

# WORKBENCH

Registered by Australia Post – Publication No. VBG7930

Number 24

Circulation: 1100

May 1988



by Theo den Brinker, see page 11

## **Next AUG Meeting**

***Sunday, May 15th, 1988 at 2pm***

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

AUG meetings are held in the Rotunda at Monash University  
Wellington Road, Clayton Melways map 70 reference F10 and map 84A

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

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Australia's Largest Independent Association of Amiga Owners  
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Who Are We?

The Amiga Users Group is a non-profit association of people interested in the Amiga computer and related topics. With over 900 members, we are the largest independent association of Amiga users in Australia.

Club Meetings

Club meetings are held at 2pm on the third Sunday of each month in the Rotunda at Monash University, Wellington Road, Clayton. Details on how to get there are on the back cover of this newsletter. The dates of upcoming meetings are:

Sunday, May 15th at 2pm  
 Sunday, June 19th at 2pm  
 Sunday, July 17th at 2pm

Production Credits

This month's newsletter was edited by Peter Jetson. Equipment and software used was: TurboDOS S-100 computer, Brother HR-40 printer, Gemini 10x printer, Wordstar, Fancy Font and Grabbit.

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Contributions

Articles, papers, letters, drawings and cartoons are actively sought for publication in Amiga Workbench. Please submit your contributions on disk, since that means they don't have to be re-typed! All disks will be returned! Please save your article in **text-only** format (If it can be loaded by ED, it is text-only). **Absolute** deadline for articles is 16 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 \$20. 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 for \$20 to:

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Public Domain Software

Disks from our public domain library are available on quality 3.5" disks for \$8 each including postage on AUG supplied disks, or \$2 each on your own disks. The group currently holds over 179 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 available.

Member's Discounts

The Amiga Users Group negotiates discounts for its members on hardware, software and books.

Currently, **Technical Books** in Swanston Street in the city offers AUG members a 10% discount on computer related books, as does **McGills** in Elizabeth Street. Just show your membership card. Although we have no formal arrangements with other companies yet, most seem willing to offer a discount to AUG members. It always pays to ask!

Back Issues of Newsletter

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.

AmigaLink - Our Bulletin Board System

The Amiga Users Group operates a bulletin board system devoted to the Amiga, using the Opus message and conferencing system. AmigaLink is available 24 hours a day on (03) 792 3918, and can be accessed at V21 (300bps), V22 (1200bps) or V23 (1200/75bps), using 8 data bits, 1 stop bit and no parity.

AmigaLink is part of the world-wide Fido/Opus network of bulletin boards, and we participate in the 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 is FidoNet node number 631/324.

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 **only**. We have no photographic or typesetting facilities. Absolute deadline for copy is 16 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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Installing Extra Memory

by Georgina and Greg Ross

We have recently been thinking of getting extra memory. A number of events have hurried this up. We bought a game "The Hunt for Red October" but it would not run on an AMIGA 1000 with 512K and an external disk drive. If we disconnected the external disk drive it would run, but we did not want to do this every time we ran the game, so luckily we were able to take it back and exchange it for something else.

The other product we bought was APAL, a new Australian CAD package, and an upgrade was sent recently with the release notes encouraging the use of extra memory.

Another item we wanted was a clock as it's irritating have to enter the date and time whenever we boot the AMIGA.

So, we decided to have a look at what is available. The American magazines list about a dozen different memory boards, but the computer stores in Melbourne give an option of two. The first choice is a Proton board which is Australian but it did not autoconfigure, that was extra, and was not available at the time.

The second choice was a SPIRIT TECHNOLOGY INBOARD, an internal 1.5M memory board with a clock/calendar. This did autoconfigure and as an added bonus had a clock.

One major difference between the two boards was the Proton was external and the Spirit internal. Over a number of years we have built a Dick Smith SUPER 80 computer, and added a VIATEL upgrade to a MICROBEE so we thought we should be able to insert a board into our AMIGA.

So we bought the SPIRIT board.

The SPIRIT board comes with a disk which has all the instructions on it. We first tried to make a backup of this disk, but DISKCOPY would not let us so we ended up using another copy program. On the disk is the SPIRIT manual with a program to print it, and this we did. We read the manual after printing it and found the instructions understandable. This disk also provides diagrams of the different steps to take, and after examining these we decided to install the board.

The first step was to open the AMIGA. After disconnecting all cables and removing the monitor from the top of the AMIGA, we turned it upside down and removed the screws holding the lid down. Then we placed the AMIGA upright and removed the cover, using a bit of leverage. We had before us an amazing sight - the inside cover of the AMIGA was covered with signatures and even a paw print. Next, we removed the FCC radiation shield.

The second step was to remove the 68000 processor. We had removed Z80 processors before, but we'd never seen a chip so big. This was a scary operation, since we were not allowed to touch the pins or damage them, and we could only get to one end of the chip since the other was close to the end of the disk drive. After bending up a tool to get to the end of

the chip near the disk drive and with a flat head screw driver on the other end, we were able to prise the chip out.

The third step was to install the 68000 processor in to the SPIRIT board. This was not an easy process as the chip is so large. After about three attempts ending up with bent pins, we finally got the chip into the socket.

The fourth step was to connect to microclips to a PAL chip. The instructions talk about a daughterboard located upside down above the motherboard, but we didn't have one. Further on, there is a paragraph mentioning international versions, but no diagrams were available for these versions. The chip mentioned in the international versions was U4T, and the AMIGA motherboard is mapped with letters along one side and numbers along the other, so we were able to work out where this chip was - it was under the disk drive! So, we had to remove the disk drive. After doing this and placing the SPIRIT board where it would be located, we found the microclips would not reach the U4T chip - we had to desolder the microclips and solder on longer wire.

We decided to install the board first before connecting the microclips. This was a matter of locating the pins in the processor socket, and after checking with a torch to see if they were okay, we pushed the board in, and it went in first time with no problems.

Next, we had to connect the microclips, but we had to decide which pins. The instructions for the American

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Workbench Version 1.3

version call the PAL chip DPALen and mention pins 13 and 14, while the International version mentioned a PAL chip called PALen and used pins 7 and 8. Our board was international, but our PAL chip was called DPALen, so we weren't sure which pins to use. We decided to stick with pins 7 and 8, so that's where we connected the microclips.

Then we had to put the disk drive back, but it wouldn't fit. The right hand side of the back flange on the disk drive hit the SPIRIT board. Time for the tin snips - we cut the flange on the disk drive and folded it back, and then we were able to fit the disk drive back in.

Now we were ready for testing. We plugged all the cables in and switched on. The monitor turned RED! We checked the plugs, the monitor was okay, and then Kickstart came up okay and so did Workbench. We ran the test program that came on the SPIRIT disk, and it said all our memory chips were bad. Eventually, we realised this was because the test program was looking at 800000 HEX and the memory was actually set to C00000 HEX which was the default for the board. After fixing temporary jumpers to set the memory to 800000 HEX, we ran the test program and everything was okay. We removed the jumpers, disconnected all the cables and set about reassembling the AMIGA.

When we tried to replace the FCC shielding, we found it was hitting the SPIRIT board. Out with the tin snips again, to fold back a flange on the shielding, whereupon it fitted and we were able to put everything back together.

We started up the AMIGA again and everything worked. Next, we set the date and time on the clock. The clock does not automatically update the system date and time, rather a program which reads the clock has to be put in the startup-sequence file.

So, now we have an AMIGA we do not have to reboot all the time to run different programs, most programs can run from the one workbench session. Even some games will now run from workbench when they did not before, for example "Dark Castle".

There were a number of utilities on the SPIRIT disk which are quite handy. MachCk which provides a clock on the title bar with the amount of chip and fast memory remaining, and it also has a screen blanker with a default setting is five minutes; the AMIGA can be reactivated with the press of a key.

Two Workbench programs supplied are RAM\_DISK and UTILIMASTER. RAM\_DISK creates a ram disk which you can then use to copy files into, and UtiliMaster is like CLIMATE. That is, a utility program so you do not have to use the CLI. You can set up your own functions using the tool type line on the info screen of the icon.

We bought our SPIRIT INBOARD A1000 1.5M board from High Technology in Brighton for \$902.50, normal recommend price is \$950. They guarantee the board.

One problem we have started to notice is that the monitor is picking up some interference, like rain on the screen if you look closely. This will have to be investigated further.

Here is a message I sent to Tony Cuffe of Commodore Australia, and its reply, about Workbench version 1.3 that I present here "as they appeared", with a comment that details on Kickstart and Workbench version 1.3 have been published in several overseas magazines, and even by the local magazine, The Australian Commodore and Amiga Review.

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From: Peter Jetson  
To: Tony Cuffe  
Msg #780, 15-Apr-88 07:19pm  
Subject: WORK BENCH 1.3

Tony, I wondered at the statement included in your mail to developers about Kickstart & Workbench V1.3. For those who haven't seen it, Commodore Aust sent, among other things, two pages of "details" about the new releases. I quote:

"Please note that V1.3 is at this point regarded as highly confidential and may NOT be spoken about to anyone excepting Commodore Technical Support staff."

Can I ask why? Details like those in the above-mentioned two pages have already appeared in overseas magazines and bulletin boards and networks. What possible damage or problems could possibly be caused by telling people that certain limitations have been overcome and various enhancements have been made, along with a few new commands?

Now, although I have been sent these details and have not, as far as I am aware, been asked to sign any non-disclosure documents, I will abide by what you've asked if there is a valid reason. At the moment, there doesn't seem to be one.

By the way, I have also been offered V1.3 KS & WB by another developer, and have also seen the Fast File System files freely available on overseas communications network.

What I would really like to know is why, if Commodore Aust HAS V1.3, it isn't yet available to local developers? There are quite a number of hardware developers who could use all the extra time you can give them before the public release of V1.3 so they can, for instance, make their hard disks auto-boot.

Also, while I've got your attention, can Users Groups re-print any of the information in your recent mailing to them? I can't really think of why else you would have sent it, but because of all this "secrecy" stuff, I thought I better ask....

Regards, Peter Jetson

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From: Tony Cuffe  
To: Peter Jetson  
Msg #824, 17-Apr-88 09:40am  
Subject: Re: WORK BENCH 1.3

Hello Peter.

The reason for confidentiality is due to a couple of

reasons. The main reason I can talk about is due to licence agreements. A number of sections of the O/S are sub licenced and as such those licences are still in the negotiation stage. We are allowed to beta test but we are not allowed to confirm or talk about some areas of the O/S until those agreements have been locked away. I know that might sound crazy at your end but we are in the hands of corporate law. In answer to what can be printed in and for user group publications the answer is nothing at this point. However, you can print anything you like from the user group newsletter we sent out. The simple fact of the matter is that if the confidentiality is not respected Australian developers will be the ones to suffer in future as we will not be allowed to have limited beta testing of product carried out in this country. I hope you understand this.

Kind Regards,  
Tony Cuffe

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The Day Amiga Died  
by Eric Salter

I have an insatiable appetite for knowing how things work. Now, when one of my external 5.25" disk-drives refused to read disks, I had to find out why. Admittedly, these were home-brew disk drives, with custom designer interface boards and I needed to work out where the problem was. So, with trusty CRO, I began to look at the signals coming off the drives and what Ami was throwing at them.

No sooner had I begun this adventure, when my hand SLIPPED, shorting +5v to diskchange. What then proceeded from the bowels of the Amiga was sickening to describe - something akin to the sound that big 8" disk drives make when their stepper motor band comes off and this bloody big stepper motor tries to seek to track zero, constantly, every three milliseconds. No smoke, just heart-wrenching death throes. I quickly dived for the power switch, and waited in silence ...

'\*#\$\$!' I said.

Turning on the power didn't help at all - no changing grey screen, no little sounds at startup, just the gentle whisper of a cooling fan. Ami was dead, defunct, off her perch, deceased, cactus ...

'\*#\$\$!' I said again, in case it didn't hear me.

Time passed. It did it again. Suddenly, Life from Ami? She began to flash pink at me, a totally non-synced frame, no vsync at all in fact. Reset with control-amiga-amiga. It did something - went back to grey screen. Hmmm ... thinks ... Ami recognised the keyboard soft boot interrupt! Can't be all bad news. This means that the processor must be running and there must be a system clock. At this point, Exec has been initialised and has brought up and initialised all the system modules before it turns on its fancy interrupt stuff to begin context switching. Okay, we are not getting sync - where is this generated? In one of the CIA's (Completely Incomprehensible Adaptors).

I managed to find a place that sells these blasted things and timidly sat down to replace it. Which one? There's two of them, and they are not marked CIAA and CIAB - how unthinking of the designers. I thought about tracing tracks to various signals on the CPU, but I had no circuit diagram so I resorted to a much surer thing - I tossed a coin. Sure enough, when I replaced the chip indicated by Her Majesty, powered Ami up, she worked - little sounds, kickstart image and all. Yes, that easy.

Not exactly. That 'all' should have read 'almost'. Put kickstart disk in - nothing. Ami didn't even look slightly interested in being fed. Get out trusty CRO - where the problem started - there was NO diskchange signal being generated by the drives.

'\*#\$\$!' once more.

At this point, I have to say that there was much probing of drives and looking up of signal definitions, and the conclusion - the chip that detects diskchange had been blown on ALL the drives, both internal and external. The problem here is that these are surface mount chips and worse, they are custom chips and not available. Even the ones on the external drives (NECs), the chip being made by Texas Instruments, could not be had for all the tea in China. I did a lot of ringing around that week and I wish at this point to slander mercilessly NEC Australia for being a bunch of mindless jerks who need their Orchids pruned. They were singularly unhelpful to the point of being totally obnoxious. Basically, you can't get the chips so there! Happily, those turkeys didn't get the better of me,

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See inside front page of this  
newsletter for more details

and I was able to build a little logic-board to bypass their stinking LSI chip.

The moral of this story is - 1. Don't play with things you don't understand. 2. Don't, under any circumstances, force more than 200ma down the open collector output of the diskchange line, and especially not +5v at 10 Amps. 3. Always make obscene gestures to NEC staff members. 4. Deductive reasoning, rather than trying everything, is the quickest way to find a bug - hardware or software.

### How To Kill The Golden Shareware Goose

You, dear reader, just wrote a superb program for Amy - polished, bugfree, robust. Why not? You're a professional programmer; you feed the wife and the kids on what you earn by programming. But now you have a problem akin to being eaten alive by ants: How do you market that program? You can't afford big, splashy ads. So, you turn to a big software distribution house (let's say it's ACME, Inc.). ACME says that it must set an extortionate retail price to pay for national ads and its legion of salespeople. ACME also demands a 30 per cent markup at list for dealers (how else can they pay the rent on the store?).

**Result:** the program you want to earn \$15 per copy from is gonna list at about \$90 at Crazy Oscar's Software Emporium, and sell at discount by mail order for maybe \$55. It'll be pirated at that price. If ACME is honest, you'll be paid \$15 for every copy sold. If ACME is crooked, pray tell us exactly how you **prove** that ACME's sales reports are false? Care to have a lawyer take ACME to court, Sam? (For \$100,000 yearly retainer, the legal firm of Sleaze, Sly, DeLay, Mumble, Post, Pone & Shred is at the instant call of ACME).

You decide to sell your program for \$15 as shareware. In lieu of advertising, you download your program to several national nets. Question: do you, the wife and the kiddies thereafter eat - or do you starve to death?

You **starve**. And you never, ever release another program as shareware.

Shareware is supposed to be a viable way for skilled programmers to market good software at a low price. It's supposed to be an alternative to doing business with ACME. Good programmers should be able to make a living from shareware. They can't. Why not? We see several strong reasons:

Many an amateur releases junk as shareware. Perhaps half the freely distributable programs we see ask for a buck. Most aren't worth a deflated dime. Thus has the notion grown that shareware is shoddy merchandise that needn't be paid for.

Very few shareware programs offer good documentation. The so-called manuals we have received after paying are usually third-rate.

Support is hard to come by after you pay. Call, and you most likely will bend the ear of an answering machine. Maybe you'll get a return call. Maybe. If

you write, you may have dropped a stone into a bottomless pit.

In short, the problem is too much junk identified as shareware plus often inadequate support after you pay. What can be done about it? Do **something** we must if users want software of low cost and if programmers want an outlet for programs that otherwise could never shoulder their way into the congested and viciously competitive national software market. What can be done?

**Pay!** Users can pay for the good stuff! We're astonished at the ingratitude of Amigan owners at large (although you readers have responded to our last plea for shareware support). Failing to pay is a certain way to kill the golden shareware goose - to force software distribution by ACME, at very high prices.

If you're a programmer, you can improve your habits: First, don't stick the shareware label on minor stuff. Second, provide good documentation for those who pay. Third, establish and stick to a good plan to support your users.

Get the word out to the troops! They're good people of good heart; they'll respond if they recognise the problem. If we all mend our ways, perhaps we can keep the golden shareware goose alive.

### Either Procrastinators or Cheapskates?

Here are some hard numbers to prove how badly Amigans reward the best of shareware authors. In North America, there are at minimum over 200,000 Amigas. We called a number of shareware authors - folks who wrote **fine** programs. Nary a one had received contributions from as many as 200 of the 200,000. The descendants of Ebenezer Scrooge own most Amigas?

Does anybody out there conclude that we Amigans will **continue** to see the delivery of good shareware? To assist the procrastinators amongst you, we list below the addresses of three shareware authors who richly deserve to be paid: Hawes for CONMAN, Neil Katin for his survivable ramdisk, VDK (probably as widely used) and Hayes Haugen, who gave us BlitzFonts, the speedy way to display text on Amy:

Neil Katin  
Expansion Technologies  
46127 Landing Parkway  
Fremont, CA 94538, USA

William Hawes  
PO Box 308  
Maynard, MA 01754, USA

Hayes Haugen  
11303 S. Dogwood Lane  
Edmonds, WA 98020, USA

No complaints, no urging have we had from any of these programmers. We print their addresses in hopes that we can raise the response to **good** shareware from a moral disaster to a conscionable level. The disappearance of good shareware for Amiga would be a catastrophe equivalent to a 1000-point drop in the sharemarket, an outbreak of AIDS amongst the clergy, or the shocking revelation that Steven Spielberg has

all these years secretly been an E.T. in drag.

[Editor's note: This article is copyright 1988 by the Amigans, PO Box 411, Hatteras, NC 27943, USA, and is reprinted from the March/April 1988 issue of the Amigan Apprentice and Journeyman magazine.]

### An Easy Way to Contribute

After suggestions from members, the Amiga Users Group committee has appointed a sort of "Shareware Contributions Collector". If you'd like to contribute to the author of a shareware program, but can't be bothered spending at least half an hour in the bank and paying them six bucks for a bank draft in US dollars, then we'll do the dirty work for you. All you have to do is give us your name and address, the title of the program your contribution is for, and your cheque or cash. We'll gather up the money, get it converted to US dollars, pay for the bank draft and send the money and details for you.

Yes, that's right - you can no longer use the above excuses to avoid sending a few bucks to the author of that shareware utility you use every day.

Member Allan Duncan has offered to be "collector", and at the time of writing he has already been given contributions by a number of people.

By the way, to make this easier for us, please send a separate cheque for the shareware if you are ordering other things or renewing your subscription in the same envelope. Thanks.

We'll keep you posted on the success (or failure) of this project. Please help to make it succeed.

### Advanced Graphics SIG

by Geoff Holden

Oh dear. Here I am, convening away, struggling desperately with mortgages, macro-assemblers and midlife crises and now they expect me to be funny. The trouble is, when addressing the group, I think I'm Hawkeye Pierce, but THEY think I'm Rumpole. Sigh. Even deeper sigh. Whimper.

To business. At the last SIG gig, I rattled on about accelerated ray tracing (again!), and explained how the object space was divided into voxels and all solid objects were mapped into those voxels in a pre-processing step. Then, when a ray was traced, the appropriate voxels were interrogated until something solid was found. A quick check to see if more than 1 object was involved in that voxel, if so, a quick whiff of sorting, and then the ray could be rendered. I also outlined how Fujimoto and his mates had extended their DDA algorithm for drawing lines, not only into 2 but also into 3 dimensions, so that a plane (mathematical type, not a Boeing) could be accurately translated into voxels. All good stuff.

Knowing that some people wanted to sleep, I then launched into a lengthy and not entirely unsuccessful demonstration of Animate-3D, a commercial product (yes, it costs real Money!) which uses the program

Sculpt-3D as a sort of core Kernel routine. It's a really good program (review in next Workbench, perhaps), but eats up memory. Don't even consider with less than 1.5 megabyte - (program 370K, workspace 100K+, screen buffering up to 256K with double pages, data files easily 100K, animation file 100-600K!).

We then muttered among ourselves about how we were really going to write a flashy rendering program for ourselves and show 'em. Returning to the real world, Enno Davids suggested a dead simple graphics program written in C (sigh) and generally insinuated that getting a cube to look vaguely cuboidal on the screen was the equivalent of proving you could raffle a chook in a country pub. He was promptly dubbed "Programmer in Chief" and requested to DO something with the rest of his life. He has therefore produced a program (thank you, Enno!) as a basis for our continuing assault on the citadels of computer graphics.

Next meeting, I am going to stand silent as on a peak in Darien, and watch to see who breaks the embarrassed pause first and then they can get up and rattle on. So there.

[Editor's note: I was going to publish Enno's program in the newsletter until I discovered it ran to over two pages. Instead, I'll try to get the code onto one of the Australian Public Domain disks that we are getting together at the moment.]

### Special Interest Groups

The Amiga Users Group has a large number of special interest groups (SIGs), most of which meet after the main AUG meeting each month. Below is a list of SIGs and their co-ordinators:

Video SIG	Geoff Wood	580 7463
Music SIG	Roland Seidel	890 3934
Beginners SIG	Has a guest co-ordinator each month	
Developers SIG	Chris Tremelling	557 1349
Basic SIG	John Elston	.375 4142
Games SIG	Luke Devlin	n/a
Communications SIG	Bohdan Ferens (Drac)	792 3918
Beginners C SIG	Mal Woods	288 5472
Advanced C SIG	Eric Salter	861 9117
Advanced Graphics	Geoff Holden	n/a

A group of AUG members from the North and North Western suburbs have started a "North Western SIG", and this group meets twice a month in Essendon. Contact the co-ordinator, Neil Beatty on 370 9976 between 7 and 9pm for more details.



Screen, Where Are You?

by Peter Kinross

Two meetings ago (three by the time you read this), there was a problem posed. If a project is run in the startup-sequence, how can you access the workbench again? That is, if you usually use your wordprocessor by booting its disk, it makes sense to write your startup-sequence to run the program. But if you do, you can't get to the workbench screen again without exiting from the program. For this reason I gave up running programs from startup-sequences.

However on Fish Disk #73 is a command called runback. This solves the problem nicely. To use it simply add it to your c directory and runback the program instead of run the program. The file on FD 73 is well documented, which is a welcome change, and is extremely easy to use. Once it is used, the program you want to run is there without any clicking or any typing.

Some examples - these are excerpts from part of my startup-sequences.

Scribble!

```
runback rslclock13s s color 2,1 * position 40,237 t
conman -q
run popcli
loadwb
run blitzfonts
runback scribble! df1:
endcli > nil:
```

Workbench

```
conman -q
run popcli
run blitzfonts
runback rslclock13s s color 3,1
loadwb
endcli > nil:
```

Maxiplan

```
conman -q
run popcli
loadwb
runback maxiplanplus
endcli > nil:
```

Help, I can't do it!

by Peter Kinross

Can anyone out there help me? I want to be able to activate popcli from a recoverable ram disk, without having my boot disk inserted. But even though I run popcli from the RRD, and the commands newcli and endcli are also in RRD, pressing the popcli keys gives me a request to insert the boot disk. I tried the ARP resident command and the ARP library but no dice. I also tried assigning popcli as vd0:popcli, still no dice.

The "C" Programming LanguagePart 3 - The Tools

by Eric Salter

This month we look at the tools the "C" programmer uses to do his magic. In any "C" environment, the key elements are the compiler, the linker and a good screen editor. These are all you really need to successfully compile "C" source code. There are a number of other optional packages that go to make life easier in the complicated world of "C", namely a librarian, an assembler, "make", "lint", a debugger and depending on how your compiler works, a disassembler to look at the assembly code your compiler generated.

In the Lattice environment, the compiler is in three parts. The file "lc" is the front-end to the other two parts. It handles the task of translating your simple request "compile my program foo.c" into command lines for the other two parts of the compiler. It handles things like passing the options from its command-line to the correct part of the compiler, ie making sure things like debugging options are passed to "lc1" and not "lc2", specifying multiple source files to compile and the ability to optionally link the compiled files after a successful second pass. All in all, it is a vast improvement over the early versions of the compiler where batch files had to be generated to do things. For most simple source files, issuing: `lc -L foo` is sufficient to compile AND link the file "foo.c" into the executable load file "foo".

After "lc" has parsed your command, lc1 is invoked with the correct options. "lc1" is the first pass of the compiler. This part of the compiler performs the pre-processor function which will be explained in later articles, as well as some symbol-table generation and setting a few environment data structures on which interpretation of the source will be based, eg using base-relative data addressing and so on. "lc1" generates the intermediate "quad" file which has the extension ".q". This file is used by "lc2" to continue the compilation down to machine-code. A quad-file is generated for space reasons. The total amount of code for all three parts of the compiler makes it impractical for them all to be coalesced into one program if it is going to be at all possible to compile on 512 k-byte machines. It is possible for "lc1" to perform only the pre-processor stuff and generate a ".p" file. In this way, one can determine if errors are occurring in the pre-processor directives i.e. in reading the "include" files. "lc2" as we mentioned, generates object code. Object code cannot be run but it includes all the machine-code translation of your "C" source. It also includes information about things that haven't been defined in your source - e.g. calls to Amiga Exec functions, calls to Lattice library functions etc. This extra information is for the linker to resolve the references to these yet-undefined routines and to produce a file that can be loaded by AmigaDOS and run. The Aztec compiler on the other hand, does things a little differently. Instead of the compiler producing linker-compatible object code, its output is assembler code - an ASCII file, that must be passed through an assembler to produce the same linker-compatible object code. From then on, the two compilers are the same except Lattice object files are not compatible with Aztec's,

and therefore, each compiler must use their own linkers. The link process takes the output of the compiler or assembler and produces AmigaDOS-compatible load files. It does this by searching the default and user-specified libraries and any other object-code modules included on its command line, resolving references to functions or identifiers (which will be discussed later) and generating code with no unresolved references. If the Linker cannot find the definition of an object anywhere in the scanned libraries or object modules, the linker fails and your code will crash horribly should you try to run it.

Of the other tools we mentioned, a "make" utility has to be the most useful. A ring-in from the UNIX world, there are two components to "make", one is the command itself and the other is the makefile. A "C" program can be made up of many separately compilable modules. Should you have occasion to change one of the module's source code - during development this happens frequently - you needn't re-compile all the other modules before linking them together. The "make" utility uses the makefile to determine which modules your final executable code depends on. It checks each of the names in the makefile - the name of a module which your final code depend on. For each entry, it looks at the date that the source code was last modified and compares it with the date of the object-code associated with that source. If the source was modified after the last time that code was compiled, it will need to be re-compiled to bring it up to date. In this way, the final executable code can be generated by compiling only the modules modified and re-linking with the new object modules. "Make" does this all automatically, and saves you having to keep track of what needs to be re-compiled. The only requirement is that the system clock must be set accurately each time the machine is booted or "make" may become confused.

The librarian helps us maintain our code libraries. Scanned libraries are one of the strong points of "C". Libraries are collections of routines that are in machine code but are compatible with the linker. They may be "C" functions that have been compiled and then added to the library, or they may have been written in assembler or any other language that can generate object code compatible with the linker. The libraries are a convenient place to keep code that you may wish to use in your own programs. In the Amiga environment, the compiler manufacturer supplies one or more libraries of standard functions that you can call from your "C" code. These include functions to open files, get the system time etc. What functions are in this library is highly dependent on who you bought your compiler from. Commodore-Amiga supply a library called "amiga.lib", which contains interfaces to the routines in the ROM routines themselves. Compiler manufacturers supply this library with their product. Lattice has modified it to be compatible with their linker - "Blink". The programmer can build his own library of useful routines and add them to their library. This is the task of the librarian. The difference between libraries and separately compiled modules that may be linked together at link-time is that library routines will only be included in your final code if you have made reference to it. Object code modules on the other hand, are included in the final code (and take up space), even if your code does not call it

(usually an error!).

"Lint", as its name implies, picks the lint from your "C" code. The utility checks type mismatches, unused and uninitialized variables, dependencies on order of evaluation, using values returned from "void" functions and identifies possible portability problems with your source code. Because "C" is such a forgiving language (in terms of type assignments and throwing caution to the wind), lint checks your code and if it passes through without problems, it is likely to be free of type errors and portability problems. This is not to say that it will work - you've probably got it all wrong anyway.

Assemblers and disassemblers are useful to gain extra speed out of your code. The age-old adage still holds - if you want speed and small code, do it in assembler. The Aztec "C" compiler allows you to intersperse "C" and assembler in the source code. Assemblers also allow you to write code in assembler and have "C" code call it as if it was written in "C". There are a few caveats here as often function calling conventions for the two differ. A disassembler on the other hand, allows us to view the code generated by the compiler and is often the only way we can see what the code will actually do when it runs. I have been caught out on many occasions when I assumed the code will do one thing and find the compiler has generated code that doesn't do at all what is expected. It is also a learning experience when you become familiar with the way compilers work - it is not for the novice.

Next time, we begin to look at a simple "C" program and follow the process of compiling it to loadable code, based on the Lattice implementation.

Amigas in Education - Help Needed

Member Alan Kent wants to talk to people who are using the Amiga in education, particularly in the graphics area. Contact Alan on (03) 232 8300; he says weekends are the best time to ring.

Genealogical Processing Program - Testers Wanted

Peter Evans, author of GENP, a new commercial Genealogical Processing program, is looking for Beta testers.

Persons interested in family history and who want to help test a genealogy program are invited to contact Peter on (03) 584 2765 after hours.



**WORKBENCH Newsletter Index**  
Compiled by Lester McClure

**Number 1 April/May 1986**

RS-232 Serial port connections (Amiga 1000)  
Public Domain disk library  
Fish disks #1 to #11  
Converting Amiga text files for use on other computers  
Parallel printer port connections (Amiga 1000)  
Amiga hardware update

**Number 2 June/July 1986**

Public Domain disk library  
Fish disks #13 to #24  
Bix: Byte Information Exchange Amiga conferences  
Amiga magazines  
Printer cables  
Disk errors  
Power up prompts for time and date  
Amiga graphics problems with dot matrix printers  
Melbourne Bulletin Boards  
Amiga questions and answers  
AUG's Amiga quick reference guide  
Just the beginning (Amiga drooling)

**Number 3 Aug 1986**

Public Domain disk library  
Fish disks #12, #14, and #16  
Upgrading an Amiga 1000 with a Motorola 68010  
Textcraft review  
Build your own external disk drive  
ROM-WACK Amiga debugger  
Disk errors  
Workaround for the HiRes bug

**Number 4 September 1986**

An afternoon with Tony Cuffe of Commodore Aust  
Sending escape codes in AmigaBasic  
Amiga rumors  
Availability of Amiga 1000 circuit diagrams  
Hints on buying overseas  
AmigaDOS Version 12 preview  
Notepad  
AmigaDOS CLI prompt command  
Guide to Guru Meditation numbers  
Controlling RS-232 status lines  
Music Studio review  
External disk drive review (3.5" VDrive)  
Trim the fat from your Workbench

**Number 5 October 1986**

Startup sequence to set clock and log disk usage  
Compute!'s Amiga programmers guide review  
Public Domain programs on a single drive Amiga  
Public Domain disk library  
Fish disks #25 to #35  
Using DiskFonts in AmigaBasic  
Using graphics library routines in AmigaBasic

**Number 6 November 1986**

VIP Professional review  
Future Sound digital sound recorder  
Creating a printer driver  
Guru Meditation numbers detailed description

Amiga 1000 - A personal view  
Amiga users group library  
Bulletin Board - should AUG have one?

**Number 7 December 1986**

Basic - AmigaBasic workshop  
Public Domain disk library  
Fish disks #36 to #40  
Writing for newsletter  
AUG library books and magazines  
Advantages of upgrading from a 68000 to a 68010  
Introduction to the Amiga operating system  
- AmigaDOS  
Membership monologue  
ISO and ANSI printer commands

**Number 8 January 1987**

Make utility  
Writing your own device drivers  
BDMAN database review  
Mind Walker review  
Customising your Startup-sequence  
Amiga news - bits and pieces  
Public Domain disk library  
Fish disks #41 to #46  
Amigan disk #4

**Number 9 February 1987**

Defenders of the Crown review  
Superbase Personal review  
Introduction to AmigaDOS, part 2  
Writing your own device drivers, part 2  
Public Domain disk library  
Amicus disks #1 to #11  
Using the Amiga as a presentation tool

**Number 10 March 1987**

Deluxe Paint II review  
Talking Thai  
Sidecar - a users view  
Public Domain disk library  
Fish disks #47 to #53  
Reading AmigaDOS 12 documentation files  
Stripping comments from C include files  
AmigaBasic serial port fix  
Unprotecting KickStart RAM  
Amiga news

**Number 11 April 1987**

RJ Mical at the Boston Computer Society  
Scribble! review  
Amiga news  
Modula-2 survey  
Introduction to AmigaDOS part 3  
Connecting a Commodore 64 to the Amiga  
Bigger windows for AmigaBasic  
An overview of the OPU Bulletin Board System  
Australian Amiga groups listing  
Amiga news  
AmigaLink - AUG Bulletin Board on-line

**Number 12 May 1987**

Textcraft tips  
Introduction to AmigaDOS part 4  
Using Workbench facilities in your programs

Public Domain software, conditions of distribution  
Music subgroup (SMAUG) report  
Amiga 2000 and IBM compatibility  
Public Domain disk library  
Fish disks #54 to #68  
Amiga news

**Number 13 June 1987**

Insider 1 Megabyte RAM card review  
ConMan review  
SMAUG report  
Organising a release diskette  
Amiga news  
AmigaBasic - Little routines  
Public Domain disk library  
Fish disks #69 to #74  
Amicus disks #12 to #16  
Amiga User Groups listing

**Number 14 July 1987**

AC/BASIC review  
PAL Jr expansion unit review  
VIP Memory tips  
Directory Utilities alternatives to Workbench and CLI  
Floppy disk interface for Toshiba 525 inch drive  
Nelson's column  
Bard's Tale review  
Amiga thoughts  
Our first year (AUG)  
Words from the software library  
Public Domain disk library  
Fish disks #75 to #80

**Number 15 August 1987**

The MegaByte saga - Purchasing memory expansion from overseas  
mCAD review  
Audio digitiser  
Using Public Domain disks  
Amiga Groups listing  
Secret Amiga Messages  
Nelson's column - Amiga news  
Startup-sequences  
AUG financial statement  
Leaderboard golf review  
Fish Disk recall - disks #80 and #88  
Public Domain disk library  
Fish disks #81 to #88

**Number 16 September 1987**

LASERSCRIPT review  
PageSetter review  
TC-ED Textcraft to Ed converter  
TDI Modula-2 review  
In the beginning - Amiga comments  
Hack review  
My thoughts - Amiga comments  
I'm a closet Amiga user - Amiga comments  
Building my own hard disk system  
A dreadful confession - User comments  
Amiga handy hints  
Public Domain disk library  
Fish disks #89 and #90  
Amicus disks #17 to #20  
Barbarian review  
Amiga news

**Number 17 October 1987**

Converting a C128 mouse to an Amiga mouse  
Faery Tale and Barbarian reviews  
Introduction to AmigaLink Bulletin Board  
C The Complete Reference - Book review  
Starting Special Interest Groups (SIGs)  
Public Domain thoughts  
Karate Kid part II review  
SMAUG report  
Public Domain library news  
Public Domain disk library  
Fish disks #91 to #102

**Number 18 November 1987**

Creativity Software - a personal view  
DBman under AmigaDOS V1.2  
Balance of Power review  
Amiga desktop video - the price  
Amiga 2000 review  
Developer's corner  
Amiga 1000 expansion problems  
Word Perfect, Amiga version review  
Special Interest Group report  
Amiga Virus  
AmigaLink description part 2  
Starglider review

**Number 19 December 1987**

Amiga graphics and the PAL television system  
Developer's corner  
SIG report - advanced graphics  
SIG report - games  
A new members view  
Information for Faery Tale game  
Expansion bus problems  
Advanced Amiga BASIC - Book review  
Programming in C on the Amiga  
Mouse trap review  
WordPerfect user report  
Public Domain disk library  
Fish disks #103 to #110  
Amigan disks #1 to #10

**Number 20 January 1988**

Dark Castle review  
AmigaLink Bulletin Board users report  
AmigaBasic blues  
North-western suburbs SIG  
Test Drive review  
ASCII file peaker  
Forming a Special Interest Group  
Flight Simulator II null-modem connection  
Advanced graphics SIG report  
Amiga file system description  
Public Domain disk library  
Fish disks #111 to #118  
Printers and your Amiga  
Amiga news

**Number 21 February 1988**

The Amiga Virus  
BASIC Special Interest Group report  
The Wedge hard disk system  
Proton disk drive review  
Introduction to the C programming language  
Amiga floppy disk speed-up

Amiga User Groups listing  
 Beginners Special Interest Group report  
 Amiga news  
 Public Domain disk library  
 Fish disks #119 to #128  
 Amigan disks #11 and #12

### Number 22 March 1988

Fire Power game review  
 Introduction to the C programming language part 2  
 Advanced C Special Interest Group report  
 Public Domain disk library  
 Amicus disks #21 to #26  
 Shell - A CLI enhancement  
 Metascope review  
 AmigaBasic SIG report  
 AmigaBasic tips, subprograms and bug warnings  
 Executing CLI commands from AmigaBasic  
 RJ Mical's ProSuite review  
 Power Windows 20 review  
 Developer's corner  
 FACC (Floppy disk accelerator) review  
 Amiga 1000 1/2 MegaByte memory expansion comments  
 Phantasie III (The Wrath of Nikademos) review  
 Amiga 1000 PAL Video modification

### Number 23 April 1988

1988 CEBIT show announcements  
 Fire Power review update  
 68000 Machine code for AmigaBasic programmers  
 Graphic Users Special Interest Group report  
 Aegis Impact review  
 True BASIC review  
 A \$95 Modem kit  
 Ratpad - alternatives to mouse pads  
 Dear Editor, personal comments on the Amiga  
 Advanced Graphics SIG report  
 Lattice C, version 40 discount purchase  
 Using PatternMaster files in AmigaBasic programs  
 Amiga memory expansion (happy customer!!)  
 AUG Special Interest Groups co-ordinator list  
 Amiga memory expansion, Megaboard II review  
 Amiga users comments  
 Amiga Assembly Language Programming - Book review  
 Public Domain disk library  
 Amigan disks #13 and #14  
 Writing articles for the Newsletter  
 Wedge hard disk controller availability

### Cover Credit

Women in a chair with a yellow background  
 Artist: Pablo Picasso 9 August 1937

As seen in 'Picasso', published by the National Gallery of Victoria and the Art Gallery of New South Wales 1984.

My copy was constructed using Deluxe Paint II initially in colour. The conversion to black and white was done with Butcher with some colour changes back in Deluxe Paint II.

by Theo den Brinker, 26 feb 88

### What Do You Want From A Computer

by Bob Thompson

I'd like to tell you a story, however I'm no Hemmingway or Steinbeck, so you'll have to bear with me.

Some years ago when the personal computer industry was in its infancy, I bought a 4k Tandy Colour Computer. The justification was to allow the kids to be brought up in an environment where computers were not an alien device to be feared. Also, I was curious.

After several frustrating months learning to drive the damned thing, I discovered a "Users Group". Suddenly, learning was not so onerous. Through natural evolution and the user group, the machine evolved to its maximum of 64k with external disk drives. During this time the kids played games and I discovered that programming and software hacking held absolutely no interest for me.

Eventually, I ended up running a "Users Group". I reasoned that, as I had gained so much from the group originally, putting something back was the right thing to do. There wasn't much to running the group as far as it affected me, just ensure that venue and machine rosters worked and act as a contact for member's problems. This gave me time to watch the people who came to the meetings.

The members fell into distinct though sometimes overlapping categories.

1. Software collectors. These people took copies of any program floating around irrespective of what it was, they then tried it once or twice and never touched it again. However, they are often heard spouting usually ill conceived opinions on the subject.

2. Hardware hackers. Great people to know, especially when your machine throws a wobbly or you need an upgrade or modification.

3. Learners. All of us were in the this category once.

4. Software hackers and/or developers. These people are the source of all public domain software.

5. End users. These people found they had specific uses for the computer and needed specific solutions to their problem.

I found I fell into the last category, as I used the computer for my business. And the kids? Well, they still play games.

So when I upgraded to the Amiga, I naturally joined a user group, but now I'd had some experience and had an idea of what I wanted from both the machine and the group. First, a word processor, well that is not too hard because they all do the same thing, albeit some better than others. The "NotePad" that came with the machine really didn't fit the bill, so someone suggested TextCraft. So I bought a copy, only to discover that it didn't do the job as well as the blurb that came with it said it would. Someone else suggested Scribble! and rather than throw good

money away again, I borrowed a copy so that I could study the capabilities of the program to see if they suited me. They did, and I use it constantly.

Next, a database. Not just any database, but one that did a particular type of sort. The database that I was using on the Colour Computer was relatively unsophisticated and only cost \$69.00, so finding one shouldn't be difficult, right? Wrong!

After a lot of reading of reviews and talking to members of the users group, Superbase Personal was the program that floated to the top of the heap. So, I handed over my money and spent the next couple of weeks learning the ins and outs of the database. I then spent the next few weeks trying to set up a shell that would handle my data the way I wanted it to, obviously without success. It turns out that Superbase does not have the mathematical "smarts" to solve the problems I wanted to put to it.

So, back to square one. More reviews and questions to group members. Acquisition was suggested, so back to the store to find out about it. The first shock was the price. What if it won't do the job? Plug it in and try it, said the SALESMAN. But what did HE know? He couldn't even answer any elementary questions. And what could you learn in an hour in a computershowroom?

Could I take it home and try it out? Can you see him prostrate on the floor with laughter?

Maybe I could buy it and if it doesn't do the job I could bring it back for a refund? That one nearly had him in convulsions.

Perhaps you are wondering if I'm going somewhere with this, or just blowing smoke.

This is what I'm getting to - How do I find a program that does the work I require without wasting my money. There is only one way at the moment.

Software Piracy.

Software piracy is something that cannot be condoned, so what I will end up having to do is finding programs I want to stay with, buying the originals and wiping out the rest. If someone has a better idea, I would like to hear it.

[Editor's note: This article has been reprinted from issue No. 16 (April '88) of the Brisbane Amiga Users Group Club Newsletter]

### KindWords V1.2

by Shane Johnson

KindWords (version 1.2) is The Disc Company's entrant in the ever-enlarging field of Amiga word-processing software. For the princely sum of around \$180 (at Maxwells, anyway), you get two disks, a rather cheap-looking 50 page instruction booklet, the warranty registration card, and an otherwise useless cardboard container to keep it all in. The System Disk contains an abbreviated Workbench 1.2, the actual KindWords programme, and a set of custom printer drivers called Superdrivers. The second disk has the

dictionary and the custom fonts used by KindWords. The claimed features of KindWords include:

- Super/subscripts, boldface, italics, underline and combinations thereof, linedraw, graphic and foreign symbols.
- Headers and footers, page numbering in either normal or roman numerals.
- 8, 12 or 14 point Roman fonts.
- The ability to import and edit text or IFF files.
- Colour printing of graphics (if your printer is colour).
- Mail Merge.
- Sophisticated 'find & replace' function.
- Letter quality printing on even cheap and nasty 9-pin printers through the use of the Superdrivers & custom fonts.
- The choice of 3 print qualities - draft, final (NLQ) or Superfont.
- A 90,000 word dictionary.
- The choice of storing documents as either IFF or ASCII files.

KindWords, however, CANNOT do the following:

- Flow text around graphics.
- Run/work on more than one document at a time.
- Use Amiga (or any other) fonts, except by importing the text from an IFF file as a graphic.
- Run very well on 512k and one drive - you really need 1Mb and the second drive to do it properly.

The first thing you notice when you click on the KindWords icon is the loooong loading time. This is partly due to the programme being graphics-based, and partly the fact that the programme occupies a whole 330k on the disk. Once you've come back from putting the kettle on, you're confronted with a nice, blank white page with a ruler and some symbols at the top (very similar to the Textcraft Plus screen as a matter of fact). At this point you don't even have had to read the manual - just start typing.

The screen and layout symbols are all very easy and intuitive, with such functions as justification and line spacing (single or double) being controlled simply by clicking on the appropriate symbol. All other functions (and there's quite a few) are accessible from pull-down menus.

For those who dislike the use of a mouse (or are ex-IBMers who haven't yet become accustomed to the concept of 'user friendliness'), there are keyboard equivalents to all commands.

One aspect of KindWords that's a bit different is the use of one font only - its own Roman font. This relates back to that thing called Superdrivers. These custom printer drivers (which work with, not replace, Preferences drivers) are specifically designed to produce letter-quality output from any printer. The catch is, however, that to do this the KindWords people went to the trouble of designing a complete set of Roman fonts in 8,12 and 14 point for these custom drivers to use, and these are the only fonts you can choose from. The tradeoff is, therefore, high quality printing for everybody at the expense of one choice of font. Apparently the KindWords people will be finished writing another font in time for inclusion in the next release (whenever that may be).

Are there any bugs or annoying traits with this programme? Well no and yes. Whilst it appears KindWords was actually beta-tested BEFORE release (strange but true), I've still got three bitches (albeit minor):

- it takes ages to load,
- reproduction of colour IFF pictures on a mono printer isn't all it could be as print density remains constant regardless whether you're printing in draft or final modes, and
- The Superfont print option is very slow (it prints 360dpi on a 24-pin printer). For good quality, and particularly with 24-pin printers, the print quality in 'final' is very good to excellent - the extra time taken to print in 'Superfont' isn't really worth the small (but noticeable) improvement in print quality.

You may have noticed I didn't complain about the lack of fonts or the inability to flow text around graphics. Well, I figure that if those features were something that really mattered to me, I would've bought desktop publishing software instead of a word processor! Besides, I'm not really a fan of most of the Amiga fonts anyway - they're too 'bitty'.

Do I like it? Yeah - it's friendly, intuitive and easy to use, but doesn't become cloying on longer acquaintance. It has a useful array of WP functions, and best of all, the cursor keeps up with my typing despite being a graphics screen (at least at the pace I type....). Also, it's NOT copy protected. Hopefully it will be even better in the next release (dare I say it - 'Real Soon Now').

LATE NEWS: In the April edition of INFO Magazine, the review of KindWords makes mention of Gurus popping up when printing at 81pi on a 24-pin printer using the Superfont option and an LQ800 printer driver in Preferences. Although I have a 24-pin printer (Epson LQ500), I haven't had Gurus disturbing my serenity. Could have something to do with the fact that I don't have the LQ800 driver and, to the best of my knowledge, you can't print at 81pi from KindWords as the Superdrivers default to 61pi regardless of your Preferences settings!

#### Defeating the Byte Bandit Virus

Message downloaded from UseNet  
Author not identified

By now, most of you should have experienced the two viruses, from SCA (Swiss Cracking Association) and BB (Byte Bandit). The only cure for these viruses is to rewrite the boot sectors on the infected disk. This can be done with INSTALL, but make sure the virus is not in ram already, or it will just rewrite the bootsectors again. Just turn off the Amiga for about 10 seconds, and boot with a disk you know for sure hasn't been infected, for instance your original workbench diskette. Type 'install ?<return>' and when the disk stops spinning, you insert the disk with the virus and type 'df0:<return>'. But how do you know the virus is there? There are some programs in Public Domain to help you with this. The best is (in my opinion) the latest version of VirusX (1.21) which knows about both SCA and BB.

VirusX opens a window on the workbench screen and stays there. Everytime you insert a new disk, it checks for a virus, and if it finds one it will ask you if you want to remove it. It will also notify you about any non-standard bootsectors. Nice, eh?

Now for some useful information. The SCA virus can be found without having a virus-checker program (or a disk 'debugger'), just insert the disk you want to check and press Ctrl-Amiga-Amiga (reset) and boot the disk. Then you reset the machine again, and hold down the left mousebutton at the same time. Hold down the button for a few seconds, and the screen will become GREEN if the SCA virus is in ram. The virus will also remove itself from ram, but not from the disk. To be sure the disk really is infected (the virus could have been in ram from another disk) you can repeat the procedure. Every 16th recreation of the SCA virus will be a version that pops up and give you a message when you boot from that disk ("Something wonderful has happened...your Amiga is still alive...and even better..etc.")

And now to the mysterious BB-virus. This virus is more dangerous, at least to people that don't know how to beat it. By digging around in the code, I found the following:

The virus has two parts, the recreation part (which makes this a virus), and a 'freeze' part. The second part does not start to function until several things have happened: 1) The virus must have made at least 8 copies of itself, and 2) the machine must have been reset at least 3 times. Then a counter starts going...

About 7 minutes later, the virus will turn off the display (bitplane) DMA, and ALL interrupts. Goodbye multitasking!

"I've just made my best picture, C program, or whatever when the virus struck. And I've only saved to ram! I'll kill that virusmaker, you think, and you turn off your machine".....No, no, no. DON'T DO THAT, don't turn off your Amiga, your work isn't lost. The maker of the BB-virus has also made a way to 'unfreeze' the machine again (to save himself from getting hit!?).

This is what you must do to 'unfreeze': Press the following keys: Left-ALT, Left-Amiga, SPACE, Right-Amiga, Right-ALT. The order of the keys IS important, and DON'T release the other keys when you press the next. Did you get it? Press L-ALT, hold it down while pressing L-Amiga, hold them down while... When you press the last key your Amiga should be working again. If not you have done something wrong, just press the keys again until successful.

#### Galileo - A Star Gazing Program For The Amiga by Neil Beatty

Astronomy is a little understood subject to the average person. It is more than just watching the stars and skies at night, watching heavenly bodies move from the East and set in the West. It is exploring the outer-most parts of our solar system as well as finding out more about our nearest

neighbours.

Although Galileo will not fly you to the surface of Mars, it will allow you to observe the heavens from anywhere in the world at any time in the last two hundred years and into the next two hundred years. (You can program ANY date you like, and the positions of the planets and stars will be as accurate as possible.)

The best time to view Galileo is at night with the lights out, the stars and planets reveal more details in a darkened room. After inserting the disk into the drive, waiting one hundred seconds for the title picture to "cycle" off the screen and answering the question regarding the manual, you view a panoramic sky from the North Pole. The star Polaris is the central star on the screen.

Before you can proceed any further, you need to enter three things:

- Longitude and Latitude of your location (or your selected point of observation).
- Time Zone (in relation to GMT) of the above location.
- Date and Time of observation.

The first two items are easily located in the manual, the third is your decision.

Once the details above are entered, you then choose how you wish to view the skies - on your back looking up, out a window looking North, South, East or West or whatever, or with a particular constellation or planet at the centre of the screen.

All these options are selected by menu and mouse, and once selected, you can move the screen up, down, left or right, zoom in to the centre of the screen (a smaller point of view), or view the planets, sun and moon with a built-in telescope.

In general, I can highly recommend Galileo to anyone with an interest in the night skies, but I must caution you with the knowledge that the moon times are out by up to ninety minutes!

The biggest drawback I have found is the amount of time needed to update the screen after you change a feature/time/location on the screen. For example, when you select "Planet Names Off", the program took a minute to reappear with the full screen!

Galileo V2.0 is available in the USA, and now comes on two disks, so perhaps some of my gripes have been cleaned up. I only hope that it still runs with a 512k machine.

As an example, suppose you wish to view the skies for the solar eclipse which occurred on March 17th, 1988. Here is the data required:

Timezone: 9.32 (I found this showed the correct times of rise and fall of the planets and the sun.)

Date: Mar 17, 1988

Time: 10:00 (or 6:00 PM)

Location: Longitude 37.46 S (For viewing in the Southern Hemisphere, the S is needed to show the right times and positions.)  
Latitude 144.56 (By the way, this is NOT for Melbourne, but for the Moonee Valley Racecourse. Melbourne Long/Lat is 37.45 S and 144.58.)

#### 3.5" A2000 Drives With Bridge Card -- Help Needed

Dear Editor,

I have a problem that no-one seems to know how to solve!

I have an Amiga 2000 with two 3.5" drives and a Bridge Board card with a 5.25" drive for IBM usage. I wish to use one of the 3.5" drives as an IBM drive (virtual drive mode). This apparently can be done, according to the brief literature you get with the Bridge card.

Apparently, to use an Amiga drive for IBM purposes, you must change the CONFIG.SYS file on the 5.25" disk, using Device = JDisk.sys in place of the existing Device = Ansi.sys.

After several hours, I found that this file can only be changed via "Edlin" and must be put on the same disk you wish to use, which incidentally isn't mentioned in the literature from Commodore. I found this out from a magazine which had this bit of info in it.

According to Commodore's notes, you then press CTL-ALT-DEL, open the Emulator Workbench window, open the PC window, open the Mono PC icon, activate the "PC Disk" icon and then load and run JLink. Fine, all had been going well until now.

All that happens is that JLink is loaded and runs, the screen remains in Mono IBM mode with the cursor to one side and the Amiga just locks up.

I have tried many combinations of altering the Config.Sys file setup, including leaving Device = Ansi.sys as it was and just placing Device = JDisk after it. All attempts resulted in just a lock up.

Can someone please help, and explain how to go about getting everything working properly?

Thanks, Andrew Vanderwolf

[Editor's note: I don't have a 2000 or Bridge card, but I am forced to use PC's at work all the time, and I'm quite familiar with the Config.sys file. Leave the Device = Ansi.sys entry alone, it can't have any effect on what you are doing. Ansi.sys is just an Ansi screen driver that allows a PC display to respond to Ansi control sequences. My guess is that there is either supposed to be an option on the end of the Device = JDisk.sys line, probably with a /, or JLink needs some option when run, or there is some other configuration that needs to be done. While none of this is direct help, it might pay you to again read what scant documentation you have with



this in mind. Perhaps one of our 2000 users can provide us with the exact answer.]

### Latest Public Domain Disks

#### Fish Disk #129

**DosKwik** A pair of programs which allow you to save files, or a group of files, to one or more floppies for quick loading (loading up a ram disk for example). Does not store files in DOS format, which is why it is faster. Version 2.0, update to version on disk 103. Binary only, shareware.

**MRBackUp** A hard disk backup utility, that does a file by file copy to standard AmigaDOS floppy disks. Includes an intuition interface and file compression. Versions 2.0 (with sources) and 2.1 (binary only, source available from author). This is an update to version on disk 128.

**PaintJet** An "official" Hewlett Packard PaintJet printer driver received directly from HP sources. Don't settle for a bogus one, or pay the \$50 some vendors are apparently asking for one.

**Patch** Two independent ports of the very useful Unix utility "patch", which applies context diffs to text files to automatically update them. Patch version 1.3 was ported to the Amiga by Rick Coupland and patch version 2.0 was ported by Johan Widen. Includes source.

#### Fish Disk #130

**DirMaster** A very nicely done shareware disk cataloger, submitted by the author for inclusion in the library. This is version 1.1, an update to the version released on disk 108. Lots of neat new features and enhancements. Binary only.

**Evo** A human evolution toy/tutorial. Includes source.

**Hp** A nice RPN calculator program that supports calculations with binary, octal, decimal, hex, float, and complex numbers. Other features include 32 registers for storing data and transcendental functions. Version 1.0, includes source.

**Mach** A "mouse accelerator" program that also includes hotkeys, the features of sun mouse, clicktofront, and popcli, a title bar clock with a bbs online charge accumulator, and more. Version 1.0a, includes source.

**PatEdit** A pattern editor for creating patterns to input to the Amiga SetAFPT macro call. This call sets the area fill pattern for the area filling graphics calls such as RectFill, AreaDraw, etc. Includes source.

**QMan** Mandelbrot generator written partially in assembly for speed. With source.

#### Fish Disk #131

**Dfc** Copies disks like Maurader, but multitasks. Replaces both diskcopy and format but is smaller than either. It even has a nice little Intuition interface. Includes source.

**HyperBase** Nice little shareware database management system. Version 1.5, binary only, source available from authors. Update to version on disk number 58.

**Life** A new version of Tomas's ancient Life game, but with a new macro language for setting up patterns, some good examples, and some more good stuff. Includes source.

**Mackie** A Popcli replacement that draws pretty lines on the screen in blanking mode. Includes source.

**Mg1b** A version of Mg1b with an ARexx port and other improvements by Tomas Rokicki. Finally you can define macros and bind them to function keys in your startup file! Includes source.

**WFrags** Another version of Frags, but this one pops up a nice little window that updates occasionally. Necessary for developers who wonder what their program is doing to memory, or wonder why they can't load that program. Includes source.

#### Fish Disk #132

**Berserk** This animation, unveiled at the September 87 meeting of the First Amiga Users Group, got Leo a standing ovation. It is a "must see" for every Amiga user, and ranks up there with "Juggler" as a premier demo for the Amiga.

The difference between this distribution, and the one on disk 100, is that this one includes "source". I.E. it contains all the object descriptions necessary to recreate the animation. Thus you can, if you like, try modifying various objects to create slightly different animations, or use it as an example for creating your own animations.

Seldom does a disk get devoted to a single program, however animation is one of the Amiga's greatest strengths, and I felt it was appropriate to have at least one animation that was available at the "source code" level.

#### Fish Disk #133

**Conman** Extremely useful replacement for the standard console handler, that provides line editing and command line histories completely transparent to any application program that uses CON: windows. This program is shareware, and well worth a donation to the

author. Version 1.1, binary only, update to version on disk 100. New features include additional editing keys, fast search keys, undo key, clear history command, and more.

**Crc** Two programs that are very useful for generating 16-bit CRC listings of the contents of disks, and verifying that a given disk's files still compute to the same CRC's as listed. Version 1.0, binary only.

**CrcLists** Complete CRC check files for disks 1-128 of the library, using the Crc program also included on this disk. These were made directly from my master disks.

**Overscan** Patches the Intuition library so that sizable windows with MaxHeight of 200 (400 in interlace) and screens with Height of 200 (400 in interlace) will take advantage of the PAL overscan capability of Intuition V1.2. This seems to be useful only for European users that wish to run software written for the American market, without modifying the applications, but still using the additional space. Includes source.

#### Fish Disk #134

**BoingThrows** A 50 frame HAM animation done with Sculpt-3D, and minor touchups with DigiPaint. The animation took about 325 hours of runtime to generate.

**Browser** A workbench tool, using text-only windows, that makes all files in the system accessible for executing, copying, moving, renaming, deleting, etc. Billed as a "programmers workbench". Version 1.2, binary only. Version 1.29 of Matt's text editor. Dme is a simple WYSIWYG editor designed for programmers. It is not a WYSIWYG word processor in the traditional sense. Features include arbitrary key mapping, fast scrolling, title-line statistics multiple windows, and ability to iconify windows. Update to version on disk number 113, includes source.

**Dme** Dme is a simple WYSIWYG editor designed for programmers. It is not a WYSIWYG word processor in the traditional sense. Features include arbitrary key mapping, fast scrolling, title-line statistics multiple windows, and ability to iconify windows. Update to version on disk number 113, includes source.

**Find** Find is a utility which searches for files that satisfy a given boolean expression of attributes, starting from a root pathname and searching recursively down through the hierarchy of the file system. Very much like the Unix find program. Version 1.0, includes source.

**Library** Demo version of a shareware program that stores textual information without regard to structure or content, and allows complicated searching for specific patterns. Written in assembler for speed, binary only.

**SmartIcon** This shareware program, submitted by the author, is an Intuition objects iconifier. Version 1.0 is limited to iconifying windows, which is still very handy. It adds a new "iconify

gadget" to each window, that when clicked on, iconifies the window into an icon in the ram: disk. Binary only, source available from author.

#### Fish Disk #135

**TeXF** A selection of 78 TeX fonts, with a conversion program to convert them to Amiga fonts. There are 22 different fonts at various sizes, ranging from 15 pixels high to more than 150 pixels. The conversion program can also be used with the fonts distributed with AmigaTeX, yielding an additional 1000 or so more fonts for use with other Amiga programs. Version 2.5, binary only.

#### Fish Disk #136

**AsmToolBox** An assembler "toolbox" created to make interfacing between assembler programs and AmigaDOS easy. Includes source.

**Bison** A replacement for unix "yacc" command. This is from the GNU (GNU is Not Unix) effort. It is a port of the latest GNU version, done by William Loftus, with the goal of preserving all of bison's current features. Includes source and testing program "calc".

**Iff2Pcs** An interactive puzzle program that takes any IFF file containing up to 16 colors, and breaks it up into squares to make a puzzle which the user can then piece back together again. Version 1.1, an update to the version on disk 122, includes source.

**Paste** A version of the Unix paste utility. Paste concatenates corresponding lines of the specified files into a single output line (horizontal or parallel merging) or concatenates them into alternate lines (vertical or serial merging). Includes source.

**YaBoingII** A game program demonstrating hardware sprite usage, including collision detection. This is an update to the version on disk 36. Includes source.

**Zoo** A file archiver, much like "arc" in concept, but different in implementation and user interface details. Includes some nice features that "arc" lacks (such as file/path names up to 255 characters in length). This is version 1.71, an update to the version released on disk 108. Binary only.

#### Fish Disk #137

**Ct** An Amiga program to display images from a CT scanner, along with several interesting sample images of scans of real people, including a skull, brain, heart, and spine. Each image is 256 by 256 pixels in 2048 gray scale. The display software, though it has a primitive user interface, is quite powerful, including functions like convolutions, averaging, laplacians,

unsharp masking, edge detection, gradients, etc. Binary only.

**JeansIcons** Miscellaneous cute icons created for AMUC's monthly newsletter disk. Submitted by Stephen Vermeulen.

**Muncho** A cute little program which plays a digitized sound sample when you insert or remove a disk from your drive. If you don't like the sounds, you can replace them with your own. Binary only.

**Sit** An update to the Set Icon Type program from disk 107. Version 1.10, includes source.

**VGad** A new gadget editor that takes two pictures of the window and its gadgets, one being the normal gadget state and the other being the fully selected state, and then merges the data and converts to C source code. Version 1.0, binary only.

**VirusX** A boot sector virus check program that runs in the background and automatically checks all inserted disks for a nonstandard boot sector. Such disks can optionally have their boot sector rewritten to remove the virus. Includes source.

**VLabel** A program to print fancy customized disk labels. It will combine an IFF picture and up to 50 lines of text (which may be placed arbitrarily in any font or point size) and then print the result. The IFF picture can be virtually any size (up to 1008 by 1000). It will also print labels from a batch file produced by SuperBase. Version 1.20, binary only.

**Fish Disk #138**

**AmigaLine** A series of various technical notes for Amiga programmers.

**Diff** A program that uses the same algorithm as the Unix diff program and also produces context diffs, suitable for use with patch. Source WAS available but got eaten by my Amiga when it crashed, so binary only.

**ForEach** A simple but useful program that expands a wild card file specification and then invokes the specified command once per expanded filename, with the expanded filename as the command argument. Includes source.

**MacFont** A conversion tool to convert Mac fonts to Amiga fonts. Binary only.

**ModulaTools** Various useful routines for those programming in Modula on the Amiga. Update to version on disk 94, includes source.

**Vt100** Two new versions of Dave's vt100 terminal emulator. One version, based on vt100 2.6, has been enhanced by John Barshinger to include an iconify feature, add full 132 column support using overscan, and other miscellaneous features. This version is available in binary only. The second version is release 2.8 of the mainstream version of vt100, as

enhanced and supported by Tony Sumrall. This one includes source.

**ARP - The AmigaDOS Replacement Project**

This is the latest release (version 1.1) of ARP, which is a project spearheaded by Charlie Heath of MicroSmiths (of TxE and FastFonts fame). The idea is to replace the contents of your C directory with functionally equivalent commands that are smaller, faster and usually have extra features, and are more consistent than their AmigaDOS relatives. The following commands are included in ARP V1.1:

- |               |          |            |
|---------------|----------|------------|
| addbuffers    | arun     | ask        |
| assign        | break    | cd         |
| changetaskpri | Copy     | date       |
| delete        | dir      | diskchange |
| echo          | else     | endif      |
| failat        | filenote | if         |
| info          | install  | join       |
| lab           | list     | loadlib    |
| makedir       | Mount    | path       |
| prompt        | protect  | quit       |
| relabel       | rename   | resident   |
| search        | set      | setdate    |
| skip          | sort     | stack      |
| status        | type     | version    |
| wait          | why      |            |

[Editor's note: I can highly recommend ARP, like they say in the adverts - do yourself a favour and try it out. I have installed the ARP programs into their own directory (called ARP) on my hard disk, and added the ARP directory at the top of my path command. This way, the CLI gets commands from the ARP directory before looking in the C directory for the old AmigaDOS versions. If I have some reason for wanting to use the AmigaDOS versions, I just prefix the command name with sys:c/. Of course, this is no good for floppy-only users, since one of the ARP advantages is that by replacing the AmigaDOS commands with ARP ones, you'll save quite a bit of disk space.]]

**Editor's Column**

(written 30-Apr-88, just after Dr Who on TV)

Welcome to the 24th issue of Amiga Workbench. Although you'll be reading this in May, I'm writing it in April, and April marks the Amiga's second birthday in Australia. Happy birthday, Amiga! The Amiga Users Group is now also two years old, so happy birthday to us too!

Here's another plea for newsletter articles:

**Write more bloody articles!**

If not for the reprinting of several articles from other newsletters, we would have had a rather small issue this month. Please write some articles!

By the way, the club will be holding elections at the July meeting. The reason I mention this now is to give you plenty of time to think about what **you** can do for the Amiga Users Group. Perhaps you could put something back into the club by becoming a member of the committee. Think about it.

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**Application for membership of The Amiga Users Group Inc**

Membership is \$20 per year. Send your cheque to: Amiga Users Group Inc, PO Box 48, Boronia, 3155

Surname: \_\_\_\_\_ Details on this side are optional

First name: \_\_\_\_\_ (no initials) Year of birth: \_\_\_\_\_ Which model Amiga: \_\_\_\_\_

Address: \_\_\_\_\_ Occupation: \_\_\_\_\_

Postcode: \_\_\_\_\_ Interests: \_\_\_\_\_

Phone Number: \_\_\_\_\_ STD Code: \_\_\_\_\_

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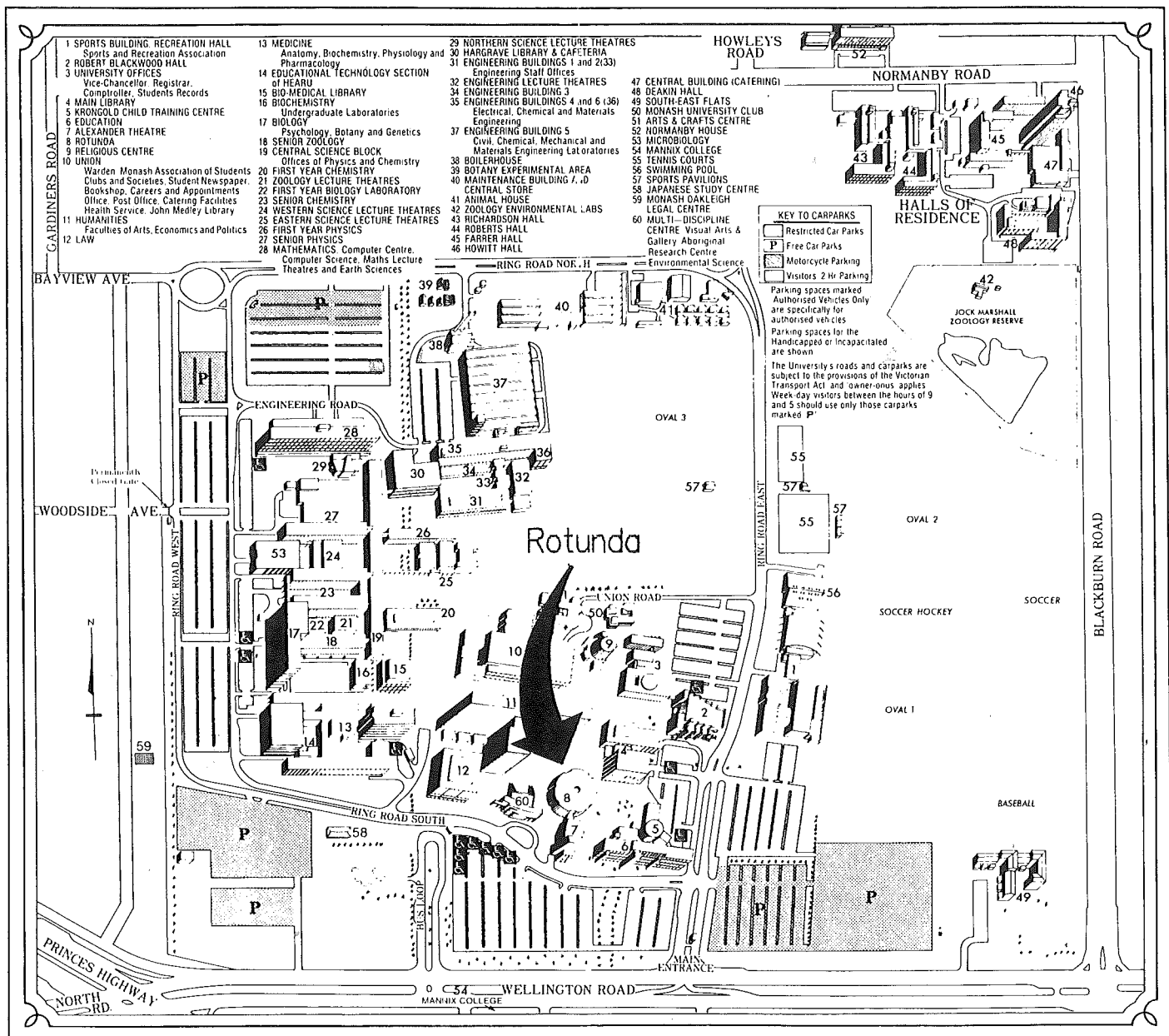
In the event of my admission as a member, I agree to abide by the rules of the Association for the time being in force.

Club Use Only	Date	Paid	Rcpt #	Memb #	Card Sent
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# May 1988 Amiga Workbench

## AUG now meets on the third Sunday of each month

Monash University is in Wellington Road, Clayton. See Melways Map 70, reference F10. Melways map 84A shows the University Campus in details. I've drawn a huge arrow on the map below to show where the Rotunda is. The best place to park your car is the car park area between Wellington Road and the Rotunda. The entrance to the Rotunda is virtually at the point of the arrow.



**BY PUBLIC TRANSPORT . . .** The simplest method is to take a train from Flinders Street or Loop stations on the Dandenong/Pakenham line to either Huntingdale or Clayton. Buses run from these stations to the campus or there is a taxi rank at Clayton. With suitable connections the trip takes about 45 minutes — but it can take longer! An inner neighborhood ticket will take you all the way via Huntingdale station and the bus, but you will need to purchase a comprehensive ticket for the trip via Clayton, which encompasses two neighborhoods. The campus is also served by buses from Box Hill, Blackburn, Belgrave, Chadstone, Jells Park-Glen Waverley, Dandenong-Mulgrave, Oakleigh and Elwood.

**FROM THE CITY BY CAR . . .** An easy route is along St Kilda Road or Kingsway/Queens Road and then on to Dandenong Road. The campus's tall Menzies Building comes into view a kilometre or so before the left turn into Wellington Road on which the main entrance is located. Allow 40-50 minutes for the trip. Drivers should note that restrictions apply in some car parks weekdays 9 a.m. to 5 p.m. and fines do apply. There is ample unrestricted parking and, closer to buildings, designated two hour visitor car parks — check the map or ask at the Gatehouse.