WhatIFF? Issue 3.15

This PDF has been generated by a proof of concept AG2PDF function. It's very basic so far and not even close to finished but here you go!

WhatIFF? For The Creative Amiga User

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```

Welcome to WhatIFF?

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==============================================================================
 -# WhatIFF? - Issue 3.15 - December 2024 #-  Music:
------------------------------------------------------------------------------

      --EDITORS DESK--   -MEET THE WRITERS--
      A few words from the editor and meet the writers of WhatIFF?
      ---SHELL TALK---   -----TALK BACK-----
      Amiga soapbox and readers letters.
      -----REVIEWS----   ---GAME REVIEWS----
      Reviews of hardware and software, old and new.
      -----GUIDES-----   -----ARTICLES------
      Guides and support for all things Amiga.
      -TALKING AMIGA--
      Interviews with people making a difference in the Amiga community.
      -----LINKS------   ---AMIGA VENDORS---   ---AMIGA GROUPS----
      Amiga related links and Amiga vendor websites.
      -ADVERTISEMENTS-
      Vendor advertisements and more.

      ---COVER DISK---

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      NEXT ISSUE  *All content copyright of the respective authors 2024*
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From The Editor's Desk

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From The Editor's Desk - by: Timo Paul
==========

Warm greetings during this cold season, I hope that you are sitting nice and warm in front of your Amiga. The Amiga PSU is a great foot warmer if it is sitting on the floor, by the way. Thank you for downloading issue 3.15 of WhatIFF?, this will mark almost four years of the magazine, while the frequency of issues has decreasded from monthly to every four months, the number of contributors has increased and along with them the quality and content have improved as well.

So,to begin with I wish to thank everyone who has worked on the magazine in 2024, Andy Vaisey, Ivan Sorensen, John Scolieri, Kevin Saunders, Kristian Hesketh, Marytn Bampton, Roald Strauss, Rob O'Malley and Steve Lord. With out their contributions the magazine would not have grown into what it has become.

In this issue we have a lot of hardware reviews for a variety of Amiga models such as the RastPort and the A600GS. There are a few guides and I highly recommend having a read of the Blitz Basic Basics by Andy Vaisey. We are living in dire times with wars aplenty and nuclear war seemingly closer each day. But the Amiga scene has thrived in 2024 with numerous new games and new hardware releases. Like a fine wine, the Amiga is getting better and better with age.

Before I go though I would like to mention that we now also have WhatIFF? stickers available and t-shirts. These are not made for profit but as a fun way to show support for the magazine. In addition the WhatIFF? forum has been updated to a different and better forum software, there were a few teething problems but thanks to Martyn, it is now fully functional with working e-mail notifications. I hope to see you around there, there will be content uploaded there that will not be available in the Amiga Guide version of the magazine. Finally the logo has been updated to something a bit more professional looking and the images have been reduced to 64 colours to reduce the loading times on slower Amigas.

Well, that covers everything, enjoy the magazine and thank again for downloading and reading WhatIFF? Amiga Guide Magazine.

Letters From WhatIFF? Readers

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Talk Back: Letters From WhatIFF? Readers January-March 2024
==========
Welcome to Talk Back, the section of the magazine where we publish a select few of the letters that we receive. Thank you to everyone who has written in and those who have gone on to write articles for the magazine. We always welcome any written contributions to the magazine. Everyone has a unique perspective and Amiga story to tell. If you wish to write to the magazine or contribute then please contact us at: submissions@whatiff.info
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Free For All About Anything

==========
Shell Talk - by: Timo Paul
==========

So we are at the end of another year, looking back 2024 has not been a particulary good year. We have the continuation of aggression in Ukraine and new wars being started by Israel. China is getting more aggressive in around Taiwan and Japan and to top it all off America has got Trump again. That being a good or bad thing though I guess depends on your point of view but suffice to say 2024 has had a lot of bad shit happen. It used to be a joy to get the daily newspaper delivered and sit down to read it at the breakfast table but recently there has been so much bad news that it can be quite a slog to get through. While the rest of the world is running towards nuclear annialation I am happy to concentrate on what the Amiga scene is offering and this year has been a great one. I am in particular impressed by how helpful Amigans are. Point in case, I recently decided to reduce most of my Amiga stuff, by this time I only had an A1200 and V4 Standalone. Living in Japan space can be quite limited and in our home which is a flat there is only one room where I can put the computer but it is small and the A1200 takes up a lot space. It made me feel bad for my wife who does not have any space to do her stuff on the desk. So, I thought, well I have a V4 Standalone and that has been working very nicely, maybe I do not need the A1200 anymore. So, I decided to sell the A1200 off, well ... things were going well for a while until they went bad and one of the issues of the V4SA is that when things go bad, they really go bad. I started to get random issues with software that would just stop running, such as OctaMED or even Protext. While I think the V4SA is a fantastic machine it still has issues that make it a difficult replacement Amiga, especially if it is your only Amiga. After about two weeks of this I had to accept that I had flamingoed up (Double points if you get that reference ;), with all the power that the V4SA offered, it still could not run software that is important to me stably or even at all.

What could I do?

Buying an A1200 is becoming prohitably expensive, so I decided to try Amibay and see if someone would be willing to 'swap' my V4SA for an A1200. Luckily I got a quick response from an Amibayer in the States and we got talking. I was thinking about the swap when he offered to change the original white case for an A1200.net translucent case and throw in a TF1230 as well. Well, I could not resist that offer and we agreed to the deal, what followed were several e-mails with photos of the items were going to send. I sent the V4SA first and then he sent the A1200 a day later. About two weeks later a large box arrived from the States! A gorgeous A1200 with lovely bright white keys and a rather sexy looking translucent case.

What followed was some more purchasing, an Indivision AGA Mk3, IDE-CF card from AmigaKit and a RTC. AmigaKit have had a bad rep of recent but I must say that their service has gotten much better and I have had good experiences ordering from them. One other advantage is that they remove the VAT for customers buying from outside the UK/EU, so I can always expect a 20% discount, very nice!

Bit by bit I was building my A1200 back into a proper machine again, next I need to swap the TF1230 for a TF1260. The TF1230 is a perfectly good card and gives the A1200 good boost of speed but I missed the smoothness and speed that only an 060 can offer. I had a look around and found that Amiga Store.eu were offering the TF1260 for a decent price of 170 EUR which when converted into GBP was cheaper than anywhere else. AmigaStore.eu quickly processed and sent my order but I was still in need of an 060. I have found from prior experience the rev 5 060 give me the best value for money, they

are not able to go as fast as the rev4 but have the FPU which the highly sought after rev6 does. So it was back to eBay and I found my old chip guy and picked up a rev 5 060 that is capable of 60Mhz. Running this with the latest version of the TF1260 firmware I can have the chip runningly smoothly at 66Mhz. Brilliant!

After all this I need to get internet connectivity back again while the PiStorm offers a great way to access Wifi I wanted to stick with my TF1260. Nothing against the PiStorm but as I have only space for one Amiga, it feels more right to have a 'real' CPU in the Amiga. Anyways, due to having the TF1260 my best option was to find an A314-CP. Luckily I was still part of the A314 Discord channel and after a few inquiries on a nice chap from Austria built me one of the slimline A314-CPs. He was very helpful through out the entire process and kept communication during the build and shipping.

Suffice to say once I got the card I forgot how I had originally set it up and had to get some help from the Discord server. After a few days I some put me in the right direction. It was a silly mistake, I thought that I still had to use my router's IP address in the Routes file for Roadshow. Obviously it has to the be Raspberry Pi IP address, which is stated in the docs online but for some reason I was not able to comprehend that until it was pointed out to me. Red faced, I managed to get my A1200 back online again.

It has been quite the journey and a completely unnecessary one, had I just kept my original A1200 I would not have had to go through this journey. But at the same time I appreciate it a lot. The amount of help and support I have gotten from Amiga users gives me warm feeling inside. If there are still people like that out there maybe we are not all doomed after all.

Perhaps there should be a law that each ruler of a country must be an Amiga user. Imagine how interesting that would be! Well I have taken enough ofyour time, I wish everyone of you a wonderful winter holidays and new year. The Amiga scene has been full of excitement and joy in 2024 and I am looking forward to what 2025 has in store.

Welcome to the reviews section!

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-= R E V I E W S =-----------------------------------------------------------
------------------------------------------------------------------------------
   -= Hardware Review: RastPort =-
   Martyn Bampton reviews the RastPort PCMCIA side adapter, find out more
   about it inside.
   -= Hardware Review: A600GS =-
   Toki from eab.abime.net gives a no nonsense review of the A600GS, if
   you are on the fence about buying one then read his review.
   -= Hardware Review: A500 2MB RAM Expansion with RTC =-
   Our resident hardware expert looks at a modern ram expansion available
   for the trusty old A500.
   -= Hardware Review: GOEX SD Drive =-
   GOTEK drives are the standard for Amiga disk drive replacement we take a
   look at one of the alternatives.
   -= Hardware Review: Electroware PSU =-
   On the lookout for a replacement PSU then Martyn has you covered with
   his indepth review of the Electroware PSU.
   -= Software Review: IBrowse 3 =-
   Is the latest version of IBrowse worth paying to upgrade to?
   -= Software Review: FlashMandel `Vamped Edition` =-
   We take a look at the latest release of FlashMandel and find out what
   special Vampire features it has.
   -= Software Review: GoVD =-
   Virtual desktops on a classic Amiga? Sounds to good to be true, find out
   inside if this little programme is a game changer.
------------------------------------------------------------------------------
            #Reviews - WhatIFF? Issue 3.15 - December 2024#
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Hardware review: RastPort

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Hardware Review:RastPort - by Martyn Bampton
==========

Product Name
KA02 External PCMCIA adapter (A1200/A600)

Developed By
RastPort

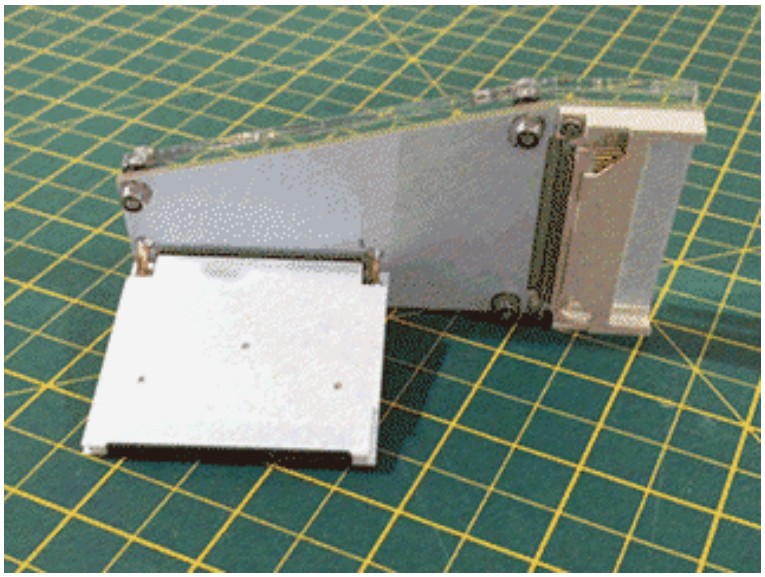
Available From
AMIGAstore.eu
amiga-shop.net
sordan.ie
retroready.one
eBay

Price
Varies but typical best prices are 30 USD/34 EUR/35 UKP

Hardware Requirements
An Amiga 1200 or 600 in the original case.

Test Machines
Amiga 1200
Amiga 600

Rastport Image 1



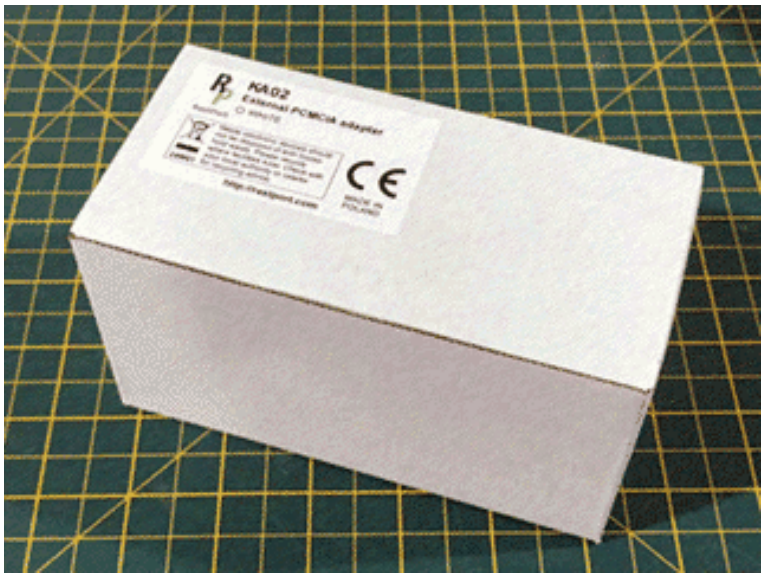
Introduction

It's usually the case that adding anything via the A1200/A600 PCMCIA slot makes your Amiga take up more room at the side, just like the A500 and its various sidecar expansions. I used to compare it to Lieutenant Green (Captain Scarlet) going back and forth along the main computer in the Spectrum Cloudbase control room. My chair wasn't mobile and my desk didn't have a lot of room so it would have been very useful to have this adapter from RastPort. The adapter simply points the PCMCIA port

towards the back of your desk and orients it vertically and it's even profiled to match the side of the Amiga. Devices now face rearwards and any cables, like networking or SCSI, are at the back rather than taking up space at the side. Left handed people may also appreciate the lack of clutter on the left hand side of their computer where their mouse would presumably sit. While a currently a bit more expensive for UK folks I was able to pick one up for $30 USD which is reasonable.

Impressions and Use

Rastport Image 2

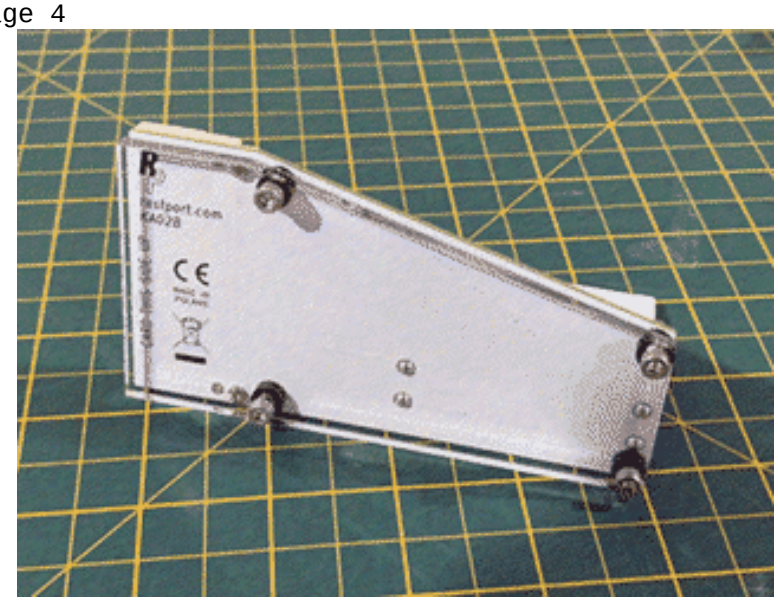


Rastport Image 3

The packaging was plain but functional, just bubble wrap within a white box with a printed text label, but it kept the adapter safe in transit. Given its angular shape this is certainly appreciated. It consists of two printed circuit boards joined at 90 degrees and a clear acrylic backing plate for strength, fixed with nuts, bolts and spacers. The smaller of the boards connects to the Amiga's PCMCIA port and the larger is fixed to the acrylic plate and sits vertically alongside the computer. The boards are joined with soldered connections and with

metal corner brackets for support, it feels strong enough but I'd still treat it with care. The circuit boards are coloured, I opted for the white version but you can get black too if that fits your colour scheme. I really liked how it looked alongside the Amiga and it didn't interfere with any covers I use - however do be careful not to snag the adapter on any covers, that's the only problem I experienced and it's minor.

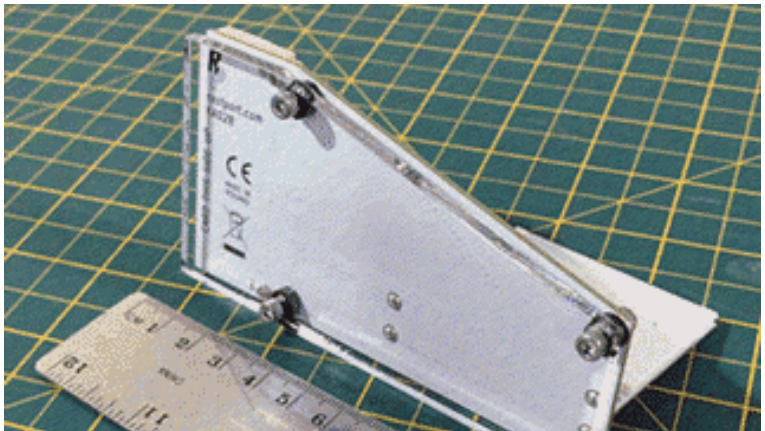
Rastport Image 4



Plugging the adapter into the Amiga was straight forward and I had no alignment issues. I would be aware that the adapter is designed to sit with its edge flat on the desk alongside an unmodified case. If you have taller feet on your Amiga or have it elevated in some other way then you'll have to add some support to the adapter too. The adapter is PCMCIA compliant with all PCMCIA lines passed through unmodified as it's just a physical adapter, essentially an extension. The socket has gold plated pins which are of different lengths to support the hot (un)plugging of devices and the adapter itself can be connected or disconnected while the computer is on. You should be able to plug in any PCMCIA device and it'll function as if inserted directly into the computer's slot. I was able to use networking and CF adapters without problems and everything looks so much neater. Attaching the RJ45 dongle to the network card was a bit fiddly with the card inserted so I ended up attaching it first then inserting the card into the adapter. Other than that it's been great and I do like the fact that my Amiga's port is getting less wear and tear.

Note: The RastPort adapter blocks external access to any CF to IDE adapter that places the CF card above the PCMCIA slot.

Rastport Image 5



Rastport Image 6

Summary

A simple adapter with a modern minimalist appearance which solves one of the biggest gripes I had with PCMCIA card expansions, space! It might seem a little bit flimsy at first glance but it's strong enough if you use care when fitting it and inserting an removing devices. It has the potential to save your port from some wear as long as you don't bump or snag it forcibly. While you may have to make accommodations if you've raised your case for ventilation, it's mostly just fit and forget. Oh and it comes in black and white.

Other than that it's been great and I do like the fact that my Amiga's port is getting less wear and tear./Â Note:Â The RastPort adapter external access to any CF to IDE adapter that places the CF card above the PCMCIA slot.

Pros and Cons

+ Repositions desk clutter.
+ Profiled to match the Amiga.
+ Potentially reduces port wear if handled appropriately.
+ Good build quality.
- Could catch or be pulled awkwardly if not handled appropriately.
- Blocks externally accessed CF cards mounted above the PCMCIA slot.

Other Key Points:
* Connecting cables to devices when inserted may be a bit trickier.
* May need support if you've raised your Amiga.
* Could be a bit pricey depending on where you live.

Scores

Ease of use: 100%
Documentation/Packaging: 70%
Value for money: 70%
Overall: 80% - WhatIFF Silver

Sources and Credits

Sold by AMIGAstore.eu:
https://amigastore.eu/en/735-cased-pcmcia-adapter.html

Created by RastPort: https://rastport.com

Hardware review: A600GS

==========
Hardware Review:A600GS - by Toki (eab.abime.net)
==========

Product Name
A600GS

Developed By
AmigaKit

Available From
https://www.amigakit.amiga.store

Price
134 GBP (inc VAT)

Hardware Requirements
HDMI Monitor/TV

Test Machine
N/A

Introduction

So I've had my A600GS for about a month now. If you are thinking of purchasing one hopefully this will be useful. This is just my thoughts on it. For all the technical spec on it please head over to Amiga Kit or read one of the threads on EAB where people more knowledgeable than I have tested exhaustively.

Some background; I've never stopped using my Amiga for games since about 1990. During the pandemic with more times on my hands I started using it for programming in assembly and in C, for which I use WinUAE so I have the convenience of using a modern laptop.

Firstly what I love about the A600GS, and then a few watchouts.

A600GS works straight out the box, after you have setup your Amisphere login. It's great to suddenly feel that you are using a machine created by Amiga's fanbase. You feel the your curiosity building as you search through its functionality. I quickly loaded a memory disk with all three of Hoffman's games. Just click on the adfs and there they are immediately inside the A600GS. Clicking on the games, playing them and creating thumbnail versions of save state files is a joy. No problem, just works, no corruptions or missing files, it just works fine. Click on screenshot and you can save that picture to your dashboard, which is great fun and personalizes the experience.

After a bit fiddling around I got my Bluetooth headphones working. Now I can listen to Hoffman's game music when I'm in the kitchen making a cup of tea before going back to the game.

Having immediate access to the game on a dedicated machine rather using my laptop and WinUAE seems great. I'm not sure why, it just does.

The A600GS is permanently linked to the internet. There have been a few firmware updates so far. The system comes with a few games preinstalled. The last firmware update came with Super Skidmarks which the creator has provided for the love of it. Suddenly developers have an immediate route to provide content for users. This is exciting. I feel linked in with the Amiga development community. The possibilities for the future! The other applications provided: Octamed 8, Personal Paint, DOpus4, Final Writer are

all preinstalled. When new applications are available it's going to be so easy to add them from the Amisphere. Yes, obviously you might be asked to pay, but what a great way to support the developers. Having tried and failed to install Final Writer on my A1200 numerous times its great to see it here working straight out the bat.

So this is what I'm using my A600GS for playing games. I'm not using it for coding because WinUAE and the convenient of my laptop is fine for that. I'm not expecting the A600GS to replace my old Amigas, or WinUAE, or Amiga Forever. However, in future when I have a new game, hopefully Roguecraft soon this is what I'll be firing it up on.

Now some watchouts

There's aspects of the A600GS that feel as though they are in development, and hopefully improvements will come in the future. I've not managed to get a game working that has more than one disk. The functionality is there to add disks, but it has not worked for me so far.

Some ADFs, even where the games is on just one disk, don't work. Admittedly these are hacked versions of games I've tried, so that could be complicating things.

No WHDLoad. I not sure if this will be a big deal in the future if you can purchase/acquire effectively pre-installed software through the Amisphere.

No workbench. Personally I like Dopus 4, I've used version 5 for years. Amibench is preinstalled which I'm not used to, might start using it, might not.

The manual with the machine does not explain everything. It's OK. You'll find yourself going off to Youtube to see what others are managing to do. The A600GS has some quirks, but most of the time it's fairly intuitive.

Summary

The A600GS is certainly Amiga Good Stuff in my book. Part of the Amiga's history already in my opinion. Great to have a modern working Amiga supported by our community. It's exciting to think where it's going to go in the future. If you want to experience the development as it happens now is the time to get one. It's fun to experience, which was always the point of the Amiga.

Hardware review:Amiga 500 2MB Memory Expansion with RTC

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Hardware Review:Amiga 500 2MB Memory Expansion with RTC - by Martyn Bampton
==========

Product Name
Amiga 500 2MB Memory Expansion with RTC

Developed By
PeteAU, Mathesar and MQ666

Available From
AMIGAstore.eu

Price
37 USD/34 EUR

Hardware Requirements
An Amiga 500 (not A500+) with Kickstart 1.3 or higher. Rev 3, 5 or 6 listed.

Test Machines
Amiga 500 rev 6, KS 3.2
Amiga 500 rev 6, KS 1.3

Image 1

Introduction

The most basic upgrade you can make to any Amiga 500 is a 512 KB memory upgrade, often with a real time clock (RTC) onboard. This 2 MB RTC option from AMIGAstore.eu is one of the more capable RAM expansions for the Amiga 500 (rev 3, 5 and 6) which will add 1.5 MB or 2 MB of additional RAM depending on how you want to install it. If you just add the card to the trapdoor as-is then you'll see an additional 512 KB Slow RAM. If you open your Amiga and use the provided Gary adapter you can add 1.5 MB. If you're willing to make simple modifications to your motherboard and happen to have an 8372 Agnus then you can add half a meg (512 KB) of Chip RAM as well as 1.5 MB Slow RAM! This will give you a total of 1 MB Chip RAM and 1.5MB Slow RAM and a real time clock which is a nice boost for the price.

Image 2

Note: A 512 KB version of this expansion is also available and the RTC is optional in both the 2 MB and 512 KB versions. The 512 KB version is listed as being compatible with all Amiga 500 motherboards, presumably this includes the rev 8 boards found in some later A500s. I was unable to test this.

Image 3

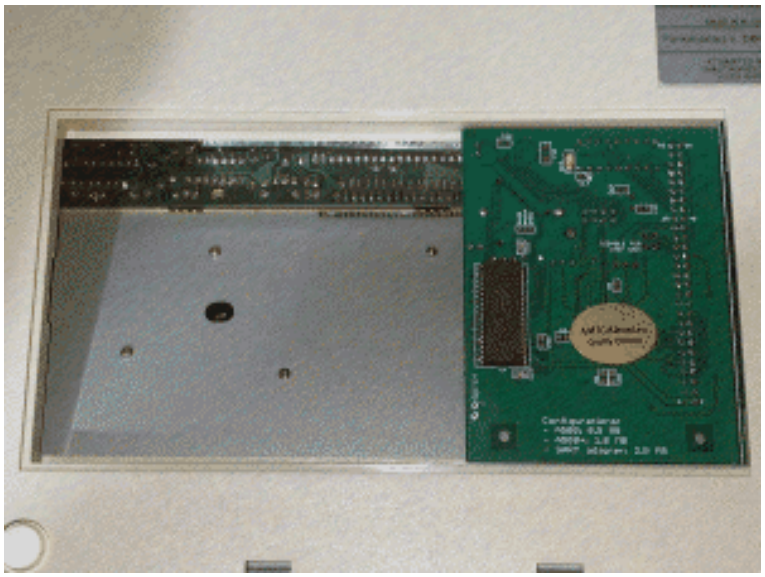
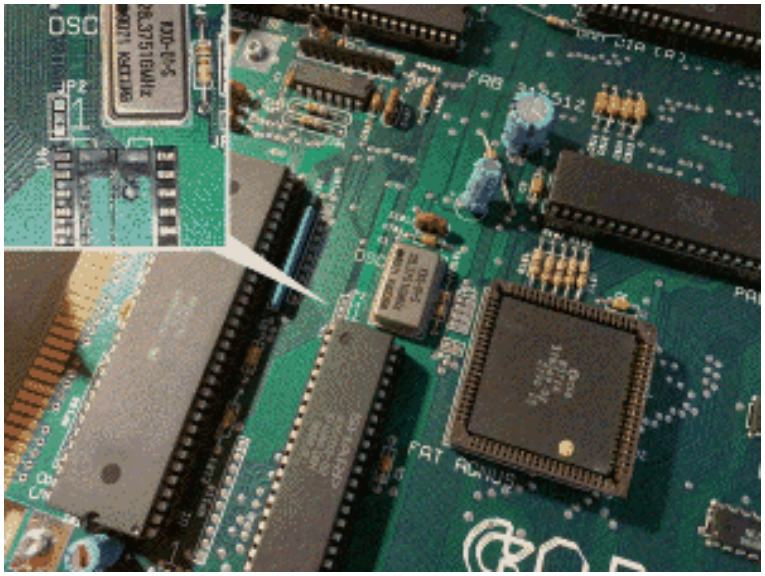


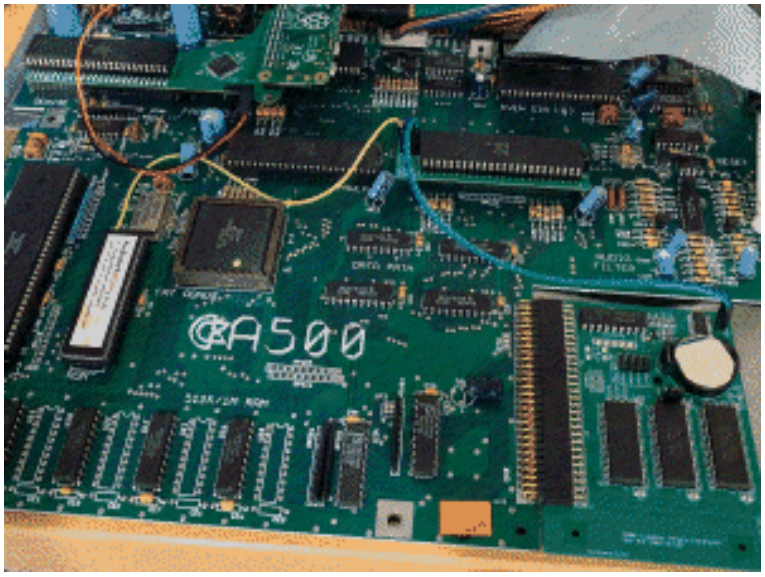
Image 4



Impressions and Use

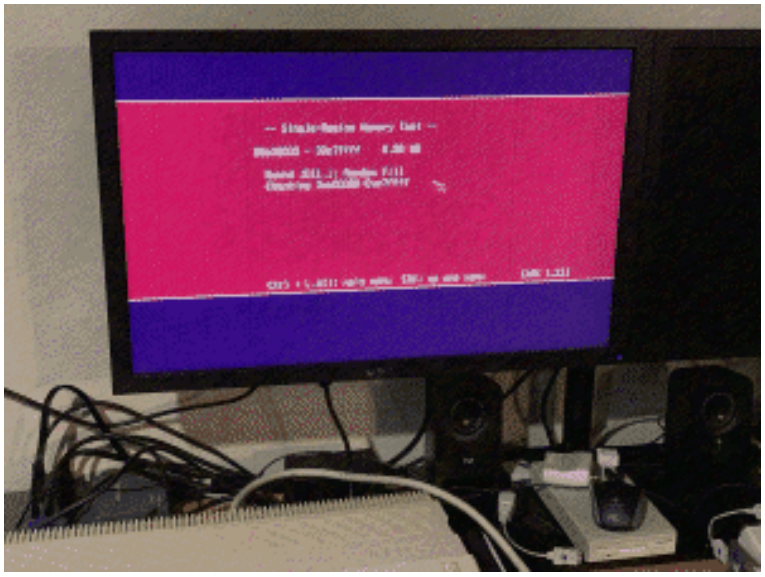
The expansion card arrived in an antistatic bag which also contained the Gary adapter, wires, RTC battery and instruction booklet. No software installation is required but you will need some basic soldering skills and be willing to cut a trace on your motherboard if you want to add that additional 512 KB of Chip RAM. The instruction booklet is concise and easy to follow with pictures included at the end, guiding you through the installation of the main board, the Gary adapter and jumper configuration. Additional steps are required for rev 3 motherboards and this is detailed too. A diagram is included to show the jumper positions on the Gary adapter which is appreciated. I think the pictures could be clearer or basic diagrams provided to better show the jumper pad configuration on the motherboard. A PDF download with higher resolution pictures would be helpful.

Image 5



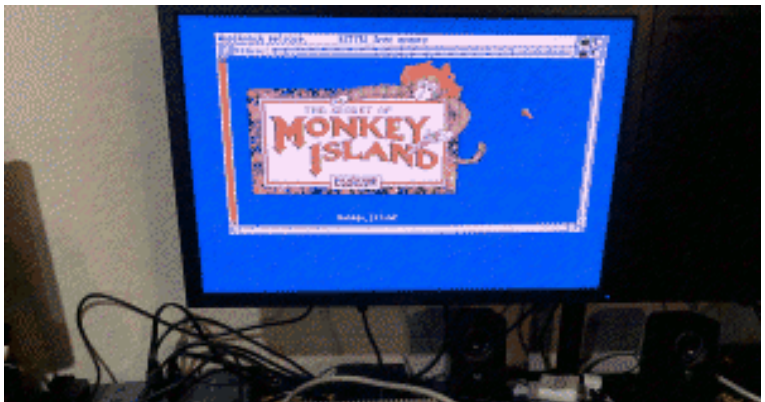
The expansion (88 mm x 68 mm) and Gary adapter (75 mm x 23 mm) are both compact and well laid out. I didn't see any resistor packs or arrays for reducing signal noise, however the traces are very short and I experienced no issues when testing with Amiga Test Kit (1.21) or in general use, perhaps it's just something to be aware of. To make the most of the 2 MB expansion you have to open up your Amiga, remove Gary, add the Gary adapter and then replace Gary in the adapter. This needs to be done if you want the additional Chip RAM and/or the 1.5 MB Slow RAM, else you'll only get a basic additional 512 KB of Slow RAM. Be careful removing Gary, insert the flat end of a spudger or a flat bladed screwdriver between the chip and the socket at one end and very carefully twist, rocking from side to side, repeat for the other end until the chip is free. Don't lever the chip up or try and push the screwdriver further under the chip, you could gouge your motherboard!

Image 6



Insert the RTC battery into the expansion then fit the expansion into the trapdoor connector of your Amiga and connect the wires. There are three wires included, two are terminated with DuPont connectors which fit into the SEL0/1 headers on the expansion and Gary adapter, connecting them. The remaining wire is required if you opt for the additional Chip Ram. It's terminated on one end and is stripped and tinned on the other, this is the end you'll need to solder to the middle JP2 pad after carefully cutting the trace between pads 2 and 3. The other end then connects to the Gary adapter RASC header pin. Set the jumpers on the Gary adapter for 1.5 MB or 2 MB (see the diagram in the booklet) and make sure the wires are making good contact and are not loose. The system may not boot otherwise, giving you a blank or coloured error screen.

Image 7



That's it, test boot before putting things back together and load Workbench or Amiga Test Kit to check out your new RAM totals and check for stability. All being well you'll have an additional 1.5 MB Slow RAM (and 512 KB additional Chip RAM if you did the mod). The expansion worked fine with a TF536, RGB2HDMI and a DF0/DF1 switchless floppy selector - it was great to see 1 MB Chip RAM in Workbench.

Summary

A very nice and reasonably priced RAM expansion for the Amiga 500. If you'd like to keep an A500 close to stock but give it a bit more than the usual extra 512 KB RAM for the situations that need it then this is a great option. However installation is a bit more challenging than simply opening the trapdoor slot and fitting the expansion, while adding the extra Chip RAM could be daunting for some. That said you always need to open your Amiga 500 to get that extra Chip RAM so that's hardly a point against this expansion.

Pros and Cons

+ Great Value for money.
+ Add 1.5 MB without any modifications.
+ Option to double your Chip RAM.
+ Instructions included with 2 MB version, could benefit from some simplified diagrams.
+ Compatible with accelerators such as the TF536.
+ Other options available - without RTC and basic 512 KB.
- Need to open up your Amiga.

Other Key Points:
- Soldering skills, motherboard modification and 8372 Agnus required for extra Chip RAM.
- Rev 3 Needs an additional modification/fix.
- Kickstart 1.3 or higher.
- No resistor packs visible but no issues in hours of testing and months of use either.
- A different version is available for A500+.

Scores

Ease of use: 80%
Documentation/Packaging: 75%
Value for money: 100%
Overall: 85% - WhatIFF Silver

Sources and Credits

Sold by AMIGAstore.eu:
https://amigastore.eu/en/710-amiga-500-512kb2mb-memory-expansion-rtc.html
Created by PeteAU, Mathesar and MQ666

Hardware review: GOEX SD Drive

==========
Hardware Review:GOEX SD Drive - by Timo Paul
==========

Product Name
GOEX drive r.2023, SD card version

Developed By
Centurion Tech

Available From
https://www.centuriontech.eu

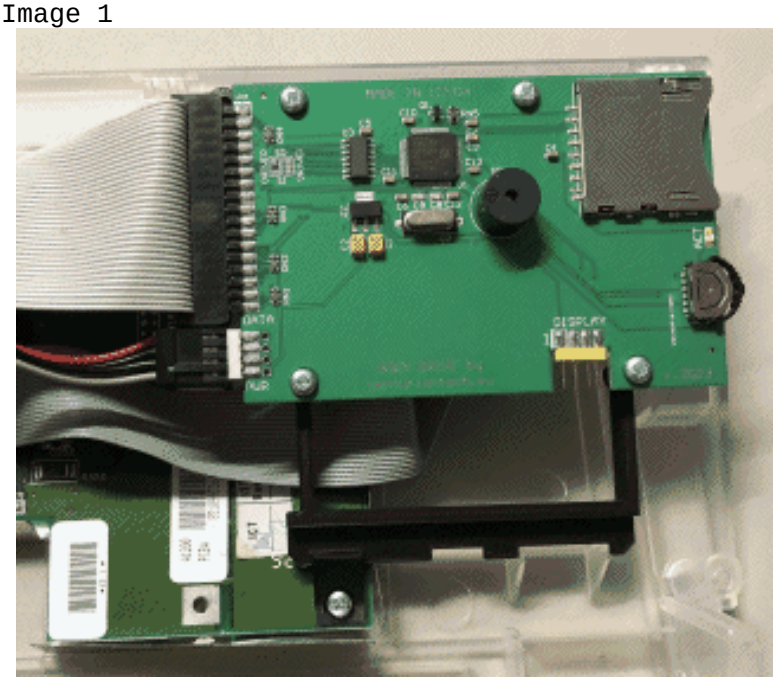
Price
51-64 EUR

Hardware Requirements
A500-A1200

Test Machine
A1200

Review

GOEX Image 1



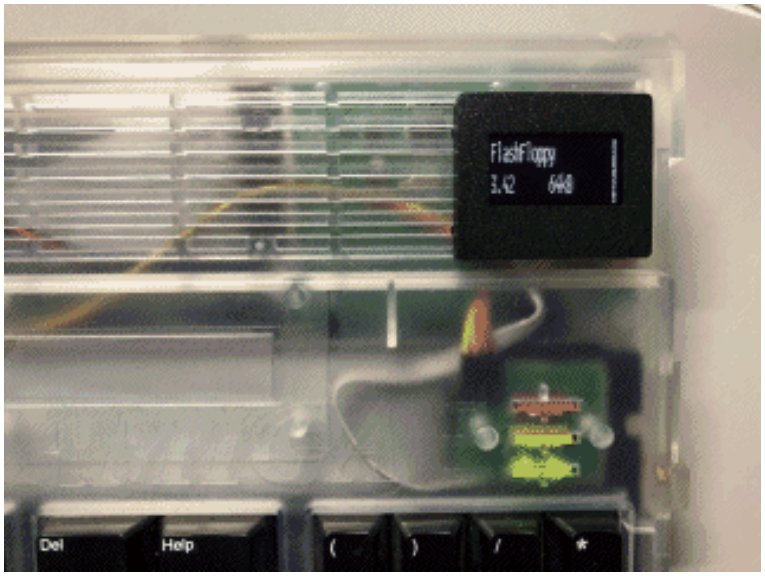
As our drives age and fail on us the GOTEK series of drives have become an essential tool for installing software and playing games. However it was never really made for the Amiga as such it could be difficult to install one and the access to the USB port was at times a tight fit. In steps the GOEX drive from Centurion Tech, a tailored drive repacement made for Amigas.

The drive comes in two variants the the standard GOEX drive r.2023 and more recently the GOEX on pills, the latter costs around 10 euros more but also has the ability to put the GOEX menu as an overlay on the Amiga output. For this review I chose the former since to use the overlay menu requires soldering directory to the Amiga motherboard and I have a bad history with soldering.

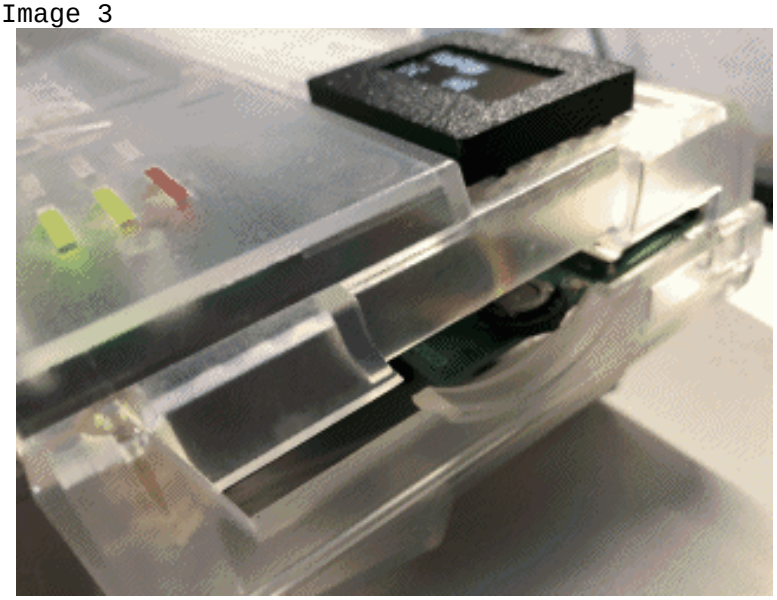
Ordering from the Centurion Tech website it easy, though it can be slow so be patient. I received the drive about two weeks after purchase which is not bad considering I am in Japan. It came in nice little box with some straw of all things! That is a new one for packing computer parts.

In addition to to the GOEX drive I also purchased an OLED display in black to put on the top of my A1200.

GOEX Image 2



GOEX Image 3



First Impressions

The board seems well built, there is not much on the board aside from three micro chips, a piezo speaker, a rocker thumb controller and SD card slot. Installation was very easy and it aligned perfectly with my A1200.net case. An extra wedge is included to help align the board at the bottom where a floppy drive is usually screwed in. The firmware was already installed so all that was required was to plug in and go.

One thing to remember though, if you buy the OLDED display, feed the

cable through the top of the case before attaching the connector. I did this first and it was a bit of a tight squeeze between the top vents.

Once everything was in place the top fit on perfectly, I had to put the case on a bit of an angle but after that it was a nice snug fit and looked great with the OLED display on top. The SD card slot makes much more sense than the GOTEK`s USB slot. It was always a struggle to get the USB stick inserted and on my previous A1200 I had to cut away at the disk slot just to get the USB stick all the way in. With the SD card, inserting and taking out cards is a much more pleasant and has the feel of inserting a floppy disk. The rocker on the side is another improvement over the GOTEK`s buttons and makes for an overall smoother experience searching for files, it goes without saying the OLED display is really an essential purchase if you are dealing with many files.

Compared to my days of using a GOTEK drive, finding the right button and checking on the side and fumbling with a USB drive, the GOEX is a much better product. This is product that has been made for Amiga users and it really shows.

Final Thoughts

If you already have a GOTEK, then it might not be worth your money investing in a GOEX, if you do not have a GOTEK yet or are getting frustrated with your GOTEK then the GOEX is a perfect replacement for either your ageing floppy disk or GOTEK. It is more expensive than a GOTEK but you do get a more refined product that is better suited to the Amiga. I just love the feeling of inserting an SD card into it, it feels more authentic than using a USB stick.

Scores

Ease of use: 78%
Documentation/Packaging: 83%
Value for money: 88%
Overall: 83% - WhatIFF Silver

Hardware review: Electroware PSU

==========
Hardware Review:Electroware PSU - by Martyn Bampton
==========

Product Name
Amiga Power Supply (50 W)
Amiga Power Supply (Boost 50 W)

Developed By
Electroware

Available From
Electroware (c64psu.com)
retropassion.co.uk
eBay

Price
Depends on model and options but as reviewed:
Normal (with AC cable and Protect & Adjust LED module): 68 USD/65 EUR/55 UKP
Boost (with AC cable): 89 USD/85 EUR/69 UKP

Hardware Requirements
An appropriate computer :) At the time of writing PSUs are available for:
* Amiga 500/600/1200/CD32
* C64/C128/VIC-20/1541-II/1581
* Atari 520ST,1040ST/260ST/SF314/SF354/MegaST
* ZX Spectrum +2A/+2B/+3

Test Machines
Amiga 500 (TF536)
Amiga 600
Amiga 1200 (TF1260)
CD32 (with an adapter but a PSU with CD32 DIN connector is available)

Introduction

When I first powered up an Amiga after it had been sat for a long time (a long time) the very first thing I did was test the voltages coming out of the power supply. The last thing I wanted to do was send loadsavolts where they should never go. Fortunately all the voltages were correct so I set the system up and cautiously powered it on to be greeted with the familiar Kickstart screen. Phew, that worked, but the question in my mind was "for how long?"

This prompted me to get a modern replacement power supply I could trust and which would cope with an expanded Amiga (the original 25 W to 35 W PSUs are a bit underpowered). While several options presented themselves, most seemingly based on a Mean Well 50 W PSU, I was rather impressed with those Polish company Electroware sell. They offer quite a few features such as protection circuits, higher 5 V current ratings and even dual outputs for powering two devices. Each PSU comes in a compact black or grey housing with a detachable mains cable and a switch.

Listed features include:
* Based on Mean Well PSUs (RPT-60B for the normal version, 50 W/60 W peak).
* Carefully calibrated for Amiga 500 reference load.
* Active & passive over voltage protection for main +5 V line.
* Over current protection for all output lines.
* Fully isolated & fused on AC side.
* Power On/Off switch.
* Long output cable (1.8 M) with rectangular DIN 5-pin plug (or round pin plug for CD32 version).

* Detachable input AC cable for all versions (cable optional).
* Weight only 0.4 KG (half of the original PSU's weight).

With Protect Module:
* Trimmer for 5 V voltage fine tuning in range: 4.9 - 5.3 V (values read with A500 reference load).
* Power good status LED (green).
* Redundant, fast over voltage protection for 5 V line.
* Redundant, resettable over current protection for 5 V line.
* Voltage spikes suppression with ultra-fast TVS diode.
* Additional output ripple reduction by low-ESR capacitor filtering.

Impressions and Use

Image 1

The PSUs each arrived in a well bubble wrapped corrugated cardboard box which contained the PSU, a small leaflet (showing basic information with the pin outs) and the mains cable I selected for my region. It was a welcome surprised to see how compact they were in person and how easily they fit on my desk. They both measure approximately 11 cm x 7 cm x 7 cm. After years of the bricks from Commodore this was a new experience! Turning the normal unit over I saw the adjustment hole for the 5 V rail on the bottom, this is where you can trim the voltage should it ever drift away from 5 V, the main voltage rail in Amigas. The Boost version includes the adjustment module by default and its adjustment hole is on the side where the output cable exits the housing. Both have rubber plugs to cover the hole which you remove before inserting a flat bladed screwdriver to make any adjustments between 4.9 V -- 5.3 V. I didn't have to make any changes.

Image 2

Image 3

I attached the mains cable and powered each unit on to check the voltages. As expected all the voltages were correct and within millivolts of the required values (+5 V, +12 V, -12 V). Excellent! I proceeded to "neatly organise" my cables, set up the power supplies on my desk and hook them up to my Amigas. The power switch, which is a rocker switch, gives a satisfying click when pressed and is located on the power cable side at the top. The switch is red for the normal version and black for the Boost, it's a handy way to tell them apart at a glance as they are otherwise identical in appearance if you opt for the same colour housing. The computers functioned perfectly and continue to do so a year later. Since "working without issues" could be somewhat subjective I carried out some tests and recorded the results. They are included here along with the listed specifications:

Specifications

Power

It should be noted that the 12 V rails on the Boost version are reduced in order to "boost" the 5 V rail's capacity. I contacted Electroware (great customer support, thank you) about this and they recommended moving as much to the 5 V rail as you can. Most newer floppy drives seem to be 5 V only and you can get 5 V versions of most CPU and case fans should you need them.

PSU	+5 V (A)	+12 V (A)	-12 V (A)	Total (W)
Normal	4.0/4.4*	2.0/2.2*	0.5 0.55*	50.0/55.0*
Boost	8.0/10.0*	0.5	0.15	47.8/57.8*

*Peak Temperatures and Voltages

These are not extensive or exhaustive tests by any means, I simply wanted to see how the PSUs respond under idle and load for various configurations, consider it anecdotal. Electroware say the units run "COLD", not just cool but cold so I wanted to test this. The Amiga was booted and left idle for an hour, then the temperature was recorded as Idle 1. The system was then given an intensive CPU load for half an hour, after which the temperature was taken again as Load. Finally the Amiga was left idle again for an hour, then the final temperature was

measured and entered as Idle 2. An average of the ambient temperature was also recorded. The voltages remained stable throughout testing.

A1200 TF1260

PSU	Ambient (C)	Idle 1 (C)	Load (C)	Idle 2 (C)	5 V Rail
Normal	18.0	41.5	45.0	43.0	5.0
Boost	18.0	24.5	25.0	25.0	4.9

A500 TF536

Normal	19.0	33.5	35.0	35.0	5.0

The A600 and CD32 have also been using these power supplies over the past year, however no values have been recorded. I used a separately purchased adapter to convert the square 5 pin DIN to the round 4 pin DIN the CD32 uses. It was the same here too: Both systems worked fine and were stable no matter what I ran on them and the PSUs never got worryingly warm to the touch.

Summary

These are compact and capable PSUs based on trusted Mean Well power supplies and built with quality components. The Protect & Adjust Module provides some extra benefits if that's important to you. The Boost version is also worthy of consideration but be aware that you'll have to make sure your 12 V rails are lightly loaded. There was very little variation in voltage or temperature for each test system, regardless of load. While the normal version ran noticeably hotter than the Boost version when powering a TF1260 A1200 it wasn't alarmingly hot and remained stable. Electroware do recommend the Boost version for expanded set ups and in testing it consistently had the lowest temperatures, though not what I would call cold. If you're looking for a new power supply then these units are certainly worth considering.

Pros and Cons

+ 50W PSU, twice the original's capacity.
+ Protected 5V rail, all rails filtered and stablised.
+ Neither PSU ever felt hot, just warm.
+ Repair is supported and spare parts are available.
+ Safe! Fused, meets safety standards.
- Boost 5V rail 8A rating is at the expense of 12V rail capacity.

Other Key Points:
* Dual versions available for powering two devices.
* CD32 version available but an adapter is recommended for flexibility.
* Boost is nice but at the expense of the 12V rail's capacity.
* It's not cheap but that's because it's not cheap, you get what you pay for.

Scores

Ease of use: 100%
Documentation/Packaging: 70%
Value for money: 76%
Overall: 82% - WhatIFF Silver

Sources and Credits

Sold by Electroware:
https://www.c64psu.com/c64psu/56-1850-commodore-amiga-a500-a500-a600-a1200-psu.html
Created by Electroware: https://www.c64psu.com

Software review: IBrowse 3

==========
Software Review:IBrowse 3 - by Timo Paul
==========

Product Name
IBrowse 3.0

Developed By
Oliver Roberts
Stefan Burstoem

Available From
https://www.ibrowse-dev.net

Price
43 USD

Hardware/Software Requirements
Any Amiga with FastRam and an internet connection
MUI
AmiSSL

Test Machine(s)
Amiga 1200 OS3.2 / TF1230
Amiga 1200 OS3.2 / TF1260
Amiga 1200 OS3.2 / PiStorm
V4 Standalone Coffin OS

Introduction

While browsing on a classic Amiga may not be the most pleasant experience especially if you have a lower spec Amiga and/or no graphics card there are still some advantages to being able to surf the web on your real Amiga.

Aminet is the first one that springs to mind and FrogFind! is another.

In 2024 the pickings are slim for classic Amigas, especially if you are looking for one that is up todate. In that regard there is only one choice , IBrowse. However, unlike browsers on other platforms it is not free, you are looking at around 43 USD for purchasing a license for IBrowse. While this is a fair bit of cash for people, I thought I would take the plinge and see if it was worth my hard earned cash.

IBrowse currently stands at release 30.8 (22 Dec 2023), there have been 8 releases prior to that with the 9th release being IBrowse 2.5. I will not go over all the changes through the various releases but will concentrate on the latest version.

Release 30.8 brings the following updates:

* Net: Fixed cases where HTTP(S) connections could fail, crash and/or trash memory when the transfer size is not known.
* Prefs: Fixed errors where the URL Prefs page would freeze/get stuck.
* Javascript: Stack overflow protection for MorphOS.
* GUI: Updated Danish, Italian, Polish, Russian, Spanish and Swedish catalogues.
* Install: Added Images drawer as 2.x to 3.0 migration option.
* Install: Improved the messages about upgrading to make them more specific.

More general improvements are:

* A unification of IBrowse 2 and IBrowse 3
* Redesigned HTML parser
* Improved HTML engine
  - Layout and rendering improvements that include tables
    lists, and superscript/subscript
* Hotlist Multi-aliasing (OS4.1)
* Early Data/Zero Round Trip Time Resumption (0-RTT)
* Better GIF animation playback
* AmigaOS3.2 Context sensitive mouse pointers
* NList GUI consistency
* Improved Preferences window

Installation

Before installing IBrowse you want to make sure that you have MUI installed if not, do this first as IBrowse requires MUI to be present to function. The default install of MUI creates rather large buttons with IBrowse so I copied over the MUI Images and settings from my ClassicWB which makes for a much more compact IBrowse display as you can see in the image below.

Aside from MUI you also need to have the latest version of AmiSSL installed which can always be found from Aminet.

In Use

Above are listed many of the improvements but how does it translate to real world experience. From the get go, I noticed IBrowse was generally more responsive and showed improvements in the rendering of websites. Previous versions had trouble rendering tables and the layout of websites but with 3a many of those have been improved.

In addition websites seemed more responsive and rendered quicker that in the past. Of course this will also depend on your internet connection bandwidth and CPU. However I found even on a TF1230 and A314-CP the speed was acceptable. Just to give an idea for comparison I run my Workbench in PAL Hires Laced in 64 colours. I imagine if you have a PiStorm then you will see a much bigger improvement.

I feel I do have to address though what IBrowse is for, because the classic Amiga even with a fast CPU and/or RTG graphics will still not be able to handle a lot of the modern websites. So if you are looking to watch YouTube or the news websites then you are going to be disappointed. But if you wish to access Aminet or look up some information using FrogFind then IBrowse will be perfectly fine. There has also been a trend for creating websites reminiscent of websites built in the 90s to early 2000s.

Final Thoughts

While there is not much choice regarding modern web browsers for the classic Amigas, it is still an essential tool in 2024. So much software is uploaded and updated on Aminet that if you have a connected Amiga then going directly to source makes much more sense that downloading on your PC/Mac and then transferring the data via the CF slot. There is also an inherent joy in still being able to browse the internet on an Amiga in 2024. If you are sitting on the fence then download the demo but while I would have liked the price to be a bit cheaper it is still worth every penny. I find myself often using IBrowse just to look up some info or download some tools or files.

Hopefully the team will continue improvements into 2025, but the bottom line is if you want to browse on your Amiga in the best way possible, IBrowse 3a is your only choice and a good one at that.

Scores

Ease of use: 90%
Documentation/Packaging: 60%

Value for money: 79%
Overall: 76% - WhatIFF Bronze

Software review: FlashMandel `Vamped Edition`

==========
Software Review:FlashMandel `Vamped Edition` - by Timo Paul
==========

Product Name
Flash Mandel `Vamped Edition`

Developed By
FlashMandel - Dino Papararo
FlashMandel Vamped Edition - Marcel Maci

Available From
<a href="https://aminet.net/package/gfx/fract/FlashMandelVE">https://aminet.net/package/gfx/fract

Price
Free

Hardware Requirements
68080 V2/V4 Equipped Amiga or V4 Standalone

Test Machine
V4 Standalone 1GB 100Mhz

Introduction

Released in 2001 FlashMandel has been around for a while and over the years has been ported to various Amiga platforms: Amiga OS3.0 and OS4.0. In 2023 a new version was started with the aim of taking advantage of the Vampire cards/standalone systems.

Originally programmed by Dino Papararo, the latest version has been done by Marcel Maci aka RedBug. The full name is FlashMandel "BurningShip" Vamped Edition, or FMVE "BurningShip". Marcel has termed FMVE as being a `hybrid` programme, meaning the programme will run on classic systems but it will auto detect if Vampire hardware is available and provide Vampire specific features and optimisations.

So what are these new features?

Below is a short extract from the readme file ...

Vampire optimizations, e.g.:
- Use 3-operant functionality of FPU and additional registers.
- Parallelize Mandelbrot/Julia set calculation by using free cpu/fpu latencies.
- Speed improvement is around 30% compared to "classic" version.
- Possibility to switch forth and back between classic and optimized via menu or keyboard.
- Direct and fast drawing to screenbuffer (with possibility to switch back to AmigaOS functions if desired).

New fractals:
- Multibrot (including fractional powers > 1.0)
- BurningShip.
- Buddhabrot (Nebulabrots).

New calculation algorithms (available for all fractals):
- Brute force
- Tiling (original algorithm by Dino Papararo)
- Boundary trace
- Random drawing (for Nebulabrots)
- Symmetry (for main view, if possible)

New coloring algorithms (besides "classic iteration count") for 24bit modes:
- Renormalized iteration count
- Cyclic Sinus Coloring (like FlashMandelNG)
- Three channel 24bit coloring for Nebulabrots

New file format:
- Support for Deep IFF (ILBM) Images (24bit truecolor)
- New data chunk to include all calculation data
- Histogram file for Buddhabrot (with RLE compression)
- Backwards compatibility with old formats (pictures and palettes)

New features / functions:
- Real time visualization of orbits (in main view for all fractals)
- Nebulabrot calculation can be stopped and resumed
- Bailout value can be modified

New pictures:
- Sample pictures for new fractals have been included
- Nice splash screen and new icon

Installation is as easy as dragging the FlashMandelVE drawer to your desired location, there is no need to run an installer. Within the directory you have example pictures, palettes, Docs and the the FlashMandel programme.

For this review I used an emulated A1200 and a V4 Standalone.

Getting Started

Upon loading FlashMandel you are presented with default Mandelbrot fractal, to zoom in click on an area and use the menubar, choose Calculate and Zoom. Or a keyboard shortcut of right Amiga key and Z. Rendering time is very fast on my V4SA, taking only a few seconds to calculate the zoom. A big difference from my Amiga days in the 90s when I was using an 030. Changing the screen resolution to a higher one will cause a significant drop in rendering speed.

You are not limited to the Madelbrot fractal, going to Options from the menu bar and Fractals will allow you to choose from several other fractals:

* Julia Set
* Madelbrot
* Multibrot
* Burning Ship
* Nebula
* Anti Nebula

Of the six I was unable to get Anti Nebula to work, though my V4SA is the 1GB version, the current core I am running (10000) is not comaptible with ApolloBoot at the moment. So I only have 512MB of ram available, once a new version of ApolloBoot is available and I can run a newer core that sees the 1GB ram I will try AntiNebula again and update it in a future issue.

My favourite fractal is Nebula, it creates a very realistic looking nebula esque image but does take a lot of time to render. You also need to be running a screen mode that supports 24BIT screen depth. Saying that, it is worth it as the image is truly stunning and beautiful to look at.

Under the Options menu there are many things that can be changed, that will speed up the rendering time or add more detail. Being one who did not do so well in Maths class some of the options are beyond my understanding.

Though I was able to play around with the settings to find ones that I liked but best part of the software is the exploration of the fractals. Zooming into the fractal searching for something that looks unique is a fun activity and is made more so with the ease of Flash Mandel VE and the power of the V4 machine.

Final Thoughts

There is much to explore in FlashMandel Vamped Edition and is nice to see software being released that takes advantage of the V4 hardware. While the readme states it should work on non-V4 systems I was unable to get it to run on my A1200, though I suspect this is due to a lack of an FPU. If you are a V4 owner then I recommend downloading FlashMandel VE and enjoy some of the beautiful sights you will encounter.

Scores

Ease of use: 85%
Documentation/Packaging: 80%
Value for money: 100%
Overall: 88% - WhatIFF Silver

Software review: GoVD Virtual Desktop

==========
Software Review:GoVD Virtual Desktop - by Timo Paul
==========

Product Name
GoVD

Developed By
Krzysztof Donat

Available From
https://aminet.net/package/util/wb/GoVD htt

Price
Free/Donation

Hardware Requirements
OS3.2

Test Machine
V4 Standalone OS3.2
UAE A1200 3.2

Introduction

In 2021 Amiga OS 3.2 was made available to Amiga users and along with it came new features such as windows that you can move off the screen, a new GUI kit in form of Reaction, updated datatypes and a more advanced version of Multiview. Of course these are only a few of the advances that we got with the OS update. Since then the amount of software that takes advantage of the new OS has been a bit thin on the ground, in issue 12 we reviewed DrawerGenie which was one of the few applications taking advantage of OS3.2. So it was with great interest that I saw the post of EAB about a new piece of software for OS3.2 machines, GoVD - Workbench with virtual desktops. Now this is something that truly peaked my interest, as I use the Workbench a lot for my software, especially with the V4SA and it can get a bit crowded at times. I can hide or reduce a window but there has never been a virtaul window system similar to what you get with MacOS ... until now ... well almost.

Developed by Krzysztof Donat, it can be downloaded from:

=> www.bitplan.pl/govd/index.html

You can find his other work there as well such as, GoADF!, RADManager, GoShell, Galactica, ColorPicker, CurrencyConvertor, GoVars and EmptyADF.

So what is GoVD? Essentially it creates a maximum of 8 virtual Workbench desktops, not screens. So, if you have Brilliance open for example it will not work with GoVD, only applications that use the Workbench screen will be able to use GoVD.

When you have unarchived the file, you will have a drawer containing three files: GoVD, CoVD-conf and a readme. Double clicking on GoVD will bring up a small button bar on the bottom of your Workbench screen, by default there are four. If you wish to use 8 you need to register the software.

The software is very simple and intuitive to use, click on a number and then open an application (Remember only one that opens on the Workbench will work), then click on one of the other buttons to switch to another virtual Workbench hiding the application and it"s window associated with

that button.

Configuration

GoVD is highly configurable via the GoVD-conf, from this programme you have five tabs: General, Buttons, Layout, Excluded Windows and About. Under General you can change the number of virtual desktops between 2,4, 6 and 8. Show Workbench on all virtual desktops and show other Workbench windows such as drawers on all virtual desktops.

The Buttons tab allows you to change the size of the buttons and remove the numbers or change them to letters. Under the Layout tab you can choose where to position the window with the buttons, very handy if you have a dock on your Workbench. You can also change the orienation from horizontal to vertical.

Finally the Excluded tab has two panels where you can add windows by process and windows by title. Overal a very comprehensive list of settings allowing ou to customise GoVD to your liking.

To be able to use these changes you need to register the software via the bitplan.pl website and the Donate button.

Final Thoughts

Amiga OS3.2 has been created a more modern Workbench experience but it is most exciting when we get software like GoVD that use the power of OS3.2 and give us features only found in modern OSes. I have found that GoVD has become an essential part of my Workbench experience. It is great especially for those running in a lower Workbench resolution but is also great for people who have a high res Workbench. I find that running GoVD on my V4SA is a very smooth and pleasant experience, though it shines best when running on a PAL Hires screen.

It has quickly become a tool I cannot imagine using my Amiga without. For example my current Workbench has IBrowse on virtual Workbench 2, Protext on virtual Workbench 3 and IMP on virtual Workbench 4. Switching between is easy and becomes second nature quickly. I love the fact that if I want to look up something in IBrowse it is ready there on another virtual screen.

Sometimes it is little things that make a big difference and in this case I feel it is so. Please download and give it a try, if you like it also consider donating to the developer for his hardwork.

On a side note, it seems to have an issue with OS3.2 on V4 machines, the button graphics get corrupted. This is apparently due to the AROS.rom so hopefully it can be fixed in the future. While the corruption is not pretty the programme still works.

Additional note: After running GoVD on my A1200 with TF1260 random freezes have occurred. I initially thought this was due to running my 060 over 50 Mhz but after I disabled GoVD the freezes disappeared. This did not occur with my TF1230 so it could be related to the 060.library perhaps.

Scores

Ease of use: 95%
Documentation/Packaging: 85%
Value for money: 100%
Overall: 93% - WhatIFF Gold

gamereviews

```
==============================================================================
-= G A M E  R E V I E W S =-----------------------------------------------
------------------------------------------------------------------------------

   -= Game Review: RogueCraft =-
   Last issue we interviewed the team behind the game and now we get to
   review it. Strap on shield and sword and let's get into the world of
   RogueCraft.
   -= Game Review: Untangle =-
   A new game that you can play on your Workbench from Poland.

------------------------------------------------------------------------------
```

roguecraftreview

==========
Game Review: RogueCraft - by Timo Paul
==========
Product Name
RogueCraft
Developed By
Ricki Sickenger (Programming)
Henning Ludvigsen (Artwork)
Jogier Liljedhal (Soundtrack)
Hoffman (Sound Effects)
Andy Roberts (Production Stuff)

Available From
https:///thalamusdigital.co.uk
Price
Digital Download 9.99 USD
Boxed 19.99 - 44.99 GBP
Hardware/Software Requirements
ECS+ 1MB Chip RAM + 1MB Other RAM (or 2MB Chip RAM)
Test Machine
Amiga 1200 TF1260
Apollo Computer V4+Standalone

Review

In the last issue (WhatIFF? 3.14 August 2024) we interviewed the guys behind RogueCraft, since then the game has been officially released in physical and digita form. As such it would be remiss of us to not review the game in this issue.

If you haven't been living under a rock it would have been hard to have missed the launch of RogueCraft. In development for over a year and various demos being released the final version was available for purchase in September 2024. For those of you who have been living under a rock and do not know of RogueCraft, it is a turnbased roguelike game where you explore and fight in procedurally created dungeons. Originally created in 1980 by Michael Toy and Glenn Wichmna with later contributions by Ken Arnold it was made for Unix systems and was freely available. The Amiga eventually got its own version in 1986 releaed by Epyx.

Now in 2024 we are treated to an updated version.

The game is available as a digital downlaod for 9.99 USD or in a boxed version which ranges from 19.99 GBP to 44.99 GBP. I went for the 19.99 version and it came with a glossy cardboard box, game CD (for CD32 users), colour game manual, Thalamus sticker, Roguecraft postcard, A3 poster and floppy disk label.

If you go for 29.99 you get in addition, Roguecraft bookpuck, Badger Punch postcard, Roguecraft sticker sheet and a floppy disk of the game. The final tier for 44.99 GBP comes with the all of the former plus pin badge, Roguecraft t-shirt and a plastic chicken.

GOEX Image 1

The story goes as such ...

"For time immemmorial, legend has told of a dark, deadly dungeon containing unimaginable horrs and riches beyond belief. Enough riches and maigic to make you a king ... or more ...

Through many tirlas and perils, you are now standing a the entrance of a dark and mystical dungeon far from where you started. You, Zendar, a fighter a mage, or uh, a rogue, are ready to defeat the monsters and gather the riches waiting below.

You just need to take a leak first ..."

Upon loading the game you are presented with the a gorgeously drawn title screen and three options: Start Game, Instructions and Credits. You are treated to a lovely title song by Logier Liljedhal. You can use the keyboard or joystick to start the game, there is no need to choose your form of input. Selecting Start Game will bring up the character selection screen: Warrior - Easy, Rogue - Medium and Wizard - Hard. Rogue has special abilty of teleport and Wizard magic missiles. Warrior has a heavy sword. From there you can enter into the game.

GOEX Image 2

GOEX Image 3

The game in presented in a 3D isometric view which is a welcome upgrade from the 1986 top down view. You can use either the keyboard (Yes!) or a joystick to move around. The hold the spacebar will allow you to choose the potions you have picked up that are placed around the dungeons. Green will restore yur health, Red and Blue have different effects each time:

Extra Strength
Reveal All
Strong Ale
Clear The Room
Freeze Time
Teleport
Chickenize

There are also crystals that can be picked up, red will increase maximum health and blue will increase maximum strength. You will also find hearts to increase your health bar by one point.

The aim of the game is to explore the dungeons, find the key to get to the next stage and kill all the enemies. There is also a secret room in each dungeon that is not shown on the current dungeon map. You have to look for walls that look a bit different to the others. Fighting is a simple affair walk into the direction of your enemy and keep at it until they are dead.

Some reviewers have commented that the controls take a little getting use to, I find that I confused for a minutes until muscle memory set in. Instinctivly you want to press right to go right, but in RogueCraft it is up to go right and so on, which makes sense since it is set to an isometric view.

This brings me on the graphics, the first time I saw the screenshots I thought it was an AGA game, they have truly done wonders with the ECS hardware. There is so much detail in each screen, from flickering fires to bubbling green pits. The character animations are done well making for a very highly polished game. When I sit down to play the game it takes me back to my days of HeroQuest with my mates, the tile pieces of the game are very similar with everyone fighting to get to the end of the level. If you are reading this Douglas then you will know what I mean. With each level being procedurally generated it makes the game great for replay and keeps you on your toes.

I played the game on my A1200/030 and 060, V4+ Standalone and under emulation the only time that I had issues was when running it on FS-UAE, I found by changing the settings to an 020 CPU the flickering issues disappeared. So it seems that any CPU setting above an 020 in FS-UAE will cause graphical glitches i.e. flickering of the screen.

Final Thoughts

I love this game, everything about it so well done, from the graphics to the audio. The gameplay is set perfectly and the procedurally generated levels make sure it never gets boring. If you buy one game this year then I suggest RogueCraft.

Pros and Cons:
+ Well balanced gameplay
+ Graphics are very well done and give a proper atmosphere to the game
+ The procedurally generated levels mean that you go back again and again
+ The music suits the game perfectly and I always enjoy listening to it

Scores
Gameplay: 9/10
Graphics: 9/10
Sound: 9/10
Overall: 9/10

@Endnode

untanglereview

==========
Game Review: Untangle - by Timo Paul
==========
Product Name
Untangle
Developed By
Grezgorz Kraszweski
Available From
<a href="https://aminet.net/package/game/wb/untangle">https://aminet.net/package/game/wb/untangle
Price
Free
Hardware/Software Requirements
Any Amiga as long as your are running Workbench
Test Machine
Amiga 1200 TF1260
Apollo Computer V4+Standalone

Review

In October of 2024 Polish programmer Grezgorz Kraszweski released the game Untangle. It is a logic puzzle game that runs on the Workbench screen, something we do not see so often. In this issue we also talk to Grezgorz about his creation. The premise of Untangle is to move the dots around so the lines that connect them do not intersect anymore. This type of game exists on other platforms but there has not been any versions of this style of game until now.

Being a Workbench game the graphics are very simple but do not be put off by this as the graphics hide a highly addictive game. There is not much to the gameplay mechanics, click and drag the dots with your mouse until you have no more intersecting lines. When you have successfully "untangled" the lines the screen will flash and you will be automatically taken to the next stage. The first 15 levels do not provide too much trouble but are a good way of leading the player into how to solve the puzzles. Later levels do become quite the head scratchers but due to the nature of the gameplay which encourages experimentation, it does not become a chore.

At the bottom of the play window you have the number of current intersections, how many moves you have taken and the total time for that particular level. You are also able to save your game progress, once a file has been created the game will automatically start from where you last finshed off. This makes it ideal if several people are playing the game on the same Amiga and want to keep their progress/score separate.

I played the game in PAL Hires and PAL Hires Laced, while the game worked prefectly well in Hires I recommend playing it in at least Laced or some other higher resolution. It will make it easier when you come across the more complex puzzles.

It can be hard to review a game like Untangle due to the simple/sparse graphics and very simple gameplay but that does not detract from the fact that it is a very addictive and enjoyable game. When I am writing articles and I need a break Untangle is a great way to break up my time. The fact that it also saves your progress automatically makes it a great title that you can dig into and out of whenever you want. To top it off the game is available for free. Grab your spouse, child or friends and have a go at this addictive game together.

Welcome to the guides section!

```
==============================================================================
-= T U T O R I A L S / G U I D E S =----------------------------------------
------------------------------------------------------------------------------
   -= Blitz Basic Basics Part 2: A Simple Demo  =-
   Andy Vaisey continues with part two off his going BlitzBasic tutorial
   series for beginners, a simple demo.
   -= How to Install a Heatsink on TF1260 when using a Tower case =-
   Got a towered A1200 and want to install your TF1260 with a heatsink then
   John Scolieri has you covered with his quick guide.
   -= Avoiding clicks'n'pops in your MODs =-
   In his 3rd and last article in the series Roald Strauss explores how to
   reduce the dreaded clicks'n'pops that can occur in MODs.
   -= Creative Graphics: Digital Winter Card =-
   Learn out how to make a digital winter card using ImageFX, Brilliance,
   and LightWave.
   -= New Users 101: Amiga OS3.2 MenuTools =-
   If you ever wondered how to use OS3.2s MenuTools then we have the guide
   for you.
   -= New Users 101: Various Ways to Install Amiga OS3.2  =-
   If you are a new user or returnee it can be a bit daunting installing
   Amiga OS3.2 on a real Amiga. This simple guide can help you.
   -= LightWave 101: Cleaning Up Objects =-
   Do you find that your LightWave objects do not always look the way you
   expect, find out inside some simple tips on cleaning up objects.
------------------------------------------------------------------------------
          #Tutorials/Guides - WhatIFF? Issue 3.15 - December 2024#
```

How to install a heatsink on TF1260 when using a Tower case

==========
How to install a heatsink on TF1260 when using a Tower case - by: John Scolieri
==========

Introduction

I originally had my TF1260 in my Amiga 1200 case with a heatsink only but I recently got hold of a full (FPU &MMU) Rev6 and wanted to try overclocking it occasionally for heavier demos etc.

After a few quick measurements it was clear that I'd need to put my TF1260 in a tower to make room for a fan setup so that's what I did. After initially setting up my tower and using it for only a few hours I noticed the heat sink on the 060 started sliding down slightly as the thermal paste heated up there wasn't anything physically keeping the heatsink (& soon to be fan) from being a victim to gravity in the tower.

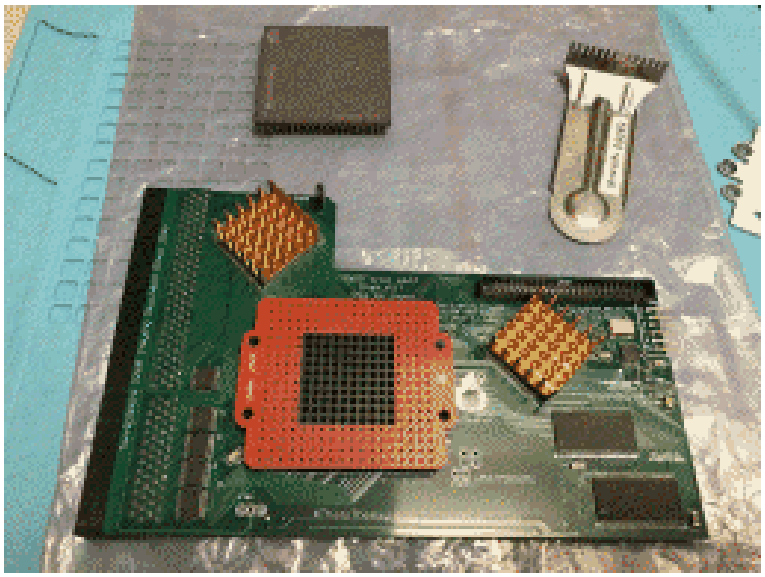
After browsing my fav Amiga forums I couldn't find the info I needed so I started a thread on the TF1260 forum at:

https://exxosforum.co.uk/forum/viewtopic.php?f=65&t=6880 and luckily a TF1260 user that goes by go0se had setup gerber files for a lower & upper support brackets as follows:

1- First step is to download the gerber files at the above link (post no.4) and get the upper & lower brackets manufactured at your favourite fabricator or you can send me a message as I had to order 5 min so I've got 4 extra I can send out to fellow TF1260 users for the cost of shipping.

2- Carefully take off your CPU (don't forget your antistatic pad & wrist band) and place your bottom bracket as in Pic1.

Pic 1

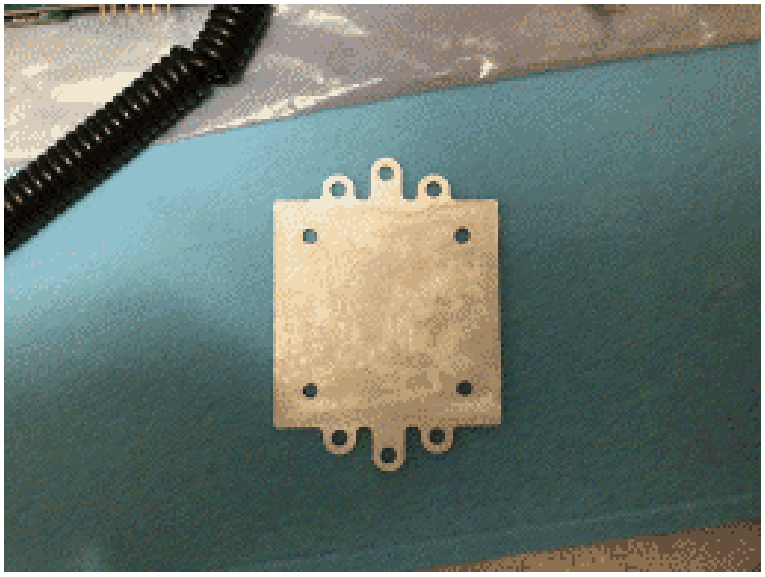


3- Reinstall your 060 as in Pic2.

Pic 2

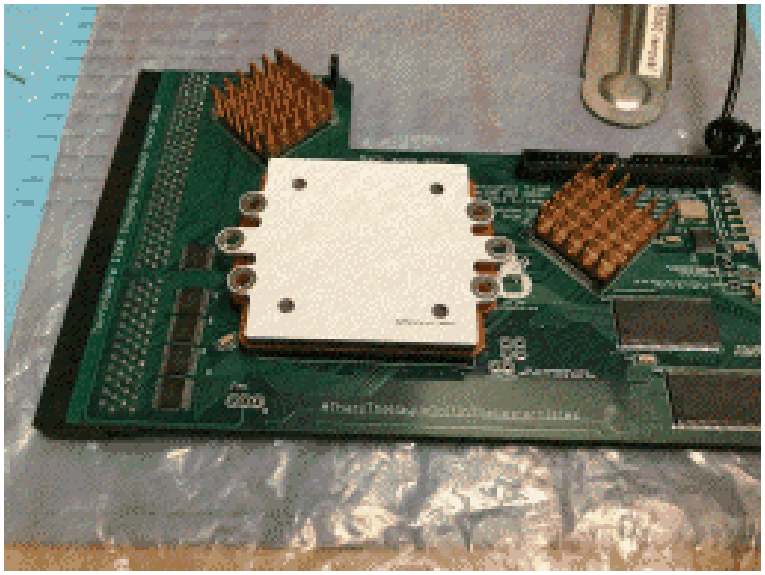
4- Install a thin layer of thermal paste to the underside of the top metal bracket as in Pic.3. I used a Q-Tip to spread the paste evenly.

Pic 3



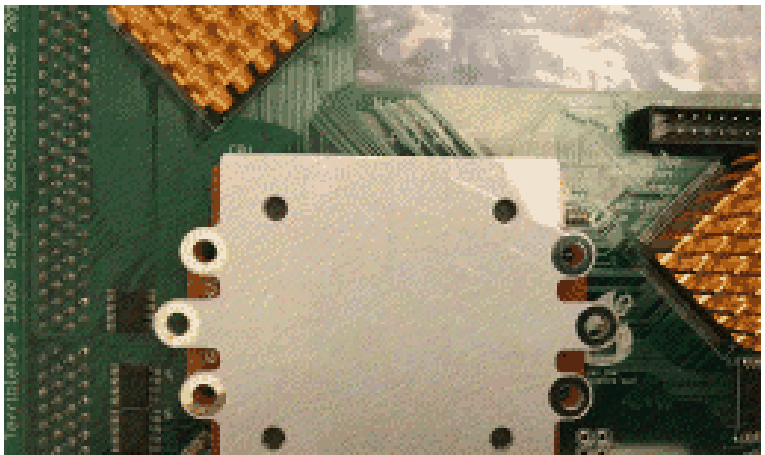
5- Carefully install top metal bracket on 060 as in Pic.4

Pic 4



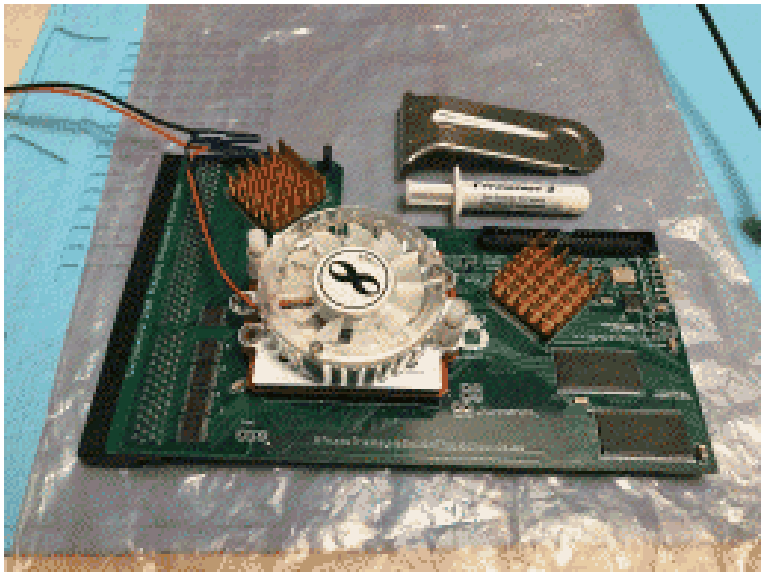
6- Make sure to line up the lower and upper bracket holes as in Pic5.

Pic 5



7- Install CPU fan as in Pic6. Ensure your CPU fan has mount spacing of 55mm to line up with the adapter brackets.

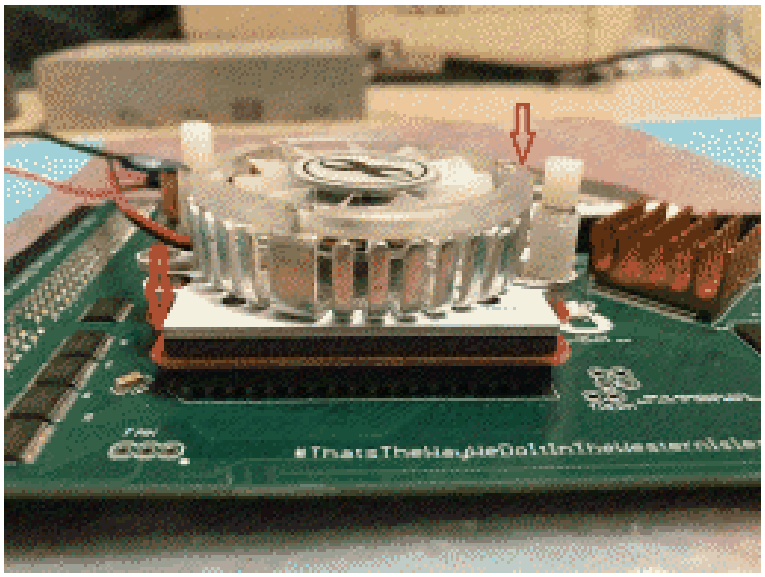
Pic 6



Note: It's your choice to purchase a 12V or 5V fan though obviously when in a tower case there is easy access to get power for the CPU fan from the PSU. As an option you can even get 12V directly on the TF1260.

8- Lastly you can use either small plastic nuts & bolts or what I did was just bend some epoxy coated wire to secure the lower and upper plates as in Pic7. Ensure you do both sides of the CPU.

Pic 7



Cheers,
G. Scolieri

Blitz Basic Basics Part 2: A Simple Demo

==========
Blitz Basic Basics Part 2: A Simple Demo - by: Andy Vaisey
==========

Welcome to the second part of Blitz Basic Basics where I hope to get you coding and creating simple demos and games using the excellent Blitz Basic 2 (BB2) programming language!

If you've read and followed part 1, you should now have a simple development environment on an Amiga (real or emulated) ready to begin! In part 2 we are going to create a very simple demo that loads and runs automatically, displays a bitmap image while playing some music, before exiting when a key is pressed.

Please note, this and future code is written in a way to make it easier for a beginner to read and understand. There will be ways to make it more compact, quicker and/or better, but at this stage getting something up and running is more important to feel a sense of achievement! Although nothing fancy or competition winning, this instalment of Blitz Basic Basics will help you learn how to:

= allow your program to be run from Workbench
= use the fast BLITZ mode in BB2
= set up a display
= load a bitmap image
= show the bitmap on the display
= load some music
= play the music
= handle a keypress on the keyboard
= compile and test our code
= create an executable to spread your warez!

In the BBB P2 drawer on disk accompanying this article, you will find:

= a program named BBB Demo 1
= a Blitz2 source code file named Demo1Code.bb2
= a drawer called data containing the files needed for the demo

Go ahead and run the BBB Demo 1 file. After some loading, on screen should be the WhatIFF? logo with a piece of saxophone music playing (the music is something I wrote back in 1992 and is the first time it's ever been heard by anyone else except me!). Once you've had enough of this extravaganza(!), hit space on the keyboard to exit back to Workbench/ AmigaOS.

So, let's explore how this very simple single screen demo was put together. Load the BB2 editor/compiler on your Amiga (that you should already have installed), click on OkeeDokee in the splash window and then select Load from the Project menu. Locate and load the file called DemoCode1.bb2 in the BBB P2 drawer.

First observations about the main editor/compiler display and code?

= Anything on a line after a semi-colon is text only and not regarded as code that the Amiga can run. It's similar to older versions of BASIC, where you may have seen the REM command, short for Remark, which are comments and notes only. Effectively, when the code is compiled and run, these comments are not used and left out to save memory.

= Some words are highlighted in a different colour. These words are the instruction set, the main BB2 commands. The rest of the code is in a different colour, usually black.

= There is a list of words down the right hand side. Think of these as a short cut to the different sections (subroutines) of the code. If you click on one of these words, the editor skips to that section in the code and you will see these words have a dot [.] at the beginning of them. Usually, these shortcuts are for calling or branching to longer subroutines, but for this example I have used more of them so you can jump around the code more quickly!

What is this code actually doing then? The first two commands are:

```
NoCli
WBStartup
```

The NoCli command stops the Amiga opening a default CLI window when testing the code in the BB2 coding environment. This command is ignored when you create a fully functioning and self-executing file when development is complete as a CLI window won't open then.

The WBStartup command is very important. Since the Amiga has a friendly, multitasking operating system, it is likely that at some point the user of your program may want to run it from Workbench. If you do not include this command and the user attempts to run it from Workbench, your program WILL crash possibly taking AmigaOS with it. It's safer to include this command than not!

Next in the code, we have the constants section:

```
.constants
#COPPER_MAIN = 0
#PALETTE_MAIN = 0
#BITMAP_MAIN = 0
#MODULE_MAIN = 0
```

What on earth is all that nonsense and what is a constant anyhow?! A constant is a numerical value that NEVER changes during the operation of your program and are usually named to make things easier to read. In Blitz2, constants are declared using the hash symbol at the start. So, wherever in the rest of the code example you see #BITMAP_MAIN, BB2 knows the value to be zero and which always remains zero. Of course, you could assign another numerical value, but I'm using zero as we're only using one bitmap and computers always start counting from zero! If I used a second bitmap, then the constant for that would have a different name would equal one.

After the constants, I've set some variables:

```
.variables
BWIDTH = 320  ; bitmap width
BHEIGHT = 256  ; bitmap height
BDEPTH = 5  ; bitmap colour depth
```

Eh? Variables are word or letter representations for numerical values so, wherever you see in this code example the word BWIDTH, BB2 knows the value to be 320. Unlike constants, variables can be changed at any time by performing a mathematical operation on it or simply by giving it a new value using the equals symbol. And notice I've used a semi-colon at the end of each line so I can make a comment explaining what the variable relates to.

A few notes before we look further at any more code. You may have noticed that I've used capital letters for my constant and variable names. It's not strictly necessary to do that, but it's my preference to keep things neat looking. Also, in BB2, variable names can be set as a specific type with a suffix, for accuracy. We're not going to worry about that for now as BB2 will happily assign a type internally, but it will crop up in future articles and will be explained then. Finally, an admission: my variables in this example could actually be constants since they're not going to change in this code, but I wanted to show and describe constants and variables and

the difference between them! So there!

Back to our code example, next we have:

```
.createbitmap
BitMap #BITMAP_MAIN,BWIDTH,BHEIGHT,BDEPTH
```

This BitMap command creates an object or display on which we can show graphics (whole images, sprites, blitter objects and so on) and everything after that command tells BB2 how to create the object. The information BB2 needs to create this object/display is:

= a bitmap number to give the object
= the bitmap width
= the bitmap height
= the bitmap depth (number of colours)

In our example demo, we are giving the bitmap a number of zero (the constant BITMAP_MAIN), a display width of 320 (the variable BWIDTH), a display height of 256 (the variable BHEIGHT) and a display depth of 5 (the variable BDEPTH). If you are wondering why I'm sounding convoluted and using terms such as object and display instead of just saying screen, it's because in BB2 a screen and associated commands relates to a Workbench (Intuition) screen on which you open windows and that is something different!

We could have directly hardcoded those numbers values along with the BitMap command like this:

```
BitMap 0,320,256,5
```

But the beauty of using constants and variables is that you can use easy to remember words in a nice list at the start of the code that, if need to be changed, can be easily found and altered, instead of having to search through the code to find the bit that needs to be changed.

Also, the benefit of using constants and variables comes in not having to remember or write down which number relates to which resource. For example, imagine you create or load five bitmaps. Each bitmap may have its own number. Instead of you having to remember which bitmap has which number, by using a constant, you can assign a descriptive name. In our code example, bitmap 0 is called BITMAP_MAIN as it's the main bitmap we're using. You can do the same with other data as well such as copper displays, music, sound samples and so on.

Following on using that logic, you can see I've done the same for the bitmap size as well, using variables set at the start. As already mentioned, since those values won't be changing, they could technically be constants.

The other part of the bitmap object display setup that needs explaining is the depth, in effect the number of colours we want on bitmap display. In our example it is set as 5 which equates to a 32-colour display. How does this work? The value of depth to the power of 2 gives the number of colours, as below:

Depth 1 = 2 colours
Depth 2 = 4 colours (2x2)
Depth 3 = 8 colours (2x2x2)
Depth 4 = 16 colours (2x2x2x2)
Depth 5 = 32 colours (2x2x2x2x2)
Depth 6 = 64 colours (2x2x2x2x2x2)

Next in the code, we load some assets (the graphics and music):

```
.loadassets
LoadBitmap #BITMAP_MAIN,data/logo.iff
LoadPalette #PALETTE_MAIN,data/palette.col
LoadModule #MODULE_MAIN,data/music.mod
```

Most of those commands should be pretty much self-explanatory! We are loading a bitmap screen drawn in a graphics package, the palette from that bitmap saved separately from within that graphics package and a music module written in a music tracker. You can see we are again using our previously declared constants to assign easy to remember names to these loaded assets instead of using numbers throughout our code! All of the assets are loaded from a drawer called data which MUST be located in the same parent drawer /disk as our code file or final executable, otherwise loading will fail.

Next we have a wait command:

```
VWait 250
```

This is a vertical blank wait. On old CRT screens, the image is drawn by an electron beam moving left to right, top to bottom. Any changes you make to the screen while it is being drawn will probably cause a flicker. Therefore, it is useful to wait until the screen has been drawn and the beam is off the screen before making any changes. There is a bit more going on but for now that's all we need to know.

However, on this occasion we are not actually making any changes to the screen but are using the command as a timer. The 250 equates to around 5 seconds (every 50 vertical blanks is around a second). The reason for this wait is because we have been accessing the disk to load our assets and we need to be sure that disk access has finished before we issue any more commands. If our code carries on before the disk access completes, we risk a crash! IMPORTANT!!! After loading anything in BB2, wait at least 5 seconds before doing anything else especially when using the next command, explained below:

Now we enter a different mode with the following code:

```
.blitzmode
BLITZ
BlitzKeys On
```

The BLITZ command puts your program in Blitz mode! This means Amiga operating system is deactivated and your code now takes over the whole machine, you now have full control over all those powerful chips inside your Amiga! This does mean that your Amiga will no longer multi-task or be able to access files from disk but the benefit of BLITZ mode is that your code executes much quicker and you have access to potent display features such as smooth scrolling and dual-playfields!

Although we have turned the operating system off, the command BlitzKeys On still allows us to read the keyboard to check if the user has pressed a key.

BLITZ mode can be temporarily stopped to re-enable disk access and multi-tasking features if needed and this will be covered in a future article.

Now we need to actually display our previously loaded bitmap:

```
.initcopperlist
InitCopList #COPPER_MAIN,44,256,$00005,8,32,0

.displayscreen
DisplayPalette #COPPER_MAIN,#PALETTE_MAIN
DisplayBitmap 0,#BITMAP_MAIN
CreateDisplay #COPPER_MAIN
Use BitMap #BITMAP_MAIN
```

What on earth is all that?! BB2 was originally written before the advent of AGA chipset Amiga's so later versions of BB2 added new libraries for CopList commands, replacing the old Slice commands in order to take advantage of the newer Amiga AGA chipset. These CopList commands are fully compatible

with older chipsets and only need to be initialised in code once. The CopList library is used to display our graphics.

So what is this InitCopList command? It creates a display and allocates memory we can show our bitmap on the display. All the numbers after the command relate to the following parameters (and yes, some of those CopList parameters could have been constants!):

```
InitCopList CopList#,ypos,height,flags,sprites,colours,custom
```

The CopList# is the number of the copper list we want to use. In the example code, we are using our #COPPER_MAIN constant. The ypos and height parameters define the vertical section of the screen our display will take up. In our code example, the display is at 44, the very top of the copperlist and is 256 lines in height.

The flags paramter holds information about the screen resolution and number of colours. For this code example, we have $00005 which equates to a low resolution screen with 32 colours. In future articles, this flags parameter will be explored further with an explanation how to change screen resolutions and the number of colours.

The sprites parameter should always be 8 as that is the maximum number of sprites the Amiga can display. The colours parameter sets the number of colours in our copper list, in our case 32. The custom parameter should be set to 0 for now.

The DisplayPalette command copies our previously loaded colour palette (#PALETTE_MAIN) into the CopList we have initiated (#COPPER_MAIN) and the DisplayBitmap command tells the computer we want to use our CopList to display our previously loaded bitmap (#BITMAP_MAIN).

Finally, we issue the command CreateDisplay to set up a new screen display with the CopList display library and tell the CopList to use our bitmap with Use Bitmap.

Phew! Almost done now! Next in the code we have:

```
.playmusic
PlayModule #MODULE_MAIN
```

Hopefully that needs no explanation?! OK then, this command plays our previously loaded music module!

And finally we have:

```
.mainloop
Repeat
VWait
Until RawStatus (#KEY_SPACE)
End
```

Most programs, whether a simple demo such as this or a complicated game, have a main loop. The main loop is where the computer is instructed to continually execute a series of tasks. For example, in a game the main loop may jump to a series of subroutines that check the joystick, update the display, control animations, play sound effects, check collisions and so on.

Our main loop here begins with a Repeat command and ends with an Until command. All the loop does is keep waiting for a vertical blank until the user presses the space key on the keyboard, checked by using the RawStatus command and built in constant #KEY_SPACE. When the user presses space, the code exits the loop and encounters the End command which, funnily enough, ends the demo and returns to whatever the computer was doing before running the demo. Before I forget, most main loops will have a VWait command in there somewhere so make sure everything is running smoothly so I put one in, even though our main loop isn't actually really doing anything at

present!

That's the code, but how do you test it? Go to the Compiler menu and select Compile & Run and the demo should run. When you've had enough, press space and the demo should exit back to the BB2 editor.

The more adventurous amongst you will probably want to start experimenting with this code and I emphatically say go ahead! Nothing beats tinkering with other people's code. Why not try replacing the bitmap or music? I've included another bitmap and music file in the data drawer for you! If nothing else, if you are a graphics or music person, you now have the basis of a simple display system to release your own graphics and music; no more waiting on a lazy coder or using a nasty demo maker to display your hard work for you!

Although I've already created a self-running executable (BBB Demo 1), if you make any changes and want to create a new executable, there is an option in the Compiler menu to do just that! Just make sure you create the executable in the same parent drawer/disk as the data drawer!

In next part of Blitz Basic Basics we will build on this simple display code, reusing some of the commands we've already looked at while introducing more commands! As a slight side note, my saxophone music in the demo is running at a tempo slightly quicker to which I originally wrote it 30 years ago. This is to do with the way BB2 plays music modules via a library that insists on timing using a vertical blank instead of CIA (a chip inside the Amiga that deals with system timings). We'll deal with this in future as well, perhaps even installing a better music library for BB2 to use.

Until next time!

Avoiding clicks'n'pops in your MODs

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Avoiding clicks'n'pops in your MODs - by: Roald Strauss
==========
Back in WhatIFF? issue 2.11 I wrote a small article about the various
options we have available for reducing quantisation noise in 8-bit

We learned that quantisation noise is what we get when we reduce the bitd
of the audio from 16 bits (or more) to 8 b
aren't enough to represent the original analogue signal. The noise we hear is
actually the sound of the missing data. To reduce quantisation noise, we can
use SSRC (Shibata Sample Rate Converter) to move the noise up to a
higher frequency that most of us (in our age group) can't hear. Or we can use
the LAQ (Least Amount of Quantisation) method to move a lot of the
down to a lower frequency that most of us can't hear.

And finally, we should also mention the 14-bit trick as an option.

In issue 3.14 of WhatIFF? Magazine I wrote a follow-up to that article, with
some new insights about quantisation noise reduction, that I'd gained since
I wrote the first article. The follow-up article also included a section
about dealing with the harmonic overtones we get when using low sa
This kind of noise happens because there's no kind of interpolation filter
on Amiga.

We can't get rid of harmonic overtones (when using low samplerates), but we
can make them less annoying to listen to, by tuning them to the actual
frequency of the sampled instrument.

In my previous article, I gave a wrong formula to calculate the harmonic
overtone: tonefrequency*2^n

I've since learned that the correct formula is (tonefrequency*2,1)*2^n</s
You can also avoid harmonic overtones by using a high enough samplerate.
B-2 and above should be good.

In this 3rd and last article in the series, I'll round things up by
addressing the 3rd type of noise we have to deal with on Amiga:
Clicks'n'pops.

But before continuing, please note that these articles are strictly about
8-bit Protracker MOD music (or MEDs). They are about reducing noise in
"8-bit stock Amiga audio".

The goal is to create music that is attractive for Amiga gamedevs, and the
primary filetype used by Amiga gamedevs is the Protracker MOD format.

You may have noticed that certain MODs (or MEDs) on Amiga sometimes produce
a click here and a pop there. You may even have grown so accustomed to these
clicks'n'pops, that you just consider them to be a natural and charming part
of "The Amiga Sound", whether it's on a subconscious level, or som
you're fully aware of.

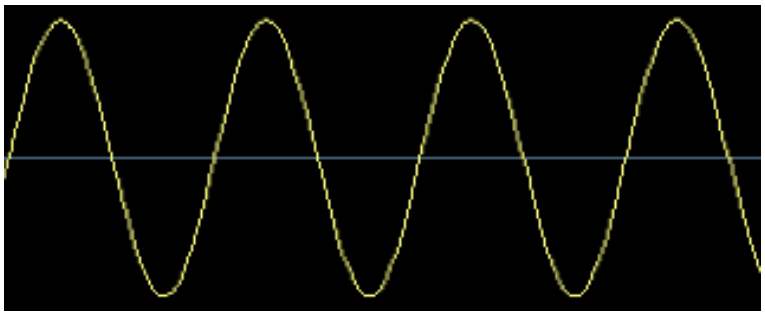
I personally notice any kind of noise in audio quite a lot - and these
clicks'n'pops annoy my tiny audiophile brain just as much as quantisation
noise does. Especially when I've created a nice MOD in Milkytracker that I
am somewhat proud of, only to discover that it's full of clicks'n'pops when
listening to it on my Amiga.

I've therefor often pondered about whether anything could be done about this
problem, but I never dived into any actual research until now.

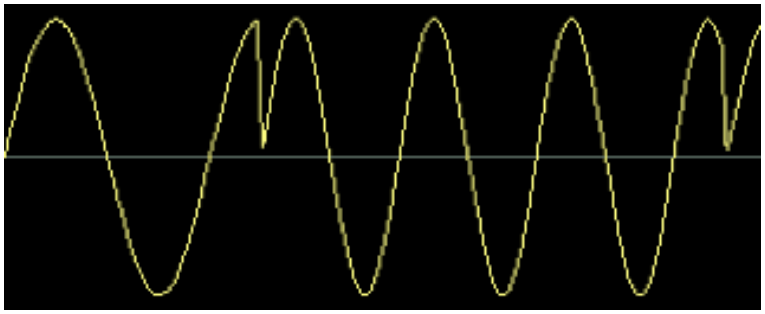
During my research I ended up exploring many options and made quite a lot of

discoveries along the way, which I will now share with you here. I will list all the different conditions that cause these clicks'n'pops to occur, and then describe various techniques you can use to work around them.

The looping bass
We'll start with a sample of a looping deep sine wave. It'll look like this when playing a single tone.



If you use this sample to play different notes in the same channel, the resulting output may look somewhat like this:



Every time a new note plays, the previous note is interrupted, and the sample is played from the beginning, with the samplerate of the new note. It's easy to see on the visual representation of the audio, where a tone is interrupted and a new tone begins. Especially when the previous tone is interrupted when the sample is at its highest amplitude. Because then the audio jumps from max amplitude to zero from one data-point to the

And it is this jump that cause the click.

That's simply the sound such a large jump makes.

This might puzzle a few readers, because the whole model with interrupting notes with new notes, is used in quite a lot of different tracker filetypes - which would logically mean that we should be hearing such clicks'n'pops all over the place when listening to tracker music in general. But we don't. We only hear them when playing MODs on Amiga. (Or other Amiga filetypes such as MED and DBM files).

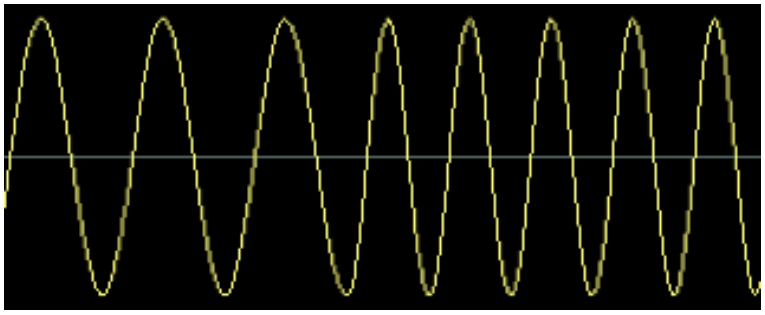
There is quite clearly a difference between these Amiga filetypes and PC filetypes: The PC filetypes have a fancy feature called volume-ramping</s which basically smoothens such large jumps in amplitude when they' big. So we don't hear clicks'n'pops when playing these filetypes on a PC where they originate from. Like for example if you play an XM in FastTracker II, there are no clicks'n'pops. However, if you play the same XM with DigiBooster Pro on Amiga, then it will most likely be full of clicks'n'pops. Because there's no volume-ramping in DigiBooster Pro, but there is in FastTracker II.

Even if you create a MOD on Amiga with clicks'n'pops, it will usually be free of clicks'n'pops if you play the same MOD with a random PC player.

So yes, it can be rather frustrating to be an Amiga musician, if you care a lot about producing clean sound.

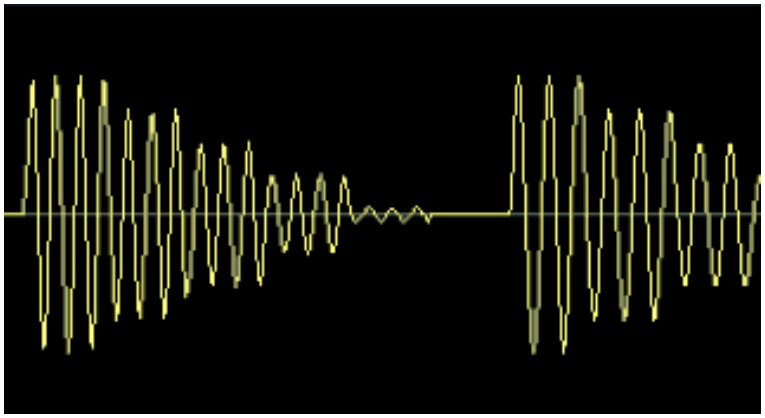
But let's look into ways to avoid these clicks on Amiga when we have no volume-ramping available. There are plenty of workarounds we can use, and which one to use depends on the scenario. In this particular case;

The looping bass, we can use a simple and commonly used workaround The portamento to note (3xx) command for each new note. That way, of interrupting the previous note and starting the sample from the beginning again, the waveform will continue to play while gliding up/down to the next note.



As you can see, this approach completely eliminates all the large jumps in amplitude, and therefor the clicks are gone now. We'll call this first anti-click technique "The portamento method".

Fadeout solves nothing
But a constant bass sine isn't always what we want. Sometimes we want a short bass note instead. So the next logical idea will be to try to fade the tones between each note with A0x commands. That way, the volum low or even zero when the next note is played, and it should therefor logically eliminate all the clicks'n'pops.

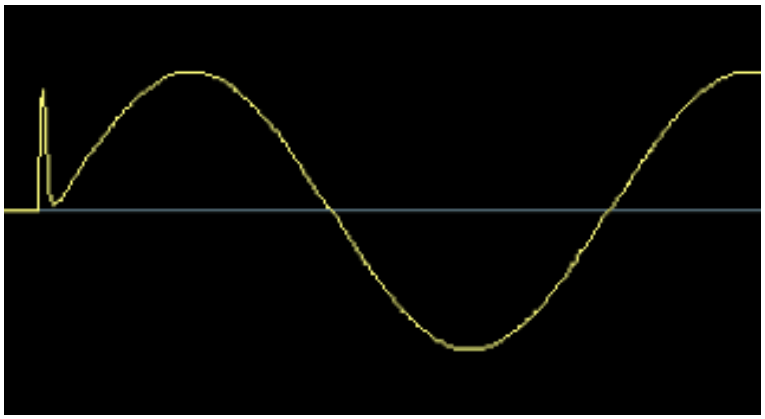


But two things may seem surprising here. The first surprise is that, despite fading out the volume of the previous note before playing the next note, there are still clicks that are equally loud and just as annoying the very first scenario. Even if waiting several seconds with <spa before playing the next note! This makes absolutely no sense, since the previous tone is definitely faded out now.

The other surprise is that a lot of smaller clicks'n'pops seem to
the party too now.

So fading the tones seems to have resulted in the exact opposite of what we
were aiming for: It has increased the amount of clicks'n'pops instead
of removing them. What's going on???

Well, it turns out there's a limitation (some say bug) in Protrack
new note is played, the volume on that channel is reset to whatever volume
the sample has. That makes sense of course. But the problem is, that the
volume is turned up before the previous note stops playing. Which
the last few milliseconds of the previous tone is turned up just before it's
interrupted. This basically renders the whole volume fade-out approach
completely useless, since it has no effect on the clicks'n'pops at all. We
still have the exact same problem as in the first scenario, which is clearly
visible when we zoom in:



There is a workaround for this problem though: Once the previous note is
faded out, we can play another sample that only has a few millisec
data at zero amplitude and zero volume. That way, when channel volume is
changed before playing the new note, it doesn't matter that it plays the
zero amplitude snippet from the previous sample first.

There are 3 drawbacks to this approach though:

1: We need a whole row for this extra "anti-click" sample.
2: We need to use up a sample slot too.
3: It may interrupt the previous note before we want it to.

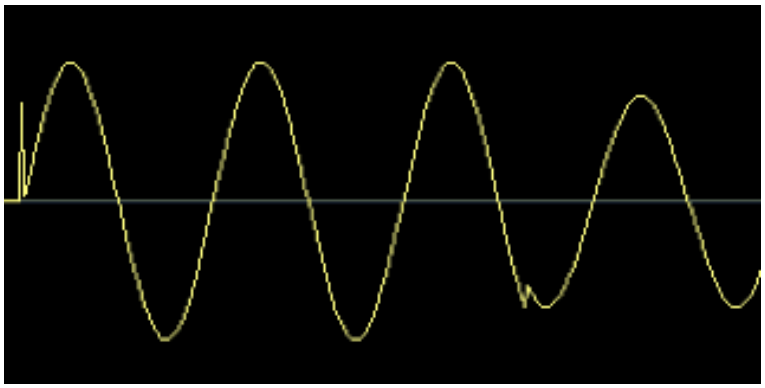
But apart from those drawbacks, it does effectively remove the click. Let's
call this workaround "The silent sample trick".

You might get the idea of using EDx to delay the silent sample, to
the previous tone a few ticks longer before interrupting it. But no: There's
another bug in Protracker here: Although EDx does indeed delay the sample
with x ticks, the resetting of the channel volume is not delayed.
is set at the very first tick of the row regardless. So EDx doesn't help us
at all here. The previous tone will be silenced at the beginning of the row
with the silent sample regardless of any EDx value.

Ok, so that explained why the clicks where still there, and we found a
workaround to fix it: The silent sample trick. But what about all
those additional smaller clicks then?

Well, all these smaller clicks are caused by the volume fade A0x c
because that's how sensitive audio is without volume-ramping. <spa
reducing volume x values per tick (except the first tick) for each
If tickspeed is set to F06 then A01</span

5 times for that row, and A0F will decrease the volume with
times. So it's not a smooth fade, but rather a kind of staircase fade that
produce a lot of smaller jumps in the amplitude. So the higher A0x
bigger the jumps, and therefor the louder the clicks.



These circumstances will probably make you try to settle with A01
least amount of these clicks'n'pops - and that might be fine in some cases.
But you may also find that even A01 can cause clicks'n'pops that annoys you,
or else you may find that A01 doesn't fade fast enough.

So what kind of workarounds can we find here? Well... since the clicks'n'
pops happen because there's a jump in the sample amplitude, it's obvious
that the solution is to somehow avoid these jumps. In other words: If all
the tick locations are placed where the sound amplitude is (near) zero,
then we'd be all set. Because then the jumps wouldn't be noticeable.

The "magic" frequency
Since tones are frequencies, and samplerates are frequencies, and tempo is
a frequency too, then it is possible to find a tone-frequency that matches
the samplerate and tempo, so that the each (half) wavelength is placed
exactly where the tick offsets are. So when A0x turns down
volume by x steps, it does so where the amplitude is zero,
and thus doesn't cause a click.

But how to calculate what this frequency is?

Well, if you (like myself) don't know anything about the inner workings of
the Amiga, then you'll probably try to calculate this frequency like this:

Let's say we have a track playing at 125 bpm. Then we know that
each beat is 60000/125 = 480 ms, wh
each row is 480/4 = 120 ms, and eac
is 120/6 = 20 ms.

At a samplerate of 16574,27 Hz that means each tick is 16574,27*0.
331,48 samples.

We can then calculate that we'll need a tone frequency of 16574,27/331,48 =
50 Hz (or a multiple thereof) in order to make sure all the
tick locations are placed at the zero amplitude offsets in the sample. And
yes, this absolutely works! Suddenly all the clicks'n'pops are gone</span
no matter how rough a fade we do. Even interrupting the tone and playing a
new one doesn't give any clicks! Listening to this deep click-free bass sine
is so amazing that it's difficult to believe it's a MOD in Protracker we're
listening to.

If you're a master on Amiga audio though, and therefor know a great deal
about the inner working of the Amiga, then you'll most likely find the
above calculation method silly, and instead calculate the frequency like
this:

First, you'll find the actual tempo on Amiga, which is
1773447,5/(floor(1773447/tempo)+1).

So if we've set a tempo of 125 bpm, then the actual tempo on Amiga
1773447,5/(floor(1773447/125)+1) = 124,99629969 bpm.
And then to get the actual samples per tick, we have to divide the sample-
rate with (actual_tempo/2,5). So actual samples per tick becomes
16574,27/(124,99629969/2,5) = 331,49521308 samples.
And the frequency then becomes 16574,27/331,49521308 = 49,998519876 Hz</s
As you can see though, the difference between the two calculation methods is
tiny (0,001480124), and doesn't affect the outcome of this experiment at all.

Anyway, we can sadly only produce this "magic clickless frequency" for one
specific tone-frequency (or a multiple thereof) for each tempo setting. And
that means it's not a whole lot useful in praxis. It basically only serves
as a proof that this technique works... at least for some samples.

So how can we achieve the same awesome anti-click effect with any other kind
of sample? Well, I had 4 ideas on how to do this, and did extensiv
experiments with all of thems.

Idea 1: "The burned volume-ramp". Edit the sample, and boost the amplitud
the exact tick locations with the exact amount that the A0x command has,
and then fade to normal. In other words; add a kind of static volume-ramping
burned into the sample to counter the A0x effect.

This requires extremely precise timing that is tricky to get right, and it
also renders the sample useles for any other kind of Axy commands. Meaning,
it'll produce clicks'n'pops with any other combination of Axy commands - or
if you don't use any Axy commands at all. In other words, idea 1 is useles.

Idea 2: "The sample-fade in/out trick". Edit the sample and adjust the wa
-form to make sure the amplitude is (near) zero at the tick locations, by
fading the sample in and out around the tick offsets.
This is less demanding in regards of accuracy, but the fade ins'n'outs that
are necessary to prevent clicks, will alter the sound to such a degree that
it becomes equally annoying as the clicks'n'pops. Some will probably say
even worse. So idea 2 is worthless too.

Idea 3: "The stretch'n'shrink trick". Edit the sample and stretch or shri
each snippet of audio between tick locations to make sure the amplitudes
end up (near) zero at each tick location.

Sounds promising at first, thinking that the strething'n'shrinking of
snippets will "just" result in some kind of vibrato effect, which might
even sound cool? But sadly no. This approach too will alter the sound to
such a degree that it is useless.

Idea 4: "The tick frequency trick". Create an additional frequency matchi
(half) the tick sample size, and mix it with the audio in order to get the
amplitude at the tick-offsets placed at zero.

This is it! By reading the data-point values at each tick-offset, and
then applying a counter frequency between each tick-offset, we can alter
the sound so that all the tick-offsets will have an amplitude of zero. This
will cause the signal to go outside the scope sometimes, but we
can try different tone-frequencies, tempos and volume adjustments until it
stays inside the scope. And best of all: The sample still sounds fine, since
the signal we're adding is at such a low frequency that we can't hear it.

This will require us to "unroll" the short looped bass though, so
becomes a much longer sample. In other words, it'll take up more space.
Another disadvantage is that the sample can only be used at a specific
samplerate and tempo. So if you want to use this approach for a bass, then
you'll need a bass sample for each tone you want to play. You migh
fine with this - I personally am - because quality matters more to me than

filesize. But I understand if you feel you'll be using too many samples and too much space with this approach, and therefor want to hear about other options.

Personally though, the tick frequency trick is exactly the kind of I was looking for. Because it allows me to do fades and cut off notes without clicks, and I've really been missing that.

But nothing is ever easy, is it? No it isn't.

It turns out, there's a sample-trigger delay on Amiga, which means the tick offsets doesn't match our precalculated locations where we made sure the amplitude is (near) zero. In one experiment, playing a 16574 Hz sample, judging solely by listening, the delay was about 8-9 sample-points. But in another experiment, the delay was about 11 sample-points. That may not sound like much, but it's enough to affect the clicks'n'pops. So by deleting this amount of sample-points in the beginning of the sample(s), the clicks were gone again on my Amiga.

Curious to find a formula that lets us calculate how many sample-points this delay is, I reached out to a couple of masters on the topic. But although I did get some interesting info, I never found a useful formula. It seems the delay varies too much depending on various factors.

In other words: If you want to use the tick frequency trick, then to listen to the MOD with the playback library that's going to be used, and then delete the number of sample-points it requires for the clicks to be gone. There is no way to guarantee a click-free MOD with this approach on all players out there.

The sample fade-out trick
So the next idea, in order to avoid all the small clicks'n'pops that the commands creates, will probably be to simply fade out the amplitude in th sample data itself.

This approach of course also means we'll be using more bytes for sampledata than a short looped sine, since we'll be including the fade-out in the actual sample data now. And we will probably also want to have more than one sample, to avoid the fade-outs varying too much in speed when you play the bass sample at different notes.

The advantage with this approach is that, if the tone is interrupted, it'll most likely happen at a low amplitude, and thus won't cause a click. The disadvantage is that fading out the amplitude in an 8-bit sample will create more quantisation noise.

The sample playthrough method
A method similar to the sample fade-out trick, is to have samples of the same instrument, in varying lengths - but without a (long) fade-out. This will work just as the sample fade-out trick works, except without the additional quantisation noise since we don't fade the amplitude in the sample.

The sample-offset method
What about an option that only requires us to use a single sample, still avoiding clicks'n'pops? Are there any such option available?

Yes there is. :-)

Let's go back to the initial deep bass sine - but unroll it so that it becomes a longer sample. If you can shape this deep bass sine so that each 256 data-points matches the zero amplitude points of the tone-frequency, then you can use the sample-offset (9xx) command to start the samp various offsets - and thus make it reach the end quicker, resulting in a shorter tone.

For example, if we use a samplerate of 16574,27 Hz, then we'll nee

frequency of 16574,27/256 = 64,743242188 Hz - or a multiple thereo
for the 9xx offsets to match the zero-amplitude points of the samp

While this method works quite nicely, it comes with several disadvantages too:

1: Since the tone-frequency has to match the tick offsets, it'll be difficult to get the tone in tune with the other instruments in the track.
2: Though it does eliminate cut-off clicks (since the sample gets to play through before the next note), it doesn't help us with fade pops.
3: And the method will only work with certain types of instruments: The ones that has very little variation.

Details matter
Lack of volume-ramping makes everything really sensitive to clicks'n'pops. If we start a sample with a non-zero data-value - then it will create a click when starting the sample. If we end a sample with a non-zero data-value - it will create a click when the sample is done playing.

Samples should always begin with two data-values of zero, and the last twp data-values (in a non-looping sample) should also be (at least close to) zero.

Summary
All in all we ended up exploring a whole 9 different techniques for avoiding clicks'n'pops. 3 of them were useless, which leaves us 6 options to choose from.

Each method has its own ideal usages. Some are great for removing fade-pops. Some are good for avoiding cut-pops. Some are optimal for short looped samples while others are best for "unrolled" samples. Here's an overview:

	Eliminate Fade Pop	Eliminate Cut Pop	Best for
The portamento method	No	Yes<	
The silent sample trick	No	Yes<	
The tick frequency trick	Yes		
The sample fade-out method	Yes		
The sample playthrough method	Yes		
The sample-offset method	No	Yes<	

And that finally brings me to the end of my noise-reduction exploration adventure. It's been fun and enlightning to discover these techniques, and I'm personally looking forward to create some cleaner-sounding MODs in the future. I hope it has been somewhat interesting to other MOD musicians out there as well.

Creative Graphics: Digital Winter Car

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Creative Graphics: Digital Winter Card - by: Timo Paul
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By the time you are reading this issue the winter seasonal holidays should have started already. In issue 2.11 and 2.12 we covered some of the basics of ImageFX, in particular creating a digital summer post card. In that tutorial we worked with pasting and cutting images over another image. In this issue I thought it would be fun to do a winter version of the digital post card. So get out your digital camera, ImageFX 4.5, Brilliance/DPaint and lets get started.

Tis the season to be snowy!

To begin with find a photo or take a photo with your digital camera or smartphone that you would like to be the main background image. Once you have the image ready, bring it into the Amiga either via e-mail, CF card or if you have a V4, then ApolloExplorer. For this project I e-mailed a photo from my wife's iPhone X. Once the photo had been downloaded the photo I was able to load it into ImageFX 4.5, it does take a while to load so if you are using a slower machine be ready to make a cup of tea while it loads. Even with my TF1260 equipped A1200 it took over a minute to load the file.

Once the file has loaded you will have a very large file beyond the standard Amiga resolutions, so we will need to scale it downto something more manageable by the Amiga. This Xmas card will be viewed on the Amiga so let's use PAL Hires (720 x 566). My imported photo is 4,032 x 3,024, I used the 'Size' button which brought up a requestor, before doing any scaling make sure you have changed 'Aspect:' to 'Locked to Image's Aspect'. Since I want to have an image size of 720 x 566, I will not be able to fully reduce the size, I will need to crop the image afterwards. On the right of 'Width:' and 'Height:' you will a slider bar and two buttons a [Ã· and x] , you can click on either the 'Width' or 'Height' [Ã· and x] buttons since the image aspect has been locked. I used the [Ã·] to reduce the image until I have an image size of 1008 x 756, again unless you are on a fast Amiga it will take time to scale the image.

Once finished you should still have the 'Size' window, find the 'Crop' button and click on it. Locate the 'Size:' boxes and enter in our desired image size of 720 x 566. Make sure to press the Return or Enter key each time, otherwise the changes will not be accepted. After pressing the Return/Enter keys you will see a frame box appear, click in the middle to move it to your position of your liking.

If at this point you feel that the image is still too large, cancel the 'Crop' window and go back to 'Size' window and then to 'Scale' and reduce the image more. Instead of using the [Ã· and x] buttons enter in the values via the 'Size:' boxes.

Okay, back to cropping your image, so you have the frame box where you want, all you need to do next is click on 'Crop' and you are half way there. At this point you will want to save your image. Find 'Save' on the bottom right of the menu bar and choose ILBM (IFF) from the list on the right, and click on 'Save As' save the file name with any name you like.

It's snowing!

For our next part we will go back to True Brilliance, for this tutorial I used Brilliance but the techniques can be used in DPaint as well. Once you have loaded up True Brilliance we need to set the image size or in Brilliance, the 'Page Size'. This is done by going to the 'Screen Settings' button, and selecting a resolution of PAL HiRes Laced and selecting the

button 'Max' which uses the Overscan and gives you a nice large resolution of 720 x 566.

Now we can make our snow, keeping the background black, select white and go to 'Pen Tip', find the tip from the third from the left and paste down several dots around the screen. We don't want too many otherwise we will hide the picture behind the snow. After then choose the second from the left and the first from the left, putting down dots randomly to look like snow.

When you are finished we need to smooth out the snow, select the 'Rectangle' tool and then right click on 'Draw Mode' , find and select 'Smooth'. Now, draw a rectangle covering the entire screen. It will take a while to complete the process but once it is finished you will have an image with nicely anti-aliased snow. Save the image in the same directory as your photo that was processed in ImageFX.

Back to ImageFX!

First you need to load your edited photo into ImageFX, once you have it displayed on screen we need to sart using ImageFX's layers. This is done by clicking on the 'Layer Manager' button found on the left side of the R G B buttons. The 'Layer Manager' window will appear, locate the down arrow on the top right, left click hold and select 'New Layer from Buffer', this will make your photo the 'Background' layer. Click on the eyes to hide the layer.

Click on the down arrow again and select 'Load Layer', locate your snow image that you made in Brilliance/DPaint and click on 'OK'. The MAIN window should turn black with only the white snow flakes showing. We will need to blend the layers and this is accomplished by left click hold on the 'Mode:' button, make sure you click on the text and not the arrow to show the drop down menu. Select 'Lighten' and lo and behold the black part of the image will disappear leaving only the snow. If the snow is too bright or harsh you can adjust the transparency with the 'Blend %:' slider.

At this point you might want to save your image, be aware when you do, that you will need to flatten the image, which can be done via the down arrow button.

Now you have your photo with snow added, it is time to add some simple text. While you could use the text feature in ImageFX I find that you get better results by putting in a little more effort. For our text we have two options we can use FinalWriter/Wordworth or DrawStudio. In my case I used DrawStudio to create the text, I then saved the text document out as a bitmap and imported it into ImageFX. Using the same techniques for cropping, crop the image until you have almost no space around the edges.

We plan to create a 3D model to render in LightWave, so if you have followed the previous tutorials you will be familiar with this. We need to flip the colours, so click the 'Color' button and then click on 'Negative', this will turn the black text to white and the background to black. Save out the image as an IFF (ILBM).

Extrude!

Next we will need to create a 3D object out of the bitmap, go to PixelPro and load your image. Click on 'Extrude' and use a value of '20', it will take time on machines that do not have an 060/080/PiStorm so if you have an old 030 then prepare to make lunch while the Amiga is working. Once it is done you can click on 'Save' and choose 'LightWave' object.

Now we need to use LightWave, load up the LightWave programme and not the modeler. Once you in LightWave, go to the 'Objects' button and load the text object we made in PixelPro. Once the object has loaded, adjust it so that it is at an angle to enhance the 3D effect.

After adjusting the placement of your object and camera remember to click on 'Current Frame' where it the number '0' is, click once there and then press

the 'Enter' key. If you do not do this it not keep the camera and object co-ordinates when you render. You do not have to do anything regarding the background however it would be wise to change the surface of your object, you can change the surface colour or add a texture from the 'Surfaces' panel.

Make your sure camera, object and light are placed just where you want them, do a test render of your scene. If you are happy then click on 'Record' and select 'Save RGB Images' to save your image. Once it is finished rendering close LightWave and back to ImageFX again.

ImageFX ... Again!

Now we have all our parts again, if you saved your image then you just need to load it, if you did not save the image the first time round then you need to repeat the processes above in ImageFX. With the rendered text, you just need to follow the same process of loading the image as a layer and then changing 'Mode' to 'Lighten'. You should now have three layers with the background photo, snow on top and the text on the final top layer. All you need to do is render the image as an IFF 24Bit, 256 or lower and then e-mail it to your friends, family or even post it on the WhatIFF? forum.

Happy Holidays from me, thank you for having followed this series over the years and and I look forward to doing more in 2025!

New Users 101: Amiga OS3.2 - MenuTools

==========
New Users 101: Amiga OS3.2 - MenuTools - by: Timo Paul
==========

Amiga OS3.2 has brought a slew of new features to the Amiga, and one of those is MenuTools which can be found in the WBStartup directory. Clicking on the Workbench menu bar and the final item you will see "Tools", by default it lists: ResetWB, Auto-Arrange Icons and Help. However there is a relatively easy way to add your own items to the menu, I say relatively as it does require use of the Shell and the commands are not that straight forward.

To begin with, you need to open a Shell window and type "ed" followed by a space, then located the MenuTools icon in the WBStartup drawer and drag it into the Shell window. Some more text will appear, press Enter to open the file.

You want to find the two lines that start with MENU ADD, they should look like the following:

```
MENU ADD NAME MenuSeparator1 TITLE '"~"' CMD ""
MENU ADD NAME MenuHelp TITLE '"Help"' CMD "'address command ''Help''''"
```

As you can see it is relatively straight forward, but to help you understand it better we will work through an easy example. For this scenario we will add the e-mailer YAM to the menu.

To begin with let{s add: MENU ADD NAME MenuYAM TITLE '"YAM"'

This first part will add a name/item to the menu, next we add the command to menu bar. That will look like this:

```
CMD "'address command ''Work:YAM/YAM''''"
```

When finished the entire line should look like this:

```
MENU ADD NAME MenuYAM TITLE '"YAM"'CMD "'address command ''Work:YAM/YAM''''"
```

Interestingly if you want to add system commands it is a bit easier, as an example if you wanted to add the Shell to the menu you need to add the following:

```
MENU ADD NAME MenuShell TITLE '"Shell"' CMD "'address command ''newshell''''"
```

If you put in Workbench:System/Shell or Shell into the "'address command '' section you will encounter an error upon loading Shell from the menu.

The newshell command works without issue, looking into this more I found I was even able to call Preferences items such as ScreenMode by simply using ScreenMode as the command.

```
MENU ADD NAME MenuInput TITLE '"Input"' CMD "'address command ''Input''''"
```

New Users 101: Various Ways to Install Amiga OS3.2

==========
New Users 101: Various Ways to Install Amiga OS3.2 - by: Timo Paul
==========

For many this guide may seem easy hat but of recent I have seen increasing posts on forums asking how to install Amiga OS 3.2 on their real Amigas. Those of who are coming back to the Amiga after a while it can seem a little confusing at first, with this guide we will take you through the steps necessary to get a basic install of Amiga OS on your real Amiga. Where necessary the guide will mention if extra hardware is needed and where to obtain it.

So you got your new Amiga OS package with the CD-Rom and probably you notice right away that there are no floppy disks, welcome to the Amiga in the 2020s! Over the last few years the ADF format has become the standard way to distribute Amiga software but if you have an Amiga with only a floppy drive this can be a bit tricky. So what options are available to you?

1. Easiest but time consuming: GOTEK

The easiest way regardless of your Amiga would be to invest in an external or internal GOTEK drive. It is a simple task of copying the ADF files over to an USB stick/thumb drive and then accessing the disks via the GOTEK. You are able to boot from the GOTEK and install from multiple disks using the disk selector.

If you have an internal hard disk or compact flash disk, then you can install just like in the 90s using the GOTEK instead of floppy disks. If you have an A500 then the GOTEK is your easiest and best option.

2. PCMCIA CF Transfer

If you have an A600 or A1200 then things will be easier for you since you can use the PCMCIA slot to transfer the ADF files to a floppy disk. Saying that it is also possible to 'soft' boot the ADF files depending on the software you are using. AmigaKit sells a useful floppy disk that has the compact flash drivers already installed, boot from their disk and insert your CF card to access to the files. They also include an ADF writer if you wish to copy the ADF files to a real floppy disk. Once you have made your original Amiga OS 3.2 install disks reboot with the Install disk and go through the usual motions to install Workbench.

3. Emulation and a real Amiga

The third option I use quite often and this is using a combination of the PCMCIA CF card transfer, emulation and ClassicWB. To begin with I create a blank HDF in UAE, this can be done on either a PC or Windows machine. Then mount the install ADF and the CD-ROM in UAE. This will boot from the install disk and allow you to use the data on the CD-ROM saving you the trouble of swapping many disks. Once the installer disk has loaded, format the HDF file, calling it System or Workbench and then run the installer from the ADF remembering to activate the CD-ROM.

Install as normal, once it is finished you can go back to UAE.

Now this is a bit unusual what we will do next but for those who are coming to the Amiga after being away a while or who are new, sometimes you don't want to spend lots of time installing all the necessary bits and pieces. To speed everything up download and install ClassicWB, you can find out how to install it from the website it is very easy.

Okay once you have ClassicWB setup, set the ClassicWB as your main bootdisk

and the recently installed OS3.2 HDF as a second drive. Finally, add a third drive and set it the Desktop directory. Once you are in ClassicWB go to DOPUS, find the OS3.2 drive, select it all and click on ZIP, name the file:

system.zip - this is very imporant.

Make a cup of tea while DOPUS does it thing, once it has finshed look for the System.zip file and copy it to the Desktop directory. From there copy the file to your CF card. The reason for doing this all is that ClassicWB comes with a handy installer compressor on an ADF, if you copy the System.zip to your Amiga internal hard disk and then run the installer from ClassicWB it will unpack your files onto the Amiga hard drive.

Why do it this way?

It is safer and faster to setup Workbench in UAE first, test everything and download files, install extras first and then copy the entire install over to the Amiga.

4. Flash an Image of an HDF

As I use a Mac this might vary slightly from Windows users but the general should be the same. In part 3 I mentioned about creating an HDF and then installing Workbench 3.2 in UAE. In this case you might want to have a disk with partitions so you will need to go to the HDF Disk Image Creator that can be found from the dropdown menu on the top left side of FS-UAE, the button is blue with an Amiga tick in the centre. Select HDF Creator and choose the second option:

HDF - Partitionable Hard Drive Image (RDB)

Once the disk image has been made you can boot into Workbench 3.2 from the HDSetup3.2.adf disk since you will want to partition your drive. Once the disk has loaded go to HDToolBox, do not double click it but select the icon and then go to Info from the menu bar. Go to the Icon tab and find tooltypes located below, search for SCSI_DEVICE_NAME=scsi.device

You will need to change this to SCSI_DEVICE_NAME=uaehf.device

If you do not change this HDToolBox will not be able to see the hard disk file that you created in FS-UAE. From here you can partition your disk just like you would on a real Amiga and install Amiga OS3.2.

Once you have made sure the install is booting correctly and have installed your preferred programs and utilities, you can flash the disk image to a CF card using `balenaEtcher`, or 'PiImager' then you can just pop the CF card back into your real Amiga. The HDF file might not show up initially when using 'balenaEtcher' or 'PiImager', so when in the file requestor make sure to have 'All Files' option selected. Or you could add .iso to the HDF file name.

----->

So there you have four ways to install AmigaOS 3.2, while this is probably old hat to many Amiga users I hope those who are new to the Amiga or are returning after being away for a while will find this guide useful.

LightWave 101: Cleaning Up Objects

==========
LightWave 101: Cleaning Up Objects - by: Timo Paul
==========

In past issues we have done a few LightWave tutorials, from building a boing ball to creating 3D text. One area however that we did not cover is cleaning up your objects. Usually these errors can only be seen when you render and object but there are a few steps that you can take before rending to help reduce errors. These tips I have collected from various articles in Amiga World, Amazing Computing, LightWave Magazine and LightWave books that I have kept from my youth. During my high school, university and early work days I still worked on an Amiga with LightWave and these sources proved inavaluable in the days before mass internet availability.

Let's get started then ...

Merge Points

This is the first task you should always do after you have finished modelling, it is very simple but effective. Found with the Tools menu Merge Points deals with one and two point polygons, it also inform you of multiple polygons that share the same space. Merge Points can get rid of polygons with more than two points where multiple vertices share the same space.

Selecting Merge or pressing 'm' will bring up a requestor with three options. Automatic, Fractional and Absolute. In general you will want to use Automatic, as it will only merge points that share the same space. Absolute will merge points in a user defined distance, make sure that you merge points in the same layer as it will not work on separate layers.

One-Point Polygons
As it sounds, one-point polygons render as dots, great if you are making a starfield as we did in issue 1.08. Otherwise they can be a mistake, but fear not as there is an easy way to find one-point polygons. Find the Select Polygon button on the lower left of the screen, a window will pop up, press the 'w' key to bring up the Polygon Statistics window. The window will show the details of 1-4+ vertex polygons for the current modeler layer.

You can select polygons based on the amount of vertices or surface names. Pressing the + key will select and the - key will deselect selected polygons.

When you have your unwanted one-point polygons selected you can click on `Cut` to remove them from your object.

Two-Point Polygons

When you see unwanted lines cutting through your or on top of your object this is most likely caused by two point polygons. We will use the same technique as one point polygons to fix this issue. Select all polygons with two vertices from in the Polygon Statistics window, the you can cut the polygon to remove it from the object.

Flipped Polygons

This is a common problem, where the surface of the polygon is facing the wrong way, hence when the camera is looking at the object it will render the incorrect surface. The fastest way to fix this issue is to either select the flipped polygon and click on the 'Flip' key, which is found under the 'Polygon' menu or press the 'F' key. Another option is to use the

'Align' button, but for this to work you will need to do a 'Merge' points operation first.

Double Polygons

When two polygons are sharing the same points in the same space this is usually referred to as double polygons which can result in rendering errors. We can fix this by using 'Unify' which can be found under the 'Polygon' menu.

I hope these quick tips will be of use to you, prior to moving to Japan I was working for a company that had asked me to create an animation of their logo. The tips that have been described above helped me a lot when I ran into issues with my objects especially when it came to the animation aspect.

Articles

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==============================================================================
-=  A R T I C L E S =-----------------------------------------------------
------------------------------------------------------------------------------

   -= WHDLoad Goteks and Gaming =-
   Kristian GK reports from Kickstart 02 in UK.
   -= Thinking about the past, future and the Amiga. =-
   Ivan Sorensen gives his thoughts on the Amiga scene and its future.
   -= Apollo Computer V4 Updates in 2024 =-
   2024 has been a big year for the Apollo team, we take a look at what has
   updates have taken place over the year.
   -= Excursions into NTSC =-
   NTSC Amigas get a general bad rap compared to their PAL counterparts, we
   look into what options NTSC users have.
   -= The Elephant's Balloon & Other Children's Bedtime Stories =-
   K.P Koljonnen documents the creative process and coding the new Amiga
   album The Elephant's Balloon & Other Children's Bedtime Stories.

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           #Articles - WhatIFF? Issue 3.15 - December 2024#
```

Thinking about the past, future and the Amiga.

==========
Thinking about the past, future ... - by: Ivan Sorensen
==========

Thinking about the past, thinking about the future, thinking about the Amiga

As I write this, the year is coming to a close and it is time to take stock of life. For the purposes of this magazine, that mostly means life as it relates to the Amiga computer.

Everyone comes to the Amiga community with their own goals, intentions and aspirations (or so we would hope). All I can outline is my own for the next year and it will largely be two things: First to keep using my Amiga and use it more.

I am not a collector. I own a single Amiga. When it dies, it will be replaced by a single Amiga (or perhaps one of the alternatives that now exist out there). The only time I had two was when I briefly ran Morph OS as my main machine.

In January, me and a friend are doing a retro month where we will stick to retro video games and generally try to do as much as possible on retro systems. Break out Deluxe Paint again, write my tabletop RPG notes in Final Writer and listen to music mods in the evening, along with loads of Amiga gaming of course. Maybe I will even listen only to music that came out between 85 and 94, who knows.

People often fret over whether the Amiga version of this game or that program was the best possible version, but I have always felt that was pointless. While I have an interest in many retro systems, my passion is Amiga. When I play a game what matters is if the Amiga version is fun to play, not whether the Super Nintendo version is 3% better because it had parallax scrolling.

Everything the Amiga can do can be done better by something else today, including playing the Amiga's own games, so why are we even here, if we are not passionate about the actual, real Amiga?

That leads me to my second motivation, which is to shed the negativity. We live in difficult times and the internet is increasingly a garbage pit of despair. I have no intention of contributing to that any longer and as my retro computing time is a hobby, I want the time spent there to be fun and constructive.

When you browse Amiga content on forums, you see people complaining that the new game someone is making (for free) does not have 64 colour graphics, arguing about how amazing Ranger was or whether Doom killed the Amiga. Maybe it is time to argue about OS4 vs Morph OS for the 200th time. Maybe it's time to complain about Atari ports, since we have not had enough posts about that in 30 years. Did you know that Amiga flopped because games came on too many disks? Did you know? Did you know?

An endless stream of people with an endless stream of negative comments on every little thing.

And I am done with it. For next year and perhaps for the future. I will continue buying new hardware, new games as they get released, contribute in my own little way and use my Amiga to do things that make me happy.

I hope you do too.

See you in the new year. Only Amiga makes it possible.

Apollo Computer V4: 2024 Update

==========
Apollo Computer V4: 2024 Update - by: Timo Paul
==========

2024 has been a busy year for the Apollo team, and there have been a lot of updates to the hardware and software, since this is the last issue of the year, we will cover what has happened.

Hardware Updates

1GB Models

Most notably the V4 hardware has gotten updates to the memory available boosting the standard 512MB to 1GB. The 512MB version is still available but for another 200 EUR you can get double the memory. Why would you want this?

Gunnar explained on the Discord channel that this option is there for people who want to develop on the V4 giving them more flexibility. With the 080 CPU and 1GB ram you get quite a beast of a machine. In addition the Robin Hood conversion to the V4 has been growing in size and according to Willem it looks like it might not fit into the standard 512MB V4s, so if you have a hankering to play Apollo Robin Hood then it is time to save up the pennies for a 1GB model.

There has also been the introduction of 1GB ITX Cases for the Standalone machines as well. These add extra ports such as USB, video and audio plus make it easier to access the internal CF disk.

100 Mhz

While the hardware has not changed Apollo Computer are now offering models of the V4 that have been tested at 100Mhz, you can pay an extra 59.50 EUR for priviledge of a guaranteed 100Mhz V4. The FPGA is the same but it has just been tested at 100Mhz.

Software/Core Updates

Cores

2024 brought about core number 10000 which included better compatability with games and also improved the handling of interlaced screens. I noticed the change when running Lightwave 3D made for a much better screen, a more detailed list is below:

CPU Improvements

  Increased FPU precision
  Improved FINT speed

SAGA Improvements

  Flickerfixer added
  Improved audio
  Supports DMA burst length ofup to 256bit

Maggi Improvements

  New modes added
  Z-buffer GL modes added
  Supports a range of 3 pixel screen output formats
  (16/24/32-Bit)
  Supports cookie cutting texturing

Apollo OS Improvements

  Switch between PAL and chunky screens
  Fixed buttons in requestors
  Removal of harmless ghost sprite
  Border blanking fix

General Improvements

  Support for longer IDE cables
  Several compatability and game fixes

2024/2025 - Core Update 10500

-Improved built-in de-interlacer
-Support for SuperHires HAM screens
-Grey scale DIGITAL-VIDEO display in Legacy CRT (2Mb) mode
-Floppy read/write support in Full SAGA (6Mb) mode
-New ApolloBootMenu on Power-On (HELP key)
-Built in FAST and CHIP Memory test
-Support for two Kickstart ROMs
-Load KickStart ROM from Motherboard
-Load Backup Kickstart ROM from Core
-Animated Bootpicture on Power-On (customizable in the future!)
-Copper expanded to use up to 2Gb of memory
-HRTMon Debugger
-Improved SD Card signal logic
-Improved CPU performance
-Improved FPU performance
-Fixed an obscure bug in BlitBusy
-Improved OS Memory detection (Force unused memory to $FF)
-Enable both Fast-IDE ports IceDrake / FireBird (40+44 pin)
-68080 Instruction fixes/adds/improvements

Improved Atari Compatibility (work in progress)
-Atari ST Hardware
-Atari Screenmodes
-Yamaha Audio Chip
-ATARI timer chips

Expanded ApolloShield to support 1Gb RAM

Maggie Fixes/Improvements
-Fixed single white pixel error
-Added Continuous span draw mode, improving speed by 15%
-Added Cubic draw mode, improving speed 35%
-Added support for texture sizes 32x32 to 1024x1024
-Added HW auto-select of best MipMap mode
-Added Maggie DMA interleave which increases speed
-Added OpenGL texture Blend modes for transparent object like water and
 fire

ApolloControl 2.0
General Cleanup
Full Board Name
Serial Number
Core Version

ApolloMap and ApolloFlash 2.0
Moved Extended ROM content to $F0 in Core
No patching needed anymore of original Kickstart ROM
Improved support for Amiga OS 1.33 Kickstart (ApolloBoot)
Added display of board name
ApolloFlash intelligent check on correct V4 Board

Please note that the new 10500 Release does Require you to update the

ApolloMap / ApolloFlash tools to version 2.0.

Software

In addition to the core update there has also been some work in regards to software. Most notable are the improvements of ApolloBoot from 9.2 to 9.2 which allows ApolloBoot to work with the latest official core 10000. There is a newer core to come out but the latest version of ApolloBoot does not currently support it.

2024 also saw the releases of V4 supported games such as Dice Masters and ZombieSurvivors, in addition FlashMandel VE (Vamped Edition) was released taking advantage of the 24BIT screenmodes and faster 080.

Overall the ApolloTeam have been busy with updates and improving the V4 system. It has been a pleasure using my V4 Standalone and seeing it get better each year. I am looking forward to what the team comes up with and am keeping my fingers crossed for a final version of Apollo Robin Hood or some stunning V4 demos.

Excursions into NTSC

==========
Excursions into NTSC - by: Timo Paul
==========

I recently got an A1200 again after having the bright idea of reducing all my Amiga gear to one V4+ Standalone. While the V4SA is a great machine it quickly came apparent that it still has some issues and did not work very well as sole Amiga computer. So I went on the look out for an A1200 again and found one thanks to Netzik on Amibay, we did a swap for my V4SA and his A1200. I had been hoping to get a PAL Amiga and Netzik had believed it was PAL but once I had it in my hands it turned out to be an NTSC model. Well not the end of world but it started me on a journey into exploring what options are available to NTSC users who wish to use the PAL software, which sadly is pretty much most Amiga sofware.

Now there is no issue when using graphics software since you are able to choose the screenmode at the beginning, same with most of the later productivity such as FinalWriter however I started to run into problems when I booted up my favourite tracker OctaMED v4. I encountered a cropped screen which was not ideal, as such I started to research what I could do to remedy the situation.

Option 1 ...

The most obvious option is the 'two finger salute' i.e. the early boot menu where you can select PAL or NTSC, via the buttons or pressing the spacebar. This is a good option but I wanted to find something a bit more permanent.

Option 2 ...

Software is another route to go, when I asked on EAB about suggestions for forcing the Amiga into PAL, there were a few that stood out. TUDE, ModePro, TINYpalntsc, bootcontrol and Degrader. While the Amiga defaulted into PAL mode only ModePro allowed me to view OctaMED in a PAL screen mode. However I perceive two caveats, firsty ModePro seems to work with programmes that leave Workbench running and secondly when I was in OctaMED and editing samples the line that shows at which point the sound is being played is off by about 1 second. This was not an issue if I used the early boot menu and switched to PAL.

Option 3 ...

So, I found while the software option of ModePro worked, I was still interested in what else I could do. It was then that I found out about the hardware fix, desoldering and lifting pin 41 of the Alice chip and connecting it to +5v would force the Alice into PAL mode. In addition by changing the 28M oscillator for a PAL one (28.37516 Mhz), NTSC have a (28.636360 Mhz) one. However as a few people mentioned this is only really necessary if I am using the RF Modulator (removed in my Amiga) or the composite port. However I am living in Japan and having that port set at NTSC just might prove useful.

This option seemed quite promising but since I have fingers like sausages and the grace of sausages to go with it, I wanted to see if someone else could do the modification for me. I contaced people local to me and others in Europe and America. I got quotes between 45 euros to 100 euros, with the latter being a quote from my local area, ouch! As much as I would have liked to have this done the total cost for shipping my A1200 and the work was a bit too much for me.

Option 4 ...

So far I have looked a the built in early boot menu, software options and hardware modifications. However, this next option took me totally by surprise due to its ease and simplicity. Another person on EAB suggested the Kickstart PAL Patcher as an alternative to the hardware fix. It can be found at: https://github.com/SirCathal/KickstartPalPatcher

You will need Visual Studio but this little patch will work force the Amiga into PAL mode via the kickstart, thus negating the need for the early boot menu, software or hardware modifications. It even works with the latest 3.2.2 Kickstart. Of all the options this seems the best as while having the hardware mod done, I would rather do the least amount of hardware changes to my rather ancient Amiga. Surprisingly Amigastore.eu were able to offer the service of burning a custom rom with the patch and the eide.device added as well for a very reasonable price. However it seems that they were unable to add the eide.device to kickstart rom as I am unable to boot from my TF1260 IDE port. I have contacted them to double check about it. Now my Amiga boots into PAL automatically removing the need for software fixes, I am even able to boot PAL games from the floppy disk/GOTEK/aGOEX drive.

Final Thoughts

I confess that I had a PAL superiority complex with my PAL Amigas before however since obtaining an NTSC Amiga I find myself realising there is nothing to worry about getting an NTSC Amiga. Especially with the patched ROMs my NSTC Amiga can run all PAL software without issues. If you are an NTSC user and looking to have this patch done then I suggest contacting Amigastore.eu as they have great service and know their Amiga stuff.

WHDLoad Goteks and Gaming

==========
WHDLoad, Goteks and Amiga Retro Gaming - by: Kristian Hesketh
==========

What are the best options for Amiga gamers in 2024?

Back in the mid-to-late nineties, more and more Amiga users began to recognise the benefits of Hard Disk ownership. Once the machine was fitted with a drive it was hard to tolerate floppy only set-ups any longer, and the larger storage capacity offered by the disks opened new avenues of computing fun, mostly from a serious or productivity perspective.

Hard drives afforded only limited benefits to gamers however, as many disk games were written to use the full memory capacity of a 1MB machine and threw out the OS as a result, the games were often not HD installable.

As the end of century approached and Amiga users tended to have expanded and accelerated machines, third party HD installers for many floppy games were developed and distributed. In some cases cracked versions of games would come with custom HD installs shared on bulletin boards and Aminet would see patches uploaded to install genuine floppy based originals to HD.

WHDLoad and JST
Over time two programs became popular to run modular 'slave-based' installers on HD equipped Amigas, JST and WHDLoad. Provided you had some extra RAM these were great ways to install those hardware banging games on your Amiga hard drive. Not only did they reduce the wear and tear on the delicate original disks but provided vastly reduced loading times, removed disk swapping, and often came with useful extras, such as button remapping or level skip and other trainers. Back when I had my first Amiga I installed countless games onto HD using JST and WHDLoad.

Today the influence of WHDLoad and it's installers on the Amiga gaming scene is profound. If you visit ebay and search for an A1200 with HD it will invariable come pre-populated with a WHDLoad install pack. Searching for help forums regarding Amiga gaming and recommendations to use WHDLoad will not be far away. The A500 mini relies heavily on the use of WHDLoad to make it a user friendly modern experience. And in many cases, especially for Amiga beginners, or those looking for a quick nostalgia hit, WHDLoad is the optimum choice for Amiga gaming.

In my case though, it is not my first choice to use a WHDLoad installed game when playing an Amiga game, and I would argue that it shouldn't be your first choice either, if you want to sit down and truly immerse yourself in an Amiga game.

Challenges
I would like to point out that this is not a criticism of the WHDLoad program or those who dedicate their spare time writing ingenious slaves for it. I believe the issues I am highlighting are simply a result of the goals of the program and slaves being difficult to reliably achieve considering the vast array of Amiga configurations and finite playtesting and bug reporting.

Disk Versions
When I was using JST and WHDLoad originally 25 years ago I would have some teething problems. Occasionally an original version of a game would not work. In those days you would need to send a copy of the original disk images to the slave author to take a look at and update the slave. Today the breadth of versions for slaves I would say is huge so I consider this problem mostly addressed and essentially a thing of the past.

Crashing & Bugs

I think everyone who has ever used a slave based installer will have come across instances where the game dumps you back into Workbench with a cryptic error message or has encountered a strange bug. If you are lucky this will happen early on after loading and so you will have not made any substantial progress into a game. There are various reasons why this will happen, usually due to a combination of the myriad Amiga set-ups which exist in the wild and not available for testing with the slave author, the game code expecting to run on a 1MB A500, copy protection not fully patched, FPU/MMU shenanigans etc.

Fortunately, it is often possible to bypass or avoid crashes using some of the tooltypes available in WHDLoad, e.g. NOCACHE, which are often documented in the readme files for each WHDLoad slave. However, this is not guaranteed, and I have progressed to new worlds or screens in the past only to find myself confronted with a new inexplicable error.
Of course in such a scenario the best practice is to provide a bug report on the Mantis bugtracker, however I imagine not everyone will complete such an activity.

Complexity

WHDLoad has now reached version 19 and has a vast array of configuration options. From my perspective I think such configurability is welcome as the complexity is as a result of the underlying nature of getting these old games to work in an OS legal fashion (as I understand it). But it does mean that WHDLoad is not necessarily the most straightforward way to game once you encounter issues. In my opinion one of the keys to the Amiga's initial success was the simplicity of shoving a game disk in the drive and away you go.

By way of an example I think one of the first mistakes everyone makes with WHDLoad is due to the mechanism to write to the HD for game saves. By default the program will only flush the savegame to HD once you quit using the quit key, if you give a three fingered salute before this the save is gone forever.

Alternatives

So what are the alternative formats for Amiga retro gaming in 2024?

* Original Floppies

If you are in possession of original floppies then this is an option. Naturally if you have a souped up Amiga there is every chance that it will not boot correctly or demonstrate gfx, sfx or speed issues in game. This can be mitigated using Amiga Early Startup Control (both mouse buttons at boot on KS2+) or a degrader such a Relokick 1.4a which loads a Kickstart 1.3 ROM image into memory and allows CPU Caches to be disabled.
If the game came with manual protection then make sure to keep the book to hand. On the positive side this more than likely means that you will not encounter issues with unfinished cracks. On the negative side you will need to tolerate the floppy disk accessing speed and the risk that the magnetic media will fail.

* Original Floppies with External Drive

If you are lucky enough to own an external drive this will make a huge difference to multi-disk games provided they are supported. Worth investing in if you want to use original disks.

* Original Floppies installed to HD

Any Amiga game which came on over 3 floppy disks usually allowed for Hard Disk installation with a native installer. Some of these are quite terrible and will force you to install to a specific HD location, but the installed games can usually be manually moved to another folder and rectified if you know what you are doing in AmigaDOS. I find an install to RAM: can be a useful first step in understanding what the installer is doing (if you have this option), but not always a guarantee. Again, some of these native installers and games will struggle with a souped up Amiga,

but you can try booting without start-up sequence and disabling CPU Caches or trying something like TUDE as a degrader. It is worth noting that this is not always a better alternative to WHDLoad - a game such as Beneath a Steel Sky has a screen which will crash on any CPU above 24-bit (030 and above) which is captured as part of the WHDLoad readme - but in general, I notice far fewer issues once I have the game and running.

* Cracked Floppies
All the rage during the glory years and also the initial golden emulation period as ADF files became the standard and can be easily written to Amiga floppy. A similar experience to Original Floppies, however I would recommend doing some research to understand whether the cracks are known to be 100% working before investing any time in playing. Cracked games often come with trainers full of cheats to help you see more of the game than you otherwise would by playing through standard play.

* Gotek
At some point in the 2010s the Gotek drive was created and began to get popular. This is a great device to gain the benefits of floppy based gaming without the ongoing cost of replacing aging DD floppy disks or the reliability concerns of magnetic media.

The Flashfloppy software by Keir Fraser also supports the IPF format (through use of HCXFE program and converting to HFE v3 file format) which provides all the benefits of original floppy disk use. You can of course also use cracked adf provided you are comfortable these are 100%.
You can even get external Gotek drives in this day and age, which greatly improve the usability of a Gotek only solution. I would strongly recommend getting a Gotek with a rotary selector and a dot matrix screen for quality of life benefits.

My Golden Rules for WHDLoad
WHDLoad has great utility, it's amazing to see it is continually developed in 2024, and it is sometimes the only option to play tricky older games on a powerful Amiga, so I would say it is an essential piece of Amiga software. For me though, I would always suggest if playing seriously to start with one of the alternative methods, unless there is a special feature or specific benefit a WHDLoad slave brings, or you are just doing some quick testing.

I would suggest Adventure games, point and click for example, or strategy games, are the worst fit for slave-based installers as you can invest a large amount of time only to find a late crash and these will often come with native HD installers.

Even though JST may be forgotten by some users now, it still has found a niche with KS1.3 users and on lower memory configurations. Also, CD32Load has been developed based on it which has some unique features for CD32 users wanting HD installs.

My set-up
I have an Amiga 1200 TF1230/50 128MB RAM, Internal GoDrive and External Gotek and a CF card HD. I have a massive WHDLoad installed games folder which is great resource to have, but a separate partition for serious game playing and a spreadsheet where I record the degrading steps needed to play old Amiga games.

What do you think? Share your thoughts on the best formats for Amiga retro gaming in 2024.

kristian@whatiff.info

WHDLoad Goteks and Gaming

==========
Coding The Elephant's Balloon & Other ... - by: K.P.Koljonnen
==========

Said Rob in July 2024:
"Hi, I was wanting to discuss with you making a simple musicdisk executable. In particular one which uses fastmem replayer, probably also using medplayer.library"

To which I replied:
"I might find myself suddenly bored and do a small program to open an IFF pic and do MED playback"

On the 27th of October there was in fact not an IFF pic viewer with MED playback but something more complicated. From my point of view this evolved into a learning exercise on how to do graphics using just system libraries, as this was not a very familiar territory for me.

As a personal challenge I wanted to keep it running on kickstart 1.3.

I started by opening a 32-color system screen and implementing an IFF picture display mechanism (I had some IFF handling code available from previous projects). I then integrated Teijo's MED playback code and added a right click menu to control the playback.

The menu font was changed to helvetica 9. We did not want a multi-file application so this was a bit tricky. Fonts usually are loaded by diskfont.library from SYS:Fonts. Here I embedded the font data into the executable and manually added it to the system font list to make it available for intuition menus.

A scroller was then added to the bottom of the screen. I decided to try a copper gradient which I had previously attempted only with a custom copperlist and OS disabled.
It took a while to figure out how to use CopperListInit, CBump, CWait, CMove and RethinkDisplay. Dragging the screen down with mouse also moves the copper color gradient.

It was nice to realize the system is doing the heavy lifting for you.

The main screen now has a picture. Maybe after the picture there could be a waveform scope display, that would go nicely with the idea of a music disk.

Some usable scope code was naturally also available (from HippoPlayer) so I started integrating that. I soon realized a few issues:
- A full screen wave scope is not going to run at full frame rate (on A500).
- The display is going to be subject to tearing (ugly).
- The scroller at the bottom is going to not run smoothly anymore (ugggly) and may be overwritten by the scope plotting.

The tearing problem is handled by setting up a double buffered screen. Basic stuff for non-OS coding. How do you do that on a system screen? Turns out kickstart 3.0 and newer has specific support for this. Luckily you can also do that with kickstart 1.3 using ScrollVPort. The idea is to have two screen buffers and select the front buffer with ScrollVPort for display, leaving the other to be the back buffer and used for drawing. Technically what this does is set up the copperlist bitplane pointers which is what would have to be done manually if doing the hardware hacking approach.

This got rid of the tearing. Interestingly there is a large performance difference between kickstart 1.3 and kickstart 3.0 when using ScrollVPort. That is, kickstart 1.3 is much slower, but it works, so let's go with that.

But now a new problem is apparent: the screen title bar flickers. This is because only the other buffer contains the title bar graphics drawn by the OS. Solution: manually copy the screen decorations (with BltBitMap) so that both buffers have them, fixing the flicker.

The full screen multicolor waveform scope now works acceptably but the scroller is jerky. It should be made independent of the main display update cycle. How do I do a proper copper screen split with the OS?

After a while I realized I can stack independent screens on top of each other with a suitable y-offset. The scroller then gets its own, not very tall, screen with no title bar.

This was a fascinating discovery for me.

The OS is alive so the scroller update could perhaps be a separate higher priorty task (ie. thread), but I went with a vertical blanking interrupt as it's simpler to do (I'm lazy). The scroller must not use the blitter as the main display uses it and also it's generally a bad idea to do it from interrupts when the system is alive. By the way, there is a particularly useful instruction available on the MC68000 for scrolling pixels, "roxl.w".

Wave scope and the scroller are now independent and the scroller is smooth. If you drag the main screen down the scroll screen stays in place though. This is a weird hickup and nothing can be done for that on kick1.3. Kick 3.0 allows chaining screens together and the issue can be solved that way.

The rest of the stuff mainly involved implementing various minor graphical effects, using all the available bitplanes, for example to display some additional graphics. There's a lot of palette transitions and cross fading as well, which is doable as there's plenty of colors available.

The only hardware hitting part is in Teijo's MED replay code. The application is not compatible with RTG displays as many effects rely on manipulating bitmap structures and then blitting these to screen. All bitplane manipulations should be done with OS functions only to be RTG compatible.

In general I'd say it was refreshing to do some demo-like coding using just the OS. It's more straight forward as the OS handles a lot of things for you. No need to care about the details you need to consider when hitting the HW.

On the other hand, there is no fine grained control on what is actually happening and the performance is out of your own hands in some sense. I was a little bit surprised how good it was on a 68000 based Amiga, but only with kickstart 3.0 or newer.

On kickstart 1.3 it is not smooth, but it does work, so that's nice :-)

Welcome to voices of the people behind Amiga hardware and software.

```
==============================================================================
-= T A L K I N G * A M I G A  =----------------------------------------------
------------------------------------------------------------------------------

  -= Carsten Jensen: Commodore Manual, Magazine and Books Preservation =-
  If you need to find out of print manuals, magazines and books about
  Commodore computers then www.retro.commodore.eu should be your first port
  of call. We talk to mind behind the preservation website.
  -= Grzegorz Kraszewski: Untangle =-
  Untangle came out recently on the Amiga and is an addictive brain busting
  puzzler, we talk to man behind the Amiga port.
  -= Krzysztof Donat: GoVD =-
  Krzysztof Donat released GoVD in October 2024 and has taken the Amiga
  scene by storm, we talk about him and his new application.
  -= Marcel Maci: FlashMandel `Vamped Edition`  =-
  FlashMandel was originally programmed by Dino Papararo, we talk to Marcel
  who has created a new version taking advantage of the Vampire hardware.

------------------------------------------------------------------------------
          #Talking Amiga - WhatIFF? Issue 3.15 - December 2024#
```

Marcel Maci Interview

==========
Interview: Marcel Maci - FlashMandel VE by Timo Paul
==========

Hello Marcel, thannk you for taking the time for this interview, can you start off by telling us about your-self and how you got involved with the Amiga?

Thank you for having me! My name is Marcel Maci (RedBug on Discord) and I live in Fribourg (Switzerland). I am 51 years old and married. My parents bought me an Amiga 500 for Christmas 1987 (the classic setting with 1 floppy drive, a 1084 monitor and a 9 needle color printer). I never owned another Amiga after that, but when I heard about the Vampire project (and especially the V4 Standalone) I was totally blown away by the idea that a "new Amiga" was coming out more than 30 years after the demise of Commodore and officially "came back to it" in 2019.

1. Currently you are working on FlashMandel `Vamped Edition`, what inspired you to work on a new version?

I think my first contact with Fractals was around 1992. I was very fascinated by those images! I was also fascinated by mathematics and (fast) computers, so I bought (yes, not an Amiga, but) a 486 DX2 50 Mhz (5600.- CHF at the time - I had worked in a super market the entire summer vacation to earn enough money to buy it). There was this (famous) program "Fractint" (for MS-DOS) which was incredibly fast and offered the possibility to explore a lot of different fractals. I also bought a book (Otto Peitgen, Hartmut Jorgens, Dietmar Saupe, "Chaos and Fractals - New Frontiers of Science", almost 900 pages) which explained the theory behind those fractals in a very understandable way. Fortunately, I had a friend who was very good at programming and he helped me a lot to learn (Turbo) Pascal, C(++) and - finally - Assembly. During school (and in-stead of paying attention to the teachers (..)). I was secretly reading "Hardware Reference Manuals" (which allowed us to do crazy things like switching from MS-DOS " real mode" to "protected mode"). This allowed access the entire - and incredible - 16 MB of memory we had at the time. Anyway ... It was fun and it was the first time that I really had the ability to understand how a computer works in depth. After that, I literally never touched assembly again ... But with the Vampire all these memories came back.

The desire to learn "m68k assembly" (which was completely new to me) started with writing two tutorials (mainly about the "SAGA chipset" and 68080 FPU programming) and I used, again, the Mandelbrot as an example). At about the same time I discovered the program FlashMandel and saw that it was not only very well done, but also came with the source code (which, technically, opened the possibility to do a "Vamped Edition").

2. Could you tell us a bit about the history of FlashMandel and how you got involved with it?

I don't know the entire story about FlashMandel, unfortunately. What I know is that the original program (the 68k version) was done by Dino Papararo (between 1996-2001).

Dino wrote to me that he started his very first "fractal experiments" on an Amiga 2000 and in AmigaBASIC (but due to slow speed he then switched to C for the main program and assembly for the core routines). He also did a lot of experiments to make the program faster (the declared goal beeing to write the fastest fractal program on AmigaOS in a system-friendly way). Other people (still mentioned in the "About" requester of the "Vamped Edition" by the way) contributed to these experiments. Later there was also Edgar Schwan (who contributed to the creation of Reaction GUI). In the meantime, there

are different versions of FlashMandel available via Aminet (like FlashMandel WOS, FlashMandel_OS4 and FlashMandelNG) and Dino is still actively developping Flash-Mandel up to this day. All these "downstream versions" share that they start from the original m68k code. In addition to extending the functionality, they make specific optimizations for the platform and processors they run on. My idea was to do the same for the Vampire. In October 2023, Dino published a new version of FlashMandelNG, and this was finally my chance to contact him (before, I didn't have an actual email address) and ask him for permission. Dino was very open and helpful from the beginning so I could finally start to work seriously on the project.

3. What was your vision for the new version of FlashMandel when you first began working on it?

Well, as for every fractal program it should be faster ... ! :) First of all, I must say that the tiling algorithm included by Dino Papararo is already very fast (and it is a very nice and very well done recursive algorithm). But I have always been a big fan of the "boundary trace" algorithm (which, in many cases - not always - is not only faster, but also fascinating to observe). Second, the program should also offer more fractals (like, for example, the "Burning Ship" fractal or "Buddhabrots") and new functionalities (for example true color screens and additional coloring algorithms for these). At the same time, I wanted to preserve backwards compatibility as much as possible. So, the "Vamped Edition" should still run on "classic Amigas" (and even PAL / NTSC screens, although I didn't have the chance to test this much).

4. What were the most significant technical challenges you faced while developing the new version of FlashMandel?

I was very lucky to start with a very clean and well organized codebase that also included a working build system which helped me a lot to get started. Otherwise - and basically coming from my Amiga 500 and AmigaOS 1.3 as previous experience - I think I would never have been able to do it. At a certain point, and as the program was growing, I noticed that the compiling time was getting longer and longer, so that my workflow ("modify-recompile-test", then restart) simply didn't work anymore and I got really frustrated ... The problem was that the program was one big source file that had to be compiled in one block. The solution was, of course, to split it up into different "modules" that could be built separately (and only recompiled if necessary). Doing this was kind of a nightmare ... also because I had added a new functionality here and a new line of code there (so, not in a very organized manner). It took several attempts to reorganize all that, and several times I ended up with a codebase that simply didn't compile anymore. After this hurdle, working on it was a pleasure again. It only got complicated again when I prepared the final release: I wanted the program to be compatible with ApolloOS, but there were different compatibility issues. Also, some users on Discord reported all kinds of problems on their machines. There were also strange "Enforcer hits" on WinUAE. I would never have discovered and solved all that without the help of the community and I think it is really great and I am really thankful that such an "ecosystem" exists around the Vampire!

5. Have there been any major changes or improvements in the new version that users should be excited about?

Yes, of course - in the end this is what it is all about! ;) What I personally like in FMVE is the possility of comparing different algorithms and calculation times. For example you can go from the (really inefficient) brute force algorithm (which may take up to 40 seconds) to the boundary trace algorithm (which sometimes gives you a result in less than a second). Another really cool thing is the Buddhabrot. Let me put it like this: If the Mandelbrot is already a challenging fractal (computationally speaking) you are not even close to the "beast" that the Buddhabrot is ... A Buddhabrot calculation can literally take hours, days or weeks! Just to give you an idea: There is a guy named Benedikt Bitterli (you can easily find him and his articles online) who did some videos with animated 4K

Buddhabrots (imagine the complexity) and he literally fried his computer making the calculations! During my first experiments with the Buddhabrot on the Vampire I typically let it run during the night. Even after 12, 14 or 24 hours the results weren't really great.

Reading more about possible optimizations, I finally succeeded reducing it down to taking minutes (for the main view, zooms take longer ... :). I think that this is amazing for a computer that is <100 Mhz! Other great improvements of FMVE are new fractals (e.g. BurningShip or Multibrots), more configurable parameters and truecolor screens with new algorithms for smooth coloring.

6. Were there any specific areas of optimization you focused on to improve performance or image quality?

Yes. Apart from very efficient algorithms (which is always the first thing a programmer should start with ;)) FMVE uses a series of technical, vampire specific optimizations. For example: 3-operand-instructions (fmul fp0,fp0, fp1 instead of fmove fp0,fp1 plus fmul fp0,fp1 - to save 1 instruction). Or: The use of extra registers (especially extra floating point e-registers e0-e23).

It also uses the fact that the Vampire can execute several instructions in parallel when the instructions are scheduled correctly (this way the tiling algorithm, for example, can actually calculate 4 Mandelbrot points in parallel which makes it very efficient). There are other "classic" optimizations that have been done (like write directly to screen buffer instead of using the system drawing functions).

These optimizations potentially interfere with "system-friendly" programming but I think FMVE can now very cleverly turn such optimizations on or off when necessary ... :)

7. Can you walk us through the development process of the new version of FlashMandel?

It was an incremental process that started in autumn 2023 and took until September 2024 (release version 24.9 R2). It could have taken longer of course, because such a program is basically "never finished" (because there is literally an endless number of features that could be added). I worked on it a bit "on and off" during this year whenever I had some free time. I had to interrupt that for a longer period in spring because my wife and I moved to the "Basse" (the old town of Fribourg) and as you can imagine, during that time I had "other fish to fry" (paintings and renovation works for example).

Around summer, to focus on a concrete goal and get a "release" done, I started separating "must have" and "nice-to-have" functionalities. During all this time, I quite regularly posted new versions on Discord and/or sent updates to Dino. Towards the end (i.e. shortly before the release) I had the chance to utilize some "overtime" I had accumulated at work, so that I could dedicate more or less an entire week to finish the program (which was very good and almost necessary).

8. What tools or development environments did you use to work on this project?

The tools involved were: SAS/C (C compiler), VASM (assembler that supports all the new instructions for the 68080), Annotate (an open source editor with a customized file for syntax highlighting) and some minor tools (like build scripts, LHA and a samba share for backups). I must say that I am a big fan of native development (directly on the Vampire, because this is what we buy them for I think;) and - coming from Linux - I do most of the things on the command line. Even though, as I already said, the final goal was to run FlashMandel on ApolloOS (I, by the way, totally support the open source approach of the ApolloTeam here), I used AmigaOS (actually a customized Coffin) for convenience. My point here is that when I have time

to program, I want to be able to start right away and not lose time setting up and configuring a system (in addition I am not really good at partitioning harddrives and such ... :).

9. Did you collaborate with any other developers, designers, or the Amiga community during the development?

Yes. From time to time I sent updates to Dino (both FlashMandelNG and FlashMandelVE are on Github by the way). I also included one of his coloring algorithms (while he integrated the boundary trace algorithm into Flash-MandelNG). Apart from that, the most important collaboration (especially for vampire-specific things) came from the Discord community. I didn't count all the intermediate versions I posted there, and many users tested them on their machines and gave their feedback about it. There was an incredible number of bugs that were discovered, reported and fixed thanks to their feedback!

10. How has the Amiga community responded to the new version of FlashMandel so far?

Based on the "thumbs up" and "smileys with hearts" I got on Discord (especially when I posted new images that, by the way, have been included in the final release), I'd say that the feedback was really positive! This being said: Fractals is kind of "nerd stuff". I don't think people come home from work thinking: "Oh well, tonight, I think, I am going to calculate some real nice fractals ... !" :). The average user is probably more interested in games - and that's perfectly ok!

11. What are your future plans for FlashMandel? Do you see more updates coming?

For the moment I have no future plans for FMVE (and I mean what I say:). I may do more work on it some time in the future, because there are some really nice ideas that I excluded from this release and that would be really nice to implement. Just to give you one example: FlashMandel could do "distributed computing", e.g. there would be different "nodes" in a network that each would calculate a part of the image (due to the fact that fractals, most of the time, are very easily "parallelizable"). We could then do a nice demo that shows "real time zoom" through different types of fractals at probably full resolution by using a "Vampire farm" ... ;)

12. Is there anything you wish you had more time or resources to explore in the development of FlashMandel?

Yes and no. I mean: Yes, it would be cool to continue work on FMVE (and have more time for it). But no: I don't want to spend all of my free time on programs like FlashMandel and fractals to be honest. Before I started to work on FlashMandel my goal last year was to do more to support the Apollo Team. The point is that over the years, I have had the chance to meet different members of the group at events like the OufParty or Amiga38 (in Germany, actually the first time I went to such a big Amiga meeting). At one point I was asked if I wanted to participate in writing a commodity to enable scroll wheel support on the Vampire. I must say that it has been a true pleasure to work with Gunnar and other members of the Team, so I actually wanted to continue there. Just that FlashMandel somehow got "in the middle" ... But that's the reason why I said that I don't plan any other release for FMVE (at least not for the moment), because I really wanted to have time for other things!

13. What drew you to programming and development in the first place? Was it related to your love for the Amiga platform?

It was not really Amiga. On the Amiga I only programmed in AmigaBASIC (which actually was a very nice BASIC dialect, but - of course - slow). I remember that on my Amiga 500 I had some floppy disks with a C compiler and even an assembler. I actually gave it several tries, but the thing is: If you don't have someone who helps you to get over the first, most difficult hurdles,

you simply are lost and quickly lose interest! For me, the "declick" in programming really came with the 486 DX2 50 Mhz I mentioned earlier:
It was this friend of mine who introduced me to C, Pascal and Assembler (otherwise, I am quite sure, I wouldn't have gone beyond BASIC). After that, once you have understood how it works, you can learn (almost) any other programming language by yourself. Later there was Linux (which I discovered from 1997 on, if my memories are correct) and I must say that open source software is a great way to learn! At that time, the "distributions" came with very good manuals (in paper form!) and they explained (actually very complicated) stuff in a very comprehensive way. And that's how I have learned everything about computers ever since ... By reading manuals and "asking around" (and the Discord community I mentioned is very helpful and supportive with this).

14. Do you have any favorite Amiga memories or experiences that have influenced your work on FlashMandel?

I have many great Amiga memories (especially games and music), but having been absent from Amiga for more than ... 30 (!) years, all the knowledge that went into FlashMandel really is less than 5 years old.

15. What other projects or interests are you working on or passionate about outside of FlashMandel?

Well, I have my private life with my wife (we adore going to the mountains or travel by bike for example), the house with our garden, our cat ... It's also nice to go out with friends to have dinner somewhere with a good bottle of wine or some beers, or to go to a concert. I still love vinyl records and metal bands, by the way, so I think I am kind of a lost soul and definitely stuck in the '80s ... :). I also have my everyday job that I radically changed at around 40 and that I simply adore (I have been working as a train driver for more than 12 years now and I really think that this is the best job I ever had in my life).

16. Thank you for your time, do you have any final words before we finish?

Thanks again for your interest and for editing a magazine like WhatIFF?. I think it is really important to have such a magazine and even better that it comes in the AmigaGuide format! :)

Grzegorz Interview

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Interview: Grzegorz Kraszewski - Untangle by Timo Paul
==========

1. Hello Grzegorz, thank you for agreeing to this interview, to start off can you tell us a little about yourself?

Well, I'm 52 years old, married, two children. I'm an electronic engineer by education (got MSc in electronics). I live in Bialystok in north-east Poland.

My first computer was of course... Atari ;-), 65XE model namely. After two years of using it I decided to move to the 16-bit world, and my first choice was Atari ST. However my two schoolmates invited me to play a bit with their computers: a 80286 PC with Hercules graphics versus Amiga 1200. After that I had dropped the idea of buying an Atari ST, Amiga became my dream. PC was out of the question.

I could not afford Amiga 1200 those days, but managed to buy an Amiga 500. I Upgraded to an A1200 three years later.

The highest spec Amiga I've ever used was really a beast. It was Amiga 4000 with CyberStormPPC card (68060@50 + PPC604e@233, 128 MB RAM), UW-SCSI hard disk, Prometheus PCI bridge, Voodoo 3 graphics. Not owned by me however. I got it to develop and test the Prometheus bridge itself. Which stays the most advanced electronic design in my life.

2. You are from Poland, recently there have been many Amiga projects originating from there, has the Amiga always been popular in Poland?

Not from the start. Official export of Amiga (being a 16-bit computer, so high tech) to Poland has been prohibited by COCOM organization, to protect western high tech against being exported to the Soviet Union and its satellites. People bypassed this ban by buying Amigas in West Berlin and smuggling them to Poland. That is why a lot of Amiga 500 computers in Poland have German keyboard layout, while we used (and still use) US layout mostly.

COCOM ban has been lifted in 1988 or so, but still Poland has been a poor country and Amiga was very expensive. I could afford my first Amiga, a second hand A500, in 1994 after working the whole summer holidays as a construction worker. In spite of Commodore bankruptcy Amiga was very popular in Poland until about 1997, then young people started to switch to PC for better games.

After 2000, similarly to the rest of the world, only diehards stayed with Amiga. Polish Amiga community was relatively large, well organized and very social. The internet helped to keep it alive (IRC channels, websites). One of Amiga portals, ppa.pl, has been founded in 2001 and is still the central point for the community.

3. What attracted you to the Amiga and what drives you to create software for a soon to be 40 year old computer?

The answer is not very original: graphics and sound capabilities. When I brought my newly bought Amiga 500 home, the first program I have loaded (and spent the whole night with it, until 4:00 AM) was ProTracker. I had plans to became a demoscene musican and composed a few modules. But soon programming took over and I started to discover the operating system, which later fascinated me.

In my opinion AmigaOS (especially in 3.x version) is at the same time sophisticated enough to write useful software, yet simple enough to have a

good understanding of it and all its components. Current mainstream operating systems start to be victims of their own complexity.

4. In September of this year, you released Untangle, can you explain a bit about it?

Untangle is a simple, yet addictive logic puzzle. It is not my original idea of course, similar games exist on all the popular operating systems. The puzzle consists of a set of dots connected by lines. Dots can be dragged with mouse. At the start of each level many lines intersects. The goal of the game is to move dots to eliminate all the intersections of lines. Each next level has more dots and more lines.

5. Have you developed other Amiga games or software prior to Untangle?

A lot. My first Amiga program has been written in 1995, as far as I remember. Unfortunately neither executable file nor source code have been preserved. It was a tool for calculating "wormholes" in the Frontier game. Then I have released a few small utilities as a member of BlaBla group. The group was unusual on the Amiga scene, as it only released system friendly utilities and tools, no games or scene demos. We had an internal bulletin in AmigaGuide, in which we tested and revieved each other programs and published articles on Amiga OS programming.

In 2003 I went the MorphOS way and joined the MorphOS Team. My main contribution to MorphOS is Reggae - multimedia processing system, which can be described as "next gen datatypes". I also have written multiple small utilities, many of them using Reggae, but not all of them.

While still in MorphOS Team (I left in 2015) I have been contracted to write DigiBooster 3 - a multichannel music tracker. Then I had a few years of pause in writing Amiga software, and have started (in the year 2017) RastPort, an one-man business, which produces hardware accessories for Amiga computers.

But programming is like an addiction, a good one. So I started writing programs for the classic Amiga again. My first release was my first Amiga program written in C++, MorsConv, which is a Morse code generator. The next one is Untangle.

6. What inspired you to create Untangle?

I like to have a few logic games on my phone, to play while waiting for a bus, or when I need a short break at work. One of games I have played was Untangle. I liked it and realized that Amiga has enough computing power to handle this type of game, so probably someone has programmed it already. To my surprise I have found no game of this kind on Amiga. So I have written one. As a fan of system friendly programming I made it to run in a window on Workbench.

7. It is somewhat rare to see modern Amiga games that run on a Workbench screen, why did you choose to go this route?

With its minimalistic graphics Untangle fits the Workbench screen without degrading user experience. It even looks better in higher resolutions, while graphics drawing speed is not critical. Most "usual" games run in 320 x 256 to achieve high frame rate. Untangle has been tested in highres AGA modes like HighGfx (1024 x 768) and Xtreme (1280 x 1024) and it still works great.

Another advantage of using the system to draw graphics is that I can support graphics cards without writing a single line of code specific to RTG. I do not explicitly use Picasso96 or CyberGraphX functions and the game just works. Not only on classic Amiga, but also on AmigaOS 4 and MorphOS. Out of the box.

8. How was the game developed, did you do it on an Amiga?

Untangle has been developed entirely on Amiga, but often on emulated one. My workplace at home is very constrained, so I cannot keep my A1200 on the desk permanently. This is why I often use AmiBerry on my Linux PC. Emulator speed is another reason. My A1200 has only 68020 @ 28 MHz, GCC compiler is not very fast on such configuration. The third reason for using an emulator is possibility to test programs on different configurations.

I know that most of people coding for Amiga nowadays use cross-compilers and modern editors like VSCode. I prefer to use native Amiga tools (my choice is GCC 2.95.3 compiler and Redit 2.0 editor).

9. What difficulties/hurdles did you have when creating the game?

The most time consuming task was to create game levels. It may seem easy, there is no graphics to draw, just a few dots and lines. Hoever not every random set of dots and lines is solvable. They have to constitute a planar graph. Verifying planarity of a graph or generating graphs which are always planar, are not trivial tasks, and a few PhD dissertations have been written on the subject.

Another difficult thing was optimization of algorithm, which detects level completion. One has to count all the intersections of lines. If there is none, the level is solved. The test has to be done after each move. A single test for a pair of lines requires 8 multiplications and some additions. Sounds easy, but if there are 100 lines in a level, full test takes 80 000 multiplications. At the first glance.

A simple observation that if some line A intersects with line B, it also means that B intersects with A, halves the amount of computations. Another obvious thing is to skip the test for a line intersecting with itself. However the major trick is to calculate the full intersection matrix once, after loading the level. Then, after each move, only lines that have been moved are tested and the matrix is updated.

10. The community reaction has been very positive, are there any plans for updates or changes to the game?

An obvious update is to add more levels. Localization of the game (using the system 'locale.library') is planned. I also think about adding some short animated effect between levels.

11. Beyond Untangle, do you have plans for other projects or games for the Amiga?

Sure I do. I have a working engine for Unicode bitmap fonts and I want to write a text editor using it and working in Unicode. I have also invented a new programming language for Amiga, but I'm afraid I will never complete it. It is also possible that I will design some new hardware products for RastPort.

12. Since we are getting close to the end of the year, what things in the Amiga scene have you enjoyed in 2024 and what are you looking forward to in 2025?

For me the most interesting thing in the Amiga scene is the process of development of AmigaOS 3.2 system. I hope it will be continued in 2025 and we will see 3.3 release.

Thank you for taking the time to answer my questions and for creating such an enjoyable game.

Krzysztof Interview

==========
Interview: Krzysztof Donat - GoVD by Timo Paul
==========

1. Hello Krzysztof, thank you for taking the time for this interview, to start with can you tell us a little about yourself?

My name is Krzysztof (Chris), Im 43 years old, and I live in Poland. Im a software engineer by profession, and my entire career20 years nowhas revolved around designing, developing, and maintaining applications. I currently work in IT for one of Polands telecom companies. Im also a husband, a father to a teenage son, and I have a cat :) In my free time, I like rewatching The Office, cycling, and waiting for the Polish national football team to win the World Cup (and yes, I know it`ll be a long wait..).

And of course, I also create software for the Amiga!

2. How did you get started with the Amiga?

My journey with the Amiga started relatively late, around 1995. By that time ,Commodore had long gone bankrupt, and people were starting to move away from the platform. Thats when I got my first computer, my dream Amiga, well, almost! I had been dreaming of an A1200, but I received an A600 instead. I immediately installed a hard drive, and for a long time, it was my only Amiga. After a brief period of playing every game I could get my hands on, I ordered shareware disks from the Polish edition of Amiga Magazine, which included AsmONE and AmigaE. The Amiga taught me how to program, and I wrote tons of different programssome better, some worse. Unfortunately, none of them have survived from that time. But I still have my first Amiga, and it remains my favorite in my collection!

3. Prior to programming on the Amiga did you work on other computers?

As I mentioned earlier, the Amiga was my first computer, and its where I learned how to program. It wasn`t an easy journeyback then, I didnt have access to the internet, and programming literature, especially about 68k assembly and my favorite language, AmigaE, was hard to come by in Poland. After some time, I also picked up C, which I also learned on the Amiga.

4. Recently you released GoVD, can you explain what it is and what it does?

GoVD is an application that introduces a feature well-known from other systems to AmigaOS: virtual desktops. Virtual desktops are different from the familiar draggable screens of the Amiga, and they certainly dont replace them. GoVD`s virtual screens work exclusively on the Workbench screen and help users better organize their workspace. You can have up to 8 different desktops, each with its own set of windows. No more hunting for the window you need buried under several others.

Plus, virtual screens dont require any CHIP memory at all!

5. What inspired you to create GoVD?

That's a tough question. Whenever I feel the urge to program something for the Amiga, I always want it to be something new, something that hasnt been done before. Its a very difficult goal to achieve because sometimes it feels like everything is already on Aminet. Usually, I come up with a brilliant idea, but after a few minutes of searching Aminet, I discover that someone else already thought of itand most often, they did it 30 years ago!

Thats how about 90% of my 'groundbreaking' ideas end. Additionally, I dont have a lot of time to dedicate to the Amiga, so I tend to choose projects that, aside from being original, have a real chance of being finished and released as a quality product.

6. What software did you use to develop GoVD?

All of the programs Ive developed in recent years have been written in AmigaE. At first, I used the original AmigaE 3.3 compiler, which was uploaded to Aminet by the creator of the language, Wouter van Oortmerssen. But a few years ago, an incredible developer named Darren Coles entered the AmigaE scene, and he has done an amazing job continuing the development of E by creating the E-VO compiler. Thanks to Darren, we now not only have new versions of the compiler but also updated system modules for OS 3.2 and the ReBuild program, which helps build GUIs using ReAction. Without Darren and his hard work, I believe GoVD wouldnt have been released in the form it reached the users.

7. Are there any features that you wish to add in the future?

As for the development of GoVD, there are definitely a few ideas, most of which have been suggested by the users themselves. First and foremost, I plan to add support for switching between screens using keyboard shortcuts, for example, Ctrl + [screen number]. Another idea waiting to be implemented is the automatic hiding of the screen menu, with it reappearing when the user returns with the mouse cursor. I also have a few smaller improvements in mind, and one feature that users from around the world are asking forGoVD in their native languages. So, Ill likely add support for Amiga's localization system as well.

8. Do you have plans for other software?

Yes, Im thinking about a few new programs for the Amiga. One idea is an application for managing icons, something similar to GoADF, where users could easily browse and edit Amiga icons. Another idea is a project I`ve tentatively called AmiF.lux, a program inspired by the popular f.lux software on other platforms. Time will tell if any of these ideas will come to life, or maybe Ill end up working on something completely different!

9. How has Workbench 3.2 made it easier to develop software?

Every new feature in the system opens up new possibilities for developers. New functions or even a single tag can make things much easier, faster, or even make something possible that wasnt before. For example, the idea for GoVD came to me several years ago, but after a few attempts, I had to abandon it, I couldn`t find a way to bring the concept of virtual desktops to the Amiga with OS 3.1. It wasn`t until the new ShowWindow() and HideWindow() functions were introduced in intuition.library version 46 (OS 3.1.4) that I was finally able to bring this idea to life.

10. You have developed other utilities for the Amiga such as GoADF! and RAD Manager, which one are you most proud of?

I like all of my programs, but GoADF and GoShell are definitely my favorites. GoADF is a project I`ve dedicated a lot of time to, and its the one Im most proud of. The feedback from the community has been amazing as well, and I want to thank everyone for that! On the other hand, GoShell is the application I use most often personally. I added even the option to open GoShell in the background, behind other screens. Now it launches on every Amiga I use, giving me instant access to a full-screen Shell. I recommend it to everyone!

11. Thank you for your answers, before we finish do you have any final words or comments?

I`d like to thank the users of my programs for all the feedback they send me. Its really important to me because it shows that my software is alive

and well on Amigas around the world, and it motivates me to keep working. I also want to thank everyone for the support they`ve shown through PayPal. This allows me to continue pursuing my Amiga passion, as every cent from donations goes right back to Amiga software publishers and hardware producers. And finally, a big thanks to the AmigaOS 3.x development team, without whose hard work GoVD wouldnt exist!

Carsten Jensen Interview

==========
Interview: Carsten Jensen - www.retro-commodore.eu by Timo Paul
==========

1. Carsten, thank you for taking the time to join us today. Could you provide a brief overview of your background and what sparked your interest in the Amiga?

Thank you Timo, pleasure to help the community and keeping our hobby alive.

I was rather late in acquiring my first computer - the Pong machine set aside, I got my C64 in '89.

The choice was a C64 or an Amiga 500, and I went with the C64 as most of my friends had a C64 giving me easier access to "borrow" software. It was only a few years later I got my A500. This was after having studied every possible pixel of the adverts on the back of some magazines and read all the technical specifications I could get my hands on on the Amiga 500. I could do look at those adverts for hours sitting on the backseat in my parents car driving many kilometers, you have, or should I say _had_ plenty of time looking at those still images, imagining how it would be like to own such a magnificent piece of electronics.

The youth now a days don't know what we're talking about.

I still remember the advert, showcasing a blue pillow on top and an A500 below, with each a pricetag on them.

And the line: Dreams are for free, stop dreaming, Amiga 500 ca. 5000,- (Danish Crowns)

As we know, the Amiga was superior to the C64, but I ended up in having both setup ready to use. I used the Amiga for games and demos and many hours were spent here, I had a 16" TV with scart, but only mono loudspeaker. The picture was nice crisp using the scart cable - I did have a TV tuner in the beginning, it was cheaper than a scart cable.

With the C64 I was somewhat involved in the scene as a swapper, made some graphics and discmag editor, nothing really to talk about, but it was great fun.

2. What ignited your passion for the Amiga platform and prompted you to delve deeper into its world?

For years the word Amiga was all around, as kids we saw the adverts, we watched the marvelous monster through large store windows. So even before we could even touch it, we already knew what it could do.

Finally getting my hands on one, this one was a late model, with kickstart 1.3, green power led and yellow drive access led, and not to forget a switchmode power supple which weighed nothing compared to the older model, I had the oppertunity to see what it could do, with friends whom also got their A500 around the same time as me, we had somewhat good access to test the game of x-copy and what it could do, filling out those boxes with all green zeroes, who needs tetris?

Watching demos was a mixed experience.. once you've watched the first demo with vector boxes spinning around, and starry background, some parts looked like cracktros, kinda old news. After a while (might be just a short time and the amount of demos/parts might be very few - my memory is a little fuzzy) really cool demo's were received, watched, enjoyed, and rewatched.

I still enjoy watching them to this day. Some I think are worth mentioning are Kefrens - Desert Dream, Spaceballs - State of the art, Budbrain - Megademo(s), Phenomena - Enigma, Crionics & The Silents - Hardwired. Just because I think they are very good entertainment visual and audiowise.

3. Your website, www.retro-commodore.eu, stands as a significant resource for enthusiasts. Can you share the inspiration behind its creation and its primary objectives?

I guess it started way back to my C64 days, before I got my Amiga. There were some really nice RPG games, the SSI gold box series, and Dragon Wars. To be able to play these games you needed the manuals, as there are references in the games to the manuals. Not having these manuals made the games very hard to complete.

I never did manage to complete Dragon Wars, though I have both the Amiga and C64 versions on the shelf now. One of these days, I'll find some time to play and complete them.. I hope. Anyway, through time I wanted to complete playing the goldbox series on pc rather than C64/Amiga, and stumbled upon scans of the manuals, they had shadows near the spine, some text was difficult to read, and in general just bad scans... back late 90's early 2000's 300dpi was way too big, 72dpi was more than enough for the screen, or so they saying went.

Becoming a member of DDHF (datamuseum.dk) in around 2011 granted me later access to a document scanner, and with a huge manual for Red Storm Rising in hand, it kickstarted my career in scanning. Many hours spent scanning, and looking in the back mirror, waste of time. I scanned in 300dpi and in jpg. To my defence, I didn't know better.

Collaborating with TCD and DH from EAB through a newly started news website (Commodore is Awesome), I quickly learned jpg is no go, and only to use lossless formats.

While I only intended to scan physical game items, the danish Commodore community started blooming, and my local network spread. Getting feedback and getting access to more hardcopy I quickly expanded what I wanted to scan.

Basically anything that can lie on top of a scanner, as long as it says Commodore.

Being part of DDHF granted me access to quite some interesting and rare things.

4. Digitizing physical copies can pose challenges. Can you shed light on the hurdles you've encountered in sourcing and converting these materials?

The hunt for a series of danish Commodore computer magazines (COMputer / Det Nye COMputer) has been a long travel. It has taken me years to collect up to where Commodore ends and the magazine is only PC. I've bought a lot, but also received a lot as donation as well. In my early scanning years, I was afraid that getting my hands on complete sets would be impossible. But peoples urges to come back to retro computing, or cleaning out their attic proved me wrong.

The worst challenge of scanning is when the item has a glued spine. You just can't take out the staples and run each page through a document scanner. So it's either to cut them up, or spend several hours scanning a single book. It's a painful choice, in the end it comes down to rarity and accessability.

5. When it comes to scanning, do you handle the process independently or collaborate with others?

For most, I scan myself. I have had a couple of people helping out post scanning. It also happens from time to time that some people want to donate,

and through a small interview I find thay have access to a scanner, I let them do the scanning and send me the files.

6. Your website offers updated and colour-corrected materials. Are there any plans in the pipeline for physical reprints of these resources?

I have thought about it, and the goal with the items is to have them as clean as possible to print. As far as I know there are services out there that can do that for you. The work would be time consuming, and TBH I'd rather spend my time on scanning more, thus preserving.

7. With your site covering both the C64 and Amiga, which platform do you find offers the richest trove of information and resources?

Tough question, looking at the amount of books I've scanned C64 wins, but for manuals Amiga has a larger section. The collection of Service Manuals and like is much larger for Amiga than C64.

8. Navigating through the vast amount of information available can be overwhelming. How do you approach curating and presenting content on your platform?

As long as it can be tied to Commodore, there is almost no filter for what is put online. I do even have Warranty cards scanned, though not released (yet). I have some papermagazines, made my children and most likely not distributed to more than their closest friends, which have a very low priority, but someone spent quite some time on them, why shouldn't they get the same treatment as any other magazine?

9. The CF Rescue disk for the A600 and A1200, what drove you to develop this disk?

Those disks, as far as I remember there were a few versions, were made to help people who'd just dug up their A1200, and wanting a way to transfer data to/from PC using the CF card. A typical question would be "how do I copy an adf file to disk, my OS3.x set has read errors". The idea was to get a person up running with little resources.

I did use it quite a lot in the beginning. Later I found it easier to just install using WinUAE. I can't remember if WinUAE could access drives directly at that time.

10. Currently compatible with Kickstart 3.1 systems, are there any intentions to update the disk for compatibility with OS3.2?

I haven't really thought about the disk in years, if it isn't compatible with OS3.2 I may take a look at it to see what can be done. If anyone has used it in the past 10 years, I'd be happy to know.

11. In addition to preservation efforts, you've contributed to the DIY Open Source community. Can you highlight some of the projects you've initiated or released?

Everything found on the DIY Open Source page has been initiated and released. Some of my older projects were made in the free version of Eagle, luckily KiCAD has been able to import that format for quite a while.

I've made quite a few smaller things, mostly electronics, but also a few 3D printable items, of the later I'm quite fond of the IEC Host case. Luigi Di Fraia even links to that project in thingiverse.

12. Thank you for your answers, before we finish, is there anything you would like to say or add to the interview?

I'd like to thank everyone who has contributed/helped one way or another to the website. I'd also like to make a shoutout to anyone else who contributes to our community, spending their free time and making their products

available to the rest of us. There are way too many names to mention, but if you've coded, written articles, repaired, created anything, you are one to mention here.

And thank you to you, the reader, without you, our community wouldn't be as large as it is, and it's just nice to talk to someone who doesn't look strangely at you and thinks.. Old computers? you're insane!

As a final note in the name of preservation, a very special thank you to Dave McMurtrie from the Commodore International Historical Society on Facebook. He has created a group with the aim of gathering and publicize information about Commodore.

Not only has he done so, he's managed to gather quite a few known names, some with a title of ex-Commodore employees.

advertisements

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-= A D V E R T I S E M E N T S =-----------------------------------------
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            |    Retro8Bit Heaven!                             *
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-= L I N K S =-------------------------------------------------------------
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        <a href="https://www.amiganews.net/en/">https://www.amiganews.net/en/</a>

        One of the most up to date and comprehensive sources for
        Amiga news from around the globe.



        English Amiga Board, the majority of the users are from
        Europe, a very friendly and helpful Amiga forum.

        <a href="https://www.exxoshost.co.uk">https://www.exxoshost.co.uk</a>

        The resource if you need help or information about the
        new Terrible Fire cards.

        <a href="https://www.amibay.com">https://www.amibay.com</a>

        A great place for buying and selling Amiga hardware,
        they also have some very nice people to give advice about.
        Of recent it has become very hard to register on the
        website since their server migration.

        <a href="https://www.amiga.org">https://www.amiga.org</a>

        Probably the longest running Amiga forum on the world
        wide web, most American Amiga users are on this board.

        <a href="https://www.amigaworld.net">https://www.amigaworld.net</a>

        Another large Amiga website covering all Amigas, includes
        news, discussions and classifieds.

        <a href="https://www.amigans.net">https://www.amigans.net</a>

        English Amiga website covering next generation, emulation
        and classic Amigas.

        <a href="https://www.amigafuture.de">https://www.amigafuture.de</a>

        The longest running Amiga print magazine, issues are
        available in English and German.

        <a href="https://www.amiga-addict.com">https://www.amiga-addict.com</a>

        Newest English Amiga print magazine, if you are missing
        the likes of Amiga Power and Amiga Format, then this is
        the magazine for you.



        Commodore and Amiga print magazine avilable in English
        and Polish. Lots of games content.

        <a href="https://mancave-ramblings.blogspot.com">https://mancave-ramblings.blogspot.com</

        Our own John Scolieri's personal website.
    ==================================================================
        If you have a link that you would like added to list
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contact: submissions@whatiff.info

Welcome to the Amiga vendors section!

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-= A M I G A * V E N D O R * L I N K S =-----------------------------------
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Alinea
https://www.amiga-shop.net

openurl
Amedia Computers

http://amiga68k.com
Amiga 68k

https://amigakit.amiga.store
Amigakit

http://amiga1.com
Amiga MC1

https://www.amigashop.org
Amiga Shop

https://amigastore.eu
AmigastoreEU

http://amigaonthelake.com
Amiga on the Lake

<a href="https://www.arananet.net/pedidos">https://www.arananet.net/pedid
Arananet Retro Products

https://www.arcadeshopper.com
Arcade Shopper

http://buy.elbox.com
BuyElbox

https://electronicsisfun.com
Electronics Is Fun

http://www.ggsdata.se
GGS Data

https://shop.myamigashop.com
My Amiga Shop

http://www.relec.ch/fr
Relec

https://retroami.com.pl
RetroAMI

<a href="https://www.retropassion.co.uk">https://www.retropassion.co.uk</
Retro Passion

https://retroready.one
Retro Ready

https://www.sellmyretro.com
Sell My Retro

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                        <a href="https://retrorewind.ca">https://retrorewind.ca</a>
                        Retro Rewind

                        <a href="https://sordan.ie">https://sordan.ie</a>
                        Sordan

                        <a href="https://www.tindie.com">https://www.tindie.com</a>
                        Tindie

                        <a href="https://www.vesalia.de">https://www.vesalia.de</a>
                        Vesalia
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#Amiga Vendor Links - WhatIFF? Issue 3.15 - December 2024#

Welcome to the Amiga Groups section!

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          United Kingdom United States Canada Germany Sweden
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          France Belgium Czech Republic Denmark Finland
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          Australia Russia Ireland Scotland Malta Japan
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                         #Amiga Group Links - WhatIFF?#
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uk

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Amiga Group Links
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        United Kingdom

        Amiga North Thame
        http://www.amiganorththames.co.uk/

        Birmingham Amiga Group
        https://www.facebook.com/groups/BhamAmigaGroup/

        LINCS Amiga Group (LAG)
        http://lincsamiga.org.uk/

        Norwich Amiga Group
        https://norwichamigagroup.co.uk/

        North West Amiga User Group
        http://www.bambi-amiga.co.uk/spudmiga/nwag/index.html

        South West Amiga Group
        http://www.southwestamiga.org.uk/

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usa

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Amiga Group Links
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        USA

        Sacramento Amiga Computer Club
        http://www.sacc.org/

        Central Texas Amiga Computer Society
        http://main.org/ctacs

        Central New York Amiga Computing Enthusiasts
        https://www.meetup.com/CNY-Amiga-Computing-Enthusiasts

        Central Texas Commodore Users Group
        https://www.meetup.com/Central-Texas-Commodore-Users-Group/

        Metroplex Commodore Computer Club
        http://www.amigamccc.org/

        Southern California Commodore and Amiga Network
        http://www.portcommodore.com/dokuwiki/doku.php?id=sccan:start

        Fresno Commodore User Group
        http://www.dickestel.com/fcug.htm

        Westchester Amiga User Group
        http://www.westchesteramigausergroup.org/

        Amiga Computer Users Long Island
        https://www.facebook.com/groups/202303702519

        Southeast Amiga User Group
        https://www.facebook.com/groups/SoutheastAmigaUserGroup/

        Stamford Peterborough Amiga Group
        https://www.facebook.com/groups/spaguk

        The Other Group of Amigoids
        http://togausergroup.org/

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canada

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Amiga Group Links
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        Canada

        Amiga Computer Users of Edmonton
        http://www.amicue.org

        Amiga Users of Calgary
        http://www.amuc.ab.ca

        Toronto PET Users Group (TPUG)
        http://www.tpug.ca
        * Started in 1979, TPUG is also the operator of the annual World
          of Commodore computer show.

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           #Amiga Group Links - WhatIFF?#
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germany

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Amiga Group Links
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        Germany

        AUCB Treffen
        http://www.amigaclub-bautzen.de/

        Amiga Club Munster
        http://acmuenster.de/

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sweden

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Amiga Group Links
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        Sweden

        Swedish User Group of Amiga
        http://suga.se/

        Amiga Computer Group
        http://www.amiga-cg.se/

        Syntax Society
        http://www.syntaxsociety.se/

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france

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Amiga Group Links
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        France
        Triple
        http://www.triplea.fr/

        AFLE
        http://afle.free.fr/

        AmigaPower
        http://www.amigapower.net/

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belgium

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Amiga Group Links
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        Belgium

        Belgian Amiga Club http://www.amigaclub.be/

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czech

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Amiga Group Links
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        Czech Republic

        Luky & Amiga Klub Forever + Czech PowerPC User Group
        http://powerpc.lukysoft.cz

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           #Amiga Group Links - WhatIFF?#
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denmark

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Amiga Group Links
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        Denmark

        Amiga Club Denmark
        http://www.amigaclubdanmark.dk/

        Danish Amiga User Group
        https://www.facebook.com/groups/101927439851660
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finland

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Amiga Group Links
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        Finland

        Finnish Amiga Users Group
        http://saku.amigafin.org/

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australia

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Amiga Group Links
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        Australia

        Sydney Amiga Users Group
        http://www.saug.org.au

        Amiga Users Group
        https://www.amiga.net.au/

        MAUG
        https://www.facebook.com/groups/MAUGr/

        Perth Amiga User Group (PAUG)
        https://www.facebook.com/groups/perthamigausergroup/

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           #Amiga Group Links - WhatIFF?#
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russia

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==============================================================================
Amiga Group Links
==============================================================================

        Russia

        Amiga Information Center (AIC)
        http://amiga.org.ru

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           #Amiga Group Links - WhatIFF?#
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ireland

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==============================================================================
Amiga Group Links
==============================================================================

        Ireland

        Amiga Ireland Meetup
        https://www.facebook.com/groups/amigaireland

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           #Amiga Group Links - WhatIFF?#
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scotland

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==============================================================================
Amiga Group Links
==============================================================================

        Scotland

        Scottish Amiga User Group
        https://www.facebook.com/groups/626138110921245

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           #Amiga Group Links - WhatIFF?#
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malta

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==============================================================================
Amiga Group Links
==============================================================================

        Malta

        Amiga Malta
        https://www.facebook.com/groups/amigamalta

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           #Amiga Group Links - WhatIFF?#
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japan

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==============================================================================
Amiga Group Links
==============================================================================

        Japan

        Commodore / Amiga Fan Club Japan
        http://cfc.amiga.co.jp/

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           #Amiga Group Links - WhatIFF?#
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#Amiga Group Links - WhatIFF? Issue 3.15 - December 2024#

Invents Corner

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December 2024 * I N V E N T S / C O R N E R =- by Kevin Saunders
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Cover Disk Number 4

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==============================================================================
-= December 2024 Cover Disk Contents =-------------------------------------
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This issue's cover disk contains the demo file and code for the programming Blitz Basic programming tutorial which includes and excluse track by Andy himself from back in the day. In addition we have the new album from Mr Robot or also known as Rob O'Malley.

As usual, we have a playlist of music for your listening pleasure with tracks from the following artists:

Rockbagen by DJ METUNE
Dexroll and Grovhakkepostej by Sidwave
Sunshine by MisthaLu

What's coming up in the next issue?

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================================================================================
-= N E X T *  I S S U E  - 3.16 - A P R I L 2025 =---------------------------
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Thank you for reading the December issue of WhatIFF?, the next issue will be out in 2025 April, keeping to our schedule of every 4 months. While content has a tendency to change so far this is the line up for the next issue. Reviews of the AmigsOS 3.2 Reference Manual in English, Techno Sound Turbo sampler re-release, RGB2HDMI v3. Interviews that have been lined up are with Jon Wheatman the developer of the Techno Sound software, Paul Vince the creator of AGS and <Rob Cranley the creator of the Solas.

We will also start a new series on using DigiPaint and other tutorials to go along with the reviews of hardware, software and games.

Until then enjoy the current issue and see you in issue 15!

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            #Next Issue - WhatIFF? Issue 3.15 - December 2024#
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Meet the writing staff of WhatIFF?

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==============================================================================
-= W R I T I N G * S T A F F =----------------------------------------------
==============================================================================
  WhatIFF? is an independent magazine created by Amiga enthusiasts from
  around the world looking for a more serious magazine. The main writers
  at the moment are a small group but hope to grow in coming issues.

                              * Main Writing Staff *

                                 Andy Vaisey

                                Ivan Sorensen

                               John Scolieri

                                Kevin Saunders

                               Kristian Hesketh

                                Martyn Bampton

                                Roald Strauss

                                Rob O'Malley

                                 Steve Lord

                                  Timo Paul

                               Tristan Shiflett


  We are always interested in new articles, guides or stories, if you
  have something you wish to submit please send it to:
               submissions@whatiff.info
------------------------------------------------------------------------------
      #Writing Staff - WhatIFF? Issue 3.15 - December 2024#
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andyvaisey

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==============================================================================

  Bio:
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timopaul

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==========

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==========

Bio:

My journey with the Amiga started in either '87/'88 when the family got an A500 (Back then it was a computer for the whole family), I remember the monitor and A500 boxes almost being as high as myself. Before this time I had only been exposed to the ZX Spectrum and C64, using the blue Workbench for the first time was an amazing experience. When I saw DigiPaint in action I could not believe my eyes. From that moment I was a devoted Amiga user going through various Amigas, A500+A570, A600, A3000 and A1200. Over the years my Amiga has been used to creating digital artwork and for making or shall I say trying to make music. Then in the year 2021 I decided for some crazy reason that the Amiga scene needed a digital magazine similar to Amiga Report. It was my intention to have something that picked up where the great Amiga magazines such as Amiga World and Amazing Computing left off, providing a more serious look at Amiga usage through tutorials and reviews.

stevelord

==========
Name: Steve Lord
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stevelord (EAB)

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Bio:

Steve enjoys doing impossible things on his Amiga 4000 and CDTV. Whether it's using his CDTV for email, playing Internet radio through his bluetooth speakers from his Amiga 4000, or talking to the world via the ISS from either. If people say the Amiga couldn't do it, he's probably looking for a way to do it. Steve writes his WhatIFF articles mostly using Arnor ProText.

johnscolieri

==========
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aGS@C64_AMIGA (Twitter)

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Bio:

Like many Amiga users my first computer addiction was the mighty Commodore 64! One day close to Christmas of 1986 I drove to my local Commodore store called Comspec...I was in high school and played rep hockey at the time and didn't have the time I used to when I was in grade school to visit Comspec each weekend to check out the latest magazine and games. Imagine my surprise when I stepped into the store and immediately in front of me was THE AMIGA! It was looping the Defender of The Crown intro and I fell in love instantly! From that day on it was my mission to buy that Amiga but I had just worked a few part time jobs to help pay for my first ever used car and didn't have a hundred bucks to my name lol. The Amiga was close to $2,000 Canadian dollars (after taxes) and unlike my C64 my parents didn't fall for the 'I need it for school' rant again.

To (try) to make a very long story short I didn't save up to buy my Amiga until I started University in 1989. In the mean time I saw another Amiga called the Amiga 500 at Comspec and it was a lot cheaper than THE AMIGA but my eyes and heart and soul were only set on THE AMIGA! When I finally bought it that was the proudest/happiest moment I've ever felt and I jumped straight into University with Excellence! word processor and Logistix spreadsheet/ database. In my 2nd year I bought my first ever hard drive, a whopping 33MB which had its own case which sat atop my Amiga 1000 case. Later fast ram side cars showed up and I mingled with Manx Aztec C compiler in computer science class. Of course all the great games with awesome music/sound effects made my Apple/PC friends envious!

By my 3rd year we had a small Amiga computer club and a few of us got our first accelerator boards for our Amiga which was called LUCAS and was based on a design in a Transactor magazine. It had a 68020 at 16 MHz with FPU on it and it really helped out with the more complicated spreadsheets and compiling programs. Life was good, the internet was just starting up, I graduated University and got my first full time job and then the bad news of Commodore going bankrupt hit the newspapers, magazines, and BBS boards! There was so much activity going on still in user groups and computer stores so us Amiga users just figured that it would sort itself out. At work there were only PC's running AutoCAD and I despised using the early Windows systems and couldn't wait to get back home to my Amiga. Over the years busy with work and 'adult life' many of my Amiga friends moved on to PCs and I ended up getting my first Amiga 1200 and later Amiga 4000 for great prices. I was still amazed how the Amiga community was still active and so helpful up to the early 2000's. By then I was married and working harder than ever to save up to buy a home instead of

renting an apartment and my Amiga's were left at my parents house until around 2010 or so I read about a brand new Amiga which was coming out based on PPC CPU called the AmigaONE X1000 running a new AmigaOS4. I was skeptical at first after hearing about the technical issues with the earlier SE, XE boards with the initisal AmigaOS4 release but after consulting with some friends I joined the beta test team to get one of the first X1000 boards and I immediately felt at home with AmigaOS4.1 and have used it as my home Amiga ever since. Once I got some space set up in my house I got my Amiga's out of my parents house finally and eventually my original Amiga 1000 sits next to my AmigaONE X1000 and original C64 and of course my Amiga 1200 and 4000 came along too and with new accelerator cards and ram boards and spare motherboards and parts etc etc etc. Here I am today grateful to the Amiga computer and especially to the amazing Amiga community who back then and today has always been resilient, creative and helpful !

kevinsaunders

==========
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Invent (EAB)

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www.youtube.com/KevinSaunders
www.twitter.com/invent71
www.instagram.com/invent71/
www.ko-fi.com/kevinsaunders

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Bio:

My journey with the Amiga started around 1988, The first time seeing the Amiga 1000 in the shop window playing animations such as the Amiga Juggler I fondly remember. My Brother and I saved up for an A500, and eventually bought an A4000 (cybervision 64 card) and then an A1200 with an 030 accelerator. I loved collecting every Amiga Magazine with demo disks. My interest in game designing for the Amiga started with deluxe paint and I did dabble with The Miracle Keyboard but that skill in music didn't last. It is because of the Amiga that I now work in video animation and game design.

ivansorensen

==========
Name: Ivan Sorensen
==========

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everydayamiga.posthaven.com

==========

Bio:

Danish Amiga fan since the 90s. Started with a 1200 and a 1200 is my machine today. I am interested in the casual and the philosophical aspects of the Amiga computer.

My cats enjoy Turrican.

robomalley

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==============================================================================
  Name: Rob O'Malley
==============================================================================

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  Mr.Roboto

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  Websites:
  systemofsound.org

==============================================================================

  Bio:

  Rob has been making music on Amiga ever since in the mid to late 90's
  his guitar teacher suggested that he get a drum machine to practice along
  to, and he instead opted to use OctaMED on his Amiga 500+ with A590 to
  craft beats and basslines

  Favourite quote:

  '...all she wanted to do was play with my ears all night' :P
```

roaldstrauss

==========
Name: Roald Strauss
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MisthaLu, Mr.Lou

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Discord: MisthaLu
IRC: MisthaLu or mr_lou

Websites:
www.8bitMemoirs.com
www.IndieGameMusic.com

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Bio:

I was introduced to the Amstrad CPC464 at age 10, and had a great childhood because of all the BASIC coding I could do. I am also a musician. And when I discovered I could program my Amstrad to play music, by inputting tons and tons of DATA lines, things became even more interesting.

When everyone left the Amstrad CPC in favour of either the PC or Amiga, I stayed with my trusty CPC464 - until a couple of mates lured me over to the Amiga many years later. Since no one ever introduced me to options like AMOS or Blitz Basic, it sadly meant that my coding days were over - for a period of time anyway. Instead, I used my Amiga 600 for lots and lots of Protracker MOD creations.

From 2012 to 2017 I wrote "8-bit Memoirs", which is a semi biography about those good old days. Download from www.8bitMemoirs.com (Use a download tool so you can resume).

jman

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Name: Contributing writer Jman
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Jman

Contact info:

Websites:

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Bio:

Article submission metadata:
Date: 20240309
Author: Jman
License: CC BY-SA 4.0

Tristanshiflett

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Manical

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Bio:
Manical started making music for the Amiga in early 2021 (December) and has released at some demoparties, and is planning to go to more along the way. He's in the demogroups MoonShine and Hokuto Force as a musician, and soon to be a coder or graphician. He started out with Protracker for his first 3 mods, then moved to FastTracker primarily, and then he started exploring Impulse Tracker and started making tracks with Furnace. His songs have gotten good reviews by many famous people in the demoscene, such as Jammer, Purple Motion, Skaven, and cTrix (Most known for his gAtari). Since his music journey, he's entered Syntax 2021, Mysdata 2022, Boozedrome VI (Which his track that he entered ended up on the official Boozedrome tape which was limited to 50 copies).

Favorite quote: 'You see, we are here, as far as I can tell, to help each other; our brothers, our sisters, our friends, our enemies. That is to help each other and not hurt each other.'

martynbampton

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Websites:

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Bio:

Like a lot of us I got my first computers during the late 80s and 90s, an exciting time for home computer owners. It seemed like every week brought something new and there were loads of computers and accessories to choose from. If you had the budget ;) My family had a Spectrum and then a BBC Micro but *my* first computer was an Amiga 500, all generous hand-me-downs from my uncle. I did play games of course - Lemmings, Pinball Dreams and Stunt Car Racer spring to mind but I also loved messing about in Deluxe Paint, eventually becoming half decently productive. I never had a console and I was never interested in truth, actually I don't think I really played on a console until my friend got a Playstation. An A500 Plus came next and then in March 93 I upgraded to an A1200 with a "huge" 80 MB harddisk!

It was with the A1200 and its harddisk that I was really able to get into productive computing as well as enjoying the new AGA specific games. I loved Animating with Deluxe Paint 4, I knew Wordworth inside and out got into generating fractal landscapes with VistaPro and 3D rendering with Real 3D. I would spend countless hours in Workbench, setting it up just the way I liked, I made my own icons very much inspired by MagicWB. Soon enough I need more performance and added a Blizzard IV, Squirrel SCSI and CDROM and I figured out how to make an RGB cable for my specific telly. Still... After Commodore went bankrupt and the chances of a successor to the A1200 evaporated I saved up and was able to buy a secondhand A4000 complete with 1942 monitor.

The A4000 was amazing, even more so when I loaded it with a Cyberstorm Mk-III and a Cybervision 64/3D (with scandoubler) and maxed out the RAM. I had a eventually got a 17" monitor and ran Workbench in an unimaginably spacious resolution - compared to 640 x 512 anyway. By this time I was a long time loyal Amiga fan and enjoyed simply upgrading and pushing the limits, way beyond anything my younger self could have imagined. My A1200 was rehoused in an Infinitiv tower case and even ran Linux, launched from within Workbench. My A4000 spent some time as a Mac thanks to ShapeShifter and was my first computer to go online with a 56K modem! I knew I was fortunate to have these computers and upgrades and it was hard to leave them behind when I left the country.

It's funny. Years pass, you forget things - you don't even realise you miss things and then someone releases a Mini A500 thingum and you start watching retro channels. Soon you end up on eBay and a week or two later you boot up an A500 for the first time in... Let's say a while. I kept nearly all of my Amiga gear, all apart from the very first A500 and A500 Plus. I was able to collect everything from my childhood home where it had been mostly stored safely all this time and bring it back with me. Now I have them again I hope to share my experiences with repairing, restoring and upgrading them with modern stuff over the coming months and years, maybe my trusty A4000 will boot once more!

It was an amazing time to experience and I'm glad I can do so again with a fresh perspective.

kristianhesketh

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Name: Kristian Hesketh
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Contact info: kristian@whatiff.info

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Bio:

I got my first Amiga in October 1993, an Amiga 1200, which remains my favourite machine of all time. This machine was upgraded over many years until it was a fully towered, 060 powered, CD-ROM beast. It was in 2002 that I needed a portable windows compatible for study reasons and so the real Amiga was left behind and eventually sold. It didn't take me long to download WinUAE though!

Since then I have been emulating and keeping tabs on the scene, until 2023 when I realised that nothing but the real thing would do and got hold of an A500 and then an A1200. I much prefer the A1200 in it's original case and have now upgraded with a TF1230/50, PCMCIA CD-ROM, PCMCIA Wireless card, GoDrive, External Gotek, MouSTer x2, RTC, CF Hard Disk, Amiga OS 3.2.

It has been great getting the machine online, sending my first Amiga e-mail and browsing BBS boards - things I have always wanted to do.

Looking forward to much more fun with my Amigas and writing for this great magazine!

danielreimann

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