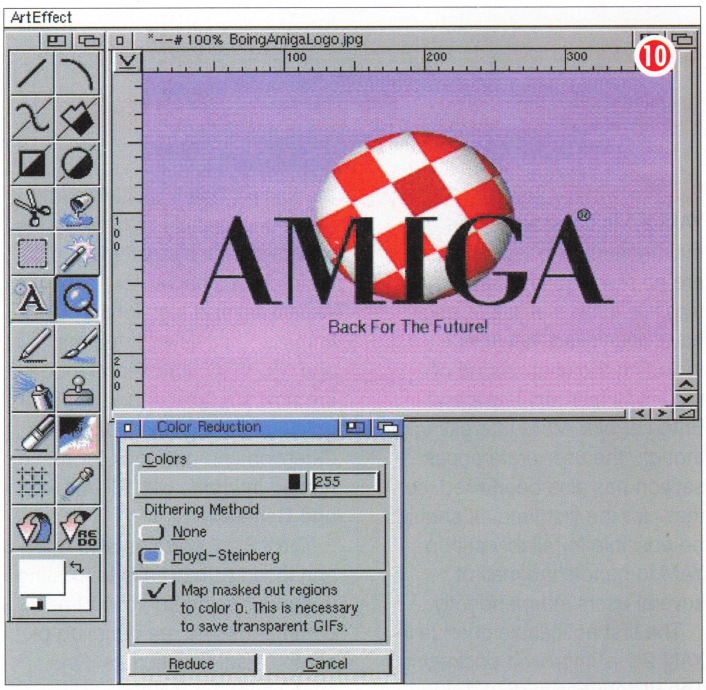
10 Now hit the "reduce" button. Select "Save As" and give your file a name ending with ".gif". From the following requester, select GIF as file format. After okaying this requester, you get yet another requester, asking you if you want transparency or not. Select "Transparent" and hit "Execute". If you now load this file in a web browser, you will see that it is indeed a transparent GIF.

Small tips

If you quit ArtEffect, it will remember which windows are opened, and they will be opened the next time you start the program. I find it very handy to have the Tool settings window open at all times. You might want to do the same, if only for the simple reason that every drawing operation defaults to "color" as toolsetting, and if you want to work with a custom brush, you need to change the setting to "matte" in this requester. You can leave open as many windows as you like, so long as you have room!

Use layers to your advantage: if you're happy with your background, create a new layer to draw the next part on. If you're happy with this, create another new layer, and so on. Save the image in this layered format, without merging them together. The advantage of this is that you can always come back to the image and delete or change one layer that you're not completely happy with, rather than having to redo your entire picture.

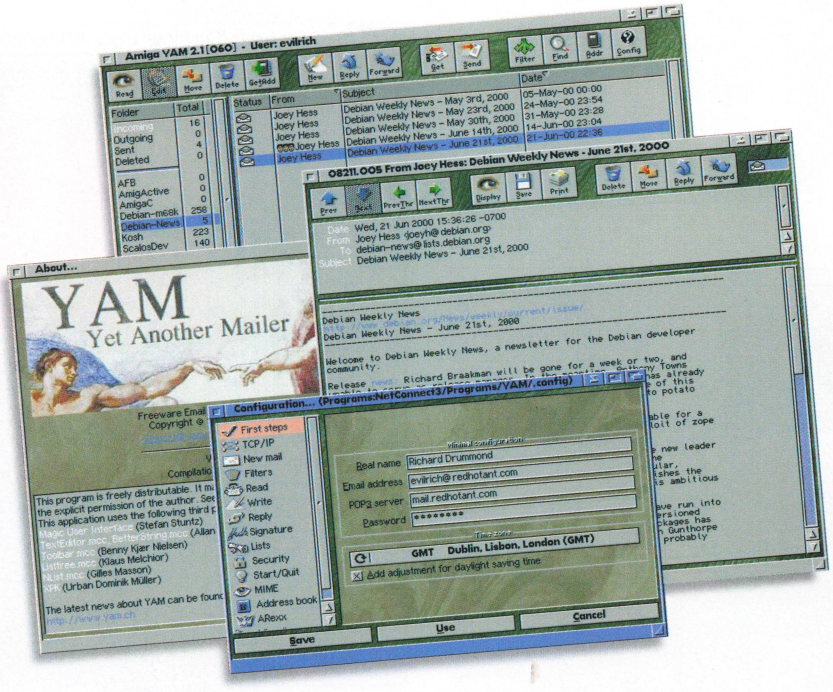
Dirk Haarlar A



Name Yam 2.1
Price Free (on this month's CD)
Supplier Aminet
Contact www.yam.ch

YAM 2.1

It's "yet another" new release of the Amiga's favourite mailer.



Above: Love it or hate it, YAM has everything you need for day-to-day mail management.

It is not unusual for the average Amiga owner to have religiously bigoted views where his or her favourite software is concerned. He or she will defend their preferred browser, mail reader or paint package with holy fervour, blindly ignoring facts and the right of anybody else to hold a different opinion.

One package known to inspire such zealotry is YAM, Marcel Beck's famous Yet Another Mailer. This freeware, MUI-based mail client that claims over half the market share on the Amiga has just received an update, but can this new release appease the devout and persuade the unconverted?

What's new?

YAM 2.1 is billed largely as a maintenance release, so there are no revolutionary new features in here. A raft of bugs have been fixed, however, including the usual round of repairs to memory leaks and Enforcer hits. More interestingly, though, the user preferences section has also been fixed, so that - for the first time - it should be possible to reliably set up YAM to handle the mail of several users independently.

The first noticeable change in YAM 2.1 is improved packaging. The distribution is now divided into four archives: the main archive, the patches to create binaries for higher CPUs, localisation and contributions (a host of third-party graphics, icons and ARexx scripts). Installation is easier, too. Simply unpack all these to the same directory and the install script will do everything automatically at your bidding. No problems should be encountered when upgrading a previous YAM installation as long as you use the second release of YAM 2.1.

New features include such things as improved navigation controls (so, for example, holding Shift when clicking on the "Next Mail" gadget will move you to the next unread mail in the folder), better multi-threading (it is now possible to close windows whilst transferring mail), an improved parser for identifying and highlighting URLs in mails (the "news:", "telnet:" and "gopher:" transfer methods are now supported) and superior online checking (the built-in detection can now look for a named interface with MiamiDx and Genesis).

The ARexx port has also been enhanced with tweaks to existing commands, the addition of new commands and the bundling of some useful new scripts. One such script, for instance, will automatically update the address book with the addresses of the senders of user-selected mails.

"...a powerful and highly configurable email client that is incredibly easy to use and set up."

What stays the same

YAM 2.1 remains what YAM 2.0 was: a powerful and highly configurable e-mail client that is incredibly easy to use and set up. All the good features are still here, such as the ability to handle multiple e-mail accounts, an unlimited number of folders, MIME and UU-encoded mails and so on. It still has powerful mail filtering controls, PGP support, and extensive user configurability. Unfortunately, the bad stuff is still here, too.

YAM is by no means perfect. For example, you cannot sort a folder by thread, hierarchical folders aren't supported, images and HTML attachments cannot be viewed inline, integration with a spell-checker is difficult and it doesn't understand IMAP servers.

Moreover, YAM's interface as a whole is beginning to look rather clunky. In fact, the earlier previews of YAM 2.0 had a better designed GUI. Admittedly, many of its limitations are not directly YAM's fault. MUI and the set of custom classes that YAM uses are desperately in need of an overhaul, and Workbench itself needs to be improved to allow applications to be integrated better - but I can't help but feel that YAM is in danger of falling behind the competition.

What's next?

YAM 2.1 is a little disappointing, which is odd, since it was an unexpected release. It improves on version 2.0 and provides a more stable, comfortable and slightly more complete mail platform... but nothing else.

It will not change the balance of power in the Amiga mailer market: the devoted will continue using YAM and the heathens Thor, Microdot or whatever. The annoying thing is, though, that YAM has so much potential. Perhaps it is time for Marcel to admit that a one-man team can't compete these days and open up development to the Amiga community. Whatever the future may hold, YAM 2.1 is, at the moment, the best Amiga e-mail client. In my opinion, at least.

Richard Drummond

Yam 2.1

SYSTEM: Workbench 3.0, 68020 processor, 4MB RAM, MUI3.8 and TCP/IP.

SUMMARY: Still the King of mailers, but less convincingly so.



IMAGINE: work in progress

Remember Imagine? It never went away. Still some distance from a complete upgrade to its latest full release, the Constant Upgrade Program has brought Imagine up to a point where it is well worth a closer look...

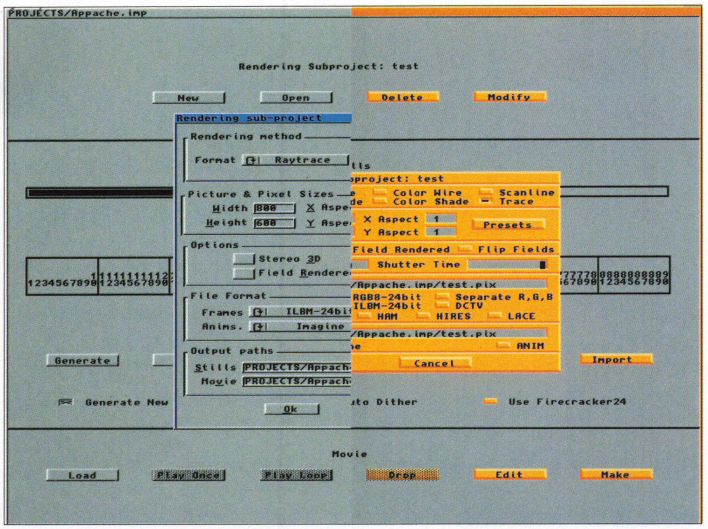
I am sure most of you will have a version of Imagine installed, as more than a couple of versions have been given away on magazine cover discs in the past. If you are still making good use of that old version, you may be interested to know that Imagine on the Amiga is not a dead duck and is currently winding its way up from version 5.0 to 6.0.

The Current public version of Imagine is 5.17a, so it's still a bit early in the game to be expecting version 6.0; but there have been a fair number of changes, fixes and additions in recent months.

Orange no more

The first thing you notice when starting the latest version of Imagine is the difference in the GUI's colour scheme; mainly the way that it doesn't jump out and hit you over the head. That "slightly uneasy on the eye" orange and tan colour scheme has gone for good (see screenshot, overleaf).

Opening an existing project or starting a new one brings up a standard ASL file requester, which is much better than the horrible custom requester of pre-5.x Imagine. There are also a few very useful file requester



Above: The new-look Imagine interface... ...compared to the old, non-standard GUI.

related additions to the prefs file. It's now possible to specify a default path for brushmaps, textures and objects, etcetera.

For example: if you set "DH1:stuff/images" as the brushmap default path, then that is exactly where Imagine will look whenever you request a map. So simple, I don't know why it hasn't been there from the start!

A slight extension to the default file path is the "project relative file path". By editing the prefs "default object path" so that it points to "@/objects", Imagine will always open in the project's own objects directory when you request an object. All the other definable paths can be set up this way too. It certainly saves a few mouse clicks.

Changing Interfaces

The whole of Imagine's interface is undergoing a pretty major change. It now actually looks like an Amiga program, with standard gadgets and requesters. Windows are being redesigned with a "standard" look and a few tweaks here and there to make things a little more efficient.

The 'Primitives' window is a good example. On the left-hand side of the window is a scrolling listview containing a graphical list of each available primitive object. Selecting one of the primitives causes the right hand side of the window to show that particular primitive's options.

Double-clicking on a primitive in the listview will add it to the workspace with its default values, a nice little timesaver. Along with a selection of brand new primitives (Rod, Box and Hemisphere), there's a new gadget to make edges "sharp". Previously, to stop Imagine rounding the edges of a tube or cone you had to go into pick-edges mode, select the outer-edges and trawl through the menu to select "Make Sharp Edges". Now, you only need to click a check-box in the Primitive window. Excellent!

The Zoom window is no longer just a numeric string. It now contains a slide gadget for modifying the zoom factor and has a switch to toggle real-time update of the views when the slider is adjusted. I'm not too convinced on the usefulness of the real-time zoom; at least not until it's possible to edit objects while the zoom window is open (which I'm certain will be possible in the near future, along with hardware accelerated OpenGL previews and so on). It does look cool though. Oh, and the numeric string is still there if you feel the need for it (to use a .5 value, for example).

"It now actually looks like an Amiga program, with standard gadgets and requesters."

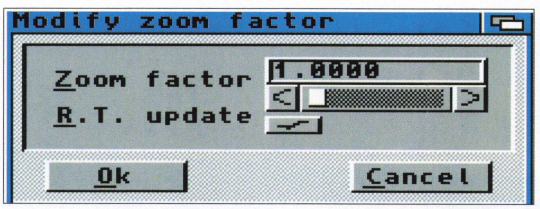
And now for...

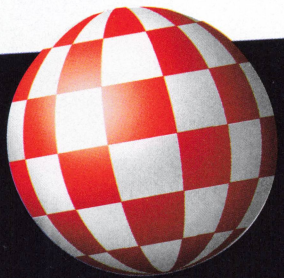
Something completely different is a menu that pops up under the pointer whenever the right mouse button is held down. At this time it contains just a few useful items ("quickrender" being one of them), but there are plans to make it context sensitive.

You can see the general direction the interface is taking by looking at the screen shots around these pages. Martin McKenzie (the fellow behind the Amiga Imagine development) is very open to suggestions from users, so things can only get better and easier.

Another thing you may notice is that old Topaz font defiling the screen shots. Panic not. The new windows and gadgets are font sensitive; but the change over isn't yet complete (the attributes window still has much of the old style about it at this early stage), and the old interface is hard-coded to expect a certain size and type of font. When finished, that won't be a problem.

I could go on for ages about changes and additions to the



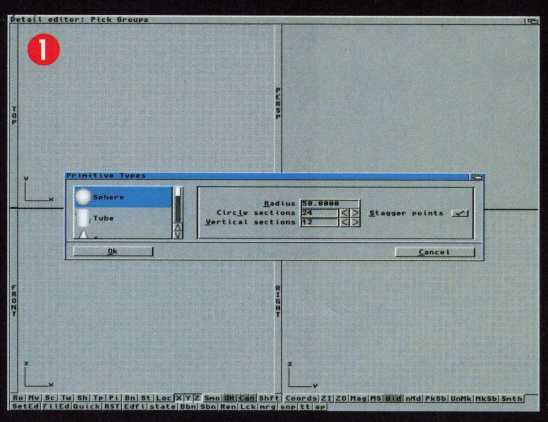


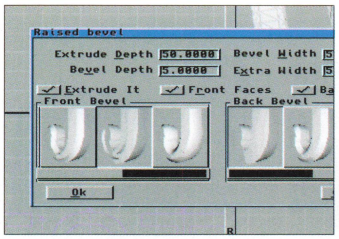
3 easy steps to a Boing Ball...

1. Open the primitives window and add a primitive-sphere. The number of sections depends on the intended destination of the graphic. If it's intended for print, the more the merrier. The default will do here.

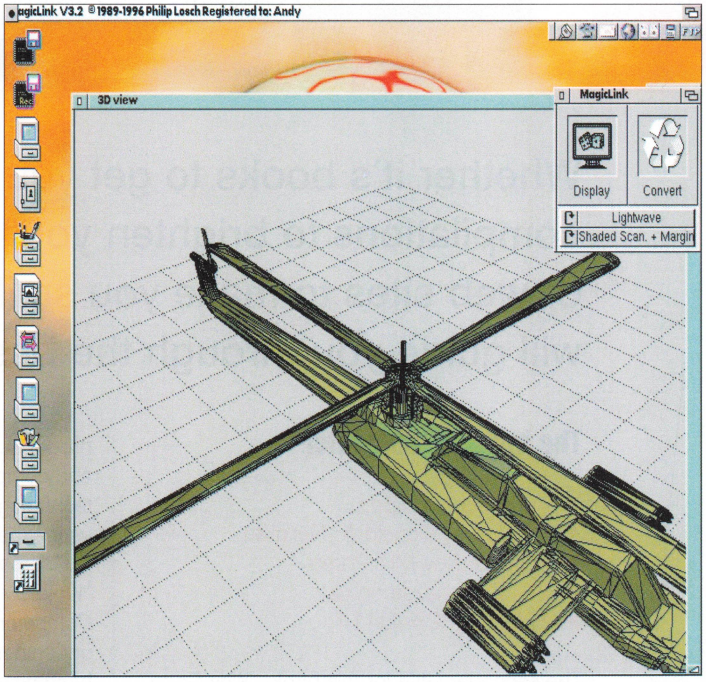
2. Bring up the Attributes window, click the "new" gadget and select "texture", "RadCheks.itx." Apply values as shown in the screenshot.

3. Render and serve chilled.





"...around five times faster than the same scene rendered on an '060."



Far left: Bevel modes made easier.
Left: Lightwave into Imagine will go.

interface; but we're fast running out of space, so I'll get on with detailing some of the other additions and enhancements.

Other enhancements

It has been possible to export DXF since about version 3, but now you can also export in Lightwave and 3D Studio formats. Both of these formats are well supported on other platforms if you have need to use some of your Imagine objects elsewhere. As a test, I exported a model to Lightwave format and opened the object with Magiclink (a conversion tool supplied with Cinama4D). I then exported the object again, as it seems objects need to be joined, rather than just grouped for the whole object to be exported.

Opening the object again in Magiclink, the whole object seems to have been exported reasonably well. There are a few missing polygons; but whether this is down to Imagine or Magiclink I can't say, as I don't have anything else to hand that can import a Lightwave object.

In my experience, object conversion is a bit hit and miss at the best of times: it seems more time can be spent repairing an object than it would take to build the thing from scratch in the target software. On the theme of format compatibility, Imagine will now open any 24 bit image format you have a datatype for.

Imagine now opens a public screen. This means other programs can open their windows on Imagine's screen. That and the fact that you can now specify an image viewer other than the internal one means you can have Multiview (or any other viewer that can output to a window) open a quickrendered image directly on Imagine's screen.

Render PowerPC

I guess the big question is *"How much support for PPC is there?"* Currently (in public versions), support for PowerPC hardware goes a little like this:

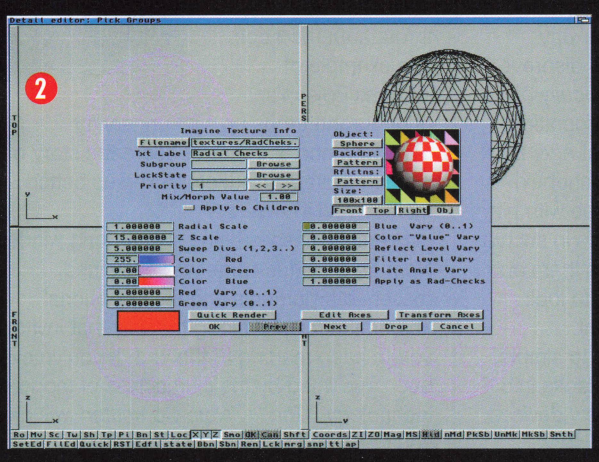
There's direct support for MPEG creation in the project editor. The MPEG module comes in both 68K and PPC flavours.

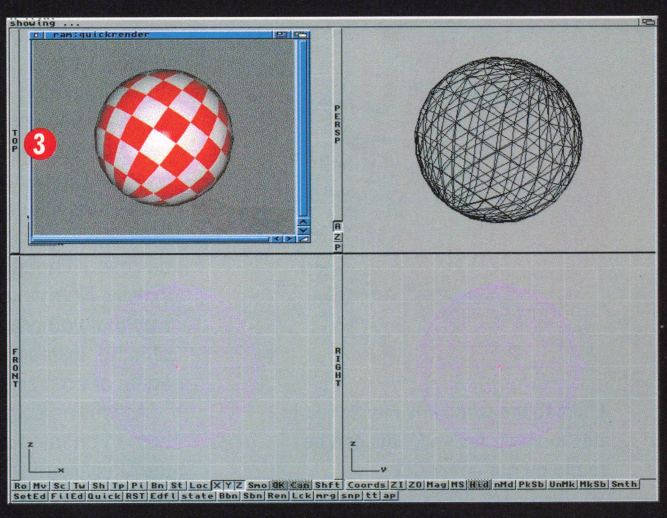
The more processor heavy global effect now come with PPC versions. Test renders show that a scene with the PPC version of Haze.ifx applied renders around five times faster than the same scene rendered on an '060. Speeds will increase dramatically when Imagine has made the move to pure PPC code and context switches are no longer an issue. A version of Imagine with a PPC rendering engine is currently with beta testers - and a public version (available to ACUP subscribers) can't be that far away.

I've skipped over a fair number of things in this article as there really isn't room to cover everything in one go. To see a full breakdown of every single addition and fix, paddle over to the Amiga Imagine Support Site at www.cadtech.demon.co.uk. You'll also find details about the Amiga Constant Upgrade Program (ACUP) and how to get on it.

As has been said, it's early in the game, but big changes are afoot in the Imagine world. It may take a little longer than we'd like, but it will be worth it.

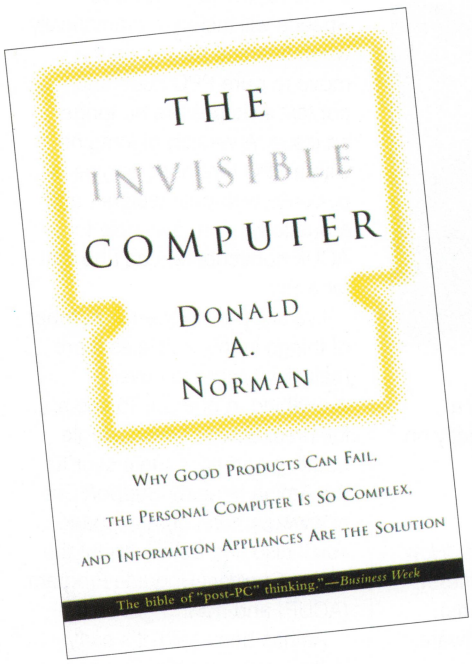
Andy Kinsella A





Active Media

Whether it's books to get you thinking, compilations to brighten your Workbench or web sites to make you smile, Active Media will guide you through the best on offer...



The Invisible Computer

- Paperback, 316pp
- Written by Donald A. Norman
- Published by MIT Press
- £8.50 (amazon.co.uk)
- ISBN: 0262640414

The secondary title for this book, *"Why Good Products Can Fail, The Personal Computer Is So Complex, And Information Appliances Are The Solution"* intrigues from the outset, especially if you're an Amiga user.

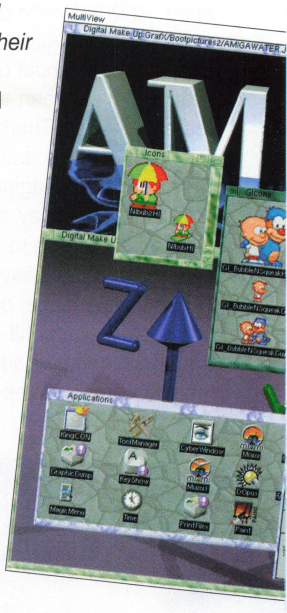
Chapters like the fourth, *"What's Wrong with the PC?"* and eighth, *"Why Is Everything So Difficult to Use?"* set out to explain what is wrong with today's technology. In short, the author claims that it is centred around the technology itself rather than the people who use it or the tasks they are designed to perform.

"...technological superiority still triumphs over user experience and convenience."

Norman argues, quite predictably, that there is no magical cure to the *"technology fever"* that has gripped the computer industry in recent years, but human-centric technology and Information Appliances are the way forward. He even goes so far as to disprove five proposed solutions to the *"Difficulty of Use"* problem, namely: speech recognition, three-dimensional space, intelligent agents, the network computer and small handheld devices. Although you may disagree with him initially, Norman presents his beliefs in such a way that you are unable to dismiss them out of hand, instead encouraging you to look again at both sides of the argument.

As well as suggesting the move to simple, human-oriented devices, Norman looks into the lifecycle of technology, from new devices packed with features to well-established products. There are three stages, he argues, and computers are still in the first, where technological superiority still triumphs over user experience and convenience.

One particular section of the book, entitled *"Why You Really Don't Want to Use a Computer (even though you think you do)"*, underlines the advantages of computers becoming invisible in everyday life, as has already happened with the electric motor. He goes on to point out the irony of the computer industry, *"whose business model is based upon the need to make their customers unhappy"* in order that they might sell them something bigger and faster with the promise that it will make them happier.



"The Invisible Computer" makes perfect sense a lot of the time, yet it borders on being patronising when Norman continues to regurgitate the same arguments several times throughout the book. The example of Thomas Edison's phonograph crops up with unnerving regularity, and who hasn't heard the story of superior Betamax videotape versus better-marketed VHS already?

However, despite being slightly long winded, Norman provides some well explained, reasoned arguments and the occasional 'moment of clarity' along the way that invite you to keep reading to the end. If you've ever been frustrated by the clumsiness of modern technology, *"The Invisible Computer"* will give you hope for the future of computing.



Links to the web sites mentioned in this month's Active Media can be found on our cover CD.

Digital Make-Up

- Workbench addons CD
- DM 29.95
- Supplier: APC&TCP
- Visit www.apc-tcp.de or phone +49 8642 89995

Collections of Workbench utilities, icons, add-ons and other sundries appear to have dried up recently, with only the Aminet CDs now offering a vast collection of well-arranged public domain software.

Enter APC&TCP with *"Digital Make-Up"*, a silver platter crammed full of Amiga OS goodies. Requirements are a 68020 with hard disk, CD-ROM and OS 2.05, but if you're the owner of the recommended system (an '040 with PPC, 4MB Fast RAM, graphics card, sound card and OS 3.5), you may not find much that is new on this disc.

Plenty of tools and add-ons for your Workbench are supported by a run-of-the-mill selection of icons, boot pictures, backdrops and patterns to brighten up your desktop.

Hardware-related utilities for scanners, printers, digital cameras and various I/O cards take up 30MB on this CD, tools 147MB and add-ons 44MB. With sounds and graphics taking up 55 and 162MB respectively, there's a fairly equal split between potentially useful and purely aesthetic content.



Games only fill a corner, taking up less than 5MB (although it was good to see Piper again, one of my favourite Workbench time-wasters from yesteryear) so you'll have to look elsewhere for entertainment value. Not as well organised or presented as the Aminet CDs (there's no front end, so you'll have to search through the CD by hand), but a fair collection of utilities and visual Workbench enhancements nonetheless.

The Amigan

- Web site
- amigan.jumpfun.com

I detest the label Amigan (sorry Gary, it has to be said). I am an Amiga user, I like using Amiga, I enjoy using Amigas, but I don't worship them. I'll admit to being a bit of a geek, but not a member of the Church of Amiga. Having got that off my chest, there's an online magazine called *"The Amigan"* that's well worth a visit. Don't go there if you don't have a sense of humour. The more zealous Acolytes of the Church of Amiga may find the way it pokes fun at figures from the Amiga market somewhat heretical. I thought it was good fun.

The Amigan is produced by one of the very industry figures it pokes fun at. So go and have a look - if we can't laugh at ourselves, there's no hope for us.

Webcam Central

- Web site
- www.camcentral.com

The increased UK availability of unmetered Internet access and the imminent arrival of broadband mean that viewing webcams is now an activity that won't bankrupt you. Webcams have come a long way since some students set up a remote camera to monitor a coffee pot. WebVision, on this month's CD, comes with a short list of webcams, but there are thousands more.

WebCam Central is basically a directory of webcam sites. They are sorted by location and category, or you can search for a particular subject. It's by no means a comprehensive list, but nothing can be, but this site will give you plenty of opportunities to while away the hours.

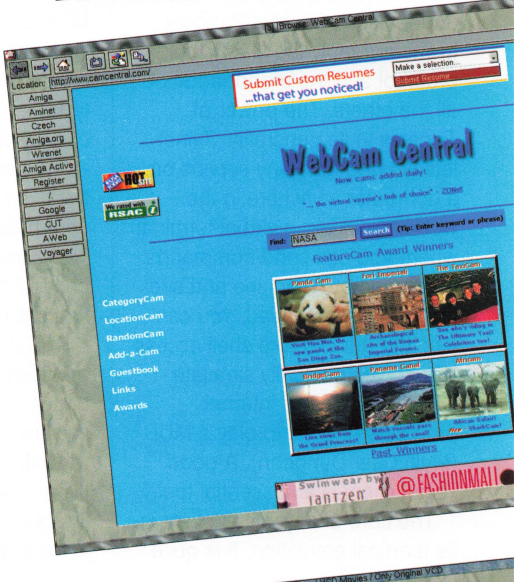
VideoCDs.com

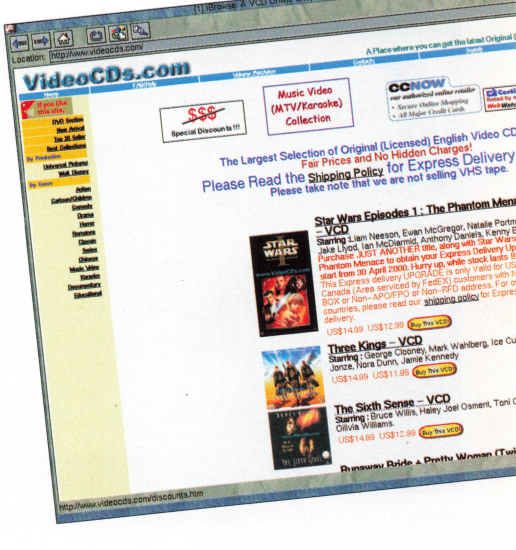
- Web site
- www.videocds.com

We may not be able to access DVDs on our Amigas, yet, but a fast PowerPC Amiga can play VideoCDs. However, getting hold of them isn't that easy, with most shops preferring to sell DVDs. VideoCDs.com is a US based site that sells and delivers VideoCD worldwide. They don't do themselves any great favours with their web site - it doesn't give the impression of a professional company - but the service is professional. CDs ordered online on Monday night were delivered first thing Friday morning. The price is right too. A

"...if we can't laugh at ourselves, there's no hope for us."







Active Shareware

This issue we check out some updated Internet applications and a new version of a popular puzzler.

AmTelent 2.4

AmTelnet, possibly the world's slickest Telnet client, has just received an update (see http://www.vapor.com).

"So what?" you say. Well, Telnet is perhaps the most under-valued Internet Protocol. It was arguably the first useful protocol and the granddaddy of all the others. The power of Telnet is in its generality: Telnet lets you log in to any service on a computer anywhere in the world, providing a virtual terminal where you can send commands to that remote machine and see their results displayed. You can use it to gain remote shell access to a server, manually simulate any of the 'higher' Internet protocols or even to play a MUD (Multi User Dungeon). A good Telnet client is an essential tool.

The core of any Telnet client is its terminal emulation. It is quite possible to do this on the Amiga via the standard CON: device, but that's a less than ideal solution. Instead, AmTelnet's virtual terminal is realised as a MUI custom class. This supports an emulation of various standard terminal types - such as the VT100 or a 16-colour ANSI terminal - and has loads of options to tweak its behaviour to suit your needs. It even does a fair impression of a Linux console, but this is an area that still needs some work.

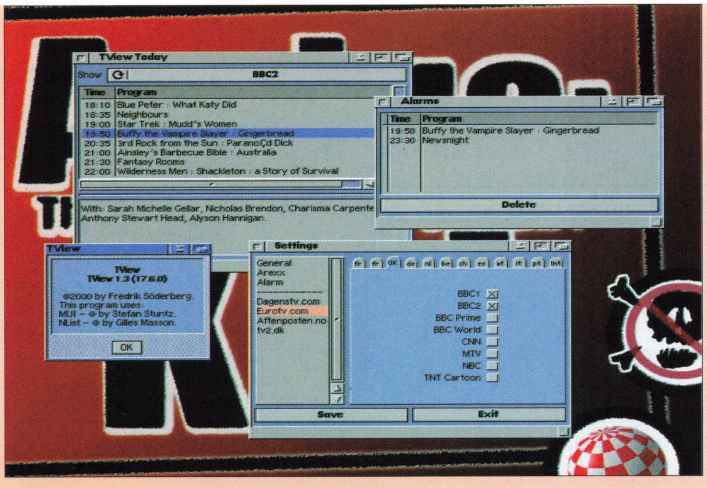
AmTelnet's terminal also provides a scrollable review buffer, cut-and-paste to the system clipboard, and allows you to save the buffer contents as a file or even to insert a file into the buffer. Another neat feature is the ability to assign keystroke macros to the function keys to cut down on typing.

It would be nice to have an option to underline any URLs displayed in the buffer and launch a browser, say, on double-clicking (like the GNOME terminal class does on Linux), but that's just being picky.

AmTelnet's Telnet capability is no less impressive than its terminal emulation. It can do both straight Telnet and SSH



Right: AmTelnet lets you adminster your Linux box from the comfort of your Amiga.



Above: TView is a must for every temporally-challenged geek.

TView 1.3

It is a well-known fact that computers can warp your concept of time. You can get so wrapped up in hacking your latest programming masterpiece or so engrossed in Heretic II that you quite forget when that next episode of Buffy was supposed to start. To avoid such a tragedy, use TView.

TView is a neat little MUI-based application that knows how to query various web sites to retrieve schedules for a host of European television channels. Pick the channels you are interested in, select the programmes that you would be devastated to miss and TView can pop up and remind you before they start, either by beeping the screen or launching an external program.

The latest version of TView has some important improvements over earlier releases. It can now take account of the local time zone - a crucial factor since the TV listings are generally provided in CET, and one which at last makes the

(Secure SHell) log-ins, is multi-threaded (so you can launch multiple terminals simultaneously), and supports the xpr modem protocols for transporting files. It has a built-in address book where you can store oft-visited Telnet sites and each one can use its own set of tailored preferences.

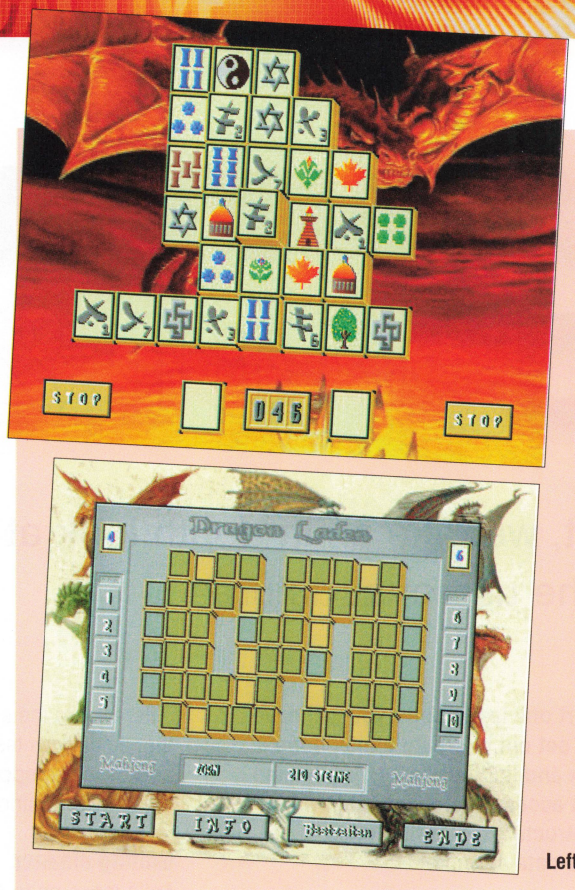
The big improvement with this release of AmTelnet, however, is speed. Due to the slower output and network latency, the Telnet terminal can lag behind whichever remote application is generating the output. Now, with AmTelnet, large transfers are buffered and the terminal updated less frequently, which can significantly speed things up when large streams of text are being displayed.

Also, a client break facility has been introduced. This allows you to break an application even when, due to the lag, a normal CTRL-C would have no effect. It simply stops output to the terminal and soaks up the remainder of the output until a quiet period occurs. Both of these measures make AmTelnet that much more usable.

Like all Vapor's software, AmTelnet just oozes class and the attention to detail is very obvious. Some documentation would be nice, but otherwise this is another testament to the genius of Olli Wagner and his team.

program useful in this country (it would be even better if it supported a server with more complete listings for UK channels). Other changes include general bug fixes, GUI tweaks and an enhanced ARexx port.

If you take your TV seriously, TView can be a potentially life saving application. What would be useful, though, would be the ability to fetch and remind you of future programme schedules. That, and set your VCR for you...



Mah-Jong

If you have a penchant for pointless puzzles, then the chances are you have already come across Mah-jong: countless versions of this orientally-influenced solitaire game exist across every computing platform known to man.

Mah-Jong is a new, bumper clone of this incredibly addictive game. It features twee music, an excessive number of dragon pictures, and weighs in at a whopping 5.2 MB download (so, as with the other software mentioned this month, we've put it on our CD for you). It's brash and garish, but at least the tiles are easy to tell apart (these games are typically responsible for severe eye-strain). The game comes with ten different layouts of tiles (or dragons) for you to fathom, and includes an editor to design your own.

If you can justify wasting this amount of hard drive space, install Mah-Jong and use it to waste those spare moments. It could use some polish, though, particularly the ability to choose a screenmode, but it's immense fun nevertheless.

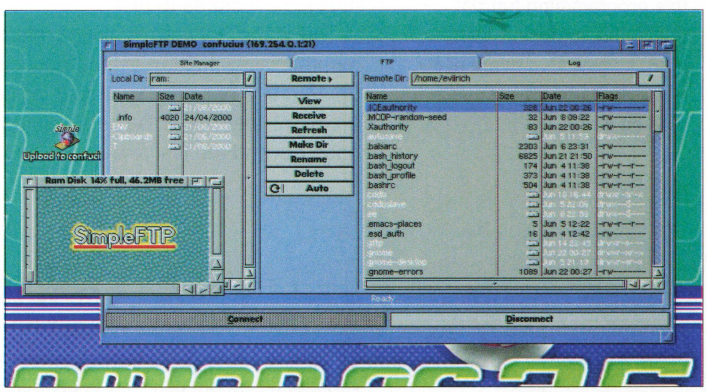
Left: Devilishly addicitive.. and with a built-in editor!

SimpleFTP 2.54

If there was ever a long-enduring Internet protocol that needs no introduction, it's FTP. The Amiga owner has plenty of choice in this area with Amiga FTP clients coming in all shapes and sizes. SimpleFTP (www.simpleftp.co.uk) is one that has undergone continuous development in the last six months, so much so that it doesn't really deserve the 'simple' epithet any longer.

In fact, the only simple thing about this FTP client is its GUI, a single-threaded MUI-based interface. The main window of this is split into three pages: the first maintains an address book of FTP sites, the second is the FTP window proper where all the action takes places and the third is a log of communications with the FTP server. The FTP page is a standard double listview showing the contents of the current local and remote directories. Unfortunately, the sort order of the listviews is fixed, with no option to sort by date, for instance. Drag-and-drop between the two listviews is also not supported.

A single column of buttons operates functions on the selected files in the active listview, such as viewing, copying and deleting files. Personally, I find this approach rather confusing, since it is easy to forget which listview is currently active. The author should perhaps move over to a set of buttons for each listview or find some way of better highlighting which is active.



Above: SimpleFTP is simple to use, but has some powerful features nonetheless.

Apart from all this, SimpleFTP has a good range of features. It has an ADT mode to show the latest uploads to the Aminet (no search facility though) and supports MIME types (for setting filetype-sensitive viewing tools), resuming of interrupted downloads, connecting via a proxy and lots more. If you register SimpleFTP - for the paltry sum of £10 - you also get the ability to set access permissions on remote files and a recursive upload mode which will copy an entire directory tree to an FTP site - a useful feature for uploading your web site, for instance.

SimpleFTP still has stability issues but is more robust than mFTP II, for example. And while the latter's interface is more powerful, SimpleFTP's feature list is catching up quickly. Definitely worth a look.

Richard Drummond

Programming in C Part 2



In this month's installment, we take an in-depth look at improving code through the use of structures.



Hard to C?

On this month's coverdisc, you'll find all the sources to this programming tutorial (including sources to part one), as well as a demo of Haage & Partner's Storm C, version 2.

If you read part one last month, you will have seen how we set out to create a telephone address book and laid out some very basic routines for disk access. Here we build on that and introduce 'structures' allowing us to manipulate more data at once.

Structures for storage

A close inspection of the source code AABook1_3.c reveals more changes to the code; it defines a structure for our use. This structure is constructed to include all the details for one person in one block of memory, which enables us to work with the data in a much more refined way than using separate strings.

The section of code to do this is in the line starting with `struct BookEntry {`, and contains the components to store our data. Building on this we have now modified the source yet again to move the section of code that deals with the writing of data into its own function, which will give us much more flexibility later on when we come to deal with writing multiple structures to disk.

This is the "forward thinking" referred to in last month's installment: planning now can save time later on. Part of that planning should include considering problems that may arise as a result of expanding the code beyond the first few steps. You can see the difference in the section that actually writes the data as it addresses components of the structure rather than the individual strings.

Getting cleaner

Let's move on to AABook1_4.c. You should notice that we have made a significant change in the format of the code. Also notice how much cleaner the main() routine is now. This is due to the fact that we have moved the code that writes to disk into its own function, which is called by main() to do its job. This source shows that moving the data into a structure has made the job of handling separate functions much easier.

Before, we would have had to pass each separate piece of information to the function on its own, but we can now just give it the address of the structure and the code is clever enough to be able to sort it out from there. The added bonus of functions is that we can include some code to actually return a value depending on the success or failure of the routine. This is the case with most of the system library calls, and assists the programmer by telling the calling code if there were any problems during the execution of these independent modules.

AABook1_5.c includes some extra code, plus a reshuffle of the commands to make it easier when

The Basics: Structures

Structures are treated in a very similar vein to any other variable types, but can lead to confusion because of their multiple parts. When defining a structure, you are actually reserving an area of memory, which is the size the structure will require for storage at a later date.

Think of it like a box of eggs: the box is the structure and inside the box is enough room to store six eggs. Each egg could be a different size or colour, it could be fresh or rotten - the box doesn't care, and neither does our structure - it is simply a mechanism for carrying around multiple small parts of information in a set order.

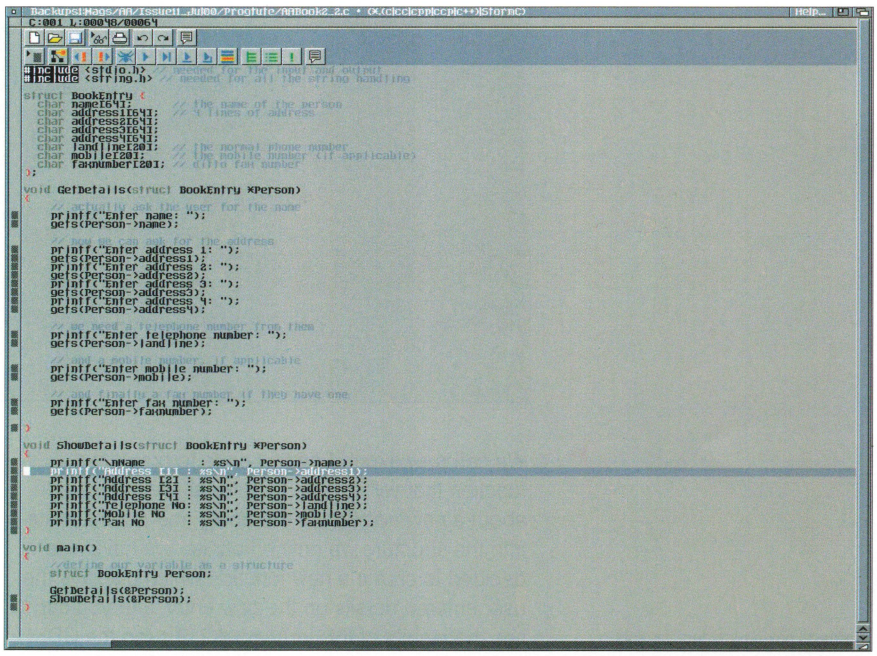
The size of any structure can be found by checking the return value from a command such as INT size = sizeof(struct BookEntry) and the integer 'size' would contain the size in bytes of the structure BookEntry. Although this doesn't sound important, it is used to great effect when allocating memory for storage purposes, as the memory allocation routines require a specified size of memory to reserve.

Within structures, there are components known as offsets, and looking at the BookEntry structure in AABook.1_3.c you will see offsets such as name, address and faxnumber. These offsets actually translate to numbers which indicate the number of bytes into the structure the component can be found.

looking at the program as a whole. We have moved the call to open the file back into main() so that the function that saves the data can now save all of the data by multiple calls to it. All that is required is to step onto the next structure, and to increment the position of the write cursor within the file.

This is detailed in AABook1_6.c, which does some more temporary things like copying new strings into the structure to demonstrate the ability to save more than one block of data. Eventually, the program will do all this automatically, but for testing purposes we have done it this way. Have a good read through the sources on the CD and look at the comments: they give plenty of information on how and why things have been done the way they have.

We now need to concentrate on fetching the data back from disk once it is written, and this is done in AABook1_7.c. This small program highlights most of the points we have already talked about earlier, and saves the data to disk, then reads it back and prints it into the console window. This is another debugging feature used to check the integrity of the saved data.



Interfacing with the program

Due to space restrictions, we cannot go into building a full Workbench interface, as this subject could fill a magazine on its own. What we shall do is to give the program a basic CLI interface; the use of prompts can be just as useful as a mouse driven type in some cases. In order to do this, we shall introduce you to another command called 'gets()'. For those who may have used a BASIC language before, this command is very similar to the Input command found in most forms of BASIC.

Have a look at AABook2_1.c (below) to see how this command is used to gain data from the user.

Above: Debugging with GoldED.

AABook2_1.c

```
#include <stdio.h>

void main()
{
char name[256];

printf("Enter your first name: ");
gets(&name);

printf("Hello %s, I hope you are following this :)\n", name);
}
```

"This is another debugging feature used to check the integrity of the saved data."

When you refer to the structure by name, you are actually giving the address of the start of this block of memory. So, to find a value inside the structure you would take the address of the memory block, then add the value of the offset, which points you to the exact address in memory of the data you are looking for. If this sounds rather complicated don't worry, it isn't vital that you understand these things. The compiler does all this hard work for you, but it can be beneficial to understand some of the system's inner workings.

To find the value 'Left', therefore, you would address it as 'Alien.Left' which would equal the address of Alien, plus 6 bytes, giving the location.

A typical structure:

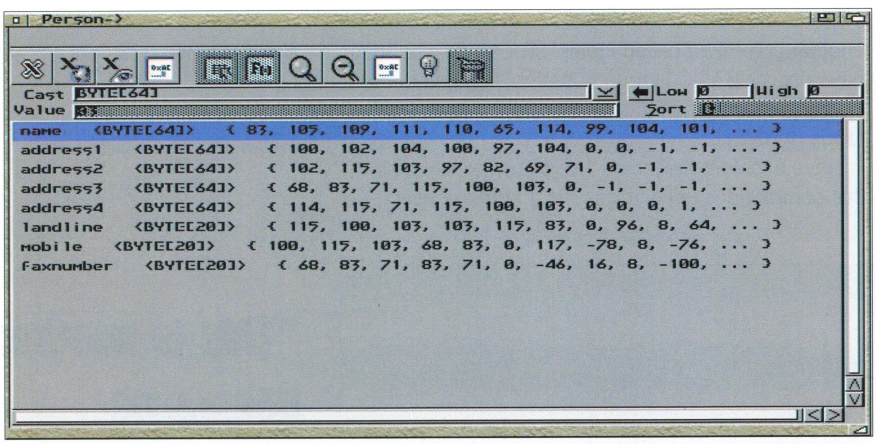
```
struct Alien   // The Alien structure called by name
{              // is its address in memory
WORD XPos;     // This offset is at the start, so it is the address
WORD YPos;     // This offset is 2 bytes (a word) into the structure
INT Alive;     // And this is now 4 bytes into it...
INT Moving;    // now 5 bytes...
INT Left;      // 6 bytes...
INT Right;     // and 7 bytes.
}
```

```
Storm Console
Enter name: Simon Archer
Enter address 1: PinPrint Publishing Ltd
Enter address 2: 3-11 Spring Road
Enter address 3: Bournemouth
Enter address 4: BH1 4PZ
Enter telephone number: 01202 296293
Enter mobile number: 07973 456789
Enter fax number: 01202 296294

Name           : Simon Archer
Address [1]    : PinPrint Publishing Ltd
Address [2]    : 3-11 Spring Road
Address [3]    : Bournemouth
Address [4]    : BH1 4PZ
Telephone No:  01202 296293
Mobile No      : 07973 456789
Fax No         : 01202 296294
```

We can now expand on this code to create the function that will ask the user for all the information about a new addition to the book, and put that data into the structure we defined earlier. We have also decided to create a new function which displays the user entered details on the new entry, and you can see the results of this in AABook2_2.c (on the CD).

Below: Looking inside a variable.



Coming together

Now we have put most of the basics into place, our next job will be to create an array to hold our data so that we can start putting the program together.

As with string arrays, we can create arrays of anything, but the same rules apply as for strings. The effective size of the array must not be exceeded, so we will need a check to make sure this does not happen, otherwise our program will start accessing the memory outside its own, which can lead to a total system failure. Join us next month for the concluding part, and to see the program in all its glory.

Simon Archer

"Now we have put most of the basics into place, our next job will bew to create an array to hold our data"

The Basics: Pointers and memory handling

"...don't be too disheartened if this doesn't make sense immediately..."

There are some instances when you need to supply a pointer to your data rather than the data itself, and this is one of the biggest reasons for people not liking a language like C.

If you look at our source code AABook2_2.c you will see we have created a variable of type BookEntry in the main() function. This structure is held on the program stack as we have not actually allocated any memory for it, so we call it an 'automatic' variable. The variable name 'Person' is actually the address of the first piece of the data, but in our GetDetails function we supply a pointer to it by using the '&'. This tells the compiler to pass a pointer rather than the data itself.

A pointer is simply an unsigned longword variable containing the address of the data in question. When dealing with components of a structure, we need to use the '.' to specify the component, as in 'Person.name', but this only holds true while we are dealing with automatic variables. As soon as we start working with pointers, a different approach is required, and this is where the '->' comes into play.

If you remember the '->' symbol as an arrow which points to something, the two work together quite nicely. So, while Person.name works in the immediate sense, we should use Person->name when looking at a pointer to our data.

This is also true of strings or any other kind of variable. Many functions that operate on strings require a pointer to it, rather than the string itself, so again we should use &mystring (which incidentally is the same as mystring[0] indicating the first byte in the string array). If we defined a variable as 'INT AlienX' and we needed a pointer to it, we would use '&AlienX'.

If you declare a variable as a pointer, we may never need to pass its address, but if we needed to find the memory location, '*myscreen' should be used, which in BASIC language would be synonymous to 'Peek(myscreen)'.

The biggest stumbling block is with the use of pointers and addresses, so don't be too disheartened if this doesn't make sense immediately - the compiler should alert you of any errors when you compile the code.

EP

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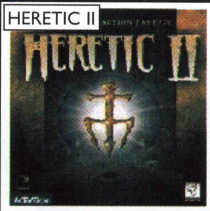
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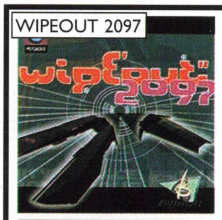


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'. . . I enjoyed playing for hours on end' Amiga Format

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'A magnificent, adrenaline-pumping game' - 92% AF : AA-Gold 9/10 - AmigActive

T-ZERO

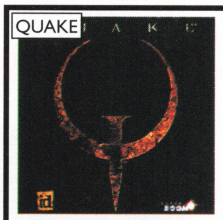


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'Fantastic! Get it now!' 93% - AF
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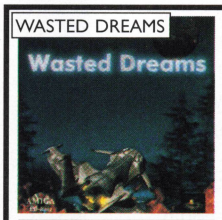


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'King of games - buy it' 95% - CU

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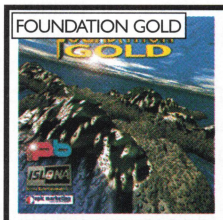


NEW! The next masterpiece from the creators of Wasted Dreams... Hell Squad is an enticing army-based strategy game with a stunning FMV intro. It has both a puzzle solving requirement and a need to stay alive!
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Forthcoming Review

FOUNDATION GOLD



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'If you missed it first time round, buy it NOW!' - Amiga Format

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'This is an absolutely cracking, original Amiga game' - AF, Gold Award

VIRTUAL GP



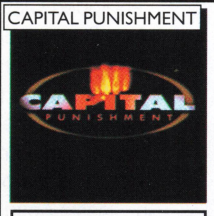
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'A must buy for dedicated F1 simulation fans' Amiga Format

THE EYE-PLAY GOLD SELECTION

CAPITAL PUNISHMENT

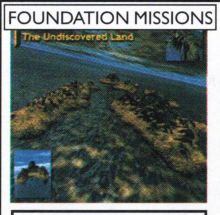


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Forthcoming Review

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.** Goods are not supplied on a trial basis. E.&O.E.

You Play, Eye-Play, Everybody Play!

Following the launch of Eyetech's games division, *Amiga Active* puts Managing Director Alan Redhouse in the hot seat.

Amiga Active: *Tell us a little about the origins of Eye-Play. Why are Eyetech now venturing into the Amiga games market?*

Alan Redhouse: EyePlay is something we've been considering doing for some time, but the reason we've launched it now is because of the coming together of several important factors.

Firstly, we've had the results of six months of market research. Although games could have always been considered a logical add-on to our Amiga mail order business, we wanted to be sure that this was a view also shared by our customers. So, since last autumn, we've been sending out questionnaires to a large selection of our customer base asking them to rate our service, product range, technical support and so on. One of the most consistent requests - especially from those with expanded Amigas - was for us to stock Amiga games, particularly those suited to high-end hardware.

Secondly, as I know you are aware, we played a catalytic role in getting production of the phase5 PPC accelerators and associated graphic cards restarted by DCE. As everyone knows, there's nothing like an impressive 3D game for providing instant gratification from a new hardware purchase, and we wanted to make sure such software would be available.

This led us to Ben Hermans of Hyperion Software, who was very helpful and enthusiastic about what we were proposing. He also saw clear benefits to his own company in having an established mail order retailer being able to take a substantial quantity of product from him - paid for up front - and being able to deliver to end users within 24 hours of them ordering from us.

For our part, we do not in general consider stocking a product - whether hardware or software - unless we have at least one person on board that is fully familiar with it in order to provide any necessary customer support. The product also has to be fully functional from a user's perspective and capable of being sold in sufficient quantity to justify bulk buying and high profile advertising. Following discussions with other games developers and publishers, this also turned out to be a good business model for their distribution businesses, hence the titles in our Eye-Play Platinum Collection.

Thirdly, and perhaps most significantly, at the St. Louis Show at the beginning of April, Amiga Inc. revealed enough of their business and technical philosophy to indicate that the new Amiga has the potential to rewrite the rules on home gaming and attract the very best potential developers.



"...the new Amiga has the potential to rewrite the rules on home gaming..."



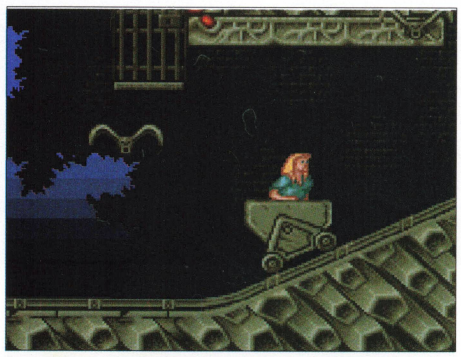
AA: *How much of Eye-Play is aimed at the next generation Amiga?*

AR: The most important thing about recent developments for the next Amiga is, in my opinion, the enormous amount of confidence it has instilled into existing Amiga games developers such as Hyperion and clickBOOM. For the first time in years, new games programmers are also being encouraged to write under the Amiga banner without feeling that it is a dead end.

Naturally, it will be quite a few months yet until end user Amiga OE platforms are ready to roll, or indeed until Amiga OE applications are able to run on PPC-equipped Classic Amigas. So, whilst Eye-Play will do as much as possible to support authors actively developing for the Amiga OE (by making EZDev systems available to them at a discount, for example) we are squarely aiming Eye-Play at the user who has a significant investment in Classic Amiga hardware until an irresistible alternative - based on the Amiga OE - is widely available to them.







Illustrations: Screenshots from some of the games in Eye-Play's catalogue.
Opposite page: (clockwise from top left) *Wasted Dreams*, *Foundation Gold* and *Virtual Grand Prix*.
This page: (clockwise from top left) *Heretic II*, *Hell Squad*, *WipEout 2097* and *Cedric*.





***AA:** Eye-Play will act as both distributors and Publishers. Are you looking for people to contact you with a view to getting their games published? If so, how might they do this?*

AR: Eye-Play's games selection will come from three main sources: existing corporate games developers with their own production and publishing facilities; games conversions that we will licence and commission ourselves and from independent authors for whom we can provide a testing/quality assurance, manufacturing, publishing and world-wide distribution service.

For this latter group, we are also prepared to help out with loaned or discounted development hardware as well as the usual royalty payment structure. And yes, if there are people out there with a saleable game under development - or even in storyboard form - we want to hear from you. Please write in or e-mail us at publishing@eye-play.com.

***AA:** Who are your "highly demanding team of Amiga gaming enthusiasts"?*

AR: We've currently got two full time members of staff qualified in this area (i.e. very enthusiastic about getting paid for playing games during working hours) and a team of volunteers, mainly from the student community. Again, if any of your readers wish to be considered as part time games testers - and are prepared to sign an NDA (Non-Disclosure Agreement) for their work - we'd like to hear from them.

***AA:** What are the criteria for games to be included in the Eye-Play catalogue?*

AR: First of all, the games we select should be of sufficient quality to hold their own in the gaming world at large. With this in mind, the first thing we did was buy a wide selection of popular non-Amiga gaming machines - top-end PC's, Playstations, Dreamcast and N64 - so that all our gamers could become familiar with real-world competition. We then review the Eye-Play Platinum Selection titles against the background of this broader gaming world.

Of course, it would not be fair or relevant to compare individual game performance on a point by point basis - much of which is down to each machine's hardware - but the comparison is made across platforms subjectively in terms of professionalism and polish, gameplay, stability, addiction and so on. If they come up to scratch, they go into the Platinum collection. If they are still good games, albeit a little dated (Simon the Sorcerer, for example), they may be eligible for the Eye-Play Gold collection.

We are currently making other 'Classic' games available for free or low cost download on the Eye-Play web site. We also have around 500 of the better 'Classics' physically in stock and available via mail order. A listing is available on our web site, or by sending a stamped self-addressed envelope to Eye-Play.

***AA:** As announced last issue, gamers will also be able to order titles online and even download games at a discounted price. How will this work, what games will be available and at how much of a discount?*

AR: For the chargeable downloads, we will use the secure server of a large corporation that specialises in the online ordering and delivery of charged-for digital content. There is a minimum cost (to us) of handling this secure automated web transaction, including making sure that the Internet connection correctly delivers the downloaded software to the customer.

Clearly larger games - really anything over 10MB in size - won't be as practical until higher bandwidth Internet connections become more widely available. This means that downloaded software will predominantly be from Eye-Play's Platinum and Gold collections, and the higher the RRP the more the discount will be.

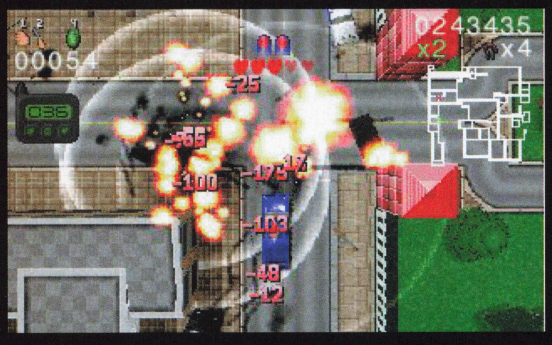
***AA:** Can you tell us which games will be free?*

AR: We are currently in negotiation with several publishers to purchase some of their titles outright and/or licence them for free download. We have secured several titles already, but we'll have to wait until all negotiations are concluded before releasing the names of any titles individually. The full list should be on the Eye-Play web site by the time this issue of Amiga Active is published.

***AA:** Finally, what do you plan to achieve with Eye-Play over the next 12-18 months?*

AR: Our overall aim is for Eye-Play to be one of the premier independent distributors/publishers serving the Amiga OE gaming market. Of course, if it all goes really well there's always an IPO and the South of France to consider...

PAYBACK time! Part 2



To conclude our Work In Progress, James Daniels discusses the technicalities of Payback's 3D engine, gives us a few juicy details about the soundtrack and talks about introducing weapons into the game.

From the cars and buildings to the pedestrians and phones, everything in Payback is in 3D. The 3D engine consists of two key components. The first of these draws the building and roads the make up the city, and the second draws the more complex 3D objects such as trees, vehicles and people.

In drawing the map, several different texture mapping routines are used, each of which is optimised for a specific situation.

The most commonly used routine draws textures that directly face the player, such as the road, the rooftops and the pavements. In effect, this routine is just a bitmap scaler and is heavily optimised. It uses a novel approach that allows two pixels to be drawn with a single write to memory, and so each pixel only requires a single machine instruction to render.

The second texture mapper used by the map renderer is optimised to draw faces that are angled away from the player - such as the walls of the buildings. Since the view does not rotate, these polygons are always trapezoid in shape, which allows them to use true perspective correction without slowing the game significantly. There are several other texture mappers used by the map renderer, but these are just derivations of the routines mentioned above.

Drawing the 3D objects

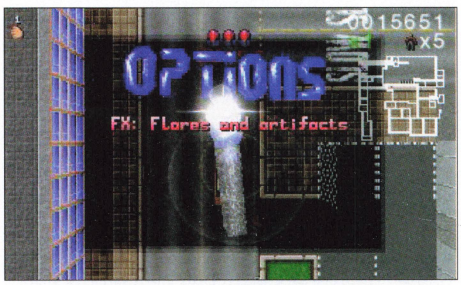
Because everything is in 3D, all the objects had to be created using the object editor. The texture mapping routines used here had to be more versatile than those used by the map renderer but still had to be efficient. In software mode, running on an 040/25, it can render 2,700,000 pixels/sec.

Most of the objects used by the game were relatively easy to animate and move around the map, but animating the pedestrians posed a unique problem. A keyframing technique was used to make this animation as convincing and efficient as possible.

After rotoscoping an animation of a real person, resulting in an animation of a stick man running, the next step is to tell the game engine which part of an object corresponds to each joint. This is done in the object editor by selecting one or more points, clicking on the 'motion' button and then giving it a reference number for the joint that should be associated with the selected point(s).

This process was repeated for all the other limbs, allowing the game engine to smoothly animate the people as they run around. Since the motion information is separate from the object file, the same motion can easily be applied to a different object, which is especially useful when creating new version of the 'person' object. The game engine also does some "tweening" to ensure the animation is as smooth as possible.

"In software mode, running on an 040/25, it can render 2,700,000 pixels/sec."

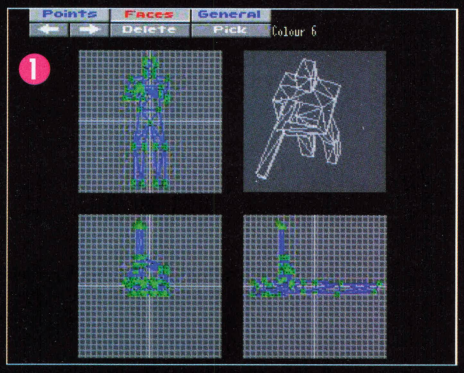


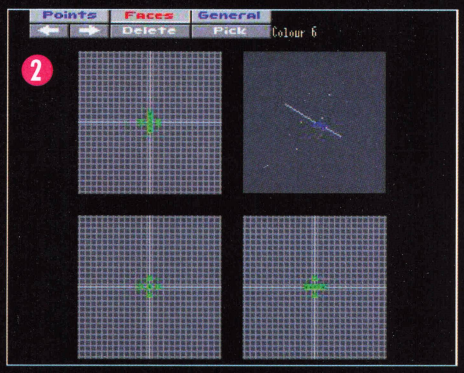
Above: Lighting effects make Payback look even better! (assuming you have a fairly nippy machine).

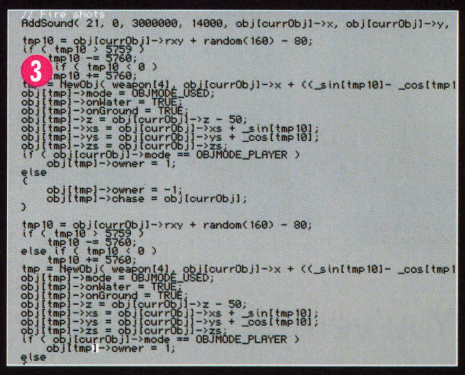
The object editor also includes time saving tricks such as allowing a certain texture to be automatically substituted for another at run-time. This allows different coloured vehicles to be automatically created by the game engine as they are required.

On a mission

The missions in Payback are actually stored in an entirely separate executable from the main game, communicating with the central task using the AmigaOS messaging system. This will allow new missions to be added after the game has been released with the minimum of effort, whilst simultaneously offering increased efficiency over an interpreted system.









The scripts that describe Payback's missions can perform two basic types of operation: sending commands and sending triggers.

The sending of commands includes tasks such as creating new objects or increasing the player's score when they successfully complete a mission, whilst triggers will cause a message to be sent back to the script if a certain condition is met, such as a location being reached or a vehicle being destroyed.

Since each trigger has a unique ID, the script can react accordingly. Some triggers have side effects - for example, the "player has answered phone" trigger causes the specified phone to stop ringing.

Via a combination of commands and triggers, the scripts precisely describe all the missions in the game. However, the code for these quickly becomes complex - for example, the script for the first level alone is over 2,600 lines in length.

Choose your weapon

Without a range of weaponry at your disposal, your life as an outlaw would be far too tedious, involving lots of hand-to-hand combat with rogue pedestrians. No, a would-be criminal needs an impressive array of weaponry at his disposal, and a perennial favourite of the would-be kingpin about town is the humble shotgun.

The first step in adding a weapon is to design a 3D model of the weapon itself - seen when the player has smashed open a crate and revealed its contents.

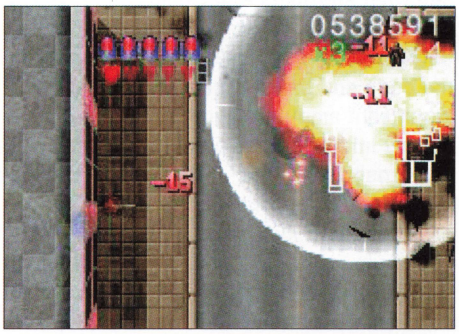
1 The next step is to take this object and superimpose it on the player's character, moving the hands so that they are holding it correctly. For this, two versions of this object are needed - one with a muzzle flash, and one without. The keyframing information for the player then needs to be altered so his arms don't move in the usual fashion.

2 Of course, a shotgun wouldn't be much use without any ammunition, so the next step is to design the bullet objects used by the shotgun. Two bullets will be fired each time the trigger is pulled.

3 The next step is to modify the game to use the new objects. To do this, we need to include information about the reload time, the number of shots fired and the damage those shots inflict, as well as specifying the sound effect that should be played when the weapon is fired.

4 Now comes the fun part - testing out the new weapon. Here we see the muzzle flash as the gun is fired. That blue car will be history in no time!

"...a perennial favourite is the humble shotgun."



Whetted your appetite?

Itching to see the final game? So are we! We've been lucky enough to test out an alpha version of Payback and can report that it's extremely addictive. Whether or not it turns out to be a Grand Theft Auto beater remains to be seen: needless to say, we'll be bringing you a full review as soon as possible.

As for the demo we were hoping to show you this month - James is currently beavering away on adding support for graphics cards and implementing final touches to the game engine, and doesn't want to restrict the audience to AGA users alone, so we'll have that on an AACD in the near future!

The final game should be released in a couple of months. For more information, keep an eye on Apex Designs' web site at www.apex-designs.net where you'll find regular progress updates. A

Payback Soundtrack

"One of the best features of Grand Theft Auto was its superb soundtrack, and Payback's will be just as good.

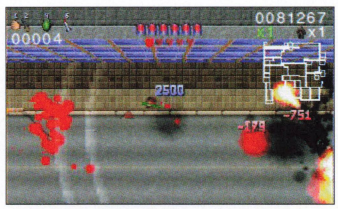
"Back in 1999 I downloaded some mp3s from mp3.com and was extremely impressed with the quality, a lot of which fitted the mood of the game perfectly. After downloading almost 1.5 GB of MP3s, I chose the best ones and contacted the bands responsible. The soundtrack largely consists of Rap and Hip Hop tunes, but other styles (such as Rock, Dance and Pop) are also covered."

The following bands have so far agreed to contribute one or more tracks to Payback:

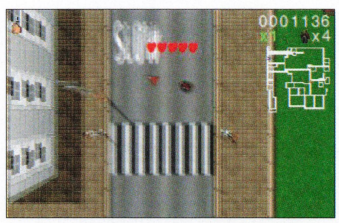
Anomos - *Why Live* and *Playing No Games*
Chuckie Dogg Fresh - *Da Bitches*
Cynic Guru - *Bleed* and *Yellow Bag*
eH Factor - *A PC & A Microphone*
Gigas - *Krebstar 5.0*
JED - *Headstone*
mellow26 - *June-bug*
The Oldominion - *Fear Year*
Venom Records - *Shot Out* and *Crime In 99*

PAYBACK first look!

You've read what Apex Designs have to say about their upcoming game - now we tell you what we think.



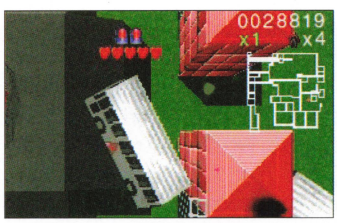
Above: The bazooka - messy.
Below: Experimental motion blur mode - looks more like very, very drunk mode.

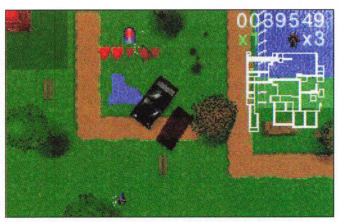


I've been looking forward to Payback. I'm a fan of DMA design's Grand Theft Auto games, so I really wanted to see what an Amiga equivalent could look like. While we have only got an alpha version of the code and there's still a significant amount of work to do, my initial impressions are very positive.

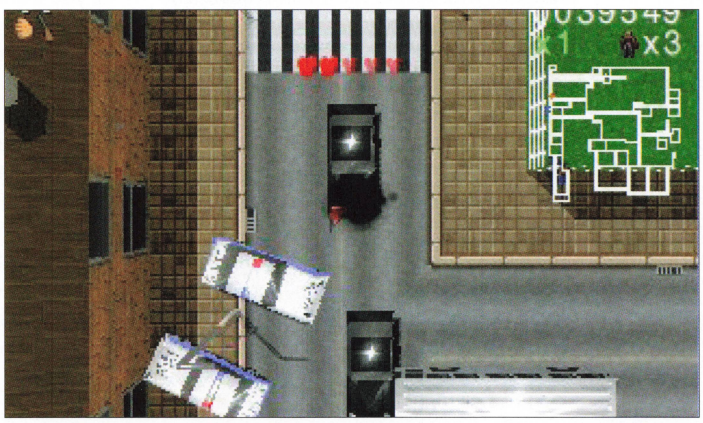
Payback implements the same basic top-down look as Grand Theft Auto - or, to be more specific, as Grand Theft Auto 2, as it has maps on multiple levels, giving a proper three-dimensional space to move through. That doesn't mean that the game is implemented as a true, Quake style 3D engine - there are a lot of tricks that can be employed to make fixed-view 3D go faster.

"...a little less Dukes of Hazzard and a little more Quentin Tarantino."





Far left: Payback boasts proper 3D surfaces - careful where you drive!
Left: A park bench makes a surprisingly effective launch ramp.
Right: Traffic intelligence isn't the best yet - those badly parked cops should really do something about that bus driver.



Start your engines...

In operation, the engine is pretty impressive. The scaling can cause texture ripples in some regular textures such as paving stones, but hopefully that will be ironed out before release.

Object textures are simpler than those in GTA2 and lack good smoothing, but overall it provides a more convincing 3D environment than DMA's game. Vehicles tip sideways if they drive over a slope, and so on. Lighting (and lens flares) are optional, and the whole game runs at an excellent pace on the '060 machine we tested it on.

In this Alpha version, Payback runs under AGA, in a 256 colour 320x200 pixel screenmode. While it looks excellent for that resolution and moves at good speed, it would definitely benefit from a higher resolution and colour depth. Apex are currently working on the RTG solution for graphics cards, and hopefully they will find that this will run fast enough for a higher resolution and more colours, although that would demand they redesign all the textures - no small task.

The gameplay is very similar to GTA. You answer phones to get work to do, steal cars, drive around at high speeds committing crimes and shoot people with guns you find in crates scattered around the cities. I had fun with the missions already there, although the final mission slate is still being developed. There are (at least currently) fewer cars and pedestrians in Payback than in GTA, which does seem to change the pace of the game, making it rather more strategic. Cars are a little more willing to explode as well, so at the moment, Payback feels like a slightly grittier game than GTA - a little less Dukes of Hazzard and a little more Quentin Tarantino, if you will.

Radio Payback

Sound effects are currently a little weak - the recording quality isn't high enough, giving samples a metallic sound. Hopefully Apex will be able to provide a set of higher quality samples for the final game. GTA majored on sound thanks to a brilliantly selected soundtrack that adds a lot to the atmosphere, and Apex have shown that they are aware of this by licensing a soundtrack compilation, although how well that integrates into the final game we will have to wait and see.

Payback is a really impressive piece of work, developed by a small (largely one man) team. It has a good sense of humour, a lot of clever features, and some smart level design. There's a medley of small design and gameplay elements to sort out, but it has been quite a while since I've seen a new Amiga originated title with this much promise. It would be nice if Apex can get in a few more developers to work on the graphics and sound presentation for that final polish before publication, but if you've even thought about liking Grand Theft Auto, keep a close eye out for Payback hitting the streets later this summer.

Andrew Korn

Ultimate XTReme Racing

Want retro racing on a multitude of tracks? Look no further...



Ultimate Xtreme Racing comprises the original XTR, a host of additional tracks by third parties and a track editor. Silltunna Software first unleashed XTR on the world five years ago in 1995. Back then, it was a fair attempt at a Mario Kart clone for the Amiga. But today, in the 21st century?

Happily, you can install the game to your hard drive, by dragging the contents of the CD to wherever you want it. You don't get any options on what to install this way though, so you'll need just over 30MB of space. The game itself requires AGA, so out comes the old telly.

Low res racer

Options abound. If you have a 4-way adapter, you can race against three chums. If you have a null-modem link you can race against even more! Or you can race on your own if you so desire, which limits you to three of the four available types of race: Cup, Single or Season. Death Match is the fourth option, only available in multi-player mode.

It is when you come to choose where to race that you realise what happened to 30MB of your hard drive: there are over 100 tracks available! Some have little extras, such as Love Land, which sees you racing over a predominantly pink landscape littered with hearts, sinking into what looks like gooey chocolate, while Elvis impersonators foolishly gyrate in the racing line, almost inviting you to squash them.

A lot of tracks that have been included on the CD, however, are bland in comparison. Yes, you get the powerups so you can wipe out opponents with missiles or slip them up with banana skins, you get the Turbos so you can whizz round even faster, but none of these features make up for the poor, low resolution graphics and lack of playability.

"...Elvis impersonators foolishly gyrate in the racing line, almost inviting you to squash them."

Xtreme playability?

XTR's graphics really aren't anything special, despite the multitude of tracks. But the disappointment runs deeper than a lack of stunning graphics.

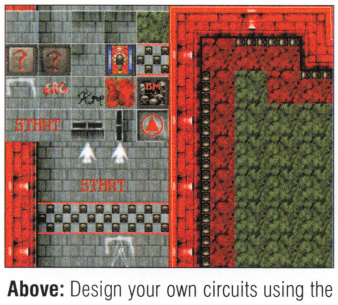
The cars seemingly hover over the racetrack and don't behave as you'd expect. Maybe I've been too used to playing old Amiga games like Lotus Turbo Challenge 2 and modern classics like Gran Turismo to appreciate XTR's simplicity, but I doubt it.

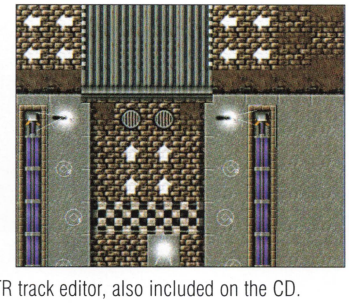
When all's said and done, XTR is a five year old Amiga game. It's just far too simplistic for its own good: you push forward on the joystick to accelerate. If you're coming up to a hairpin bend, there's no need to brake, you just stop pushing forwards and push left instead, watching your car as it easily slows to a crawl, and accelerates after the corner with equal urgency when you push your joystick forward again. The computer controlled opponents just race on ahead when you make the slightest mistake and disappear into the distance. It isn't too difficult to catch up again, but somehow, you find yourself not really caring.

Unfortunately, XTR failed to engage my interest for more than a few minutes. The only challenge lies in finishing the race: you can configure the number of laps to race (from 3 to 9), but however short the race, you soon became tired of the inherent "retro" feeling of this game.

So, unless retro racers are "your bag", you won't find much of interest in Ultimate XTR. The bundled track editor may add to the game's longevity, but with over a hundred tracks to choose from already, being able to improve on what dozens of people have already created seems impossible, especially when you read in the documentation that creating a track takes "a matter of hours."

David Stroud A





Above: Design your own circuits using the XTR track editor, also included on the CD.

Ultimate XTR

SYSTEM: AGA, CD-ROM and hard drive. '030 and 4MB RAM recommended.

SUMMARY: An editor and over 100 tracks aren't enough to revive a racer that hasn't aged well.

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Tottenham Court Road, a decade and a half ago...

InterActive

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

Totally hooked

Dear Amiga Active,

What an awesome magazine. Well done! I am very new to the whole Amiga scene. I was sucked in by pushy computer salesmen to purchase a PC back in 1991 when I went to Uni. My cousin suggested an Amiga, but I sadly ignored his advice and I got lumbered with a 286. Since then, I have upgraded to a "decent" PC set-up. Also during this time I got right into "classic gaming", building a reasonable collection of Atari, C-64 and Vic-20 hardware and software.

To me the Amiga was just another step in the classic gaming scene. I just thought it was some other 'has-been' old computer system with some decent old games. So when a friend offered to sell me a complete A500 set-up with monitor and printer for only $100 (about 35 pounds) I considered it a bit of a bargain.

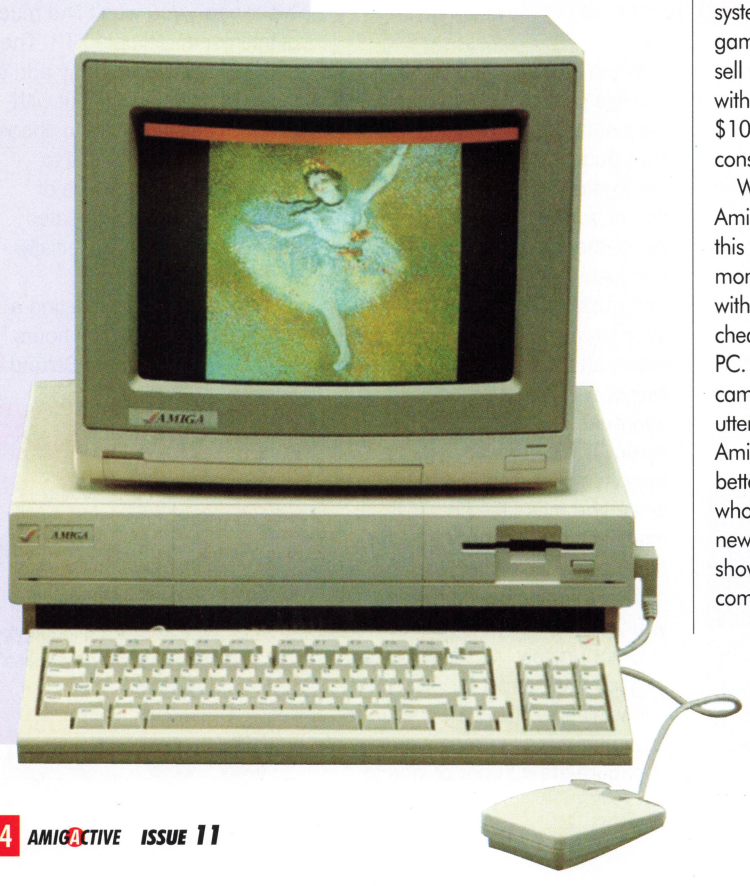
Well, how wrong was I about the Amiga. I instantly fell in love with this top little machine. A few months later I picked up an A2000 with hard drive and other bits real cheap. I now use this more than my PC. A CD-32 with an SX-1 module came next. I am completely and utterly hooked. I truly hope the Amiga comes back bigger and better than ever. I am one for sure who will eagerly waiting to buy the new machine when it is revealed, to show the world what a real computer can do.

Andrew Tonkin, Tasmania.

The Amiga claims another victim.... BWAHAHAHAHA! Ahem. OK, I'm better now.

"Well how wrong was I about the Amiga. I instantly fell in love with this top little machine."

Below: Amiga - once it sinks its claws into you, you'll never escape it's grasp, even in Tasmania...



Swedes want us!

I wish I could buy Amiga Active here in Sweden, but it is at the moment not possible. So if AA could do a market survey here in Sweden to see if there is enough support and possible subscribers here in Sweden, to see if Scandinavia or Sweden have the customer support to sell AA here.

I'm self a member of an association called "Swedish Usergroup of Amiga", and we have around 63 members who are all dedicated Amigans. We miss a paper after all the failures of other papers such as Amiga format, and so on.

We are not the single association here, I know of more than three other associations located here in Sweden.

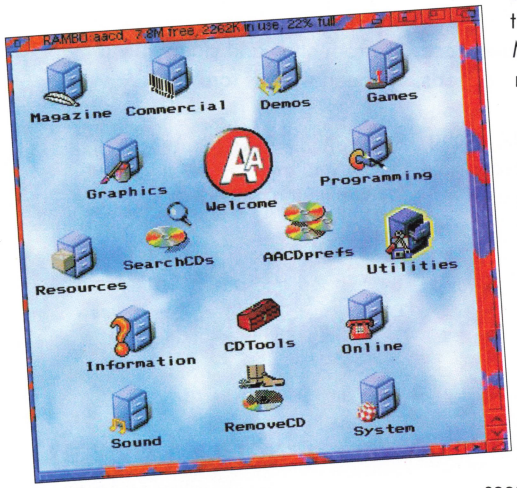
Mikael Haraldsson, Stockholm.

If you go to our web site (www.amigactive.com) you will see that we are indeed running a survey for people anywhere in the world to request the magazine be distributed in their country. Remember that we can't pick and choose where the magazine goes, we have to persuade our distributor, who then has to persuade local

distributors. If lots of people start demanding the magazine, we have more ammunition in our attempt to persuade distributors.

So please, go and fill in the survey on the web site, and put pressure on your local distributors as well if you wish - this can help. Popular demand was so high in Finland that our distributors have finally given in and started distributing *Amiga Active* there.

The alternative is to subscribe. I know that it's a lot of money in one go, but you may be interested to know that we are currently trying to work out a deal whereby associations like yours can get discounts on subscriptions by ordering several issues together.



Above: Would you really like your AACD to look like this?

C on CD

I am just writing to ask if it would be possible to put a C manual on the CD at some point. I also would just like to mention my preference to you for having the one less drawer on your CD's. This is the way you go through the AACD drawer to get to the main section of the CD. I was just wondering if this idea could be considered.

I hope these are all possible, but I love the mag and CD nevertheless. Best wishes for their continued success.

Jeremy Spring, New Zealand.

Your request and comments have been passed on to our CD compiler, Neil Bothwick - hopefully the programming tutorial series we are currently running will help out somewhat.

Are you saying you'd like all the contents of the AACD folder to appear in the root directory? The reason we don't do that is because that would make it rather crowded. As our CD allows you to access most of the disc without clicking on a drawer icon (via the "Welcome" icon), we feel that keeping the first window you open nice and uncluttered makes a lot of sense.

When mags were legion...

After reading the editorial section in issue 8, I started to cast my mind back to a time when there were numerous Miggy mags on the newsagents' shelves.

I don't know if anyone remembers a small publication called Amiga Pro, but this mag had a lot in common with AA - It contained vast amounts of highly enjoyable text minus the page after page of adverts and snazzy pictures that certain other mags seemed to be so preoccupied with. Also, like AA it observed the whole computing market and reported on anything which might affect or interest the Amiga user.

I recall, also, that in the first issue at least, the games section was like a separate magazine, removable from the main body of the publication. This section was also very well produced. The highlight, for me, had to be the monthly column for gaming personality types to mouth off in. Anyone who remembers this must surely remember Jon Hare of Sensible Software and his bizarre limerick about peanuts!

The point ("at last", you cry!) is that, as the sole English written mag in existence, you have a vast amount of magazine history to draw from. There are a million and one tried and tested ideas you could employ but, then again, while these might be a formula for a fine mag, please don't be afraid the experiment - the more eccentric features of past publications are exactly what made them endearing. You're doing well so far and I have much faith in you so keep up the good work folks!

Uncle Curio, via e-mail.

Ah yes, we all remember Amiga Pro with much fondness. Alas, I don't recall Jon Hare's limerick.

The reason you see some resemblance between Amiga Pro and *Amiga Active* is that Amiga Pro was a major influence on us when coming up with the style for this magazine. Amiga Pro didn't last very long unfortunately - no doubt partly because the market wasn't ready for it - but also because I think they made the formula a little too dry.

We try to make *Amiga Active* a magazine that will appeal to people who liked Amiga Pro as much as people who liked CU or AF - it's all a matter of balance. This is why when I try to get too eccentric, everyone else on the magazine yells at me!

New reader writes

I've just read my first issue of *Amiga Active* and, looking at the layout of the mag and the CD, my first thought was: "My God! It's CU!" Not that that's a bad thing. You guys said you'd be back for the new Amiga when CU closed. It's just a bitter irony that AF had to close when it did.

It took me a while to get used to AF and I suppose it will to get used to AA. But, from what I've seen so far, I'm impressed. AF got very pessimistic towards the end, but you seem full of optimism. I'm sure as the mag grows I'll love it as much as I loved CU and AF.

Just a few points...

1. Is there any chance of carrying forward Andy Kinsella's Imagine tutorial from AF? I'd been going on at Rich Drummond for ages about a tute for this... and we only got two issues before the end. D'oh!
2. The CD integration is excellent, but it would be good to see more reader interaction. I believe a Gallery is planned? This would help a lot. Oh... I'm working on sending my web site for the CD; can I do that by E-mail? I can't get FTP access from School. Anyway, better go... Keep up the good work.

Matt King, via e-mail.

"Anyone who remembers this must surely remember Jon Hare of Sensible Software and his bizarre limerick about peanuts!"

THE FUTURE OF AMIGA CLOTHING...

Here at Amiga Active, we think you should have access to the best Amiga clothing. So each month, the best letter we receive - the one which makes us laugh the most or think the hardest - will win its author an Amiga Active T-shirt*. If the lucky star (above) makes an appearance next to your letter, you can expect one in the post shortly afterwards.

Note: You must include your postal address in your letter or e-mail to be in with a chance of winning.



Glad you like the mag. Not quite CU reborn, but yes, there's a fair few old CU-ers on the team, and there is certainly a family resemblance. To answer your points - we won't be continuing Andy's Imagine tutorials from AF, but we will be getting him to provide us with some Imagine coverage, starting with his look at the progress Imagine has made over the last little while, which you'll find in this very issue (see page 37). There will be more 3D tutorial material in the near future.

We welcome picture submissions for the CD; at the moment we have no fixed plan to have a printed reader's gallery rather than the spotlight galleries we run at the moment, but we are considering it. If you would like to e-mail a large contribution for the CD rather than use FTP, then please send a note to aacd@amigactive.com first, with information about file size and any other details.

Time travel: Not possible.

I wrote a complaint about the score system. Why didn't you include it in AA09? I should have at least got a reply.

Carl Röjerstrand, via e-mail.

We're terribly sorry, but our time machine was broken!

Seriously, we get a fair few queries like this. There are two answers - firstly, the letters pages are done several weeks before the issue is published, so there's no chance of your mail being answered in an issue due out 2 weeks after you send the mail. Secondly, we get a large number of letters, and simply cannot print all of them - even really good letters will often get bumped back to the following month when we have a particularly busy postbag.

"We're terribly sorry, but our time machine was broken!"



Above: *Amiga Active* - keeping the flag flying.

Tell us more!

Sorry to bug you with a minor grumble, but I can't get the *"For Sale"* ads up on my shiny new (to me) '030 A4000. It cost me £40 from the local evening paper - about my limit 'cos I'm on the dole - so a cheap way of upgrading is the only way I can go. At the moment I'm on my ex's Windows box.

I have found that the CUCDs that I still have are a lot easier to use than yours, I'm afraid. However, I'm sure that I will get my head around them sooner or later! Anyway, keep up the good work, and may all previous advertisers flock to your banner. Speaking of CUCDs, it's nice to see Mr. Korn still gainfully employed (new haircut and all!) All you need now is Bud Vennos the sarcastic from AUI to join the team!

Keep flying the flag for us all.

Jim English, via e-mail.

I'd love to give you some help in getting the CD to work properly, but you haven't given us enough information. Last issue's masterclass should help, but if you still have no joy, then e-mail aacd@amigactive.com with any specific problems.

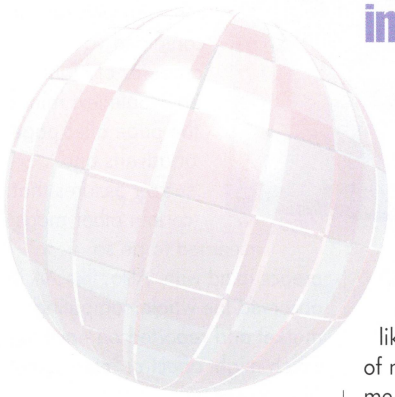
I'm surprised you find the CUCDs easier to use, because ours do all the same things that the CUCDs used to, but with plenty more features added. Don't forget to make sure you're running the "Welcome" icon when you first insert a new AACD.

Not us, guv!

You said that when Amiga Format closed that you would still keep going as you don't need to make that much money. I ask you, what happened to CD32 Gamer (Pinprint Publishing) that I used to buy then?

Matthew Mace, Leeds.

Right town, right initials, wrong publisher. We're not responsible for Paragon Publishing!



Darren's Crystal Balls

It looks as if things are actually moving now the SDK is out and even more non-Amiga sites are carrying articles about us (e.g. NYtimes.com). So with this in mind I looked into my crystal boing ball into the future and saw the Amiga logo on everything that could be described as a computer and with the Gates Empire no more.

This may happen or it may not, but just say that every Amiga user's dream of getting back on top of the pile actually comes true this time. This is the point where Amiga users can smile contentedly, knowing they were right all along. The Amiga community has kept the platform alive going through all the lows and the hig...erm yeah lows. So my idea is that Amiga have a roll call of the Amiga community on their web site, a list of users who stuck by the Amiga.

This could be more than just a list of Amiga classic users. Every registered user would have special privileges with Amiga - getting updates first, discounts on Amiga products and other benefits - a payback, if you like, for staying with the Amiga and not letting it die.

Darren Griffiths, via e-mail.

Nice idea Darren, but everyone would just buy up old A500s from ebay and claim they'd been with us forever!

"So with this in mind I looked into my crystal boing ball..."

WTFDTTLAM, IYSWIM?

I have subscribed to *Amiga Active* since issue 7, after the demise of Amiga Format, and like the style. However, the use of many abbreviations is leaving me in the dark. HTML I know, but Perl, PHP, WAP, ICS, AXIS, etc leaves me in the dark. Would it be possible to include a glossary of abbreviations and their explanations in the mag?

Fred Friend, via e-mail.

We try to ensure that the first time any uncommon abbreviation is used in any article, it is accompanied by an explanation. Perhaps a more general guide to abbreviations would be useful - we'll see what we can do about providing something along these lines on the CD.

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Ask the Guru

Arguing IDE devices, upgrades, missing software and dodgy emulation have all been meditated on heavily this month. The Guru is now taking a well-earned rest... until next month!

Two devices are good, maybe

Hardware

Dear Guru,

I've been an Amiga user for over 8 years now and have overcome thousands of software and hardware problems in my time without ever feeling the need to ask advice, but this one has got me stumped.

I have an OS3.5 A1200 in an EZ-Tower with a Blizzard 1240 accelerator that has 32MB of memory and the SCSI module. Connected to the SCSI bus I have a 2GB IBM hard drive on ID 0 and a double speed CD-ROM drive on ID 1. Both these devices work perfectly when accessed on their own, but if I try to access the CD drive while the hard drive is being read from or written to, then after a few seconds both processes lock up, causing Workbench and any programs running on it to freeze. The SCSI bus seems to freeze up too but other applications on their own screen usually carry on running OK. This always happens, but not always at the same point - sometimes after a few seconds of simultaneous access, sometimes after a minute or so.

I've tried different CD filesystems but the lock-ups still happen. Interestingly this problem does not appear when I switch back to my old Surf Squirrel SCSI adapter, which points the finger of blame at the Blizzard SCSI module, but it performs faultlessly with the hard drive or CD-ROM in isolation. Could my cabling be at fault? I have a 25 to 50 way cable plugged into the 25 pin female D connector of the Blizzard. This plugs into one of two 50 way female Centronics connectors on a 50 way flat internal cable run with 6 IDC connectors for the E-Z Tower bays. Is this a termination issue? If it is, I wouldn't have though that either device would work. Please help as while my hard drive is busy I can't browse around your wonderful cover CDs, and more importantly I can't install or use any CD based software without plugging in the old Surf Squirrel.

Thanks for any help,

Jonathan Wallace, via e-mail.



SCSI cabling for beginners.

Hmmm, interesting. It is difficult to spot problems such as this without looking at the installation of the SCSI devices, but yes, it could be a termination problem. As a general rule, only the last device on the chain (the physical end of the cable, not the device with the highest Logical Unit Number) should be terminated, all other drives are left unterminated. Different manufacturers have different ways of implementing termination too; some choose resistor packs (likely on your older CD-ROM drive) while others favour a jumper approach.

It could also be a reselection fault, so try and see if the hard disk is set up correctly with HDToolBox. The CD-ROM drive is difficult to set up - HDToolBox won't allow changes to it. We have included a program called RDBFlags on this month's cover CD which will allow you to set the reselection flags on the CD-ROM from your user-startup script, and this may well cure your problem.

Simple question

Mad Cow

Dear Guru,

My name is Mohammed Abdulrahman. I have an Amiga 500 with 1 MB RAM and A570 CD-ROM. I'm trying to add more RAM to it and a hard drive and graphic card. Can you tell me what is the best hardware that will work with A500 and where I can buy them.

Mohammed Abdulrahman, via e-mail.

"...a graphics card into an A500 is comparable to the search for the Holy Grail."

I'm not sure who has been advising you on your possible upgrade path, but trying to get a graphics card into an A500 is comparable to the search for the Holy Grail. Many years ago there was such a thing called the 'Bodega Bay' expansion case for this machine which included Zorroll slots that would accept a graphics card, but they are long gone by now. Extra RAM is possible, but again trying to actually find the hardware is nigh on impossible. Your best option is to buy a second hand A1200 or A4000, which can be found reasonably cheaply. Have a look at the Amibench adverts on our cover CD.

Testing text

Software

Dear Guru,

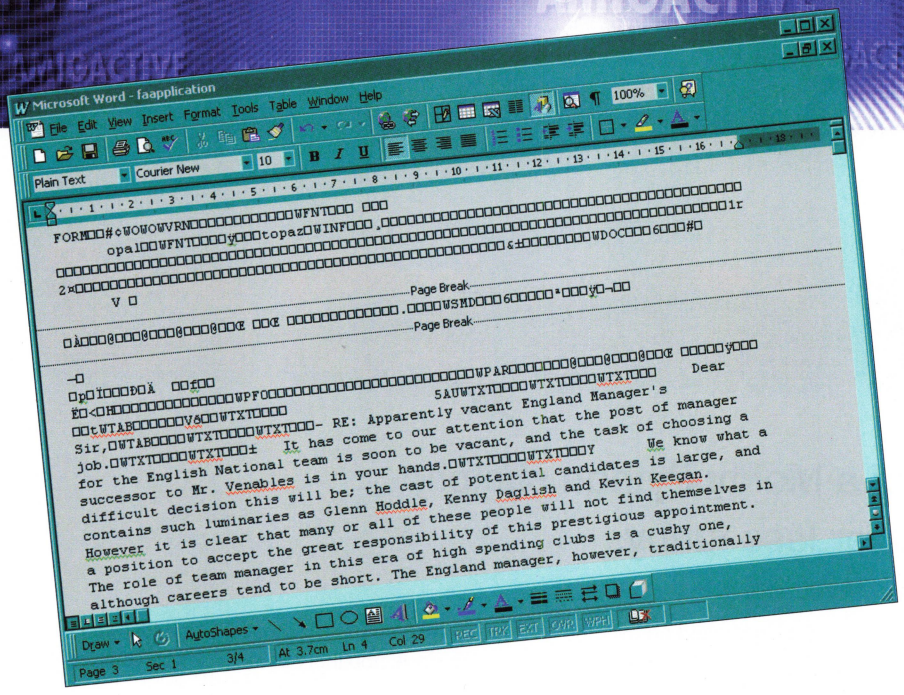
On my Amiga A1200, and using WordWorth Version 7, I have over a period of time stored several text files which I now need to copy onto a floppy for a friend who is operating a PC with Windows98 in a format he'll be able to read on his computer.

What do they mean?

Our lovely Guru will sort out your silicon.

Sloppy software? Bug the Guru!

Networking and the art of Zen explained.



Above: If your WordWorth files look like this on a PC, you'll need RTF or ASCII.

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:

Ask The Guru,
Amiga Active Magazine,
Systems House,
3-11 Spring Road,
Bournemouth,
Dorset BH1 4PZ.

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

Unfortunately, although I have tried to use the PCO dosdriver on my Amiga and copy the files onto a floppy disk, he still cannot read these files as they all appear as gobbledegook on his Word97. Is there anyway that these files can be read by PCs, and if so, how?

J E Reeves,
Surrey, England.

As you mention the files are garbaged, I am to led to believe that he can physically see the files on disk. If this is the case then I would suggest that saving the files as 'Plain ASCII' from within WordWorth would yield better results. Then, from within Word97, just import the file as plain ASCII and all should be OK. You will loose any text formatting and text styles you may have set, but at least your friend can read it. It's worth trying in "RTF" format as well, as this will retain style and formatting, but compatibility is not as high.

Faster IDE?

Hardware

Hello Guru,

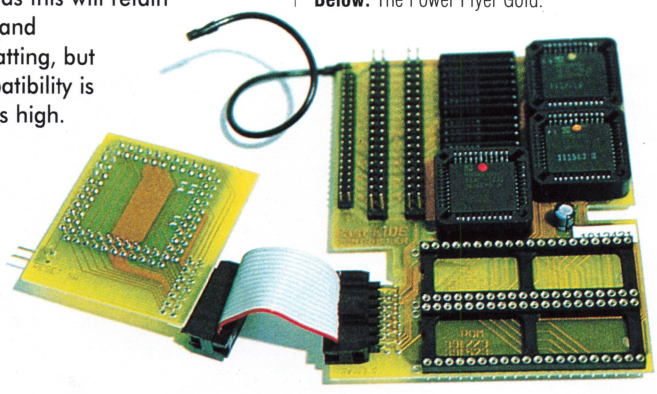
I would like to know what IDE interface will fit inside the desktop A1200 - could you recommend the best (and best value)?

Kind regards

Graeme Meek-Angus,
Scotland.

I am assuming that you mean an add-on IDE interface, as the A1200 already has one as standard. In this case the Power Flyer is your only real choice, which will fit into a desktop case, but you will have to discard the top shielding. The Power Flyer offers, in its latest Gold version, much faster disk access times and an updated CD filesystem supporting IDE DVD-ROM drives. Check out our full review in issue 3. Look for the advertisement from Power Computing in this issue for details of the Power Flyer Gold.

Below: The Power Flyer Gold.



Missing Link

Software

Dear Guru,

First, I congratulate you on a fantastic magazine. It is truly worthy as a successor to Amiga Format quite honestly, it is even better! My question revolves around the "MSWord converter" which is labelled on your Issue 9 cover disc. I have searched and searched the CD for this potentially very useful program. I CANNOT seem to find it anywhere. Where is it? Please help!

David Collupy,
via email.

"I CANNOT seem to find it anywhere. Where is it?"

Firstly, thank you for your kind words regarding the magazine, we all try our hardest to give you the best read we can, but we still welcome reader feedback on how we can better it.

Onto your second point. Yes, it is there on the CD although it wasn't very well signposted, sorry about that. The full path to it is AACD09:AACD/Utilities/wvWar, and you will need an 020 or better processor and ixemul.library installed to use it.

Wot, no CD?

Software

Dear Guru,

I'm using Fusion V3.2 and am having difficulty in setting up my CD-ROM. In the device driver field I am entering 1230scsi.device (I use a Blizzard SCSI card), but the program refuses to start and gives a message about an improper device driver. I've even tried scsi.device but the same thing happens.

If I use cd.device (not too sure what that's for) the emulation does work, but Fusion seems to ignore the unit number and only works with the CD-ROM I have mounted as CD0:. I'd like to use the Blizzard device driver and be able to change the unit number as I have two CD-ROMs, one of which isn't mounted at boot up. Do you know what I could try?

Duncan Race,
via email.

I'm not too sure what is happening with your SCSI Direct set-up as we have not managed to reconstruct this error using a varied and weird selection of device driver names. If you look in Devices, you will see the names of all mounted devices in the left-hand list, which you click to move into the selected list. This only works with mounted devices, but is easier. One note though - you will need an Amiga CD Filesystem that handles the Rockridge extensions present on Mac formatted Compact Discs.

The Guru A

Dealing with online junk mail

Since its days as the subject of a Monty Python sketch, Spam has become something far less funny.

Every morning, my letterbox contains envelopes stuffed with amazing deals, from home loans to online commerce facilities. Then I check my e-mail and find more *"amazing offers"*. Your experience is probably similar, but why do we calmly throw the postal junk in the bin yet get so heated about the e-mails? You may it's because of the cost of receiving junk e-mail, but this is too trivial to consider most of the time. Somehow, unsolicited advertising that arrives in your e-mail is far more objectionable than the same information landing on your doormat.

The average e-mail is 3-4K in length. Even with a slow ISP delivering mail at a paltry 2K/s, it takes less than two seconds to download one mail. Sticking with the worst case, let's assume you don't have any discount packages on your phone calls and you pay the full 1p per minute off-peak. That's £0.000333 to download the mail. If you get five such mails each day (more than most) that's a total cost of £0.011667 per week. By getting rid of all of this junk e-mail, you would save just over 30 pence between now and Christmas, enough to send one more Christmas card (which incidentally is another form of unsolicited mail).

This is a worst-case example. Given a decent V90 connection and a discount phone rate, the cost is more likely to be 30 pence per year. So the first rule of dealing with Spam is, *'chill out, it's no big deal.'*

It's not worth getting worked up over the cost of receiving Spam, but there are good reasons for doing something about it.

- You may get large mails that block access to your mailbox.
- Some Spam mails can cause problems for some mail programs.
- The overall impact of Spam on the general operation of the Internet mail systems can cause problems for genuine mail.
- It makes you feel good to complain to their ISP and get the offenders taken offline.

"So the first rule of dealing with Spam is 'chill out, it's no big deal."

What can we do about Spam?

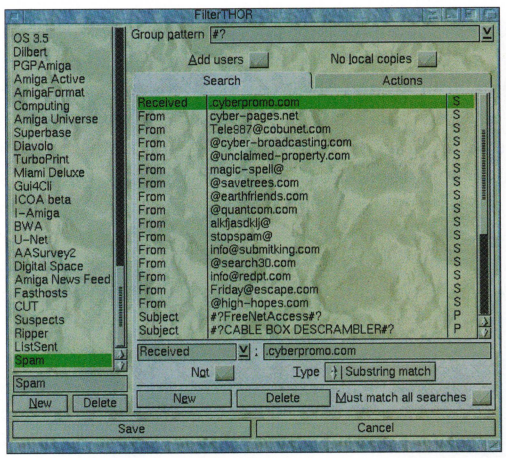
Quite a bit, both in terms of not receiving it and preventing it being sent. Not receiving Spam can be handled by various forms of filtering, before or after download. The best option is if your ISP provides some sort of filtering on the server. This lets you dump mails matching certain criteria before they reach your mailbox. There are several ways of doing this, from the tree-hugging Unix style of uploading a config file full of *"regular expressions"* to the most user-friendly web interface. You'll need to check with your ISP on this one.

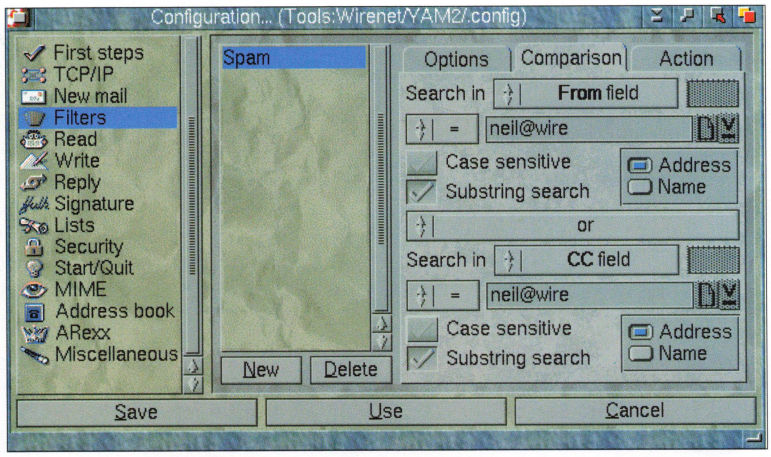
Filtering before download is only practical if you have a permanent connection, such as ADSL, cable modem or leased line. The POP3 protocol has a command to download the headers of a mail, so you can check the to see if it's from a Spammer, but it has no corresponding command to download the body; every mail that passes the test must be downloaded in full, including the headers again. The headers can account for 30% of a typical mail, especially those received from mailing lists, so you downloading a lot of information twice.

POP3 does give the size of each mail without downloading any other data, so you can set some mail programs to either reject or query mails over a certain size. The third option is to filter after download. This won't save you money, you'll still be 30p out of pocket by the end of the year, but it does save having to sort through the trash.

How exactly do you filter Spam? There are a number of ways you can do this, based on information that may or may not be found in a Spam mail. Before we look at specifics, it's worth mentioning that a new filter could possibly catch mail you want to keep.

Test new filters by having them move mail to new folder, rather than deleting it. Then change it to delete when you are sure it's working correctly. The majority of Spam isn't





Right: Setting up a filter in THOR to match specific addresses and subjects.

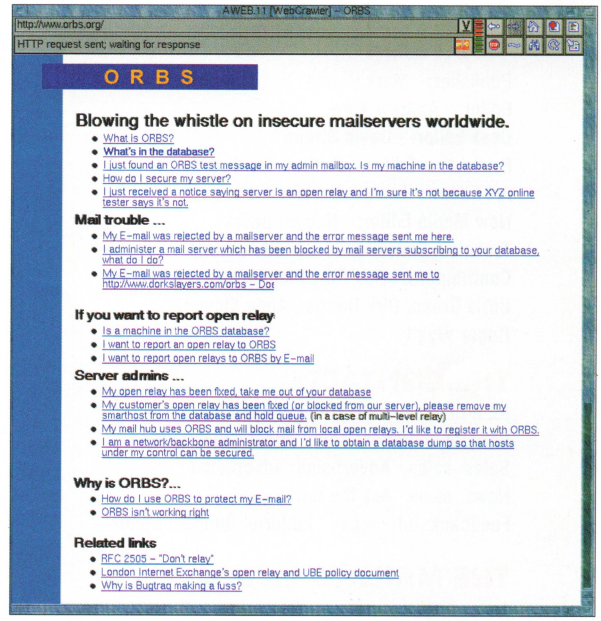
Far right: A filter in YAM which looks for any mail that isn't addressed to me.

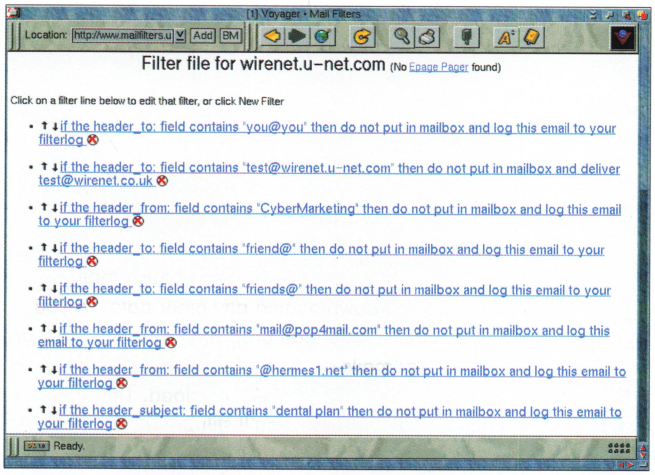
addressed to you, so it is possible to set up a filter to catch any mail that doesn't have your address in the To: or CC: header. However, this would also exclude mails from most mailing lists. This won't be a problem if you already have filters set up to move all mailing list messages into their own folders. Simply put your Spam filter(s) last, so they only catch mails that haven't already been picked up by a mailing list filter.

Alternatively, you can filter out mails that match known Spam criteria, adding to these as you receive new Spam. My Spam filter contains matches on From: headers containing "@savetrees.com", "@earthfriends.com" and "friend@" among others, and a few of the more obvious Subject: headers. You may also want to automatically filter out or query all mails over a certain size.

The mail ended up at mail.u-net.net, the location of my mailbox, and started out by being delivered through "Web shots [62.188.154.143]". Using the techniques covered in issue 8, we can find the owner of these addresses. The IP address 62.188.154.143 belongs to a UK company who don't appear to have anything to do with "Web shots" or mailcity.com. The latter has a US contact address. It may be that the server at 62.188.154.143 is being abused without the knowledge of its owner. This is why it is important to stick to the facts when making a complaint about Spam. It could be that the owners of the server are involved, or that they are simply rather lax about security. A politely worded e-mail informing them of the facts is more likely to produce results than any attempt at retaliation. Send complaints to abuse@domain.com.

Below: One of a number of web sites dedicated to stopping Spam.





Above: Using a server side mail filter (this is U-net's) to delete Spam before they ever reach your mailbox.

"If you are already receiving Spam, it's too late to protect your address."

Don't sit back and take it

So much for passively filtering out Spam. How can we take a more aggressive stance to junk e-mailers? Most importantly, never reply directly to any junk e-mail, especially those that offer to remove you from their list if you reply. By replying, you confirm that your e-mail address is valid, guaranteeing more Spam, not less.

The From: header in an e-mail has no special meaning; your own mails only include your correct address because you configured our mailer to put it there. You need to examine the mail a little more closely to determine where it was sent from. Set your mail program to display full headers and you will see a number of Received: headers. These are added by each mail server as it passes the mail on and provide a means of tracking its path. In the boxout (right) are the relevant headers from a spam.

Anatomy of a Spam

From webshots@mailcity.com Mon, 19 Jun 2000 18:55:21 +0100

From: "Web shots" <webshots@mailcity.com>

Message-id: <419.436696.78700150webshots@mailcity.com>

Return-path: <webshots@mailcity.com>

Received: from [194.74.63.9] (helo=phil.fasthosts.co.uk)by mserv1a.u-net.net...

Received: from Web shots [62.188.154.143] by phil.fasthosts.co.uk(SMTPD32-6.00)...

Many ISPs are now blacklisting all mail from any servers that have been left open for Spam abuse, whether deliberately or not. If you fail to get a satisfactory reply from the server's owner, you could report them to one of the organisations that maintain such lists. You can find details at http://maps.vix.com/rbl and http://www.orbs.org.

Getting hold of your address

Your e-mail address appears in many places. Most mailing lists and newsgroups are archived, although some mailing list servers protect the addresses. Your address may appear on your web page, or you may have given it when filling out web forms. If you are already receiving Spam, it's too late to protect your address. Most methods of protecting e-mail addresses can cause more hassles for genuine users than for the Spammers. A favourite technique is to "mangle" the address when posting to newsgroups which makes the address useless for Spammers, but also prevents genuine replies.

If you really must mangle your e-mail address, there are two steps you should take. The first is to add the correct address as a Reply-To: so people can actually reply to you.

The second step is more important, because it can affect everyone. Spammers will still try to send mail to your mangled address, it may bounce or it may be a real address. Either way, it will generate yet more traffic over congested Internet links. There is now an official solution to this. However you mangle your address, add ".invalid" to the end. This informs mail servers that it isn't a real address, and they simply dump the mail instead of trying to send it around the World. For example, if your real address is me@myisp.co.uk, changing it to nospam@myisp.co.uk will result in the mail system sending the spam to your ISP, and possibly your ISP bouncing it back. If you change it to nospam@my.isp.co.uk.invalid, the system knows it's a mangled address and doesn't bother trying to deliver it. Better for you, better for your ISP and better for everyone else (except maybe the Spammer).

Neil Bothwick A

AMIGACTIVE MAGAZINE

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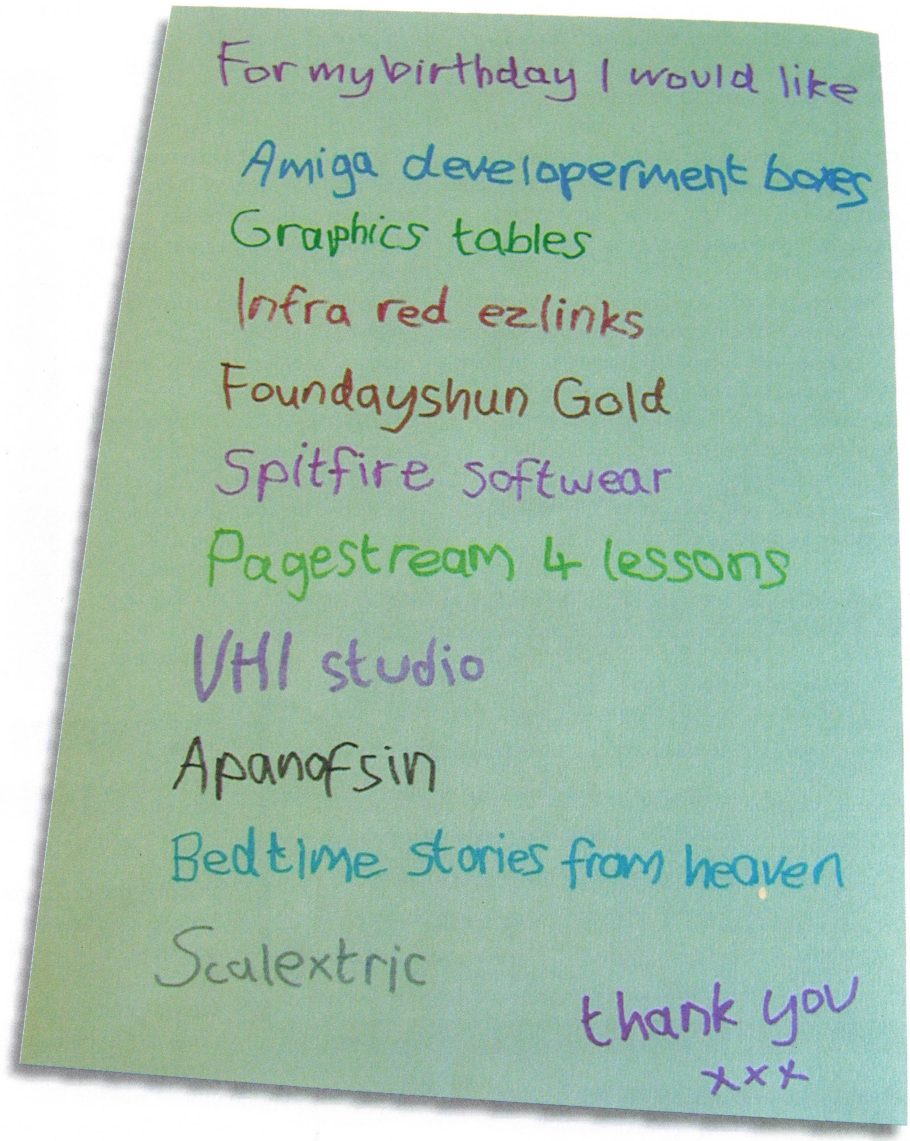
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Thanks for the fax, "Posh Pants."
Signed: "The Masked Man."

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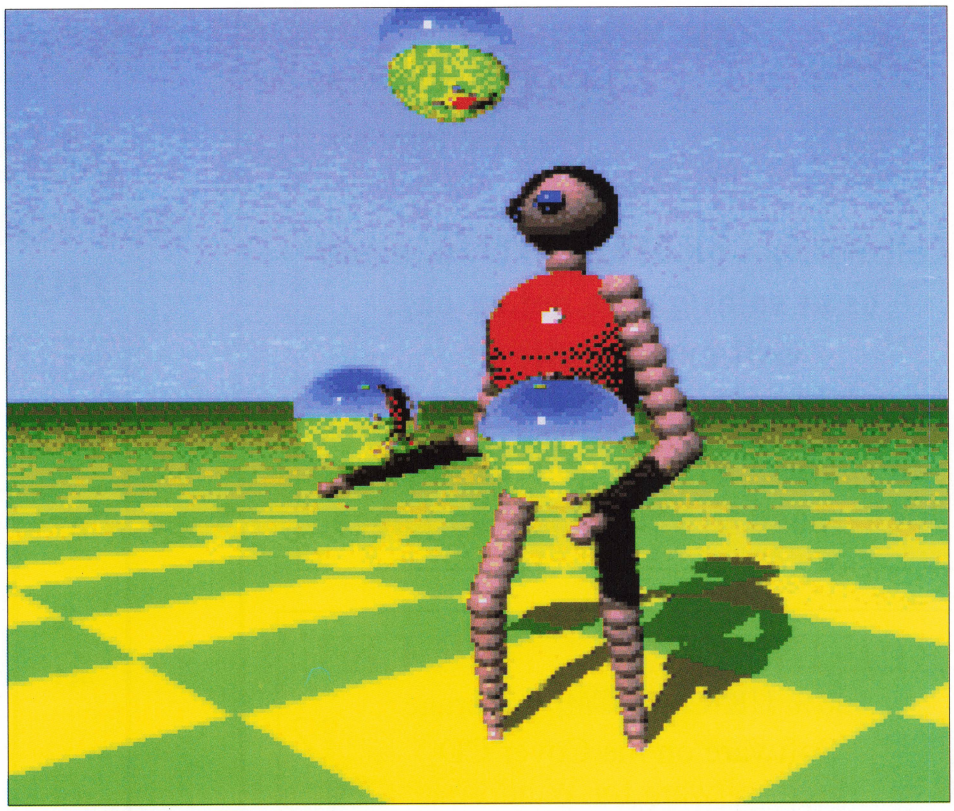
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Retroactive

Time to get all dewy-eyed about a dextrous little fellow who's been with us for a long time...



I'd known about the Amiga for some time. I was a Commodore 64 owner, after all, so inevitably I was more than a little interested in the new super-computer that Commodore had released.

I'd even seen the thing demonstrated on the BBC technology show Tomorrow's World. My jaw had dropped when they showed it with four windows open, one filling with dots, another with lines, the others with squares and circles. I'd been blown away when I saw the Tutankhamun picture - so much nicer than anything I could do on my '64 and Koala pad. I knew I wanted one, but hadn't thought too hard about it... until I saw it.

I'm sure that many London based long-term Amiga users will have exactly the same memory as me. I was walking down London's Tottenham Court Road, *the* place for buying electronic widgets of every type, looking for computer games when suddenly, a display in a window caught my eye. I knew that here was something I just had to have. A solitary screen sat amongst the dull boxes of Spectrums and Amstrads; upon it, standing on a chequered floor, a man made of spheres stood juggling three balls. This wasn't a still picture - it moved. The arms moved fluidly, throwing and catching, throwing and catching, almost hypnotically.

"From that moment it was all clear to me..."

Load of balls

That was impressive enough, but then I noticed the balls. These weren't bland white spheres. Nope, these were mirror balls. The ground and sky - even the juggler himself were reflected in them, and as the balls flew through the air, the reflections actually moved with the balls. It was incredible - sure, it wasn't up to the standards of TRON, but this was a home computer, and next to Load Runner or Hunchback on the C-64 it was stunning. From that moment it was all clear to me - I had to have an Amiga.

Looking back on the Juggler, it's a long way from being impressive any more. Compared to, for example, Loonie's amazing Mekka Symposium 2000 winner Cybercinematastic (see issue 9's cover CD), it is a laughably primitive demo - but the memory endures.

Eric Graham's 1986 animation was a defining moment in computer animation, marking the point in time when CGI ceased to be a lab-bound process costing tens of thousands of pounds and became something that the average artist on the street could afford to do. In the process, it also became a defining moment for the Amiga, placing it firmly in everyone's minds as the multimedia machine for creative people.

While our friend the juggler pops up from time to time as an homage to the legacy of the Amiga, the years have given us a whole load of other icons, from check marks to boing balls, from Zool to Amy the Squirrel. To me, nothing will be quite as significant an icon as the juggler, throwing pixelated spheres in an endless loop on those clumsy, Doctor-Who-monster-costume arms. This is partly because to this day I still remember standing in Tottenham Court Road watching the animation in amazement, and partly because there's something of an accidental symbolism there - as an Amiga user, I think we can all sympathise with the poor devil.

We are all jugglers

Juggling is one of those things that seems impossible until you get the hang of it, and is then pretty much automatic. Over the past few years it feels like we've been juggling companies, futures and upgrade paths. When people look at us in wonder (or fetch the straight jackets) and ask why we have stuck to our Amigas through all the ups and downs of the last decade, I think the answer is simple. We've become jugglers, trapped in an endless loop, watching for one ball to fall as another rises.

The new Amiga needs a new Juggler. I don't mean a remake, I mean a demo that can sit running on the machine making people's jaws drop as they walk past, making people want to buy the machine, and telling the world "here's something new!" But perhaps this time we could have a motif that doesn't involve rising and falling, or endless loops - best not push our luck, eh?

Andrew Korn

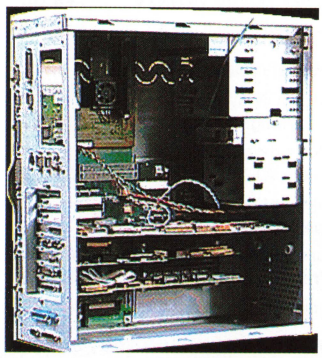
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(PSU removed for clarity)

The EZTower Mk5 is designed to take your A1200 and accessories and a full PC motherboard networked in the same box, ideal as a basis for the new Amiga OE development systems. The EZTower Mk5 has a single 3.5" drive with built-in faceplate whilst the Mk4 (which is still available) has two external 3.5" bays but no built in faceplate.

The original EZTower and its derivatives - up to and including the Mk5 - allow your Amiga to effectively use a PC processor and peripherals to perform tasks - such as very high resolution printing and scanning, video capture, non linear video and sound editing and DVD playback - for which there is no, or no economically satisfactory solution on the Amiga. This is also the preferred route for the new Amiga OE Developers System as it enables virtually seamless switching from Classic to NG Amiga and back using the same screen and keyboard. The EZTower Mk5 can also take a Blizzard PPC accelerator and associated BVision graphics card as well as a full ATX motherboard and expansion cards.

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EZDev hardware platforms

After discussion with Amiga Inc we have specified four levels of EZDev hardware to suit different budgets and intended development environments. Each configuration is available in the stand-alone EZDev-Plus form (with three different case styles to suit the hardware), as the EZDev-Tower model (with the EZTower Mk4/5 case to take your existing A1200), and as upgrade kits for existing EZTower (not Z4) owners - for whom we also offer a collection, fitting and delivery service.

The first two hardware platforms are aimed at 'leisure' computing programmers, who wish to experiment in porting games, applications and utilities from the Classic Amiga platform to the Amiga OE.

The multimedia platforms are ideal for commercial multimedia games and program developers who wish to work at the forefront of development under the Amiga OE.

EZDev Plus, Tower & Upgrade Pricing

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EZDEV BASE SPECIFICATIONS - *Common to all EZDev systems detailed below.*

- AMD K6-2/500MHz CPU
- 128MB PC100 memory (64MB on entry system)
- 17.2GB UDMA HD (8.4GB on entry level system)
- Removable hard drive bay so that other operating systems can be used, including the native Amiga OE when available.
- 48x CDROM (40x on entry level system)
- Keyboard & 3-button PS/2 mouse

Utility - Entry - M/MLv2 - EZDevTower



- SDK-compatible Linux operating system
- Amiga DevPack licence & support package (normally approx £80).

ENTRY-LEVEL SYSTEM - *As base specifications plus:*

- Integrated motherboard with sound, graphics (8MB AGP), ethernet UTP (10/100 Mbps), 56Kbd modem, 2 x USB connectors
- Motherboard change required for upgrade to Matrox AGP graphics card
- EZDev-Plus system comes in a compact MiniTower case with 3 external drive bays (4 in total)

UTILITY DEVELOPER SYSTEM - *As base spec plus:*

- Gigabyte super socket7 motherboard with PCI & AGP slots
- ATI Rage or similar graphics card
- Crystal CS4281 full duplex PCI sound card
- PCI 10/100 Mbps ethernet card
- Fully upgradeable to the top level of multimedia functionality, as below.
- EZDev-Plus system comes in a compact MiniTower case with 4 external drive bays (5 in total)

LEVEL 1 MULTIMEDIA SYSTEM - *As base spec plus:*

- Gigabyte super socket7 motherboard with PCI & AGP slots
- Matrox G400 32MB single head 300MHz RAMDAC graphics card AGP (upgradable to twin head)
- Soundblaster live 1024 PCI sound card
- PCI 10/100 Mbps ethernet card
- Fully upgradeable to the top level of multimedia functionality, as below.
- EZDev-Plus system comes in a MidiTower case with 5 external drive bays (7 in total)

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Prebuilt EZTower-Z4 configurations

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Starter FDD	Yes	Yes	Yes	Yes	Yes	Yes	PC	-	-	-	-	-	-	-	-	3.1	-	-	£249.95
Productivity-Z4	Yes	Yes	Yes	Yes	Yes	Yes	PC	4.3GB	40x	Yes	'030/40+8	-	-	-	-	3.1	-	-	£399.95
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Professional-Z4	Yes	Yes	Yes	Yes	Yes	Yes	A4000	17.2GB	48x	Yes	'040/33+32	Yes	Yes	Yes	Yes	3.5	Yes	Yes	£899.95

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8.4GB 3.5" HD for OS3.5, PFS or EZPC	**£99.95**
17.2GB 3.5" HD for OS3.5, PFS or EZPC	**£139.95**

CDROM & CDREWRITER DRIVES & SYSTEMS - *All bare drives require an EZCD buffered interface and CDROM software, and MakeCD for EZReWriters. External systems come cased with PSU, EZCD interface, ATAPI software and with 40 & 44 way data cables.*

CDPlus-SE 32x external A1200 system	**£69.95**
CDPlus-SE 40x external A1200 system	**£79.95**
CDPlus-SE 48x external A1200 system	**£89.95**

Upgrade to a 200W MiniTower system - which can also power your A1200 - for just £19 (T-o-P only)

CDPlus-SE adjustable Amiga/CDDA mixer	**£14.95**
Bare 40x ATAPI CDROM mechanism	**£34.95**
EZReWriter 2x2x16 drive no MakeCD	**£139.95**
EZReWriter 2x2x16 drive with MakeCD	**£179.95**
EZReWriter-Gold external 2x2x16 with MakeCD, EZCD buffered interface, s/w, 40W PSU	**£199.95**

The above configurations are also available with a faster 4x2x8 mechanism for just £20 extra

MakeCD TAO (P) CD recording software	**£38.95**

CD-RECORDABLE AND CD-REWRITABLE MEDIA - *Half price when bought with an EZReWriter*

10 x CDR (Gold disks) Branded 650MB	**£19.95**
Single CDRW ReWritable disk 650MB	**£4.95**

Graphics, Scandoublers, xMON

GRAPHICS CARDS

BVision 8MB. Simply the best graphics card currently available for your A1200. Needs PPC accelerator and filtered second powerfeed adapter. Stunnning 24-bit 1600x1280@72Hz resolution. **£199.95**

As above bought with BlizzardPPC - deduct £10

CyberVision 64-3D. The most cost-effective Zorro-based graphics card available for your Amiga. Has 4MB, up to 1600x1280 resolution & up to 24-bit colour depth. Now available with AMON monitor autoswitcher to switch between CV64-3d and EZVGA Mk 2 internal scandoubler/flickerfixer depending on screenmode in use. (Bundle pricing below) **£169.95**

CyberVisionPPC 8MB. For A4000 with Cyberstorm PPC. Available soon - no obligation advanced orders currently being taken. **£TBA**

Filtered powerfeed adapter. For BVision/Blizzard PPC. Delivers +5v direct to these boards avoiding edge connector voltage drop and instability. **£14.95**

SCANDOUBLERS/FLICKERFIXERS - *Required to display PAL/NTSC/Euro36 screen modes on a PC-type SVGA monitor. Models with flickerfixer give rock-steady displays on interlaced screens allowing twice the usable screen area. Internal models are xMON switcher compatible. No performance hit as with DBL and Productivity modes. For use in conjunction with a graphics card or on a stand-alone basis.*

EZVGA-Mk2 compact external scandoubler with PLL technology upgradable to F/F (all Amigas)	**£69.95**
EZVGA-Plus as above but with flickerfixer	**£99.95**
EZVGA-SE external SD/FF (not for A4000)	**£89.95**
EZVGA-INSD Mk2 fully internal A1200/A4000 scandoubler directly xMON switcher compatible	**£59.95**
EZVGA-INFF Mk2 as above but with full F/F	**£89.95**

AMIGA-(S)VGA CABLE ADAPTERS/CONVERTERS

23M/15HDM to use an Amiga Multisync Amiga monitor with an Amiga/PC graphics card/xMON	**£14.95**
23F/15HDF unbuffered PC SVGA monitor to A1200 RGB for DBL & Productivity screen modes	**£12.95**
23F/15HDF buffered PC SVGA monitor to A4000 RGB for DBL & Productivity screen modes	**£14.95**
9DM/15HDM PC VGA - SVGA cable 1m	**£9.95**

xMON HIGH RESOLUTION MONITOR & KBD SWITCHES - *Seamless monitor (& optionally keyboard) switching between AGA & graphics card on an Amiga, between two Amigas - or between an Amiga and a PC. BMON connects direct to a BVision or CyberVisionPPC; SMON to any other graphics card and AMON directly to a CV64-3D. Model AMON autoswitches depending on the screen mode in use. Other models are manually switched either by a front panel toggle switch or by a keyboard keystroke sequence. Standard models connect direct to EZVGA Mk2 internal SD/FF's. Adapters are available for external scandoublers or the Amiga 23pin RGB socket (for use with multisync monitors).*

BMON/F for BVision/CyberVisionPPC & EZVGA internal Scandoubler Mk2 or SD/FF Mk2	**£39.95**
SMON/F for Ateo/Picasso/PC 15pHD graphics cards & EZVGA internal SD Mk2 or SD/FF Mk2	**£44.95**
AMON/F Autoswitching mechanism for CV64-3D & EZVGA internal SD Mk2 or SD/FF Mk2	**£42.95**

xMON AMIGA-SIDE ADAPTERS

For 15pHD ext'l SD/FF specify xMON**/V**	**+£4.00**
For Amiga 23p RGB specify xMON**/A**	**+£4.00**

xMON ADD-ONS/ACCESSORIES

KMON dual output xMON-synchronous keyboard sharing switch for 2xAmiga or Amiga/PC	**£19.95**
EZKey-SW/A A4K keyboard adapter with keystroke operated xMON switch A1200/A4000	**£39.95***
EZSwitch keystroke operated xMON switch for A1200/A4000 (clips on A1200 CIA U7)	**£29.95***
EZKey-XS multifunction A1200 A4k/PC k/b adapter with keystroke/infra red control of xMON	**£39.95**

** Deduct £10 as a time-of-purchase upgrade with an xMON*

GRAPHICS CARD,SD/FF, xMON BUNDLES - *See also Z4 busboard and EZTower-Z4 bundles below.*

BVision + BMON/F (manual switch)	**£234.95**
BVision + BMON/F + EZVGA INSD2	**£279.95**
BVision + BMON/F + EZVGA INFF2	**£309.95**

As above bought with BlizzardPPC - deduct £10

CV64-3D + AMON/F (auto switch)	**£199.95**
CV64-3D + AMON/F + EZVGA INSD2	**£259.95**
CV64-3D + AMON/F + EZVGA INFF2	**£279.95**

SVGA Monitors and SD/FF bundles

HIGH QUALITY SD/FF-COMPATIBLE MONITORS WITH ON-SITE MAINTENANCE - *Monitor resolutions are usually quoted as the maximum resolution at the lowest vertical scan rate. Higher scan rates are available at lower resolutions. A rate of at least 72Hz is recommended to avoid eye strain. All our monitors have digital controls and auto scan rate detection. Note that some PC monitors may not work correctly with Amiga scandoubler/flickerfixers.*

15" SVGA 0.28DP 1024x768@60Hz	**£119.95**
17" SVGA 0.27DP 1280x1024@60Hz	**£179.95**
17" SVGA 0.25DP 160MHz video bandwidth, 1600x1280@75Hz Diamondtron super definition tube. Highly recommended for BVision users	**£299.95**

Special Offer: 30% off the price of EZVGA-Plus SD/FF (15% off other SD/FF's) purchased with any of the above monitors.

We also have a few brand new 15" digital monitors available with restricted SD/FF compatibility (but fine for Productivity mode/graphics cards/PCs) for ***just £79.95****. Please ring for details.*

A1200 Expansion & Zorro Cards

A1200 FLOPPY & EIDE BUFFERED INTERFACES - *Please note all the A1200 EIDE interfaces supplied by us are fully buffered on both data and control lines, which is not the case with some other interfaces. Having fully buffered data lines is especially important as it protects the main A1200 data bus from electrical noise and/or damage from connected hard drives and CDROMs. The Mk4 interface is recommended for higher performance systems (ie 1230/50Mhz and above) as its Active Interrupt Pull Up (AIPU) technology gives faster acting control signals than is provided by other interface designs. The lower cost EZCD-XL interface is equivalent to the 'standard' fully buffered interface supplied by some other dealers and is perfectly suitable for lower performance systems.*

For floppy drives, the EZDF0 interface allows a standard PC floppy drive (we use and recommend Sony drives) to be used as DF0 in a tower system. The Mk2 Catweasel allows such a drive to read and write in standard and high density Amiga and PC formats. The IDE-Plus combines a Mk2 Catweasel and three IDE/ATAPI channels (6

UK NEXT DAY*/USA 2-7 DAY*
INSURED DELIVERY CHARGES

OS 3.5, S/W, Cables, EZCD I/F = £3/$10
2.5" HD's, Accel'tors, Manuals = £7/$18
3.5" HD's, FDDs, PSUs, SX32 = £9/$25
CDPlus, Scanners = £11/$Quote
EZTW, EZPC, Monitors = £15/$Quote
Tower with monitors = £23/$Quote

* FROM DATE OF DESPATCH

HIGH SPEED SERIAL AND PARALLEL PORT EXPANSION COMPATIBILITY

Board Type	Chip Type	Price Alone	Price Bundle	Serial Ports	Serial Speed	Serial Cache (B)	Parallel Ports	Par Scnr/ Zip driver	A1200 Clk pt	Z4 bus Clk pt	Clockup Port 0	Clockup Port 1-3	Surf-XS Clk Pt	Surf-XS/ IDE+ Hdr	Z2/3/4 Slot
PortJnr	'650	£24.95	£20	1	460KBd	64	-	-	Yes	Yes	Yes	-	Yes	-	-
SilverSurfer	'550	£24.95	-	1	460KBd	32	-	-	Yes	Yes	Yes	-	Yes	-	-
IOBlix-12S	'650	£39.95	-	1	1.5MBd*	64	-	-	Yes	-	Yes	Yes	-	-	-
IOBlix-12P	'C36	£49.95	-	-	-	-	800KB/s	Yes	Yes	-	Yes	Yes	-	-	-
PortPlus	'553	£69.95	£50	2	460KBd	64	800KB/s	-	Yes	Yes	Yes	-	Yes	-	-
GoldSurfer	'552	£49.95	£40	2	460KBd	32	800KB/s	-	Yes	Yes	Yes	-	Yes	Yes	-
Hypercom3i+	'552	£49.95	£40	2	460KBd	32	800KB/s	-	-	-	-	-	-	-	Yes
Hypercom4i+	'552	£79.95	£70	4	460KBd	32	2x800KB/s	-	-	-	-	-	-	-	Yes
IOBlix-Z2+	'650/'C36	£119.95	-	4	1.5MBd*	64	2x800KB/s	Yes	-	-	-	-	-	-	Yes

EYETECH GROUP LTD
The Old Bank, 12 West Green Stokesley,
North Yorkshire, TS9 5BB, UK

TEL: 07000-4-AMIGA 07000-426-442 +44 (0)1642-713185
FAX: +44 (0) 1642-713634
EMAIL: sales@eyetech.co.uk **WEB:** http://welcome.to/amiga.world

devices) in a single Zorro2 card.

EZCD Mk4 4-device fully buffered interface with AIPU technology. With A1200 CDROM s/w **£28.95**

EZCD XL 4-device fully buffered interface. Comes with unrestricted A1200 CDROM s/w **£14.95**

for 3-conx40w cable & 2-conx44w cable +£10.00

for EZIDE ATAPI HD/CD/ZIP/LS120 s/w +£10.00

EZIDE Software ATAPI HD/CD/ZIP/LS120 EIDE enhancement software **£34.95**

EZIDE upgrade from competitive product **£14.95**

Catweasel MkII Universal IDE or clockport fitting HD/DD Amiga/PC floppy disk controller **£49.95**

EZ-DF0 To use a PC FDD for DF0 (880KB) **£9.95**

IDE-Plus Zorro2/3/4 card with built in Catweasel Mk2 controller & 6xEIDE/ATAPI hard drive/CDROM controller and connector for GoldSurfer **£69.95**

Sony FDD 880/1.76MB high quality PC FDD **£19.95**

A1200/A600 original FDD (no faceplate) **£19.95**

EZDF0, 34 way cable & SonyFDD **£29.95**

Catweasel MkII, cable & SonyFDD **£64.95**

CLOCK PORT FITTING I/0 INTERFACES - *Clock port fitting interfaces can provide some of the most cost-effective expansion routes available to A1200 users, particularly now additional clock ports are available on the Z4 busboard, the Surf-XS and via the ClockUp A1200 clock port expander. However some care is needed as not all clock port devices can be used on all possible clock ports. Please see the compatibility table in this advert for details. Please also note that due to technical reasons it is only possible to use sound cards DIRECTLY on the original motherboard clockport.*

PortJnr Mk2 460KBd serial interface with 64 byte FIFO buffer for low CPU overhead - **£24.95**

IOBlix 12S 1.5Mbps serial i/f with 64 byte FIFO buffer. (Current driver to 460Kbd only) - **£39.95**

IOBlix 12P EPP parallel port 800KB/s with parallel Zip drive & Mustek 600CP scanner drivers - **£44.95**

PortPlus Mk2 2x460KB serial (64 byte FIFO) + 1x800KB parallel interface for printer **£69.95**

SilverSurfer 460KBd serial interface with 32 byte FIFO buffer **£24.95**

GoldSurfer 2x460KB serial (32 byte FIFO) + 1x800KB parallel interface for printer (also fits as an expansion on the Surf-XS Z2 ethernet card and the IDE-Plus Z2 HD floppy + IDE controller) **£49.95**

ClockUp 4-way clock port expander for the A1200 motherboard clock port **£19.95**

Prelude 1200 high quality full-duplex sound card for A1200 DT console only **£129.95**

Prelude A1200 tower with right angle clockport connector and tower I/O bracket **£149.95**

Zorro 2/3/4 Cards - *See also graphics and EIDE cards above*

HyperCOM3i+ 2x460Kbd serial (32 byte FIFO) + 1x800KB parallel interface for printer **£49.95**

HyperCOM4i+ 4x460Kbd serial (32 byte FIFO) + 2x800KB parallel interface for printer **£79.95**

IOBlix Z2 - 4x1.5Mbd serial (64 byte FIFO) + 2x EPP port (with parallel Zip & 600CP scanner driver compatability - needs ScanQuix5 software) **£119.95**

Surf-XS SANA II ethernet card with UTP/BNC connectors, 2x dual IDE ports (needs IDEfix2000), 2x clock ports, GoldSurfer 2xS+1xP connector (see 'Networking' below for bundles) **£79.95**

Hydra Z2 SANA II ethernet card BNC **£99.95**

Prelude Z2 16 bit full duplex sound card (limited availability) including samplitude s/w **£189.95**

EXTERNAL AMIGA AUDIO INTERFACES

MIDI-Plus Optically isolated serial port MIDI interface for all Amigas with Octamed SS s/w **£24.95**

EZ-Sample 8-bit variable sensitivity stereo 100Mhz parallel port sampler with Octamed SS s/w **£29.95**

Amiga to Amiga & PC Networking

HIGH SPEED ETHERNET NETWORKING - *All our ethernet networking products - from the PCMCIA ethernet card for the Amiga at £44.95 to the top of the range Surf-XS card - now come complete with Samba and NET-FS networking software distributions free of charge, and simple installation procedure for working with either Miami or Netconnect/Genesis TCP/IP software (included in OS3.5 and internet software or available separately from us) which must be preinstalled on each Amiga to be networked. The exclusive Eyetech EZNet installer installs ethernet card drivers and client/server software suites in just five mouse clicks, allowing you to choose which software package to use after installation by simply clicking on the appropriate icon.*

Bundles are available for networking A1200/A600's (via PCMCIA), Zorro equipped systems (via Surf-XS) and PC's (via PCI card). A push-on CC_RESET fix adapter is available to correct the Gayle chip fault present on all A1200's.

Surf-XS SANA II Ethernet card with UTP/BNC connectors, 2x dual IDE ports (needs IDEfix200), 2x clock ports, Goldsurfer 2xS+1xP connector **£79.95**

Surf-XS+PC PCI ethernet cards with 3m of crossed UTP cable & Eyetech EZNet software **£99.95**

Surf-XS + PortJnr Mk2 460Kbd serial **£99.95**

Surf-XS + GoldSurfer 2 x 460Kbd serial & 1 x 800KB/s parallel expansion interface **£119.95**

SurfCard ethernet card (UTP) with Eyetech EZNet software & CC_RESET instructions **£44.95**

2 x SurfCard PCMCIA ethernet cards with crossed 3m UTP cable, Eyetech EZNet software **£89.95**

SurfCard+PC PCI ethernet cards, 3m crossed UTP cable & Eyetech EZNet software **£69.95**

NETWORKING SOFTWARE & ACCESSORIES

CC_RESET Push-on Gayle reset fix **£14.95**

CC_RESET purchased with SurfCard **£7.50**

EZNet 5-click installer for Samba & NetFS **£14.95**

Siamese RTG2.5 Amiga-to-PC client/server networking software with retargetable graphics support. Needs hardware, Amiga TCP/IP, Win9x/NT **£69.95**

All A1200 PCMCIA ethernet cards need the CC_RESET fix to ensure reliable operation

SERIAL NETWORKING - *for occasional Amiga-Amiga & Amiga-PC file transfer.*

2m null modem cable (no software) **£9.95**
10m null modem cable with TwinExpress PD Amiga to Amiga/PC networking software **£19.95**

Dial-up Communications

NETCONNECT-3 INTERNET BUNDLES - *All you need to get on the internet with your 6MB+, WB2.1+ Amiga*

EZSurf bundle comprising Dynalink 56Kbd voice / data / fax modem, award-winning NetConnect-3 internet software, free internet access (0845 lo-call charges only) with web retrievable email. **£99.95**

TIME OF PURCHASE OPTIONS

ISDN Home Highway terminal adapter (instead of modem) **+£20.00**

PortJnr Mk2 - high speed 400Kbd serial port for A1200 clock port **+£20.00**

PortPlus Mk2 (2 x high speed serial + 1 x high speed parallel) for A1200 clock port **+£50.00**

HyperCOM3i+ (2 x high-speed serial + 1 x hi-speed parallel) for Zorro Amigas **+£40.00**

HyperCOM 4i+ (4 x high-speed serial plus 2 x high speed parallel) for Zorro Amigas **+£70.00**

STFax-4 Amiga fax & voice mail software **+£30.00**

Digital Imaging

SCANNER BUNDLES - *Parallel and SCSI bundles for desktop and towered A1200 systems*

Parallel bundle Mustek 600 CP A4 flatbed scanner, IOBlix-12P high speed parallel EPP port (fits on clock port), ScanQuix5 award-winning Amiga software (& PC & MAC scanner software), 25D-M to 25D-M scanner cable. No other interfaces needed **£139.95**

SCSI bundle A4 flatbed Scanner, ScanQuix5 award-winning Amiga software (PC SCSI card and scanner software included) and SCSI-1 cable. **£139.95**

Classic Squirrel SCSI PCMCIA interface with 50F-50F cable adapter bought with above **£49.95**

DIGITAL CAMERAS

Minolta DimageV Superbly made compact digital camera with LCD display, 2.7x optical zoom with macro, removable smartmedia cards, built in flash, **CamControl** software for all WB3+ Amigas, PSU, case, **40xAA** batteries and **10x 2MB** smartmedia cards. Ideal for web graphics. This package originally cost over £900. Last few available at **£249.95**

Application and System software

OPERATING SYSTEM SOFTWARE & A1200 ROMS

Amiga OS3.5 A modern operating system for Classic Amigas on CDROM. Requires 3.1 ROMs. Documentation in HTML on the CD. **£34.95**

OS3.5 + A1200 3.1 ROMs bundle **£54.95**

OS3.5/A1200 ROMs/Magic Pack s/w **£69.95**

Magic Pack software with Wordworth, DataStore, TurboCalc spreadsheet, Organiser diary, Photogenics & Personal Paint art packages, Whizz & Pinball games (needs OS3.1+). With printed manuals **£24.95**

OS3.1 or OS3.0 operating system disks **£9.95**

OS3.1/A1200 3.1 ROMs, printed manuals **£39.95**

OS3.1 Magic Pack upgrade set with ROMs. As above + full Magic Pack software & manuals **£49.95**

CDPlus-SE 32x external CDROM purchsed with OS3.5 or OS3.5 bundles. Special price. **£59.95**

APPLICATION SOFTWARE - *The very best serious and productivity software avalable for your Classic Amiga.*

Scala MM400 The best Amiga presentation software which can also be used for video titling. **£54.95**

Scala MM400 upgrades from MM300 **£34.95**

EMC Phase4 Scala backgrounds & fonts **£14.95**

TV Text Professional v2 Video titling software with comprehensive reference manual **£49.95**

Ultraconv 4 Comprehensive image and animation conversion program. With batch facility & PPC enabled for even faster operation **£24.95**

ImageFX4 The ultimate image manipulation and animation package for Classic Amigas **£99.95**

ImageFX upgrade from Version 2 or 3 **£59.95**

ImageFX PPC module for faster operation **£49.95**

ScanQuix5 comprehensive multi scanner supporting software for Classic Amigas on CDROM **£54.95**

PhotoScope scanner software for UMAX SCSI scanners including ArtEffect 1.5SE image s/w **£34.95**

TurboPrint 7.1 Print driver software **£38.95**

Turboprint 7.0x to 7.1 update **£14.95**

Turboprint 6 to 7 upgrade **£18.95**

Samplitude LE multitracking audio full duplex sampling, editing & effects software **£49.95**

Samplitude Opus As LE with realtime filters, virtual projects (original samples not altered) etc **£149.95**

MakeCD TAO-P Amiga CDROM burning s/w **£38.95**

NetConnect-3 Internet software suite **£49.95**

NetConnect-3 upgrade from version 2 **£34.95**

STFax4 Comprehensive fax & voicemail s/w **£34.95**

STFax4 upgrade from version 3 **£24.95**

CamControl Serial download software for Kodak, Fuji, Minolta, Mustek, Casio & Olympus **£24.95**

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.** Goods are not supplied on a trial basis. 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. **AA11**

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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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