

TOTAL AMIGA

Issue 19
Winter 2004

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Real Photos... From Your Amiga

We test the Canon A80 digital camera and i560 printer and find whether the Amiga can cut the mustard as a home photo lab!



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OS 4 on Classic Amiga

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ShowGirls
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Editorial

Welcome to another packed issue of Total Amiga! Thanks to several new contributors who responded to our request for articles we have more variety than ever in this issue.

As well as making contributions, several people suggested ideas for future articles. One of the most popular requests was for interviews with people important to the Amiga scene. So in this issue we have two interviews for you to enjoy and we plan to make an interview a regular feature of the magazine from now on.

On the AmigaOS 4 front, the first pre-release update is out now giving early bird AmigaOne users a very usable OS while they wait for the final release. We have details of the update, further developments and a round up of some of the OS 4 native applications in our regular "OS 4 Update" feature.

Most issues of Total Amiga seem to end up having a theme, and this time we have several reviews of technology products that can be used with the Amiga.

We start with my review of the Canon PowerShot A80 digital camera; which has been widely praised in digital photography magazines and on the web. I cover the camera itself from my point of view as a very amateur photographer and the ways it can be used with the Amiga.

Recently I was helping my parents choose a new inkjet printer to use with their PC and we happened to pick the Canon i560. We set-up the printer and were very impressed with its performance and print quality on Windows. Only at that point did I think to see if an Amiga driver was available and rather to my surprise the i560 was listed as supported by the latest TurboPrint release, 7.60. Just how well does the printer work on the Amiga? Find out in our full review.

To accompany my audio compression tutorial, Anthony Hoffman has submitted a detailed review of the Philips EXP 431 a handy, pocket-sized machine that can play your Amiga encoded MP3s (or any other for that matter) recorded onto 8cm CD-ROMs. Finally Mick Sutton has reviewed his EasyDisk USB flash drive which is great for file sharing between platforms.

In the fast moving world of consumer technology products particular models like these tend to get replaced by enhanced versions very quickly. We will try to find out the Amiga compatibility of the current versions when this issue hits the doormats and will post details on the "Current Issue" page of the Total Amiga web site.

True to their word (as always), Cloanto have supplied us with a

copy of the Amiga Forever 6 CD edition. You can read my opinion of the additional features it offers over the download edition in our review. Sam Byford has contributed a review of ShowGirls, a very promising image viewer for MorphOS that includes thumbnailing, icon creation and basic image processing among its wide array of features.

Another reader suggestion was a for a tutorial on Commodore's Envoy Amiga file and printer sharing package. This is especially useful now that many Amigans have and AmigaOne or Pegasos in addition to their classic Amiga. I'm pleased to say that Simon Archer has stepped into the breach and provided us with an excellent article, you'll be swapping files between your Amigas in no time!

Also in the "Support" section is my audio compression tutorial which covers creating MP3s on your Amiga in various ways. We round off with the fourth part of DaveP's fantastic C tutorial.

So as you can see our call for articles and suggestions was a success, but we need your help to keep it up! Please get in touch if you would like to write something for the magazine or have an idea for a future article!

Enjoy the mag,

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About Total Amiga

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Only Amiga Software Made it Possible

Total Amiga is designed and laid out using:

Hardware:
Home built x86 PC
AMD Athlon XP 2500+
nVidia GeForce 2 MX400
512Mb RAM, 40Gb HDD.

Software:
Amithlon by Bernie Meyer et. al.
Amiga OS 3.9 by Amiga
PageStream 4.1 by Softlogik
ImageFX 4.5 by Nova Design
Perfect Paint 2.93
by Georges Halvadjian

News Bytes...

Algor Gets More Flash

E3B have released a new "Pro" version of their Algor Zorro II USB/Flash ROM card. The new version is equipped with an enlarged Flash ROM offering 1Mb capacity, additional data can be stored using the integrated compression support. The purpose of the ROM is to allow software modules such as the Poseidon USB stack and OS3.9 Kickstart modules to be available directly at boot up without requiring disk access or additional reboots. The Algor is also compatible with AmigaOS 4 and allows the new Kickstart modules (kmods) to be located in FlashROM for faster booting. Of course the Algor Pro still features the excellent USB 1.1 controller with 3 ports driven by Chris Hodges' Poseidon USB stack.

For further details visit:
<http://www.e3b.de>

The AlgorPro is available from KDH Datentechnik at E114.95 (about £80) and should also be available from other dealers:
<http://www.kdhshop24.de>

Opus Guru

Over the years Amiga users have found Directory Opus an essential tool to help them manage their files and with version 5 it became even more pervasive as a "Workbench replacement". GP Software, the original developers, stopped updating the Amiga version some time ago in favour of the Windows release, now at version 8. It was announced some time ago that the rights for the Amiga version had been sold to Hyperion but we understand that agreement fell through. The prospects for a future Amiga version looked bleak.

Because Opus 5's Workbench replacement mode is closely tied to the underlying operating system having the application under development is particularly important as the existing version is unlikely to work if the OS has been updated. This is already the case with AmigaOS 4, Opus 5 does not currently work on the new OS and even if it did it would not support new features such as more colourful icons. On MorphOS DOpus does work, with the exception of not displaying PNG icons, but the platform would still benefit from a proper port.

Most of the Total Amiga staff are staunch DOpus 5.x users so we were ecstatic to learn that the world wide exclusive rights to Directory Opus Magellan for the Amiga platform have been acquired by Guru Meditation, a Swedish Amiga dealer. In their

announcement, Guru Meditation say they have entered into an agreement with a UK based specialist software firm who have begun work on porting the program to AmigaOS 4 and implementing new features.

Guru Meditation told Total Amiga that they are keeping a close eye on the classic Amiga and MorphOS software markets and if there is sufficient demand to justify the development effort they will consider a port. Guru Meditation hope to have more details on the new features they plan in time for our next issue. Their first release of Opus for OS 4 is expected in the new year. The full press release is available on:

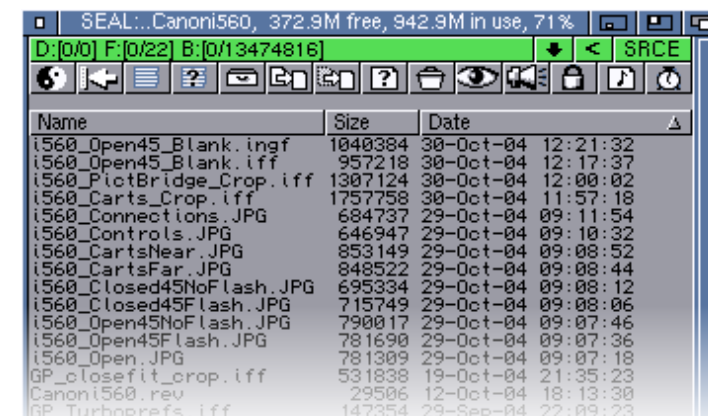
<http://www.gurumeditation.se/press>

Bytes...

Ken's Icons

A new collection of icons has been released by Ken Lester which uses the 256 colour icon format supported by AmigaOS 4. The additional colours allow these icons to look more smoothly shaded without needing a patch. The pack, called "Ken's Icons", includes drawer icons for all the Workbench directories and many common applications too. The icons can also be used on earlier AmigaOS versions if you run the PowerIcons patch.

Download the pack from:
<http://www.os4depot.net>



Opus Magellan may be beginning to look a little long in the tooth but it still offers many features and options not yet found in Workbench. It will be a valuable addition to OS4.

Legalese

The views expressed in this magazine are those of the author of each piece, they do not necessarily reflect the views of the editor, other contributors or SEAL.

Please Note: Total Amiga is produced by the editor and contributors in their spare time. While we always strive to produce the magazine on time and include all the advertised contents this is not always possible due to other commitments. The price you pay for Total Amiga covers our costs and nothing more, we don't make a profit from it.

If you wish to contact a contributor send your message to one of the addresses in this section.

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Bytes...
IOspirit
and OS 4

IOspirit (the developers of applications such as fxPaint, VHISudio and fxScan) have added a useful new compatibility page to their web site. The page lists the compatibility of each of their products with various AmigaOS versions as well as add-on PPC cards, MorphOS and the Draco (a 68K based Amiga compatible computer made by MacroSystem). The table is based on testing carried out both by IOspirit themselves and compatibility reports from users.

The four key products mentioned above are all compatible with Amiga OS 4 but run under the 68K emulation. IOspirit state that OS 4 native ports are not currently planned, however the applications already support the WarpUP. So all three programs will be able to use the PPC when the planned WarpUP compatibility is integrated into OS 4.

View the compatibility list at: <http://amiga.iospirit.de/compatibility/>



A pre-production µA1-I. Notice the Compact Flash slot (bottom left) and the soldered on CPU (middle right).

The Incredible Shrinking Amiga!

Prototype AmigaOne motherboards in the mini-ITX form factor (170 by 170mm) have been displayed at various Amiga shows over the last year and now they have been productionised. The official name for these boards is the Micro AmigaOne, which is abbreviated as µA1. Eyetech are producing two models, the µA1-C, "commercial" version which has a separate CPU board and is available now via AmigaOne dealers and the µA1-I (Industrial) which has a soldered on CPU and more features.

Many more features than the full ATX size AmigaOne-XE have been packed onto the µA1's tiny board, making up for their limited on-board expansion options. Both models include:

- 1 SODIMM memory expansion slot (populated with 256Mb on µA1-C)
- 1 33MHz PCI slot (support for a third party riser with up to 3 slots).
- 40 and 44 way IDE headers
- 6-channel (5.1) surround sound (CMI8738)
- Radeon 7000 on-board graphics with 32Mb Video RAM



A µA1-C Package complete with manual and OS 4 pre-release.

- SVGA, S-Video and Composite video connections
- 2 USB 1.1 connectors on the back panel and two on headers
- PS/2 mouse and keyboard, serial, parallel and game ports
- Uboot 1.1.1, supported by Linux and Amiga OS 4.
- In addition the µA1-C features:
 - A1-XE type MegArray CPU connector
 - CPU module with fan cooled 800MHz PPC 750GX CPU
 - VIA 686B ATA100 IDE controller (DMA issue affecting XE boards resolved)
 - 3Com 10/100 Ethernet controller

The µA1-I has many more features (listed below) built-in aimed at satisfying customers who want to build it into industrial applications such as kiosk machines. To make room for these features, the CPU module connector has been dropped in favour of mounting the CPU directly on the board. In an industrial setting this is an advantage as it removes a potential failure point (the MegArray connection) in a situation subject to vibration or rough handling. Similarly the CPU is passively cooled and the system can be booted from a Compact Flash memory card, removing the need for a fan and hard disk respectively, two more failure prone mechanical

- devices.
- PC104 expansion slot
- ATA133 IDE using the Silicon Image 680 chipset
- Bootable Compact flash slot.
- Gigabit Ethernet
- 256Mb on board memory plus 1 SODIMM slot
- Passively cooled, board mounted 800MHz PPC 750GX

The first batch of µA1-C boards has been shipped to their lucky owners and more are currently in production. Stellar Dreams, the UK distributor for the AmigaOne can reserve one for you in the next batch. The board costs £512, which includes a copy of Amiga OS 4, initially the latest pre-release will be supplied followed by the full version when it is ready. For further information and to order on-line visit the Stellar Dreams web site: <http://www.stellardreams.co.uk/>

The µA1-I is not publicly available at the time of writing. Photos of the board, which were shown at the BigBash 2 party, can be found at the following URL: <http://lain.ziaspace.com/~ryu/a1>

For more details on the board and to make business enquiries visit the Eyetech website: <http://www.eyetech.co.uk>

AmiStart 0.65 | Snoopium

Darius Brewka has released version 0.65 of his start menu and taskbar utility, AmiStart. While it has many functions, AmiStart's key design goal seems to be to look good, and to that end it supports bitmap textures, transparency, antialiased TrueType fonts (using the ttengine.library) and several types of icon including PNG icons if the PowerIcons patch is installed.

- Enhancements in the latest release include:



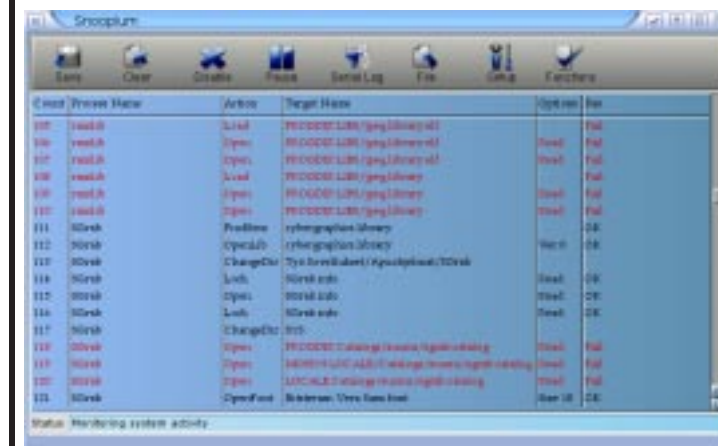
- Now requires a Hi/True colour (16, 24 or 32bit) screen mode
- You can now use different tint and label colours for each layer/menu.
- Corrected a bug affecting MorphOS in the start-up code
- Able to show PNG icons through PowerIcons patch or Scalos with proper transparency.
- Better Scalos support for launching applications and opening drawers.
- Gamma slider for TrueType fonts.
- Added smoothing of rounded edges for a nicer look
- Option to display screens on the taskbar.
- Many other minor improvements and bug fixes.

AmiStart is freeware and supports AmigaOS 3.1 - 3.9 and MorphOS, a graphics card running in 16bit or better is required. Compatibility with OS 4 is not known at the time of writing. Download the latest version from: <http://people.freenet.de/dariusb/>

Ilkka Lehtoranta has released Snoopium, a new filesystem monitoring program for MorphOS. Snoopium is based on the classic Amiga utility SnoopDOS, which was released as open source software by its original author Eddy Carol. Ilkka has got Eddy's approval for his development which adds a new GUI to the program based

on MUI (MorphOS's native user interface) and other MorphOS specific features.

Following the SnoopDOS licence, Snoopium is also free software, the application and its source code can be downloaded from: <http://www.lehtoranta.net/snoopium/>



Snoopium packages all the features of SnoopDOS into this attractive MUI GUI which fits in with the rest of MorphOS.

Making Fantasy a Reality

Some of you may remember a set of great 3D images of a future desktop Amiga computer rendered by Marko Hirv in about 1998. The photos showed a sleek black computer similar to an A1200 but with more flowing lines and a built-in CD-ROM. Marko called his machine the "Amiga Fantasy"

- Flash slot
- - 60W integrated PSU, fan less
- - External power adapter, 110 - 240VAC

Work is under way to build a 3D model of the case which can be used for manufacturing. You can

view Marko's original images, 3D renders and animations of the work-in-progress model of the new case and much more information about the project on its website: <http://realitydesign.asn.org.uk>



One of Marko Hirv's original Amiga Fantasy images which has inspired the Project Reality effort.

Project Reality has been formed to bring that machine, in the classic desktop Amiga form factor used by the A500, A600 and A1200, to market. The plan is to produce a case of the recently µA1-C or µA1-I mini-ITX motherboards and will use other off-the-shelf components such as hard drives and optical drives. A provisional specification has been drawn up as follows:

- - Integrated USB based Amiga style keyboard
- - PCI-Riser card, room for 1x PCI card
- - Space for 1x EIDE HD and 1x slimline slot-loading optical drive
- - Access to µA1-I Compact

Bytes...
Hollywood
Update

AirSoft Softwair have released a minor update to Hollywood, their script-based multimedia application. The new version 1.9.2 has numerous bug fixes and a few new features including:

- Updated GUI and settings tool.
- FULLSCREEN tooltype for easily creating attractive full screen presentations.
- One settings tool can now be used to configure all the supported systems (OS3, WarpUP and MorphOS).

The update can only be applied to an existing 1.9 installation and can be downloaded from the Hollywood page of the AirSoft website: <http://www.airsoftsoftwair.com>

Bytes...

GoldEd Updates & OS 4

Dietmar Eilert has been hard at work updating his powerful text editor suite, GoldEd Studio AIX and its simplified (and more affordable) cousin, microGoldEd. Service pack 21 and later (23 is current at the time of writing) have removed some incompatibilities with AmigaOS 4 and Dietmar supplies some specific instructions to avoid installation problems if you have an older CD.

On MorphOS, support for the gcc 2.95.4-3 C compiler has been integrated and this is accompanied by a MorphOS native syntax parser which should speed up rendering long source code texts.

For most mGED and AIX owners, these updates are free and can be downloaded from the GoldEd website after entering a valid serial number. Owners of CDs prior to service pack 14 will need to order a new CD (for a handling charge) because the combined updates have become too large for on-line distribution. <http://projects.dietmar-eilert.de/>

Web Byte...

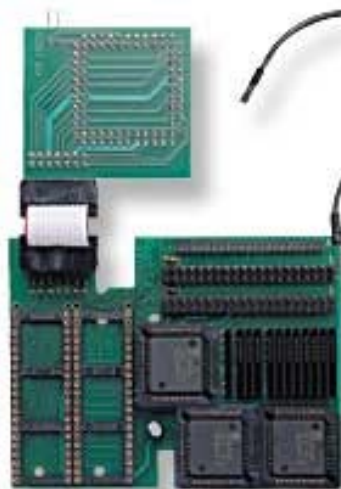


www.amigahardware.com

Just enough room this month to mention this fantastic site which chronicles the many and varied items of Amiga hardware from complete machines through to a battery backed clock. Each entry has plenty of info, and many have high quality photos too. The "Big Book" is regularly updated and essential to any Amiga enthusiast!

Faster, Better, More!

Prolific Polish hardware manufacturer Elbox have released a third revision of their FastATA 1200 enhanced IDE controller for the Amiga 1200



(popularly known as the Power Flyer in the UK). Like its predecessors, the FastATA 1200 III connects to the A1200 via the Kickstart ROM sockets and the Gayle chip and can be fitted to a standard desktop system or in a tower. It offers two IDE channels that can operate at up to PIO (Polled IO) mode 5, which has a maximum transfer rate of 16.6Mb per second. The controller is supplied with Elbox's FastATA '99 software that supports hard drives, ZIPs, LS120s and optical drives such as CD and DVD writers. AllegroCDFS, Elbox's fast CD and DVD filesystem is also included.

This new version of the FastATA adds support for 48bit Logical

Block Addressing enabling it to work with drives of up to 2Tb (2 terrabytes, 2048Gb) capacity. It also offers improved performance and lower processor load during transfers.

Visit the Elbox web site for more details of the FastATA 1200 III including listings of compatible accelerator cards. You can purchase it directly from the Elbox on-line shop for E84.95 (about £60) plus postage: http://elbox.com/products/fast_ata_1200.html

Power Computing are Elbox's UK distributor, but at the time of writing they do not list this new revision, this may well have changed by the time you read this: <http://www.powerc.com> Telephone: (01234) 851500

Aggregation's What you Need

Soft3 Development have announced a new RSS news feed reader for Amiga OS 4, it is expected to be released into private beta test by the time you read this and should be available publicly by the end of the year.

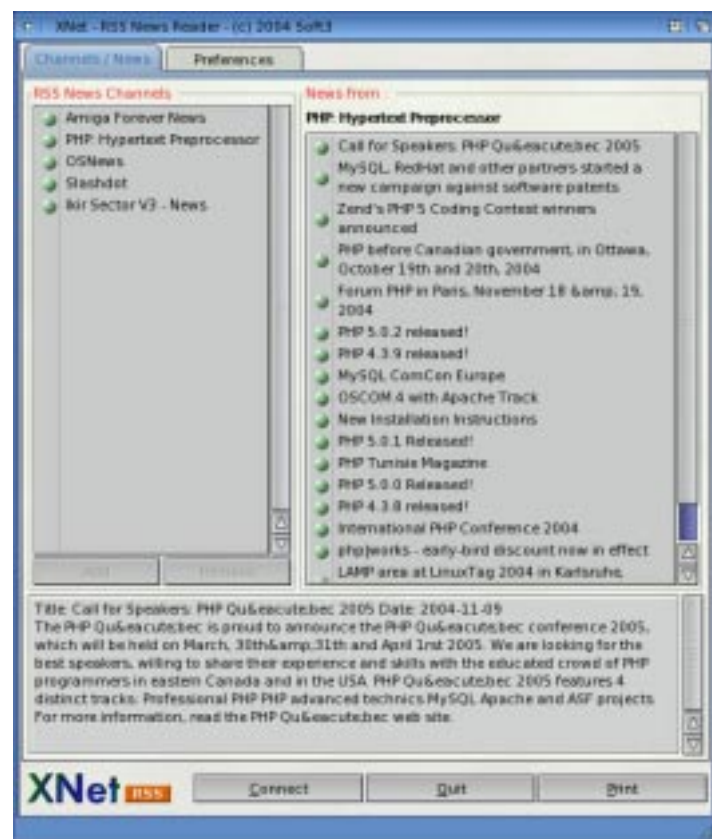
So what is RSS?

Really Simple Syndication is a protocol originally designed to enable web sites to share their news headlines with other sites. You may have seen it in action when one site has a "headlines from" box which is updated independently of the rest of the page. As sites added RSS feeds, utilities have been developed on other platforms that collect news from these feeds and display it in a desktop application. The utilities, often called news aggregators, enable you to monitor many news sites without surfing between multiple sites. Along with each headline the RSS feed also supplies a brief description of the article and a link to the full text on the web site, it is also possible to embed pictures and other information.

XNet-RSS is likely to be the first publicly available RSS reader for the Amiga. The software features a Reaction GUI and supports the RSS 2.0 standard.

News can be retrieved directly from feeds in on-line mode and is also saved to disk so it can be reviewed off-line. OpenURL is used to enable links in RSS new articles to be displayed in any web browser.

Xnet-RSS requires AmigaOS 4 and will be freeware, for further details and more screenshots visit: http://www.soft3dev.net/xnet-rss_e.php



Native AWeb

AWeb has become the first Amiga web browser to offer a native version for AmigaOS 4. A PPC native compile of version 3.5 has been released on the Aweb open source project website. The new release also contains some minor bugfixes to the Javascript support.

We tried the new release on an AmigaOne XE G4 800MHz and were very impressed with the speed. Complex pages with tables render very quickly and overall the speed is definitely streets ahead of IBrowse running under interpreted emulation. On the other hand Aweb failed to load some images in web pages (this seems to be a common problem with recent releases of the browser) and was rather unstable. Some users have replicated the stability problems we experienced while others

report few problems. Overall the native version seems to be a promising start and shows how native applications make the most of the AmigaOne's performance.

The Aweb team has also reported that they have started work on porting the KHTML engine to AmigaOS so it can be used in a future Aweb release. KHTML is the HTML rendering engine developed for the Linux KDE Konquerer browser and is also used by Apple in Safari. The plan is to have two versions of Aweb, "Lite" that retains the existing HTML engine and is suitable for slower Amiga systems and the full release, based on KHTML, which is likely to require more resources to run. It currently seems that the port is in the planning and research stages but tasks to work on each



of its modules have been added to the "Work Overview" section of the web site.

To download the OS 4 release and to find out more about the KHTML development visit: <http://aweb.sunsite.dk/>

Go East!

To celebrate the Amiga's 20th anniversary in 2005, Mr. Hardware Computers are organising the first Amiga show on America's East coast for many years. AmigaEast 2005 will be held on May the 28th and 29th at the Marriott Courtyard hotel, LaGuardia, just across from LaGuardia Airport in New York City.

The latest Amiga hardware and software will be demonstrated at the show. Exhibitors and retailers including major vendors and shareware developers will be in attendance on both days. AmigaEast will also feature free seminars and product demos from guest speakers including industry veterans and experts in Amiga and AmigaDE.

Tickets for the show cost \$20 for one day or \$25 for both days. There will be a banquet on the Saturday night and tickets for this are priced at \$38 per head. For further details and to order tickets on-line visit: <http://www.mrhardwarecomputers.com>

Join the Wireless World

These days it is rare for a new Amiga retailer to enter the market so we were happy to hear of AmigaKit.com, a new company offering a range of general and Amiga specific products via their website. Products include accelerators, memory, hard disks and cables.



The NETPCM010 wireless card is compatible with the A1200 and A600 and works with standard 802.11 wireless networks.

One of Amigakit.com's most interesting products is an 802.11b compatible wireless PCMCIA network card for the A1200 and A600. 802.11 is the standard used by most wireless networks and although faster "11g" hardware is now available it is backwards compatible with "11b" cards like this one. This card is supplied with Neil Cafferkey's freeware prism2.device driver, a CD of networking software and illustrated instructions to help you get it working with the Miami and Genesis TCP/IP stacks. Amigakit have written some custom front-end software called EasyNet that enables you to control your connection from a comfortable GUI; it includes features to configure the wireless card and set-up encryption that would otherwise require editing a text configuration file. The wireless card kit costs £34.99 plus postage and packaging.

Also available is a wired PCMCIA network card for the A1200 and A600, this is supplied with the cnet.device driver and the suite of software mentioned above. Although the wireless settings part of the EasyNet GUI is obviously not needed with this card, you can still use it to control the wired connection and easily make some basic settings such as your Amiga's name and IP address. This kit is £24.99 plus p&p.

Although mostly concentrating on hardware, Amigakit.com have recently been made an official distributor for Cloanto's Amiga Forever 6 emulator package. The CD edition, complete with KX/Light CD boot facility and additional multimedia content (as

reviewed in this issue) costs £37.95 plus p&p.

Take a look at the Amigakit.com advert on page 51 to get 10% off selected products, exclusively for Total Amiga readers! For more information or to place an order, visit: <http://www.amigakit.com/>



Setting up your wireless card to access an WEP encrypted network is easy thanks to Amigakit's EasyNet interface.

AmiWest Show Report

AmiWest 2004 was the show when KMOS met the Amiga community and Warren Katchmar was there...

Back in the early part of this year, when I learnt that there would be an AmiWest show, I made plans to attend and now the show has come and gone. I am glad that I experienced the show, it was good to be with other Amiga users.

Yes there was the news of Amiga Inc. being acquired by KMOS and other news that one can read from various places on the Internet. So, I will not go into the all the details of the news.

I arrived on the Friday in time for the show and went to the Clarion hotel where I was greeted by some members of SACC. I was told that the hotel needed some more time to get the show room ready. We did some prep work, such as unloading gear to the room next to the show room. Shortly after that we were allowed to begin the setup.

During the setup time, I had a good time introducing myself to the others that were setting up their gear. I met Richard Drummond (Mr. Hardware / UAE) and he told me that Russ Norby was coming in later. I also met Bill Borsari (UGN) and Jens Schoenfeld (Individual Computers). From there I walked around and met two guys setting up their MorphOS machine. We had a nice talk and I told them that I would like to see their machine running when they were done. I also met other members from the SACC group.

It seemed to me that most were willing to give a hand wherever

needed. I was doing some final touches for my Hollywood presentations. I had taken some photos of my computer and I wanted them in my presentations. Okay, I needed to get them from my camera to my hard drive. Hmm... I did not have USB on my Amiga One to connect my camera. I looked around and saw that the MorphOS guys had their system up and running. I walked over and we chatted about their machines. I then asked if they would download my pictures to a CD. They were more than willing to help. Great, I was then able to include my pictures of my A1 into my Hollywood presentations. BTW, Hollywood is a great program. If you need to do a presentation, then take a look at using Hollywood. By the time I had finished cleaning up my presentations it was time to close the show room floor.

The day of the show was here. It was a good feeling for me to be at the show. The last AmiWest show that I attended was in 2000. At that show was Amiga Inc. If you have followed the Amiga during the last five years or so, then you know that a lot has happened since then. I remember the last time that I was here and how it felt better for me this time. I am not sure why? Maybe it is because I feel that this is the part of the core group that is now left. In my way of thinking I do not feel that the Amiga scene will become worse? Okay, enough, I just want to say that for me there seemed

to be a more relaxed feeling with this show compared to the one in 2000.

Last minute things were being taken care of as we got ready to open the show on Saturday. There was not a massive turn out for the show, but that was to be expected. As I thought about the turn out, yes the number was not great, but the distance travelled by those that where there was amazing! From Belgium, New York state, North Carolina, Washington state, Texas, and yes even some from California. I am sorry if I missed any other places.

Ben Hermans was walking around, so I took the time to introduce myself. You may guess what the topic became? No, not OS 4, but being a lawyer and comparing the laws here to those in Belgium.

Those people that I saw seemed to have a good time. They made their way around the show room floor checking out the setups. There was a gathering around Mr. Hardware. The news that Sbase4Pro is being worked on for a OS 4 port was really great news. A OS 4 port would be a big plus. There was also the prototype Catweasel MK4 card, it looks great and offers a lot. The planned release date is for this coming October. Next to Mr. Hardware there was the UGN group with Bill "tekmage" Borsari. Bill was a very busy person taking care of all the interviews. You can hear those interviews on a couple of different web sites. I will not go into what was said during the interviews as you may listen to them for yourself.

The other displays were from the host of the show, SACC. There was a bit of a hardware and software for sale on their table. There was a display of two Pegasos machines. MorphOS was looking really good, felt solid and was quite responsive. Houston Amiga users group were showing Amiga Forever 6, it also felt good. Plus there were a couple more Amiga Ones with Amiga OS 4 on them. So there were several choices for users to look at and try.



Video toaster and other Zorro cards at Creative Computers.

Computer Connection was showing the Toaster-Tower/Flyer. For whatever reason I did not spend a lot of time there but they did have an impressive set up. Grasshopper LLC was being represented by the SACC group as Deron Kazmaier could not be at the show. It was hoped that there may have been an OS 4 version of PageStream for the show. From what I know (yes take it for what is worth) Deron was hoping to have an A1 machine to work on the port, but the machine did not show up in time for him to have the OS 4 version ready for the show, but knowing Deron, I feel that we will see a port for OS 4 soon after Deron gets his machine.

As for me I was running my presentations and one of <http://www.intuitionbase.com/>. I did get a lot of nice comments about the presentation. I also ran another presentation, it was showing the apps that I had installed and running on my A1. Ben walked by while my presentation of my apps was showing. He came up and started to ask me questions on what I had done. We had a nice talk and during that talk, I remember him saying something like, just think, this is as slow as your machine will run, from now on it will only get faster. I was thinking to myself, bring it on! His point made me feel good. Here I was running my apps and I was pretty happy that they were running. Remembering that this is "just" a pre-release. Yes, the final version will be so much better... Wow!

Getting hungry, a group got together to find a place to eat.

Chiles was the place that we chose. The conversation bounced around as we ate, it settled for awhile on the upcoming talk of Garry Hare. Then from within the group the thought... let's make up a business card, yes one saying that we are now the new CEO of Amiga.inc. Ah, the plans that are made at a business lunch. We returned to the show and got busy with the plan of making a business card for anyone who wanted one (except Garry of course). The name was left blank, so people could print in their names. As I was doing the layout of the card, in walks Garry Hare. Hmm, quick, flip screens. With the help of the lunch group, getting the original card and then the Boing picture,

the card came together before the start of the dinner. Garry had left by now and it was announced what the plan was for the business card. Everyone could have a card, put their names on the card and at dinner hand the card to Garry. The cards were handed out to all that wanted one.

The buffet banquet was well done, thanks to all those who helped in making it happen. We were getting closer to the time of Garry's speech and announcements. Again I will not give the speech here. I will say that Garry presented himself well. There was a sense that yes, Garry is a businessman. The Question and Answer period was good. Garry did not seem to be in hurry. Then after the Q&A,

a group walked up to Garry's table. There was still some questions being asked. At a break of questions, I said something like, Garry, now that you will be hiring people for development, I would like to give you my card. There was a pause as Garry looked at it. He looked back at me like what? Argh, I had pulled out my dinner ticket and gave that to him. Time to regroup, I said oh, wrong card. I want to give you my business card. Then I handed him the correct card. Now, he looked at it and then came the smile, as the smile grew, more cards were being handed to him from the group. I am glad to report that Garry Hare does have a good sense of humor. As I thought about the setting it struck me

that we were with the CEO of KMOS having dinner. I found that quite interesting, "if" plans move on and KMOS is able to bring to pass their plans will we look back and say, I was there, I sat there with Garry Hare, we talked and laughed together? I do not know how this will unfold.

For me, knowing what the show was, it was good to be there. May there be more shows and better times ahead. I was not able to attend the show on Sunday, so my report will end here. If you are interesting in knowing more please look on the Internet, I am sure you will find a site where you that your can read or listen to the show talks and interviews.

Paul Rezendes also went to the show with his Pegasos II, and here's his take...

and feel of using the real thing. We did our job well.

Day two of the show was much the same as the first. The vendors were showing off what they had to offer and I didn't get to walk the floor as much as I did Saturday. I had to leave early to make the long drive home and wanted to make sure the Genesi booth got lots of coverage and plenty of demos going. I did just that, showed off a lot more of the machines and even managed to get a few users to the Pegasos site and get all the info on placing an order for a system. Packing up and looking back, I thanked everyone for having us. I would have thought a show like Amiwest would have had more visitors. It didn't. With two brand new hardware solutions available at last we should start seeing more users coming back. I look forward to next year and hope I can attend again.

AmiWest: Take 2

I've been wanting to attend another Amiga related event for several years but work has always come in the way of me making it to one. This year I found I could go to Amiwest and take a nice vacation at the same time. Shortly after the show was announced I asked Bill Buck of Genesi if I could attend and demo the Pegasos II and the latest available release of MorphOS (1.4.2), which he gladly accepted.

This being my first show since Commodore went out of business I was excited and had no idea what to expect. I was even more excited being an official part of the show with a booth and a fully working product to show, my personal Pegasos II G4 system. I started planning and decided I needed some help. Steve Hodges, also a fellow Pegasos II user, agreed to give me a hand. His living in Sacramento was a huge help. He really got this together for us and took care of all the reservations.

Over the next couple of months Steve and I made some contacts with various MorphOS developers and collected some fantastic software to show, figured out how we would show everything, and got to know each other through email and IRC conversations. Everything fell right into place.

The show was scheduled to start Saturday at 10 AM so I arrived in Sacramento in the late afternoon the Friday before the show. Steve found me in the parking lot of the Clarion hotel and told me we had a few hours to kill before we could bring in the equipment and set up. A few hours later we were in the gallery room with boxes unpacked and cables all over. After a short time everything was up and running looking good as ever so we cleaned up and called it a night.

The first day of the show went well. Sadly not many visitors were present. This gave me a chance to walk the floor, get some pictures and look at the Amiga One systems on display, all of which had the pre-release of OS4 installed.

With more people starting to come in for the show I moved back over to my booth where I

was for the rest of the evening. I got to give some great one on ones with a few Amiga users that haven't had the chance to see MorphOS in action. It gave me a good feeling to see and hear the good reactions and compliments they had for it. Many had no idea that it was as compatible and Amiga like as it truly is. We were able to show off the new upcoming version of FroggerNG, which is just fantastic. It has a completely new GUI which can be skinned. Also shown were the Papyrus Office Beta, several classic apps, some freeware ports and the hardware itself.

At the end of the first day, even though attendance was much lower then expected, we made a great first impression. Several die hard Amiga users were sold on the fact that MorphOS was a valid alternative to the Amiga experience and they could still have that same long loved look



One of the A1s on display at the show, this one's in a flash case.



Paul and Steve's Pegasos machines ready to please the visitors.

Mick Sutton's Tale of Woe

A little while back I came up with the idea of replacing the CPU fan on my AmigaOne (Eyeteck fitted a TT "Crystal Orb") with a better one. I had read somewhere that TT (ThermalTake) manufactured a fan similar in design called the "Blue Orb", which was supposed to both be quieter and have better thermal performance. The reason for this project was so that I could run the G4 processor at it's rated 933 Mhz rather than an "underclocked" 800 Mhz as supplied from Eyeteck. So logically thinking, best be on the safe side and fit a better fan so I won't have any issues with overheating. (This was not "overclocking" don't forget, just running the CPU at its designed frequency.) I managed to track down one of these little fans (in Canada) and purchased it. About a week later the fan turned up on my doorstep, and I decided to fit it as soon as possible.

I thought to myself it should be really easy to remove the CPU module, remove the "Crystal Orb" fan and replace it with the



It's alive!! Sven of Stellar Dreams tests Mick's AmigaOne after the new CPU module has been fitted.

"Blue Orb"... Job done, as they say! What could go wrong? Just to be on the safe side I called my friend Robert (the one and very same guy who is editor of Total Amiga) and arranged to go round to his place and fit it with his assistance, just in case something needed modifying or whatever.

On arrival at Rob's house we set up a table to perform open-AmigaOne surgery and set

about removing the motherboard from the AmigaOne's case, then very carefully removing the CPU module from the motherboard's megarray socket; so far so good! I removed the fan from the CPU module; it was held in place with plastic clips that inserted into holes on the CPU module board. I then spread a small, thin layer of heatsink compound that was supplied with the fan onto the now laid bare CPU and lined up the fans holes with those on the CPU module board and inserted the supplied clips to fix it firmly in place. Now all I had to do was insert the CPU module back into the motherboard's MegArray socket, which I did very carefully, making sure it was seated properly.

After the CPU was back in place, all that remained was to assemble the motherboard back into the case and connect up all the cables into their relevant positions. Time to switch my AmigaOne back on and watch in wonderment as Amiga OS4 boots up. Well, that is what was supposed to

happen. What in fact did happen was the hard drive spun up to speed, the new CPU fan was running okay and everything seemed fine. But as for Amiga OS4 booting up, nothing. I was faced with a black screen, no U-boot, nothing at all. At first I thought to myself, must have forgotten to switch the monitor on, but it was on. I quickly switched off the AmigaOne and double-checked that everything was plugged in, installed correctly and not loose. Everything was in it's right place and I was starting to get a little concerned, but just went through double checking everything was in place and then switched on the computer again. As with the last time, I got nothing on the screen whatsoever... Oh dear!

It was decided between Robert and myself that I should try his CPU module in my system and see if that worked okay. So after a little while of fiddling about doing all the things mentioned above again to fit his CPU module we started the AmigaOne again and... it worked just fine! We then fitted my CPU module back in and it was the same as before. So it looked like my CPU had died somewhere along the line and to this day I don't know what killed it. "What had I done to deserve this?", I thought to myself. I'm sure I took total care, but these things always happen (to me anyway,) and I was totally devastated. No AmigaOne and, more importantly, no AmigaOS 4. What the hell was I going to do now? After listening to lots of people on AmigaWorld with all their advice on what to check and what might be wrong with it (that's what the Amiga community is about,) at the



The offending article, this is the Blue Orb fan that prompted all the heart ache.

end of the day I couldn't resurrect it, it was dead, an ex CPU and no longer with us. (Monty Python comes to mind.)

At this point in time the only option was to get myself another CPU module and I knew they (G4's) were in short supply, particularly in the UK ironically. I got in touch with Sven Harvey of Stellar Dreams (the official UK AmigaOne dealer) and asked if he could source me one from Alan (Eyeteck). Now I know Sven, and he is a great guy whom we (SEAL and Total Amiga) have had the pleasure of meeting on several occasions at Amiga events, but I wasn't one hundred percent sure he would be able to get me one at short notice. He said to me he would try his best to locate a G4 module and would get back to me soon. I was rather pleased that he was trying for me, as he is the official UK AmigaOne dealer, and I thought he would have a better chance than most. About a week later Sven called me on my mobile and told me he had managed to prise a G4 module from Alan but it wasn't cheap. I didn't care that it wasn't cheap; what the hell, I would have my AmigaOne back and get my Amiga OS4 fix real soon. He also told me he would charge me at "cost" price, which was really generous of the guy; what more could I ask for? I said to him rather than risk it going missing in the post I would rather come up to him (Birmingham) and collect the thing. It was at this point he suggested I bring my machine and we fit the new CPU while at his place.

On arrival at Sven's we got on with the job of fitting the CPU module just as I did at Robert's house several weeks ago, taking extra care that I was earthed down (wearing a conductive wrist band that was connected to earth) in case of any buildup of static that could damage the CPU. We fitted it, making sure it was seated in the MegArray socket correctly, and everything was firmly in place and correctly installed; time to power up the AmigaOne again! After switching on the computer I saw the U-Boot on screen and screamed "YES!!!" This time the AmigaOne carried on booting and did what it's best at; loading Amiga OS4. At last I had my pride and joy back up and running. It didn't even cross my mind that I had just parted with a substantial amount of cash to get her back... it just didn't matter!

So a word of warning. Be very careful if you are planning to do something similar (such as replace the CPU fan) on your AmigaOne, it should be a simple job, but things can go wrong, even if you take care!

I would like to take this opportunity to thank Sven for the support, selling me the CPU module at "cost price" and the help he gave me (without charge don't forget) to get my system working again; what a guy! In these days of seemingly greedy society it's nice to know that there are some really good people out there willing to make the effort to help others. Could it happen anywhere else other than the Amiga community?

An Interview With...

Kermit Woodall

of Nova Design

Magnus Johnson talks to the president of Nova Design Inc., the company responsible for ImageFX.

Fact File

Name
Kermit Woodall

Location
Richmond, Virginia, USA

Company
Nova Design
<http://www.novadesign.com>

For how long have you been developing for the Amiga platform?

Nova Design, Inc. has been around for a little over a decade! We started as an Amiga developer and still develop and support our Amiga software today.

Originally all the founders of Nova Design, Inc. met at the local Amiga Users Group. We first worked together on video titling software for a local television station then moved onto the project that became ImageFX.

Within the Amiga community, ImageFX is most probably your best known product today. What other items do you have in your line-up?

Our complete line-up is:

ImageFX - special effects and image editing.
Aladdin 4D - 3d modelling, rendering and animation.
Millennium - Amiga Video Toaster/Flyer upgrade / enhancement package.

...and of course we have also released Cinematte on the Mac and Windows for Photoshop as well as for Newtek's Aura package.

You have recently started selling off some of your assets, how are things progressing in this area?

Millennium was actually a collection from various Toaster/Flyer developers. We only created a part of the content and then produced and sold the overall collection. Our agreements expired some time ago and we were left with plenty

of unsold inventory. We liquidated the remaining copies and sold the rights to our part of the collection to DiscreetFX (www.discreetfx.com).

Aladdin 4D has not sold at this time, however we have been getting offers from three different groups that are interested. No deal has been closed as yet.

What is the reason for this course of action? Is it something you found necessary to remain solvent as a company, or are your intentions to be able to focus more intently on the products you are holding on to?

Naturally the primary intent is to raise money, however this will allow us to focus on some interesting new product developments. More on that, we cannot say at this time.

With Alladin 4D currently up for grabs, what are your selling points? While the suggested price might not be on a par with the resources invested during its development, it is still a lot of money considering the current Amiga market. Is it reasonable for any potential buyer to expect to ever recoup that investment?

The information and feature points of Aladdin 4D were well-presented already, but the main points would be that a potential purchaser would get a VERY fast photorealistic rendering system with a highly portable source code base. Aladdin 4D's particle system is also second to none and is worth what we're asking all by itself.

Throughout your history as a software company in the Amiga market, ImageFX has become a prominent title for many past and current Amiga users. Who, in your opinion, is ImageFX aimed at?

We developed it from the start with input from professionals in the television, video and film industry. The idea was to bring the new digital tools to the Amiga

Warning!

If you own an AmigaOne, we advise you to take Mick's experience to heart if you are thinking of removing your CPU module for any reason.

In the last few months we know of three cases in which a CPU module has been rendered inoperative by simple handling. In all cases the owner was an experienced computer user who was used to handling electronic devices and working inside their computer.

It seems that the AmigaOne CPU module is more sensitive than most other computer cards. If you do need to handle your module, make sure you take proper precautions including wearing an earthed wrist strap at all times.

Please note that Total Amiga cannot be responsible for any damage you cause while working on your computer.

Features

platform, making it possible for all the Amiga-based FX houses to do what the big studios did. We also priced it low enough that everyone could get it and have fun!

What is ImageFX really for? I.e. what are its strengths, what is it capable of doing?

ImageFX is first, and foremost, a special effects package. Everything else in it is in service to that goal. In the early days EVERYONE used scripting to create animations and effects. We evolved more interactive controls over time and more features to make it easier to use. Now ImageFX directly loads animations and can create effects directly onto them.

What made you decide to create an image editor in the first place? And how long did it take from the conception of the idea until the first public release was made available?

Actually we started making a scanning package! It was first called IMAGESCAN (not much originality in that name) then MIRAGE and finally IMAGEFX. It's been a long time and my memory was never good with dates... I'd say, hmmm, about a year or so?

What progress is being made, or likely to be made within the foreseeable future, on IFX?

We don't talk about future developments.

What would you like to see in the next update of IFX, as well as an 'ImageFX 5,' if time and resources weren't an issue?

The ability to load and save directly in all popular video/movie formats. Realtime special effects. Pre-scripted effects. More effects. More! MORE!

Will there be native versions made for OS4 and MorphOS or will you be focusing on the 68k version?

The idea here has been to leave the menus/etc. on 68k and keep the PPC module system. It works pretty well.

It's my understanding that there are currently only PowerUP PPC modules available, which run nicely on MorphOS but cannot presently be run under OS4 on the AmigaOne. Will you extend your approach towards PPC to



Kermit at one of the many Amiga shows he attends.

include versions for all systems, or is this the path you intend to follow for the time being?

It really should be a goal of AmigaOS 4 to support existing standards like PowerUp and WarpUp so existing software can take better and full advantage of the PPC hardware.

What is the current status on the prospect of obtaining a full manual for ImageFX?

"What would you like to see in the next update of IFX...? Realtime special effects. Pre-scripted effects. More effects. More! MORE!"

I've got a copy here! Seriously, we've been working, as time permits and with the help of several WONDERFUL ImageFX fans, on getting an electronic (PDF maybe?) version. No ETA I'm afraid.

Have you decided yet if this will be free for owners of the current release and included with all future sales, or will it be sold as a separate item?

Nothing has even been discussed or decided there.

How many people are currently working for Nova Design?

Three. At our peak we were only five people, so oddly enough it's not a big change.



Nova Design's products.

How has the Amiga market changed for you if you compare the present with, say, ten to twelve years ago?

Aside from the cool work done on MorphOS and AmigaOS 4 - it's, well - in a word, depressing. Too little sales really remain in the market for software people. Everyone seems to focus on the new PPC hardware and forget that without software it's just so many chips y'know?

What is your main reason for still sticking with the Amiga after all these years of decline? Is it personal affection for the platform, or do you see a potential uprise in the market now that things are moving forward again?

Personally I blame it on a mild concussion!

As I mentioned before, and no blame intended, the market seems to be focused on buying hardware - not buying software.

Do you still use Amigas personally?

We've got a couple of tricked out Amiga 3000s, I've got a Pegasos out on loan, but all of us really use Amiga Forever!

How much do you use ImageFX yourself these days?

Well, you would have never classed us as big USERS of our software. We just developed it! I still use it to jazz up videos of mine and various graphics work that I do... it still does so much that nothing else does.

Is there anything you need to do with your images where you have to turn to other image processing utilities, and if so, what?

Photoshop. Yeah, I know it sounds like heresy, but the service bureaus don't know anything but CMYK and TIFF or such and I had to learn Photoshop to do that in a way they could handle.

I do like playing with Cool 3D on Windows. Absolutely the coolest 3D titling program ever. I also got it free from a friend so that made it an even cooler toy.

To conclude this interview, let's cut straight to the million-dollar question: Is there a demo version available of ImageFX?

Nope. But people can get bundled 'lite' versions for MorphOS and AmigaOS 4 so that's pretty much the same thing.

Is 'lite' synonymous with crippled, or are you giving away full versions of older releases?

It's based on the last 3.x release of ImageFX with non-MorphOS and non-AmigaOS 4 features eliminated simply because they wouldn't be useful on those platforms since the missing features were Amiga hardware specific.

Is there anything you would like to add, that might be of interest to the Amiga community?

Support your software companies! Especially Nova! So long and thanks for all the lutefish!

More information about Nova Design and their products can be found at their website:

<http://www.novadesign.com/>

There is also an ImageFX mailing list available at: <http://groups.yahoo.com/group/imagefx/>

Support The Dream A Better Browser! for AmigaOS and Compatibles

Visit: <http://www.discreetfx.com/AmiZilla.html> for more details and to donate.

The goal of the AmiZilla effort is to raise such a huge amount of money to give away to the first programmer/team that can port Mozilla to Amiga that Amiga programmers will be falling over themselves to get this application coded in record time!

The sourcecode to Netscape Communicator was released in 1998 and we thought for sure that it would be ported to the Amiga super fast, the way Doom & Quake were. Well it is 2004 and still no Netscape/Mozilla on Amiga OS. So now we are willing to put our money where our mouth is and are offering \$2000 to the lucky coder(s) that can send us even a beta of this browser for Amiga OS. You don't have to port the e-mail package or some of the other tools, just the browser portion of Mozilla.

Also to increase the pot we have setup a special website & PayPal account to receive donations. We have already placed our **2000 US Dollars** into this account and will keep a daily tally of any and all donations. This money will always be available to the first person/team who gets it ported. You don't have to donate to the cause but if you have a little money to spare and you want Netscape to finally be on Amiga OS please consider helping make this dream come true. No donation is too small, even \$5 or \$10 is fine if that is all you can afford. Doners will be listed on this site via thier name or handle if they want to be listed.

Keep in mind programmers, this effort should work on at least Amiga OS 3.9, WinUAE, Amithlon, MorphOS, AROS, Amiga OS 4.0, etc. so everyone can benefit from the effort. We will help you beta test it of course. Please keep the dream alive.

At the time of writing (Novemver 2004) the current funds Available for first programmer/team to port even a beta version (yes, a FireFox port would also qualify) to AmigaOS/MorphOS:

\$8820.20

She's **Green, Sexy**, fully **Standards Compliant!** and

She is coming to an **Amiga Compatible** system soon!

This Ad was created 100% on Amiga computers using Pagestream 4.1

AmiZilla Concept/Design Consultant: Bill Panagouleas

AmiZilla Artist/Design: Eric Schwartz

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Bill Panagouleas of DiscreetFX

Fact File

Name
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Location
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Company
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Best Amiga moment
When I heard about the Video Toaster for the first time, then when Video Toaster Flyer 4.1 shipped. I got into the Amiga for its video effects/editing powers. The release of the Video Toaster Flyer was the high point for me. 2nd would be the release of the 060. Also, when I saw UAE actually work and run fast for the first time that shocked me!

Worst Amiga moment
When the German courts made it illegal for the A4000T to continue to be built in 1997. I would still love to know the whole story on that one!

How did you first hear of the Amiga?

I read about the Amiga in RUN magazine before it even had a name. Also I bought Amiga World #1 the day it hit the news stands so I would have to say I have been an Amigan from the beginning. I bought my Amiga 500 around 1987 when I could afford it, but before that I made the rounds to all the local Amiga dealers so I could see the 1000 & the 2000. I also worked for Commodore Philippines in 1991 selling and supporting the Amiga 500 & 2000.

What Amigas have you owned, do you still use them today?

Started with A500, outgrew it after I souped it up with a 50Mhz 68030, DCTV, Custom paint job (before it was called modding), a few external 100MB SCSI hard drives, lots of RAM etc. After that I got an A1200 and used that for several years until QuikPak gave me an 060 based A4000T, because of the large number of systems I sold when that machine was reintroduced to the

Mick Sutton talks to the driving force behind DiscreetFX and AmiZilla.

market in 1996/1997. Today I have quite a few Amiga systems encompassing every Amiga developed with the exception of the A3000T & A3000+. I have about 14 Amiga's total but that number does change when I get new ones or give systems to employees and or in contests. For Christmas I am giving away a Amiga 4000 Desktop system with a Video Toaster 4000.

Tell us about the beginnings of DiscreetFX.

In the Philippines I sold over 400 Amiga 500's and over 100 Amiga 2000's. I demonstrated DigiView, DigiPaint, Pagestream, Scala, Eric Schwartz animations, Euro Demos etc. These hardware and software demos, games and applications helped me sell more Amiga's so special thanks to Eric Schwartz, The Silents, Digital Illusions, Jasper Kyd (Hardwired Demo), Psygnosis, Newtek, Scala & Deron Kazmaier (Pagestream) and many others for their hard work.

DiscreetFX started in 1995 when I began to tutor clients on using the Amiga Video Toaster and started to setup my own Video Toaster system to develop DVE's (Digital Video Effects). Pyromania was a very popular package on the PC and Mac and I thought it would be nice to have an Amiga version so I negotiated with the developer to allow me to create an Amiga/Video Toaster version. The PC/Mac version was a 640x480 Image library. My vision was to take the original 2000 x 2000 footage and turn it into full overscan real-time effects for the Video Toaster. I also wanted it to work on any Amiga that supported IFF24, I included a version in that format as well. If you compare the PC/Mac/Amiga version side by side you will find the Amiga version is a higher resolution with more features and it is also a DVE (Digital Video Effects) library for the Video Toaster,

something the product never was on other platforms.

How did you come up with the name "DiscreetFX"?

If you look discreet up in the dictionary you will find the following definition; "Having or showing discernment or good judgment in conduct". That is the very foundation of my company when I started it in 1995, I studied the PC/Mac/SGI market and was very discerning about what applications I wanted to port to Amiga OS from that market. Some of the software that is available on Windows/Mac/SGI is very good and would really help the Amiga. I wanted to create products that the Amiga needed and that were not available. I worked hard with developers with important software tools that the Amiga lacked like Quicken, but Gateway's mismanagement of the Amiga slowed my companies growth and scared away some of the developers I was in negotiation with. What caused this was Gateway's constant change in direction.

I worked very hard behind the scenes to bring Quicken to the Amiga but Gateway's lack of moving the Amiga forward and the fact that it became illegal for Quikpak to keep manufacturing Amiga 4000Ts made this effort fail. This also scared away an SGI application developer that I was working with to bring their product to the Amiga as an ImageFX plug-in. No more Amiga's being available also dried up the sales of my DVE's for the Video Toaster so I was a contractor for SGI for a while until the Video Toaster [2] was launched in 2002 on Windows.

Could you tell us something about DiscreetFX's current product range for the Amiga?

The Amiga versions of our current product range are still in development with the exception



of Pyromania, ScaryFX and our recent purchase of Millennium from Nova Design, that are available now.

How is business going in the current climate?

While sales have recently improved for the VT[3] (PCI Video Toaster on Windows) version of our products, I am still disappointed with sales overall. Customers love products like Spontaneous Combustion and FantasyFX so it is not a quality issue. The Windows market is an over crowded mess with everyone and his grandma having video editing solutions. First there's the free Movie Maker 2 from Microsoft (only if your running Windows XP). On top of that there are countless other sub-standard efforts like Adobe Premiere. Cheap unprofessional solutions like these hurt the overall market on Windows and make more expensive but higher quality solutions like the Video Toaster [3] from Newtek look overpriced.

Do sales of your products for other platforms enable you to continue Amiga development?

What enables DiscreetFX to keep developing for the Amiga is our contract work with Silicon

Graphics, not our Windows development. The only reason we develop for Windows is the Video Toaster moved to that operating system when Amigas were no longer available new. DiscreetFX is a Windows developer under protest. Long term I feel Windows is old legacy code with too many flaws, obsolete, outdated and dead.

You donated 2000 dollars to the AmiZilla booty to encourage a port of Mozilla to the Amiga. Why did you choose to support this particular application, and what do you hope to achieve?

Mozilla is a vital project to get rid of Microsoft's control long term. Mozilla is turning into a application platform and developers are creating applications that run within Mozilla/FireFox. This is great for end-users because today everyone uses Windows, not because they like it, but because of the vast amount of software for it. In the future, most programs are web based people will abandon Windows in droves because everyone already knows Windows is complete garbage and full of security holes, viruses and spyware. Microsoft's attempts to patch this Frankenstein's monster after the fact, are having little effect on making it safer for users. Windows is the weak link in the software world, Mozilla replacing it would be a welcome change for the whole industry. Windows is the ball and chain that is holding back the industry and making it a prisoner of the past. Its death would drive growth and innovation in the IT industry.

Now the booty is quite considerable, is anyone showing any interest in doing the groundwork?

Sure, Jeff Shepard and his team work night and day on the port, NSPR has already been ported.

Do you think it will ever become a reality?

I do, look at the fevered activity on the AmiZilla mailing list, they are working hard to get it completed.

Do you think that a combined effort with the open source AWeb team (who are trying to use the "Konqueror" engine) would give quicker results than trying to port both browsers to the Amiga?



Visit the DiscreetFX website for more information on their products.

That would depend on the underlying codebase of AWeb and how successful they have been at integrating the Konqueror web browser. I have not looked at their code so don't know what their progress is. Any activity in the Amiga web browser space is good activity, Amiga/Amiga compatibles is still behind on browser applications. IBrowse 3.0 if it ships soon may help change that.

I know you have no direct involvement, but what's your view on the chances of something like "Open Office" being ported to the Amiga?

It is open-source so it can be ported if some coders take the time and effort to do it. The fact that Amiga now runs everywhere (Amiga Forever) should help matters because developers can work on the code on their PC, Mac or Linux box.

Do you think the Amiga would be better served with "original" Amiga software or do you think that porting popular existing applications (and games for that matter) is the way forward?

I think both are great solutions for the future.

What are your plans for future commercial AmigaOS products?

For the future I am working hard with a few programmers to get the interface and as much functionality as possible of the Amiga Video Toaster Flyer ported to Amiga OS 4.0 & MorphOS. I want the Amiga Video Toaster to be divorced from its old hardware and work all in software and on modern video capture cards. Also I want

it to scale up, for example if someone can afford it and buys Newtek's VT[3] PCI Toaster card I would like it to be plugged into the AmigaOne or Pegasos II and just work. If any programmers are interested in helping with this effort please contact me (bill@discreetfx.com). I have programmers already but we may need additional help.

What is the likelihood of a digital video editing application being released for Amiga OS4/MorphOS within the next year or so?

Yes, one year is about right. Based on what programmers tell me I am very positive this will happen. I am upbeat about the climate for the Amiga and MorphOS for the future. OS 4.0 is already here, MorphOS is too! I look forward to healthy competition making both products better. Like the Pagestream vs Professional Page wars from old times.

Do you feel the two platforms can survive in the longer term or will one fall by the wayside (like Gold Disk, publisher of Professional Page)?

No I think the MorphOS vs Amiga OS 4.0 is more like Fed-X vs UPS. Both can survive and grow the Amiga market together. Healthy competition is good for the market and keeps everyone on their toes. I look forward to supporting both of them. Efforts like AROS are also very interesting. Even for customers on a tight budget, that just want to run old games or applications very fast on their PC (like ImageFX for example), they have Amiga Forever thanks to the hard work of Toni Wilen, Cloanto and many others.

Do you think that if the "correct" decisions were made during the Gateway period that the Amiga market would be more vibrant now, or do you think that the ever decreasing spiral was unavoidable?

I was talking with Jim Collas about this just last week. I feel that the Amiga could have enjoyed great success if handled right under Gateway. Look at how successful Apple has been integrating FreeBSD into Mac OS X and replacing the outdated/non multi-tasking and old Mac OS 9. Jim Collas' and Ted Waites hands were tied though based on what Jim told me. They wanted the best for the Amiga opportunity but it just did not happen because of some bad management that was hired at Gateway.

Assuming that AmigaOS4 is well received when it's released, do you think that developers for other platforms could be attracted to the Amiga or at least allow their applications to be ported?

Yes this could happen, I feel the best solution though is for Amiga programmers to approach Windows/SGI/Mac developers about contract work to get powerful applications ported to Amiga & MorphOS rather than the developers doing it themselves. This would also help starving Amiga programmers for a change. Also, I hope that no time is wasted on porting buzzword programs that are in fact garbage, like Adobe Premiere.

Do you have any ideas that would help ensure the survival of the Amiga platform?

If you're an Amiga user and love the Amiga, go out and get yourself an AmigaOne or Pegasos II system. If current Amiga owners want the Amiga market to grow and to get new powerful applications they should support developers like Nova Design, Grasshopper LLC (PageStream), DiscreetFX, Hyperion, Amiga, Genesi, Cloanto, Elbox, Mr. Hardware, Chris Hodges, AmiZilla, and anyone else I have missed.

Please support your favourite magazines and websites like Total Amiga, amiga.org, amigaworld.net, morphzone, Wrong Planet, ann.lu, etc.

Thanks to Bill for taking the time to answer our questions.

Open Video Toaster

The World's first Open-Source Video Editing System

The Video Toaster is still one of the most influential, and coolest named, Amiga products, but is little known in the UK. Bill Panagouleas briefs us on its history and his efforts to resume development.

October 1990, Flashback

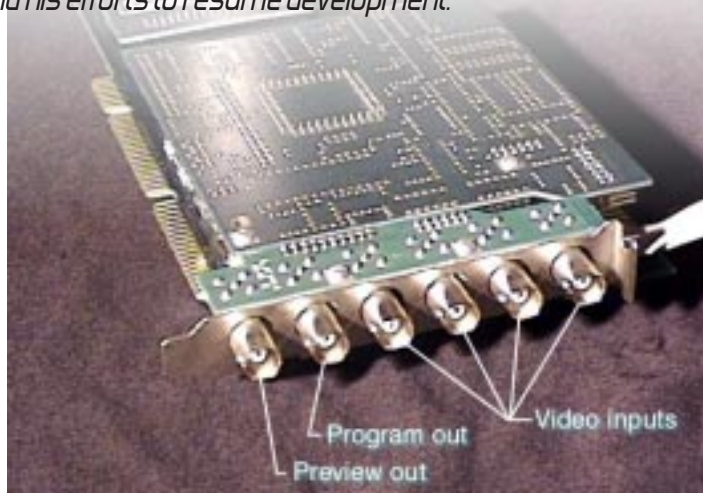
Newtek shocks the world of television production by releasing Video Toaster 1.0 for the Amiga. The Video Toaster evolved from a simple premise: provide all the tools necessary to create broadcast-quality television in a single, accessible device. Not surprisingly, the established broadcast video industry greeted the Video Toaster with skepticism, at best. Despite these marketing challenges, the Video Toaster caught on with an enormous range of people who shared a desire to "make TV". It literally replaced hundreds of thousands of dollars worth of equipment for \$5,000, and put sophisticated tools into the hands of "average" people – from high school students to professional event videographers.

So began the paradigm shift that launched an entire industry and was first called the "Desktop Video Revolution". The Video Toaster received coverage in all major magazines including Popular Science, Rolling Stone and Playboy. Im sure other software developers on Macintosh and the PC noticed

and got very jealous. Many products were announced and promoted but the truth is that there is a whole graveyard of video effects cards from that era on the Mac and PC that tried to fight against the Amiga Video Toaster and died a horrible death. Video Blender, Video Spigot, Video Blaster, Etc. These other video solutions failed because they did not offer all the power and feature-set of the Video Toaster and were just me-too rush jobs. Most of them did not use the Amiga which was perfect for video at the time, so that was their fatal flaw.

Customers just bought the Video Toaster since it worked and gave them a CG (Character Generator), Paint package, 3D animation program (Lightwave 3D), Real-time Effects, Genlocking, and Chroma Keying all in one system. For customers that did not like the "A" word (Amiga) Newtek rebranded Amiga 2000 machines with the Video Toaster logo and sold them (They also did this with the Amiga 4000).

Things went very well for Newtek and I have heard they sold around 100,000 Video Toaster cards, though I don't



The video inputs and outputs on the backplane of a Video Toaster 4000.

know the real figures for sure. TV Stations, Cable Networks and Amiga videographers bought the Video Toaster in droves and many new companies were created, anyone that could afford to buy a new car could be in the video production business. Video Toaster software upgrades continued every year and the Toaster card itself received a slight upgrade in 1993 to take advantage of the new AGA Amiga 4000 computer.

1994 Tapeless Editing added to the Video Toaster completing it as a all in one Video Editing system

NewTek introduced its next tradition-breaking product, the Amiga Video Toaster Flyer, in April 1994. The Flyer was configured as an add-on board for the Video Toaster in an Amiga computer. It provided quality nonlinear editing capabilities, affordably. NewTek weathered the failing fortunes of the Amiga computer and its manufacturer, Commodore Business Machines, which went out of business. The company had chosen the Amiga platform because, unlike any other personal computer, the Amiga's video display most closely matched that of a television.



The Flyer was a fantastic upgrade to the Video Toaster but the death of Commodore made many customers question its value. Many of the original buyers never got to experience the Flyer and that is sad because it completes the Video Toaster and makes it a well rounded tapeless editing system. Software upgrades continued and the Video Toaster got to version 4.3 in 1997, but the death of Commodore slowly hurt Newteks sales of the Video Toaster 4000 and the Flyer. To compound the problem it became illegal for QuikPak to manufacture the Amiga 4000T around 1997, someone please explain that one to me!!! I'm sure Newtek loved the Amiga but it is quite understandable to save themselves they had to make Lightwave 3D and the Video Toaster for other operating systems. They still fix Video Toaster cards and Flyer cards to this day for free though, they will even give you Tech Support and help with DigiView; god bless them.

Many powerful 3rd party products came out for the Flyer like RenderFX and Audio Black Box from ProWave (Programmed by Bill Evans) and some very nice tools from Aussie (OzWare) that made editing easier and faster for Flyer owners.

1998: Amazing Computing Article comes out about releasing the Video Toaster Flyer Source-Code

The Bandito (Amazing Computing's rumor columnist) writes an Article that says the Video Toaster Flyer software is no longer being updated and other companies are trying to

Download the Video Toaster application source code from <http://www.openvideotoaster.org> or order it on CD,

take away Newtek's market. His solution? Release the source code to the product for talented Amiga coders to see and update. Open source software was starting to take off in the mainstream and Netscape had just released the source to Netscape Navigator. I remember that article well since I wrote it, I was Amazing Computing's last "Bandito" before they unfortunately ceased publication.

2001: NewTek ships Video Toaster 2, the next-generation PCI card

Video Toaster [2] includes all the equipment needed to create and distribute television in a live, real-time environment that's just fun to use. So many professional video tools are integrated into this powerhouse – and the industry was once again stunned by the price - way under \$5,000! All the software that comes with Video Toaster [2] requires Windows 2000/XP though. This is a very nice solution for Widows users and I am shocked that more have not bought it. Today's video software landscape has changed dramatically, what once was a niche market with the cost of ownership starting at \$5000, is now a more mainstream market with products available for \$50 or even free (MS Movie Maker 2, free only if you own Windows XP). The sad fact about this new affordable reality is that features and power have been sacrificed in place of price. And customers do not know this, they think when they load their free copy of Adobe Premiere the horrible and unintuitive interface is what video editing is all about. Mac OS X's Final Cut Pro owners have it a little better but



still have no idea what a Switcher is or the workflow benefit of Real-time Effects. Also I have seen nothing that is as easy to learn as the Video Toaster Flyer. You can learn to use most of it in about twenty minutes. Compare that to the frustration and long learning curves you have if you bought a DV Video Camera and want to edit on Windows or Mac.

Feb 2004 Open Video Toaster goes live

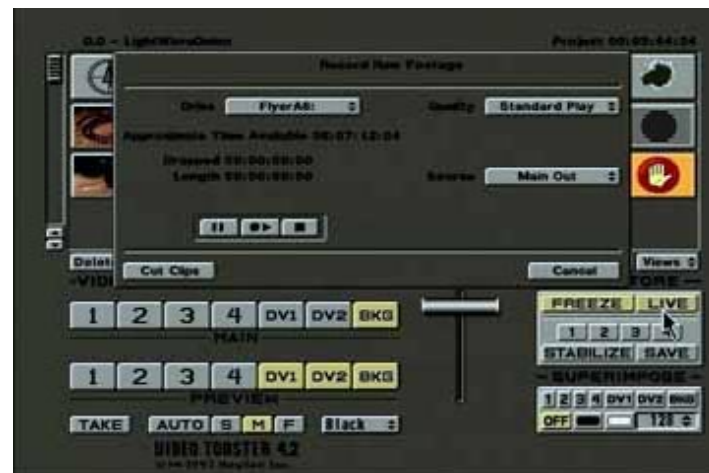
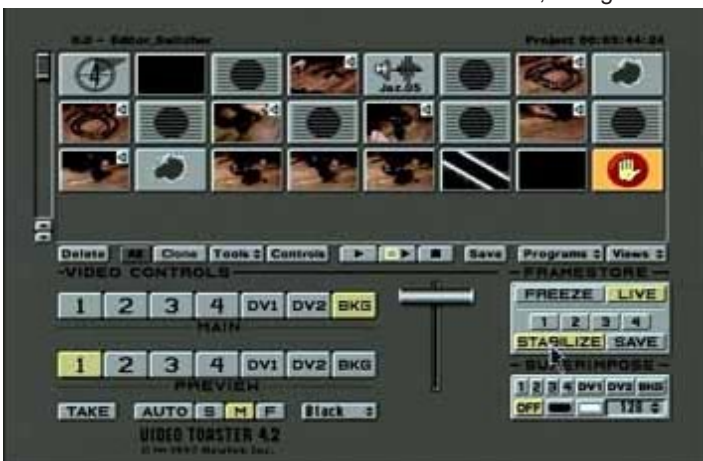
This is why I started openvideotoaster.org I don't want the Amiga Video Toaster Flyer to be forgotten, many still use it today for all of their editing needs. Even though I have the latest PC Video Toaster, VT[3], I still use and love my Amiga 4000T Video Toaster Flyer system. Using the VT[3] and Flyer together make for one super powerful editing system.

Tim Jenison was kind enough to listen to the Amiga community and allow Paul Lara to give the source-code out, developers Bill Evans and Aaron "Aarexx" Ruscetta did a nice job cleaning up the code so it is ready for Amiga programmer consumption. They used much of their own personal time to organize this gift to the community, so deserve a special thank you. Everyone should also send Newtek a special thanks for allowing Amiga owners to finally have one of the more

interesting codebases on the Amiga platform.

It is my hope that now that the code is available talented Amiga programmers will make it work with the new PCI Video Toaster (VT[3]). The VT[3] card could be an extra device for a Video Toaster 4000 & Flyer inside of your Mediator PCI based Amiga 4000 or 4000T computer system running Amiga OS 4.0 or maybe parts of the code could even be used on an AmigaOne with the PCI Toaster installed.

Why would anyone do this? The Amiga is the ultimate Hot Rod of computers, users and developers have been turbo charging them for years so why not? Last month's launch of Open Video Toaster was a great success. Visitors to the site downloaded over 57 Gigabytes of source code! When you consider that the code to the Amiga Video Toaster Flyer is only about 30MB that is a lot of unique downloads. As we suspected there has been a very high demand for this code ever since its release. Just like it took time for the Netscape source-code to be updated; look how powerful and feature rich Mozilla is today! I have high hopes for the Video Toaster Flyer source-code, may it continue to live on and on just as the Amiga OS has. Who knows what the future might hold.



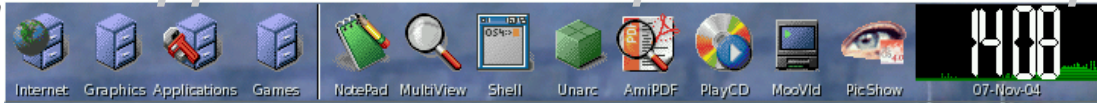
Like much software of its time, the Video Toaster's suite of applications used a custom interface.

Amiga OS 4 Update

AmigaOne owners rejoice, and Application Development Round-up

the first pre-release update is out and better than ever!

Mick Sutton and Robert Williams sample its goodness and look forward to some of the native applications in development.



AmiDock's CPU Clock docky at the right shows CPU usage during a file copy with the DMA IDE driver.

because it will take time for applications to be ported or alternative native applications to be written. The interpreted 68K emulator built into the kernel has been steadily improving in both performance and compatibility since we have been testing it.

AmigaOne owners with pre-release update one will find that the very latest beta release has a noticeable performance improvement. We found that processor intensive applications such as Photogenics and ImageFX ran faster under the latest release – we reckon about 060 speed. The emulators FPU support has been improved recently, meaning programs that rely on an FPU such as Cinema 4D and Samplitude Opus now run (although we did notice some rendering glitches in Cinema 4D). Of the few applications that have caused us problems most have been resolved, this includes Fiasco (a shareware database), TVPaint, AmiDiction (utility to access an on-line dictionary) and AmigaWriter 2. At the time of writing the only "classic" Amiga applications that we have tested and have problems with are DrawStudio 2 and AmiAtlas 6.

Soon it will be time for the interpreted emulator to take a back seat as Petunia, the new JIT emulator, steps on the accelerator! JIT (Just In Time) emulation caches frequently used emulated instructions in memory so they can be reused giving much better performance. Petunia has now been integrated with the kernel so that 68K applications can seamlessly use the faster JIT emulation. At the time of writing Petunia has not been released into beta test so we can't comment from experience on its performance, however we are expecting a huge increase over the interpreted emulator.

68K Emulation

For most users compatibility with 68K Amiga applications will be an important feature of OS 4

Graphics System

Another vital part of the OS is the graphics system and this is now almost completely PPC native, this gives a great performance improvement over the 68K version included on the original pre-release CD. The graphics.library (excluding only a few routines), Picasso96 and graphics card drivers (for Voodoo and Radeon) are now PPC native. This makes everything feel snappier and even speeds up aspects of emulated applications such as scrolling in Final Writer and IBrowse.

MUI

While the default GUI system is Reaction there are many programs that use MUI. To support these a PPC native version of MUI (version 3.9) is included in pre-release update one. Not only does this give both emulated and native MUI programs a speed boost it also has new features not found in the latest Amiga OS 3.x release (version 3.8). The new features include more flexible program and pop-up menus, improvements to the preferences program which separates its built in options from custom class options and more configurable bubble help.

USB

If you read our previous OS 4 update articles you will know that OS 4 is the first version of Amiga OS to include USB support as standard. Now early-bird users can try this out for themselves because the USB system has been included in pre-release update one. In this update only Human Interface Devices (HID) are supported, this includes keyboards and mice. If you start the USB stack (the software that controls the USB hardware and devices) in your startup-

sequence using the supplied script (s:usbresident-startup) USB input devices will be available from startup and because the script makes the USB software resident they are even available in the early startup menu.

Serial and Parallel

While serial and parallel ports may seem old fashioned, many people have dial-up modems and printers that they would like to use with their AmigaOne. Pre-release update one contains a new parallel.device written for the AmigaOne's built-in parallel port. This means printing now works both with the standard Workbench printer drivers and TurboPrint. In TurboPrefs you need to choose to print to "Parallel" or to "Device" "parallel.device" rather than "Turbo-par" as the latter option tries to access "classic" Amiga hardware. Also supplied in update one is the a1serial.device which, you've guessed it, is a serial driver for the AmigaOne's built-in ports. a1serial.device can be used with Roadshow's "Internet Connection" utility to connect to your Internet Service Provider (ISP). Multiple connections (to different ISPs or to the same ISP at different rates) can be set-up using a handy "wizard" style utility which walks you through the process. When a connection is defined you can edit it or use the "Open Connection" utility to dial up.

UDMA IDE

Direct Memory Access (DMA) support has been added to the driver for the AmigaOne's built-in IDE controller. This means data can be read from, and written to, a drive with much lower CPU usage and at higher data rates greatly improving disk performance. The lower CPU usage makes many disk

intensive tasks such as loading programs, listing e-mails, searching for files and loading data into applications much faster. Currently UDMA support is limited to hard disks but we understand that ATAPI devices such as CD and DVD drives will also be supported.

Houston, we have a problem... but fortunately the solution is a little easier and less life threatening than Apollo 13! After extensive testing a problem has been found with the AmigaOne's built-in IDE controller in DMA mode that is triggered by the use of the built-in Ethernet adaptor. This means DMA can only be used safely if you don't use the Ethernet adaptor. For those who need to use Ethernet a driver has been written for Silicon Image 680 based PCI UDMA 133 IDE cards. These cards are inexpensive (about 15UKP) and can be used to boot the AmigaOne and use IDE hard drives at their full UDMA133 speed with minimal CPU usage. It is possible that a patch for the existing AmigaOne XE will be developed but we understand that it will require a delicate modification to the board so the SI680 card will be the easiest option for most users. The new µA1-C and -I models do not suffer from this problem and DMA can be used safely with the on-board IDE controller.

There are two ways to configure the "a1ide" and "si680ide" drivers. The first option is to set the UBoot variables, this method ensures that the settings are available as soon as OS 4 begins to boot and can be changed if you make a setting that stops OS 4 from booting. The "ide_conf" variable (replace "ide" with "sil" in these variable names to configure an SI680 based PCI card) allows you to configure which devices are connected to each IDE channel, the options are none, hard disk or CD/DVD device. ide_xfer sets the transfer mode (UDMA or Polled IO) and speed for each IDE device. Another variable, "ide_irq" controls the use of IRQs for each device on the bus, if IRQs are used the CPU usage during transfers is reduced for both PIO and UDMA modes.

OS 4 is also supplied with a new shell program called IDETool. This can be used to display information about the IDE

devices connected to your AmigaOne, this is useful for checking that your devices are running at their optimum settings. IDETool can also be used to change IDE settings on the fly, very handy for testing configuration changes before committing them to UBoot.

Fortunately for us, the IDE device drivers will usually automatically determine the correct settings if you leave the variables unset and don't use IDETool. However these settings can be useful if you find the automatic configuration is not optimum for your drives.

TIP. To see UDMA mode in action, add Peter Gordon's CPU clock docky (available from www.OS4Depot.net, utility/docky/cclock_docky.lha) to your AmiDock bar. Now copy some file from one hard disk partition to another using Workbench, you should notice very little additional CPU usage. Performing the same task in a PIO mode will max out the CPU.

Internet and Networking

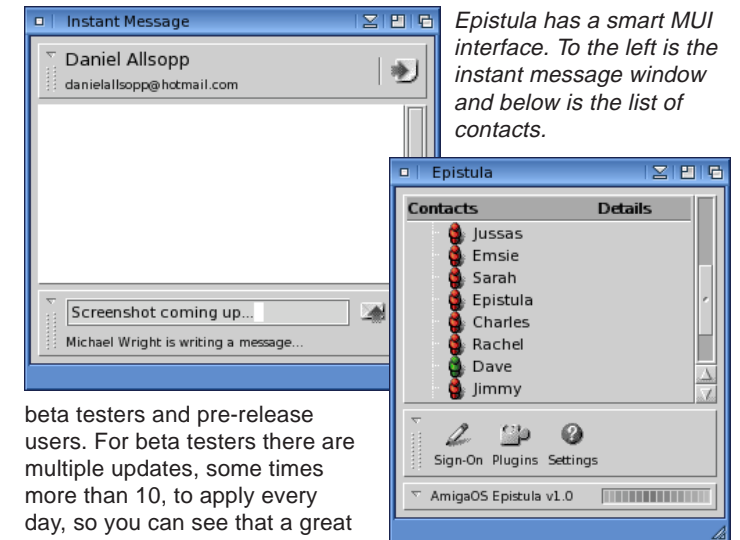
Enhancements to OS 4's Roadshow TCP/IP stack and to the driver for the built-in Ethernet controller have improved OS 4's performance while surfing the Internet or a network. Using a 512Kb/s (kilobits per second) broadband connection we noticed transfer rates increase from 52Kb/s (kilobytes per second) to around 59Kb/s and there is less delay before web pages and e-mails start to download. Also command line utilities are now included with Roadshow including an FTP client, ping and traceroute.

Audio

Thanks to lots of hard work by Davey Wentzler (the author of Audio Evolution, status update below) OS 4 now supports many more sound cards via its PPC native AHI implementation. The new drivers include support for the C-Media 8738 sound chip used in the new µA1-C and I motherboards.

Bug Fixes and Stability

As usual a huge amount of work has been going into making OS 4 even more stable and fixing bugs and issues reported by



Epistula has a smart MUI interface. To the left is the instant message window and below is the list of contacts.

beta testers and pre-release users. For beta testers there are multiple updates, some times more than 10, to apply every day, so you can see that a great deal of progress is being made. For the last few months the OS has proven very stable and many beta testers and pre-release owners now use an AmigaOne with OS 4 as their primary computer. Even with this regular use the GrimReaper is a rare visitor. The final modules that seem to have been the most tricky to implement such as PPC graphics and JIT emulation are now completed and entering beta test so it seems that the final release may finally be within sight! The best news is that, while OS 4 has always been an impressive achievement, it is now looking like a useable OS for general use too.

OS 4 Native Applications

As OS 4 seems to be coming along nicely, we thought it would be interesting to have a look at some of the software that is in development for the new OS:

Epistula

WWW: www.the-snakepit.co.uk/epistula/
License: To be decided
Author: Daniel Allsopp
Status: In development

Instant messaging is a relatively new Internet technology which has taken off in the last few years with services provided by many of the major IT companies including Microsoft, AOL and Yahoo. With instant messaging a user can see which of their friends is on-line and then contact them via a live text based chat session. Daniel Allsopp is developing Epistula, an OS 4 native IM client which can support multiple instant messaging protocols via a plug-in Interface. The program has a

MUI interface which already looks pretty slick even at this early stage of development and is planned to be available for 68K Amigas as well as OS 4.

Current Status

On his website Daniel reports that he has most of the basic features in place and a working MSN Messenger (Microsoft) plug-in. The program currently allows the user to login, view the status of contacts, send and receive instant messages, and add and remove contacts. HTML is used for the message display which allows the incorporation of text formatting, colours and smilies. For the initial release Daniel plans to add file transfer, proxy support, sound events and user configurable smilies. After the first release the next job will be work on a plug-in for the ICQ service which was supported by older Amiga clients like STRICQ.

Daniel has agreed to write a more detailed article about Epistula and its development for the next issue of Total Amiga.

Audio Evolution4

WWW: www.audio-evolution.com
License: Commercial
Author: Davy Wentzler
Availability: In development

Audio Evolution 4 is an audio hard disk recording system that will allow you to use your Amiga as a multi-track audio recorder and mixer. It also features arranging and editing of your recorded tracks in a non-linear and non-destructive way with unlimited undo: you can cut, copy, paste, move, split, trim and crossfade regions in a multitrack

wave form display. The mixing desk offers volume, panning, mute, solo, 3 insert effects, a 4-band EQ, 4 auxiliary sends and subgroup assignment per channel. Most parameters can be changed in real-time and also automated, where the automation events can be edited visually and recorded by controlling the mixing desk by mouse or MIDI remote controller. Audio Evolution 4 also has several synchronisation methods to synchronize start of playback with MIDI or other programs running on the same or other computers. It comes with an extensive manual in PDF format which also serves as on-line help. Expected release date is December of this year.

Current Status

As far as progress is concerned, Audio Evolution 4 has had a feature freeze for over a year, while DaveAE has been working on other OS 4 audio related projects such as the AHI port, drivers and Mixer. He has also fixed some bugs in AE4 which were uncovered because OS 4 is more strict than OS 3. However, as the OS 4 update-CD now contains a much faster PIO 4 driver for the built-in IDE controller, the SI680 UDMA driver and native graphics, AE4 can now be released and used as it's meant to be. Dave is working on getting AE4 out within 1 or 2 months. The things left to complete are the on-line help system, some documentation updates and the packaging.

One interesting thing that DaveAE has mentioned to us at Total Amiga is that, as a result of

one of his other projects, he can now start playback of AE4 remotely from another machine on a LAN or WAN. This means Dave can start AE4 on someone else's computer in Australia and the other user can start it on Dave's. Although this example is just for fun, it could have nice and useful applications (for which security would of course have to be considered!).

PicShow

WWW: <http://home.t-online.de/home/thomas-rapp/amiga/beta.html>
License: Freeware
Author: Thomas Rapp
Availability: Public beta version available to all now

PicShow is a powerful picture viewer which uses datatypes to support a wide range of image formats. Images are displayed in a borderless window on Workbench (or another public screen) or on their own screen. Right clicking on the image displayed brings up a list of all the images in the current directory allowing you to view any one easily. A wide selection of options can be accessed using the program menus or an optional button bar (which can be skinned). These include image processing effects, rotate, flip, zoom and even cropping. If you modify the image, it can then be saved as a JPEG or IFF file.

TIP. A "Slideshow" icon is included in the PicShow archive, after installation copy this into the drawer where you installed PicShow. Then double click "Slideshow" and select some images, these are automatically

displayed full screen complete with transition effects.

Current Status

A beta version of PicShow for AmigaOS 4 is available for download from Thomas' website. In our testing the program worked very well without any crashes. Pictures load quickly and the transition effects are smooth even at high resolutions. PicShow is an essential utility for any OS 4 user.

PageStream 5

WWW: www.grasshopperllc.com
Developer: Grasshopper LLC
License: Commercial
Availability: In development

PageStream shouldn't need much of an introduction to Total Amiga readers, as it is the desktop publishing package we use to create the magazine and we have reviewed new versions several times. Just in case you don't know then, PageStream is a professional DTP application and is probably one of the most complex pieces of software ever developed for the Amiga. I can't even begin to summarise its features here, probably the best way to describe it is that PageStream can be used for anything from a one page poster to a book with hundreds of pages and from a black and white flyer to a full colour magazine.

Current Status

In recent years PageStream has been available on several platforms: Amiga, Windows, Mac and Linux and Grasshopper has announced that this will be expanded to include MorphOS

and Amiga OS 4 too. The latest version of PageStream is 5.0 and this has been released on Windows and Linux so far, AmigaOS 68K and MacOS X versions are also said to be imminent. Grasshopper LLC told Total Amiga that they are still committed to the AmigaOS 4 version and have completed some preliminary work. At the time of our conversation they were waiting to get hold of an AmigaOne so development could start in earnest. Interestingly the company also told us that they plan for the OS 4 version to have an antialiased text display and to sport a new Reaction based GUI, taking advantage of new and enhanced OS features.

Stop Press!

Just as this article went to press Grasshopper have released PageStream 5.0 test program for OS 4 (and 68K Amiga). This command line utility tests the function of some of the core PageStream libraries on OS 4. While this is still far from a beta version, let alone a full release, it does at least show that the OS 4 version of PageStream is being worked on.

PageStream 5.0 and 5.0Pro (with additional features and plug-ins) for OS 4 can be pre-ordered from the Grasshopper LLC website.

ArtEffect

WWW: www.haage-partner.com
Publisher: Haage and Partner
License: Commercial
Availability: In development (early alpha demonstrated).

Another well known Amiga application, ArtEffect is a powerful image processor with an excellent and easy to use layers system which seems "inspired" by Photoshop. Also included are a wide range of special effect filters, a flexible "magic wand" masking system and a brush manager that can create realistic natural media effects. ArtEffect 4 is the most recent version which was released in 2000 and apart from a 3rd party collection of Plug-ins not much has been heard about it since.

Current Status

Despite the reticence of ArtEffect's publisher, Haage and



OS 4 native ArtEffect 4.0 being demonstrated at the Essen OS 4 On Tour event. The video is playing back in the OS 4 native MPEG, DVD and VCD viewer, DvPlayer.



Partner, apparently work has been progressing on an AmigaOS 4 native version. An early alpha version was demonstrated at the AmigaOS 4 on tour event Essen, Germany which took place in May. This demo was caught on video by Marcus Neervoort of www.amition.de, thanks to him for permission to use the grabs that accompany this article.

We haven't heard from Haage and Partner what their plans are for ArtEffect 4. As image manipulation is CPU intensive, it is important to have a native application therefore ArtEffect will be an important addition to OS 4's native software armoury when it is released.

Papyrus Office X

WWW: www.titan-computer.com/ami/papyrus
Publisher: Titan Computer
License: Commercial
Availability: Dependant on demand

Papyrus Office is an office suite for Windows, MacOS X, Atari and OS/2 which includes a word processor, spreadsheet and database. The word processor can load and save MS Word documents and has powerful features such as tables, references and footnotes. The database and spreadsheet are integrated with the word processor to allow mail merge and analysis within tables respectively. Papyrus is currently being ported to MorphOS and 68K Amiga by Titan Computer, the planned selling price is 129Euro (about £90).

Current Status

Titan have announced that they may consider an OS 4 version if there is sufficient interest. If you

YAM

WWW: www.yam.ch
Nightly Builds: <http://yam.light-speed.de/nightly/>
License: Open source (GPL)
Availability: Nightly builds available to all now

Almost every Amiga user seems to have used YAM for their e-mail at some point. Its combination of features and free distribution have proven irresistible over the years. YAM is now open source and development has been continuing at a steady but not blazing pace. Of course the great thing about open source software is that it can be easily ported to other platforms...

Current Status

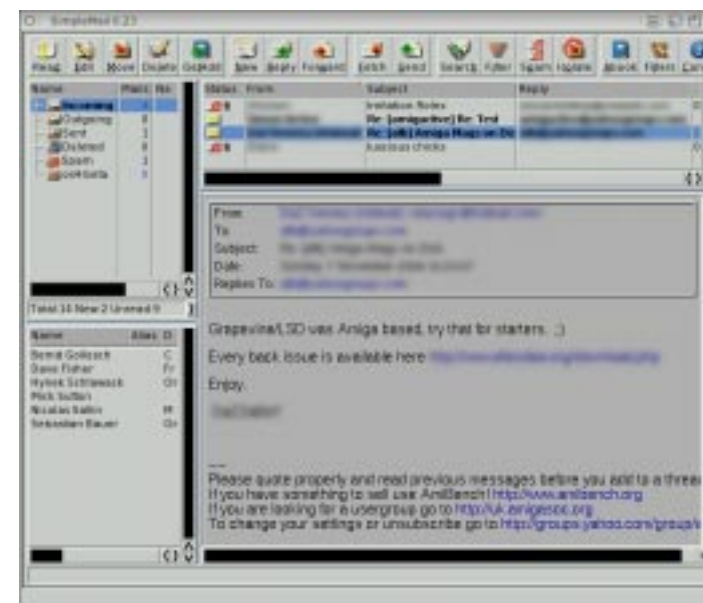
OS 4 native builds of YAM have been available for some time, but there is not yet an official release. If you want to try it out you will need to download the latest nightly build from the web site above. These builds are of the current development version and show a warning message. They can have bugs and problems so be careful and make sure you backup any messages you can't afford to lose before trying them.

While the development versions have new features of course these will be available to 68K users too. The main change on OS 4 is a drastic improvement in speed, for example opening an e-mail folder with thousands of messages now happens in the blink of an eye. This speed is a combination of PPC native code, native MUI and the fast new DMA IDE drivers.

SimpleMail

WWW: <http://simplemail.sourceforge.net/>
License: Open Source
Availability: Beta version available to OS 4 testers.

SimpleMail is the new kid on the Amiga e-mail software block and is the only Amiga program to support HTML formatted e-mail internally. Another recently introduced feature that really sets it apart is its SPAM filter which analyses the e-mails you receive to isolate the genuine messages from all the rubbish.



SimpleMail 2.3 for OS 4 is faster and has new features like the message preview shown here.

Current Status

An OS 4 native SimpleMail is currently available for OS 4 beta testers but unfortunately not to pre-release users. Unlike the YAM compiles, the current SimpleMail release for OS 4 does include some features that are not yet in the public release. These include the optional ability, as found in many e-mailers on other platforms, to preview a message in the main window without needing to open it. In our testing we found the current release to be stable and to have excellent performance compared to the 68K version both under emulation and on classic hardware.

RealSoft 4D and Hyperion Games

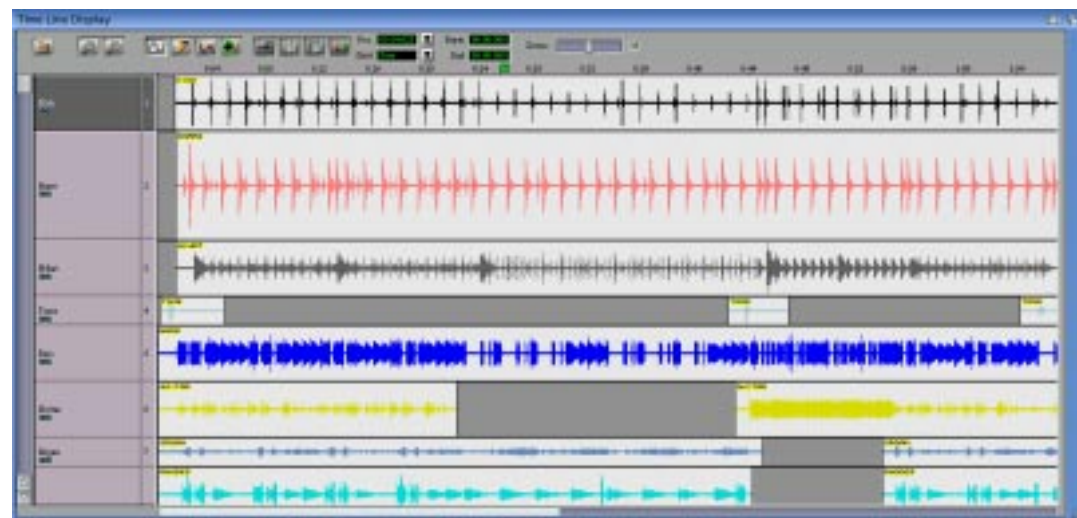
WWW: www.hyperion-entertainment.biz
Developer: Hyperion
License: Commercial
Availability: In development

Hyperion's regular game releases were the mainstay of the entertainment software scene for Phase 5's PPC accelerators and 3D graphics cards on classic Amiga hardware. Their releases included Freespace, Quake II and Shogo.

Current Status

We understand that Hyperion are planning to release their existing titles in new OS 4 native versions when the OS has been released. A beta version of Warp3D for OS 4 has now been issued to beta testers so this is a good sign that the required supporting software will be available. Although nothing has been decided yet it seems that owners of the classic versions of these titles will probably be charged for the OS 4 native versions to cover the porting costs. Some of you may remember that Hyperion were working on a port of SIN (a first person shooter) which proved to be too intensive for the "classic" PPC and 3D hardware. We understand that this is near completion and is also slated for release on OS 4.

Hyperion also announced a port of RealSoft 4D to OS 4, at the time of writing we have no further information on this project but understand it is underway.



Audio Evolution 4's time line display.

Features

AmigaOS 4

Darren Glenn tries out the very latest version of AmigaOS running on his trusty A1200 with Blizzard PPC.

It's been a long time coming but finally OS4 has arrived (albeit in pre-release form). Not only do we have a new OS but we also have new hardware in the guise of the AmigaOne. But those nice Hyperion guys haven't forgotten about us "classic" users who have invested in a PPC accelerator card and so OS4 is also coming to the classic Amiga!

The "classic" version of OS4 is still in closed beta testing but is quite advanced and is running on both the CyberStorm PPC A3/4000's and Blizzard PPC A1200's. Being PPC native, the OS needs more RAM than previous versions of AmigaOS but it is still lean and efficient, as we have come to expect. It will boot from 3.0 ROM's and can handle Zorro cards, clockport adapters, PCMCIA devices etc. through the existing 68K drivers. PCI busboards also use their own 68K software to work with OS4. Eventually these expansion systems will be handled by OS4 native drivers. This will mean that PCI cards such as soundcards, IDE boards etc. will then work using the native drivers already available on the AmigaOne.

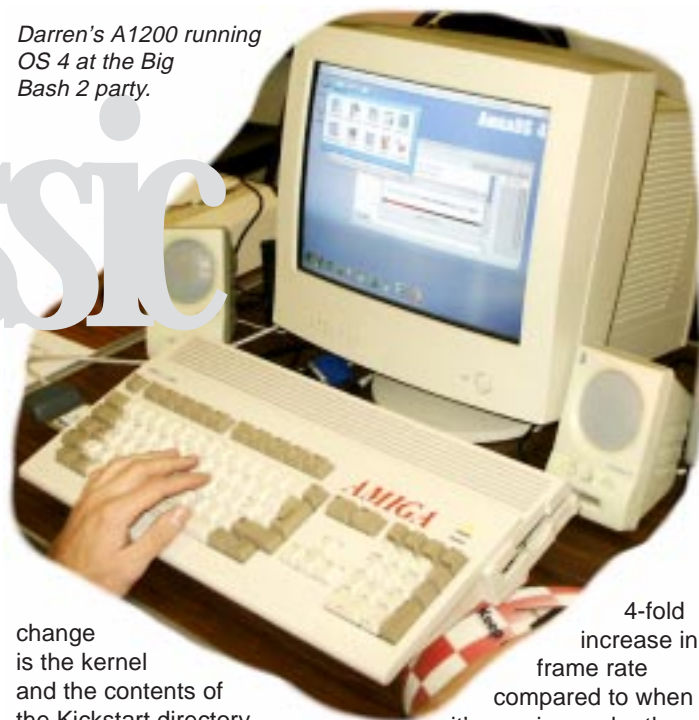
Installing OS4 is as easy as can be and the final end user

version will come with a robust install script just as you would expect from a professional operating system. Once the OS is installed on your hard drive all you need to do is set its partition to be bootable and do a cold reset, then watch the wonder that is OS4 boot up!

Almost as soon as the boot process starts the 68K CPU gets disabled and the whole shebang runs from the PPC. In a short period of time OS4 is up and running on the classic. To begin with the OS is running in an AGA screenmode so it looks a bit dated and is a little bit sluggish. However it does feel faster than OS3.9 on AGA, it looks better and even screen dragging still works on AGA! I was quite pleased to see that OS4 still has access to the AGA chipset, this means a fair amount of old software that needs AGA will still run, which is rather nice. Of course, most users will immediately select a graphics card screenmode which uses the PPC native Picasso 96 drivers included with OS4.

When I say "classic" version what I mean to say is just OS4. You see, there is very little difference between the OS4 than runs on the "classic" and OS4 than runs on the AmigaOne. The only real

Darren's A1200 running OS 4 at the Big Bash 2 party.



change is the kernel and the contents of the Kickstart directory as well as a few device drivers. Pretty much everything else is the same. This means "classic" users will get all the features you've read about in the OS4 reviews and updates. Every beta release that goes out to the beta testers applies to "classics" as well as the next generation hardware.

In terms of performance OS4 does very well. I have a 166mhz 603e, or BlizzardPPC to the likes of you and me. I also have a BVision graphics card and 128Mb of fast ram. Everything else is pretty standard. I still use Paula for audio, the internal IDE port for my hard drives etc. You can really see the speed increase once you boot into OS4. The graphics system is PPC native, just like on the A1 so things like opaque window re-sizing/moving are fairly smooth. Loading of all applications is faster because the filesystem is native and PPC native applications themselves perform better. YAM even downloads my e-mails faster now it's running native on the PPC.

As I write, Just In Time 68K emulation hasn't been integrated into the OS so some pure 68K applications do feel a little slow, but are still usable. Once JIT is integrated things will feel even better. With Petunia running (the JIT 68K emulator) voxeldemo shows a

4-fold increase in frame rate compared to when it's running under the interpretative emulation.

Having said that, not all 68K applications feel slower than they do when running native on a 68K CPU. Tasks like IBrowse feel quicker. This is mainly down to the native MUI, image datatypes and graphics system. Loading of websites like amigaworld.net is quicker and browsing has become an even more pleasurable experience. The only time IBrowse slows down is when it's having to work on heavy JavaScript, but I expect that to change once Petunia has been integrated (or the PPC native IBrowse 3.0 is released!).

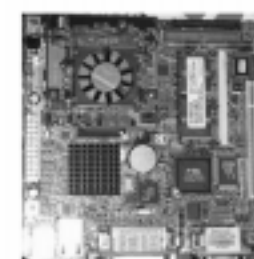
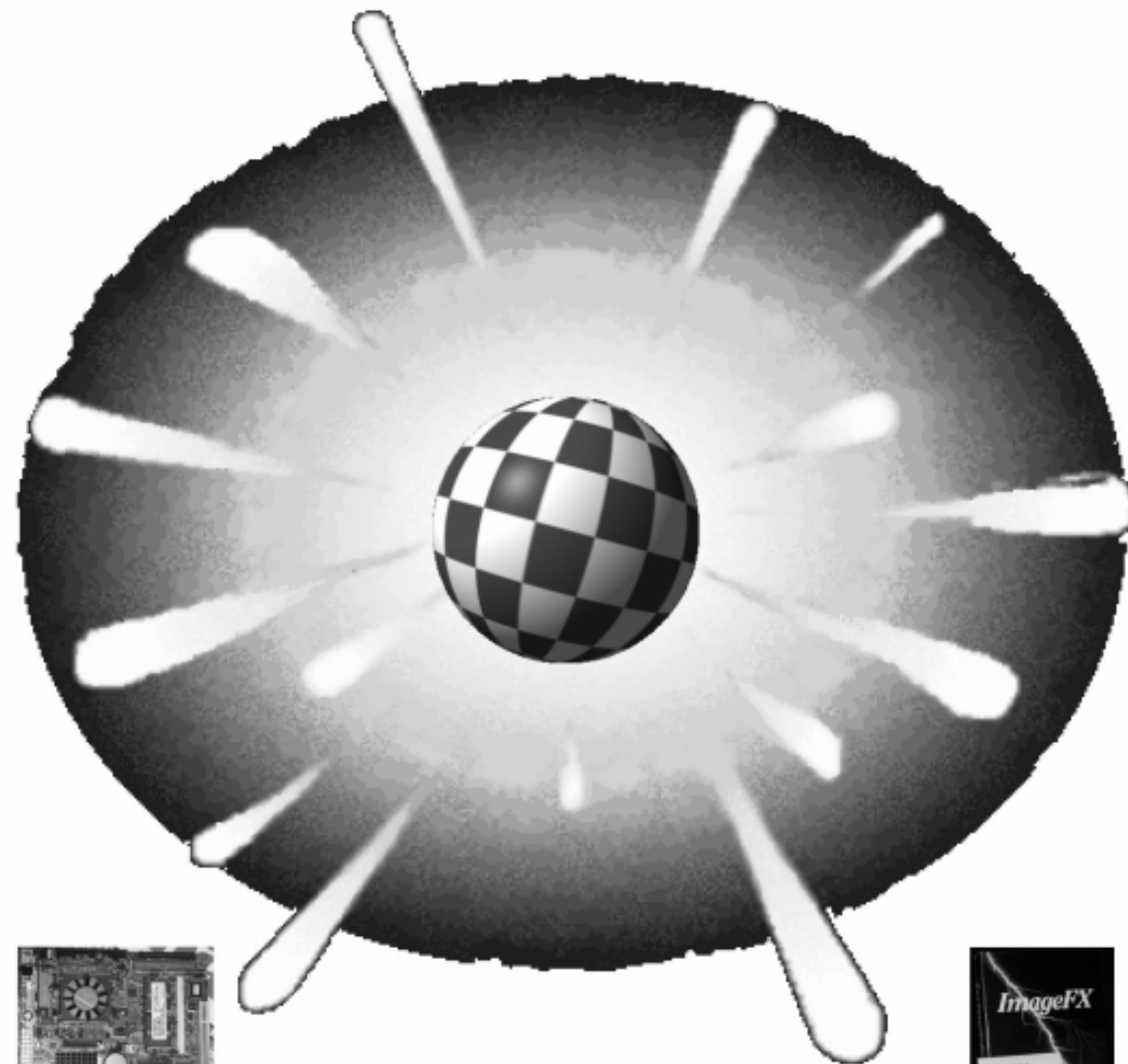
Personally I think AmigaOS 4 is great. It feels exactly like the OS I know and love, that's probably because it is the OS I know and love! To me it's the natural progression to the OS I've been waiting years for. It is now my primary OS, I only need to drop back into OS3.9 once a week or so when I need to use a 68K intensive application like Wordworth. Hopefully soon, when Petunia is integrated, I won't need to drop back at all. It's so nice to breath a little more life back into my classic Amiga which has served me so well for so long, and now I'm looking forward to a few more years yet. But I still don't think it's going to stop me from doing my utmost to get my hands on a new Amiga, an AmigaOne!



Just as you would expect, OS 4 running on the A1200 looks just the same as on an AmigaOne.

STELLAR DREAMS

Stellar Dreams, PO Box 8966, Great Barr, Birmingham, B43 5ST
website: www.stellardreams.co.uk email: info@stellardreams.co.uk



AmigaOne - ImageFX

Amiga Forever - More to come...

www.amiga-centre.co.uk

Canon PowerShot A80

Thinking about a new digital camera? Robert Williams has recently taken the plunge and shares his experiences.

Digital cameras must be one of the fastest moving areas of the consumer technology market at the moment. In just a few years consumer-priced models have gone from being expensive toys to powerful and useful tools. My first digital camera, an Olympus C920Z (1.3 mega pixel, 3X optical zoom), served me well for several years and was used to take many of the photos seen in the pages of Total Amiga. However, seeing the results some of my friends and colleagues achieved with their newer cameras I could see an upgrade was on the cards. Areas that I particularly wanted to see improved over the Olympus were focusing in low light conditions (the C920 often failed to get a focus lock) and processing speed (reviewing captured images was very slow).

.info

Developer

Canon
www.canon.co.uk

Available From

Most electronics retailers.

Price

£200 approx.

Requirements

USB Port
Poseidon USB Stack
PTPDigCam (freeware from aminet, comm/misc) or
Any USB stack with USBMassStorage support and a card reader.

Test System

Amithlon
AMD Athlon XP 2500+
512Mb RAM
AmigaOS 3.9
Poseidon 2.2
ArakAttack 1.10

The Agony of Choice

Many cameras on the market had similar specifications so choosing which one to buy was tricky, in the end I settled on the Canon A80 which was the latest in the PowerShot range, all of which had good reviews.

Introduction

The A80 is a four mega pixel camera with a 3X optical zoom, it features a fully automatic "point and shoot" mode along with a wide range of manual options. One of the features that makes the A80 stand out from its competition is the fold-out LCD display that enables the camera to be used from unusual angles and makes self portraits easy. My camera was supplied with a 32Mb compact flash memory card, wrist strap, Windows and Mac software on CD, manuals and four alkaline AA batteries. The 32Mb memory card is adequate to get started with and will hold about 40 images taken at the highest resolution and medium compression, you will however want to get some rechargeable batteries as alkaline cells run down very quickly. I purchased some 2000MAh NiMH rechargeable batteries and a charger for about £15 and the battery life is excellent, with a freshly charged set I've never run out during a days shooting.

Body and Design

Although the A80 is quite a lot smaller than my older Olympus camera, it isn't particularly tiny at about 10 centimetres wide, 7 high and 4.5 thick. However, this size means it is comfortable to hold with a shaped hand grip at the right hand side. The buttons and controls are reasonably large and well spaced. The front and top of the body are metal while the back and the hand grip are plastic, however the finish on the plastic parts is so good it's hard to tell they're not metal too. The camera has a weighty feel it

actually weighs 370 grams with batteries and memory card) which is partly due to the batteries which are in the hand grip. The overall impression is of a high quality item which belies its position at the consumer end of Canon's range.

On the back of the A80 is the LCD screen which can be used as a viewfinder and to review photos. The LCD is mounted on a flip and twist arm so it can be unfolded from the back of the camera and then twisted to various angles. This enables the screen to be clearly viewed when holding the camera at waist height, above your head or even from the front when taking timer or self portrait shots. Another advantage is that the display can be twisted to face the back of the camera and then folded away to protect it. As you twist the display the image is automatically flipped so it retains the correct orientation. The display has a 1.5 inch diagonal measurement which is somewhat smaller than some of the competition (and my old Olympus) but it is clear, bright and shows movement fluidly. The A80 also has an optical viewfinder for use in situations where the LCD cannot be seen clearly (such as bright sunlight) and to conserve power.

On the top of the camera are the power switch, mode dial, and

shutter button which is surrounded by the zoom lever. On the back is a 4 way directional pad, several buttons and a switch to change between capture (take pictures or video) and review modes. At the bottom of the body, behind rubber doors, are sockets for external power (the adaptor is an optional extra), video output (for connection to a TV set or video) and a mini-USB socket for connection to a computer (more on that later). On the right side is the memory card compartment which takes a single type I compact flash card. The compartment is covered by a plastic door which makes up part of the hand grip, this is the only part of the camera that feels less well built as the door is slightly flimsy when open.

Photo Options

Holding down the power button on the top of the camera for about half a second turns it on and, if you are in capture mode, the lens extends smoothly. The camera is ready to take a photo within 2 seconds, quite impressive and way quicker than my old camera! On the top of the camera is the mode dial which has no less than 14 positions, there is a fully automatic mode which handles everything for you, programme (P) mode which handles the exposure and shutter speed for you but has more options including exposure

compensation and white balance. Then we have shutter priority mode where you select the shutter speed and the camera works out the aperture, aperture priority where you set the aperture and the camera chooses a suitable shutter speed and manual mode where you can set both the aperture and shutter speed. There are two custom modes which can be used to recall settings you have saved. Movie mode has its own position on the mode dial, each movie clip can be up to 5 minutes long and you can take as many as there have space for on the memory card. The remaining 6 mode dial positions are pre-sets for particular situations, these include portrait, landscape, night and sport.

Whichever mode you are in the camera displays a selection of information around the edge of the LCD showing the current status and modes. For example the mode dial position, the status of the flash and the estimated number of shots remaining on the memory card. The flash mode (auto, always on, always off) and focus mode (auto focus, manual focus, macro) can be accessed by pressing up or down on the directional pad respectively. Pressing the FUNC button brings up a list of options appropriate to the mode you are in, shown over the live viewfinder. For example, in program mode you can adjust the exposure compensation (-2 to +2), white balance (5 types of lighting plus auto and manual), ISO speed (50 to 400), effects (vivid, neutral, low sharpening, sepia, black and white), metering (evaluative, centre weighted, spot) and the image resolution. There are also some additional options available by pressing the menu button where you can set your preferences.

After you have taken some photos or movies, review mode allows you to view them and delete any you don't want to keep. You can view one image at a time or, by "zooming" out, view nine thumbnails on each screen. Moving between full resolution images takes about 1 second, again way quicker than my old camera (and with much higher resolution to boot). Pressing the zoom lever towards telephoto (zooming in) magnifies a portion of the current image which can then be scrolled using the

The flip-out and twist LCD screen probably draws most people's attention to the A80, but it also has a wide range of other features.



directional pad. The image zoom lets you get in really close and is great for checking whether an area of the image is in focus. Pressing the FUNC button in review mode prompts you to delete the current image. Pressing MENU gives a range of further options such as rotation, recording a voice memo, and showing all the images in a slide show. As I've mentioned, the A80 can be connected to the composite video port of a TV or video so you can display your photos on the big screen too.

Picture Quality

Taking photos outside in good lighting conditions I was very impressed with the A80's output right from the start. The images are very detailed with little evidence of grain or artifacts even on the medium compression setting. The 4 mega pixel resolution produces images of up to 2272 by 1704 pixels, three lower resolutions are available (1600x1200, 1024x768 and 640x480) which of course take up less space on the memory card. For each resolution there are three levels of JPEG compression (normal, fine and superfine), the finer modes use less compression, have more detail and fewer artifacts. In general, I found that the fine setting offered excellent quality and created significantly smaller files than superfine.

Initially I was less impressed by the camera's performance indoors and under poor lighting, in automatic mode it tended to select a very slow shutter speed which made the hand held shots I took blurry as I couldn't hold the camera still enough (the camera does show a shake warning at slow shutter speeds). After some

experimentation I found that selecting program mode and increasing the ISO sensitivity greatly improved the situation at the cost of slightly more grainy output. With this setting and the help of the focus assist lamp the A80's performance in low light conditions is streets ahead of the Olympus. Rather than trying to describe the picture quality any further I will upload some images taken with the A80 to the Total Amiga website so you can see the quality for yourself.

Usage on the Amiga

Like most recent digital cameras the A80's only data connection is a USB port. Some cameras are USB massstorage devices so they will work with Poseidon (Chris Hodges' USB stack used by Highway, Subway, Algor and Spider USB cards as well as by the ArakAttack USB drivers and MorphOS) without additional software, unfortunately the A80 uses the Picture Transfer Protocol which is not directly supported by Poseidon. Fortunately Christophe Genre comes to the rescue with PTPDigCam, a freeware utility for AmigaOS and MorphOS which interfaces with PTP digital cameras via Poseidon. To use PTPDigCam you connect the camera to a USB port and switch it to review mode and then run the program. The A80 has not yet been tested as compatible so a warning appears but you can just accept it and the program runs as normal. PTPDigCam

Results

Pros

- + Range of manual features.
- + Output quality.
- + Sturdy build.

Cons

- Auto. performance in poor light.
- Flimsy card door.

recognises the number of photos, movies and sounds stored in the camera memory card and allows you to download all the files of each type individually to the directory of your choice. These functions performed flawlessly on the A80, the documentation mentions a limit of 10Mb but this must be for each file as I had no problems downloading more than 40Mb of photos (about 1Mb each) in one session. PTPDigCam also has the option to delete files on the camera and to set the camera's time from the Amiga and vice versa but these functions do not currently work on the A80, so I have to delete the images using the controls on the camera.

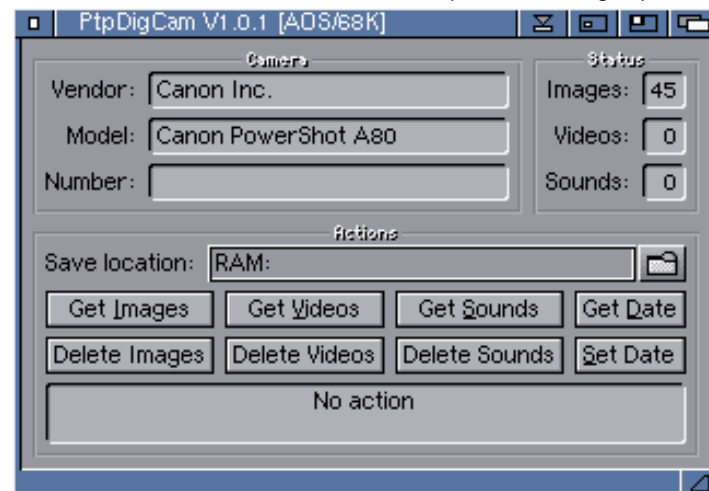
If you have a card reader that takes compact flash cards you will be able to read the images from the A80's memory cards. This option also enables you to delete files from the card.

The A80 is PictBridge compatible which means it can print directly to a printer with a PictBridge port. When connected images can be selected and configured for printing using the camera's display.

Conclusion

The A80 is a sturdy, well made camera that takes excellent quality images. Despite its relatively low price it has a wide range of manual features and a flip-out screen which are normally only found on more expensive "prosumer" models. While the automatic mode takes excellent pictures outside I found you really need to use some of the options to get good pictures in difficult lighting conditions. The camera works well on Amigas with Poseidon and MorphOS (which has Poseidon built in) thanks to PTPDigCam. If you want a digital camera that offers some options to be more creative and learn about photography I would highly recommend the A80.

Pretty Good!



PTPDigCam enables images to be downloaded directly from the A80.

Canon i560

Mick Sutton and Robert Williams get to grips with this surprisingly capable inkjet printer from Canon.

Think your printer is the best thing since sliced bread? So did we, but the chances are if it's over a year old the "state of the art" has moved on! With high quality digital cameras such as the Canon A80 (also reviewed in this issue) dropping in price, many people have thousands of digital images that deserve high quality prints. Dedicated photo printers have been available for some time now, but this Canon is evidence that general purpose printers can now produce excellent results. The i560 uses just three colour inks (cyan, magenta and yellow) and black.

The Canon i560 is a conventional looking inkjet printer, with a top loading paper feeder at the back and a fold-away output tray at the front. It prints on paper sizes up to A4

including 4" x 6" and 5" x 7" photo sizes. The printer is light grey and charcoal coloured which matches many modern peripherals and feels sturdy. It measures approximately 41.5 cm x 17 cm x 27.5 cm with paper feeder and tray shut which seems fairly large for an A4 printer. Unlike some recent models the i560 has both parallel and USB ports so it's ideal if you are unfortunate enough not to have USB.

Turn on, plug in and print out!

Another cool feature of this printer is the ability to print directly from a PictBridge compatible digital camera. Many

"Using photo glossy paper this printer can produce a borderless print that... is indistinguishable from a lab produced photograph."

recent cameras such as the Canon A80 feature PictBridge support. To print directly, the camera is connected to a second USB port on the front of the printer using the standard USB cable supplied with the camera. When it's connected the camera enters a special mode where photos can be selected and printed using the camera's display. The camera offers a selection of paper sizes and types, and various other printing options. This feature makes photo printing very easy and quick even if you have a slower Amiga that struggles with multi-megapixel images.

If anyone can...

Okay, so what's all the fuss about? In a word it's the print quality. Using photo glossy paper this printer can produce a borderless print that, to our eyes is indistinguishable from a lab produced photograph. Close up

we couldn't spot any dithering even in areas predominantly white such as cloudy skies. The prints are truly borderless with no tabs to cut or tear off and you can even print huge borderless A4 "enlargements". This quality is achievable printing from Windows, Mac, your camera and best of all your humble Amiga.

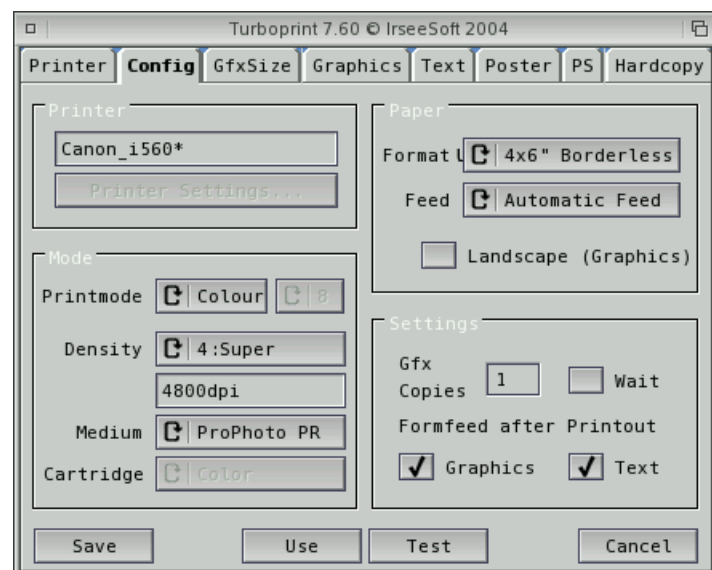
Canon haven't compromised on the general printing performance, text printing is very clear, vivid and extremely fast. Canon quote 22 pages per minute in black and white, and while this is optimistic it's certainly the fastest inkjet we've seen! Colour documents print speed is quoted at 15 ppm and a top quality 4" x 6" photo takes just under a minute to complete. Despite it's impressive

Below: Four separate cartridges should reduce wastage and running costs.



Compatible with Windows AND Mac...

To use the i560 on the Amiga you'll need Turboprint version 7.60, which is available new or as an upgrade to earlier versions. It's great to see that Turboprint supports almost all of the printer's features, including borderless printing and a variety of paper types. Borderless paper sizes can be selected both in TurboPrefs and Graphics Publisher, but for some reason the 5" x 7" size is missing. The only other limitation we came across compared to the official Canon drivers (for other platforms) is that Turboprint lists the maximum resolution as 2400 dpi (compared to 4800 on canon



Version 7.60 offers support for most of the i560's features including borderless printing and specialist paper types.



Although it's not a beautiful design, the Canon i560's colours do match modern computers and monitors. Notice the PictBridge port on the front right.

driver) but we were unable to detect any difference in the level of detail in prints from the different platforms. Canon supplies Windows and Mac users with utilities to clean and align heads, unfortunately these functions are not available on the Amiga. You may want to do a one-off alignment from a PC or Mac before transferring the printer to your Amiga. Readers with a PC and/or Mac as well as their Amiga will be interested to know that the printer comes with a useful photo printing application, Easy-PhotoPrint, which is surprisingly intuitive (for a Windows program). Windows users also get Easy-WebPrint which makes Internet Explorer prints fit on the page... whoopee!

While we haven't had the printer long enough to work out exact running costs, it does have individual ink cartridges for each colour which should reduce wastage when only one colour runs out. Canon cartridges cost about £8 each but they don't contain a chip so you could refill. Compatible replacement cartridges are also available for less than £2 each but beware that they may not be an exact colour match. The i560's print head is supplied with the printer (rather than being part of the cartridge) and Canon state that it should last for the lifetime of the printer, but it is user replaceable should the need arise.

Go on... Make My Day!

The Canon i560 is fast, quiet, cheap and produces fantastic print quality on all types of paper, in fact it's really hard to fault. For the Amiga user Turboprint's support is comprehensive and worked well on all the systems we tried, including Amithlon and OS4! The only negative point that we could think of was its relatively large footprint!

Now was that 6 colours or only 4?

One of the down sides of inkjet printing tends to be the running costs, a set of cartridges can cost as much as the printer itself!

Results

Pros

- + Excellent print quality.
- + Fast and quiet.
- + Promises to be economical.

Cons

- Relatively large foot print.

Top Notch!

Step by Step Borderless Printing

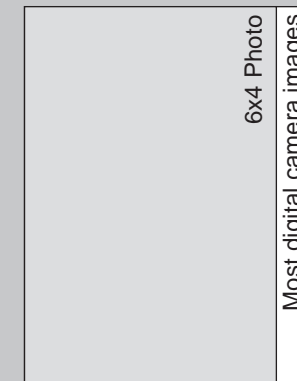
Turboprint 7.60 and Graphics Publisher can produce excellent borderless prints on the i560, but how do you get a photo to fill the page without distortion?

Step 1: Select "Project/Page Size" and choose whatever borderless paper size you plan to print on using the cycle gadget. For this example we are choosing "4x6" Borderless".



Step 2: Load the picture you want to print using "Picture/Load".

Step 3: Click on the image and move it into the top left hand corner of the page, drag out the bottom right hand corner of the image to fill the page as much as possible.



Step 4: You will notice that the image does not completely fill the pages because most digital cameras produce screen rather than photo shaped images. Crop the image using the "Select Section" option in the "Picture" menu, drag the edges



to crop the image to approximately the right shape to fit the paper. After making an adjustment you can drag a corner of the image in the main window to check it fits. If it does not quite fit repeat the process, note that you can leave the "Select Section" window open.



Step 5: Once you have the image fitted as closely as you can (there's no need to be too accurate), close the "Select Section" window. Select "Position" from the "Picture" menu, in the window un-check "Ratio" and check "Full" for both "Width" and "Height". This will cause your picture to completely fill the page.

Step 6: Choose "Project/Print" and then click the "Turboprefs" button. In Turboprefs select the "Config" tab and choose the matching borderless paper "Format" (4x6" Borderless in this example), the print "Density" and "Medium" (paper type) you require. Click "Use".



Step 7: Now you're ready to print! Note that we have found that although we changed the print density within "Turboprefs" this is not shown in the Graphics Publisher "Print" window. In our experience the density used is that set in "Turboprefs", the "Print" window selection is ignored!

.info

Developer

Canon
www.canon.co.uk

Price

£90

Requirements

Turboprint 7.60
www.irseesoft.com
Parallel Port
or
USB with a USB stack supporting the printer class.

Test System

Amithlon
AmigaOS 3.9
Turboprint 7.60
USB (Poseidon and Arakattack).

AmigaOne XE G4/800
AmigaOS 4
Turboprint 7.60
Built-in parallel port

Amiga Forever 6

Robert Williams was impressed by the download version of Cloanto's well know Amiga emulation package when he reviewed it in the last issue. What will he think of the extra goodies in the CD edition?

When we reviewed Amiga Forever 6.0 in issue 18 we only had access to the download version. Because it seemed that many of the most interesting new features were only included in the CD version we asked Cloanto if they would send us a disc to review and they kindly agreed.

To briefly recap for anyone who hasn't used Amiga Forever before and doesn't have issue 18, Amiga Forever 6.0 is a package supplying all you need to emulate an Amiga on a variety of other computers. Included are the Amiga emulators UAE and Fellow, supporting software, and most importantly the licensed Amiga Kickstart ROMs and AmigaOS you need to use the emulators legally without the need to own a classic Amiga. Amiga Forever is mostly aimed at Windows users, on this



The default AmigaOS configuration which is available both from the Amiga Forever launcher utility and when booting from CD.

platform an installation utility and graphical front end to access the emulators and content is supplied. The package also includes emulators for MacOS X, Linux and even AmigaOS (for emulating an older Amiga on a newer one) which can use the ROMs, OS and some of the supporting files but will have to be set-up manually.

CD Booting

For many people the most interesting feature of the Amiga Forever 6.0 release is the ability to boot a PC directly from the CD without the need to have Windows, or indeed any OS, installed. To achieve this Cloanto have installed the Linux version of UAE onto a modified version of Knoppix (a Linux distribution designed to run from CD) which Cloanto call KX/Light. To boot from the disc all you need to do is set the PC to boot from CD in the BIOS (usually accessed by pressing a key as the PC starts). Then insert the CD and restart, after a few seconds the red "cracked earth" background from the Amiga Forever CD appears on the screen and some text output is shown as Linux boots. After a few more moments, a grey boing ball screen is shown

with a progress bar. Finally you see the "Amiga" boot and the Workbench appears running at 800x600 resolution in 256 colours. On our 700MHz Athlon test system the boot process took about 2 minutes.

The version of AmigaOS loaded is 3.1 with many of the modules from versions 3.5 and 3.9 although it is not a complete 3.9 system due to licensing issues. Many useful utilities and applications are pre-installed including Personal Paint, Directory Opus 5.5 (a specially licensed edition, unfortunately this is not the latest release that supports glow icons) and Turbo Text. A number of essential commodities are already running from the WBStartup drawer when you boot too, such as Cycle2Menu and PowerSnap.

Along the bottom of the Workbench screen is a button bar this is provided using ToolManager because AmiDock is not included with Amiga Forever. The bar provides access to most of the applications and utilities and also has icons for performing common operations such as de-crunching LHA archives. At the end of the bar is UAECControl, this neat utility allows you to

reboot the emulated Amiga (without rebooting the whole PC) and to shut down the emulation. When you shut down, the emulator closes, as does the Linux OS running in the background. We could not find a way to exit to a Linux desktop or shell session.

If your PC is connected to the Internet via an Ethernet connection (for example via an Ethernet router) and the network has an active DHCP server (often built into the router) then the connection will be automatically configured and available for use within the emulation. Because the TCP/IP stack built into Linux is being used, you don't need a stack running within the emulation, it "just works". A full copy of AWeb 3.4 APL is preinstalled allowing you to access the Internet from your virtual Amiga and we found it worked very well apart from occasionally not loading some images (which we have seen happen in AWeb APL on "real" Amigas too).

The version of UAE used supports JIT (Just in Time compilation) and felt very snappy even on the 700MHz Athlon based PC we used for testing (a very low spec compared even to a cheap new machine).

This Review

This review covers only the additional features included on the Amiga Forever 6.0 CD over the download edition. We encourage you to read it in conjunction with our AF 6.0 review in issue 18 which covers the emulator software and Amiga Explorer, the most important aspects of this product. Use this review to see if the CD bonus features are worth the additional cost over the download release. The results at the end of the review cover the CD edition as a whole.

Limitations

At this point the CD-Boot option is looking fine and dandy, but unfortunately there are some significant limitations. The System and Work "partitions" that are available within the emulation are read directly from the CD, this makes accessing them rather slow. More importantly they are read only so there is nowhere to install any new software, even temporarily. If you want to install new software another problem is that the AF 6.0 CD cannot be ejected while the emulation is running so you'll need to have two optical drives if you want to access a CD.

A possible work around for the lack of a writeable partition would be to install software to the RAM disk or possibly to create a recoverable RAM disk (RAD). However this is severely limited because the emulation is only configured with 2Mb of chip RAM and 8Mb of fast RAM. This memory rapidly fills up even when running a few of the programs supplied on the CD, so things would be even worse if some were used for program storage. Another limitation is that the screen resolution cannot be changed from 800 by 600 pixels although you can change the colour depth from 8 to 16bit.

Cloanto state on their website that they plan to supply instructions for installing the KX/Light environment onto a hard disk and for reconfiguring it (and presumably burning a new CD-ROM) which would get over the limitations we mention above. At the time of writing (several months after Amiga Forever 6.0 was released), these instructions are not available so we have reviewed the CD as supplied.

The CD boot option works well (although it could use more memory) if you are happy to stick with the included programs. We had hoped that it would be possible to temporarily install software so, for example you could take the AF6.0 CD to work, install a useful Amiga application or two and use them, all without making any changes to your work PC. Hopefully Cloanto will make the information available so we can create our own custom KX/Light CDs.



Two stills from the videos included on the AF 6.0 CD.

Left: The original Commodore Amiga introduction presentation.

Below: The Deathbed Vigil, showing an AAA chipset prototype board.

Additional Content

After being rather disappointed with the CD boot option, we were very pleased to find the excellent additional content included on the CD. This consists of a number of movie files relating to the Amiga's history, some nostalgic documents and a number of games pre-configured and ready to play; all accessed from the Amiga Forever GUI (if you're using Windows).

Movies

The following movies are included on the disc; each one is compressed in Windows Media format using the VC-1 codec. This means you will need Window Media Player 9 or later on either Windows or MacOS to play them back. According to the Cloanto web site Turbo Media Player and Xine on Linux can also handle these files but may require some Microsoft DLLs.

Launch of Amiga - This is a video of Commodore's original Amiga 1000 launch presentation; we had never seen this before and it is most impressive. It features a demo of many of the Amiga's features and Andy Warhol painting an image of Debbie Harry. This is a reminder how important the Amiga launch was to Commodore. The event (which took place in 1985, remember) looks on a par with Apple's recent slick product announcements!

Jay Miner Speech - As most of you will know, Jay Miner was the chief designer of the Amiga's hardware and is often referred to as the "father" of our favourite machine. This is a video taken at a user group meeting in 1989 at which Jay gave a speech covering his involvement with the Amiga's development.



Jay Miner Interview - This is an audio only interview with Jay that is accompanied by his words in scrolling text. The Interview covers the beginnings of the Amiga up to the Commodore buy out and also Jay's views on computers in general... interesting stuff.

The Deathbed Vigil - Dave Haynie's classic production with video taken during his last day at the Commodore plant in West Chester USA and reminiscences from the Deathbed Vigil party held for ex-Commodore staff. This includes lots of information about what led to Commodore's demise and the projects they were working on at the time. And of course it's your chance to get a look at the fabled AAA chipset.

Files

The files section includes a number of scans of interesting documents related to the Amiga:

Byte Amiga Preview - This 20 page TIFF file contains a preview feature on the A1000 from Byte Magazine published before the machine hit the shops. The article is fascinating and goes into a lot of technical detail, emphasising what made the

Results

Pros

- + Excellent bonus content.
- + Slick presentation.
- + Great documentation and support.

Cons

- Limited CD-Boot configuration.

Amiga different from other computers available at the time.

Amiga Patent - Another multi-page TIFF containing a US patent for the Amiga computer itself, registered in 1988. This has a lot of technical detail and excellent hand drawn diagrams.

A1000 Case Photo - This PNG image shows the signatures (and paw print) moulded into the plastic cover of the Amiga 1000.

Games

Five games are supplied on the CD as ADF files for use within the emulation and can be easily launched with a single click from the GUI. The games: Deluxe Galaga, Hilt2, Mindwalker, Ports of Call and Tower of Souls, are all freely distributable and can be legally downloaded from sites like <http://www.back2roots.org> if you decide to go for the download version of AF6 (or set up your own emulator for that matter). However the idea is to give users a feel for Amiga games and get them to experiment with others. Various legal download sites for Amiga games are listed on a linked page of Cloanto's website.

Conclusion

Like the download version, Amiga Forever 6.0 CD is a very slick package and everything worked well in our testing. We found the CD-boot option rather disappointing, as its only real use seems to be to demonstrate the Amiga OS it's hard to see how it could be put to productive use unless you happen to need one of the preinstalled programs. On the other hand the other CD bonus content is excellent and anyone interested in the Amiga's history will find the files and videos fascinating and hard or impossible to get elsewhere. Our advice is to go for the CD version if you enjoy a bit of nostalgia, otherwise stick with the download.

Pretty Good!

Expanium EXP431 MP3 Mini CD Player

New Total Amiga reviewer, Anthony Hoffman, finds an ideal way to enjoy his MP3s on the move.

No doubt we've all seen the many different audio players on the market nowadays. The commonly available 12cm CD players or "walkmans" are large and bulky. Cassette tapes are old and inconvenient.

If you want something small, you need to use something like a Sony Mini Disc player, or one of the many memory card/stick players. There are even some with built in hard drives! A problem with most of these is they use proprietary communication protocols, meaning you need a special piece of software (typically only developed for Windows) to upload music to these players. Until now there has been few options to the average Amiga user, until now...

Introduction

There are several Expanium models, this review is based only on the higher tier 8cm model.

I'd been in search of such of a device for a while, and discovered the Expanium product range in late 2002. The New Zealand market for them doesn't appear to be very big, so as far as I know, Philips are not currently selling them in NZ. A quick search on the web found a number of suppliers. I figured a UK supplier would be best, as the mains powered accessories

.info

Developer

Philips Consumer Audio
www.audio.philips.com

Purchased From

HifiBitz - www.hifibitz.co.uk

Price

£119

Requirements

CD Writer and software.

Test System

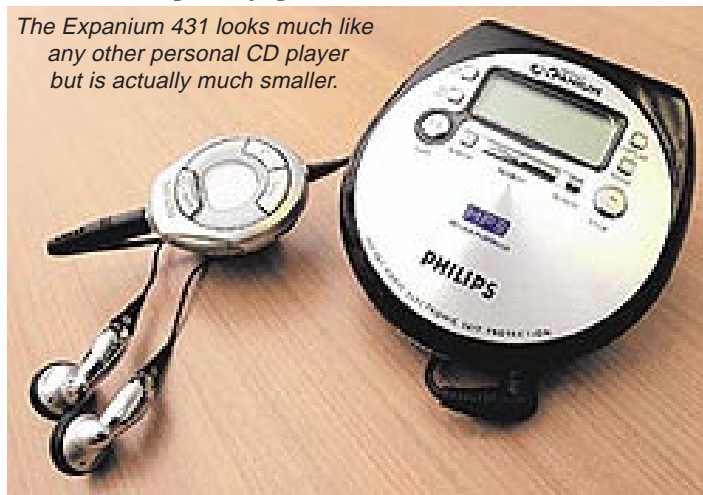
A4000T/060
Yamaha 6416S CD writer
AmigaOS 3.9
MakeCD 3.2d

would be the same voltage rating as NZ ratings. I decided upon the model EXP431 as it was the newest model out, boasted a lot more features, was smaller, lighter, and only £1 more expensive than the two lower models! (EXP401, EXP411)

I chose HiFiBitz as the supplier as they had a detailed website, and they were an audio electronics specialist. None of the UK suppliers were able to ship products overseas, so I had this delivered to a friend in the UK who forwarded it onto me. It took about 3 months to get delivered from HiFiBitz as this model is fresh off the production line at Philips. The HiFiBitz website ordering system was a bit funny to use, it wanted the delivery address and the credit card holder's address to be the same. In my case this was not possible. So at their recommendation, I made an international phone call and ordered over the phone, no problem there.

On arrival I inspected what I got. There were 4 large instruction manuals, with 4 different languages in each. There was the EXP431 itself, a set of earphones, a funky LCD remote control, a set of Ni-MH rechargeable batteries, a mains charger and a single blank CD. The player was sized as expected, about 100mm (4") in diameter. Fits comfortably in the palm of your hand. I compiled a list of MP3s and wrote them to an 8cm disc. It's worth noting that the player doesn't specifically recognise the Amiga ISO 9660 filing system, so if you use this, the device will only see the first 30 characters of the filename. This can be a problem because it needs to look at the .MP3 suffix to recognise the file. To get round it, MakeCD has recently introduced the option of writing CDs in Joliet format, the same as used by Windows. Using this, you can have filenames more than 30 characters which the player will recognise. The player is simple to use. You insert the disc and just press play.

The Expanium 431 looks much like any other personal CD player but is actually much smaller.



Let's Play

There are a number of features you can use during playback:

Albums - If you put MP3s in different directories, they are referred to as albums. For example in a drawer called "Classical" you could put some classical MP3s, and likewise you can have albums named "Rock", "70s", "disco", etc. You can then play from the selected album, or randomly from any album on the entire disc.

Favourites - You can tag about 2000 different tracks as "favourites" from within any album. The EXP431 remembers these track names, so you don't have to re-set them when you change CDs. You can choose to play only from your "favourite" tracks if desired.

Skip Protection - You can turn this feature on which buffers the audio data into memory before playing it. This means if you knock the player (making it skip) the music is not interrupted. The slight disadvantage is playing time from battery is reduced. I leave the feature off, and after some pretty rough handling, it STILL doesn't skip!

Display - The LCD shows you the filename being played, or optionally the artist name or song title which are read from the MP3's embedded ID tag. Also shown is a battery charge indicator, album number, track number and playing time.

LCD Remote - It acts like an extension cord for the earphones, and has a number of controls such as volume, play/pause, stop, track up and down, album up and down, playing mode (album, random, favourite, etc.). The display shows the album number and current track playing time. Personally I find the remote slightly bulky and a bit fiddly to operate. The buttons get accidentally pressed quite often. Fortunately it has a "hold" switch which disables the buttons.

The blank 21 minute 8cm discs are easily purchased from the likes of Dick Smith. They are a little more expensive than their more common 12cm cousins. The Warehouse were selling the extended format 34 minute 8cm discs at one stage. They don't seem to have stocked them in a while. On a 34 minute disc, you can fit 34 minutes of CDDA (standard un-compressed) audio, or around 5 hours of MP3s, depending on the bit rate used. You get around 5.5 hours of playing time if using the supplied rechargeable batteries, and 7 hours playing time if using standard alkaline AAA batteries, of which it takes two.

Likes and Dislikes

I particularly like the size, and of course it's ability to play MP3s from a standard 8cm disc. The media is very cheap compared to other memory players. In this case a 300Mb disc costs you about \$2. For a 300Mb memory

card/stick, you're looking at around \$200!

If you loose or damage a disc, no problem. Just write yourself another. If you need a lot of music, just carry a few 8cm discs in your pocket. They're compact enough to easily do so.

The supplied rechargeable and built in battery charging also works very well.

Probably my least favourite item would be the supplied earphones. Maybe it's just my ears, but they simply don't fit. Not even slightly. You might try showing a refrigerator in your ear and would have better results! Fortunately you can use any standard 3.5mm earphones with the player or the remote control.

Similar Products...

It's functionally similar to the conventional 12cm CD "walkman", though they're nearly double the size. It's similar in size/weight to a Sony Mini Disc player, but you don't have the inconvenience of having to use the proprietary Mini Disc. Also the music time from an 8cm MP3 CD is longer. Many of the memory card/stick players on the market are a lot smaller than the EXP431, but as mentioned, the memory media is NOT cheap, and some use proprietary software to upload files to them or require USB. With the EXP431, you simply use your choice of CD writer and CD writing software.

Conclusion

I'd highly recommend the EXP431 to anyone looking for a discreet portable audio player without the hassles and cost of the proprietary "memory" players. Even without using the inbuilt skip protection, it rarely skips, making it ideal for use during physical activity/sports.

Result

Pretty Good!



ShowGirls

Sam Byford takes a look at a powerful image viewer that's not just for the "ladies"!

Despite its name, ShowGirls is not a specially made p0rn viewer, but is in fact a very good image processing capabilities akin to MiniShowPicture and ShowPPC. Still in its early developmental stages ShowGirls really does promise to become a brilliant addition to the MorphOS platform. Its author, Michal 'Kiero' Wozniak, has informed me that he would love to port ShowGirls to OS4 if he can get hold of a cross-compiler and an SDK. The current user version is 0.6a but I am using an early version of 0.7 which will be available shortly (maybe even by the time TAM hits your doormat) so I shall write the review based on version 0.7.

In order to run ShowGirls a few MUI libraries are required, all easily available from Aminet: MCC_LayGroup.lha; BetterBalance.mcc; BetterString.mcc and BetterString.mcp. If these are not installed then the browser section of ShowGirls will not display properly, although it should still run. ShowGirls can display any images for which you have a datatype, and loading will be enhanced by the PPC native versions that are now available for MOS (and OS4 if ShowGirls gets ported). Now for a Very important warning - I ran into a

.info

Developer

Michal "Kiero" Wozniak

License

Freeware

Requirements

MorphOS

Download from

www.binaryriot.com/kiero
or www.morphzone.org

major problem which I at first attributed to ShowGirls but in fact turns out was the fault of my TIFF datatype. I often use TIFFs because they are lossless and so the quality stays high, and in order to view them I had installed AkTIFF (from Aminet). Using this datatype I discovered that ShowGirls would get a massive memory leak, and after loading a directory with three or four TIFFs

"Despite its name, ShowGirls is not a specially made p0rn viewer..."

I would be left with just 5Mb of memory, and only a reboot would get the other 200Mb back again. Not nice. I next tried TiffDT, which solved the memory leak problem but was incredibly slow (one minute to load a 32Mb Tiff). Finally I settled on the WarpDT TIFF by Oliver Roberts which works flawlessly and loads the same TIFF in just two seconds. The WarpDTs are shareware with a 30day trial and available from www.warpdt.co.uk.

The Tooltype settings for ShowGirls currently stand at just two options: Fullscreen, and Browse. Disable Fullscreen if you want ShowGirls to display in a window on start-up and leave Browse enabled to show the browser by default. The same options can be used if you call ShowGirls from CLI/Shell.

Browser & Viewer

ShowGirls is split into two basic parts - the file browser (which can be turned off) and the image viewer. The browser is very configurable, both in the way it looks and how it handles. There is a choice of two display modes: thumbnail (miniature versions of the file) or list. Both are set out the same, with a "Volumes" menu bar at the top, a "Parent" button below this, then either a DOpus style lister or a set of thumbnails with directories

shown above the files. Below the files is an input-string box where you can manually type a location. You can also choose to display an information panel which will give a variety of helpful data depending on what ShowGirls is doing at that moment. When you first enter a directory it will tell you how many files it has loaded and how many there are in total to display. When you select an image it will display its dimensions (in pixels only at the moment), file format, and how long it took to load that image into the image viewer. A cache can be created with three sizes of compression which aids ShowGirls with loading the thumbnails (which are stored as JPEGs). This cache can be turned off, its location set and it can be cleared with just one button press.

Thumbnail view displays each directory and file as an icon. Directories are displayed as the "default directory icon" but it would be nice if the actual icon was used, with the default for those with none. Image files are shown as thumbnails and non-image files can be shown or hidden via an option in the preferences. You can use MUI to change the background, text font, "button" style (that each thumbnail and text is displayed on) and the thumbnail height and width can be independently altered in the ShowGirls preferences. This is a major plus point for ShowGirls because it means you can fit many more icons into the window without taking up too much room. The size of the thumbnail does not seem to impact on the speed with which ShowGirls loads a directory. One nice touch is the "border" preferences option that allows you to change the space between the edge of a thumbnail and the edge of the button each thumbnail is shown in. This option makes the display look a lot more professional and not so squashed. Using MUI you can also change the space between

each thumbnail's button but it would be nice if this preference could be altered from within ShowGirls as well because finding the correct option in MUI can be a daunting project!

List view shows directories in bold, with the files underneath and next to each item is its Size, Date and Type. List view uses the NList MUI class and so each column can be organised in ascending or descending order (largest sized files first working down to the smallest file, for example). Secondary sorting can also be employed by holding down the SHIFT key when selecting a column. The Type column specifies exactly what a file is, be it JFIF; ILBM; PNG; BINARY or ASCII etc. Non-image file can be shown or hidden here also.

In both modes browsing can be performed by either the mouse or keyboard and context sensitive menus can be brought up with a right mouse click. ShowGirls is smart enough to show a context menu based on the folder/file the mouse is currently over, rather than the last selected item. This is good because it means you can be certain you are changing the file you want, and not the last image you worked on! The scroll-wheel on a mouse will scroll the browser up and down while the "Home" and "End" keys on the keyboard will jump to the top or bottom of the list. "Page Up" and "Page Down" will move back or forward one item in the list, automatically displaying that file in the viewer. "Delete" will erase an item (a verification window will appear first though) and either set of +/- will zoom the picture loaded into the viewer. Using the mouse you need to



Bilinear filtering (right half) improves quality at high magnifications.

double-click an image to load it into the viewer.

The browser and viewer are separated by a moveable vertical bar, the position of which is remembered by ShowGirls. So

"...for the basics ShowGirls really does rule..."

you can (for example) have the browser set to thumbnail view and showing four columns of medium sized icons, or eight columns of small icons (icon size set in the ShowGirls preferences of course).

The viewer displays one image at a time, which can be manipulated and altered via certain keypresses and menu items. If you right click over the image a small menu pops up with several options: Auto Image Size / Shrink to fit display and Zoom to fit display; Zoom / Keep; Filtering / None or Bilinear; and Subtask. If you tick "Shrink to fit display" then large images will be zoomed out to fit the entire picture into the viewer, and "Zoom to fit display" will enlarge small images to fill the space. If you use the +/- or scroll-wheel to zoom in or out on an image and have "Zoom keep" ticked then every image you load will remember that zoom setting and display accordingly.

I had to search on-line in order to find out what Bilinear Filtering was because changing that option at first did not seem to change anything with my pictures. Bilinear filtering basically performs a similar

function to anti-aliasing on text - it smooths edges and colour transitions in an image. The reason I had not noticed any changes was because I was using a large image zoomed out and it was not until I zoomed in on some detail that I noticed the effect. Look at the screengrabs of the wolf's eyes and notice that the first image (without filtering) clearly shows each and every pixel as a square block, but the second image smooths everything out making it look much better when the image is viewed at normal size. Subtask will use a separate program thread to display images in the viewer which speeds that process up but also slows the browser down slightly.

Image Processing

Currently the list of processes that can be performed on files is somewhat limited but Michal has grand plans for the future of ShowGirls. He is currently turning AltiVec support on within the program which will speed many of the processes up by almost double. The current list includes such things as Resize; Crop; Contrast/Gamma;

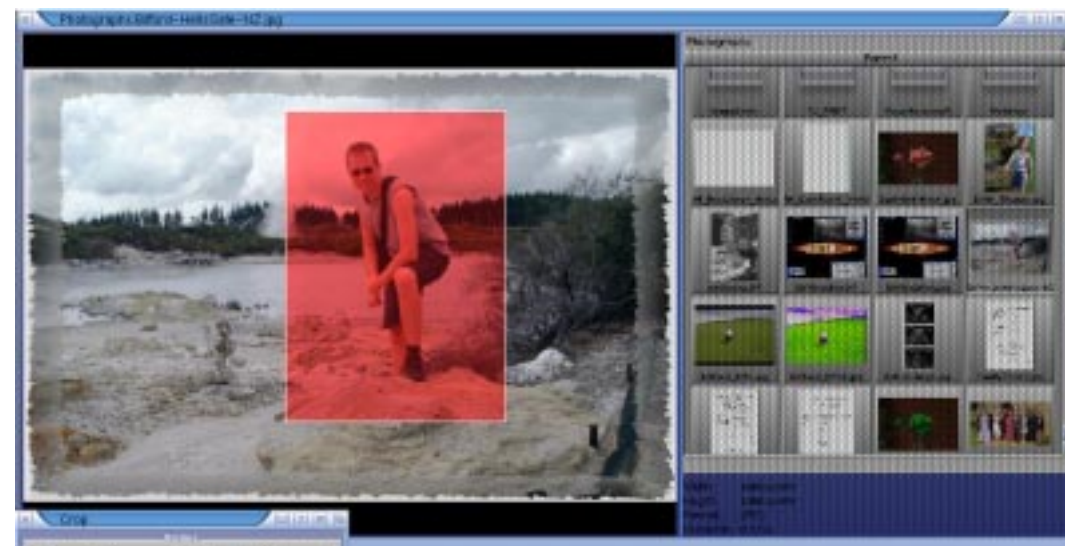
Flip/Rotate; Levels; Sharpen; Smooth; HSV/RGB Balance; Greyscale; Negative and several more besides.

Each process brings up its own options window and the content of that is dependant on the process. The more processor intensive items (such as Median) have "Test", "Execute" and "Cancel" buttons so that you can set the values and then hit the test button to see the result. The quicker processes have a "Realtime" tick box allowing instant updates to the images, although I found that on my G3 this was somewhat jerky and de-selecting realtime produced results almost as quickly as when using it.

I found the Crop tool to be implemented in a rather unusual but quite practical way. The Crop window has four main slider controls in it: Left; Top; Width; Height. The image in the main window will have had a transparent red block laid over it and as you change these slider values so the block changes to match. Distance is in pixels from the edge of the image, but unfortunately the width and height values do not get smaller as you move the bounding box away from the left or top of the image in order to compensate for the new smaller width/height of the resulting picture. It would also be nice if you could use the mouse to click and drag a bounding box directly onto the image. There is also a Tolerance slider and Calculate Dimensions button that can be used to best-guess where to crop an image that has a lot of "white-space" around the edges. Also on the window is a "Preview" option which brings up the image in the crop window so you can see exactly what the final image will be like. I found this to be annoying as you invariably have to click and drag the image around to see all four edges. Far easier to just zoom the main viewer display.

ShowGirls is able to read and write Alpha channels and with 0.7 will be able to import an Alpha channel from a different source file for use with the current image.

There are many processes that other programs such as ImageFX; ArtEffect and SuperView perform which



ShowGirls' main window showing the Crop function, the highlighted area will be cropped. Notice the thumbnail list on the right.

ShowGirls currently does not but given time Michal hopes to incorporate many of the most useful processes into the program. I have already asked for the Contrast/Gamma process to also perform Brightness changes. His list of "to-do"s must be quite extensive by now!

JPEG Transformations

A special menu has been added purely for files saved in the JPEG format. This menu is accessible either through the "Tools / JPEG / Transform..." system menu, a right mouse button click over a JPEG file in the browser or via the Amiga+J keypress. It enables you to perform certain processes on JPEGs without losing any quality. JPEGs are normally a lossy file format (meaning that each time you load or save the image it is uncompressed and then re-compressed and loses some quality) so this is a very good feature of ShowGirls. The transformations at the moment are only simple rotate and flip options but are likely to be extended in future versions.

Thumbnailer

For those of you that like to be able to go into a directory and see what an image is without having to load it up ShowGirls comes with a rather nifty addition called Thumbnailer. It allows the thumbnails to be written into the .info of each image and therefore displaying a miniature version of itself on your desktop.

Features

One thing sorely missing from ShowGirls is an Undo function. While any changes to a file are not actually written to disk until you save, it would still be nice to be able to go back a step or two in any changes you made.

While we are on the subject of saving, the current version is unusual in that it only has a "Save as..." option. This means that if you do something quick and simple like rotate a file 90degrees to make it the right way up you still have to click three different buttons to save that file which is time-consuming. A "Save" option which saves the file over the original without an, "are you sure?" requester would speed things up nicely. I have spoken to Michal and he's promised that it will be in the public 0.7 release.

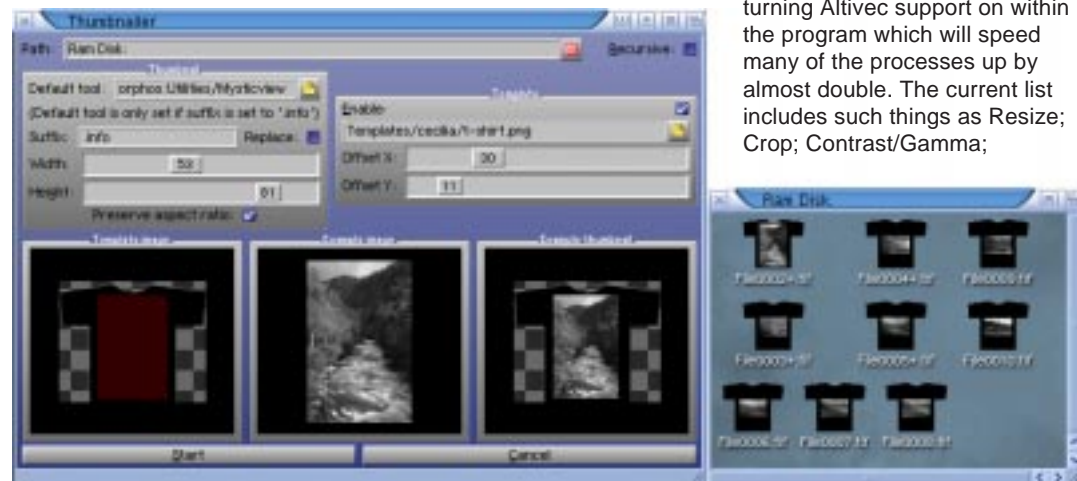
Currently ShowGirls is limited to saving in JPEG and PNG formats only. The ability to save in IFF/ILBM and Tiff formats would be nice and Michal has said he will work on getting IFF/ILBM saving incorporated, with other formats available at a later date if possible. ShowGirls is very intelligent when it comes

to changing a files extension - if you are working on an IFF file and go to save it as a JPEG then ShowGirls automatically changes the extension from .iff to .jpg and brings up the files current folder and name as the save parameters.

Some of the features of ShowGirls have shortcut key-presses, such as Amiga+[or] to rotate an image, F to toggle Fullscreen, Amiga+1 or 2 to switch between List and Thumbnail Browser views. However most of the processes are only accessible via use of the mouse and a system menu. I would like to see shortcuts for items such as Sharpen incorporated into ShowGirls, and - if I want to really give Michal something to work on - the ability to set the F-Keys to my own choice of process! In that way I could set F1 to Sharpen; F2 to Crop; F3 to Brightness/Contrast and so on.

All in all, considering this is a very early version of the program, I think Michal has done a fabulous job, and it is has already replaced ArtEffect for quick and basic operations on my Pegasos system. When it comes to the more extensive things that I have to do to my images you can't beat such programs as ArtEffect and ImageFX, but for the basics ShowGirls really does rule, and future updates will make it leap ahead in what it can do. I would like to see Genesi incorporate ShowGirls into MorphOS as its standard image viewer or to at least include his program in the SuperBundle. So while there are plenty of things ShowGirls is yet to do I am still going to give it the highest mark possible because it is a rose just coming into bloom. Roll on Summer.

If you have a wish-list or have found a bug then Michal can be found on IRC in #MorphOS on Arcnet under the guise of Kiero.



The thumbnailer includes the option to use a custom template in the background of each image.

Results

Top Notch!

Pros

- + Fast.
- + Easy to use.
- + Great thumbnail creation.

Cons

- Some basic options missing.
- Only 2 save formats.

Easy Disk

256Mb USB Flash Drive

Mick Sutton transfers data between his many computers the "easy" way!

When was the last time you used a floppy disk to transfer data? A long time ago I bet! Despite the demise of the floppy on many modern computers we still need an easy method of transferring files such as digital images, music and documents. With multi-megapixel cameras, higher quality music and broadband Internet connections these files are always increasing in size too! There are many ways to transfer these files. It may be possible to e-mail them, but the other computer may not have Internet access or it could be on a slow dial-up connection. You could burn the files onto a CD-R or CD-RW, but this takes time and, if you use CD-Rs, wastes a disc. What is needed is a replacement for the humble floppy...

This is where USB Flash Drives come into their own! A flash drive is a little device containing solid state flash memory (hence the name) that you just plug into your USB port. The computer recognises the drive allowing

you to copy data across to it, treating it just like any other disk. Transferring data is simple, fast and efficient.

In Use

This particular little gem (called the "Easy Disk") measures 65mm x 20mm x 8mm, and is a Dabs "value" range USB Flash drive. It is available in a range from 64Mb to 2Gb in size, it has a removable cap that covers the USB port end and a neck strap that fixes to it should you wish to carry it about on your neck (is that really a good idea?). It can be carried around in your pocket with your loose change, it is so small and light. It is a USB 2.0 (480 megabits per second) device but can also work on USB 1.1 no problem at all (just at slower transfer rates). We are reviewing the 256Mb model which has a formatted capacity of about 250Mb. Also on the drive is a 1Mb file that supports the inbuilt encryption that is available to Windows users.

We have copied, deleted and renamed files on this device on several machines: two PC's, one running Windows98 and the other XP, an Apple G5 iMac (Mac OS 10.3), a PC running Amithlon with the Poseidon USB stack and the AmigaOne running Amiga OS4 and it worked fine on

all of them. Ironically it was Windows 98 that gave the only small hiccup as it required the drivers to be installed before it would work, the other systems just took it in their stride. When the "Easy Disk" was inserted into the machines USB port it auto mounted and was ready for use, and yes that does also mean Amiga OS4! Yes you read right, OS 4's Sirion USB stack treats this device just like any other massstorage aware USB stack. On Amithlon with the ArakAttack USB 2.0 driver we achieved a write speed of 1.86Mb/s and an impressive read speed of 7.03Mb/s. On the AmigaOne with the built in USB 1.1 a write speed of 607Kb/s and a read speed of 668Kb/s was recorded (we noted similar performance on other USB 1.1 systems).

OS4 Tip

We noted while using the drive on OS4 that although you could copy files to and from the device it wasn't possible to (for example) play a movie file straight from it. The reason for this is that, although when inserted into your USB port an icon (ironically shaped like a floppy disk by default) for the drive appears on the Workbench screen, it doesn't have a volume name shown below. Many programs, including the standard ASL file requester, expect drives to have a volume name so this

causes problems. To solve the problem, click on the flash drive's icon, then choose "Rename" from the "Icons" menu. In the requester that opens, enter whatever name you fancy (we chose "USB_Storage"). Now that the device has a volume name it can be treated just like any hard drive partition and be selected within the file requesters used to load and save files from applications and utilities.

Features

During data transfer an LED on the "Easy Disk" blinks to show that the drive is busy being written to or read from. The device, just like any other USB device, is "hot pluggable", although of course not during the transfer of data! The "Easy Disk" can be protected from accidentally deleting files via a little switch on the side. Switch it to the "locked" position and you are unable to delete, rename, over-write or write new files to the device.

Summing Up

This truly is a little gem of a device and I wonder how I got by without it in the past. Already my seven year old daughter keeps trying to "borrow" it for use on the school computers for her homework (didn't have them in my day), so maybe I should hide it around my neck after all!

Result

Top Notch!



The write protect switch on the side of the drive. Notice the activity LED is on the top of the device at the loop end.

Audio Evolution 4.0

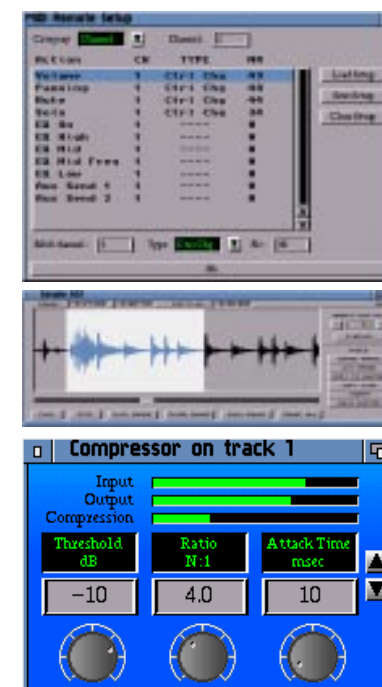
"The native audio solution for AmigaOS4"



New features in 4.0:

- Non-linear editing on the time line, including cut, copy, paste, move, split, trim and crossfade actions
- Unlimited undo
- Many grid options to align regions
- Improved automation editing on time line
- Track height adjustment and higher quality waveform display
- Metronome with freely adjustable time signature
- Control the mixer remotely with external MIDI hardware
- Native OS4 effect plug-ins with realtime parameter control and metering
- Effect parameter automation
- ...and many more new features!

Looking for a way to use all the power of your PPC processor with OS4? *Audio Evolution 4* gives you unsurpassed power for home-studio recording and editing. The latest release focusses on time- saving non-linear and non-destructive editing, as seen on other platforms. Besides editing, *Audio Evolution 4* offers a wide range of realtime effects, including compression, noise gate, delays, reverb, chorus and 3-band EQ. Whether you put them as inserts on a channel or use them as auxillaries, the effect parameters are realtime adjustable and can



be fully automated. Together with all other mixing parameters, they can even be controlled remotely, using more ergonomic MIDI hardware.

So, if you are serious about audio, please check out the *Audio Evolution 4* demo from our website or from the OS4 CD!

Pricing: 149 Euro.
Upgrade from AE3: 70 Euro.

Expected release date:
December 2004

Visit: www.audio-evolution.com



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Audio COMPRESSION

Robert Williams explores the wonderful world of smaller sound files and explains how to encode MP3s.

In recent years compressed audio files such as MP3s have become a part of many people's every day life. They provide a convenient way of storing music and other audio data at acceptable quality in a much smaller file size than raw 16bit data from an audio CD. Even people who regularly listen to MP3 files may not be aware however how easy it is to encode your own files from any audio data using your Amiga.

Common Formats

Many compressed audio formats (often called codecs because they encode and decode the audio) have been developed, but just a few have become widely accepted. Here are four of the most common:

MP3 - MP3 stands for MPEG Layer III and was developed to encode the audio accompanying compressed video by the Motion Picture Experts Group (hence the name). MP3 files contain just the audio data without the video portion. Most MP3 files are compressed at 128 kilobits per second (KB/s), this means that the compressed file is about one-tenth the size of the raw CD audio. MP3 has been around for over ten years and is the most widely supported compressed audio format. The standard is open and this means that developers have been able to produce MP3 playback and encoding software for many platforms, including the Amiga. While MP3's quality is acceptable to most people its compression is not as efficient as some of the newer formats, this means you need a larger file for the same quality or you get lower quality for the same file size.

OGG - The developers of the Ogg Vorbis format aimed to produce a compression system that was more efficient than MP3 and was truly open, unencumbered by any patents. Free software is available to create and playback Ogg files on most platforms but the format is not well supported on the Amiga. There is a port of some command line tools that I will cover later in this tutorial and Ogg playback is supported by the MorphOS version of SongPlayer. There is very little hardware available that is able to play Ogg files.

AAC - This is Apple's audio codec, chiefly used by their iTunes software and popular iPod line of digital audio

players. AAC supports what is termed "digital rights management" this is a security system which limits where a purchased AAC file can be played back, allowing music to be sold on-line. AAC is more efficient than MP3, achieving better quality in the same file size. There is also a lossless compression option that keeps the full audio quality at the expense of larger files. Because AAC is a proprietary commercial format, there is no support for these files on the Amiga.

WMA - As you may guess, Windows Media Audio is Microsoft's compressed audio format and like AAC it also supports DRM so the files can be sold. As you would expect from a more recently developed format, it is more efficient than MP3 too. No doubt due to the dominance of Windows, WMA has proven popular amongst hardware makers and is the best supported format after MP3. WMA is not well supported on the Amiga but many non-DRM files can be played with Frogger.

Advantages

Compressed audio files have many advantages over raw audio data from a CD; the most obvious is that they are smaller, taking up less disk space. Typically you can pack ten times as many compressed songs into the space of one uncompressed song. This smaller file size means you can much more easily transport large numbers of songs, if you listen to longer recordings (such as recorded radio broadcasts) another advantage is that a recording can be in one file rather than multiple 74 minute CDs or 90 minute cassettes. As Digital data, compressed files can be easily copied, backed up and exchanged without any loss of quality.

A less obvious advantage is that all compressed audio formats support the embedding of additional data about the file (often called meta data). For example as well as the filename you could record the artist, album and data making music much easier to identify.

Disadvantages

To achieve a large reduction in file size, the formats we've mentioned above use "lossy" compression. This means that the original sound file is processed to remove data that the codec considers redundant or unnecessary and various techniques are used to reduce the amount of data while not degrading the

audible sound. This means that the sound produced by playing back the compressed file may not be exactly the same as the original file, these differences are often called compression artefacts. In all formats, the level of compression is variable and this feature can be used to offset quality against file size. Usually the differences from the original are small and listening to the compressed file is quite acceptable.

Because these compression formats lose data they suffer from generational loss, this means if you decode and then recompress an already compressed audio file the resulting file will be of lower quality than the original. For this reason if you plan to edit an audio file, to ensure maximum quality, it is a good idea to work with it in an uncompressed format until the editing is complete.

Playback

There are many ways to listen to compressed audio files and the list is growing all the time, as they become a ubiquitous technology. On a computer you can use an audio application to play back compressed audio files. On the Amiga these include AmigaAmp, SongPlayer and Amplifier all of which support the MP3 format. These utilities allow you to create play lists of your favourite files and have many other features too.

Portable playback devices are now very popular, broadly there are two types: those based on flash memory and those with a hard disk. The flash memory players usually have a smaller capacity but are also physically smaller (some as small as a pack of chewing gum) and entirely solid state so they are ideal for use in active sports. The hard drive based players have much more storage but are larger and the disk mechanism is relatively delicate. Most players connect to the computer via USB and are massstorage devices. This means they can be used on an Amiga with USB and a massstorage driver. At the moment this means Poseidon but massstorage support is also in beta test for the AmigaOS 4 USB stack. When buying a player be careful to check if it uses a proprietary audio format or requires the use of specific software to upload files as either will rule out its use on the Amiga.

Many devices that play CDs now include compressed audio support, this means

you can burn your compressed files onto a CD-R or CD-RW and then play them back in the device. Devices with this support include portable CD players (see our review of one on page 28), DVD players, car hi-fis (particularly useful in my opinion as it reduces disc swapping while you drive) and home stereo systems. These devices normally expect a standard ISO9660 CD that can be created on the Amiga with software such as MakeCD.

Manual Process

Creating a compressed file from an audio source is not a difficult process but it does have a number of steps. In this tutorial I will start by explaining each step and how to achieve it with the most common software. Then I will introduce some utilities that can help speed up and automate the process. Even if you intend to use one of the utilities it is worth reading the rest of the tutorial as it introduces many of the concepts you will want to understand.

Extract CD Audio

You can make a compressed file from any uncompressed audio file, it could be a sound sample you have recorded yourself or a file you've downloaded but most commonly I suspect, you will have an audio CD that you want to convert. In

this section we will cover how to extract each track from an audio CD as a file. A CD can contain up to 800Mb of raw audio data so you will need a fair amount of free hard drive space to complete this tutorial. If you already have your sound files move on to the "Compress the Audio" section.

If you have a CD file system which presents the tracks of an Audio CD as virtual files when you open the CD's icon then you can use Workbench to copy the audio tracks onto a hard disk partition. Filesystems that work in this way include AsimCDFS, AllegroCDFS and the filesystem included with AmigaOS 4. Fortunately for the rest of us there is another option...

MakeCD

As I'm sure you'll know, MakeCD is a shareware CD writing application. One of its features is to be able to read audio data from a CD in your CD-ROM and save it as a data file on disk. The purpose of this feature is to allow you to copy music CDs and make compilations but the data files it saves can also be used for encoding. You'll be pleased to hear that the MakeCD authors allow you to use this feature without paying to register the program (although, of course, we encourage you to register if you use the program regularly).

If you don't have MakeCD installed already download the archive from the link in the "Downloads" boxout, decrunch it and install using the included installation script. It is also a good idea to apply the version 3.2d public beta 10 update. Now go to your MakeCD directory and double click on the MakeCD icon to load the program.

If this is a fresh installation, you will need to configure your CD-ROM as MakeCD's "Reading drive". To do this, open the "Settings" window from the "Settings" menu and click the down arrow next to the "Reading drive" box. In the window that opens, select the device to which your CD-ROM is connected in the "Exec Devices" list and then the drive itself in the "Units" list. Now click the down arrow next to "Driver" then select the appropriate "CD" driver in the list, "CD_ATAPI" is correct for most modern drives. Click "OK", then "Use" and "Save" to save the settings.

To extract one or a selection of tracks: In the main "MakeCD" window, click "Add". In the "Track Options" window set the "Type" to "Track from CD" and then click the down arrow. Click on the track you wish to extract in the list. If you wish you could modify the "Name" field to the name of CD track you've selected, this will make it easier to recognise the file when it has been

extracted. Click "OK" to close the "select a source track" window. Back in the "Track Options" window select the location and the filename for the extracted file using the "Image file" gadget. Now click "OK" and your track should be added to the list in the main window. If you have more tracks to extract, add them in the same way.

To extract a whole CD: From the main "MakeCD" window, choose "Copy CD" from the "Tools" menu. In the "CD Copy" window first select the directory where you want the raw audio files to be saved using the "Base dir" file gadget. Make sure "Temporary Images" is set to "Use image file" and "Audio file format" is "AIFF" then click "Setup Project".

TIP. If you want MakeCD to remember these settings for future sessions, choose "Save current gadget state" from the "Tools" menu before closing the "CD Copy" window.

Whichever option you use, you should now have a list of tracks to extract in the "Make CD" window's "Tracks" list. To start the extraction click "Create image files", the data will be read from the CD and saved to disk. When the process is complete you should get the message "All track image files exist"; at this point you can quit MakeCD.

Name the Files

Unfortunately, MakeCD isn't able to find out the names of the CD tracks for you so your files will have fairly meaningless names unless you have entered the them manually. While you still have the CD to hand, it is a good time to name the raw files after the tracks they contain. You can do this by hand but there is another option, FreeDB. This web site is a repository of CD track information which can be accessed for nothing. Go to <http://www.freedb.org> in your web browser and click the "Advanced" link under the "Search the freedb database" box. Enter some information about your CD and search for it, a list of possible discs will be shown, hopefully yours is included. If it is, click on the title's link for a page that lists all the tracks on the disc. Now you can copy the names to the clipboard in your browser and paste them into the file names. Not a perfect process but at least it saves some typing!

Compress the Audio

Now we have our files ready and named it's time to compress them. For this we're going to use the Amiga port of the open source LAME MP3 encoder. Despite its name (which rather confusingly stands for Lame Ain't an MP3 Encoder) LAME is a generally

Downloads

Here are the web sites where you can download the programs mentioned in this tutorial.

MakeCD

<http://makecd.core.de>
Download "the MakeCD 3.2c archive" and "archive of the tenth public beta of 3.2d".

LAME 3.96 (Amiga)

http://www.afterdawn.com/software/audio_software/audio_encoders/lame_for_amiga.cfm

Further information and documentation on LAME:
<http://www.mp3dev.org/>

AmTagEd

Aminet, mus/misc/AmTagEd.lha
At the time of writing the main Aminet site may be unavailable,
<http://de.aminet.net> seems to be up and reliable.

SecondSpin

<http://www.helsinki.fi/~lakahone/amiga/secondspin/>
Download both the "Install" and "Encoder" archives.

TheMPEGEncGUI

<http://www.onyxsoft.se/thempegencgui.html>

regarded as a good encoder with excellent compression quality and the Amiga port is regularly updated. You can download the latest Amiga port of Lame 3.96 from the web site listed in the "Downloads" boxout.

TIP: This archive contains executables for 68K Amigas, if you have a PPC accelerator or are running on MorphOS or OS 4 then you will want to use a native version for your hardware, download locations for these are in the "Native LAME" box out.

Unpack the archive to the location where you want it installed on your hard disk, a directory called "lame-3.96" will be created. I unpacked my archive to a directory called Work:Utilities/Music. Open a shell and enter:

```
lha x ram:lame-3.96.lha
Work:Utilities/Music/
```

Replace the first path with the location of your extracted audio file.

As LAME is a command line program it is convenient if we can refer to it by name rather than typing a long path each time we want to use it, to set this enter the following in your shell:

```
path
Work:Utilities/Music/lame-3.96/ add
```

TIP: If you plan to use LAME often, you could add this command line to your user-startup script.

In the LAME archive are executables for several different 68K CPUs. Choose the one that matches your CPU and rename

Native LAME

Here are some links where you can download a native port of LAME for your hardware and operating system:

Amiga OS 4

I believe a port is available, but have not so far been able to locate a public source. If I find one I will post it on the Total Amiga web site.

MorphOS

<http://www.morphzone.org>
Search for "lame" and then choose "LAME 3.96" in the results list to get to the download page.

WarpUP

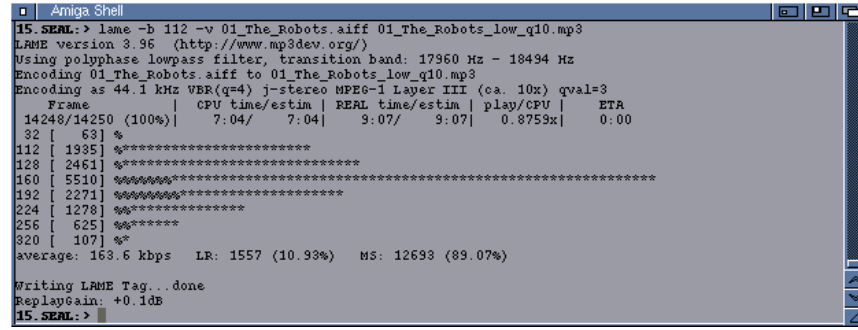
<http://prdownloads.sourceforge.net/amiga/>

Click on "lamewos-3.96-dmx.lha" in the list of archives to begin downloading.

PowerUP

<http://www.honeypot.net/audio>
Download LAMEbin.lzx.

Right: When encoding using variable bit rate, LAME displays a graph in the shell window showing what proportion of the track used which bitrate.



it "LAME". For example if you have a 68040 use the following command:

```
rename
Work:Utilities/Music/lame-3.96/
LAME.040 Work:Utilities/Music/
lame-3.96/LAME
```

Simple Encoding

Now let's use LAME at its most basic to convert one of our audio files into an MP3. If you are happy to use the default settings the LAME command can be very simple. First change to the directory containing the audio files, I saved mine in "Files:CDDA":

```
cd Files:CDDA/
```

As LAME is a port of an open source program, originally intended for UNIX like platforms, it is wise to allocate some additional stack, to do so enter:

```
stack 100000
```

NOTE: If you find LAME locks up during encoding or causes a crash, check you have set your stack. If it still causes problems, try increasing the stack value.

Now enter the following LAME command line, the only argument needed is the name of the input file, lame will create the MP3 file in the same directory and append ".mp3" to the name:

```
lame 01_The_Robots.aiff
```

If you would prefer to specify the output filename simply add it to the end of the command line as shown below:

```
lame 01_The_Robots.aiff
01_The_Robots.mp3
```

As the file is encoded you will notice that LAME displays some progress information in the shell window; you can check how much of the file has been encoded and how long there is to go. When the shell prompt returns, try listening to the MP3 file in your favourite player to see if it worked!

LAME Options

Bitrate (-b)

One of the nice features of compressed audio standards like MP3 is that you can tailor the files you encode for the situation in which they will be played.

For example, on a portable player that will be used in a noisy environment you might not care too much about quality but want to get the maximum number of songs in its limited memory. On the other hand you might have your Amiga, with plenty of hard drive space, connected to a high quality hi-fi where a poor quality compressed file would really be noticed. The key factor in compressed audio quality is the bit rate, that is the number of bits allowed to encode each second of audio. By default LAME uses a bit rate of 128 kilobits per second. The "-b" command line option is used to control the bitrate; the following options are available: 32, 40, 48, 56, 64, 80, 96, 112, 128, 160, 192, 224, 256 and 320. To create a lower quality version of our test file lets try encoding at 64 KB/s by entering the following command line:

```
lame -b 64 01_The_Robots.aiff
01_The_Robots_low.mp3
```

Now take a look at the files sizes:

```
list *.mp3
```

The output is:

```
01_The_Robots.mp3          5956335
01_The_Robots_low.mp3     2978112
```

As you would expect, the low quality version is about half the size of our first effort. Now have a listen to each file in turn; you should be able to hear a noticeable difference in quality.

You can also increase the bit rate to improve quality, at the penalty of a larger file, in the same way. A common encoding bitrate for high quality MP3s is 192KB/s.

Quality (-q)

As well as bit rate LAME also has another setting that affects the quality of the sound you hear, this time the trade-off is with the time taken to encode each file. This setting is controlled by the "-q" command line option and the range is from "0" (best quality) to "9" (the worst) with "3" being the default. The program's authors recommend never exceeding "2" as quality levels "0" and "1" are much slower without a noticeable improvement in quality. Have a go at encoding a smaller file at quality 5 to see how much difference it makes (this example also shows you how to combine options):

```
lame -b 64 -q 5 01_The_Robots.aiff
01_The_Robots_low_q5.mp3
```

Variable Bitrate (-v, -b and -V)

When encoding, LAME offers another option rather than a choosing fixed bitrate. Variable bitrate, as the name implies, changes the bitrate used during a song depending on the sound being encoded. To take a simplistic example, a complex orchestral crescendo might need a higher rate than a near silent part of the same piece. You invoke VBR using the "-v" option, in VBR mode lame uses the "-b" option to specify the minimum bitrate to use. The LAME documentation suggests setting this value to prevent any part of the song being encoded at too low a bitrate, so a typical command line would be:

```
lame -b 112 -v 01_The_Robots.aiff
01_The_Robots_vbr.mp3
```

You will notice that VBR encoding takes much longer than using a fixed bitrate. LAME displays a graph in the shell window as it encodes showing what portion of the file was encoded at each bitrate. In our example most of the song has been encoded at 160KB/s making the file rather larger than before.

To reduce the average bitrate used when encoding using VBR you need to adjust the VBR quality setting (which again runs from 0 (best) to 9 (worst)) using the "-V" parameter. As the default is 4, let's try making our file smaller by setting the quality to 7, we'll also need to reduce our minimum bitrate by setting it to 64 otherwise LAME will have no "room to manoeuvre":

```
lame -b 64 -v -V 7
01_The_Robots.aiff
01_The_Robots_vbr7.mp3
```

TIP: In addition to being slower, I have found that VBR encoded MP3 files tend to be less compatible with hardware players than the same file encoded at a fixed bitrate. Before encoding a large number of files using VBR it is wise to test one on your player to ensure compatibility.

Stereo or Joint Stereo

Lame has two methods of encoding the two channels in a stereo audio file. In standard (stereo) mode each channel is encoded separately. The other option is to process the sound into mid and side channels (which are L+R and L-R respectively) and then encode those. Using this option, more bandwidth can be allocated to the mid channel where most of the sound data is usually located in recordings that don't have too much stereo separation. The mid and side option cannot be chosen manually but you can set LAME to encode in Joint Stereo (jstereo) mode. This will choose automatically between the two options as the song is being encoded. Normally

LAME will decide for you if Joint Stereo is appropriate based on the bitrate and other encoding settings you choose. If you wish to encode in normal stereo use the command line option "-m s", or if you want to force joint stereo then use "-m j".

Mono (-m)

If you have a mono recording (such as an old radio programme or record), or want to minimise file size then you can force LAME to make a mono MP3 file using the "-m m" option:

```
lame -m m 01_The_Robots.aiff
01_The_Robots_mono.mp3
```

Other options

LAME has many other command line options but the ones mentioned above should be all you need in normal use. If you are interested in what else it can do take a look at the HTML documentation included in the archive.

Encoding Multiple Files

If you have extracted multiple tracks, you will probably want your Amiga to encode them all in one session while you get on with something more interesting. While LAME does not itself support encoding multiple files we can use the AmigaDOS list command to automate it as follows:

The LFORMAT option of the list command can be used to format the command's output. In this example we will use this option to create multiple LAME command lines (one for each AIFF file in the directory) and save them into a script file:

```
list #?.aiff lformat "lame -b 96
%n %m.mp3" >ram:encodemp3s
```

The text in quotes after the "lformat" option specifies the format for each line that is output, "%n" is replaced by the full filename while "%m" is replaced by the filename without extension, allowing us to replace it by ".mp3". The last part of the line, beginning with the ">" symbol, redirects the output of the command to a file in "ram:".

Below: AmTagEd makes editing ID3 tag information quite painless.

TIP: When practising with the list command's lformat option, omit the redirection part of the command line (">ram:encodemp3s" in our example) so you can check the output is what you expect in the shell window.

The "encodemp3s" file in ram: contains a list of shell commands, to execute it just enter:

```
execute ram:encodemp3s
```

Lame now runs on each file in turn, encoding all the files we extracted to MP3s with our choice of options. Well done! You've now created some universally compatible MP3 files using your Amiga.

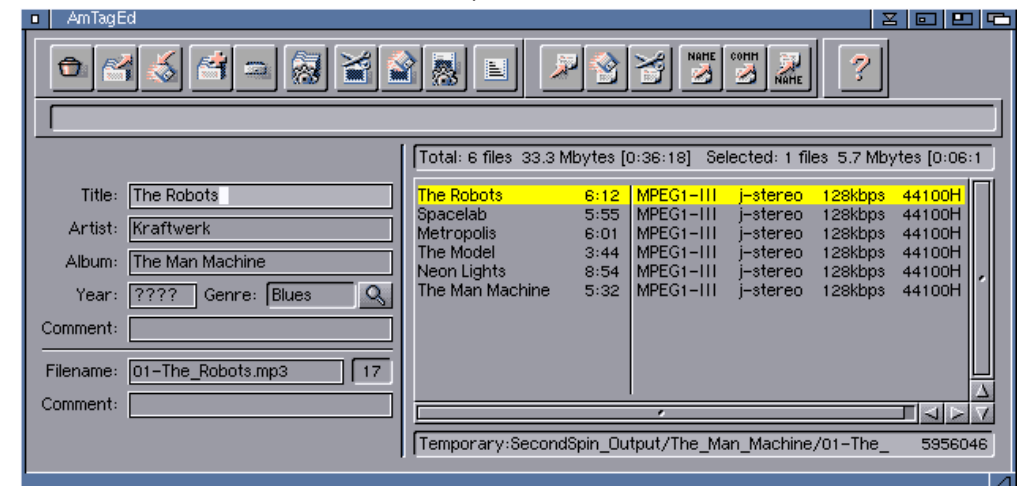
Add ID3 tags

With the MP3 files created we can now add the additional meta data I mentioned earlier. In the MP3 format each piece of this information is known as an ID3 tag. This step is not essential but as many MP3 players are able to display ID3 tags and they can be used for functions such as grouping tracks by album or artist it is usually worthwhile.

Lame is able to set ID3 tags for the files it encodes but adding these tags to the command line is not particularly user friendly. Fortunately there are several nice GUI based utilities which can make editing tags much easier. However if you are encoding a whole CD it can be useful to set the common tags such as the artist and name of the album for all the songs you are encoding. The ID3 tag setting options for the lame command are:

- "--tt" title of song
- "--ta" artist
- "--tl" album
- "--ty" year
- "--tc" comment
- "--tn" track number
- "--tg" genre (enter "lame --genre-list" for a list of options).

So for my example Kraftwerk CD I might amend my list command to read:



```
list *.aiff -lformat "lame -b 96
--ta Kraftwerk --tl "*"The Man
Machine*" --ty 1978 --tg
electronic %n %m.mp3"
>ram:encodemp3s
```

Apart from being rather long, this command line just adds the new options. You might wonder why the quotes around "The Man Machine" are preceded by "*" symbols. This is so the quotes appear in the list output rather than being interpreted by the shell as surrounding separate strings.

ID3 Tag Editors

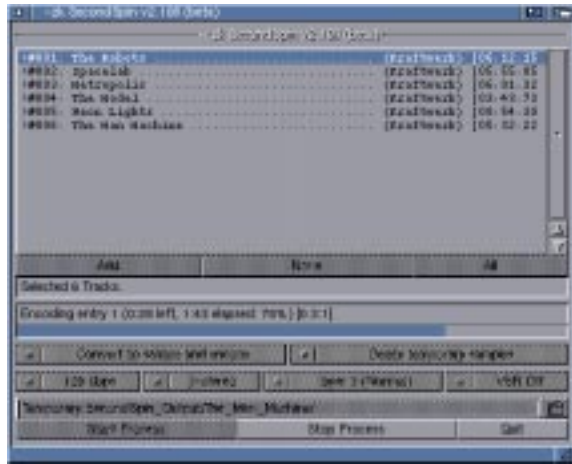
If you want to add individual ID3 tags to your encoded files or you have a selection of previously encoded files then you really need a dedicated tag editor. There are several programs on Aminet which perform this task, the best one I have tried is AmTagEd by Kimmo Palosaari. Download the AmTagEd.lha file from Aminet (see the Download boxout for details) then install it using the installer included in the archive, notice that you will need to manually create a drawer for the program.

Now run the AmTagEd program from its directory, and you should see it opens a fairly attractive MUI interface (I think we can forgive a '99 vintage program MagicWorkbench-style icons!).

TIP. Use drag and drop to re-arrange the toolbars in the AmTagEd window.

To use the program, click and hold down your mouse button on the "Read files" icon and then pick one of the options on the pop-up menu. If you want to edit the tags in individual files select "Files", for all the MP3 files in a directory choose "Directory" or select "Recursive" to add all the files in a directory structure. The files are then listed in the main window, if you select a file its ID3 tags are shown to the left of the window with the filename below. If your files have no ID3 tags but a filename describing the track name and/or artist then click the "Make TAG from filename" button and AmTagEd will attempt to fill some of the tags from the filename. In the opposite situation where the file has tags but a poor filename, use "Make filename from TAG" to have the program construct a new filename. Once you have finished editing a file, be sure to click the "Write TAG" button or your edits will be lost.

TIP. If you prefer, set the "Write TAG When Enter Is Pressed" option in AmTagEd's preferences (Settings / Preferences menu item) so you just need to press return to save an edited tag. Without this set, it is easy to forget to save an edited tag when moving between files.



Above: SecondSpin shown while processing all the tracks on a CD.

So that's it, we finally have a set of encoded files, correctly named and with their ID3 tags set, and along the way I hope you've learnt something about compressed audio files and how the process works.

Automation

You will no doubt be thinking that the process detailed above is rather long winded, fortunately some talented Amiga coders have realised this and incorporated all these steps into fairly simple utilities. To finish off this article, I'll introduce two of these programs which have a rather different emphasis.

SecondSpin

SecondSpin is the most automated Audio compressor utility I have come across for the Amiga, once it is installed and configured you can go from a CD to a set of MP3 files complete with ID3 tags in literally two clicks (and one of those could easily be removed)!

Download "secondspin_218.lha" and "SecondSpin_Encoder.lha" from the web site in the "Downloads" boxout and de-crunch them into the same directory, if a warning appears choose to overwrite any files. Open the SecondSpin directory and run the installer program, questions during the installation perform most of the set-up you need.

During the installation, select the directory where you want the program to be installed, it will then ask what CPU you have so the correct encoder can be installed, the choices are various 68K processors or a classic PPC card using either PowerUP or WarpUP. SecondSpin uses a modified version of the LAME encoder so you can't substitute another version such as the OS4 native compile. Next up is to choose the device and unit of your CD-ROM and its type, as with MakeCD "Standard ATAPI/SCSI" is the right choice for most modern drives. Set the "CDID Library location" to a directory on your hard disk, SecondSpin will use this to store CD track listings so it only needs to download data from FreeDB

once even if you insert the same CD again. For the final question, select your processor type for the "SID4AMIGA" engine, unless you plan converting old Commodore 64 music files this will not actually be used.

With SecondSpin installed, go to the program directory and load it up by double clicking on the SecondSpin icon. If you have an audio CD in your drive you should hear SecondSpin read it and, if you're on-line, in a few seconds the track names will appear... impressive! Before we can begin encoding a little additional set-up is needed, so choose "Preferences editor" from the "Preferences" menu. You'll see that the installer has configured most of the options in the "Preferences" window. Set the "CD-DA extraction directory" to a drawer on a hard disk partition with plenty of free space. Second spin needs enough room to save the largest raw track on any disc you process, for typical music albums 100Mb should be enough. That's the configuration done so click "Save".

Near the bottom in the main window is a gadget showing the path where the encoded files will be saved, use the file gadget to select a directory on one of your partitions, this time you only need room for the encoded files. If you wish to save this path for future sessions choose "Save preferences" from the "Project" menu before continuing. If you didn't have an audio CD in the drive, now is a good time to insert one! Next choose "Reset" from the "Project" menu to read the CD data, get the track information and automatically add a directory named after the album to the encoding path.

Above the path gadget are the various encoding options, which are a small subset of LAME's features but include all the common ones you'll want to use. So set the bitrate, stereo type, encoding quality and VBR mode as you prefer. Above this row you can choose the operation you want SecondSpin to perform (it can just extract the audio from the CD, encode existing audio files and decode MP3s as well as encoding straight from the CD) and whether the temporary audio data files should be deleted after use.

With that all set, now we need to tell the program which tracks to process. To do so, click on each track you want to encode and then click "Add" to mark it with a ">", or click "All" to select all tracks. Finally click "Start Process" to begin encoding.

SecondSpin extracts a track and then encodes it; this minimises the amount of temporary disk space required (unless you set "Don't delete temporary samples"). During encoding (but not

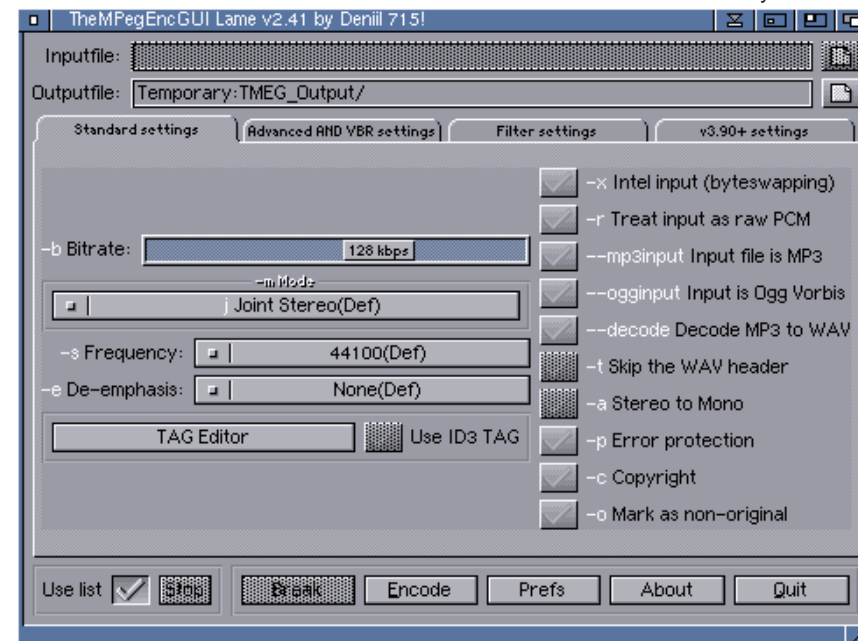
during extraction) a progress bar for the current song is displayed in the middle of the window.

And that's all there is to it, a simple program that does a great job!

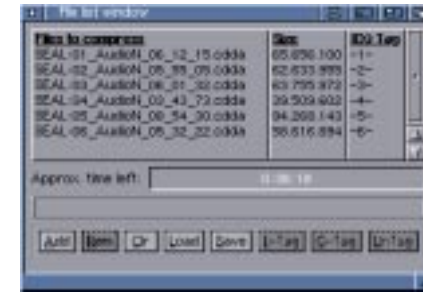
TheMPEGEncGUI

SecondSpin offers a very simple interface that handles most of the work of encoding files automatically. However its encoding options are fairly minimal and it requires a specially adapted encoder that is only available for 68K and "Classic" Amiga PPC systems. If you want more control over your encoding or want to use an OS4 native version of LAME (MorphOS should be able to run the PowerUP and WarpUP executables supplied with SecondSpin) then you might be interested in an alternative. The encoding processes using the rather inelegantly named TheMPEGEncGUI is less slick than SecondSpin but it doesn't skimp on options and it calls a standard LAME executable.

Download the "TheMPegEncGUI.lha" archive from Onyxsoft (see the "Downloads" boxout) and de-crunch it into the location where you want it installed, a directory called "TheMpegEncGUI" will be created. In the directory you will find three program icons, the full program offers support for many different audio encoders whereas the "lite" version supports only LAME and playback using the mpeg4 command. The Lame version only offers encoding with LAME. Since we're only interested in encoding here we'll stick with "TheMPegEncGUI_Lame", so double click on this version to start it. When you first start the program you'll see a registration window. Registration is free, all you need to do is send the author an e-mail with your name and he



Left: TMEG's list window allows you to encode several files and watch the progress of the whole batch.



will respond in a day or two with a keyfile that removes the annoying requesters. When you receive your keyfile, de-crunch it and move it to the TheMPEGEncGUI directory.

First we need to set up the program based on our preferences, to do this click the "Prefs" button in the main window. In the "System" section set the "Path" field to the path and filename of your LAME program file, in my case that's "Work:Utilities/Music/lame-3.96/LAME". At the bottom of the system section, set the "Device" and "Unit" to match the CD or DVD drive you want to use for reading CDs. Finally click "Save" and then "Close".

Unfortunately TheMPEGEncGUI (TMEG from now on) does not support extracting audio directly from CDs so you will need to use another application such as MakeCD to perform this function. You'll also need to name your files after the tracks on the CD as TMEG bases its MP3 filenames on the raw filenames. If you don't have your raw audio files from earlier in the tutorial then follow the "Extract CD Audio" section again to get some.

TMEG includes almost all the LAME options in its GUI (that's why there are so many check boxes) which can be a little intimidating at first. As before you really only need to adjust those options mentioned in the manual tutorial, leave the others at their defaults. If you wish

Left: TMEG's main window showing just one page of the LAME encoder options!

to encode one file then select it using the "Inputfile" gadget and the destination and filename for the MP3 file in the "Outputfile" gadget, however in our case we want to process multiple files. This is achieved by ticking the "Use list" checkbox in the bottom left hand corner of the window. In the "File list window" click the "Add" button and choose the files you wish to encode in the file requester.

TIP. If the order of the files doesn't match the tracks on the CD, use drag and drop in the list to rearrange them.

Now we want to get the track names and other data for these files, to do this make sure the CD is still in your drive and then choose "Obtain CDDB for a CD" from the "ID3-tagging" menu. A preview of the information downloaded from the database is displayed so you can check it is appropriate for the CD, if it is, click "Accept". You should notice that the "ID3 Tag" column is now populated in the file list. To see what ID3 tag has been assigned to a file double click it to open the "ID3 Tag Editor" window. You can also change any tag by editing it in this window.

TIP. Notice that if you select another file in the list without closing the tag editor window it is updated to show the details of the newly selected file.

If you do not have a CD or are unable to use FreeDB for some reason, you can also set the ID3 tags from scratch. To do this the best option is to select all the files you wish to tag in the list either by dragging of by holding down shift while you click on each file. Then choose the G-Tag button, the tag editor window opens and you can set any common tags, such as album name, artist and date, then click "Set" to set them to all the files. Do not close the tag editor at this point. Now select each file in turn, click the "I-Tag" button and then enter its individual information such as song title.

When your list is complete, return to the main window (you can close the list if you wish) and select the destination for the encoded files in the "Outputfile" gadget. At this point you can make any changes to the encoding settings, notice that they are listed across four tabs. When you're ready click on the "Encode" button to start the process. If you have the list window open, you'll be able to watch the progress of each file, there is also an "Encoder Output" window where you can see the familiar output of the LAME encoder.

And that's audio compression in a rather large nutshell! I hope this tutorial has been useful, if you have any comments please contact me at the usual address.

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Sharing Files and Printers with Envoy 3.1

With the availability of the AmigaOne and Pegasos systems many of us now have an additional Amiga or compatible computer. Simon Archer checks out the ideal way to get them connected, courtesy of Commodore and Heinz Wrobel.

With the advent of more and more home users setting up local networks, file sharing is becoming an important part of everyday life, and if you have more than one Amiga on your network sharing information between them is essential.

Some of you may remember Parnet and Pronet which did the rounds some years ago. This involved having a special parallel or a null-modem lead connecting the two machines which was used to communicate over. This has become a little antiquated nowadays with the advent of ethernet systems enabling internet sharing, and so Envoy stepped into the ring as a way of sharing files between Amigas over a TCP/IP network. Although originally written by Commodore and last updated by Heinz Wrobel back in 1998, we at Total Amiga decided to see if it was still usable on OS4 with the new eth3com.device, and much to our surprise, it was.

Installation

Envoy is a commercial product, so to install it you'll need the Envoy 3

Where to Buy

Unfortunately the official Envoy 3 which was published by Schatztruhe (<http://www.schatztruhe.de>) seems to have been discontinued and is no longer available on their website. We did some searching and found it listed at the following Amiga retailers:

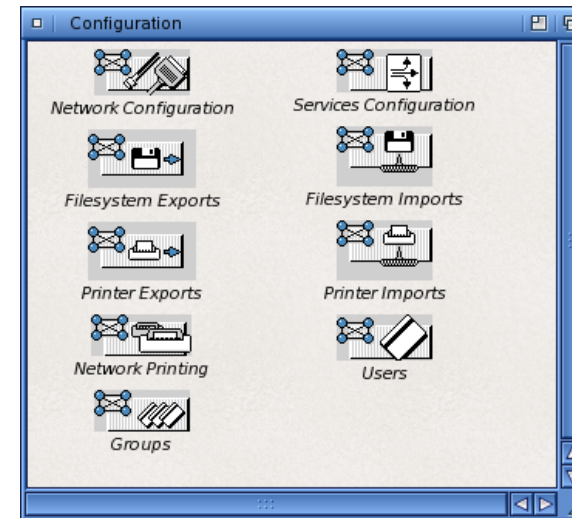
- Software Hut (USA)** \$69.95
<http://www.softhut.com>
- Vesalia (Germany)** E48.58
<http://www.vesalia.de/>

You could also try online classifieds and auctions sites such as:

- <http://www.amibench.org>
- <http://www.ebay.com>

for a second hand copy.

Note: The above listing is based on our research, please check availability and price with supplier before ordering.



installation CD, distributed by Schatztruhe and the 3.1 update patch from Aminet (biz/patch/Envoy3_1Update.lha).

The CD comes with an installer to get Envoy installed onto your system in double quick time, you will need to perform this installation on all the Amigas you want to be able to share files and printers. During installation you are asked a few questions so that much of Envoy's configuration is completed before you start. Start the installation and then choose the "Intermediate" installation mode and "Install for Real".

If you have AmiTCP, Genesis or the older Inet225 TCP/IP stack installed, the installer will now warn you that it will change Envoy's settings so it does not clash with the TCP/IP stack (as both use the same Ethernet hardware and drivers to communicate). If you don't get this message don't worry, we will change the configuration manually when we get to the right stage in the installer.

From the next option you can tell Envoy has been around for a while, I think nowadays most people will want to install to "Harddisk" rather than a "Floppy"! Choose the location where you want the Envoy programs and documentation to be installed, a drawer will be created. On the next installer page, enter a name for the "owner" who will be using this Amiga, this will be their username if you decide to use Envoy's

security features. Now give the Amiga on which you're performing the installation a name, this must be unique on your network so, for example, you could call one Amiga "A1200" and the other "AmigaOne" or you could use something much more creative!

The next question is the type of network configuration, if you have some Amigas all connected to the same network then you want to choose "Simple Network" here. Please note you should still choose "Simple" if your network is connected to the Internet, so long as you don't want to share your services over the Internet. Set your Amiga's network address to the last portion of its IP address, for example if your Amiga is 192.168.0.1 set this to "1". We will amend this to the full IP address later.

Envoy is configured and used through this suite of utilities.

If you're lucky enough to be using one of the Ethernet cards listed by the installer select it on the next installer page, if not choose "Other Card". If you choose "Other" proceed past the message about SANII devices and select the driver for your network card from the list. On the AmigaOne the driver is "eth3com.device", PCMCIA network cards often use "cnet.device" and Amithlon uses either "powerne2k.device" or "amithlon1_net.device".

It's important to get the network configuration right (as shown below) so Envoy works alongside your TCP/IP stack.

Now we come to the important steps to make Envoy work alongside your TCP/IP stack. For "type number of IP packets", make sure the value is set to "2049", if it is not, amend the value. On the next page check "type number of ARP packets" is "2055". And that's the configuration done, the installer will now copy over Envoy's files and offer to reboot the Amiga. I would choose to



"Abort Install" at this stage as we still have the Envoy 3.1 patch to install.

De-archive the "Envoy3_1Update.lha" file you downloaded from Aminet and run the installer for your language. Proceed through the installation as you did originally, but, when asked, choose to "Update" your current installation. Continue with the rest of the process and this time let the installer reboot your Amiga at the end.

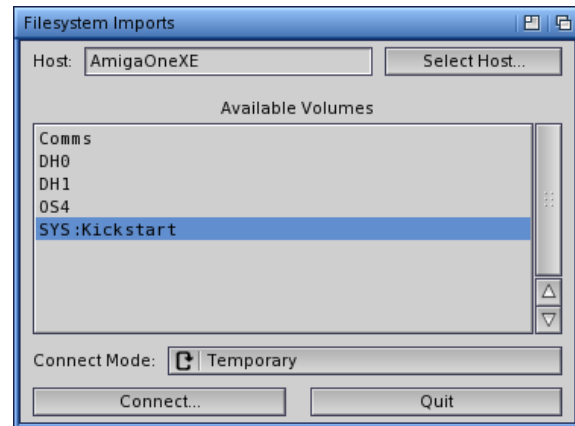
Setting Up

With Envoy installed you will have to do some setup, but the process is relatively harmless and simple enough. There is a whole bunch of documentation on the CD which is installed into the Envoy directory, and this extensive system covers every single inch of the program and its configuration.

The first thing we need to do is to make sure that the network hardware is working and the installation of Envoy has not caused any problems. If your network allows access to the Internet, open up your web browser or an FTP program and try to connect to a site. In the web browser you could choose www.totalamiga.org, and the page should load. This verifies that the networking system is correct, and it should be tried on all other Amigas which are to be Envoy equipped.

So now we know that the network all works, let's check Envoy itself. Open up the Envoy directory and then go into the "Configuration" drawer. Here is where the different parts of the Envoy system can be altered and set up to suit your particular application. Open the "Network Configuration" program. It will ask you for a password, and the default username and password is "Admin" and "Admin" respectively. These are case sensitive, so type them exactly as shown. The first page is the "Host Configuration", this is where the "Host Name" (the name of this computer) and "Owner" are specified. No two machines on the network can have the same host name, so think about the semantics of the network a little and plan it out. Clicking the "Option Page" cycle gadget takes us to the "Device Configuration" page. Here you should see an interface

Configure the exports on the Amiga whose drives you wish to access.



Import the drives you want to access from the remote Amiga.

in the list on the left of the window which was added during installation, by default it is called "iface0".

To edit the "iface0" interface click on it in the list, the IP address needs to be set, or at least checked, as this is the way machines are identified, so again each IP address must be unique. Check the "IP address" shown for this interface matches that set in your TCP/IP stack, if it does not change it. The last page, "Gateway Configuration", can be left blank. If you have changed any setting make sure you exit the program using the "Save" button.

Sharing Drives, Drawers and Files

In a simple network of only two Amigas we can simply share everything without worrying about security or defining users and groups. In order to share files we have to set up some exports, and this is done with the relevant program aptly named 'FileSystem Exports'. There is also the option to share a printer, but more on that later.

In the "FileSystem Exports" program you can specify what volumes (drives) or individual drawers are going to be shared with other Amigas on your network. Clicking on "Add" starts the selection. In the requester you can select a whole device or simply a directory to export, and it can be named whatever you feel is fitting by changing the name in the gadget below the list on the left. Untick the "Removable Medium" checkbox if you have selected a hard disk (you can easily share CD ROMs, and then you would leave this ticked), then click the "Option Page" gadget so that we are on the "Security" page. Here you have the option to only let certain users see this export, but for the sake of simplicity just make sure the "Security" gadget says "None". Set up all the exports you require, and do remember to set the "Security" gadget, otherwise the share will not appear in the list of available connections.

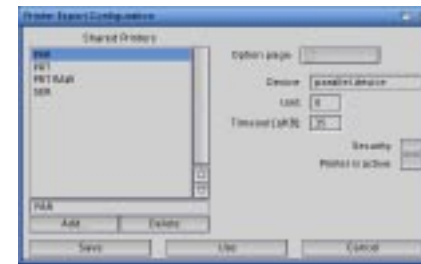
Now to get the shares you have set up to be seen on the other machines. Open

the "Filesystem Imports" program on another Amiga and you should see all the Amigas running Envoy on the network listed. Select the machine from which you want to access files and enter the username and password when prompted. If you are not using security then you can cancel this requester to proceed without security. You will then see all the shares on that machine listed, and it is a simple case of selecting one and clicking "Connect". The "Temporary" gadget selects how long the connection will last. If you make it "Permanent", then this share will be connected to as the machine boots so it is always available, "Temporary" stops when the machine is turned off or rebooted. You can select multiple hosts by using the "Select Host..." gadget and connect to multiple machines at once.

TIP: If you choose not to use Envoy's security features you can set the "NOSECURITY" tooltype in the "...Import" configuration programs to avoid the unnecessary security prompt.

Sharing Printers

So, you have a printer on one of the machines and you want the other



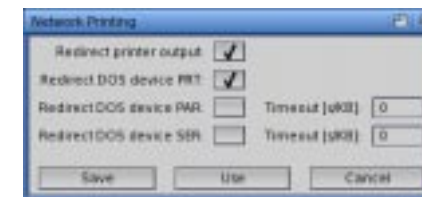
Exporting a printer is similar to exporting a drive.

Amigas to use it? No problem with Envoy! On the machine with the printer, open the "Printer Exports" configuration program. In the list you will see the different ways that your printer could be connected. Select the appropriate device (PAR:, the parallel port, would be a common choice) in the list and check that the correct port driver is listed in the "Device" gadget (this will need to be changed if you use a parallel port card or Amithlon for example). Untick "Security" for now, unless you want to restrict the printer to only certain users, and check the "Printer is Active" box. Now save these settings and you are ready to import the printer on the other machines. Open "Printer Imports", select the printer from the list, check the "Connect Mode" is "Default Printer Output" and then click "Connect",

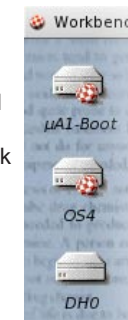
simple! The last step is to open the "Network Printing" program and set up the redirection you need in order to use the network printer. Normally all you will need to do is make sure "Redirect Printer Output" is checked and then click "Use".

Note: To print to a printer on a remote Amiga, you need to have a printer driver for the printer you wish to use installed on the local Amiga (the one initiating the printing).

If you use TurboPrint, install it on the local machine as you normally would and configure a driver for the remote printer in "TurboPrefs". Then, on the "Printer" tab, change the "Port" to "Device" and enter "envoyprint.device" as the "Device" name. All printing should then be redirected to the network printer. If you configure TurboPrint in this way



Use the network printing utility when you want to send printed output to another Amiga.



The end result, the MicroA1's hard drive appears on the Workbench of all other Amigas!

you do not need to use the Envoy "Network Printing" utility for redirection. However if you do want to print to a local printer you will need to change your TurboPrint settings.

There are plenty of advanced options within the Envoy system (particularly for printing and security), and most are beyond the scope of this article. Suffice to say it is all covered in the extensive documentation that can be found in the Envoy directory. If you plan to use Envoy regularly it is well worth reading.

Speedwise, Envoy is obviously not as fast as a local disk would be, and if you intend transferring large files around over the network, you will notice how long it takes. In general everyday use for small files, the system is as good as anything else you will find. It has an easy to use interface, quick setup, and some good security features. There is also an open services system which developers can use to add their own custom services, so it could be expanded. Couple this with being able to make changes to the system and not needing to reboot, this really is a worthy package if you have multiple Amigas on the same network.

Jargon Buster

Network
A way of connecting computers to allow file and resource sharing

Parnet, Sernet and Pronet
Rather slow file sharing systems that involved a parallel or null-modem cable connecting Amigas.

Parallel
A computer port usually used for printers.

Null-Modem
A special serial cable to allow computers to 'talk' to each other.

Ethernet
A networking port fitted to most modern computers.

TCP/IP
The system used to transfer Internet information.

eth3com.device
The SANAI networking driver for the AmigaOne's built-in Ethernet networking port.

SANAI
Standard Amiga Networking Architecture version 2, a standard, developed by Commodore for Amiga network hardware drivers.

IP Address
A unique number that identifies a computer or other device on the network.



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Learn The Universal Language

In the fourth part of our series, Dave Pitcher gets into the guts of programming a simple game in C.

C

Part 3

- Printf
- Structures
- Signals
- Messaging
- Tetris part 1

Part 4

- Libraries
- OS 4
- Autodocs
- Tetris part 2

Part 5

- Tetris part 5
- Sprites
- Drawing images

Welcome to part 4 of our C tutorial for the Amiga. In this issue we will show you the component programming required to continue with our Tetris game, how to code on the new OS4 operating system and discuss a few of the fundamentals required to give your programming that extra kick!

Most of the code in this part is in OS4 format to get you familiar with it. It's the future!

Developing on OS4

OS4 comes with an SDK that is ready to be used out of the box with the GCC or VBC compilers. Refer to the OS4 documentation for installation instructions.

Libraries

Libraries are a collection of functions implemented in any given programming language hiding behind an operating system mechanism for finding those functions and executing them. This mechanism is an interface between the application programmer and the library itself. These degrees of separation mean that in theory you can have an application written in one language (say E) and a library written in another language (say PASCAL) and the application will still be able to use the code stored in the library.

Exec (the kernel) is a library that is always open – hence in our previous examples we have not needed to open any libraries. It is important it is open because it is the library that provides us with the facility to open other libraries, close them and run programs! Without this fundamental building block we would be lost as programmers.

In this issues tutorial we will discuss the fundamentals of opening libraries, what is used to define them and how it differs between OS 4 and pre-OS 4 Amiga operating system releases. The act of creating a library is a far larger subject than the space in this article allows us.

There's More...

You can find the code from this tutorial and additional information on the Issue 19 page of the Total Amiga website:

<http://www.totalamiga.org>

Pre-OS 4 Library System

In versions prior to OS4 libraries were accessed by applications by that library being opened by Exec on our behalf and this provides the application with a pointer to the library base. Function calls themselves were called as offsets from that library base under the covers.

```
struct Library * OpenLibrary(<name of library>, <minimum version>);
```

In order to ensure that the right library's interface was used the specific library base type had to be declared:

```
struct DOSBase * dosbase=OpenLibrary("dos.library", 40L);
```

The format is usually:

```
struct <nameoflibrary>Base * [variable]=OpenLibrary("<name of library>.library", <minimum version >);
```

So for Intuition you would do this:

```
struct IntuitionBase * intuitionbase=OpenLibrary("intuition.library", 40L);
```

Then when you are finished with that library, close it like so:

```
CloseLibrary(intuitionbase);
```

OS 4 Library System

In versions including OS4 or later, libraries are opened in a different way, each library can provide one or more interfaces (allowing you to provide a library that actually implements several different bits of functionality) so in order to start calling

Examples

Some of the examples in this tutorial have lines that are too long to fit in our columns. For those lines we use the following symbol:

»

to indicate that you should continue on the same line in your editor. If the symbol is preceded by a space, you must include the space when typing the code.

The example source code is also available for download from the Total Amiga website:
<http://www.totalamiga.org>

functions on it you have to open the library and then access the interface.

Calls are then made on the interface pointer – why? Well you might open one library and use several interfaces from it and the operating system needs some means of working out which interface you are using when you make a call!

All libraries provide a specific structure which is their interface – this can be found out by examining the XML file that comes with the library – or you can hazard a guess. There is a naming convention which is <nameoflibrary>IFace. So in the case of DOS it would be: DOSIFace.

Each library provides at least one interface called "main". This is the one we want to open, the following code opens version 50 of DOS library or later and gets the interface.

```
struct Library * idoslibrary = IExec->OpenLibrary("dos.library", 50L);
struct DOSIFace * IDOS = (struct DOSIFace *) IExec->GetInterface(idoslibrary, "main", 1, NULL);
```

Then we can call functions on that interface:
IDOS->FOpen(...);

Notice the difference in the call format? It has the interface pointer before the function call and this differs from the classical method of doing things. However AmigaOS4 also supports the classical format – all you need to do when you compile using the classical format is to define the variable `__USE_INLINE__` to 1.

```
gcc -o classicprogram classicprogram -D__USE_INLINE__=1
```

Like the classical version of libraries in order to use them you still need to `#include` the definitions associated with them. Another convention is to include them like this:

```
#include <[name of library]>
#include <proto/[name of library].h>
```

e.g.

```
#include <dos/dos.h>
#include <proto/dos.h>
```

How to support both versions?

In order to support both programming models you can take advantage of the `__amigaos4__` preprocessor definition:

```
#ifdef __amigaos4__
    IDOS->FOpen(...);
#else
    FOpen(...);
#endif
```

Or you could choose to write applications in the classical way and use the `D__USE_INLINE__` preprocessor definition on AmigaOS4 and later. This does however have the disadvantage that additional functionality available on AmigaOS4 interfaces will not be available to you as an application programmer so it is worth assessing what you want to do, or port, as and when you start programming.

In order to discuss this topic more and give you a thorough grounding, the SDK comes with the OS4 Migration Guide in PDF format on the CDROM (OS4 comes with a native version of AmiPDF the PDF view program).

Autodocs

AmigaOS programming information is found in two places, first in the ROM Kernal Reference Manual guide (which is pretty clear but not all that up to date) and in the comprehensive documentation in what's known as "autodocs" (as they are generated automatically).

You can read the autodocs yourself using Multiview or a text editor or by even typing More from the shell command line. The format of the documentation is that each library has its separate document separated into three divisions. The first division is

"Table of Contents" in alphabetical order with the library name followed by the function name, for example:

```
dos.library/DateToStr
dos.library/Delay
dos.library/DeleteFile
```

Then there is a general notice (optional) about the library.

Immediately following that is documentation, in alphabetical order, of the function calls themselves. Each section has the following subsections:

NAME – the name of the function followed by a short description of what it does.

SYNOPSIS – a brief resumé of the arguments it accepts in ASM and C format.

FUNCTION – detailed information about the behaviour of the function.

INPUTS – detailed information about the parameters.

RESULT – detailed information about the return code.

NOTES – any additional information about this release.

BUGS – information about known bugs.

SEE ALSO – related functions.

There are various auto-doc viewers on the internet. OS4DEPOT (www.os4depot.net) has a few in Development / Utility. Recommended is autodocviewer.lha.

On the OS4 SDK the autodocs can be found in SDK:Documentation/AutoDocs

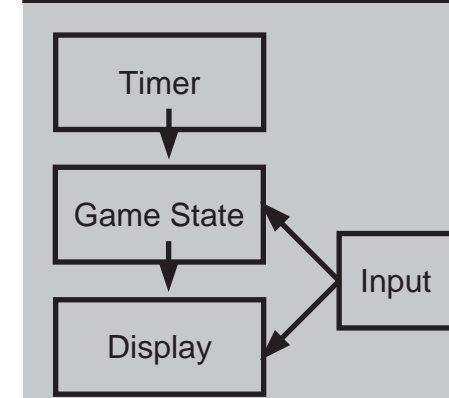
A Simple Timer Task

To give you the components you need to finish the game we have broken them down into sections. If you recall last tutorial they were:

- Timer
- GameState
- Display
- Input

Their relationship is shown in the "Components" box out below.

Components



The algorithm we want is to share a variable with the game state to be able to find out what the delay between each tick should be then to send a signal to the game state task.

Loop until [n] is set to some special value
Delay for [n] seconds
Send our signal to the game state
Find out [n] from our shared variable

In Tetris as the levels increase the interval between delays before the next block is moved down decreases. So as the game state level increases it should decrease the value [n].

To share information between the two tasks we will declare a structure – GameContext which we can expand as we determine more information needs to be shared.

```
struct GameStructure
{
    long secondstodelay;
};
```

The signal we will use for a timer even is signal 16, so define this too in game.h:

```
#define SIGNAL_TIMER 16
```

To send signals we will need the task pointer for the main game state so add that to the structure.

```
struct GameStructure
{
    long secondstodelay;
    struct Task * maingamestatetask;
};
```

In order to be sent this structure when we are ready for it we will need to create a message port for the game task to send it to us. We will also need to add the Message structure to the start of it so it can be used as an Exec message.

```
struct GameStructure
{
    struct Message exec_header;
    long secondstodelay;
    struct Task * maingamestatetask;
};
```

Because both the timer program and the game state program need to know the name of the message port used by timer define the name in "game.h":

```
#define TIMER_PORT_NAME "game.timer"
```

Declare this structure in game.h and include it at the top of our TimerTask. The AmigaOS function for going to sleep is called "Delay", it is in "dos.library". So we need to `#include` the DOS interface, open the dos.library and get the right interface.

```
#include <game.h>
#include <exec/exec.h>
#include <proto/exec.h>
#include <dos/dos.h>
#include <proto/dos.h>
```

```
Int main(int argc, char * argv[])
```



```

{
  struct Library * doslib;
  struct DOSIFace * IDOS;
  struct GameStructure * iContext;
  struct MsgPort *
*inboundmsgport;

  /* Open dos.library v50 or later */
  doslib=IExec->OpenLibrary(
("dos.library",50L);

  IDOS = (struct DOSIFace *) IExec->
GetInterface(doslib,
  "main",
  1,
  NULL);

  /* Create our message port, name it so
it can be found then make it public */

  inboundmsgport=IExec->
CreateMsgPort();
  inboundmsgport->mp_Node.ln_Name=
=TIMER_PORT_NAME;
  IExec->AddPort(inboundmsgport);

  /* Wait for our message on there */

  IExec->WaitPort(inboundmsgport);
  if (iContext=IExec->GetMsg(datalogin))
  {

  /* We got the message we can now enter >
our event loop */

```

```

while (iContext->ticksstodelay > 0)
{
  IDOS->Delay(iContext->
>tickstodelay);
  Signal(iContext->
>maingamestatetask, (1L<<SIGNAL_TIMER));
}
IExec->DropInterface(IDOS);
IExec->CloseLibrary(doslib);
}

```

So in order to tell the timer task to exit we just need to set the tickstodelay to -1.

Intuition

The next module to bring together is code that opens a window on Workbench and reads the game state, then projects it onto the window. We should set it up in much the same way that the timer task is handled.

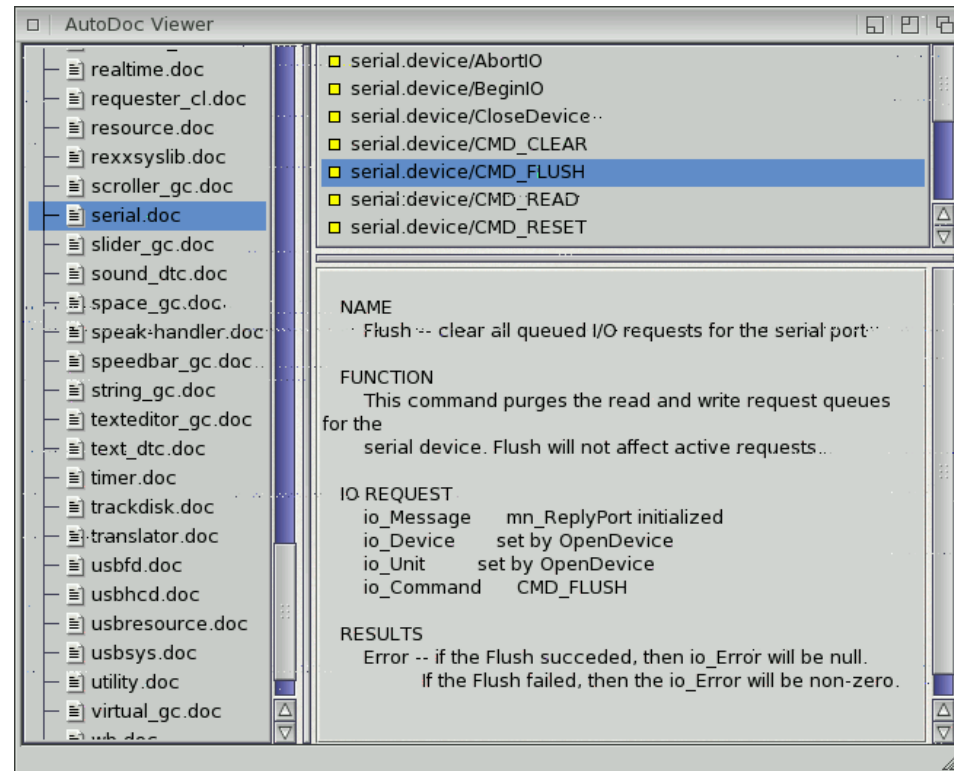
In order to do this we need to follow the same process as for the timer task, of publishing a message port which we will get our game state information in (and share our task with the game state so it can send us signals of when to update the display).

Then we need to find the workbench screen pointer, open a window on it and then handle incoming signals from intuition (mouse events for redraw, close etc) and from the game itself.

On a quit signal (from intuition) we need to signal the game state to exit then clean ourselves up.

On a redraw signal (from intuition) we need to call a redraw of the display.

On a game update signal (from the game



This OS4 native AutoDoc viewer lets you view vital information on a function easily.

task) we need to call a redraw of the display. In that inner loop we need to redraw the screen each time.

So the logic is:

1. Create a message port where we will get information from the game state task.
2. Wait for the game state to send its pointer.
3. Set our task pointer in the game state so other tasks can signal us.
4. Find the Workbench screen.
5. Create a window on it of the right size with a quit button.
6. Wait for incoming signals that match the mask of our update signal AND the intuition signals we care about.
 - a. On signal update – call redraw()
 - b. On signal update from intuition – call redraw()
 - c. On signal quit from intuition – signal the gamestate task to exit then go to point 7
7. Cleanup and exit

The first thing to do is update game.h with our changed structure and the new signal:

```

struct GameStructure
{
  struct Message exec_header;
  long          secondstodelay;
  struct Task * maingamestatetask;
  struct Task * displaytask;
};
#define GAME_DISPLAY_UPDATE 17
#define GAME_QUIT 18
#define DISPLAY_PORT_NAME "game.display"

```

So our code looks roughly like this, the main differences between the game timer task and this are highlighted in bold:

```

#include <game.h>
#include <exec/exec.h>

```

```

#include <proto/exec.h>
#include <intuition/intuition.h>
#include <proto/intuition.h>

int main(int argc, char * argv[])
{
  struct Library * intuitionlib;
  struct IntuitionIFace * IIntuition;
  struct GameStructure * iContext;
  struct MsgPort * inboundmsgport;

  /* Open intuition.library v50 or later */
  intuitionlib=IExec->
>OpenLibrary("intuition.library",50L);
  IIntuition = (struct IntuitionIFace *
*) IExec->GetInterface(intuitionlib,
  "main",
  1,
  NULL);

  /* Create our message port, name it so
it can be found then make it public */

  inboundmsgport=IExec->CreateMsgPort();
  inboundmsgport->
>mp_Node.ln_Name=DISPLAY_PORT_NAME;
  IExec->AddPort(inboundmsgport);

  /* Wait for our message on there */

  IExec->WaitPort(inboundmsgport);
  if (iContext=IExec->GetMsg(datalogin))
  {
    /* The task that a program is running
in is always found by using FindTask
passing in NULL*/

    iContext->displaytask=IExec->
>FindTask(NULL);

    /* Allocate our signals that we will
listen to */

    if (IExec->AllocSignal(
GAME_DISPLAY_UPDATE)==GAME_DISPLAY_UPDATE
    {

```

```

    BOOL quitplease=FALSE;
    while (!quitplease)
    {
      struct Screen * wbscreen;
      struct Window * ourwindow;
      long signals;

      initscreen(IIntuition,
wbscreen, &ourwindow);

      /* Enter the event loop waiting for
intuition signals and our special
signal */

      signals=IExec->Wait((1L <<
window->userport->mp_SigBit) |
(1L << GAME_DISPLAY_UPDATE));
      if (signals & (1L << window->
>userport->mp_SigBit))
      {
        /* Intuition signal - handle it */

        BOOL done=FALSE;
        struct IntuiMessage * message;
        ULONG class;

        while(message=(struct
IntuiMessage*)IExec->GetMsg(
window->userport))
        {
          /*process all incoming intuition
messages */

          class=message->Class;
          IExec->ReplyMsg(message);
          switch(class)
          {
            case IDCMP_CLOSEWINDOW:
              IExec->Signal(iContext->
>maingamestatetask,
(1L<<GAME_QUIT));
              cleanup(IIntuition,
window,iContext);
              quitplease=TRUE;
            case IDCMP_REFRESHWINDOW:
              redraw(iIntuition,
window,iContext);
              break;
          }
        }
        else
          redraw(iIntuition,window,
iContext);
      }

      IExec->FreeSignal(
GAME_DISPLAY_UPDATE);
    }

    IExec->DropInterface(IIntuition);
    IExec->CloseLibrary(intuitionlib);
  }

  void initscreen(struct IntuitionIFace *
* IIntuition,
  struct Screen ** currentscreen
  struct Window ** displaywindow,
  struct GameStructure * structure)
  {
    /* Find the Workbench screen, create a
window on it with the right buttons and
the right size and return */

```

```

}

void redraw(struct IntuitionIFace *
*IIntuition,
  struct Window * displaywindow,
  struct GameStructure * structure)
{
  /* Use the display window, the
intuition interface and the game
structure to redraw on screen the
window contents */
}

void cleanup(struct IntuitionIFace *
* IIntuition,
  struct Screen * currentscreen,
  struct Window * displaywindow)
{
  /* Handle the closure of the window in
a nice way */
  if (displaywindow)
    IIntuition->
>CloseWindow(displaywindow);
}

```

That is a rough framework for handling our game.

Now in order to complete our game we need to implement initscreen() and redraw(). The former can be implemented without any work on the gamestate task with a little bit more playing with Intuition itself. The latter requires we take a look at our gamestate design (oops we don't have one yet) and learn how to draw inside a window.

Before we leave Intuition to talk about gamestate lets take a look at our task ahead. We need to:

1. Be able to find the Workbench screen in order to be able to open a window.
2. Define a window.
3. Open the window on the Workbench screen.
4. Draw something in it.
5. Close the window.

Finding Workbench

Task one, finding Workbench. There is an intuition function for this called LockPubScreen() which allows us to get a pointer to the target screen:

```

struct Screen *workbenchscreen=
IIntuition->LockPubScreen("Workbench");

When we are done with it we should release it with UnlockPubScreen():

IIntuition->UnlockPubScreen("Workbench",
,workbenchscreen);

```

Defining a Window

Windows must be defined before they are open, definition provides information on things like size, what gadgets to provide and what events to listen for (like mouse clicks, keyboard events etc).

Windows are defined using what are called tag lists, these are an array of option pairs

(parameter name followed by value). What each option does is define the various aspects of the window and you can look up these options in the system documentation.

For now we will create a simple window:

```

struct TagItem windowoptions[]=
{
  {WALeft, 100},
  {WATop, 16},
  {WAWidth, 200},
  {WAHeight, 200},
  {WATitle, "My first window"},
  {WACloseGadget, TRUE},
  {WADragBar, TRUE},
  {WAGIMMEZEROZERO,TRUE},
  {WAIDCMP, IDCMP_CLOSEWINDOW |
IDCMP_REFRESHWINDOW},
  {TAGDONE,NULL},
};

```

Tag lists always end with TAGDONE,NULL to indicate the end of the list.

WALeft – The offset from the left of the screen, in pixels, where the window should be opened.

WATop – The offset from the top of the screen, in pixels, the window should appear.

WAWidth – The width of the window, in pixels.

WAHeight – The height of the window, in pixels.

WACloseGadget – Whether or not to provide a close gadget.

WADragBar – Whether or not to provide a drag bar.

WAIDCMP – IDCMP messages to listen for (messages from Intuition).

WATitle – The title of the window as it appears.

WAGIMMEZEROZERO – Makes sure that the bitmap we can draw to does not corrupt the border.

Opening and Closing the Window

Then to open the window:

```

struct Window * mywindow=IIntuition->
>OpenWindowTagList(myscreen,
windowoptions);

```

Then when you are finished with the window:

```
IIntuition->CloseWindow(mywindow);
```

Drawing in the Window

Intuition provides a means by which to access the "raster port" of the window, the window structure has a member called RPort which can be used with drawing operations directly.

Assuming you have an Image structure that you can use already this shows how you can use DrawImage to write an Image to an RPort:

```
IIntuition->DrawImage(mywindow->
>RPort,myimage,0,0);
```

Support

However the real power comes from graphics.library (which of course needs to be opened and used). This provides functions for drawing lines (Draw), ellipses, sprites, pixels, text and scrolling. When we come to the Final Touches (either in next issue or in the downloadable source online) or if you are feeling adventurous you can play yourself!

We can now put some code in here:

```
void initscreen( struct IntuitionIFACE *
* IIntuition,
    struct Screen ** currentscreen
    struct Window ** displaywindow,
    struct GameStructure * structure )
{
/* Find the workbench screen, create a
window on it with the right buttons
and the right size and return */

*currentscreen=IIntuition-
>LockPubScreen("Workbench");

If (*currentscreen!=NULL)
{
    struct TagItem windowoptions[]=
    {
        {WALeft,    100},
```

```
{WATop,    16},
{WAWidth,  200},
{WAHeight, 200},
{WATitle,  "Tetris Window"},
{WACloseGadget, TRUE},
{WADragBar, TRUE},
{WAGIMMEZEROZERO, TRUE},
{WAIDCMP,  IDCMP_CLOSEWINDOW |
            IDCMP_REFRESHWINDOW |
            IDCMP_VANILLAKEY },
{TAGDONE, NULL}
};

*displaywindow=IIntuition-
>OpenWindowTagList(*currentscreen,
    windowoptions);
}
```

Input Module

The final module we need to concern ourselves with this issue is the input module. We are keeping the input handler separate from the main game engine so we can replace it with an AI module or remote networking support (for two player games later on).

However we have a problem. Intuition events are going to be handled by the display module including keys pressed when the display modules window is active.

When a keypress is generated in an active window an Intuition message is sent with the "code" field filled in with the ASCII value of the key pressed.

Your mission, before the next issue, is to produce a new task for the input module that accepts incoming messages from anywhere with the key press on them. These messages are analysed for valid directional control and a message (or a signal) sent on to the game state task.

This means of course that the input modules message port needs to be activated and waited for in the same way as the other modules already demonstrated.

Good luck, and if you get stuck the complete Tetris game in OS3 and OS4 format will be available for download along with supplementary information on game state design, sprites and drawing images.

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Next Issue

Here's a taster of what we're planning for the next issue of Total Amiga!

- Amiga in business feature.
- Interview with Eric Schwartz.
- PageStream 5.0 Pro review.

Issue 20 is due in:

★ **March 2005**

Note: Total Amiga is produced by volunteers and this means sometimes issues run late and planned contents change. If you're concerned about the status of the next issue please look at <http://www.totalamiga.org> or contact us (details inside front cover).

Back Issues

Copies of recent issues of Total Amiga are still available for the princely sum of £2.50 each including UK postage. The issues available include:

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Issue 17 – OS 4 on AmigaOne preview, PhotoFolio 2.4 review, Arak Attack review, Image Enhancement part 2, C part 2.

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ShowGirls



ShowGirls is a powerful new picture viewer for MorphOS reviewed in this issue. On the left you can see the image display and directory browser with thumbnails.

Below is the settings window (in a different MorphOS theme) showing the different thumbnail options.



OS 4 Classic



Proof, if it's needed, that OS 4 does run on the A1200! This is Darren Glenn's Blizzard PPC accelerated machine at the Big Bash2.

Art Effect OS 4

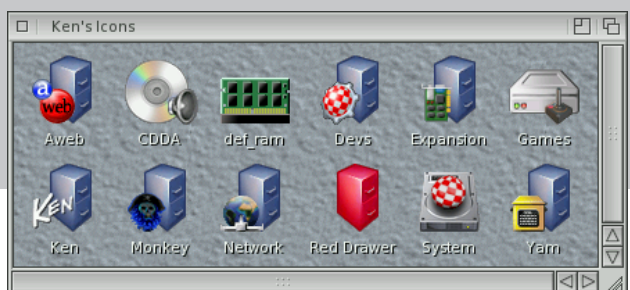


Left: Caught on video: an alpha version of ArtEffect for OS 4 at Essen. The video is playing back on OS 4 in dvPlayer. Video from www.amition.de.

Amiga OS 4 Updates



The colourful interface of Audio Evolution 4 showing the time-line display, mixer and various effects. There's an report on the development of Audio Evolution on our OS4 Update feature.



Above: Ken's icons brighten up your Workbench (see News).