AMIGA

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WORKBENCH

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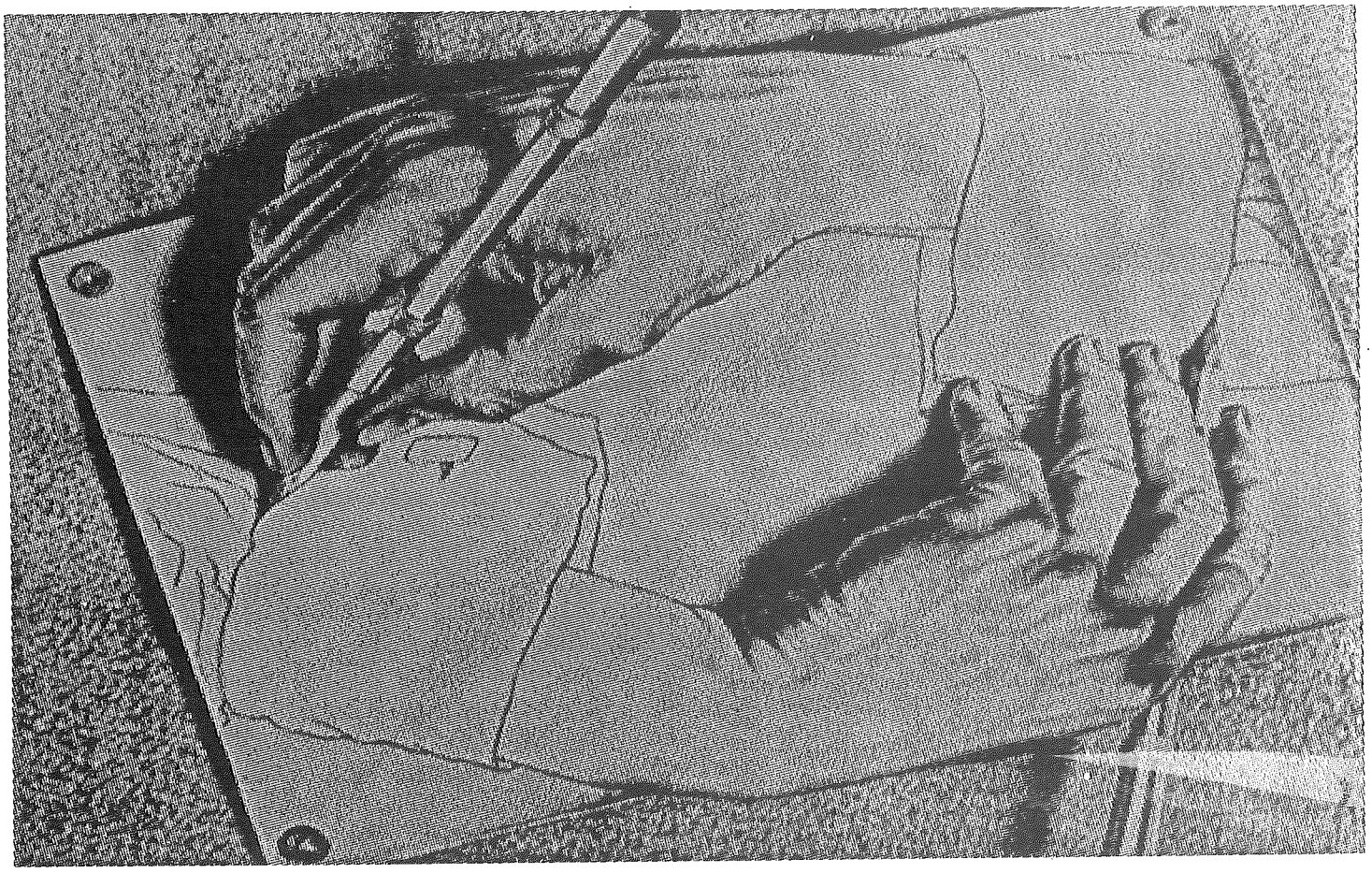

Picture: Digitised "Hands" by Escher

Next AUG Meeting

Sunday, June 17th at 2pm

(Doors open at 1pm, meeting starts at 2pm sharp)

AUG meetings are held at Victoria College Burwood Campus Burwood Highway, Burwood - Melways map 61 reference B5.

Amiga Users Group Inc, PO Box 48, Boronia 3155 Victoria, Australia

Australia's Largest Independent Association of Amiga Owners
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AMIGA Users Group

Who Are WE?

The Amiga Users Group is a not-for-profit association of people interested in the Amiga computer and related topics. With over 1000 members, we are the largest independent association of Amiga users in Australia. We DO NOT condone software piracy. We can be reached via an answering machine at:

- 563 9293 -

Club Meetings

Club meetings are held at 2pm on the third Sunday of each month at Victoria College, Burwood Highway, Burwood. Details on how to get there are on the back cover of this newsletter. The dates of upcoming meetings are:

Sunday, June 17th at 2pm

Sunday, July 15th at 2pm

Sunday, August 19th at 2pm

Production Credits

This month's newsletter was edited by Con Kolivas. Equipment and software used was: Amiga 500 with SIN500-2 memory board, Professional Page, Transcript and HP Laserjet with JetScript.

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Contributions

Articles, papers, letters, drawings, cartoons and comments are actively sought for publication in Amiga Workbench. All contributions submitted for the purpose of publication that are printed in the newsletter are rewarded on the basis of one free public domain disk copy per column or half page printed with a minimum of one free copy. Contributions may be sent in on disk, paper or uploaded to Amiga Link or Amiga Link II in the area set aside for this purpose. Please send your contributions in text-only, non-formatted if they are on file and remember to include your address for return of disks and tokens for PD disks. Absolute deadline for articles is 23 days before the meeting date. Contributions can be sent to: **The Editor, AUG, PO box 48, Boronia, 3155.**

Membership and Subscriptions

Membership of the Amiga Users Group is available for an annual fee of $25. To become a member of AUG, fill in the membership form in this issue (or a photocopy of it), and send it with a cheque or money order for $25 to: **Amiga Users Group, PO Box 48, Boronia, 3155**

Public Domain Software

Disks from our public domain library are available on quality 3.5" disks for $6 each including postage on AUG supplied disks, or $2 each on your own disks. The group currently holds over 300 volumes, mostly sourced from the USA, with more on the way each month. Details of latest releases are printed in this newsletter, and a catalog disk is also available.

Member's Discounts

The Amiga Users Group negotiates discounts for its members on hardware, software and books. Currently, Kevs computer shop offers 10% discount on RR items. Technical Books in Swanston Street in the city offers AUG members 10% discount on computer related books, as does McGills in Elizabeth Stree Just show your membership card. Although we have no formal arrangemen with other companies yet, most seem willing to offer a discount to AUG men bers. It always pays to ask!

Back Issues of Workbench

All back issues of Amiga Workbench are now available, for $2 each including postage. Note that there may be delays while issues are reprinted. Back issues are also available at meetings.

Amiga Link I & II - Our Bulletin Board Systems

The Amiga Users Group operates two bulletin board systems devoted to the Amiga. using the Opus message and conferencing software. AmigaLink I and II are available 24 hours a day. AmigaLink I & II can be accessed at V21 (300bps), V22 (1200bps), V23 (1200/75bps) or V22bis (2400bps) using 8 data bits, 1 stop bit and no parity.

AmigaLink is part of a world-wide network of bulletin boards, and we participate in national and international Amiga conferences. AmigaLink has selected Public Domain software available for downloading, and encourages the uploading of useful public domain programs from its users. AmigaLink I (792-3918) is OzNet node number 8:830/324 and AmigaLink II (376-6385) is OzNet node number 1305/998

Newsletter Advertising

The Amiga Users Group accepts commercial advertising in Amiga Workbench subject to the availability of space at these rates:

Quarter page $20
Half page $40
Full page $70
Double page spread: $120

These rates are for full-size camera-ready copy or Professional Page format only. We have no photographic or typesetting facilities. Absolute deadline for copy is 23 days before the meeting date. Send the copy and your cheque to: **The Editor, AUG, PO Box 48, Boronia, 3155, Victoria.**

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Bridgeboard Sound
By David Matthews

Since the editor's still complaining about the lack of articles I thought I'd put my two cents worth in with this my first article for Workbench. The following article describes how I gave my Bridgeboard the ability to make sound very cheaply and without much effort.

About two years ago I bought an XT Bridgeboard and 20Mb Hard Card for my 2000. At the time I thought it would be useful for doing my projects and assignments for Uni. It was painfully slow, especially when compared to the AT I use at work, but it did its job.

There was, however, one gripe I had with it and that was that there was no sound. Now I know IBM's haven't got much in the sound department but the beep it has got is better than nothing especially when you're sitting there waiting for a printout from Lotus and didn't see the ERROR indicator flashing. A nice simple beep is perfect for this and similar situations.

I decided to ring a few Amiga service centers and tell them about my dilemma. Most didn't know what I was talking about but one said they'd fix it by running the sound through the Amiga's sound output for $32 (Wow stereo beeps !?!). I didn't like this solution as it means any Amiga sounds I ran in the background were mixed with IBM beeps. I, on the other hand, thought it would be better if an internal speaker was installed © just like an IBM © thus separating the sound.

Well back then I was one of those faint©hearted users who were too afraid of lifting the hood and poking around inside.

About eighteen months later while cleaning out my draws I came across a little $10 amplifier and speaker I used for my TRS©80 about seven years ago (Well I had to start somewhere!). The memories of the problem of no sound on the Bridgeboard flooded back. However, this time it was different, I was a changed man, I had done surgery on the PC's at work with success and the prospect of opening up my Amiga didn't upset me (I also had a bigger bank balance in case the worst happened).

Before I go any further I had better warn you that I take no responsibility for damage you might cause if you try what I am about to say.

The first thing I did was open up my Amiga for the first time to see what it looked like. Boy was I in for a shock it was filthy. Two years of dust had taken it's toll. So out came mum's dust buster and Ami was clean in no time. I then examined the Bridgeboard and tried to find the J2 jumper which according to page 68 of the Bridgeboard user's guide is used to connect the speaker. Next job involved cannibalising the little amp by ripping the 30 ohm speaker out and connecting it to the two pins on J2 via a pair of small extension wires. You can solder them together if you like but I just tied the ends of the wire together and wrapped them in tape. By the way I didn't and still don't know if it's okay to use this type of speaker.

At this stage I thought I should test the speaker to see if it worked (actually to see if my Amiga still worked). Well Amiga seemed to have survived as it booted up from my usual Workbench disk. Then I heard something I'd never heard before a melody (if you can call it that) that indicated the Bridgeboard was initialized. Once booted I tried a few things to produce sounds on the Bridgeboard and they all worked. At last I had solved the case of the missing Bridgeboard sound !!

Now it was just a case of fastening the speaker somewhere inside (I'll let you figure that one out) and putting the lid back on. Another thing you might like to try (I did) before putting the cover back on, change the J1 jumper settings so the Bridgeboard starts in colour mode.

Well that's about all there is to get sound, very cheaply, from the Bridgeboard. Good luck!

P.S. If anyone can somehow get the Bridgeboard clock to read the Amigas you should also write an article!!

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Tons & Tons of Goodies 1

Courtesy of Allan Duncan

Newsgroup: comp.sys.amiga

From: hood@cbmvax.commodore.com (Scott Hood)
Subject: Re: PAL de-interlacer in...
Date: 30 Apr 90 01:10:45 GMT
Organization: Commodore, West Chester, PA

In article <379@comcon.UUCP> terry@comcon.UUCP (Terry LaGrone) writes:
>In article <7100@wehi.dn.mu.oz>, BAXTER_A@wehi.dn.mu.oz writes:
>> Ok, Now everyone IS allowed to admit it exists:
>> Does the A3000 de-interlacer support PAL overscan?

Yes the Display Enhancer does indeed support PAL overscan, greater than 768x576. The Display Enhancer automatically detects which mode (NTSC or PAL) you are operating in and configures itself accordingly. Since the A3000 is now official I can comment on my design of its features. I hope to post in the future a detailed feature list and put most of the questions to rest (Boy how I hate Vil).

From: peter@cbmvax.commodore.com (Peter Cherna)
Subject: Recent 2.0/3000 Questions
Date: 1 May 90 15:23:18 GMT
Organization: Commodore, West Chester, PA

While something is compiling here at work in the background, I'll post some answers to the most common questions/misconceptions about the new products:

Workbench 2.0 does not have any specific requirements other than the future 2.0 Enhancer ROMs and disks (and manuals, I guess). Ken Farinsky over in CATS stated so quite emphatically, but allow me to reiterate:

2.0 does not require a hard drive, 1 MB of chip, Super Agnus, Super Denise, etc. Of course, your system will benefit from any of these, just as it does under 1.3. 2.0 is fairly smart about figuring out what you have installed, and for example won't allow you to open screen modes you can't support for lack of hardware.

Super Denise provides a single non-interlaced 640 x 480 mode called Productivity. This requires Super Denise (hence also Super Agnus), and a VGA or multiscanning monitor. The Workbench screen can easily be put into this mode, and windows opening on the Workbench screen will benefit immediately. Programs opening custom screens need to be updated (though it is simple for the programmer) in order to open their own productivity screens. This mode is of special interest to those who do not have a de-interlacer in their computer which removes flicker from all the familiar interlaced modes. Productivity mode can have 2 or 4 colors from a palette of 64.

Super Denise also provides Super-Hires modes that give 1280 by 200/400 (NTSC) or 256/512 (PAL). The higher number in each case is an interlaced mode (that is not de-interlaced by the A3000, BTW). These modes are compatible with standard NTSC and PAL output, including 1084's. They also have the 4/64 color arrangement.

The A3000 de-interlacer is on the motherboard. It is not in the 1950 monitor, which is just a (very nice) multiscanning monitor. One extra feature of the 1950 is that you can set it so that overscanned pictures do indeed cover the full face of the monitor, which is not true of many other multisyncs, and is very useful for Amiga graphics work.

The A3000 has an internal bay that can take another floppy or a SCSI 3.5" drive. There is cabling inside to connect that drive. There is both an external floppy and SCSI connector on the back of the A3000, and when you look over the top of your 3000 you can read the labelling since the labels are above the connector, not below.

Commodities Exchange is a standardized way of handling any special input-related magic. This includes the various keyboard and mouse enhancements that people have come to know and love, as well as hot-keys. The system ships with several standard commodities, and surely many more will appear in the public domain. We supply:

Screen Blanker
Function Key expander
AutoPoint (activates the window under the pointer)
NoCapsLock (for those who hate it when they brush that key)
IHelp (keyboard sizing and such for windows)

From: barrett@jhunix.HCF.JHU.EDU (Dan Barrett)
Subject: A3000 impressions (hands-on), plus software compatibility
Date: 2 May 90 17:26:33 GMT
Organization: The Johns Hopkins University - HCF

I just tried out the A3000 at my local dealer ("Greetings & Readings" in Baltimore, MD). It looks great!!! It had the 1950 monitor, 25 MHz 68030, 40 MB hard disk (19ms Quantum), and CBM's new little stereo speakers.

My impressions are listed below, in several parts:
oSpeed
oWorkbench 2.0
oSoftware compatibility
oPrices

SPEED

Whoa! This is a fast machine! A warm boot (ctrl-A-A) took only about 8 seconds to load Workbench and get completely ready. I think the start-up-sequence was pretty minimal, but still...!

WORKBENCH 2.0

It looks really beautiful. The display is wonderful, and Preferences gives you an amazing amount of control over the look. You can have a 2, 4, 8 or 16 color Workbench in Hires (640x200), Hires interlace (640x400), Super Hires (1280x200) or Super Hires interlace (1280x400), plus overscan. NOTE that the "super" modes can have at most 4 colors.

Background patterns and window background patterns are fun. The screen updating is FAST FAST FAST. Moving windows around, even with background patterns, was extremely quick, even with a 16-color Workbench in Hires interlace mode.

The hires interlace multicolor Workbench setups do use quite a bit more memory than the "old" Workbench, but that is obviously to be expected: more pixels/colors need to be stored in more memory! Of course, you can run in the old resolutions if you want to. Almost all of the memory used was FAST RAM, not CHIP RAM.

The upper-right window gadgets are now (as has been said already) front/back and iconify. "Iconify" turns a window into an icon the size of its title-bar, as far as I could tell. I wish there were a way to blow up a window to full-screen size with a single mouse-click, but I didn't see one. (I could have missed this easily.)

The deinterlacer worked fantastically -- the display was indeed rock-solid. Now, the "super hires" modes (1280x...) are not deinterlaced completely, but I tried them anyway. Certain parts, notably vertical lines, had a sort of "crawling ants" look to them -- little dots moving upwards. This is a limitation of the deinterlacer (it would have required doubling the deinterlacer's internal RAM, and its cost). This was a fine tradeoff, in my opinion -- the normal hires interlace looks great as is!

Preferences had TONS of stuff to play with. The "Input" tools was one of the cutest. It allows you to set the double-click and keyboard repeat times (nothing new here), but it has this GREAT little "test" feature to let you try out various settings to see how they work in practice! For example, there's a little gadget that you click on, and it highlights for EXACTLY your "double-click" time, so you can see how long between clicks you really have. NICE, WELL-THOUGHT-OUT stuff. Bravo, CBM! It is indeed these little details that count a lot.

There were a bunch of different fonts you could use for defaults: various incarnations of Topaz, Courier, and a few others. Some are obviously optimized for the hires interlace screens.

The hard disk backup utility (BRU) looked a lot like Quarterback. I didn't try it out.

The icon editor has a GREAT new feature -- it really made me beam! Start up IconEd, grab any icon from the Workbench, and "drop" it into IconEd with your mouse. Presto -- it is available for editing!!!!

SOFTWARE COMPATIBILITY

I brought along a whole bunch of software to test if it works on the A3000 with AmigaOS 2.0. NOTE that the dealer said the Kickstart ROMs in this A3000 were "Alpha" version, NOT the release version. The results of my brief tests are listed below:

SOFTWARE THAT APPEARED TO WORK FINE

DELUXE PAINT III (other people have reported minor bugs w/ overscan)

AEGIS ANIMATOR 1.2, by Aegis.
LARN, by the Software Distillery
FLOW, by New Horizons Software
QUARTERBACK 4.0, by Central Coast Software
MARAUDER II (Brainfile 10), by Discovery Software
VT100 v2.9b, by Tony Surmall
MINDWALKER, by CBM (of course!)

SIM CITY, by Maxis
FREE, by me (to appear on a Fish Disk) :-)

SOFTWARE THAT DID NOT WORK

TETRIX 1.1, by David Corbin Game started normally, but nothing happened when you clicked to start a new game. Exited normally.

ARKANOID, by Discovery Software Guru'ed while trying to boot. I have heard that Discovery Software is out of business. I would guess that this will never be updated.

POPULOUS, by Electronic Arts Guru'ed while trying to boot. I called EA and asked them about update plans. The person I spoke with sounded very confused about the A3000, and made statements like "oh, most software on the market is going to break under 2.0". He didn't know anything about the A3000's hardware or capabilities. He did say, however, that it was extremely likely that DPaint III would be fixed to work under 2.0. He had no idea about any other products.

DUNGEON MASTER v2.2, by FTL Guru'ed while trying to boot. I called FTL, and they said that they were working on updating Dungeonmaster for AmigaOS 2.0.

NOTE! REMEMBER! YO!! These did not work under the ALPHA release of 2.0!! This does NOT MEAN that they won't work under the FINAL release of 2.0!! DON'T SPREAD RUMORS!!

PRICES

My dealer said his selling price (25 MHz, 40 MB disk, 1 floppy) was $3999, INCLUDING the 1950 monitor and the stereo speakers. The monitor lists for $799, and the speakers would sell for about $30-40. He had no information about Educational Discounts for the A3000.

CONCLUSIONS

I want one!

From: daveh@cbmvax.commodore.com (Dave Haynie)
Subject: Re: Amiga World review about A3000
Date: 3 May 90 17:29:19 GMT
Organization: Commodore, West Chester, PA

In article <18226@snow-white.udel.EDU> 802360644%RUMAC%UPR1.UPR.CUN.EDU@ncsuvm.ncsu.edu (Angel Asencio) writes:
>Hi folks:
> BTW, in page 20, they talk about RAM memory and in a part they said
>and I quote " Total memory -and this is staggering- could be expanded
>up to 1.7 gigabytes (that's 1700 megabytes,..."
> Could anyone confirm if this is RAM memory?

It could be. The deal is, there are several places RAM can go. Other than the 18 megabytes total possible on the motherboard, there's 128 Megs of space reserved for memory expansions on the Coprocessor slot, plus 1.75 Gigabytes of memory space reserved for Zorro III expansion cards, which can of course be memory cards. With current 4 Megabit ZIP DRAMs, you might just be able to squeeze 64 Megs on a Zorro III card, which would let you add 256 Megs of bus memory in the 3000. With the advent of 16 Meg chips, you might just be able to put a Gigabyte out there. You'd have to be both rich and nutty to do this, and without a careful RAM card design you might hear the power supply complain.

The bottom line is, there's lots of expansion address space, and you're not going to use it all up in the next few years. I'm waiting for someone to come along with an actual use for more than 18 or so megabytes, though I suppose it'll happen. I can remember back when 32K seemed like lots of memory.

From: daveh@cbmvax.commodore.com (Dave Haynie)
Subject: Re: Why not SIMMs? (was Re: A3000)
Date: 3 May 90 17:45:59 GMT

In article <TADGUY.90May2175932@abcfd20.larc.nasa.gov> tadguy@abcfd01.larc.nasa .gov (Tad Guy) writes:
>In article <2252@awdprime.UUCP> robin@sabre.austin.ibm.com (Robin D. Wilson /1000000) writes:
>> The specs I have say 4Meg in 1Meg ZIPS and 16Meg in 4Meg ZIPS.
>It would seem foolish for any new personal workstation to not use
>something as common (and cheap) as SIMMs... What am I missing?

SIMMs cost more than ZIPs. Also, they weren't available in a low enough profile for our needs; the memory in the 3000 sits underneath where a Coprocessor slot card goes. The 4 Meg ZIPs clear such a card by about 0.1".

From: daveh@cbmvax.commodore.com (Dave Haynie)
Subject: Re: A3000, 68040
Date: 3 May 90 17:57:08 GMT

In article <1990May3.043218.15590@cec1.wustl.edu> amc4919@cec2.UUCP (Adam Michael Costello) writes:
>If you use that socket in the 3000 to upgrade to a 68040, is it still bound to
>run at 25MHz (or 16MHz, as the case may be)?

No. The A3000 motherboard can only be run at either 16MHz or 25MHz, and a Coprocessor slot card can use the motherboard clocks or, alternately, supply its own. If you want an add-in that goes faster than 25MHz, no problem, only it'll have have keep the faster cycles on the Coprocessor slot only. Much like the way the A2630 does things in a 2000. That's really not a big deal; there's not much around these days, other than cache memory, that can even keep up with a 25MHz 68030, much less a faster '030 or an '040.

>In any case, if you upgrade to the 68040, does it matter whether the 3000 was
>16 or 25?

Depends on the design of the 68040 Coprocessor card, but it doesn't have to matter -- such a card could run the A3000 main bus at 25MHz, regardless of the on-board CPU speed.

>Can the upgrade be done now, or are there things we have to wait for?

I guess you have to wait for a 68040 Coprocessor card. No one's announced one yet.

>The 68040 is a 64-bit processor (internally, 32 bit data bus though), right?

Yes and no. It's a 32 bit Harvard architecture machine, like the 68030 only better. At any given time you may have two simultaneous 32 bit transfers going on the separate I and D buses. Since 32 + 32 = 64, some call that a 64 bit architecture. I wouldn't call something 64 bit unless it had 64 bit registers and 64 bit operations on such registers. Which I guess does in part exist on the 68040, since math operations and registers are actually 80 bits wide, internally.

>What else does the '40 have over the '30?

Real big, fast physical caches, very clever pipelining, some hard-wired instructions, on-chip math. That's the basic feature list.

From: daveh@cbmvax.commodore.com (Dave Haynie)
Subject: Re: A3000
Date: 3 May 90 18:00:58 GMT

In article <3625@newton.physics.purdue.edu> murphy@newton.physics.purdue.edu.UUCP (William J. Murphy) writes:
>In article <153@next.com> Ali_Ozer@NeXT.com (Ali Ozer) writes:
>>If Commodore were to provide the 3000 without a harddisk, too many people
>>would end up making the mistake of buying the machine without it, ..
>Ali, Does this imply that NeXT blundered when selling their diskless NeXT?
>I seem to recall a fair number of postings in comp.sys.next asking how
>to enter the correct identifiers for such and such a drive. 8^) 8^)

If you're after a network computer, it might make some sense to sell a system with no disk, if it can easily boot from a network. I don't see any sense in an A3000 without hard disk or network; sure, you can work from floppies, I did that back in '85 on my A1000. I used to work off of tape in '79 with my Exidy Sorcerer, but I don't see any point in bringing the A3000 down to that level, either.

From: joe@cbmvax.commodore.com (Joe O'Hara - Product Assurance)
Subject: Re: A3000 impressions (hands-on), plus software compatibility
Date: 3 May 90 20:35:10 GMT
Organization: Commodore, West Chester, PA

In article <471@oregon.oacis.org> jmeissen@oregon.oacis.org (John Meissen) writes:
>Well, I got my first look when my BYTE mag arrived yesterday. I also finally got
>the screen dumps to look at.
>It used to be you could tell what gadgets did
>what just by looking at them. Now they have been replaced by a generic "button"
>image.

The screen shots shown in the Byte (and AmigaWorld) article were taken before new gadget artwork was integrated into the system. (Remember

that mags need lead time for their articles.) Take a look at the A3000 at your local dealer and you will find that the 'buttons' have been replaced by iconic gadgets.

From: GUTEST7@BLEKUL11.BITNET (Tyberghein Jorrit)
Subject: Amiga 3000, my impression of 2.0
Date: 3 May 90 16:03:47 GMT
Organization: K.U.Leuven, Leuven (Belgium)

I've seen the Amiga 3000 and I was amazed. This machine is really IT. You probably already know the hardware specs, but I'm going to tell you something about the OS. There is just one hardware spec I want to tell you because there seems to be some confusion. There is only one interlace mode left (I mean flicker mode, because there are really more interlace modes). This is the productivity-interlace mode (640*960). ALL other modes are non interlaced (Even the 1280*512 is non interlaced, but you really need a good monitor for that mode).

Now for the OS.

Dos:
- Amazing ! You remember the 38 (or was it 48) library functions in the dos.library ? There are now about 250 functions !!!
- There are routines for buffered file IO in dos.
- The ffs filesystem is now the default. But it will still recognize the old filesystem. (I'm going to reformat my disks :-)

Exec:
- There are functions to handle the cache and some other new functions which I don't remember.
- The guru is still there but there are now recoverable alerts (these look like green guru's). I don't know what you can do with them.
- There are now three switch functions instead of two. This will say probably nothing to most users, but what it means is that there is probably support for the 68040 (stackframe...)

Graphics:
- There are quiet a lot of new functions including the misteriously named OpenMonitor() and CloseMonitor().

Intuition:
- Intuition is magnificent.
- The standard filerequester is very nice.
- There are now many tools to help you program with intuition. (gadtools.library)
- The default topaz font has changed in a positive way.

Other libraries:
- utilities.library, commodities.library, asl.library, gadtools.library.
- I believe the total number of library functions has doubled !
- The commodities.library is a sort of input.device library. You can make input event handlers very easy. And the user can have total control without you ever knowing about it.
- The gadtools.library is very useful. You can very easily make gadgets, menus, lists,...

Workbench:
- The workbench is now really functional. You can makedir with menus and you can add tools to the workbench menu bar. You can even quit the workbench. There is ofcourse much more you can do.
- The workbench does not really multitask except when you start a program. In that case you can immediatelly continue working with the workbench.
- The two depth gadgets are replaced with one toggle-depth gadget (at the right) and one gadget to toggle the window between full size and smallest size (very handy).
- The arrows for the workbench windows are now next to each other.
- It is possible to put an icon on the workbench screen. This was already possible in 1.3, but now you can make this permanent. You could do this for the most used commands. Even after you reset the computer this icon remains there (logically, because physically it is still where it was before)
- The workbench has multiple select like the macintosh (draw a box round the icons). The old method still works ofcourse.
- Diskicons appear at the left instead of the right. (I imagine they did this because the workbenchwindow is resizable)
- Icons are beautifull. Workbench automatically puts a 3D border round the icon. The effect is almost always very good.
- You can put the workbench on a backdrop window (like now) or in a window (with a closegadget).
- There are some utilities on the workbench disk like sunmouse and fkeys (to install function keys). They use the commodities.library.

Preferences is greatly enhanced.
- You can define a desktop pattern for the workbench window or screen and a (different) pattern for all the workbench windows.
- You can use almost every display mode you wish (except HAM) for the workbench. You can set the number of bitplanes.
- You can install a workbench screen greater than the physical screen size. In that case you move the workbench screen not only up and down but also to the left and the right. If you want so you can set this workbench scrolling to automatic.
- You can change the default amiga-n and amiga-m to other keys if you want to. Amiga-m is now a screenshuffler (VERY handy).
- You can move an intuitionscreen using the left-amiga left-mouse button combination.
- You can change the font for icons, text and menu's respectively. I tried Times/24 for the screen bar and menus and the result was really spectacular.
- There is now a calender utility in preferences.
- You can install the keymap with preferences.

The CLI:
- At last the cli is usable. I don't think I will need a shell anymore.
- There are some commands that are builtin. (echo, alias, resident, if, endif, ...) As a result the c-dir is now relatively empty.
- You can link files (like UNIX). You could for example link a library file on a disk to the libs: on the harddisk. In that case you need not copy the library on the harddisk if you are not going to use the program later.
- NEWCON is now standard.
- The cli uses text windows. These are REALLY great. For example: Resize your cli window to a rather small size. Type 'dir'. The directory will probably go out the window and there may be some lines which won't go on one line. No problem with 2.0. Simply make the window bigger, and SNAP ! there is your directory, completely reformatted to fit on the new size. (Amazingly handy !)
- The cli's have a builtin snap facility. Simply cut text from one cli to another (or to the same).
- rexx comes standard on the workbench disk (not in the ROM :-(

I have probably forgotten a whole lot of features but then memory isn't that good. The Amiga 3000 is surely a fantastic computer with a fantastic operating system. I think I'm going to buy one. It's a pity that they are rather expensive in Belgium :-((I mean compared to usa, because even a double price would not have been really expensive for such a beast)

Note that these are not rumours because I have tried and seen them myselves.

From: dale@cbmvax.commodore.com (Dale Luck - Amiga)
Subject: Re: A3000
Date: 6 May 90 16:07:51 GMT
Organization: Commodore, West Chester, PA

In article <158@next.com> Ali_Ozer@NeXT.com (Ali Ozer) writes:
>In article <3625@newton.physics.purdue.edu> William J. Murphy writes:
>>Ali, Does this imply that NeXT blundered when selling their diskless NeXT?
>No, doesn't imply that at all. I was talking from my experiences with
>Amigas; once you've got 2M or more in there, the added value of a hard disk
>is lot more than the added value of getting an extra 4M. IMHO.
>Of course, a "diskless" NeXT actually does have a 40M drive in there...

From what I remember. The 40m disk on the Next is there for swappingl. This is a thing that all unix machines do to manage more tasks than they have available memory.

No my Amiga under Amigados does not seem to need this swapping stuff. So a local harddisk as opposed to an ethernet interface is not so clearly beneficial if I have a choice and I have an NFS server available to loan me some space. In a network of abunch of Amiga's, they could share the same 'read only' standard wb drawers like system/utilities/c: etc. The added advantage of ethernet for interoperability is quite ar xtra benefit. File sharing between Amigas is pretty easy with nfs and and nfs server. You can share the printer on the unix box to if you have basic rsh capability on the Amiga. Which the current ethernet software does have. This message is not actually a response to this particular post. It is really just another viewpont on the 'builtin' harddisk discussion. I think the builtin scsi is great. But lowball machine should not have a harddisk. I know of some places (Lawrence Livermore Labs) to be specific that forbid harddisks from being attached to their Amigas. I think it was a security issue. The data they were playing with was not supposed to be taken off the file servers and stored on another medium. It could be accessed over a network (which is what they are doing) but it was not allowed to copy to local floppies or hard disk.

GFA BASIC - FURTHER PROGRESS

by Mark Kelly, Swan Hill

After further time-consuming and claret-consuming in-depth playing with my new GFA BASIC interpreter, I can offer some assistance to those brave renegades among you who are game enough to turn away from AmigaBasic for a new thrill. As my dear grey-haired mother always says, "If an interpreter lacks appropriate commands, write your own procedures", so I did.

The first on my hit-list was the obvious lack of an AmigaBasic COLOR command in GFA BASIC. The HUE() procedure deals with that (it's not called COLOR() because GFA has a COLOR command affects graphics, not text). Since GFA let me do it, I also whipped up a STYLE() procedure to print bold,italics etc in BASIC programs. BEEP() is a direct substitute for the Amigabasic BEEP (why GFA left it out is beyond me) and SCROLL() does the same as Amigabasic's command (but you must also give it the window number to scroll). ZAP() is a useful command for clearing a given line of the screen.

A few handy hints for GFA hackers:
- The manual's parameters for LOCATE should be reversed.
- For DEFINT, DEFWRD etc. statements to be effective, the parameters must be given in uppercase (dunno why). Similarly, prefixes such as &H for hex constants must be typed in uppercase to be recognized (this little "feature" had me swearing for hours until I worked it out.)
- An apparent bug exists in GFA's string handling: memory disappears without trace until the machine crashes. It can be solved by inserting a f%=FRE(0) to force string rubbish collection. I did a hex dump of such a crashing GFA program and found all sorts of long-deleted subprograms and stuff referred to in the code. Does GFA remember deleted routines or something when it saves programs? To reduce the GURU visitation phenomenon, save the program as ASCII text, and reload the ASCII version. It seems to calm down after that.
- The default tool saved with GFA programs is 'GFABASIC' which is a pain if your GFA project is in a subdirectory. Rather than use INFO to change every project's icon, I attacked the problem at its root. I used a binary-file editor (e.g. ZAP 2.04 on GFABASIC itself to find "GFABASIC" and change it to ":GFABAS" followed by a hex 0 byte. This means it will look for GFABASIC (under the name GFABAS) in the root directory.
- The SIZEBRIGHT and SIZEBOTTOM flags in OPENW statements don't seem to work at all.

My Amigabasic to GFA basic conversion program (written in GFA basic) is still coming along. It handles just about every strange version of Amigabasic commands but its output still requires a bit of intelligent human massage to get it in shape for GFA to run it. I shall post it to AmigaLink I or II when it's in a fit state for hacker consumption (every time I think I've got it finished, another strange variation of Amigabasic syntax comes along in my massive test program to throw the converter off the rails. Sigh.)

```
'
PROCEDURE style(flags$)
' Format: style("xxxx") where xxxx can be:
' N(ormal), B(old), I(talics)
' U(nderline) and R(everse video)
' REQUIRES: hue() procedure
PRINT nchr$(27);"[0m";              !reset styles
FOR i&=1 TO LEN(flags$)
p&=INSTR("NBIUR",UPPER$(MID$(flags$,i&,1)))     !which
flag?
PRINT CHR$(27);"[";MID$("01347",p&,1);"m";
NEXT i&
IF forecol& OR backcol&          !hue been set?
hue(forecol&,backcol&)          !set colours
ENDIF
RETURN
'
PROCEDURE hue(f,b)
PRINT     CHR$(27);"[";STR$(30+f);"m";      !foreground
colour
PRINT     CHR$(27);"[";STR$(40+b);"m";      !background
colour
forecol&=f
backcol&=b
RETURN
'
PROCEDURE scroll(w&,xc&,yc&,x1&,y1&,x2&,y2&)
' w  = window #
' xc/yc = pixel moves (-xc moves left, -yc moves up)
' x1,y1 - x2,y2 = rectangle
' {...} uses offset from window address to get ras-
port pointer
a&=ScrollRaster({WINDOW(w&)+50},-xc&,-
yc&,x1&,y1&,x2&,y2&)
RETURN
'
PROCEDURE beep
a&=DisplayBeep(0)
SOUND 2000,2
RETURN
'
PROCEDURE zap(lino&)
' clear screen line lino
COLOR 0
PBOX 0,lino&*8-8,640,lino&*8
RETURN
```

THIS

SPACE

FOR

RENT

Tons & Tons of Goodies 2

Courtesy of Allan Duncan

Newsgroup: comp.sys.amiga.hardware

From: hood@cbmvax.commodore.com (Scott Hood)
Newsgroups: comp.sys.amiga.hardware
Subject: Re: a3000 hardware design questions
Date: 30 Apr 90 02:07:46 GMT
Organization: Commodore, West Chester, PA

In article <90116.183723GIAMPAL@AUVM.BITNET> GIAMPAL@AUVM.BITNET writes:
>O.k. we got to play with an A3000 today at a dealer. Now come the questions.
>It says that the SCSI DMA is 32 bits wide. Is this for real and what is the
>performance of it?

The SCSI DMA controller is on the 68030 local bus running at 16 or 25Mhz and supports a 4 longword internal fifo which is used to interface to the 8-bit SCSI controller port which talks to the SCSI drive/device itself. You can now DMA into chip memory, seen as 32-bit memory, fast memory which is 32-bits, and expansion memory which up to now has been 16-bits.

>Will current memory boards work as 16 bit memory or 32 bit?
Current expansion boards will work as 16-bit but newer boards that follow the ZorroIII spec can work at 16 or 32-bits.

>Will the Ethernet cards also do 32 bit dma?
The current A2065 Ethernet card will not do 32-bit DMA but only 16-bit DMA.

>Will the novell netware stuff work with the Ethernet card?
>How much will a cache card improve performance and are there any in design?
>Is the blitter still used to decode MFM data from the floppy?
Yes the blitter is still used to decode the floppy data :-(.

>BTW, Dave and all the rest of the guys at C=, you did an incredible job on >the design of the system. No ifs ands or buts, it was done well.
Thanks for your support! It's really fun to be apart of such a great bunch of guys at Commodore. The hardware design guys are:
Hedley Davis, Project Manger (team leader)
Dave Haynie, Fat Buster gate array design, ZorroIII stuff and general A3000 system design.
Greg Berlin, Fat Gary gate array design, Ramsey gate array design and general A3000 system design.
Scott Hood, Amber (Display Enhancer) gate array design and A3000 support.
Jeff Boyer, SDMAC gate array design and general SCSI subsystems.
Scott

From: daveh@cbmvax.commodore.com (Dave Haynie)
Subject: Re: A3000 Memory
Date: 30 Apr 90 05:40:59 GMT
Organization: Commodore, West Chester, PA
In article <1990Apr26.234239.25763@mintaka.lcs.mit.edu> rlcarr@athena.mit.edu (Denizen of Hell) writes:
>In article <11099@cbmvax.commodore.com> daveh@cbmvax (Dave Haynie) writes:
>>CPU slot memory and built-in memory is automatically recognized, like
>>$00c00000 memory in a 2000. Everything else is autoconfigured.
>I'm no hardware guru, so please pardon the questions.
>What is the difference between "automatically recognized" and
>"autoconfigured"?
"Automatically recognized" memory is basically memory that's known to potentially exist by "expansion.library". That's special case memory, even though it is automatically sized an all by the OS. Autoconfig memory follows all the standardized autoconfig rules. Autoconfig devices live in the expansion bus, and they can be pretty much anything. An arbitrary add-on device must be autoconfigured, but things in the basic computer system motherboard that the OS can be specially told about don't necessarily have to follow autoconfig protocols.

>What is meant by CPU slot memory as opposed to Zorro III space?
There are chunks of memory reserved for the CPU slot and for ZorroIII memory. These area are different, since ZorroIII memory addresses must be on the expansion bus, while the CPU slot memory is only for real memory that can be added by the OS by it's size calculation routines.

>Also, is the SCSI controller a card, or is it built right into the
>motherboard?
On the motherboard, naturally. There are actually three chips involved. The SCSI controller chip, the DMA controller, which contains the 32 bit data path for SCSI DMA and talks directly to the SCSI controller chip, and the RAM controller, which provides the 32 bit address for DMA during a DMA cycle.

>Can you describe the physical setup of the machine? I have a
>SyQuest SQ555 5.25" half-height removable media drive. Can it be
>used in an A3000 (fast backups :-)?
You need to mount 5.25" drives externally. There's room inside for two 3.5" hard disks and one 3.5" floppy. There's 3A at +12V, 17.5A at +5V, for the whole system.

>Do the schematics have song quotes on them?
Yes.

>And a *BIG* question - is memory socketed or is it evil, soldered in ZIPs?
Socketed.

>What kind of memory is needed for motherboard RAM?
256Kx4 or 1Megx4 SCRAMs, 100ns or 80ns, in ZIP packages.
>For CHIP RAM? Can the extra meg of CHIP RAM be easily added?
256K x 4 DIPs. If you're upgrading the Fast memory, you can take the 1Meg of DIPs in the Fast bus that the machine comes with and plug them into the empty Chip bus sockets.

>Is the CHIP RAM 32 bit or 16 bit?
32 bit.

>Do the listed prices include a monitor?
No.

>Keyboard?
Yes.

>Can a 1080 (1986) monitor be used with an A3000? If so, what modes
>will be unavailable?
None of the 31kHz modes, mainly, 640x480x2, noninterlaced, or 640x960x2, interlaced.

>Can a 2nd floppy be added (er, for recreational software :-)?
Yes, internally or externally, depening on what else you have inside, of course.

>What is the A3000 keyboard like? Is it just an A2000 keyboard, or
>something new?
Essentially the same as the 2000 keyboard, but it looks like it goes with the 3000.

>When UNIX comes out, do you have to open the machine up to switch
>between AmigaOS and UNIX? Or is it something like the A2630, with a
>choice of OS'es to boot from?
You'll have your choice, though it's handled by standard software now, rather than a jumper setting.

>Which reminds me - why isn't the A2630 monitor documented?
Because the UNIX folks didn't want to document it or make it meet the specifications of the QA department. But it had to stay around, because both UNIX groups and hardware groups (eg, me) were using it during development.

>And is there any way to stop the command list (obtained with '?')
>from scrolling off the screen?
If ^S doesn't work, I don't suppose anything will. Try A?, for example, to list just those commands that start with A.

From: daveh@cbmvax.commodore.com (Dave Haynie)
Subject: Re: a3000 hardware design questions
Date: 30 Apr 90 05:47:47 GMT

In article <90116.183723GIAMPAL@AUVM.BITNET> GIAMPAL@AUVM.BITNET writes:
>O.k. we got to play with an A3000 today at a dealer. Now come the questions.
>It says that the SCSI DMA is 32 bits wide. Is this for real and what is the
>performance of it?
The DMA transfer is full 32 bits address and data, at 68030 speeds. The actual throughput is limited by the SCSI drive, which is about 1.5 MB/s for asynchronous SCSI, 4-5 for synchronous SCSI. The advantage of the high speed SCSI is that it doesn't waste much CPU time in the process of a transfer. It loads up data from the SCSI into its FIFO, takes over the bus when the FIFO is near full, dumps data at full speed until the FIFO is empty, and promptly gets off the bus.

>Will current memory boards work as 16 bit memory or 32 bit?
All current (eg, Zorro II) memory boards ARE 16 bit memory, and they in fact work as 16 bit memory.

>Will the Ethernet cards also do 32 bit dma?
Current Ethernet cards are also 16 bit cards. The Commodore card is non-DMA, the Hydra and ASDG are DMA.

>How much will a cache card improve performance and are there any in design?
A cache might speed things up 30-50%, but it's pretty software dependent. There aren't any cache cards announced at present.
>--dominic
>BTW, Dave and all the rest of the guys at C=, you did an incredible job on
>the design of the system. No ifs ands or buts, it was done well!
Thanks!

Build your own One Megabyte Memory Card

Due to unprecedented demand, AUG have had manufactured another 15 DO IT YOURSELF, 1Mb memory cards for the A1000.

The board features up to 1Mb RAM (using 41 256's + the Texas Instruments THCT 4502 RAM controller), a battery backed clock (Motorola MC146818) and plugs directly onto the expansion **connector** on the side of the A1000...
The design does not autoconfigure in it's original form although it can be modified to do so (see WORKBENCH April 1989) and does not pass the bus.

The project is recommended only for those with experience in electronic assembly.

The PCBs should be available at the June meeting for $60.00 (cheque only, made out to AUG) This includes assembly instructions, schematics, diskette, parts list and a programmed PAL chip (autoconfigure version).

This project is an original design by Alan Kent.
For further information contact Michael Woodward at the meeting or on 763 4046 AH.

Tons & Tons of Goodies 3

Courtesy of Allan Duncan

THE AMIGA 3000 CONFERENCE, WITH DAVE HAYNIE

This is an edited transcript of a live conference which took place in People/Link's Amiga Zone club on the evening of April 26, 1990. Our special guest speaker was Dave Haynie (Plink: HAZY), who works at Commodore Business Machines in West Chester, PA and is one of the primary designers of the new Amiga 3000 (as well as other Commodore computers as you'll see below).

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Commercial publication of this transcript is expressly forbidden without prior written approval of THE AMIGA ZONE.

This transcript was edited down from a real-time capture which lasted approximately three hours. A long intro explaining our "auditorium" conferencing mode and other spurious comments have been deleted.

At the peak of the conference, there were 123 people in attendance. This was the largest single conference ever held in the Amiga Zone. The list of attendees at the end of this transcript reflect only the Plink conference IDs of those who actually spoke during the conference, not everyone who was in attendance.

---[begin edited transcript]-----

(HAZY) Hi, all. My name is Dave Haynie, and I have this neat canned text for you to read:
Dave Haynie - Sr. Systems Engineer With Commodore since October 1983, projects include:
Commodore PLUS/4Hired to help finish this
Commodore 1282nd in command on the HW
Amiga 2000Engineer/Project Leader/Etc.
Amiga 2620Took over 1/2 way through
Amiga 2630Engineer/Project Leader/Etc.
Amiga 3000Designed much!

AMIGA 3000 - Systems Design Team
Hedley Davis: Project manager, designed preliminary DRAM controller <RAMSEY>, worked with the PCB designers, worked on most of the "nice touch" details.
Dave Haynie : Designed much of the basic architecture, Zorro III specification, BUSTER chip, Coprocessor slot.
Greg Berlin : The other Basic Architecture guy, designed GARY and production RAMSEY chips.
Scott Hood : Designed the Display Enhancer chip <AMBER>, worked on the later DMAC revision.
Jeff Boyer : Designed the DMAC chip <now working at GVP>.

AMIGA 3000 Features:
68030/68881 @ 16MHz or 68030/68882 @ 25MHz
ECS chips with 16/32 bit bus
Basic 2 meg RAM expands to a max of 18 megs on-board
Built-in Video Display Enhancer <like flickerFixer>
32/32 bit DMA SCSI at 68030 bus speeds
Four Zorro III slots, full 32 bit A/D with Zorro II compatibility.
One 200 Pin CPU slot for advanced 32 bit enhancements 32 bit ROM
Low profile case <cutest machine since the 1000>
US List Prices <gee, a marketing thing>:
16MHz/40Meg $3299
25MHz/40Meg $3999
25MHz/100Meg $4699
SOME WORKBENCH 2.0 Features <keeping in mind I'm not the software group>:
"New Look" Intuition, with OOPS
Major Workbench rework
"gadtools.libarary" for consistent and easy to write applications
"commodities.library" for "hot key" and similar tools
AREXX! <Yea Bill!>
Even Faster FileSystem with LINKs
Reworked DOS with BCPL exorcised
Support for all ECS and Hedley monitor modes
Reworked Preferences system
ALL KINDS OF OTHER STUFF

Well, that's all the canned stuff I had time to write, guess we should get to questions.

(*MAVERICK) Could you explain what the new display modes will be <GA>

(HAZY) The display modes are the normal Amiga modes, plus the new ECS stuff. ECS includes the ability to display PAL or NTSC on the same machine, and some new modes based on 35ns pixels. Those include 640x480x2 noninterlaced, 1280x200x2 noninterlace, 640x960x2 interlaced, and 1280x400x2 interlaced. The VGA-compatible port does the proper scan doubling, scan conversion, or just plain "get out of the way" to convert mode modes into something the average VGA monitor would be happy with. The custom chips operate at the same bus speed as in the 2000, however, the CPU has 32 bit access to chip RAM, effectively doubling the CPU interface to the chips. DONE

(*FORD PREFECT) Does commodore have any intention of giving us a new Paula with more sound channels in the forseeable future? ... <it can't be THAT hard to add a few DAC's> ga

(HAZY) Well, while I can't really comment on unannounced products, it's a safe bet that work has been going on in this area for some time. Adding DACs might seem easy, but you have to realize that the video chips are all NMOS, and about as big as NMOS chips ever get, due to heat considerations. DONE

(ELRADOR) What is the BUSTER chip's job? GA

(HAZY) BUSTER is the Bus Controller, not exactly an acronym. In any case. its job is to take 68030 signals and convert them to Zorro II or Zorro III signals. as appropriate, for CPU access to expansion bus. Going the other way, it converts bus signals into 68030 signals during DMA. It 's also responsible for bus arbitration of CPU slot, SCSI, Zorro II and Zorro III. DONE

(SNOWBIRD) Okay, so the custom chips are still not 32 bit, just what kind of bottleneck... can we expect with heavy calls to chip ram, like in video? How is that flow... handled? And do you still accept macadamia nuts?

(HAZY) In what terms? As compared to an A2000, CPU calls to chip RAM go slightly better than twice as fast on the 3000. As compared to a Mac II with NuBus video, our CPU-to-video RAM interface is about 1.4 times faster. As compared to standard VGA, it's about 4 times faster. And yes, Macadamia nuts rule.

(*TMCKEEL) Why the limit on colors with increased resolution? Future improvements? GA

(HAZY) All video chip functions work the same as on an A2000. Though of course, there's relatively little need for productivity mode, with the scan converter built in. The limit on colors in the Denise 31kHz modes are a result of the Denise architecture. Color registers really run at lores speeds. However, normally, at hires 15kHz modes, registers are basically doubled up and multiplexed out, so that the effect is the same as if they ran full speed. However, the speeds involved with 35ns pixels were such that this multiplexing had to take place bascially after the color lookup stage, not before. So 12 bits get muxed into 6. The problem is the 3 micron NMOS technology.

(CRYO) Is the non-disclosure lifted on the A3000 and <1.4>2.0? Does this conference meand everything is now "public knowledge"? or are you just <bending> the rules? GA

(HAZY) As far as I know, "Introduction" cancels out "non-disclosure". However, as Andy Finkel suggested, developers would be wise to check their agreements just so they don't get hosed. From my point of view, everyone at Commodore's talking now, no one's told us to stop, and in a day or two it'll all be moot anyway. But I ain't no lawyer :->

(JUMPDISK) Quick list of the new chips & their jobs, please? GA

(HAZY) BUSTER Expansion bus controller and bus arbiter GARY Local bus controller RAMSEY DRAM controller and SCSI address generator DMAC SCSI DMA data path chip AMBER Scan doubler/converter, similar to what flickerFixer does

(SB1107) How much of this can be upgraded on a 2000... how many and what kind of slots are in the A3000.. and is there a HD drive and format being relased for the A3000 as per rumor? GA

(CBM*HARV) [quick comment.. I've seen the June Amiga World.. wonderful pictures of *eveything* in there.. should be out this week]

(HAZY) Well, with an ECS chipset, A2630, A2091, and flickerFixer, you can almost get to where the A3000 starts out, minus the 32 bit chipram and 32 bit DMA. Also, A2630 memory is only as fast as the slowest A3000 memory. There's no way to upgrade an A2000 to 32 bit chipram, Zorro III, or the new CPU slot. High density floppy? There will be something eventually, UNIX compatibility requires a 1.44 meg floppy. Slots: 4 Amiga slots <Zorro III, which means they support Zorro II as well>. On the 3000, they're horizontal, and the middle two have AT slots in-line with them, the top slot has the video slot in-line with it.

(DANBABCOCK) Does the built-in flickerfixer handle both NTSC and PAL modes? Does it support "overscan"? <to what extent?> What kind of RAM is used for the ff buffer? GA

(HAZY) The Video Display Enhancer supports PAL and NTSC with overscan; at least a reasonable amount, I don't know it's limits offhand. The Amber chip works with special line and field store memories, something like what they Use in digital TVs. And it's reasonably smart -- if you kick Denise into 31kHz mode, it gets out of the way. If you Go into a non-interlaced mode, it only scan doubles, so there's no ghosting. Only thing it doesn't do a nice job on is the 1280 pixel modes, since that would take twice the memory and a chip that goes twice as fast <DONE>

(AMIGA*BOB) Is the video slot a different form factor than 2000? How compatible? Can you fit an AT Bridge in the 3000 and not lose the adjacent slot? Where would Bridge disk drive go..doesnt look like much room for it in the pics. GA

(HAZY) The slot spacing is the same, so an AT card would obscure the adjacent slot. Sorry. The video slot is the top slot; we had to use the extra space there, rather than for an AT, since all video cards have the option of being fatter than a normal Zorro card. Any video card that followed the specified form factor will work <see A500/A2000 Technical Reference Manual>, though ideallly it'll want a different end plate. Those that use all the available, rather than specified, space in ... The A2000 won't fit. That's why we write specifications :-> DONE

(*D.HOOT.MAN) Is the 2meg Agnus new ? Will my 1 meg agnus need replaced ? <a2500> GA

(HAZY) The 1 meg versus 2 meg is the same internally, but packaged differently. 8732A vs. 8732B. You can't easily add one to your A2000 because the pinout is slightly different, and you don't have another meg on the chip bus. I suppose some of the Agnus hackers working on A1000s right now might cram it into your 2000, but it wouldn't be real pretty.DONE

(CJCARTER) Dave, Do you see CMOS in the future of the AMIGA family? and What is the data transfer rate of the DMAC? <GA>

(HAZY) All the gate arrays <Buster, Gary, DMAC, Amber, RAMsey> are CMOS. CMOS is the future. And the present, for that matter. The DMAC does somewhere around 20MB/s, certainly a tad more than the 4-5MB/s you can squeeze out of synchronous SCSI. The FIFO helps with bandwidth, but the DMAC is fast enough to ... take over the bus, transfer a single longword, give back the bus, and still keep up with SCSI. DONE

(K DAVIDSON) What brand hard drive<s> are in the 3000 ... Do you have any performance data on them or the new file system... And, by the way, what's the new file system called? {ga}

(HAZY) Right now, they are using Quantums, same as in current 2000HDs and 2500s. I'm a little confused about which low-end drive we're using; we looked at both the normal Q40S and a new 50MB drive from Quantum. The 100 Meg drive is definitely a newly designed Quantum, I have one of those puppies in my office. DONE

(HOWARD A) What is so different about the 2.0 OS for the 3000 and the 2000 that requires a September release date for the A2000? and ... What version of UNIX and when? <system V.4?> GA

(HAZY) The current dealer demo 3000s have a Beta 2.0, which can be upgraded from floppy. The 3000 pretty much needs either 2.0 or a magic version of 1.3.2; both are on the demo units. These may as well be on the first release units, but they won' ship 3000s for real without a pretty stable 2.0. The final, frozen version of 2.0 is expected by September, at which point all 3000s get real 2.0 ROMs, rather than the magic ROMs they ship with. At that point, the other machines...

(HAZY) Get 2.0 as well. At least, that's what they tell me. The current 3000 ROMs do SetCPU type MMU stuff to give you either 2.0 or 1.3, selectable at powerup and loaded into RAM. It's AT&T System V.4, the one with the ABI, which goes along with AT&T's new policy of letting you call it UNIX rather than AMIX or something. When is the question I can't answer. It's very far along, but there are marketing and AT&T factors enough such that I can't even venture a guess, other than "this year". DONE There are MONSTERS in the UNIX group :->

(EWHAC) Am I to understand that the boot screen which lets you select a boot device is not going to be permanent?

(HAZY) There are two screens. At powerup, the double-mouse holding <like 26x0> give you a 2.x or 1.3 boot menu. On reset, or if you're quick on powerup, you get the device menu. There's also a secret one that comes up if an ... Autoconfig device malfunctions. The latter two are permanent, far as I know. Once 2.0 is firmly in ROM, the OS select on powerup menu goes away. That wouldn't likely work on other system, anyway. Only the A3000 really knows when it's been powered up vs. keyboard reset.

(OZR626) Why only 25 MHz when other computers are running upwards of 40MHz<i.e. the MacIIfx>... will there be educational discounts...what is the resolution of 31KHz mode...

(HAZY) Several reasons. First, look at the Mac IIfx. The CPU/FPU and cache go at 40MHz, but the rest of the system goes at 20MHz. That's not bad design, actually. There's not much, other than static cache and CPUs, that kick enough butt to run at 40Mhz. Sip, Sip Now, regardless of the

CPU speed, the A3000 motherboard stuff was pretty much constrained to 25MHz, just based on DRAM speed, gate array speed, etc. I look at these machines as platforms, and spend more time than you might think working on things like Coprocessor slots. You could put the same kind of 40MHz or 50MHz CPU/FPU/Cache in the A3000 CPU slot and have a IIfx-alike. But if you don't want that, you get a really good 25MHz system at a really good price. And soon you won't want a 40MHz '030 anyway, you'll want a 33MHz 68040 or something. That'll work, and in fact, There are a few A3000 features the 68030 doesn't use that the '040 will be real happy with.

Well, there is this new one, which does the VGA-type resolutions, and the normal NTSCs with a switch. 1950, I think. That's the sum knowledge I have on the monitor. They're all OEMed, and sometimes we're the last to actually get any. I'm using an A2024, pre-release, as we speak. If you like NeXT-ish 4 grey hireshiresolution, get one. They're cool.

(LARSBO) Will the Amiga charge cards be usable for the 3000? <ga>

(CBM*HARV) Larsbo.. remember you're talking to a hardware engineer. Credit Card stuff is better asked to dealers or marketing folks comment: the amigaworld article says... A1950 monitor, $799... A2024 monitor $749

(-CAS-) Any disk caching in our future..and anything about Ethernet/novell product? <ga>

(HAZY) The FileSystem has always supported software caching. I don't see any HW caching on the immediate horizon. I've been using the Ethernet board with old software for the last 6 months or so, and I wouldn't be without it. Client FTP and NFS, thought the new software is supposed to go in both directions. The Novell stuff is based on an ArcNet card, and I've seen it work. Unlike with PCs, where you run a whole new OS, the Novell works much like NFS on an Amiga. DONE

(*TIM) Off hand do you know who makes the 1950 <mitsubishi diamond scan, perhaps...>?

(HAZY) Sorry, I don't know that one. In the past I kept up with the OEMs, but this hads been an execptionally busy year. DONE

(BBROOK) The Bridgeboards come packed with a 5 1/4 drive. The 3000 has no space for a 5 1/4 drive. Are they going to unbundle ... them or what -- also you mentioned doing a lot of work on coprocessor stuff does that mean a 2640 soon? ga

(HAZY) BBROOK: **Marketroid Question** I believe they should, or offer the option of 3.5" or external. What they'll do remains to be seen. How about I ask, that's a good question. DONE

(STEVEX) 3640? 8->

(ROBT*CCN) You mentioned a 32/32 bit DMA SCSI, will this be the new SCSI II formfacter, what kind of x-fer speed can we expect from say a 20-30ms Hard Drive and how will the... new FF with links affect floppy speed? Does 2.0 have Virtual Memory capabilities in the future and did you let slip that a 68040 will work in an A3000? <GA>

(HAZY) Now, about that SCSI question... The SCSI does support SCSI-2, but don't confuse that with SCSI-16, which no one supports.

Far as I know, the SCSI-2 protocol is still limited to transfer rates of 4-5 MBs/s. However, based on the hardware caching done in the drive, or lack thereof, you may never see such rates. The drives to have to seek.

(ROBT*CCN) How will the new FF with Links affect floppy access... Does 2.0 have virtual memory capabilities for the future and did you let slip that the 68040 willwork with the A3000 with other features... <GA>

(HAZY) OK, Links first. There are logical and hard links. I don't know how they affect floppies, though. I imagine logical links across volumes would pop up "Please Insert" requestors, if they linked to the volume name. I don't know what physical links would do, eor if they're supported across volume. The 2.0 OS has VM "hooks", in that, you can write 2.0 programs that will be VM dfriendly, including DMA HD drivers. VM isn't built-in, but could certainly be an add-on before 3.0 is out :-> And yes, I designed the Coprocessor slot with foreknowledge of the 68040, and we put in stuff that made sense with the 68040 where it fit. This was all done before we saw a real '040. DONE

(DOGBONE) Yes, I've heard the the 3000 has 1MB of CHIP and 1MB of FAST ram, and that you can punch these out to 2MB and 4MB respectively... What type of memory can you install on the motherboard and is it socketed? GA

(HAZY) The 3000 comes with 1 Meg Chip, 1 Meg Fast. Both megs are socketed, 256Kx4 DIP parts. Whoops, the first meg of Chip isn't socketed no reason for it to be. You could yank out the Fast RAM and plug the same chips into the chip bus, for 12 Megs Chip, 0 Megs Fast, when you get the machine. Then, however, you'll notice many rows of ZIP sockets <yes, we finally found XZIZIP sockets that work>. These can be upgraded, a meg at a time, with 100ns or better 256kx4 ZIPs for 4 meg total Fast memory...

(HAZY) Or with 1Meg x 4 ZIPs for a total of 16Meg Fast memory. If you get static column memory, you'll go faster than with the more common page more memory. DONE

(GROGERS) Will the VGA port support the 1000 + pixel resolutions? is the processor slot optimized for use with cache ram? kind of a shame to have a 25 mhz cpu with 100ns dram. how many waits with sc dram? any idea if there will be a Vd0 equivalent in 2.0?

(HAZY) The 1000+ resolutions come by way of a Hedley monitor, since VGA doesn't do 1000+ resolutions. Other than that, you'll need a video card like the ULowell or HiTension. The processor slot is deigned to support add-on cache for the on-board CPU as well as CPU boards with their own cache. (RAM either for their graphics device or ...) The difference between 100ns DRAM and 80ns DRAM isn't enough to give you back a wait state. We run fewer wait states than the NeXT, and the same or better than the Mac IIci. The IIci requires 80ns DRAM either for their graphics device or ...

(HAZY) Because they weren't making their own DRAM controller. At 25MHz, we run 5 clock standard access <like the A2630>, 2 clock burst with SCRAMs, and 3 clock page detection hits with SCRAM. At 16MHz, it's a 4 clock standard, 2 clock burst, and either 2 or 3 page hit <shoulda asked Greg today>

(C POIRIER) Fan noise been reduced? Also,... Idea: ever think of putting a variable voltage on the fan, controlled by a signal monitoring average power supply drain? GA

(HAZY) Funny you should mention that. I'm not sure if it's in the demo units <though the fan is, at worst, quieter than the 2000's fan>, but one of the "nice touch"th things Hedley's been working with is FAN.

(HAZY) There's a heat sensor which determines how fast the fan should go and, consequently, how noisy it gets. DONE

(J. WOLF) About the floppy drives... Can the 3000 support HD floppy drives & if so, why was one not included with the system? GA

(HAZY) They're working on HD floppies, which are required by UNIX. There are several options for adding these to the system, each of which involves "cleverness" rather than "new Paula".

I don't know enough about the direction they're leaning in to comment much furtyher. It would require a modification to the current trackdisk, but it could very well be "in there" by the time 2.0 is frozen.

(EWHAC) Why does UNIX care one way or the other about floppy density/size? GA

(HAZY) Because of ABI. UNIX standards are currently 1.44 density floppies, one kind of tape cartridge, and one kind of reel magtape. If you want to go into a store and buy APP-X for "68030 UNIX", you need to get in on your machine easily.

(OSS935) Does the SCSI controller support removable media <ie, Syquest>? <GA>

(HAZY) The A3000 scsi.device supports DiskChange. DONE

(G KINSEY) Dave, a VERY rough estimate on when the next-generation Agnes/Denise/Paula will be done? <i.e. how many years?> Also possibility for more A3000 slots via a add-on cage or a larger A3000? GA

(HAZY) I can't say much, but I'd be surprised if we didn't see more new stuff at leas bt in 1991. There are lots of things happening in paralle at Commodore. You could add one more A3000 slot and many more IBM slots with a new daughterboard/backplane. The Zorro bus needs slot specific signals as well as the bussed signals, and I ... made more use of these three lines in the Zorro III bus than Zorro II did. So you can't add slots without expanding the bus controller. DONE

(*JON*K) Dave, what problems do you forsee with the 3000 not having a 68000 and having WB 2.0? Does it look like most software will .... break? Also, earlyier you mentioned a limit on the video port. Does it look like there might be problems with the Video .... Toaster? GA

(HAZY)) Once 2.0 is solid, I forsee little trouble. There may be programs that don't work on the 68030, but realize that they've had almost two years of official CBM 32 bit machines, not to mention 3rd party machine ...<which didn't easily allow use of the 68000> to get their act together. I put the "reboot to 68000" feature in there to help out developers who only have 1 machine; I wasn't thinking compatibility of bad applications.

The software group and CATS are actively working with folks who've had problems with 2.0 to get the differences resolved. The level this, as I see it, is an order of magnitude above the 1.3 effort. DONE

(SKEEVE) Newtek reps told me that electrically the Toaster will work with the 3000, but that they'd need to have a different physical design

(NY*JIM) 2.0 has been available to software devs for compatibility testing, so anything that might break is fixable

(THING*) What effect will the 68030 lawsuit/production-trec have on 3000 production? And is there SRAM in the "near" future? GA

(HAZY) Currently, the lawsuit has had no effect, since Moto can still sell them. Personally, I think Moto will do anything they can to talk with Hitachi, since the '030 is estimated at over 20% of their business.

If you're talking SRAM memory for the 3000 system, don't expect it from Commodore. But I know of a 3rd party with prototypes for the A2620 that would sit comfortably in the 3000 CPU slot and go at full 68030 speed

(HAZY) I think, for the power user, cache in the CPU slot make more sense, but with 2-4 meg of no wait SRAM, the average user might never go outside of that memory. The CPU slot supports and address space decode of 128M of RAM, and the OS considers it the fasteat memory in the system is there's any there. DONE

(KRAIM) Dave, are the custom chips now running 25MHZ with 32 Bit access, and are there plans for a de-interlacer for the 2000? GA

(HAZY) The custom chips, or more likely, the Agnus/Denise/Paula, are still clocked with one or both of the 7.16MHz clocks, as in an ECS 2000. The chip memory is 32 bit wide, but only the CPU can take advantage of that.

(HAZY) All the new bus-oriented A3000 chips ‹ Buster, Gary, DMAC, RAMsey› are clocked with one or both of the 16 or 25MHz clocks. For the non-technical, I should point out what I mean by "one or both". There are two phases of both 7.16 and the 16/25 MHz clocks.

If a chip uses both, it is essentially running at twice the clock frequence. For example, the Buster chip I designed uses both 25MHz clocks, and parts of it are basically running at 50MHz, though using the 90 degree clocks makes it

(HAZY) Easier to build the chip ... 50MHz anything is hard to deal with. DONE Oh, de-interlace. It's feasable, but it's a **Marketroid Question**

(KEN BAER) Dave, are there any special provisions in the A3000 architecture for expanded graphics beyond ECS resolutions? Also, any problems getting the ULowell Board to work on the A3000? Any efforts to update the graphics.library to support it?..

(KEN BAER) And what is the HiTension board you mentioned? GA

(HAZY) Most of the ULowell work is done, not surprisingly, at ULowell. But they've worked with our UNIX group on color X, and will undoubtedly work with the appropriate folks under AmigaOS. New graphics.library isn't, for some reasons... I am not familiar with, harder than you think. In that the Zorro III bus has at least a 2 ‹ 16MHz› to 4 ‹ 25MHz› times improvement in bandwidth over Mac's NuBus, there's no doubt you could build bus-resident graphics boards that go fast.

(HAZY) Any new AMIGA chips are likely a Zorro III card, a motherboard swap, that kind of thing.

An English company at Paris DevCon. They build Air Traffic Control simulators or some-such. They have two graphics boards, one 1600x1200 or so, with 16 colors, the other has 256 colors. Not sure of the palette. Good board

(HAZY) Worked in the 3000. They build this for a software vendor who does the dedicated app; I don't know if they sell it sepatately.

(SKEEVE) On behalf of PLINK, I'd like to extend our thanks to Dave for helping make history tonight. ‹ 123 simultaneous users in a single conference line› Plus for being willing to do this conf. and also for being a heck of a nice guy! ;)

(CBM*HARV) That's it! THANKS TO EVERYONE FOR YOUR PATIENCE... THANKS TO DAVE HAYNIE FOR HIS GREAT INFORMATION...

(JUMPDISK) Thank you Dave

(SKEEVE) THANKS DAVE!!!!

(AMIGA*JOHN) Thanks mucho, Dave.

(HOWARD A) Thanks Dave

(CONF*CCN) Nice going to Dave, and the moderators; Skeeve, DJAMES, and Harv for actually controlling and organizing 123 people for the largest PLINK conference ever! GREAT JOB!!!

(CBM*HARV) WE ARE NOW OUT OF [AUDITORIUM] MODE...

(BAUDMAN) Yeah thanks... Oh Holy Hazy!

(STEVEX) Thanks, Dave.

(KRAIM) Thanks Dave

(G KINSEY) Thanks Dave!

(EXPRESSWAY) Thanks Dave!

(EWHAC) Excellent talk Dave!

(DAVID-C) Thanks, Dave

(THING*) Thanx Dave! Hip,hip.....

(OZR626) Thanks dave!!!

(RICHW) Thanks Dave

(C POIRIER) Thanks, Dave.

WOLF) THANKS DAVE!

—[End of edited transcript]—

[illegible] spoke (in order of appearance):

*** ERICK*FORT) PRESENT

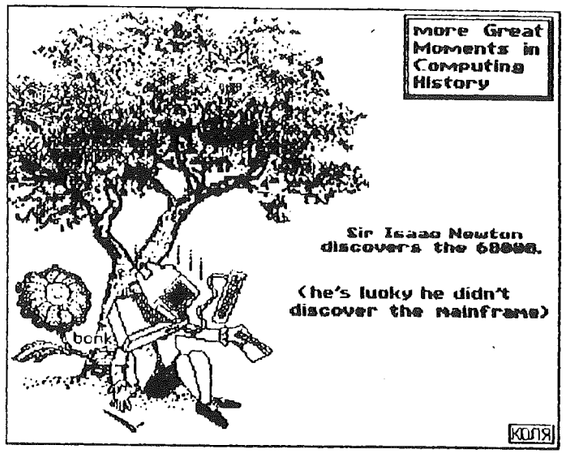
[illegible] WBRIT*TMCRIL

DUMPDISKSBT10?

CBM*HARVDANBABCOCK

*D.ROOT.MANCJCARTERK DAVIDSON

HOWARD AEWHACOZR626
-CAS- *TIMBBROOK
STEVEX ROBT*CCNDOGBONE
GROGERSC POIRIERJ. WOLF
OSS935 G KINSEY*JON*K
SKEEVE NY*JIMTHING*
KRAIM KEN BAERAMIGA*JOHN
BAUDMANEXPRESSWAYDAVID-C



Tons & Tons of Goodies 4
Courtesy of Allan Duncan

Newsgroup: comp.sys.amiga.tech

From: daveh@cbmvax.commodore.com (Dave Haynie)
Subject: Re: Press Release: A3000
Date: 30 Apr 90 18:08:04 GMT
Organization: Commodore, West Chester, PA

In article ‹7681@ubc-cs.UUCP› panon@cheddar.cc.ubc.ca (Paul-Andre Panon) writes:
› If the Byte article is correct it looks like it's porbably so that they can
› design a daughterboard for the ROMs. AmigaDOS 2.0 uses 512K ROMs.
Amiga 500/2000
› ROM sockets are only big enough for 256K.

A500 and A2000 support 512K ROMs. The A3000 has two ROMs, because we want 128K x 32 ROM rather than the 256K x 16 ROM that's possible in a 500/2000.

› Interesting thing was that there are two empty sockets besides the ROMs that
› are exactly the same size.

Actually, what're you're seeing is the difference between EPROM and ROM. The two sockets near the front of the machine are the 128Kx16 industry standard ROMs we've been using for years in the 2000 and 500. The two toward the back of the machine are for EPROMs which Intel, in their infinite wisdom, decided should have a pinout that's different from the one the rest of the world has had for their ROMs all these years.

From: daveh@cbmvax.commodore.com (Dave Haynie)
Subject: Re: A3000
Date: 30 Apr 90 18:19:50 GMT

In article ‹3592@newton.physics.purdue.edu› murphy@newton.physics.purdue.edu.UUCP (William J. Murphy) writes:

› In article ‹11109@cbmvax.commodore.com› daveh@cbmvax (Dave Haynie) writes:
› › All well designed Zorro II cards work in the A3000, as well as an arbitrary
› › number of slightly sloppy designs. Both the 8-Up and the A2088 bridge
› › cards have been successfully tested.
› Hey, I'm glad to hear that my 8-UP memory card is not obsolete, but what
› speed RAM did you test with the 8-UP? I bought 100nsec DRAMs for the 8-UP!
› DIP board, but those won't cut it when running on a 25MHz bus. I think that
› I would need 2.5 (3?) wait states for them to operate with the faster bus/CPU.

The 8-UP! is a Zorro II card. Since Zorro II is a synchronous bus based upon the 68000 bus, it will always run a minimum of four 7.16MHz clocks for any memory cycle. So Zorro II cards run the same speed, regardless of whether hooked to an A2000, an A2500, or an A3000. They work, but they won't be going any faster on the 3000. I don't know what 8-UP! requires, but for most Zorro II cards, 120ns DRAM if not 150ns DRAM is all that's necessary; anything faster is a waste.

› Wouldn't I be just better off buying an A3000 and expanding the RAM on board?

Yes you would. Expanded A3000 motherboard memory will go much faster than any Zorro II memory board, and a bit faster than any Zorro III memory board. It's really efficient, very closely coupled with the CPU speed and driven by a custom ASIC called RAMSEY.

› I'd rather sell the › A2000 and 8-UP to purchase the A3000.

That would be a reasonable thing to do if you only need one computer and that one computer is an A3000.

From: daveh@cbmvax.commodore.com (Dave Haynie)
Subject: Re: A3000 & Unix
Date: 30 Apr 90 18:30:45 GMT

In article ‹23082.263a1092@kuhub.cc.ukans.edu› markv@kuhub.cc.ukans.edu writes:
› In article ‹3399@baird.cs.strath.ac.uk›, bsyme@cs.strath.ac.uk (Brian J Syme IE88) writes:
› › Is the 16MHz machine upgradable to the 25MHz specification, or is
› › that major surgery?
› Doubtful. The picture of the motherboard (in both Byte and the June
› AmigaWorld) show both the 68030 and 68888 being soldered on surface
› mount devices. Those babies are there to stay.

Unless you're a real maniac with a solder iron, you don't change the motherboard CPU/FPU. A real simple CPU coprocessor slot card can be built to run the system at 25MHz.

› › Do the custom chips have full 32 bit data paths?
› The custom chips and chip RAM are still on the same 7.16MHz 16 bit bus
› (they have to be since they are the same chips).

Actually, Chip RAM is 32 bits wide, but it pretends to be 16 bits wide when the custom chips access it.

From: daveh@cbmvax.commodore.com (Dave Haynie)
Subject: Re: A3000 & Unix
Date: 4 May 90 13:36:24 GMT

In article ‹MWM.90May2110230@raven.pa.dec.com› mwm@raven.pa.dec.com (Mike (Real Amigas have keyboard garages) Meyer) writes:
› And now for a hardware question: how much of the A3000 hardware is
› tied to the clock rate? The cpu has to be, and I hope the memory is,
› but how about the IO hardware, etc?

Most of the motherboard logic is pretty closely tied to either 16MHz or 25MHz, and possibly another factor or two (like ROM speed, for instance). Chips that need to know about clock speed have jumpers that tell them what speed they're working with. The memory controller, for instance, is very tightly coupled to the clock speed. This makes it quite efficient, but no-adjustable. The memory cycle changes between 16MHz and 25MHz systems, based on the different tradeoffs that occur based on clock speed vs. memory speed. Some motherboard timing (eg, for slower things) comes from the 7MHz clock, since we know that never changes.

The expansion bus is CPU clock speed independent. Zorro II cycles, of course, always run at 7.16MHz, and which means, since our controller syncs Zorro II to the CPU bus speeds without caring about the CPU bus speed (it's very likely that Buster chip speed would become more of an issue at higher-than-25MHz rates than actual Buster chip logic design). The Zorro II bus is asynchronous and clock speed independent, though any given Zorro II bus controller (such as Buster) will likely use a clock or two for it's implementation of the Zorro II cycle (Buster, in fact, uses both the 25MHz CPU clock and a second motherboard clock that's delayed 90 degrees from this CPU clock).

Some Printing and DME Tips.
by Peter Billing, Yinnar South.

First out with the map and find Yinnar South. Hint: it is in Victoria.

Being a teacher, I am not supposed to do any school work at home, due to a work to rules campaign during Feburary, so I thought I would write a few lines to you.

One of the biggest problems I have had with the Amiga is getting it to print what I want. I would send codes to the printer and the print driver would just wipe them out. My solution up to now, was to transfer my files to my CPM system and print them from there. I have my Microbee and Amiga permanently connected for this type of operation. The main problem I was having was the adjustment of line spacings. I need to print lists on A4 lined paper. I have a program on the Microbee which does this. I tried the program on the Amiga with no success.

I have in the past asked a number of people how to overcome this problem with little success. By accident I discovered an answer the other night while flicking through the Basic manual. I cannot remember the last time I used a LPRINT function in a Basic program preferring to use a PRINT #2, and assign #2 to either PRT:, CON: or a file name. I can then use the same routine to send the information to any of those three files. I have now discovered if I assign #2 to PAR: instead of PRT: the information goes straight to the printer without being filtered by the print driver. I can now reset the line spacing, use any of the four fonts and a number of other features that the standard printer escape codes do not cover.

I now use this method with the text editor, DME, I use. To print a file I now save it to PAR:. While talking about DME I thought I would mention a couple of key mappings I have set up and the way I work with this program. The last command in my .edrc file is 'load dme.file'. This file is then loaded every time I start DME. This file contains a list of other files and directories I am working with. The list is written in the following way:

```
topedge 0 height 150 newwindow newfile Dme:Dme/School/School.Files
topedge 0 height 150 newwindow newfile Dme:Dme/Health&Safety/Dme.Files
topedge 0 height 200 newwindow newfile Dme:Dme/General/General.Files
topedge 0 height 150 newwindow newfile Dme:Dme/DF0.Files
topedge 0 height 150 newwindow newfile Dme:Dme/DF1.Files
```

I now place the cursor on the line I what to work with a press

Alt-z and a new window is started with a new list of files. If I was to do this on the school files line I would get in part the following in a new window:

topedge 0 height 100 newwindow newfile Dme:Dme/School/Reports/Report.Files
topedge 0 height 250 newwindow newfile Dme:Dme/School/Year7.OutLine
topedge 0 height 250 newwindow newfile Dme:Dme/School/Thoughts_for_1990

Using this method I can quickly open any number of files and directories and cut between them. I find this a lot faster than using the ARPLOAD command and opening a file requester or guessing at the name and directory of a file by using the command line.

The Alt-z key is mapped as follows:
map 'a-z' 'unblock block block bsource'

And here is one that I made up while writing this article. One feature that I missed in DME was right justification. When I needed this feature I either ran the document through NRO, PROFF or loaded it into UES and reformatted the document. After reading the article by Mark Kelly and seeing him testing for a column position I thought I could use that to map a key to give right justification, and I did. The hardest part was making it stop when it got to column 1. After I had it successfully doing a line, I rewrote it to do a paragraph. All you need to do it put the cursor on the first line of a paragraph and then press the keys you have the command mapped to. When setting the value for 'x' it needs to be '1' more than the value for the right margin. The small value for 'x' needs to be about '10' less.

These next few key mappings call other key mappings, sometimes I did not know you could do until I re-read the document and looked at some other example key mappings. I have mapped some of these keys to nearly impossible key combinations. This key map calls a key mapped to Alt, Shift, Ctrl, Keypad 1, Left mouse button and Right mouse button. Try holding them all down at once. I can't, as I use Dmouse, which switches windows when both Left and Right button are held down together. I have been writing this article over a couple of days and testing the key mappings on a number of files. Although the above key mapping works, I found it unreliable. I do not know why. I have therfore altered them to just Alt, Shift, Ctrl and Keypad.

Right Justify paragraph with 75 margin
map a-1 (asc-nk9 margin 75 first reformat asc-nk0 down)

Right Justify paragraph with 75 margin and 6 left margin
map sa-1 (asc-nk9 set indent 6 set lmargin 6 margin 69 first reformat ping 9 asc-nk1 pong 9 asc-nk0 down) # Indent paragraph.

The next mapping is nearly the same as the above except that it indents the first line 10 spaces from the left and the following lines 6 spaces. I found by turning wordwrap off it works faster.

map a-. (asc-nk9 set indent 10 set lmargin 6 wordwrap off first margin 65 reformat down if cright<> 0 (margin 69 reformat) up ping 9 asc-nk1 pong 9 first asc-nk0 down)

When numbering paragraphs and you want the numbers to stand out use the following. It is slightly different to the above.

map a-, (asc-nk9 set indent 6 set lmargin 10 wordwrap off first margin 69 reformat down if cright<> 0 (margin 65 reformat) up ping 9 asc-nk1 pong 9 first wright wright while x< 11 " " asc-nk0 down)

These are the key mapping that are included in all the above.

This one toggles between adding spaces at the end of line and adding them
to the front on the next line. This stops getting columns of spaces at the
end of lines.
map asc-nk0 (settoggle 1 while cright<> 0 (ifelse 1 (asc-nk2 resettoggle 1) (asc-nk3 settoggle 1) down))
This is used to put the spaces at the front of the paragraph.
map asc-nk1 (first repeat $indent " " down first while c> 31 (first repeat $lmargin " " down first)))
Space line from the end of the line.
map asc-nk2 (last if x=> 64 (ping 9 while x< 76 (pong 9 wleft ifelse x=1 (last ping 9)(' ' ping 9 last)))first)
Space line from the front of the line.
map asc-nk3 (last if x=> 64 (first wright ping 9 last while x< 76 (pong 9 wright ifelse x=1 (last ping 9)(' ' ping 9 last)))first)
Skip over blank lines to next paragragh.
map asc-nk9 (first while cright=0 down)

Seeing I wrote one to put extra spaces into a paragraph, my son told me I had to write one to take them out. I tried different methods and the one below works the best even if it is a bit slow.

map a-h (first while cright<> 0 (while c=32 del right if c=32 (right while c=32 del) if r (down first))))

This is one I wrote to clean up Word Star files. WS changes a bit in the last character of a word to indicate a 'soft space' that is a space that has been put in to justify the line.

map a-w 'while !b 'if c> 127 'tlate -128 'right if r 'down first"'

I also use a very similar paste, cut and copy to Mark. The difference is that I use RAM: rather than t:. This works faster and saves on disk access. I also mapped a-del as follows.

map a-del 'unblock block block bsave 'ram:dme.delete' deline first unblock.'

I can then undelete a line with:
map sc-y 'insfile ram:dme.delete'

I use 'sc-y' key as 'c-y' is the delete line with WS which I am used to using.

I use the following mapping to put my address and date at the top of letters.

map sc-a 'ret first repeat 52 " "'R.M.B. 1240' ret 'Yinnar 3869' sa-d first wright while !l bs repeat 52 " " wright repeat cright del repeat 3 left '19'wright'
map sa-d 'ret execute 'sys:c/date > ram:date' insfile ram:date'

I hope this gives others some ideas how to use DME and key mappings. Although all the above right justfication key mappings work and have been tried on quite a few different types of files, they do not always work the way hoped for. I do plan to work on this further but as this will take some time I thought I would send them in and see if anybody else could fix them and make them shorter. The version I am using is 1.31 from FISH #168. This version is configable in where the first window is started and how big it will be. This disk also has a number of other Matt's programs on it, most with docs. To see more examples of key mappings and how to use source files as commands get FISH #146.

PD Review - Tetrix

During the preparation of this article, I noticed that one of the Australian Amiga magazines (is there more than one?) did a short write up on Tetrix. At the risk of boring you, I decided to complete this article for two reasons: First, Tetrix is an excellent game, and second, the magazine article didn't go into a lot of detail about the game (sorry Phil!). First, some background is in order.

Tetrix was developed by David Corbin (Georgia, USA), after seeing the game on an IBM-PC (can I say that brand name here?). The original game is called Tetris, and there are commercial versions available for many types of machines, including high cost workstations - that gives you an idea of the popularity of the game. Tetris originated in Russia (or Bulgaria - the author is not sure), and is very addictive, like many games which have a simple concept behind them. The Amiga version was written in 1988 using Aztec C 3.6. Source is not included, but if you write to David (his address is included in the documentation) you never know your luck. Personally, I'm not after the source because I haven't found a bug in the game yet! Tetrix is shareware, the author asking for a donation of $20, or whatever you think that the game is worth.

The documentation which comes with Tetrix is about three pages long and contains all of the information needed to drive the game. The three pages are filled with straight forward, no nonsense instructions which means that you don't have to wade through piles of waffle to get started. Let's play...

When the game starts, you are faced with a custom screen with two windows on the screen, one of which is the playing field. The playing field window is a pit, 20 blocks deep and 10 blocks wide, into which objects fall one at a time from the top of the screen. These objects are 4 blocks each in size, and can be one of seven different shapes. The falling objects can be manipulated by moving them to the left, right or rotating anticlockwise. The idea is to manipulate the blocks so that they fit neatly together at the bottom of the pit, and form a line across the pit. When a line is formed, it flashes, disappears, and you get a score for it. A running score is kept along with a tally of the number of lines which you've managed to complete.

Sounds easy? There is just one complication - every ten completed lines, you move up one level, which means that the game gets faster. When you get to level 10 (completion of 100 lines), the blocks travel so quickly that there is barely any time to manipulate them.

The keys used to move and rotate the blocks are the "4", "5" and "6" which can be easily used on the numeric keypad to move left, rotate, or move right. Pressing "2" increases the level by one (unfortunately, there is no key defined for decreasing the level by one). The space bar is used to drop a piece quickly, in the case where you have positioned the piece where you want it to drop. Bonus points are awarded for the use of the space bar. Left handers may find the numbers on the keyboard easier to use instead of the keypad.

If you think that the standard game is too easy, you can select your starting level (the speed at which the blocks fall) and the level of difficulty. A higher difficulty level puts some blocks at the bottom of the pit when the game starts. There are also a couple of other options which are worth mentioning. You can have a preview of the next piece to fall, and you can display a window containing the distribution of pieces which have fallen (i.e. how many of each shape have fallen).

The game can be played either from the Workbench, or from CLI. If you you don't like the colour scheme that Tetrix uses, you can tell it to use the Workbench colours. You can also start the game up with any of the options mentioned previously, instead of selecting them from the menus within the game. Details on these options are included in the documentation provided with the game. I guess my only criticism of the game would be that the high score is reset to zero when the game ends, so unless you keep an eye on the score before the game completes, you don't know what you scored - only the number of lines completed. I'm using Version 1.1 which came from Fish disk number 173. Version 1.0 is available from AmigaLink II, and I've seen Version 1.0 come up with a screen containing a history of the high scores. In all the time that I've used Version 1.1, I've never seen this high score screen come up (maybe I'm not scoring well enough to be put on the list?).

One last thing - the games are randomized, so that each time you start a new game, the sequence of objects which fall should be different to the last game. If you think that you could do better next time with the same game, you have the option of playing the same game over again. That may also come in useful if you are playing against another person - you can both play the same game and see who completes the most rows.

So there you have it - An excellent game which will cost you $2 if you get it from the AUG Public Domain library (on your own disk). From what I've seen, Tetrix is a better quality, more bug free game than many commercial games for which you pay upwards of $40. One final comment - Perhaps games like Tetrix should come with a warning along the lines of "Warning - This game is extremely addictive. Keep away from children if you want access to your Amiga", or "Warning - This game has been known to make people late for work".

NOT MUCH POINT TO IT

J.S. Elston

I am not sure what my original intentions were in writing this programme were, all it does is convert the pointer data to a sprite that can be loaded from Amiga BASIC. As it is the programme was created to perform a job once only and as such is somewhat crude but has done it's job. Of course it assumes that you have a disk in df0: with a devs directory containing a system- configuration file. I do not think that the system-configuration file format has changed with different versions of the operating system but I have only tried it on 1.3.

The programme does not use the colours of the pointer I was only interested in the shape of the pointer. The colours can be found (I think) as the 99th, 100th and 101st words in the file.

I thought that I would be able to load the sprite data directly into the OBJECT.SHAPE command, however it appears that the bitplanes are interleaved in the pointer data but contiguous when used with BASIC, hence the FOR NEXT loop to shuffle the data.

Finally whilst writing the programme I found out that you can change the colours of the current pointer using the PALETTE key word using colours 17,18 and 19 i.e. PALETTE 17,1,1,1 etc.

```
' The sprite header information was
' stolen from the objedit programme on the extras disk
'

' long ColorSetOffset
' long DataSetOffset
' long depth              number of bit planes
' long width              width of object in pixels
' long height             height of object in pixels
' short flags:
'   fVsprite=1            TRUE if its a vsprite, FALSE if its a BOB
collisionPlaneIncluded=2  'never set by this editor
imageShadowIncluded=4     'never set by this editor
SAVEBACK=8  'save background before drawing BOB
OVERLAY=16  'color 0 for BOB is transparent, not black
SAVEBOB=32  'let BOB act like a paint brush
' short planePick         which playfield planes do object planes map to
' short planeOnOff        set to 0 by object editor
' <first bit-plane>
' <second bit-plane>      must begin on even byte boundary
'   :
' <last bit-plane>
' <imageShadow bit-plane>  not currently produced by object editor
' <collision bit-plane>    not currently produced by object editor
'

' This programme reads pointer data from system-configuration file
' and converts it to a sprite that can be manipulated by BASIC.
' written 3rd. Feb 1990 by J.S. Elston.

DATA 00,00,00,00,  00,00,00,00,  00,00,00,02,  00,00,00,16
DATA 00,00,00,16,  00,25,00,03,  00,00,00,00

FOR I% = 0 TO 25
READ Str
Header$=Header$+CHR$(Str)
NEXT I%

Tail$ = CHR$(0)+CHR$(255)+CHR$(0)+CHR$(0)+CHR$(15)+CHR$(128)
```

```
OPEN "df0:devs/system-configuration" AS #1 LEN = 232
FIELD #1,32 AS First$ ,64 AS Pointer$,136 AS Rest$
GET #1,1

' We have to convert the sprite data as it is not stored as 2 separate bit-
' planes but as alternate words.


FOR I% = 1 TO 64 STEP 4
BitPlane1$ = BitPlane1$+MID$(Pointer$,I%,2)
BitPlane2$ = BitPlane2$+MID$(Pointer$,I%+2,2)
NEXT I%

' Add all the bits together to from a BASIC type sprite

BitPlane$ = BitPlane1$ + BitPlane2$
Sprite$ = Header$ + BitPlane$ + Tail$
CLOSE

' Now save the pointer to the current directory as a sprite named "Sprite"

OPEN "Sprite" AS #1 LEN = 96
FIELD #1,96 AS SpData$
LSET SpData$ = Sprite$
PUT #1,1
CLOSE

' Display the sprite until a key is hit

OBJECT.SHAPE 1,Sprite$
OBJECT.CLIP (-100,-100)-(800,200)
OBJECT.Y 1,40
OBJECT.X 1,100
OBJECT.ON
WHILE INKEY$ = ""
WEND
OBJECT.OFF

STOP
END
```

AUGADS

Although there are no ads here this month, keep in mind that there is free space available for members only to advertise something they wish to sell or buy. Their advertisement will be placed for one month only unless resubmitted.

Advertisements can be submitted to:
The Editor AUG
PO Box 48, Boronia 3155
Victoria Australia

SCRAMBLES

(aSsortments of Con's RAMBLES)

by Con Kolivas

One of the commonest things I get asked is about printing. People think that because I do the newsletter each month then I should know a lot about printing. Well put it this way, before I took up the job, I knew just about as much as anyone else, and the newsletter has been my medium for experimentation. Now I finally feel fairly competent, though far from an expert. So let me share with you some of my hints of which not everyone may find useful.

Dot matrix printers... What can I say; everyone has one, and more and more people are going for the flash color ones, and even the rather pricey 24 pin printers (which by the way are coming down in price rather seriously at the moment). The problem with all these people buying these printers is that most of them will never get the best usage out of them.

The most important thing to realise is that just because your printer can do a resolution greater than that of a laser printer doesn't mean that you should use that resolution for every application. Generally, the extremely high density settings are useful only in graphic dumps of text as say from Professional Page or Pagestream. Most people think that the higher densities would produce great picture dumps - on the contrary, the high density printouts tend to be too dark or just plain dont look good. It is reasonable to say that the lower densities will produce a much more aesthetically pleasing result even though they dont look like they are using your printer to it's fullest capacity, especially with color dumps. What you should do (if printing graphics, is find a density where the dots of your printer are just short of overlapping each other both vertically and horizontally, and you should find that this gives you a nice compromise between density and quality . Now this may sound like I'm saying that people with 24 pin printers can't get better printouts thatn those with 9 pin printers. However, although the lower density settings are the same as those in nine pin printers, you will find that you can put the density on the 24 pin printers just that little bit higher.

When it comes to text dumps however, there is one simple rule; the higher the density, the better the final product is. The reason for this is not only because there will be more detail, but because at the highest density setting of a dot matrix printer the dots will be overlapping each other, giving a smoother, more rounded appearance to the edges. Why then you ask does it not give results as good as a laser printer? Well, because the laser does a collection of dots as one nice clean sweep, and the end of the dot is the end of the dot, not the rounded edge of a pin head as on a dot matrix.

As for choice of pictures, after some experimentation you will find that there is one simple rule - the higher contrast the picture is, the more dramatic (and more representative) the final output will look.

As always,
regards,
Con Man 1.4

CLUB NEWS

NWAUG NWAUG NWAUG NWAUG NWAUG NWAUG

North West Amiga Users Group

A geographical Special Interest Group (SIG)
OF AUG

Meetings Held every 2nd Wednesday
at 7:30 pm in Rooms 19 & 20,
1st Floor
Essendon Community Centre,
Cnr Mt Alexander & Pascoe Vale Rds
Moonee Ponds 3039

Meetings Scheduled:
20/6/90 4/7/90

NWAUG members TO BE MEMBERS OF AUG
NWAUG annual fee of $5 helps cover
PD, Library and Equipment costs.
Meeting Entrance fee of $1 ($2 visitors)
covers room hire/coffee/biscuits.

NWAUG - a Multitasking SIG OF AUG
See YOU at a meeting soon.

NWAUG NWAUG NWAUG NWAUG NWAUG NWAUG

COMPETITION

AUG is having a colour cover for it's 50th edition Workbench in July 1990 and is looking for potential cover pictures.

All current members can enter pictures for the competition, and as well as having the fame of creating the colour cover of the Workbench, they will be rewarded with a year's free membership and a high quality full colour blow-up of their winning picture.

The next four best pictures will also be placed in colour on that edition of the magazine.

Entries can be drawn, digitised, ray-traced or anything else as long as they are original, colourful and interesting. Just send in, or alternatively hand in, on disk, your file in any of the following formats:
IFF, DIGIVIEW RGB, Face, GIF, FBM, MacPaint, PBM, Sun Rasterfiles, PCX, or even NEOCHROME.

HURRY - LAST CHANCE

AMIGA HELP-NETWORK

The following is a list of AUG members who have volunteered to share their knowledge/experiences with others. If you also want to help and have your name listed here please contact Lester McClure (233 5664 AH). The names are not listed in any order of priority and the format may change in future listings. Please keep contacts to reasonable hours (6 to 9 pm unless otherwise mentioned) and remember one very important basis of this service - they are volunteers...

Neville Sleep	-	AmigaBasic (beginner level)	- 546 0633
Rudy Kohut	-	AmigaBasic (intermediate) Introduction to the Amiga	- 807 3911
John Elston	-	AmigaBasic (advanced)	- 375 4142
Alan Garner	-	AmigaBasic, A/C Basic	- 879 2683
Mal Woods	-	C(Introductory), Professional Page	- 888 8129
Andrew Gelme	-	C (advanced) - AZTEC	- 645 1744
Eric Salter	-	C (advanced) - LATTICE, TeX	- 853 9117
Norm Christian	-	Amiga Art, Music	- 798 6552
Neil Rutledge	-	Music, Audio Sampling, MIDI	- 597 0928
Russ Lorback	-	Excellence!, Superbase Professional (Beg-Int) After 9:30 pm	- 756 6640
Darren King	-	Amiga Viruses, Modems/communications	- 546 5040
George Wahr	-	Side-Car, Bridgeboard	- 376 6180
James Gardiner	-	AmigaDOS, Auto-boot hard drives	- 532 8030
Lester McClure	-	Lucas/Frances - A1000 32 bit processor system.	- 233 5664
Joe Santamaria	-	Graphic arts - DPaint, Sculpt etc.	- 836 9129
John Hampson	-	Modula-2 *(Temporarily unavailable)*	--N/A--

Editor's Column
(written 3-Jun-1990)

ONE MONTH TO GO! Next month as you all may have guessed by the hype in the previous newsletters about the competition will be the 50th edition Workbench, and we'll be having a colour cover. All you lucky members will be receiving it the same as any other workbench, in the mail; whereas people buying it in the store will be paying a little more... What I want to see is streams of great articles flooding in for the biggest news on the horizon, and unfortunately, you have very little time because the printing date has to move back to cope with the extra printing and processing required for that issue.

Did you know that AUG turned four just a couple of months ago? Has it been that long you say!

Another thing that seems to be just over the horizon is our bulletin board upgrading. We are currently about to test Amiga Link II on an Amiga based system, utilising features that only other Amigas may benefit from! These include: graphics and sound, gadgets that are mouse driven, and all this on a system designed to be multitasking. How do you benefit from this? Well that is the big question; can we warrant spending a large proportion of our float in upgrading something that only a third of the members (currently) will benefit from? Well this debate has yet to be resolved...

Prices.. coming down. Not everyone may have noticed that the price of everything is always coming down. In particular, the price of laser printers is coming down rapidly, and other cheaper printers are following suit in an attempt to remain looking like true cheaper alternatives. Hardware of all sorts, memory, hard drives, you name it - they are all coming down. Even to the point of being about the same price as if you bought it by mail order from overseas!

I mentioned last month the coming of 1.4 and also 2.0. Well, you may have noticed that they are one and the same thing. If you haven't already read the lots and lots of goodies articles in this month's newsletter I suggest you do as they contain heaps of interesting information on 2.0 and the 3000...

16 Mhz 500s. On the boards and everywhere else it seems are descriptions of a $25 simple conversion of your 500 to a 16Mhz 68000 giving an effective speed increase of about 70%! Hang on a sec. while I get my screwdriver...

This brings me to a question - why doesn't Commodore offer normal and faster 500s and 2000s with a 68000 in them? They'll be offering faster 3000s.

At last month's meeting we had a demo of 2.0 running, which showed all sorts of different screens from the new workbench. It seems the workbench looks really good on normal machines in normal mode but looks fantastic in interlace - so what does that mean? Will we all be looking for flicker fixers in the future?

Anyway, see YOU at the next main meeting.
regards,
Con Man 1.4

Public Domain Software Order Form

Mail to: Amiga Users Group, PO Box 48, Boronia 3155, Victoria

Disk Numbers:										

Don't forget to specify collection name i.e., Fish, Amigan, Amicus etc.

Disks supplied by Amiga Users Group @ $6 each	$
Disks supplied by member @ $2 each	$
Club Use Only:	Total: $
Member's Name:	Membership #:
Address:	
	Postcode:

Newsletter Back Issue Order Form

Mail to: Amiga Users Group, PO Box 48, Boronia 3155, Victoria

Issue Numbers:										

Be patient, we may have to reprint some issues to fill your request

Number of issues ordered @ $2 each	$
Club Use Only:	Total: $
Member's Name:	Membership #:
Address:	
	Postcode:

Application for Membership of The Amiga Users Group Inc.

Membership is $25 per year. Send your cheque to: Amiga Users Group Inc., PO Box 48, Boronia, 3155

Surname: _____

First Name: _____

Address: _____

_____ Postcode: _____

Phone Number: _____ STD Code: _____

Where did you here about AUG: _____

_____

_____

Signed: _____ Date: _____

Details on this side are optional

Year of birth: _____ Which Model Amiga _____

Occupation: _____

Interests: _____

_____

_____

Dealer's Name: _____

Dealer's Address: _____

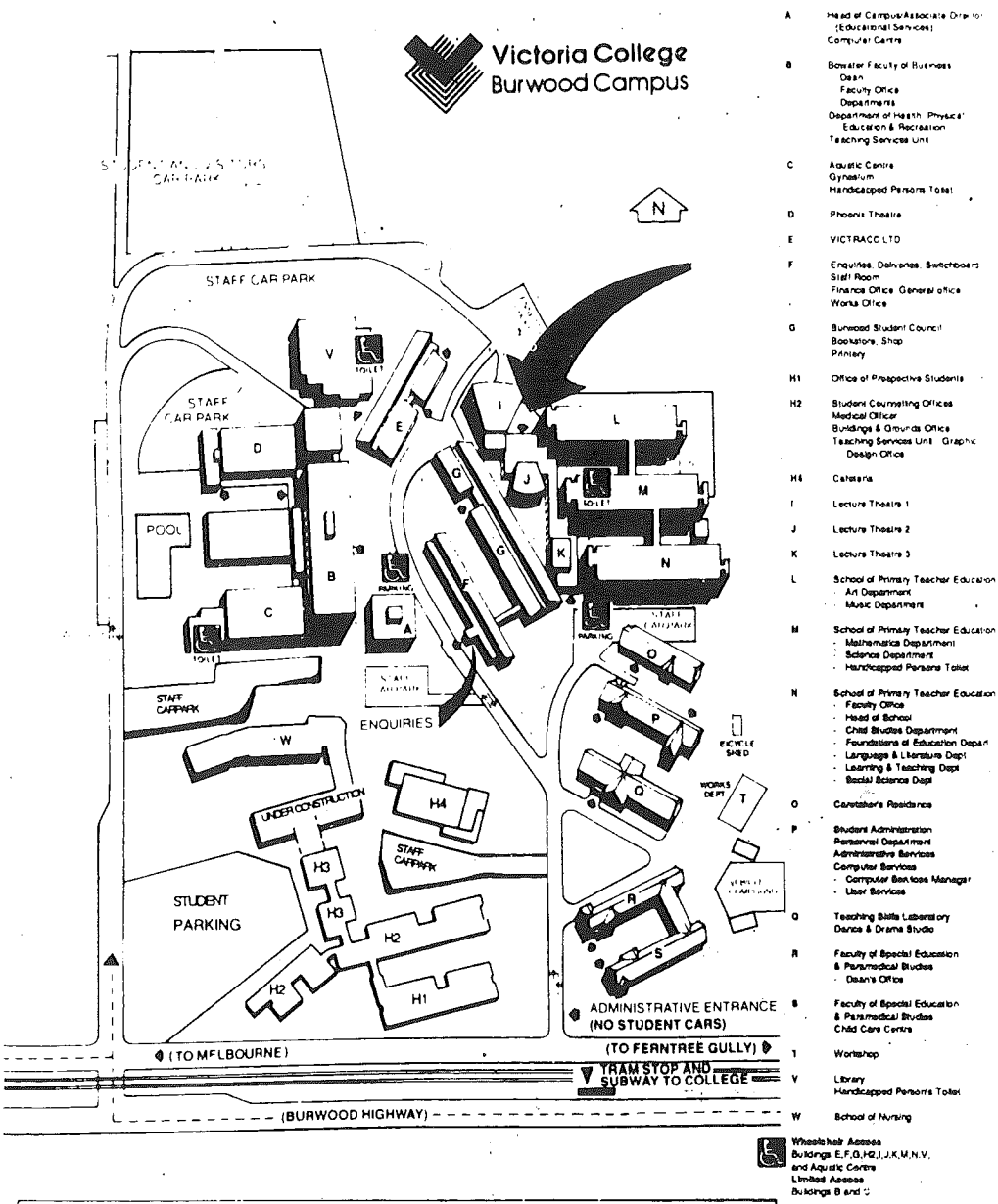
_____

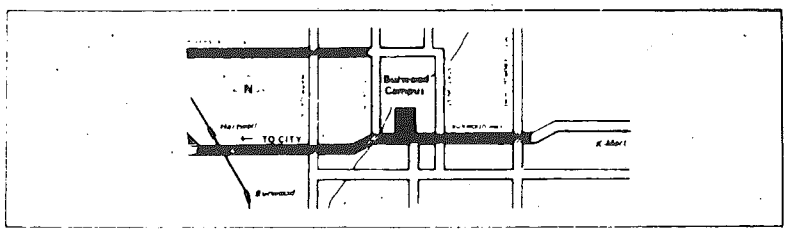
If admitted as a member, I agree to abide by the rules of the Association for the time being in force

Club Use Only	Date	Paid	Rcpt #	Memb #	Card Sent

June 1990 Amiga Workbench

AUG normally meets on the third Sunday of each month





Where is Victoria College, Burwood Campus?

Melways Map 61 reference B5.

People often have difficult locating our meeting place the first few times. Victoria College is on the North side of Burwood Highway, Burwood, just East of Elgar road. Coming from the City along Burwood Highway, turn left at the first set of traffic lights after Elgar road. Follow the road around past the football oval, over five traffic bumps to the car parking area near the netball courts. Further up the road, to the right, you'll find Lecture Theatre 2.