AMIGA
WORKBENCH

$2
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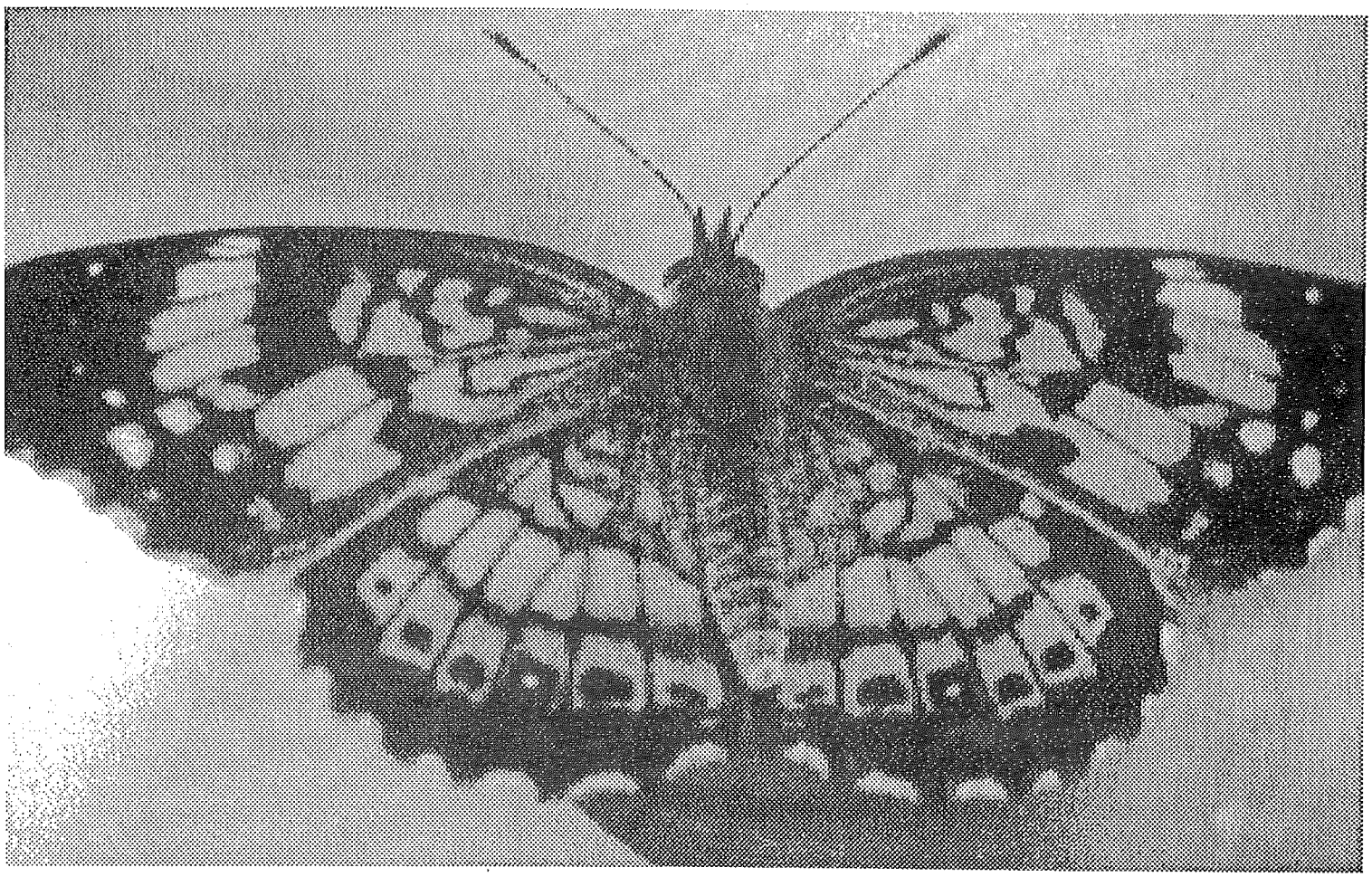

Next AUG Meeting

Sunday, May 21st, 1989 at 2pm

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

AUG meetings are held at Victoria College Burwod 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.

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, May 21st at 2pm

Sunday, June 18th at 2pm

Sunday, July 16th at 2pm

Production Credits

This month's newsletter was edited by Con Kolivas. Equipment and software used was: Amiga 500, Professional Page, Excellence!, and Apple LaserWriter Plus.

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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 $8 each including postage on AUG supplied disks, or $2 each on your own disks. The group currently holds over 200 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, **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 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 it's users. AmigaLink I is OzNet node number 8:830/324 and AmigaLink II is OzNet node number 1305/998

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

Quarter page	$20
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These rates are for full-size camera-ready copy **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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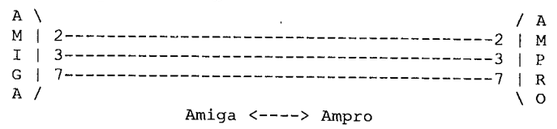
Transferring Data Between Computers

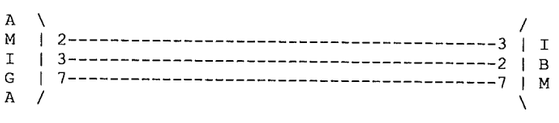
Tom Clasener

I read Gary Warren's article (section 3) in Amiga WorkBench 34 and I have a few comments to make regarding my experiences with null modem cabling between two different computers. I have an Amiga 1000 and an Ampro Little Board CP/M system and I have been transferring data between them via a serial link now for over two years and have had problems in getting the two machines talking to each other.

The null modem cable I use consists of only three wires as per the diagram below:-



This is the cable which suits my current needs as the serial port in my Ampro is wired as if it were a modem instead of a computer. In most cases where two computers are connected by a null modem cable there will be a need to reverse pins 2 and 3 so that the transmit data line of one computer goes to the receive data line of the other as per the diagram below:-



All handshaking required is carried out in the communications software I use. At the Amiga end I use Online2 and at the Ampro end I use Modem7. Both comms programs use standard protocols and I set the baud rate to 9600, word length to 8 bits, no parity and 1 stop bit (the same as most bulletin boards).

When actually transferring data I set the destination computer into its receive mode, set the source computer into its send mode, then let the comms programs do their thing and get the data across. To this date I have never had any problems with this method and have even transferred data at speeds of 19,200 baud with no problems. The actual speed with which data may be transferred is totally reliant on the serial ports of the computers used and the baud rate needs to be set to the speed of the slowest computer. This could be as low as 300 baud with some computers.

The main problem I can envisage for some people is getting some suitable comms software onto their computer(s). Another problem which may arise is that a particular computer may expect some form of hardware handshaking. I this case it may be necessary to jumper a pair of lines so that the computer in question provides its own handshaking signal. I.e. connect pins 6 and 20 at one end of the null modem cable. I have never been required to use this solution however I can see no reason why it would not work.

==========

WITHOUT A PRAYER

(Or 'Don't Let AMY Break Down')

I wonder what percentage of us, AMIGA owners, have had our machines into a service center since originally purchasing? I would warrant that it is a fair majority. Consequently I wonder what percentage of these are SATISFIED with that service? If my experiences, and these of people around me are anything to judge by, this percentage would be reasonably low.

To explain the reason for this article, it seems that C.B.M. are in the process of providing their major dealers and service centers with instructions to clean up their respective acts, or suffer reprisals from the company. These will be in the form of withdrawal of support from C.B.M. for the suspect stores. This article, then, is a 'call to arms'. If the state of service for our machines is anything close to the low class at which I have generally been forced to admit, it is WE, the customers, WE the supporters of Commodores machine who need take action. Write letters, call, whinge, whine. ANYTHING to make them notice us, and to notice the dealers that are causing the problems.

I have dealt with three different repair centers since I owned my AMIGA, none of which were satisfactory. The first, which was THE worst I have ever found, was actually recommended me by C.B.M. Melbourne itself! To explain further, as occours with many A500's, my AGNUS chip was playing up (I didn't know that at the time). So, at C.B.M.'s recommendation, in AMY went to this (un-named) service center.

When I brought my machine home from repair, it worked fine. For a couple of days. Then, down AMY went, with the same problem. I had noticed, also, that the casing didn't seem to be quite sitting properly in one corner. As I now knew what the

problem was, I pulled AMY apart, to push AGNUS back into the socket, in the hope this would alleviate the problem. At the same time I hoped to find what was causing the problem with the case.

Now, on the A500 case, there are six screws holding the casing in place, three in front three in back, each set a DIFFERENT size. The smaller ones will generally NOT fit in the larger holes, and visaversa. What I found was that whoever put my machine back together hadn't realized this. Two of the larger screws had been forced into the smaller holes, and as the smaller one must have seemed to "no longer fit" in its hole (the LARGE hole left after the others had been put in) a NEW, totally alien screw had been forced into this hole. This alien screw was larger than normal, and had COMPLETELY ruined, burred, the threading of the hole. It did not fit correctly,either, and was causing that corner of the case to rise slightly, thus my perceived irregularity with the casing. I was furious! I rang the store in question and abused the owner, and also called C.B.M. to tell them of what had happened. I should, perhaps, have done more. But I left it at that.

I ended up getting the machine repaired, of the same fault, at another store, which did a satisfactory job. This store, however, while being decent for repairs, is the worst I have come across for customer relations, and I don't, WON'T recommend them. Nor would I have my machine repaired there again, simply for this fact. I made the mistake of buying my computer from them some 18 months or so ago. At the time, there was a newsletter/magazine to be sent monthly to AMIGA owners who bought from their store, a BBS for their computer buyers, and full access to their PD software range. The only service I ever saw was the PD software access. The BBS has been "on the way" since I purchased, I haven't ever been sent ANYTHING let alone a newsletter, and their current policy for PD software is one of " we keep the disk for 2 days, then you can come and collect". This is not too unreasonable, but it takes me more than an hour to travel to the store, and the same on the way back, which is a real pain , especially twice in a week.. Unfortunately, "no concessions", they say. Hmmmph!

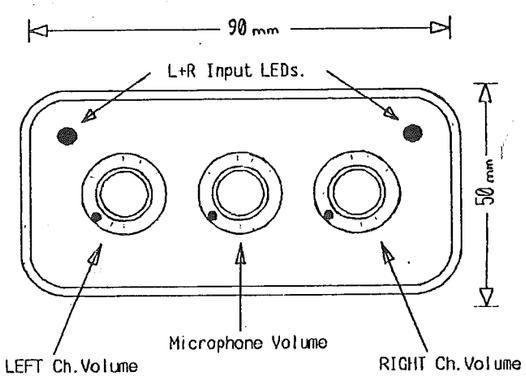
There have been other stores. One of which refused to serve me, even to tell me repair charges, unless I provide name, address, and phone number. Then there is another which (and I say this without confidence, as the knowledge is second hand), reportedly had to be taken to small claims court for a repair to be completed satisfactorily. This information came from ACSnet, a worldwide networking system of UN*X boxes. The article was written by a Melbourne gentleman, so its content is relevant here.

So, tell me, next time AMY breaks down, where do I go? At this stage, I really don't know, and would greatly appreciate some opinion. Where have YOU taken your machine to, and been fully satisfied with servicing? Conversely, have you had any experiences like mine? If so, write about them. I will be forwarding this letter, along with respective names of the companies I have PERSONALLY experienced, to C.B.M. Sydney. Perhaps it is time you did the same.

Darren G. (The Executioner)

A-Sampler

A stereo audio digitiser for the Amiga.



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Contact: Lester McClure

At AUG meetings or telephone 233 5664 AH.

devices/audio.h
struct IOAudio

devices/bootblock.h
struct BootBlock

devices/clipboard.h
struct ClipboardUnitPartial
struct IOClipReq
struct SatisfyMsg

devices/console.h

devices/conunit.h
struct ConUnit

devices/gameport.h
struct GamePortTrigger

devices/hardblock.h
struct RigidDiskBlock
struct BadBlockEntry
struct PartitionBlock
struct FileSysHeaderBlock
struct LoadSegBlock

devices/input.h

devices/inputevent.h
struct InputEvent

devices/keyboard.h

devices/keymap.h
struct KeyMap
struct KeyMapNode
struct KeyMapResource

devices/narrator.h
struct narrator_rb
struct mouth_rb

devices/parallel.h
struct IOPArray
struct IOExtPar

devices/printer.h
struct IOPrtCmdReq
struct IODRPReq

devices/prtbase.h
struct DeviceData
struct PrinterData
struct PrinterExtendedData
struct PrinterSegment

devices/prtgfx.h
union colorEntry
struct PrtInfo

devices/scsidisk.h
struct SCSICmd

devices/serial.h
struct IOTArray
struct IOExtSer

devices/timer.h
struct timeval
struct timerequest

devices/trackdisk.h
struct IOExtTD
struct TDU_PublicUnit

exec/alerts.h

exec/devices.h
struct Device
struct Unit

exec/errors.h

exec/exec.h

exec/execbase.h
struct ExecBase

exec/execname.h

exec/interrupts.h
struct Interrupt
struct IntVector
struct SoftIntList

exec/io.h
struct IORequest
struct IOStdReq

exec/libraries.h
struct Library

exec/lists.h
struct List
struct MinList

exec/memory.h
struct MemChunk
struct MemHeader
struct MemEntry
struct MemList

exec/nodes.h
struct Node
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exec/ports.h
struct MsgPort
struct Message

exec/resident.h
struct Resident

exec/semaphores.h
struct Semaphore
struct SemaphoreRequest
struct SignalSemaphore

exec/tasks.h
struct Task

exec/types.h

graphics/clip.h
struct Layer
struct ClipRect

graphics/collide.h

graphic/copper.h
struct CopIns
struct cprlist
struct CopList
struct UCopList
struct copinit

graphic/display.h

graphics/gels.h
struct VSprite
struct Bob
struct AnimComp
struct AnimOb
struct DBufPacket
struct collTable

graphics/gfx.h
struct Rectangle
typedef struct tPoint
struct BitMap

graphics/gfxbase.h
struct GfxBase

graphics/gfxmacros.h

graphics/graphint.h
struct Isrvstr

graphics/layers.h
struct Layer_Info

graphics/rastport.h
struct AreaInfo
struct TmpRas
struct GelsInfo
struct RastPort

graphics/regions.h
struct RegionRectangle
struct Region

graphics/sprite.h
struct SimpleSprite

graphics/text.h
struct TextAttr
struct TextFont

graphics/view.h
struct ColorMap
struct ViewPort
struct View
struct RasInfo

hardware/adkbits.h

hardware/blit.h
struct bltnode

hardware/cia.h
struct CIA

hardware/custom.h
struct Custom

hardware/dmabits.h

hardware/intbits.h

intuition/intuition.h
struct Menu
struct MenuItem
struct Requester
struct Gadget
struct BoolInfo
struct PropInfo
struct StringInfo
struct IntuiText
struct Border
struct Image
struct IntuiMessage
struct Window
struct NewWindow
struct Remember

intuition/intuitionbase.h
struct FatIntuiMessage
struct IBox
struct Point
struct PenPair
struct GListEnv
struct GadgetInfo
struct IntuitionBase

intuition/preferences.h
struct Preferences

intuition/screen.h
struct Screen
struct NewScreen

libraries/configregs.h
struct ExpansionRom
struct ExpansionControl
struct DiagArea

libraries/configvars.h
struct ConfigDev
struct CurrentBinding

libraries/diskfont.h
struct FontContents
struct FontContentsHeader
struct DiskFontHeader
struct AvailFonts
struct AvailFontsHeader

libraries/dos.h
struct DateStamp
struct FileInfoBlock
struct InfoData

libraries/dosextens.h
struct Process
struct FileHandle
struct DosPacket
struct StandardPacket
struct DosLibrary
struct RootNode
struct DosInfo
struct CommandLineInterface
struct DeviceList
struct DevInfo
struct DosList
struct FileLock

libraries/expansion.h

libraries/expansionbase.h
struct ExpansionInt
struct ExpansionBase

libraries/filehandler.h
struct DosEnvec
struct FileSysStartupMsg
struct DeviceNode

libraries/mathffp.h

libraries/translator.h

libraries/romboot_base.h
struct RomBootBase
struct BootNode

resources/cia.h

resources/disk.h
struct DiscResourceUnit
struct DiscResource

resources/filesysres.h
struct FileSysResource
struct FileSysEntry

resources/mathresource.h
struct MathIEEEResource

resources/misc.h
struct MiscResource

resources/potgo.h

workbench/icon.h

workbench/startup.h
struct WBStartup
struct WBArg

workbench/workbench.h
struct DrawerData
struct DiskObject
struct FreeList

IMPORTANT VIRUS WARNING

by Mark Kelly

As if the Byte Bandit and the SCA viruses weren't enough, I found out on the weekend that several of my disks were contaminated by a new and particularly strange strain of magnetic virus called ANTHRAX from a group calling itself 'JOH4PM'.

I made myself a strong pot of tea, took out a pair of rubber gloves and a sector editor and after hours of dumping and disassembling, managed to get a listing of the nasty little creature.

ANTHRAX is unusual among viruses and I suspect its twisted author is not the most skilled programmer in the world. As far as I can work out, the damage done by ANTHRAX when it 'goes off' is mainly to the mind and machine rather than to the contents of your disks.

OPERATION: This little horror sits there in your Amiga waiting for your grandmother to sit down at the keyboard. When she does, ANTHRAX does its dirty work (and this is the disgusting thing about the virus): it displays a Hold-And-Modify (HAM) image of Russ Hinze's bare buttocks on the monitor in 4096 colours with a scrolling message underneath saying "DON'T YOU WORRY ABOUT THAT ... JOH4PM!" Presumably the virus' aim is to make your grandmother spill her cup of tea and Gingernut biscuit crumbs into the Amiga, causing considerable damage. The oddest thing about ANTHRAX is that it is written in interpreted BASIC. The listing is very strange and disturbing.

```
1   PRINT "ANTHRAX from JOH4PM (A NON-VIRUS PROGRAM)"
2   PRINT "THIS IS *NOT* A VIRUS!
3   PRINT "PLEASE DO *NOT* LIST THIS PROGRAM."
4   REM   I think we have them fooled now.
5
6   WHILE answer$="NO"
7     PRINT "Is your grandmother at the keyboard?"
8     INPUT answer$
9   WEND
10    REM do the damage
11    IF fre(-1) > 16000000& THEN
12      CHAIN anthrax:showbum
13    END IF
14
15    REM This program is SHAREWARE.
16    REM Pay only if you get infected.
15    REM Send cheques, Gingernut biscuits
16    REM and bug reports to:
16    REM JOH4PM, c/o P.O. Kingaroy.
17    REM If there is enough interest in ANTHRAX,
18    REM I'd like to squeeze Russ' buttocks to save RAM.
19    REM ANTHRAX is copyright.  Do not copy this program
20    REM without written permission.
```

* end of listing *

Fortunately the program has its weaknesses: for one thing, it needs 16 megabytes of free RAM to load Russ Hinze's buttocks. With 2.5 meg, I could barely fit in part of the left cheek. The logic causing the 'triggering' of the virus (lines 5-8) is somewhat less than subtle and should alert many users. The author also seems confused as to the nature of viruses: not many other viruses bear a copyright warning. Nevertheless, Amigaphiles everywhere should keep their eyes peeled for this and other acts of vandalism. The only thing we can do for the moment is be careful: keep your WRITE PROTECT notches open and keep your grandmother away from the keyboard at morning tea time.
[Ed's note - I apologise if you were expecting something different when he said viruses, I had nothing to do with this article]

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HOW TO SWITCH OFF THE 7KHz AUDIO FILTER IN THE A1000

OR:

"Why has someone taken the cotton wool out of my ears??"

ALSO: SWITCHING OFF THE A500 FILTER PERMANENTLY

Original A1000 Modification Details By BRIAN PARKER

DESCRIPTIONS, SCHEMATICS, DIAGRAMS and CONVERSIONS FOR V1.3 A1000 AMIGA'S BY DARREN KING

A500 details courtesy supplied by DAVID MYERS

Ever since the day the A2000 and A500 hit the market the A1000 was doomed for people with musical interests because of its internal, non switchable audio filter. For those of you who have not realised it (it is pretty hard not to) with the amount of new software, literature, etc describing how much better it is with th audio filter switched off in an A500 and A2000, and the ease of doing so by software control, little wonder the A1000 took the back seat.

But all that is about to change! You A1000 owners out there can also have a switchable audio filter, too! And the best part is that its TOTALLY compatible with the A500 and A2000's routines (IE: the LED on/off routine controlling the switch on the audio filter). Even better, you can also permanently have the filter switched off, so ALL software will sound improved, not only those with the routine to switch the filter off!

This article first appeared in Megadisk 6 by Brian Parker. All it described was how to modify the A1000 version 1.2 (with the Daughter Board). In this article, I will improve the original description on how to convert the V1.2 Amiga as well as describe how to convert the V1.3 Amiga too through my own experimenting. I have also included layout diagrams for both machines.

WHAT'S THE DIFFERENCE BETWEEN THE A1000's?

This question may seem a little odd, but there are THREE (possibly even four) versions of the Amiga 1000 floating around, each with different characteristics and in some cases different circuit board layouts.

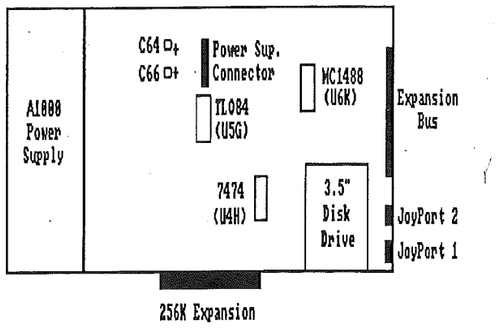
It is important to note the differences between the A1000's as a few more modifications I am releasing in the near future will require knowledge of the different versions before commencing. So file these notes... I won't be repeating them.

THE A1000 V1.1

This machine is VERY rare, and was the first A1000 available. It has a Daughter board (the name given to a separate board plugged into the main circuit board (the Mother board)). The Daughter board contains the memory space for Kickstart (remember A1000's load Kickstart into memory). They were made exclusively for the American market, with only a handful converted to 240V operation (to see how the Amiga sold itself over here). You know if you have one if all your PAL software gets "lost" down the bottom of the screen, and the CLI screen borders (ie the colored border lines) are right to the bottom of the screen.

This machine CAN be made to a V1.2 A1000 by replacing the AGNUS custom chip with a PAL version.

AMIGA 1000 7KHz AUDIO FILTER MODIFICATION
FOR V1.2 AMIGA (DAUGHTER BOARD MODELS)



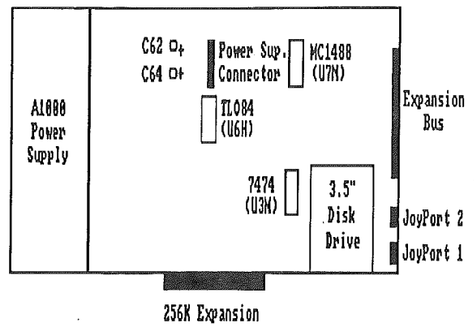
THE A1000 V1.2

This is the most common (and most reliable!) version of the Amiga ever made. Most of the machines produced had this circuit board installed. The A1000 V1.2 has a daughter board, like V1.1 but it has the PAL AGNES chip which makes this machine PAL on output to the RGB monitor, so there is a "black band" on the last quarter of the screen on NTSC software and all PAL software runs okay.

Although this machine has PAL output to the RGB monitor, it has NTSC output through the composite video output on the back of the machine, so output will be black and white to a video, etc.

THE A1000 V1.3

AMIGA 1000 7KHz AUDIO FILTER MODIFICATION
FOR V1.3 AMIGA (No Daughter Board Models)



This is the second most common A1000 made. This machine offers easier servicing due to the fact it has no daughter board. The daughter board has been incorporated on the Mother board. It has all the features of the V1.2 Amiga except that it has a different Mother Board and is configured to run PAL to both RGB monitor and composite video output. These versions were released about three months before Commodore removed the A1000 off the market completely. (A bad move, that one...).

Please don't get the A1000 versions mixed up with Kickstart. They are all capable of running all versions of Kickstart and all software available.

WHY AN AUDIO FILTER ANYWAY?

When the Amiga was being designed and throughout its early stages of commercial sales, the software made for the Amiga was very poorly designed (you only have to look at most old software to see that fact). The original software had very shallow programming and the sounds, although good at way back then, was very scratchy and badly sampled. This lead to ALIASING occurring during playback of the sound. Aliasing is the term given to unwanted high frequency sounds being modulated in with the wanted audio. It was noted that these Aliasing signals were generally above 8KHz, so the final design of the Amiga had an audio filter which cut off the frequencies above 7KHz to stop these annoying sounds.

The A1000 has a permanently connected filter, however the A500 and A2000 does not. This was only because Commodore noted that most of the new software could be actually IMPROVED in sound by switching the filter off. So it was decided that a switchable filter would be put in which would allow programmers to switch off the filter, thus improving sound clarity. This was achieved by including a small routine to make the power LED go off and a handful of electronics to also switch off the filter controlled by this LED routine. This worked well for the A500 and A2000 but it left the A1000 a step behind as the software with this routine would make the LED go dim (note: not off like the A500 and A2000) but not switch off any filters. So it was left at that and us A1000 owners would have to suffer.

This fact changed when this modification came about.

THE MODIFICATION

PLEASE NOTE: THE MATERIAL DESCRIBED FROM HERE ONWARDS WILL VOID YOUR WARRANTY AND NEITHER MYSELF NOR BRIAN PARKER CAN BE HELD RESPONSIBLE FOR ANY DAMAGES CAUSED DUE TO YOUR WORKMANSHIP. HOWEVER, THE MATERIAL HAS BEEN CHECKED AND DOUBLE CHECKED AND THIS MODIFICATION DOES HONESTLY WORK.

If you squirm at the sound of a tinshield gently being lifted off the board or flinch at the sight of a circuit board, then this modification is not for you. However, if you have a good knowledge at soldering and the other basic essentials of electronics then all I can say is this : "GO FOR IT!!!" You will be truly amazed at the end result.

If you have never opened up your Amiga 1000 before, then I will give you a few guidelines at getting to the goodies underneath the cover.

* Turn the Amiga upside-down.
* locate the 5 screw holes in a cross formation (four around the perimeter of the Amiga and one in the centre).
* Use a reasonable length medium Philips Head screwdriver to take the screws out.
* Turn the Amiga over to the right way up and remove the top cover (this may be a little hard if it is only the first time you have done so. To make it easier, work on one side gently prizing the cover off, then the other side.
* You should be greeted with a big tin shield. Now remove all the silver self-tappers on each side of the ports at the rear end of the computer.
* Remove the three screws which attach the tin shield to the power supply metal frame.
* Remove the single screw which attaches the tin shield with the disk drives metal frame.
* Remove the two brass plated screws holding

the tin shield to the circuit board which are located behind the 256K memory expansion in the valley.

* Using a pair of pliers, bend the two metal tabs holding the shield to the other shield underneath the circuit board. There is one up the back near the composite video out RCA socket and one near the Expansion Bus on the side of the Amiga.
* GENTLY lift the shield. It may get stuck on the threaded screws holding the sides of the parallel, serial, RGB and disk ports. Just lift the front of the shield clear and slide the back forward. The shield will come free.
* Now remove the connector inside the computer which is connected between the power supply module and the circuit board. The connector has a clip to stop it falling out on its own, therefore you will need to bend back the clip on the circuit board portion of the connector before removing the other portion. You need to do this because there are a few connections to be made very close to this area, and the leads sometimes get in the way.

If you now see another board on top of the main circuit board, remove the three screws holding it down and EVER SO GENTLY pull the board off. (It will be VERY stiff, and you will need to go very easy with it.) Once it is off you are ready to start work on the circuit.

If you have a daughter board Amiga, then you will do the modification for V1.2 Amiga 1000's, and if you have no board you do the modification for V1.3 Amiga 1000's.

You will require the following parts. These are all very common parts which can be obtained at Dick Smith Electronics or similar places. It will set you back a measly $10 maximum.

For the Hookup wire, it is best to use a length of multi-colored ribbon wire, which is stranded by splicing down each of the cores. Ribbon wire is easy to work with and very thin, along with not having the tendency to break easily.

When locating intergrated circuits inside the Amiga, they all have a code which is actually a grid (like a Melway's map reference). It starts with a "U" and then has a number and a letter after the U.

For determining which pins are what on an Intergrated Circuit, there is a little locator notch on the chip itself. If you look at the Intergrated Circuit, you will notice one end will have a notch cut out of it. If you then place the I.C. so this notch is on the left hand side with the pins pointing downwards on the chip, you can then locate the pin numbers. Pin number one will be the leftmost pin on the BOTTOM row of pins. Now count the pins along the bottom row until you come to the last pin. Now the counting continues on the TOP ROW from the rightmost pin. Now count to the left until you reach the leftmost pin on the top row. That is it! All I.C. pins are located in this fashion. Another way to remember it is to start from the Leftmost-Bottom pin and count in an Anti-Clockwise direction. Don't forget to position the chip with the pins pointing down and the notch on the left! No chip likes to be connected the wrong way around! I.C.'s usually come in the following total pin numbers: 8-pin, 14-pin, 16-pin, 18-pin, 20-pin, 24-pin, 28-pin, 40-pin. It is very rare to see other groups of numbers unless they are custom chips (and these are usually very large).

If you are observant, you will notice a set of letters running across the circuit board (at the front) and a set of numbers running down the side (near the power supply, on the board). These are the reference numbers. If you have trouble following that, then refer to the diagrams I have supplied for approximate locations. There will then be reference code printed in white on the circuit board very close to the intergrated circuit you are looking for.

PARTS LIST:

*	4066 quad bi-lateral switch	DSE CAT No Z-5666
*	74LS04 hex inverter	DSE CAT No Z-4904
*	two 47K 1/4 watt resistors	DSE CAT No R-1116
*	hookup wire (ribbon wire)	DSE CAT No W-2045
*	a DPDT centre off switch.	DSE CAT No S-1286

NOTE: The circuit calls for a SPDT (Single-Pole, Single-Throw) centre off switch. However, Dick Smith Electronics sells the DPDT version only. This version is quite OK for use in this modification, and effectively only two switches in one package. Therefore, use either the RIGHT or LEFT side of the switch. (Place the switch on its side, and position it so there are two sets of three pins running vertically on the back of the switch body. This is how you determine the pin connections). You can then cut off one set of the three pins of you so desire to remind you only to use one side of the switch. The directions for this modification are described using a SPDT swtch, so bear it in mind with the DPDT version if you do not cut the pins off.

PROCEDURE FOR A1000 V1.2:

* Disassemble the machine.
* Remove the daughter board.
* Splay out the pins on the two IC's except the power supply pins.
* With the 74LS04, cut off pins 1 to 4 and pins 8 to 13. (This is to keep work neat, but not necessary).
* Piggyback the two IC's onto U4H by soldering the power supply pins (Put the 74LS04 under the 4066).
* Cut the two tracks leading to the +ve sides of C64 and C66 with a small penkinfe.
* Solder together pins 5 & 5 of the 4066 and 74LS04.
* Do the same with pins 6 & 6 of the 4066 and 74LS04.
* Join pins 2 & 3 of the 4066.
* Join pins 9 & 10 of the 4066.
* Join pins 5 & 12 of the 4066.
* Join pins 6 and 13 of the 4066.
* Solder one 47K resistor between pins 14 and 13 of the 4066.
* Solder the other 47K between pins 12 & 14 of the 4066.
* Join the +ve side of C66 to pin 2 of the 4066.
* Join the +ve side of C64 to pin 9 of the 4066.
* Join pin 14 of the TLO84 (U5G) to pin 4 of 4066.
* Join pin 1 of TLO84 to pin 1 of 4066.
* Join pin 8 of TLO84 to pin 11 of 4066.
* Join pin 7 of TLO84 to pin 8 of 4066.
* Mount the switch on the back of the machine
* Connect pin 5 of the 4066 to the centre pin of the switch
* Connect one of the remaining pins on the switch to a nearby ground.
* Join pin 9 of Intergrated Circuit MC 1488 (U6K) to the remaining pin on the switch.
* Reassemble the machine.

PROCEDURE FOR A1000 V1.3:

* Disassemble the machine.
* Splay out the pins on the two IC's except the power supply pins.
* With the 74LS04, cut off pins 1 to 4 and pins 8 to 13. (This is to keep work neat, but not necessary).
* Piggyback the two IC's onto U3M by soldering the power supply pins (Put the 74LS04 under the 4066).
* Cut the two tracks leading to the +ve sides of C62 and C64 with a small penkinfe.
* Solder together pins 5 & 5 of the 4066 and 74LS04.
* Do the same with pins 6 & 6 of the 4066 and 74LS04.
* Join pins 2 & 3 of the 4066.
* Join pins 9 & 10 of the 4066.
* Join pins 5 & 12 of the 4066.
* Join pins 6 and 13 of the 4066.
* Solder one 47K resistor between pins 14 and 13 of the 4066.
* Solder the other 47K between pins 12 & 14 of the 4066.
* Join the +ve side of C64 to pin 2 of the 4066.
* Join the +ve side of C62 to pin 9 of the 4066.
* Join pin 14 of the TLO84 (U6H) to pin 4 of 4066.
* Join pin 1 of TLO84 to pin 1 of 4066.
* Join pin 8 of TLO84 to pin 11 of 4066.
* Join pin 7 of TLO84 to pin 8 of 4066.
* Mount the switch on the back of the machine
* Connect pin 5 of the 4066 to the centre pin of the switch
* Connect one of the remaining pins on the switch to a nearby ground.
* Join pin 9 of Intergrated Circuit MC 1488 (U7N) to the remaining pin on the switch.
* Reassemble the machine.

With the switch, centre position turns the filter off, up turns the filter on, and down connects the filter for software control. (Depending on how your switch is arranged this may be the other way around).

To try out the difference attainable, run the following AmigABASIC routine with the filter alternately switched in & out.

```
loop:
sound 15000,77,255,0
goto loop
```

Or run any program which has sound... The difference is unbelievable. Try it out with SONIX.

A500 AUDIO FILTER MODIFICATION

Although the A500 (like the A2000) has software control over its sound filters, it has been found that a switched hardware control can be very useful. The following describes how it is done. PLEASE NOTE: The circuits in the back of "An Introduction to the A500" are incorrect, so please don't refer to them. The circuit in the A500/A2000 Technical Reference Manual is correct. Note that

users who still have warranty applying to their machine will void that warranty. Also note that myself, nor David Myers, will be held responsible for any smoke-bombs caused by failure to do the modification properly. (Actually David did do the mod incorrectly and consequently created his own smoke bomb, but it was nothing serious!!!)

OK.. Here is the modification:

Insert a switch in series with a 10K resistor between the Base and Collector pins of transistor Q301 (a 2N3906 PNP transistor).

THAT IS IT!! Turning the switch on will kill the 7KHz sound filters, but leaving the Power LED on. This is so you can tell if the software actually turns the filter off through its software control or not.

Finally, there is still a 15KHz filter in circuit. As the maximum sample rate in the Amiga is 28KHz, and playback being always half of that figure. Therefore nothing (theoretically) will ever get past 14KHz, as the system's response is only 14KHz maximum. [Ed's note - There is however the brilliant program by Peter Norman, Audiomaster II, which *can* play up to 56KHz, giving an excellent resolution up to 16KHz, and a reasonable resolution up to 28KHz! However, despite most books and authorities telling us we can hear up to 20KHz, in actual fact, by the time we are around 18 years old, we can no longer hear past about 16KHz, and by the time we are 40, we can no longer hear - at best - past 14.5 KHz, so there still is justification in not worrying about this filter]

David (and myself) consider this modification well worth doing, as he always uses the computer with the filter permanently turned off.

Thanks must go the following people:
Mark Poulter for letting me loose in his A1000 V1.3!! He is glad (and so am I!!) that I didn't create any smoke bombs!
David Myers for giving me permission to describe the A500 modification.
And last, but not least, to Brian Parker for the original modifications. Without his ideas, this modification and new lease of life for the A1000 would not be possible.

If you are experiencing any problems, or would like to tell me how you went at doing the modification, you can leave me a message on "THE HOTLINE" AMIGA BBS. The phone number is (03) 547-5117 24 hours a day! David Myers is also available for any hardware queries too, especially A500 advice. Just leave him a message. We'd love to hear from you.

This whole article, along with the IFF pictures of the layouts are also available in the Hardware Section of the BBS too.

Happy Hardware Hacking until next time!

==========

Replacement Switches for Mice

Allan Duncan

The early mouse (the one that came with the A1000) has small semi-sealed membrane switches that are actuated by the Menu and Select buttons. On the mouse that comes with A500 and A2000, cost cutting shows itself with cheap dimple switches that are held in place with sticky tape. This form of switch is notorious for poor long-term reliability, partly because the contact surface is not gold, and partly because the adhesive in the tape creeps into the contact area and acts as an insulator.

Purchasing has obtained some kits that replace these switches with closed ones, and is able to offer them at a discounted price of $15. Installation will require a soldering iron to change three wires over to the new insert board, and a knife or blade to trim back the underside of the external buttons to allow for the increased height of the new switches. Not for the faint-hearted, but not too demanding either.

==========

Getting the most of out those damned printers

by Con Kolivas

A lot of people have either called me or spoken to me directly about printer drivers, so here is a short bash at what's happening...

The 1.3 drivers are significantly better and most of you should have installed them into your paint programs etc by now. Deluxe Print II will not agree with 1.3 drivers, but doesn't mind the 1.3 printer device and preferences. On average they are 8 times faster than 1.2 (I kid you not) but are a far cry from accessing printers at their best. The most popular printer driver by far is the EpsonX driver. You may have found out by now that it supports

two densities for this printer, 120 dpi and 240 dpi. The funny thing is that neither of these are the draft graphic density, 60 dpi. So no matter what you do you will always be printing out in slow mode. Also, all of the Epson X compatibles that most people buy don't actually do 240 dpi, they only simulate it by printing every second dot, as they can't print consecutive dots in a row. So there is no point even using density 2 if your printer works like this, as it will only slow the final result and actually produce the same print as density 1!

Now if you're wondering about the other 6 densities that your printer will support, forget it, as they are just ignored. Also, vertical density is fixed. There is no 1.3 printer driver that will change vertical density of Epson X printers, although they can change right up to 216 dpi vertically (not simulated, actually that density) which would give a very clear, well defined image. Note, however that there are programs that come with their own printer drivers, and don't even use the devs:printer.device, only the l:port-handler as they access the parallel port directly. An example of this is the many CAD programs about. IntroCad for example, will support many printer types, not at all their densities, but usually at the highest density your printer can produce. I have had some very detailed printouts from that program on my old Epson GX80.

You may have already read last month's fish list and are one step ahead of my next comment. There is a program on the fish list that takes IFF pictures and prints them on B & W Epson printers called Gprint on disk #180. I assume it means at the different densities available, so look out for that program if you want detailed printouts of your favourite IFF pics with a standard home printer. There was a program that came out called fineprint which worked on the high density principle on standard dot-matrix printers, using it's own rendering techniques. The results look impressive, but reports say the program is not bug-free. So I think Fineprint II is on the way out...

As for printing on Posctscript compatible printers, you can all but forget it with standard 1.3 drivers. To make a printer driver for them would probably be very big and complex, not knowing when to print out graphics, text, lines, boxes or whatever, and be very crude. So if you can afford this luxury, you will probably run a program that supports that output. The ones I can think of off-hand include Excellence! as you well know, Professional Page, and Express Paint. The postscript output of all these is not maximum quality however, and if you see any diagrams on these newsletters, or front page pictures, I have used the Shareware program IFF2PS (Iff to Postscript), which allows you to use all 255 shades of gray available on PS printers. Why would you want to do this with only 16 shades of gray on the Amiga? Well, if you're printing a color picture in B&W, then it has to be converted to shades of gray, and the 16 shade mode of PS printers will not choose from the 255 available, it will use the 16 hard wired into it which coincide with the 16 of the Amiga. So if you're printing out a B&W picture on the Amiga into PS then you can use the 16 colour mode, but if it's a colour picture, even only 4 colours or something, then the only way to get the proper gray coinciding is to use the 255 shade mode... Well you've got to admit, the front covers don't look bad do they? Unfortunately IFF2PS doesn't let you change the size of the picture and where it is printed on the page. So, if you're going to use it, I suggest you save postscript files on disk and then modify them (this needs a knowledge of the Postscript language, but the changes only mean you need a little knowledge).

Oh, and if you wanted colour from Deluxe Print II then you'd have to use the Epson JX80 printer driver as this was the only colour 1.2 driver that would coincide with EpsonX printers...

See you later in the newsletter.

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AmigaBasic Ramblings

by Rudy Kohut

How do you locate and print text on the screen? AmigaBasic contains two locational commands - "LOCATE" and "PTAB", and the "PRINT" command to actually place your text . The LOCATE command is of the form <LOCATE YCHAR, XCHAR> - with YCHAR being the number of characters from the top of the window, and XCHAR being the number of characters from the left side of the window (ie. row, column). "PTAB", on the other hand, when used in a "PRINT" statement, moves the cursor position x pixels from the left of the window, NOT characters. The "TAB" command used with the PRINT statement moves the cursor x characters from the starting position of the cursor.

All this is well known but very confusing to my mind! This is especially so when trying to co-

locate graphics and characters, such as some text in a box (as in a 'requester' button). The normal window co-ordinate system for graphics commands such as "LINE", requires x and y pixel locations as in <LINE (x1,y1)-(x2,y2)>. The "LOCATE" command not only uses characters but requires the Y (or row) location first! The "PTAB" command is useful but only for locating in the x pixel direction! With ingenuity and some good computational exercise, you can actually use these command combinations in AmigaBasic to achieve results. But there is an easier way!

In the "graphics.bmap" file (you know, the one you create from the "FD1.3" files on the "EXTRAS" disk), is a function called "Move". With this function you can create a command which locates the cursor using x and y pixel count - and it is very fast! From the book "AMIGA Tips and Tricks" (Abacus,1988), I have copied the idea of creating a new 'command' called "XYPTAB" (you can call it what you want). Now to locate the cursor position, I just insert the command - as in <XYPTAB x,y>. This calls a subprogram set up as follows:

```
SUB xyPTAB (x%,y%) STATIC
e&=Move&(WINDOW(8),x%,y%)
END SUB
```

Things to note.

(1) You must add the following two lines to the start of your program:
 - DECLARE FUNCTION Move& LIBRARY
 - LIBRARY "graphics.library"
(2) The file "graphics.bmap" must be in the current directory or (preferably) in the LIBS: directory of the boot disk.
(3) The pixel co-ordinates give the lower left corner of the cursor position, so text will print from the y location UPWARDS (ie. from y to y-8 if you are using topaz 8 font). This is different from, say, the "LINE" command which starts at the TOP left corner.
(4) The x and y values must be short integers.

Insofar as the "PRINT" command itself is concerned, I have never felt any concern about it until I read about the ROM Library command "TEXT".(Ignorance is bliss!). Now I know that printing using "TEXT" is not only faster, but it is also the only way to go if you are printing with fonts that are 'proportional' and not 'fixed width' - eg. the new Helvetica font is proportional; Topaz is 'fixed width'. The "TEXT" command apparantly adjusts the spacing between characters to ensure that no overlapping occurs, or that characters are too far apart. This requires that "TEXT" receive the complete string to be printed, and not one character at a time.

Well, how fast is "TEXT"? Being curious, I set up a simple test that timed the printing of a three word phrase, first with "PRINT" and then with "TEXT". To print the phrase 200 times with "PRINT" took over 18 seconds. With "TEXT", the routine finished in just over 1 second!! Now, with "TEXT" there is a problem (of course!) - there is no "carriage return", it just keeps printing on one line into infinity, whereas with "PRINT", each statement causes the cursor to return to the left edge of the window, down one line (unless you use a ';'). What to do? The "Advanced AmigaBasic" book (Compute!,1986) says "just add a "PRINT" command after each call to "TEXT". Well, try it and see what happens - it works, but now the routine takes over 13 seconds to finish! Not much of an improvement after all. Hold on! Why not use the "MOVE" command after "TEXT"? Try it - the routine finishes in just over 3 seconds! That's better.

Use the "TEXT" command this way. Set up a 'command' with a name like "PrTex", as in <PrTex text$>. This will call the sub program:

```
SUB PrTex (msg$) STATIC
CALL Text&
(WINDOW(8),SADD(msg$),LEN(msg$))
END SUB
```

Things to note:

(1) The file "graphics.bmap" has to be in either the current directory or the "LIBS:" directory of the boot disk.
(2) "TEXT" does not support the ";" or "," options of the "PRINT" command, nor is it affected by the "WIDTH" statement - so be careful in placement of the cursor before and after calling the routine!
(3) You must put the following statement at the start of your programme:
 - LIBRARY "graphics.library"

Using these commands has made my task of co-locating text with graphics much easier, and the display is as fast as the AMIGA can make it go. I never thought I would want to see a fast display until I started designing displays that were complicated combinations of boxes, buttons, text, etc., so using these two commands has helped a lot.

I hope you find using them useful as well.

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CONVERTING OTHER PRINTERS TO THE AMIGA
by JOHN BAKER

Converting a printer from your old computer is no easy task when it is incompatible with the AMIGA. I had a Tandy TP-10 Thermal printer. The first thing to do with any printer is to find the right connection, whether it be parallel or serial. This may require you to make your own cable as was in my case.

Anyone else with a TP-10 printer may follow the instructions below and it should work. Others will have to change different pins to get the desired result.

The TP-10 printer is 4-pin serial, so the first thing to do is buy a DB-25 female (NOTE: FEMALE for the AMIGA 500 and MALE for the 1000.) connecter.

Now solder the following pins together. Note that pin 1 is not connected and also the pins differ on the 1000.

```
   TP-10 SIDE                          AMIGA 500 SIDE

  PIN                                  PIN
   2  STATUS    ------------           20  DTR
   3  GND       ------------            7   GND  (SYSTEM
GND)
   4  DATA      ------------            2   TXD
```

Now plug it in to the serial port. Turn the computer on, then the printer on. Now load AmigaBasic and type in the listing below.

This printer and I suspect many others will not work with SER:. This is because current software does not provide 600 baud. To operate the printer you must use the COM1: device provided in AmigaBasic and create delay routines to operate the printer at the correct speed. This is because the TP-10 printer can only accept one letter at a time.

The listing below allows you to load a text file and print it out or simply look at a text file. The program provides a facility for Normal or Elongated text output. The TP-10 may be limited to 32 characters across, but I find this printer useful for listing programs in C and AmigaBasic. The program can deal with TAB's by placing a space instead. Any one with a different printer can change the program to suit their printer. This can be achieved by changing the COM1 baud rate configuration, the number of characters across the page, the CHR$() numbers for elongation and normal printing modes.

I hope someone else out there has a use for all this and good luck, it will take a lot of time and patience to get your printer working!

The LISTING: TP-10 PRINTER DRIVER

```
'TP-10 PRINTER DRIVER
'Version 1.5 Feb 1989
'John Baker
ON BREAK GOSUB options
BREAK ON
ON ERROR GOTO filefix
MENU 1,0,0,""
MENU 2,0,0,""
MENU 3,0,0,""
MENU 4,0,0,""
printcheck= 0
mode =2:mode$="NORMAL":set1=32:set2=1:set3=1
wai1$="PRESS ANY KEY TO CONTINUE"
wai2$=" OR <Q> TO QUIT"
WINDOW 2,"TP-10 PRINTER DRIVER by John Baker  FEB
1989",,22
OPEN "com1:600,N,8,2" AS #1
GOSUB ty

duf:
buffer=4096
dsk=2
GOTO options

ty:
IF mode = 1 THEN
 PRINT #1, CHR$(27);
 FOR x= 1 TO 300 :NEXT x
```

```
 PRINT #1, CHR$(14);
 RETURN
ELSEIF mode = 2 THEN
 PRINT #1, CHR$(27);
 FOR x=1 TO 300:NEXT x
 PRINT #1, CHR$(15);
 RETURN
END IF
start:
 PRINT
 COLOR 2:PRINT "Filename to Print?";:COLOR 1:INPUT "
",b$:PRINT
 OPEN b$ FOR INPUT AS 2 LEN=buffer
 printcheck = 2
 PRINT #1,""
 FOR x=1 TO 3000:NEXT x

WHILE NOT EOF(dsk)
LINE INPUT #dsk,c$
a=LEN(c$)
b=1:g=0:d$=c$:h=1
pri:
s$=LEFT$(c$,b+g)
t$=RIGHT$(s$,1)
PRINT t$;
IF t$ = CHR$(9) THEN h=h+7:t$=" "
PRINT #1, t$;
FOR x=1 TO 25*set3:NEXT x
b=b+1
IF b=set1+2 THEN GOSUB setval
h=h+1
IF h=79 THEN GOSUB setval1
IF b+g<=a THEN GOTO pri
PRINT #1,""
PRINT
k$=INKEY$
IF k$ <>"" THEN w3=2:GOSUB wait1
IF w4=2 THEN w4=0:CLOSE #2:GOTO options
FOR x=1 TO 780+80*b*set2*.9:NEXT x
WEND

PRINT:COLOR 3:PRINT "Printing complete!":COLOR 1
PRINT #1,""
CLOSE #2
printcheck=1
w3=1:GOSUB wait1
RETURN

setval:
b=2
g=g+set1
FOR x=1 TO 3000:NEXT x
RETURN
setval1:
h=1
PRINT
RETURN

options:
IF printcheck = 2 THEN PRINT #1,"":printcheck = 0
CLOSE #2
opt1:
CLS:COLOR 3
PRINT
PRINT "  P - PRINT FILE"
PRINT "  L - LIST FILE ON SCREEN"
PRINT "  Q - QUIT PRINTING"
PRINT "  C - CHANGE MODE"

PRINT "  MODE: ";:COLOR 2:PRINT mode$
PRINT :COLOR 2:PRINT "  Please Select:-"
COLOR 1
test:
k$=INKEY$
IF k$="q" OR k$="Q" THEN GOTO finish
IF k$="P" OR k$="p" THEN GOTO start1
IF k$="C" OR k$="c" THEN GOTO mo
IF k$="L" OR k$="l" THEN GOTO listfile

GOTO test
finish:
WINDOW CLOSE 2
CLOSE #2
CLOSE #1
END
start1:
GOSUB start
GOTO options
mo:
IF mode=2 THEN
 mode=1:mode$="ELONGATED":set1=16:set2=2:set3=4
 GOSUB ty
ELSE
 mode =2:mode$="NORMAL":set1=32:set2=1:set3=1
 GOSUB ty
 END IF
GOTO opt1
listfile:
  PRINT
COLOR 2:PRINT "Filename to list?";:COLOR 1:INPUT "
",b$
 OPEN b$ FOR INPUT AS 2 LEN=buffer
 PRINT
WHILE NOT EOF(dsk)
LINE INPUT #dsk,c$
PRINT c$
k$=INKEY$
IF k$<>"" THEN w3=2:GOSUB wait1
IF w4=2 THEN w4=0:CLOSE #2:GOTO options
WEND
w3=1:GOSUB wait1
GOTO  options

wait1:
IF w3=1 THEN wai$=wai1$ ELSE wai$=wai1$+wai2$
PRINT :COLOR 2:PRINT wai$
COLOR 1:w4=0
wait2:
k$=INKEY$
IF (k$="Q" OR k$="q") AND (w3=2) THEN w4=2:RETURN
IF k$<>"" THEN PRINT:RETURN
GOTO wait2

filefix:
IF ERR=53 THEN
 PRINT "File not found!"
 BEEP
 FOR x=1 TO 5000:NEXT x
 RUN
ELSE
 errorcode=ERR
 ERROR errorcode
 FOR x=1 TO 5000:NEXT x
 GOTO finish
 END IF
```

==========

AUGADS

FOR SALE - Amiga original software with packaging and manuals: King of Chicago, Guild of thieves, Winter Olympiad 88, Mission Elevator, Arctic fox, Karting Grand Prix; $100 THE LOT. Will not separate. ph Eric AH 579-0102

FOR SALE - Photon Paint, original disks, manual + packaging, $50. ph AH Lester 233 5664.

FOR SALE - Roadwar 2000, Land of the Lounge Lizards. $35 each, with all original disks, manuals and packaging. Phone Grant BH 316 5404 or AH 744 3949.

These are the monthly classifieds open only to AUG members. All ads are to be printed for one month unless re-submitted. Ads can be for sale or wanted notices. Send to the Editor AUG, PO Box 48, Boronia, 3155 or place a message in area 22 of Amiga Link BBS or call me and dictate it to me on the phone.

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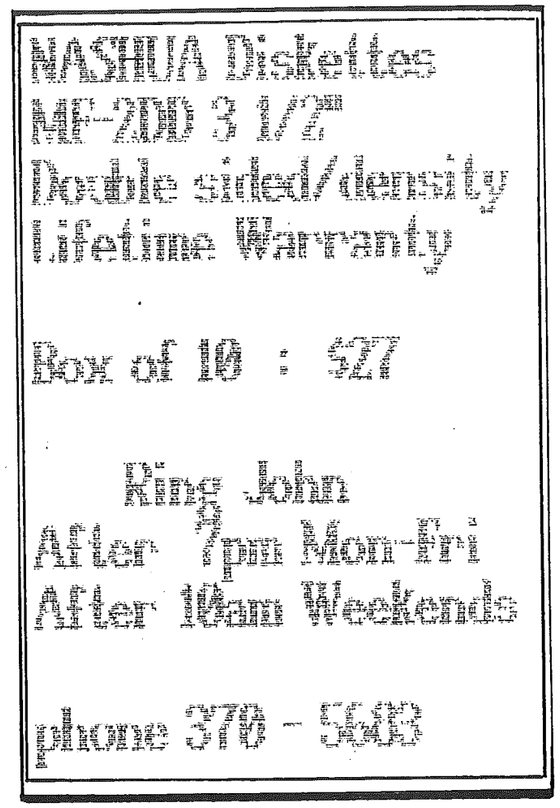

FROM A BASIC LOVER.

by Greg Shanahan

After the various games have played with me for a while, I always come back to AmigaBasic. AmigaBasic is neither as fast nor as powerful as "C" or "Assembler", but it is within reach of anyone who can cope with Scribble!. Programming is not only for the elite (the "Advanced Programmer"), but also for the meek.

Here is a set of five functions which enable the use of Requesters or Selection-Buttons without calling upon System Routines. I have found them useful. Someone might like to improve on them. (A future article, perhaps!)

Once defined, these functions make it possible to know where the mouse is in relation to a particular character position. This information, in turn, can be used for requester-like selections, positioning a text cursor, etc. With some design imagination, one can create "Calculator" buttons, "SuperBase" buttons, Calendar selections, etc.

A Function is a single line formula OF YOUR OWN MAKING. It is defined at the beginning of a programme and can be used in the main programme and/or in sub-routines. A function name always begins with "FN" (FNx, FNy, FNPerCent, etc.) A function is defined by using a "DEF FN" statement. For example, if you want to define FNx to always equal (y+z) then your programme reads ...

```
DEF FNx=(y+z)
PRINT FNx
```

(The printed result will be the addition of the current values x and y)

Whenever the mouse is "clicked" in a window, Amiga keeps track of its position. By using of the MOUSE(n) commands, this position will be reported. MOUSE(1) reports the horizontal (x) coordinate and MOUSE(2) reports the vertical (y) coordinate. The x,y coordinates are measured in pixels. However, it is simple to translate this information into larger units (not individual pixels, but boxes the size of a character).

If each box were numbered, number 1 would in the Top Left and number 1760 is at the Bottom Right of the Screen. From such a number, it is possible to calculate the distance of the box from the top left corner of the Window. This distance can be measured in pixels (FNPixelx and FNPixely) or in units the size of one character (FNLn and FNCpos). Because each box is the same size as one character, FNLn corresponds with the line number and FNCpos corresponds with the Cursor Position.

```
DEF FNBox=(INT(MOUSE(2)/8))*80+INT(MOUSE(1)/8)+1
    determines the box number over which the mouse
```

```
    was positioned when "clicked".

DEF FNLn =INT(FNBox/80)+1
    determines the vertical distance from the top of
    the screen, that is, line number of the Box

DEF FNCpos=(FNBox-(FNLn-1)*80)-1
    determines the horizonal distance from the left
    edge of the screen, that is, the cursor
    position.

DEF FNPixely=INT(FNBox/80)*8
    determines the y coordinate of the top left
    corner of the box, in pixels

DEF FNPixelx=(FNCpos)*8
    determines the x coordinate of the top left
    corner of the box, in pixels
```

The following programme uses FNLn and FNCpos to create a set of eleven buttons down the right hand side of a window. These buttons can be selected with the mouse and the programme can respond accordingly.

```
REM REM SAMPLE BUTTON-PROGRAMME
REM
REM ******** Define the functions

DEF
FNBox=(INT(MOUSE(2)/8))*80+INT(MOUSE(1)/8)+1 'a Box
8x8 pixelss
DEF FNLn =INT(FNBox/80)+1      'line number of Box
DEF FNCpos=(FNBox-(FNLn-1)*80)-1      'cursor
position of Box
DEF FNPixely=INT(FNBox/80)*8  'y co-ord of top LH
DEF FNPixelx=(FNCpos)*8       'x co-ord of top LH

REM ******** Define an array of Button names

DIM ButtonName$(11)
ButtonName$(1) ="Button 1 "
ButtonName$(2) ="Button 2 "
ButtonName$(3) ="Button 3 "
ButtonName$(4) ="Button 4 "
ButtonName$(5) ="Button 5 "
ButtonName$(6) ="Button 6 "
ButtonName$(7) ="Button 7 "
ButtonName$(8) ="Button 8 "
ButtonName$(9) ="Button 9 "
ButtonName$(10)="Button 10"
ButtonName$(11)="  STOP   "

MainLoop:
  COLOR 1,0 : CLS
  GOSUB MakeButtons    'draw the buttons
MainLoop1       'loop forever
  Selection=0
  GOSUB Checkmouse     'wait for mouse click
  IF FNCpos<65 THEN GOTO MainLoop1    'not over these
buttons
  IF (FNLn/2)<>INT(FNLn/2) THEN GOTO
MainLoop1       'between the buttons
  Selection=FNLn/2
    IF Selection>0 THEN GOSUB PrintResults
    IF Selection<1 OR Selection>11 THEN GOTO
MainLoop1       'no selection  'made
    IF Selection=1  THEN BEEP
    IF Selection=2  THEN BEEP
    IF Selection=3  THEN BEEP
    IF Selection=4  THEN BEEP
    IF Selection=5  THEN BEEP
    IF Selection=6  THEN BEEP
    IF Selection=7  THEN BEEP
    IF Selection=8  THEN BEEP
    IF Selection=9  THEN BEEP
    IF Selection=10 THEN BEEP
    IF Selection=11 THEN GOSUB ExitProg       'Button
11 (Exit)
GOTO MainLoop  'keep looping
STOP

MakeButtons:   'Draw the buttons to the screen
COLOR 2,3 : co=0
  FOR i= 6 TO 170 STEP 16
    co=co+1
    LINE (520,i) - STEP(100,10),3,BF
    LINE (520,i) - STEP(100,10),2,B
    LOCATE ((i/8)+1),68 : PRINT ButtonName$(co)
  NEXT
RETURN

PrintResults:
  COLOR 1,0
  LOCATE 1,1
  PRINT "Box     "FNBox
  PRINT "LN      "FNLn
  PRINT "CPos    "FNCpos
  PRINT "Pixelx "FNPixelx
  PRINT "Pixely "FNPixely
  COLOR 1,3
  LOCATE FNLn,68 : PRINT ButtonName$(Selection)
  t=TIMER : WHILE t+3>TIMER : WEND    '3 second pause
RETURN

ExitProg:
STOP

Checkmouse:    'wait for mouse click!
  IF MOUSE(0)=<0 THEN  GOTO Checkmouse
  IF MOUSE(1)<0 THEN GOTO Checkmouse
  IF MOUSE(2)<0 THEN GOTO Checkmouse
  t=TIMER : WHILE t+.2>TIMER : WEND
  SOUND 440,2,100,0
  SOUND 659,2,100,0
  MOUSE OFF : RETURN
GOTO Checkmouse

REM end of source generation
```

MORE ABOUT GRAPHICS

by Norm Christian.

First let me say thanks to those who have agreed to support the Art Show project. If you are not yet aware of it, the Annual Chelsea Art Show committee have agreed to my suggestion to mount a display of computer art during the week-end of June 9-10.(See page 8, April Workbench.) Unfortunately, the response has fallen short of my expectations. We need more people if we are to man the show for 20 hours, that is 8-10 Friday evening, 9 am to 7 pm Sat, 9 am to 5 pm Sun. If you can assist please phone me as soon as possible on 580-3756. Don't worry if you are only a beginner like me - all that's needed is the ability to run a slide show.

Of course, if you have a favourite art program you would like to display, so much the better. The aim is to have a large screen showing continuous pictures and a standard monitor showing active graphics in certain time slots. The latter may have to be curtailed somewhat unless we get more volunteers. Offers of equipment would also be appreciated, e.g. digitiser, colour printer, etc.

I have made a recent discovery about DPaint which may interest some. The slide show I use works from a script file and will support cycling in a limited way (see my previous article, p 14, June). For a long time I have been looking for a slide show which would display PAL pictures - does anyone have such an animal ? Unfortunately, if you save a Lo-Res PAL picture, the show compresses it vertically, with a flicker which indicates it is interpreting it as interlace. I have found that this can be overcome as follows. Load your LoRes file to DPaint in interlace mode, where it will take up the top portion of the screen. Copy it as a brush and double the size vertically. You may find some memory limitations which will force you to do this in sections, which is a bit tricky. Alternatively, if the picture allows, add to the bottom in some creative way. For example if it is a fractal you could flip it vertically to make a mirror image. Or if it consists of a pattern, select the pattern carefully, put it in the "pattern from brush" option, clear the screen and floodfill. Then save. The rule is simple - if your picture fills the screen in interlace mode, it will appear in the slide-show as PAL.

Hope this little tip will help someone who is as frustrated as I was ! Norm Christian. 580-3756.

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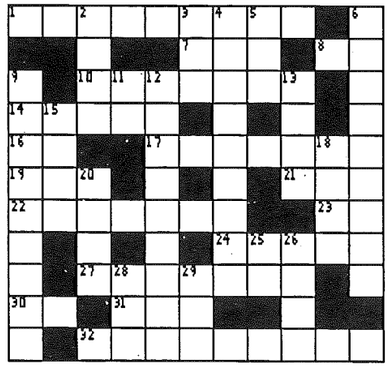
May AmigaWord



ACROSS

1 Currently undergoing education, we hear, will help the user interact with the computer
7 Dan provided the Boolean operator
8 Symbol for a gaseous element, jointly speaking
10 (and 22 across) Racing fiends found in the office ?
14 A cone in turmoil for water
16 Right Honourable blood factor
17 Axis of a disk drive
19 Dawdle behind
21 Operating system with no don'ts
22 see 10 across
23 We left the amphibian for the territory
24 Icon to confuse the Eastern wise men
27 This technology is very topical (CD ROM etc)
30 He can be found in radio stations and running software libraries
31 The heart of the irony is that he misses the occasional meeting (in his position !!)
32 Operating surface, literally and logically

DOWN

2 Class command
3 Sun-bathers function
4 Essential nitric sin
5 Poem for the girl who left the pole (-)
6 Queer rest is really weird window
9 Universal, terrestrially speaking
11 Cheer the sun-god
12 Pincers to the detective
13 Author of "On Our Selection"
15 Burn this variable type...
18 ...and yearn for this type
20 Acronym for phrase describing the results produced by inputting and processing trash
25 Mother
26 A local area network for this lad
28 Expert public relations officer
29 Ejected by cuttle-fish and fountain-pens

==========

Co-ordinators Comment

The April AUG meeting included a demonstration of an Amiga 2500. The machine was an early release model from Commodore and was kindly displayed by Kevin Bergin who is currently writing a review of the machine, hopefully to be published in APC. Thanks also to Ron Wail for twisting Kevins arm to bring the 2500 along for all to see. While we weren't able to put the machine through any demanding applications it was interesting to see that the machine actually does exist and even more interesting to hear Kevins comments. Those not at the meeting will have to wait for the review to find out what was discussed.

Some unfortunate news is that UltraPhase has closed down. It is a shame to see any Amiga dealer forced to cease trading and in particular UltraPhase. The Knox store was prepared to support AUG by attending monthly meetings and offering new software and hardware releases for demonstration.

Workbench "Special Edition #1" - By the time you read this our first venture into special subject publications will be available in print. It is a special edition of Workbench on the subject of Viruses. It has been compiled by our editor (Con K.) with assistance and contributions from other AUG members. This will be followed by other "Special Edition" publications in the future, some

topics that have been suggested are CLI and Intro. to C programming. It will be available for purchasing at main meetings at a cost of $3 for non-members, or $2 for members.

Publicity Officer - we are still seeking an AUG member willing to take on the position of Publicity Officer. This is not a formal committtee position but involves working with AUG committee members to help promote the Amiga and AUG. Anyone interested in this position please contact any of the committee members.

Graphic Arts SIG - there has been considerable interest expressed recently in the area of graphics and art for the Amiga. This has been partly due to the efforts of Norm Christian and his promotion of Amiga art at the upcoming Chelsea Art show (More details should appear elswhere in this newsletter). Norm will be putting on a display at the May AUG meeting and has invited anyone interested in establishing a Graphics Art SIG to attend this months meeting and help get the group going.

Video SIG - This group meets outside main AUG meeting times usually fortnightly at the Australian Film and Television studios in South Melbourne. (evenings, 6:30 onwards) There are permantly set up facilities and the group activities include the use of commercial (Amiga) packages for video productions, animations etc. The meetings are informally structured with Q + A sessions and helpful advice with problems. For more details regarding this group contact Geoff Wood ,preferably at AUG meetings or A.H. on 580 7463.

Hardware SIG - At the April meeting this group had a discussion on hard disks and auto-config requirements for the Amiga. Michael Saleeba presented details of his own design DMA disk controller which will work with the readily available ST506 type (IBM) drives. His design may be released into the Public Domain when software drivers are completed. The group co-ordinator (Bill Miles) is also hoping to organize a memory expansion board kit for the A1000 - more details will be provided at the next group meeting.

I would still like to hear from co-ordinators of any SIGs that have not yet discussed with me their future intentions. We have a limited number of rooms at each meeting and these will be allocated to groups that have an active following. I still propose to publish a list of SIG contact people but this will have to wait until I can establish which groups are continuing. If ANY member wishes to see a particular group established please contact me or raise it for discussion at our monthly meeting.

Lester McClure April 89.

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DID YOU KNOW?

How many of you realize that sales tax has been removed from software imported into Oz (not hardware, unfortunately)? If the answer is "I didn't", then it is, perhaps, little wonder why.

It seems a number of software importers haven't dropped their sales price, so some stores aren't getting it any cheaper. Also, some of those software importers who HAVE dropped their store price haven't dropped their RETAIL RRP. So, some stores who (hmmmm..) don't know any better are still ripping you off. Then, of course, there are the profit mongers who KNOW what they are doing, and still keep their RETAIL prices up.

A warning then, is in order. Make sure you hunt around before buying. You SHOULD be able to find places around Melbourne who are selling their software for _20%_ less than what it was a few months ago. Yes, that's how much the Govt. was taking, 20%. It could make a significant difference. Consider a previously $600 Word-Processor. You should be able to get it now for around $400. A $120 saving!

Darren G. (The Executioner)

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SCRAMBLES
(aSsortments of Con's **RAMBLES**)
by Con Kolivas

Still no news of local arrival of the Mac emulators, nor any reviews, details or prices! (except one person telling me it was under 400 pounds in England, and was hardware for the drive of some sort.)

Oh yes, it's almost not worth telling you about the 2500 since you would have seen it if you were at the last main meeting.

More harware for the 500! I was recently told that in the States a new memory board using 1 meg chips would become available, which would be internal and handle up to 8 megs!

VirusX 3.3... VMK 12... oh well, see the virus issue for details.

ARP, the AmigaDos Replacement Project has a new release, version 1.3. This version comes with one file, which is a self contained installer etc. All you do is run it, and it comes up with lots of options on what you want to install onto the current disk. It contains an Arp library version 39.1, a new shell, AShell which is compatible with the NewCon: of 1.3. All the commands are 1.3 compatible (and have their own features on top) and are now even smaller. Included are some new, extra commands too. One in particular that will make people sit up and take notice is Move, a Copy then delete command, which is *extremely* useful as you could well guess. More commands are wildcard compatible and so on... Now saves heaps more room, and even has the option to replace only commands that are already on the disk you are modifying.

DiskSalv version 1.4 is out. It is a bug-fixed and slightly enhanced version of 1.32. If you don't know what disksalv is; it is a diskdoctor replacement for those with two drives, and is much, MUCH more useful and recovers files better, and doesn't touch the source disk, and has many options (including FFS), and will write to multiple disks.

A new communications program has been the number one topic of discussion on the Amiga boards lately. It is called JrComm, and has reached preliminary version 0.91. It *will* replace Online! as the "standard" because it is a much better program. Only trouble is, there are a lot of bugs to iron out, and more to implement (not bugs), but it will have MUCH more features, and it will be Shareware! how's that eh?

New Arcade Classic Games: R-Type, Gauntlet II, Operation Wolf. The official advanced dungeons and dragons game "Pool Of Radiance" will be coming out on the Amiga after all due to popular demand. Coming later this year (or maybe next year), Gauntlet III. By no means is this a complete list!

Oh well, that'll do for this month.
Con Man 1.4

NWAUG NWAUG NWAUG NWAUG NWAUG

North West Amiga Users Group

A Geographical
Special Interest Group 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:
24/5/89 7/6/89 21/6/89

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
SeeYOU at a meeting soon

NWAUG NWAUG NWAUG NWAUG NWAUG

SMAUG REPORT

About twenty members attended the Smaug night at the Institute of Education Arts Centre , Melbourne University on May 3rd last. The Music department made many synthesizers and voice modules available and four Amigas were running with a chance to see demonstrations of Soundscape, Audiomaster 2 and sampling from both microphone and CD and the Dr. T programme printing from the Copyist onto a 24 pin Epson printer. The last machine was used to demonstrate some easier programmes like Dynamic Studio and some editors like Dr T's MT32 Editor. Members brought along their own programmes and were able to run them using the voice modules and many voicing combinations which were not available to them in their own homes. Some of the members took advantage of the facility of making cassettes of their work.

Smaug would like to thank the Music department and also Brashs Elizabeth St store who have supplied a modern midi studio for the use of students at the Uni. This was used in the demos.

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 A.H.). 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)	- 807 3911
John Elston	-	AmigaBasic (advanced)	- 375 4142
Alan Garner	-	AmigaBasic, A/C Basic	- 762 7891
Mal Woods	-	C (beginner level), Professional Page	- 288 5472
Gary Duncan	-	C (advanced) - AZTEC	- 878 2854
Eric Salter	-	C (advanced) - LATTICE, TeX	- 861 9117
Norm Christian	-	Amiga Art + Music	- 580 3756
Neil Rutledge	-	Music, Audio sampling, MIDI	- 597 0928
Russ Lorback	-	Excellence!, Superbase Professional (Beg - Int.) After 9:30pm	- 756 6640
Simon Shead	-	Amiga Video	- 383 4905
Darren King	-	Amiga viruses, Modems/communications	- 546 5040
George Wahr	-	Side-Car	- 376 6180
James Gardiner	-	AmigaDOS, Auto-boot hard drives	- 523 6843
Stephen Bell	-	Amiga hardware (68000) interfacing	- 25 8415
Joe Santamaria	-	Graphic arts - DPaint, Sculpt-3d etc.	- 836 9129

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Smaug Co-ordinator Niel Rutledge would like some feedback from members on whether they would like these nights continued. A lot of work goes into setting up one of these nights and the committee would like to know how many of the members actually feel that they would like to see this type of meeting as a regular feature of SMAUG. The evenings are as much a chance for members to experiment with their own work and hear it in a different way with the most modern midi equipment as they are to see new programmes demonstrated but it is usual that someone will bring along the "latest" in software to show others how it works. A feature is also the fact that beginners can see the range of programmes available from the simplest to the most powerful and talk to people who run these programmes regularly and know their good and bad points.

Any feedback would be greatfully accepted. SMAUG is willing to continue organising such nights as a regular feature if the members feel that they will support such nights. Let Niel or myself know.

Doug Myers.

Editor's Column

(Written May 7, 1989)

Well, what can I say about this month? The printing has moved somewhere else yet again. It seems all that time we were looking for someone with ready access to a Postscript laser and we didn't look in our own back yard! Doug Myers, one of the committee members, has access to one which he kindly offered as a master-printing service.

Once again, I forgot to mention where last month's front page came from. It is called "Package Cover" from the Deluxe Photolab art disk (see if you can guess where it's from...). This month, another beautifully digitised picture of a butterfly from the demo images of PIXmate. If you think it looks good here, you should see it in colour!

Well, it's finally ready. After a lot of sweating and overtime (as in over into my time), the Virus publication is in circulation (so to speak). It will be available at the next main meeting to AUG members for a measly two dollars, or three dollars for those who haven't as yet subscribed and become members of this illustrious group of Amiga Users. Known as Viruses, Workbench special edition number one, it has details up to and including VirusX 3.3, which *is* the latest to date. Oops, outta space. See you at the next meeting.

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, ie Fish, Amigan, Amicus, etc

Disks supplied by Amiga Users Group @ $8 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: _____ Details on this side are optional

First Name: _____ Year of birth: _____ Which model Amiga: _____

Address: _____ Occupation: _____

_____ Postcode: _____ Interests: _____

Phone Number: _____ STD Code: _____

Where did you hear about AUG: _____

_____ Dealer's Name: _____

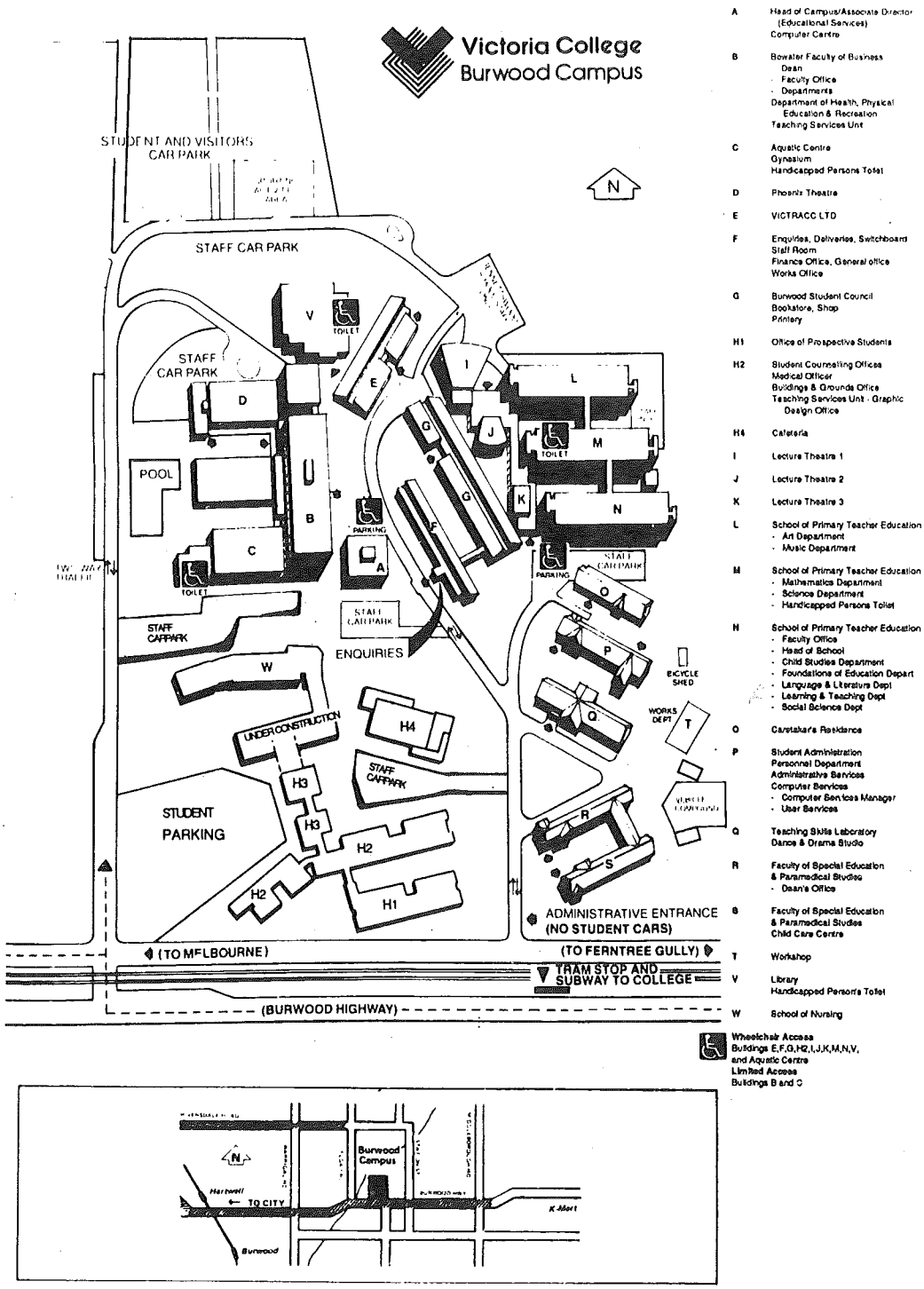
_____ Dealer's Address: _____

Signed: _____ Date: _____

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

AUG meets on the third Sunday of each month



Where is Victoria College, Burwood Campus?

People often have difficulty 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 three or four traffic bumps to the car parking areas near the netball courts. Further up the road, to the left, you'll find Lecture Theatres 1 and 2.

If you have a Melways, try Map 61 reference B5.