August 1994 - Volume 11, No 8
NDD
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Australian Commodore & AMIGA Review

For Professional and Home Users

Virtual Memory
Good as RAM?

Microvitec
A better Amiga monitor

CD 32
News and Add Ons

Wordworth 3.0 vs Final Writer

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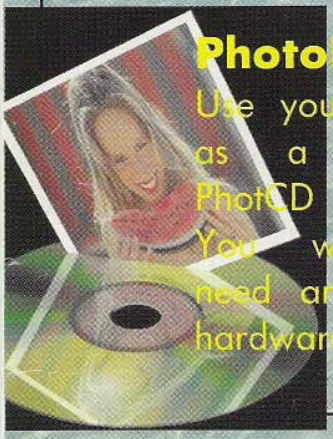

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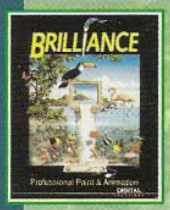

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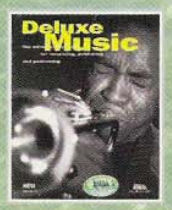

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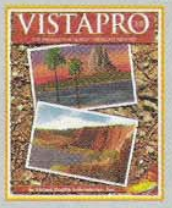

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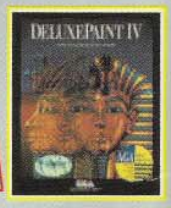

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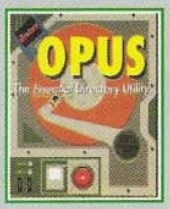

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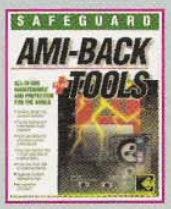

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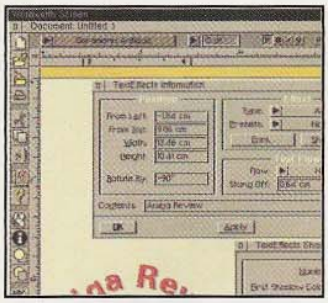
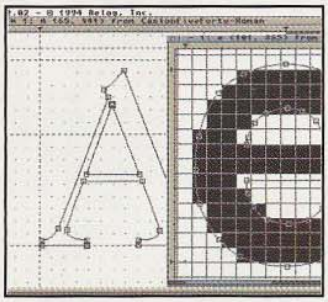


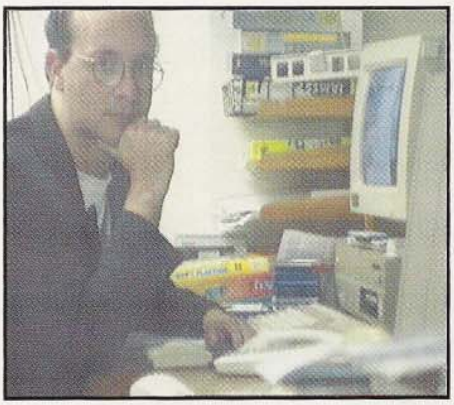


Articles

Cover created by Jarrod Pudsey
Image: 1920 X 3008 x 24bit
Program: *Lightwave*
Render Time: *1hr 35mins*
Machine: *A4000/'040/40Mhz*

Regulars

U.K. buy likely



With thirty companies spread around the globe, nobody could expect the sale of Commodore's assets to be a speedy business. However, things have moved reasonably quickly. Only two months have passed since the liquidation announcement in early May, and now the final bids are in place to rescue the machine. On July 15th, the creditors met to consider the bids that were in place then, and on August 15th they will reconvene to make a final decision.

Right now the most likely candidate is Commodore U.K. Yes folks, Commodore's U.K. office, the most successful of all the divisions around the world, has mounted a gallant bid to take over the entire operation and get things back up and running in time for Christmas.

Samsung, Toshiba, Amstrad and Jim Dionne have also figured in the fight to gain control of the Amiga, and may well still make a final claim for part of the action. Behind the scenes, industry giants like GVP, Newtek and Scala have remained tight-lipped amidst rumours of possible affiliation with some of the bids.

It's quite possible these big names are involved with negotiations right now to help secure future business for their new business partner, the future owner of the Amiga technology.

Another thing that has remained in doubt is how quickly the new AAA machines can be brought to production. Recent comments by ex-Commodore engineers have indicated it would be wrong to assume that getting things back on track would demand the talents of previous Amiga engineers. However, things would no doubt be slowed if someone new had to start from scratch.

What seems likely is the release of an in-between model until AAA can be manufactured. An Amiga with a built in CD-ROM, a fast RAM subsystem, SCSI-II, a fast CPU and good expansion could easily be built in time for release in early '95.

Regardless of how much longer things drag on before we're back up to full speed, the Amiga market seems alive and well. Specialist dealers are reporting strong sales, and the machines that were imported into Australia over the past weeks have all sold like beer at a footy match.

So the indicators remain strong. A resolution is now looking very likely, and we have some clear players fighting over the Amiga, all prepared to put their money down and make the thing tick along nicely real soon now.

On the down side, we're still waiting for the Opal video processing modules and Pagestream 3 - but I have in my hands an official copy of Lightwave 3D, the program sold by Newtek with the Video Toaster, which is now available separately for the PAL market!

- Andrew Farrell

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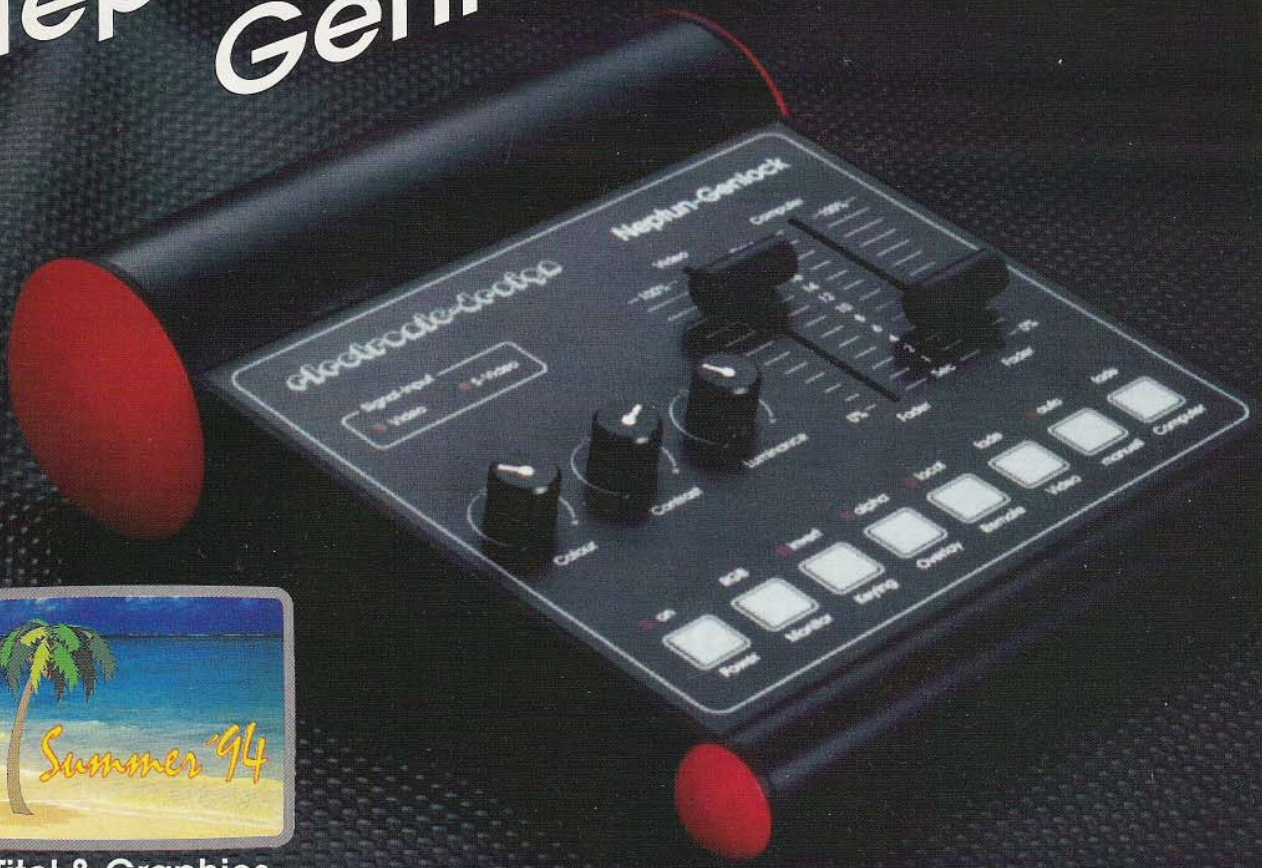

Titel & Graphics

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Aussie Devcon

An Australian Developer's Conference (Aussie Devcon) will be held at the Sydney Fivedock RSL Club on Saturday the 6th of August. The Devcon is being run by the Australasian Amiga Developers Association and will feature a variety of speakers. George Borzykowsi from the Curtin University School of Design will be running a session on Scala MM300.

Ben Powell from Interactive Systems will run a workshop on CD32 Gold Mastering. Norman Pakes from RMF will run a session on marketing and packaging products.

There will also be a questionaire answer session with a panel of six professionals and various displays by developers. Developers of all platforms will be able to see new techniques and alternatives.

Admission is $45, and includes morning and afternoon tea and lunch. To register, call the AADA on (02) 544 6300.

❑

New Amiga Books

Hotpoint is now carrying two new titles from Bruce Smith Books. Amiga Disks and Drives Insider Guide covers Amiga disk storage from the ground up, with basic instructions for beginners and further information, extensively illustrated, on choosing and installing equipment, RAM and RAD disks, using the file system, floppy disk handling, Workbench and AmigaDOS operations, script files, backing up, utilities, compression, viruses, security, encryption, using different disk formats, technical aspects, data recovery and more.

Amiga Assembler Insider Guide is the first programming book in the Insider Guide series. Again, it's written to be accessible to beginners, containing a load of assembly language programs which can all be written and assembled in under one minute so as not to bog novices down in impenetrable technicalities.

After reading the book, you should be able to confidently type in, edit, assemble, debug and run assembly language programs.

Both books are 256 pages long. Contact Hotpoint on (02) 634 6499 for more information.

❑

East Coast Computer Show

East Coast Amiga Inc will be running an Amiga show at Erina High School from 10AM to 4PM on Sunday the 23rd of October. Entry will be free; write to ECA, PO Box 344, Gosford 2250.

For more information, or call Tony Dairmen on (02) 985 9319.

❑

Imagine Add-Ons

Video Times in South Australia now have three disks of Imagine Objects and a five disk set of woodgrain textures. The first Imagine disk contains spotlight, gel light, magnifying glass, candlestick, swing-wing space fighter, Ornipod Monocycle and two battlemech objects. The second disk, used to create an image in last month's Art Gallery, contains a media wall with large and small video screens, a detailed kitchen chair and table and a toaster (bread, not video). The third disk has an enormous 600k+ battlemech, and a space cruiser.

The five textures disks contain 10 JPEG format images of different Australian woodgrains, and can be used as brush or texture maps in any rendering program.

For more information contact Video Times on (08) 251 3615.

❑

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SX-1 Arrives!

Thanks to Paravision, CD32 owners can now upgrade their machines into enhanced Amiga 1200s.

The SX-1 has a 2.5" internal and 3.5" external IDE drives, one 72 PIN SIMM socket, parallel, serial, RGB, and keyboard ports, audio input and a hardware disable switch. And the good news is, it will not interfere with the FMV module!

By including both connectors for the 2.5" and 3.5" they have given us the best of both worlds. If desk space is your main concern the 2.5" drive will fit inside the SX-1 case.

On the other hand if price is your main concern the 3.5" drives are much cheaper, but you will need an external case which will take up more desk area.

The SIMM socket is a very important feature of the SX-1. Some games such as Wing Commander CD32 should see a noticable speed increase with the addition of Fast RAM. Remember the CD32 has 2MB of RAM, but just like the A1200 this is Chip RAM which runs on a 16 bit data path. This cripples the system to a crawl. In fact when I added my 50Mhz accelerator to my 1200, I saw no noticable speed increase until I added Fast RAM!

Since only one socket is available to add RAM you must choose the amount you are going to add wisely. I would recommend 4Mb.

This will give you ample RAM for most applications. The SX-1 will use up to 8Mb, but anything above the four meg mark will not be used if you have the Full motion Video module plugged in.

With the RGB connector you can add any monitor the 1200 can use. The serial and parallel ports will allow you to use a number of different add-ons such as Printers and modems.

The floppy drive port uses standard Amiga drives. The keyboard port accepts a standard AT type 101 key keyboard. The required decoder chip is built into the SX-1 and according to Paravision, all AT keyboards they have tested with it work. This was a smart move.

With Commodores current crisis it may be hard to locate the Amiga type keyboards while the AT keyboards are cheap and plentiful. A hardware switch allows you to turn the SX-1 off in case of compatibility problems with any CD32 disks. The audio input is intended for karaoke and presentation type applications.

Sadly, the SX-1 will not provide accelerator support, nor will it allow the addition of any SCSI devices. Nevertheless, the SX-1 is outstanding value for the CD32 owner.

It allows you to transform your game machine into an expandable productivity machine. Paravision has demonstrated commitment to the Amiga platform and released the real power in the CD32!

At the time of writing, both Sigmacom, Amadeus and Computer Man were expecting delivery any day - so give them a call.

❑

Advanced Systems & Software announce 68060 accelerator

Despite Commodore's current predicament, the first 68060 accelerator for the Amiga has already been announced for the A4000. This is not vapor ware, Advanced have it running at 82 MIPs - and even faster by release in August. Math speed is a massive 28 MFLOPS.

Compare that to a stock A4000 that runs at 28 MIPs and 16 MFLOPs.

As one reviewer said when he saw it in Europe, "I have seen the future." In addition to this accelerator will be a module that attaches containing a FAST SCSI-II interface, high speed serial ports and Ethernet controller.

For more information contact Advanced Systems & Software here in the Amiga vendor forum, at CompuServe 71154.1731 or at voice 214-821-7776 or fax 821-3464.

❑

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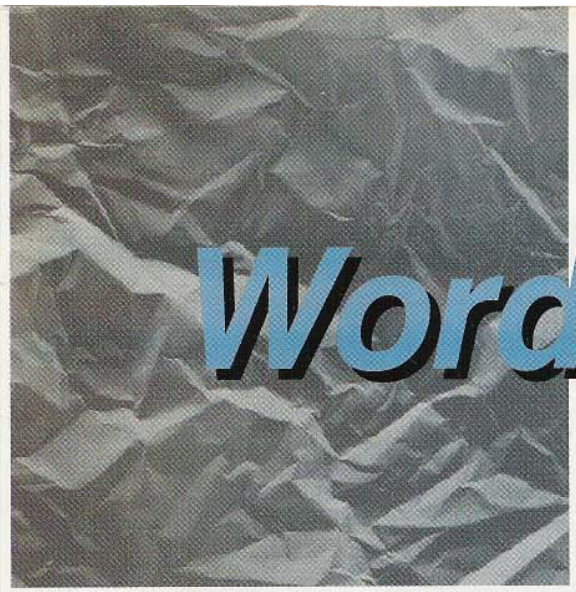


Wordworth 3.0 v's Final Writer

By Andrew Farrell

Strong competition in the Amiga wordprocessor market, has led to the emergence of two clear leaders - Wordworth and Final Writer. Both programs offer features that place them in a category all of their own. More than just word-processors, these mighty programming efforts are really document processors.

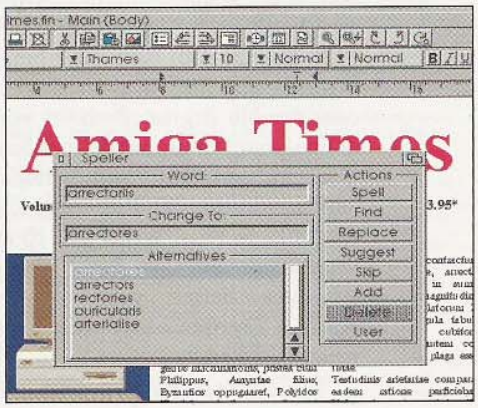
A lot of what they do encroaches on the world of desktop publishing. However, we have found some of these features don't work so well compared to the real thing, in programs like Professional Page and Professional Draw. Thanks to Gold Disk's current lack of interest in the Amiga market, coupled with the imminent arrival of Pagestream 3.0, both Gold Disk programs can now be had for little more than the cost of one of the aforementioned wordprocessors.

So a little thought is wise. Decide what you really need to do most - write text, or design a page.

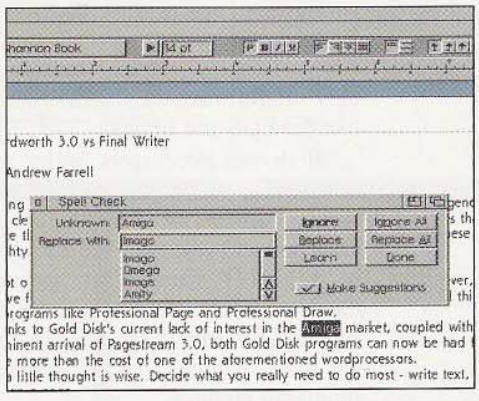
Last month I checked out Wordworth 3.0, and reported on the improvements to it along with a mention of what's new in Final Writer release II. The good news is Wordworth has been further improved, and version 3.0B is now a reliable product. So we figured it was time to put them head to head and find out which offered the most, and who performed the best.

If you're spending $200 on a wordprocessor, you probably feel that's a major purchase. Rest easy; Amiga wordprocessors are less than half the price of their cousins in the IBM world, and the other good news is they have almost as many features, and require a lot less memory.

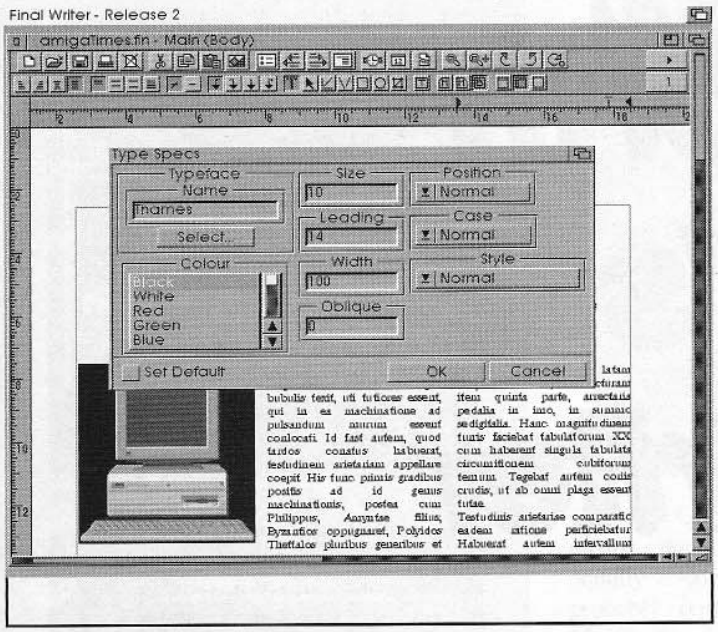
So wordprocessing on an Amiga is a pretty good proposition. The two big guns both require at least 2Mb of RAM and a hard drive. If you have less, you'll need to consider earlier options like Final Copy, which will scrape along in 1Mb (A far cry from Microsoft Word 6.0 on a PC which survives in 4Mb but really needs 8!).

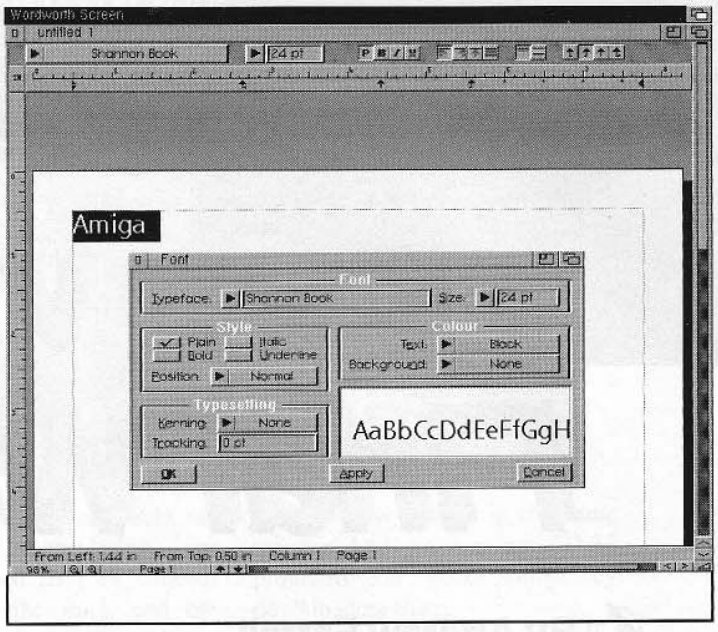


Final Writer - Spell check menu



Wordworth - Spell check menu





The Interface

Final Writer and Wordworth both sport a smart interface. Both are Workbench compliant, both offer floating tool bars - but Final Writer's may be customised to a considerable degree. Both let you define your button bar or tool bar. You can add your own buttons, attaching any of 170 program functions in Final Writer or 110 in Wordworth. But only Final Writer lets you define your own - AREXX scripts, text clips, or menu commands.

Final Writer starts out with one icon too many crammed along the top of the screen. A little configuring solves this problem. Both programs support standard Amiga display modes, meaning they should work on graphic cards like the EGS and Retina.

Both wordprocessors prefer to work on a 640 x 480 display or better, otherwise fonts look stretched and you can't see enough of the tool bars. That means they're best on an Amiga with a flicker fixer and VGA monitor, or an AGA Amiga with a suitable multiscan monitor.

Menus

Most of Wordworth's menus are modeless - they work all the time, and don't stop the rest of the program functioning just because they're open. So if you plan on adjusting the magnification setting often, open the requester and just leave it on the screen. Adjust it as often as you like. This is great if you're running on a large monitor.

The Zoom function in Wordworth has handy show entire page and fit width options, and you can dial up virtually any zoom setting. Both programs let you view one, two or four pages at a time. But only Wordworth has a proper facing page option. Both let you edit regardless of the zoom mode, but Final Writer works considerably faster at refreshing the display and zooming in and out.

Editing Text

In the editing department, Wordworth is a cut above Final Writer, offering drag and drop editing. Highlight a piece of text, drag from the middle of the highlighted area and the text moves to a new location. However, Final Writer lets you shift-click select large blocks of text, which is also very handy.

In Wordworth, the edit menu offers Select All with no hotkey - but all other edit functions follow standard Amiga shortcuts. Final Writer has keyboard shortcuts for just about everything. In Wordworth you can insert page numbers, counts, column and page breaks, updating dates, current time or date, and create entries for an index. Wordworth also supports End notes, but lacks the proper Amiga clipboard support offered by Final Writer.

So with Wordworth you can't just cut out a brush in Personal Paint, flick to the Wordworth screen and click paste - like you can in Final Writer. Neither program supports datatypes - a slap on the wrist for both there.

Fonts

Final Writer has an odd approach to fonts, but then so does Wordworth. Both support CompuGraphic and Postscript type 1 fonts. Wordworth adds IBM Truetype to the list and Final

Writer has its own very fast NimbusQ technology - supposedly better and faster than any of the rest. Wordworth supports printer fonts, Final Writer does not.

Using Wordworth, all this starts to get a bit messy when you choose to stick to fonts supported in the printer you're using, especially if it's a Postscript printer.

They're tall on excuses, but short on practical work arounds for the business of getting the font you want to use into your Postscript printer. Professional Page manages fine, why can't Wordworth? Choosing fonts and applying styles is reasonably simple on both. Wordworth offers the added bonus of 50 CompuGraphic fonts bundled with it, against Final Writer's 125 NimbusQ fonts.

Actually Wordworth's 50 fonts are 19 different typefaces - the rest are just different styles of the same face. Final Writer's 125 NimbusQs are 26 different typefaces in several styles, with an extra 21 typefaces for purely decorative reasons.

Final Writer has a lot less trouble with different fonts and printers. It prints all fonts to any printer. An elegant and simple solution. Final Writer also prints a tad faster.

Formatting

On Wordworth, you can alter the font, point size and style of highlighted text from the toolbar - release II of Final Writer also allows this. Wordworth lets you change kerning and foreground and background colours from a pop up menu - which looks ready to be used for style tags, but they are sadly lacking at the moment.

The same is true of the paragraph format menu, which provides control over pretty much everything you would expect to find in a top flight DTP package and then some.

Both programs do all formatting on a paragraph basis - change a setting and you change it for that paragraph, unless you select a range of text, in which case you can change it for several.

Tabs can be defined on screen, but if you have a lot they can thankfully also be edited from a menu.

Left, Right, Centered and Decimal tabs are supported. Overall, Wordworth offers plenty of power when it comes to formatting, but the lack of style tags is a major problem. Text can be plain, bold, underline, italic, super or subscript. There is no outline style. Both programs have auto-hyphenation.

File Handling

Wordworth uses the standard Workbench file requester and has an Open Recent option that lists files you've just worked with. Wordworth has always excelled at getting other people's documents into it. Version 3.0 is no exception, except that some Amiga formats have been dropped. Final Writer has far fewer options in this area. Both programs can import and export ASCII, which is always a last resort.

Graphics Galore

Both programs can create simple primitives, like lines and circles, to help dress up your document. However, in the bitmapped graphics department there are some considerable differences.

Wordworth handles all these functions as objects. These include line, box, rounded box, circle, oval, text effects, text frame, picture and table. There's a few in there not found in Final Writer.

In both programs, bitmapped images may be cropped, sized or scaled proportionally, squashed and stretched. With colour zero set to opaque, there's no problem making text ragged flow left or right around a picture, with a definable repel distance.

To adjust a picture's settings, you just double click on it. Wordworth offers a smart linking system that gives the option of embedding graphics in the file, cool-linking them (which means the picture is stored separately from the document), or hot-linking (which means the image is updated in the document as soon as it changes externally). Final Writer has a simplified version of the same thing - but no hot links.With all these objects piling up on top of each other, Wordworth also has options to shuffle the order of objects - allowing you to send one to the back or front of the pile. In Wordworth, objects can also be grouped and then sized as a whole.

Another unique feature of Wordworth is the text effects feature - which we explained at length last month. Final Writer has nothing to compare with this feature, although it is not exactly something you would use often.

Formatting

Both programs support headers, footers, endnotes and multiple columns. Wordworth has separate text boxes, ideal for creating newsletters - but they cannot be linked as in a desktop publishing package.

Final Writer has tiny one line text boxes, which can easily be rotated and are perfect for captioning pictures. In both programs, text may flow through the main columns in a snaking pattern, and that's it.

Both packages have master pages which allow you to set the look of a document, so that future pages are created from an original

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that sets the styles and way columns are arranged. However, Wordworth does not implement master pages well.

Final Writer also offers style tags and lots of features to help with the preparation of large documents which require a lot of formatting. Wordworth is considerably underpowered in this area. Style tags are in my book a fundamental part of creating professional looking documents. Without them, you're stuck with having to manually apply the right settings to each heading, chunk of copy, subheading and so on. Microsoft have taken this one step further with the introduction of auto-formatting. Perhaps this might be possible using Final Writer's macro facilities?

Spelling

Final Writer uses the Proximity/Collins linguabase, which is reasonably fast and can handle typos like mixed capitals. Wordworth is equally well endowed, but it also has an autocorrect feature, which makes it possible to painlessly fix as many oft-made errors as you define.

Autocorrect can also work as a shortcut system - I set it so that if I type "af", "Andrew Farrell" replaces it the moment I press the space bar after the 'f'. Wordworth can also automatically capitalise days and months. Final Writer's spell checker does not let you globally ignore a strange word, or globally correct an error once you've spotted it. On a long document this can be rather frustrating.

Wrap Up

Although I was very impressed with the ability of both programs to create very complex documents, they simply are not as easy to work with as a dedicated desktop publishing package. For writing documentation, books - anything long that needs lots of formatting - I would definitely recommend Final Writer. It is way faster than Wordworth and has far better formatting controls.

However, if I was looking for something with exceptional graphics handling, and the ability to work with files from IBM PCs, Wordworth would win hands down. The interface is a personal thing, but I preferred Wordworth. Both are excellent programs - a credit to the Amiga and proof that you don't need Windows and an IBM to do serious work. Both programs sell for a tad under $200.

For more information on Final Writer call TupSoft (02) 838 0733. For more information on Wordworth call Amadeus on (02) 652 2712.

❑

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- **Speed**
- **Proper Amiga Clipboard support**
- **Excellent Speed**
- **Font handling**
- **Style-tags**
- **Macros and AREXX support**

Worst Points

- **No floating text boxes**
- **No tables**

Wordworth 3.0B

Best Points

- **Drag and drop**
- **Text effects**
- **Tables**
- **Modular design (easily expanded)**
- **On-line help**
- **Auto-correct**
- **File format support**

Worst Points

- **No style tags**
- **Speed**
- **No clipboard support**
- **Lack of standard Amiga structured graphic**

Virtual Memory

Good as RAM, or just a gimmick?

By Heiko Wynen

Only since programs like ImageFX and GigaMem has the Amiga community become aware of an alternative to pricy DIP, ZIP or SIMM technology for system memory expansion. This other option is called Virtual Memory and makes use of free space available on your hard drive or any other storage medium for that matter.

To Windows users on IBM compatibles, virtual RAM is a fact of daily life. Indeed, virtual memory has become a necessity. Many programs nowadays require much larger chunks of memory for intermediate storage of data than can be made available by the four to eight megabytes of solid state memory the average clone comes equipped with.

Amiga owners are lucky in comparison. We are still much better off with our superior, highly efficient memory access and the majority of software is not nearly as memory hungry as similar programs in the world of Mac and IBM compatible machines.

The Offenders

There are, even on the Amiga, certain groups of software which can never have enough memory and the more you throw at them, the more insatiable their appetite seems to become. Rather interestingly, these are usually the same programs to benefit also from the availability of an FPU (Floating Point Unit or Math Coprocessor) in your system.

The inclusion of a virtual memory option in GVP's ImageFX is a clear indication that image processing is one area in which a sheer limitless supply of memory is always appreciated. The same applies to desktop publishing or raytracing. With most of such software lacking any virtual memory provisions, the only way to work with large projects would therefore be adding more Fast Ram to the computer.

"Could your hard drive make up for a lack of RAM?"

Apart from the cost of this solution, there is usually also a limit to the maximum size of memory which can be freely added to most machines without taking even more expensive measures.

Gigamem to the rescue

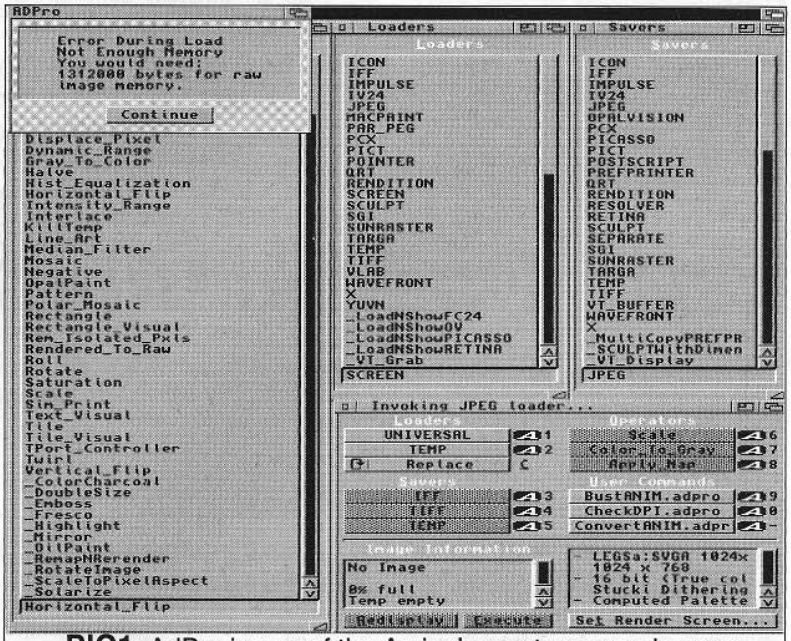
To overcome those restrictions, sufferers of the 'Out Of Memory' message syndrome have an often overlooked option which hardly dents their bank account.

GigaMem is a smart little program, capable of fooling other software running on the Amiga into thinking that a specific file or partition on the hard drive is actually nothing else but a normal extension of the available system memory.

It has been around for quite a while and is up to version 3.0 by now, despite our sample still using the old packaging and labels and consequently having 2.0 printed all over it, -very confusing, to say the least.

While GigaMem worked almost flawlessly once it was correctly installed (an automatic process), it has certain requirements not commonly mentioned, although they are quite logical and no shortcoming of the software.

The probably best known limitation of GigaMem is its restriction to running only on CPUs equipped



PIC1: AdPro is one of the Amiga's most memory hungry programs, and the Error requester a familiar sight to most users.

with an MMU (Memory Management Unit). This means, all basic Amiga models except the A3000 and A4000/040 are out unless they are accelerated with an appropriate processor.

Those lucky enough to be blessed with a computer which doesn't object to GigaMem should theoretically be able to take full advantage of its powers and at last have the means for pushing their software to its limits. In practice, however, there is another important hurdle to be dealt with.

Storage considerations

To allow the use of virtual memory, GigaMem, like ImageFX, must create a 'Swap' file somewhere on a hard drive partition or even occupy a whole partition for this purpose. It would even be possible to write to a floppy disk, but both speed and space limitations would largely defeat the reasoning behind virtual memory applications.

While an individual Hard drive partition would provide the fastest, most efficient performance, it would also, in most cases, require a complete re-formatting of the whole drive and lock-up the 'Swap' section for good.

The latter would thus be lost for standard Amiga file management unless another re-format is performed with the associated hassle of backing up and re-transferring everything of value. Such a re-format would also be required if GigaMem's custom partition should prove insufficient for a certain application.

The other option, a 'Swap' file somewhere on an already established partition, offers a lot more flexibility, but we sadly don't get anything for nothing. In fact, we have to pay twice.

When a simple file is used for providing virtual memory, its size can be determined according to the present requirements of the application we want to run. If we later find we need a lower or higher number of Megabytes, it's an easy matter of over-writing the old file after typing-in the new values you think we need. This is despite the fact that GigaMem uses its own file format for quicker access rates.

Notwithstanding the custom format, a 'Swap' file is by nature somewhat slower than a complete partition (e.g. no directory tree to worry about etc.). While this may not be a serious problem in practice, most people would probably not even notice it, there is another more critical drawback when choosing the 'Swap' file solution.

GigaMem reacts quite violently if any program, taking advantage of the virtual memory pool, tries accessing projects on the same partition as the 'Swap' file. While I fortunately weren't even once confronted with corrupted data, the nevertheless necessary re-boot can still mean loss of important work as well as a waste of precious time.

As most off-the-shelf Amigas come with just two hard drive partitions, the smaller one usually dedicated to the system files, programs and projects normally share the larger 'WORK:' section, though quite likely in separate directories. Under those circumstances it could cause considerable problems putting the 'Swap' file also on the WORK: partition.

A way out would be having the 'Swap' file on the SYSTEM: division, but it needed to have at least 15 Mb of free space to allow a decent amount of virtual memory. On top comes the risk that should anything go wrong, the partition might become corrupted and refuse booting the computer.

Buy a second hard drive

I tried networking an A1200 and A3000 with surprisingly good results. The 3000 supplied the pro-

grams and 'Swap' file while the 1200 contributed the space for the projects. Speed was obviously affected, but as our machine memory is large enough, we fortunately need to rely on virtual memory only for very large 24 bit applications.

Owners of a single Amiga with a large hard drive will have little choice but re-formatting it to put on a third partition. To remain as flexible as possible, the additional logical separation can be used for storing projects, thus keeping them isolated from the programs and 'Swap' file and posing no risk to SYSTEM: data.

If the hard drive size is too small for splitting it up into three decent partitions, a second drive will have to be considered if virtual memory is not to become a constant pain in use.

Practical performance

As already mentioned, we evaluated GigaMem while networking two Amigas. Apart from reading and/or writing the project files from/to the other machine, GigaMem was running to its full potential on the A 3000.

When working with several applications at the same time, especially on high resolution 24 bit EGS screens, the memory left for AdPro became insufficient for all but the most pathetic tasks without GigaMem.

Things changed instantly when we initiated GigaMem. The additionally displayed 10 Mb on top of the Workbench screen dropped abruptly to about 7 Mb as soon as we restarted AdPro. No more 'Error During Load' requester and all Operator modules went about their tasks as smoothly as ever, albeit a little slower.

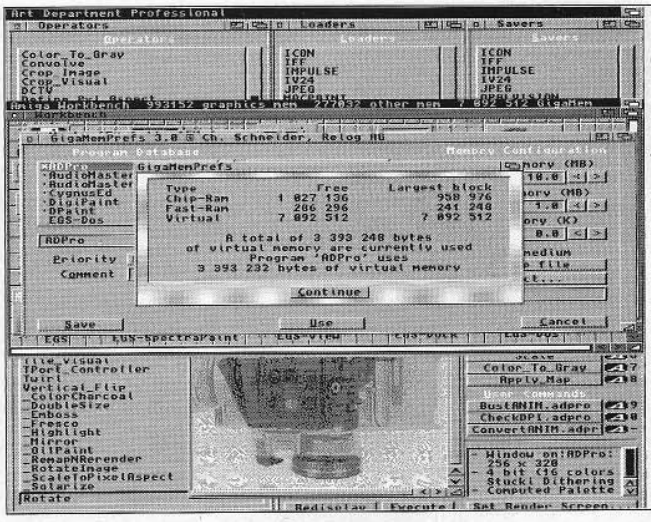
Playing around with different configurations revealed that there should be enough machine memory available to give GigaMem at least a buffer of 1 Mb to work with. With less the hard drive continued grinding away for what seemed to amount to an eternity. The same applied when we ran several programs simultaneously with each accessing virtual memory.

Another problem arose, as expected, with the EGS paint package. While it is quite happy to work in virtual memory, the updating of the pointer position from disk soon caused us to give up in frustration. A full second delay, and sometimes even more, are simply unacceptable.

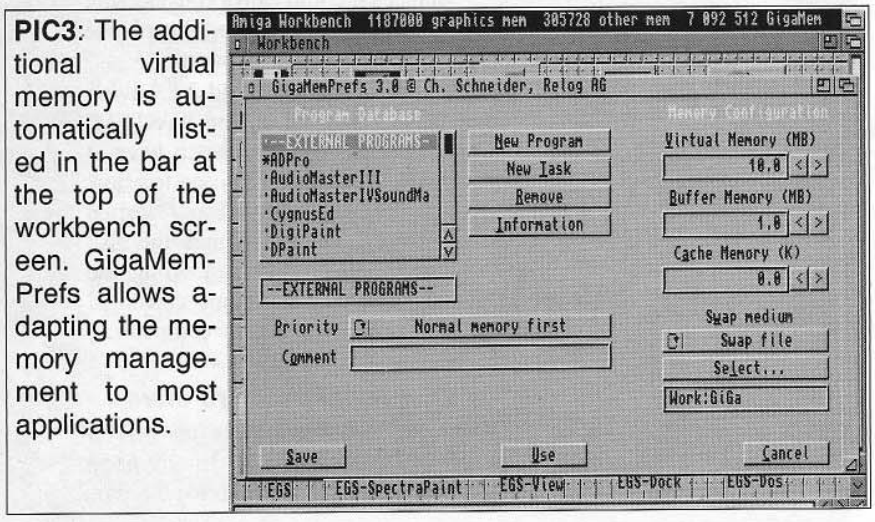
Conclusion

Virtual memory works well and is an ideal solution for owners of MMU equipped Amigas. Anyone who can afford to set aside a hard drive partition free of projects and with at least 10 - 15 Mb of excess space to be used for the virtual memory file should consider installing it so its there when its needed.

At about $160.00 it will soon have paid for itself if its owner has any interest in graphics and/or desktop publishing. It can even turn a sampler like AUDIO IMAGER into a pseudo 'direct-to-disk' recording system. ❑



PIC2: With GigaMem AdPro can run to its full potential. The GigaMem Preferences window on the Workbench screen (centre) provides a list of the actual memory allocations.



PIC3: The additional virtual memory is automatically listed in the bar at the top of the workbench screen. GigaMemPrefs allows adapting the memory management to most applications.

Create, edit and design your fonts... *with TypeSmith 2.02*

By Andrew Farrell

If there's one strange thing about reviewing TypeSmith 2.02, it's the total lack of any competition.

When it comes to editing outline or indeed bitmap fonts, there is simply no other half useful program available for the Amiga. Now, that may sound like another case of our favourite machine coming off second best, but in this case the software is top notch.

If TypeSmith is any indication of how good Pagestream 3.0 will be, then we better watch out. (See the comparison chart on pages 58 and 59.)

The latest release 2.02 of TypeSmith is solid, fast, easy to use, and it follows the Amiga Style Guidelines wonderfully.

What is Typesmith?

Editing fonts - creating your own from scratch, toying with someone elses, adding new characters to often used typefaces, or converting bitmap fonts into outline versions that can be scaled and used for desktop publishing - take a pick. Typesmith has a dozen different uses, the trick is understanding how all the different fonts fit in with the applications you're trying to use. Thankfully, Typesmith is not another one of these programs that says, sure we know about all these formats, but we only handle these two or three. No, Typesmith does pretty much everything you'll need to worry about when it comes to the world of serious font making.

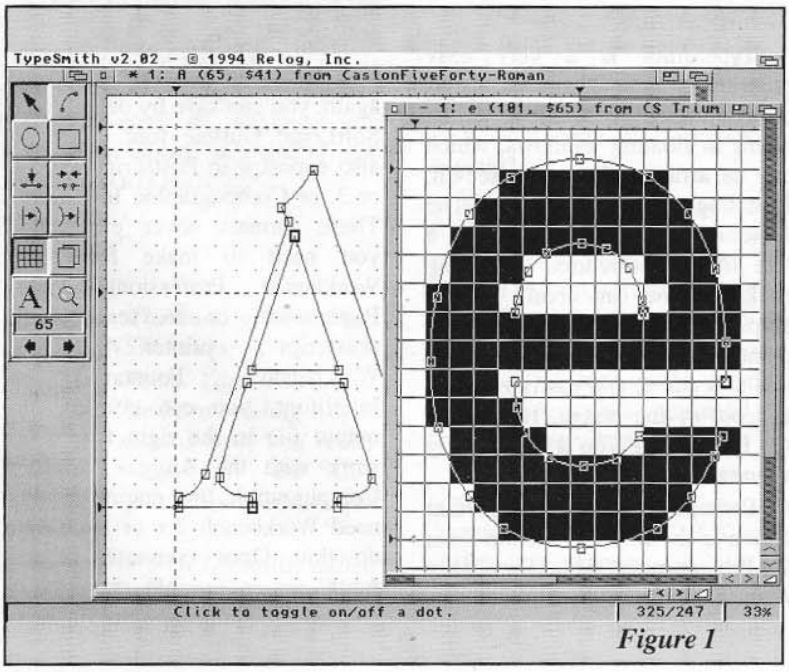


Figure 1

The documentation contains a wonderful tutorial explaining the various font formats, the relevant files each uses and a little advice on what programs use them. A lot of space is devoted to explaining the technicalities of font design, foreign font formats, and the way fonts are described using a metric description language.

Outline vs Bitmap

Some explanation is in order here. TypeSmith can work with bitmaps or outline fonts. However, it is really an outline font editor. What's the difference? Bitmap fonts, like the ones you're probably using in your system menus, icon names and so on and are made up of many dots. In fact. at the end of the say, all fonts are eventually rendered as a matrix of dots. However, outline fonts are not stored as dots. Instead they are described geometrically, as a series of lines and curves. This means than can easily be scaled up or down without loss of detail.

If you have a bitmap font which is created on a matrix of dots say 16 x 16, it will look pretty good at a small point size. However, ask your Amiga to show the same font is fifty point, and all you have is a giant 16 x 16 dots. There's no easy way to scale the low detail up to a large image size. Yes, some software can do it, like OpalPaint - but these are really only best with images that has many shades. Fonts are typically black and white, and therefore

bitmap fonts cannot be scaled easily.

However, there's a catch with outline fonts - and that's the speed with which all this recalculating is done. This grunt work is carried out by the font engine. There are many font engines - but only a few types of fonts. Thankfully, with TypeSmith, it's easy to move fonts between formats, or indeed single characters.

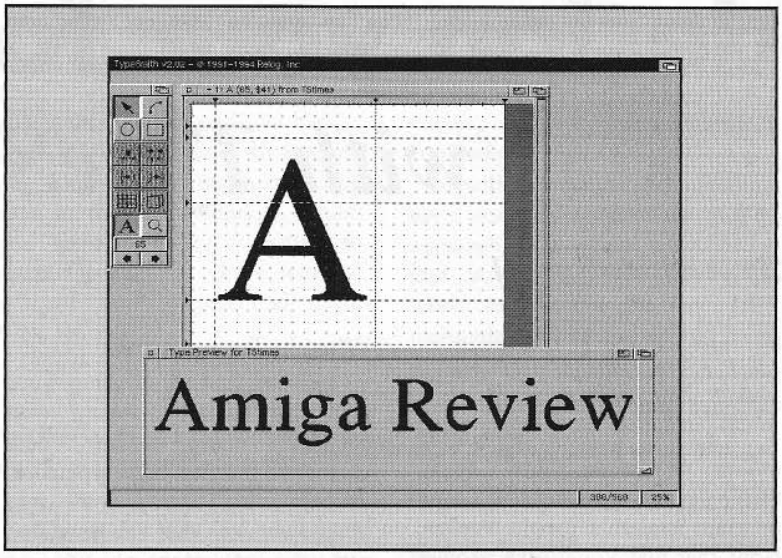
Why would you want to use TypeSmith?

Apart from the business of converting fonts, there are many other good reasons to use TypeSmith. One is to save memory. Suppose you use one or two particular fonts all the time in your wordprocessor or desktop publishing software. On top of that, you also take advantage of one or two other fonts, but only for a couple of peculiar characters used for special symbols. In producing Amiga Review, we face that very real problem.

To save time, memory and make the business of putting the magazine together a tad easier, we could place those few symbols used from that extra font into the first two fonts.

In that way, they would always be available - without having to change fonts. We could save the space of having to have a copy of third font on our hard disks, and some time by not having to send a description of the third font to the postscript laser printer every time we wanted to print it. You see, in Professional Page - and many other desktop publishing packages - if you use a font not found in your postscript laser printer, the entire font is downloaded to the printer whenever you print a page. A font could well be over 100K - and that's a considerably overhead.

A more elegant way would be to only send the definitions of the characters used for a particular font.



You could also add special symbols to often used fonts which are quite complex - like your company logo, signature, or even some clip art. You can end up with one super font, whose extra symbols that you don't use have all been converted into useful clip art you can use! Bankcard and master symbols, logos, you name it.

The Interface

TypeSmith is a very easy program to use. The interface is clearly organised and everything opens in floating windows, which can be arranged how you see fit, including the main tool bar. The basic drawing tools are much a like any structured drawing package. You can create curves, ellipses and boxes, add and join points, turn a curve to a line or a line to a curve, and easily zoom in and out of the image. If you use Art Expression, you'll be instantly at home in TypeSmith.

Perhaps the most important option is the Import function from the Project menu. This is probably where you'll start your work. You can import four types of file - a Compugraphic Intellifont, AFB Postscript, AFM Postscript or IFF DR2D drawing. You can also directly open a SoftLogic Outline font.

I tested version 2.02 on a number of bizarre font types, including a few which previous utilities I had for converting fonts could not seem to handle. TypeSmith performed flawlessly, and with a short processing type had the font on screen ready for editing.

Your finished font can be exported a number of ways. Once again, you can save by default as a SoftLogic Outline font. You can also export it to Postscript Type 1 or 3, or Compugraphic Intellifont. These formats cover everything you need to make fonts for Workbench, Professional Page, Pagestream, or to send to a postscript printer. Using Workbench's Fountain or Intellifont, you can convert the output file to the right format to work with the Amigas standard Compugraphic font engine. You'll need Workbench 2.x or higher to do this. Once converted, these fonts are accessible from any outline font supporting program.

Before you save, and as your editing, you can view your font in a Type Preview panel at any point size. You can type any word into the panel, which is great for testing how things will really look. To quickly jump to any one font there's an overview panel which list all the characters in a font. You can jump to any one by simply clicking on the gadget for that shape. You can easily cut, copy and paste character from this window too, with full clipboard support.

Drawing Tools

Various guides can be enabled - many of which are specific to the world of fonts - but some you will recognise, like the old snap to grid function. In the world of fonts, snap to grid is not as handy as it may first sound, as font tend to be reasonably free form. However, it can be handy for logos and the like, and the gird can be adjusted in size quite easily.

The documentation explaining the editing of points is excellent. You can edit the coordinates of a selected point and its associated curve handles using the mouse or from a requestor. Adding and removing points is a snack, as is converting segments to lines or back to curves.

A number of points can be selected using a grouping box or marquee selection Separate shapes can be joined into one. A path can be copied, skewed, scaled and rotated.

A new concept with fonts is the idea that a path can have a direction. This is important to get the fills to work correctly. In fact, there's quite a lot to learn about fonts if you're serious about creating complex new outline fonts. The odd character - well, you could probably scrape through without too much reading. The good things is, the manual goes to great lengths to explain everything very thoroughly with lots of illustrations.

Bitmap Fonts

Despite their shortcomings, bitmap fonts have one fundamental advantage over outline fonts. Speed. Even desktop publishing software design to show you exactly how a font looks can benefit from bitmapped fonts. If you're doing a lot of video titling using a particular font size, the delay whilst the outline font engine generates the font at typically a very large point size and be reduced to zero by creating a bitmap version of the font. The trick here is to create the font from the outline version. In other words, the outline version is first scaled to the size you want, then a bitmap equivalent is rendered and stored, perfect for that size.

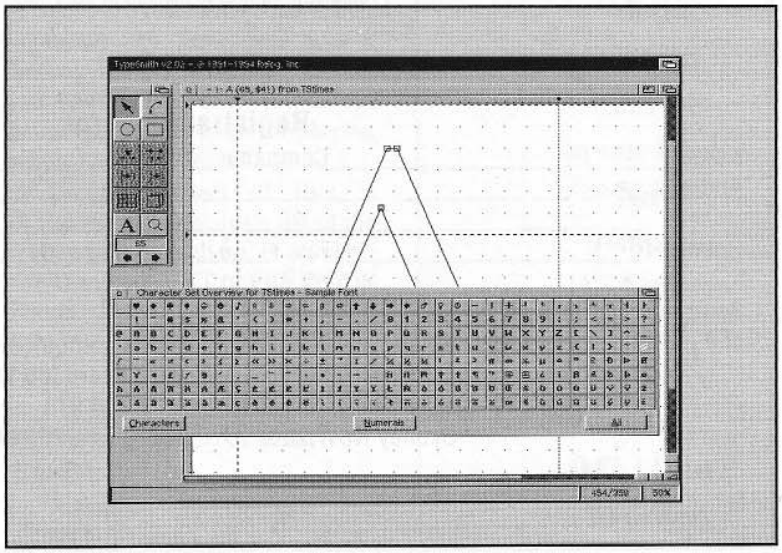
TypeSmith allows you to open bitmap fonts directly. They can be saved, edited and generated. Painting a bitmap font is much like using a paint program in magnification mode.

Bitmaps are also a wonderful shortcut to getting complex shapes into an outline font. You can use bitmap image or font as a template to create an outline font or character. There's a built in auto-tracer, but the traced shape appears over the bitmap shape so you can make final adjustments. Unfortunately, there's no provision to work with colour fonts - this is a strictly black and white program.

Wrap Up

TypeSmith is an elegant package, which provides tools I would consider essential to anyone serious about desktop publishing. TypeSmith would also be a very good package to anyone into video titling or multimedia, if only to cleanly convert foreign font formats to one usable on the Amiga. We've been receiving continuous updates from SoftLogic over the past year bring this program from version 1.0 through to the current rock solid program. They have demonstrated a strong commitment to the Amiga, and one which we can look forward to being full realised with PageStream 3.0. Our review copy came directly from SoftLogic, who are distributed in Australia by TupSoft on (02) 838 0733.

❑



Aussie Devcon

Australasian Amiga Developers Association

Attention all developers !

An Aussie Devcon of interest to all developers will be held by the Australasian Amiga Developers Association on 6th August, 1994 in Sydney !

The Devcon includes special guest speakers, workshops and seminars on:

CD32 Mastering
Scala MM300
Marketing and Packaging Products

Delegates will also see interactive displays of new product releases and packages for developers.

When: Saturday 6th August, 1994.
10am - 5pm

Where: Five Dock R.S.L. Club Ltd.
66 Great North Road
Five Dock. NSW.

Cost: $ 45 per person, including morning & afternoon tea and lunch.

Programme subject to change without notice.

Registration Form

Name:_____Company:_____
Address: _____
_____
Phone: (___)_____Fax: (___)_____

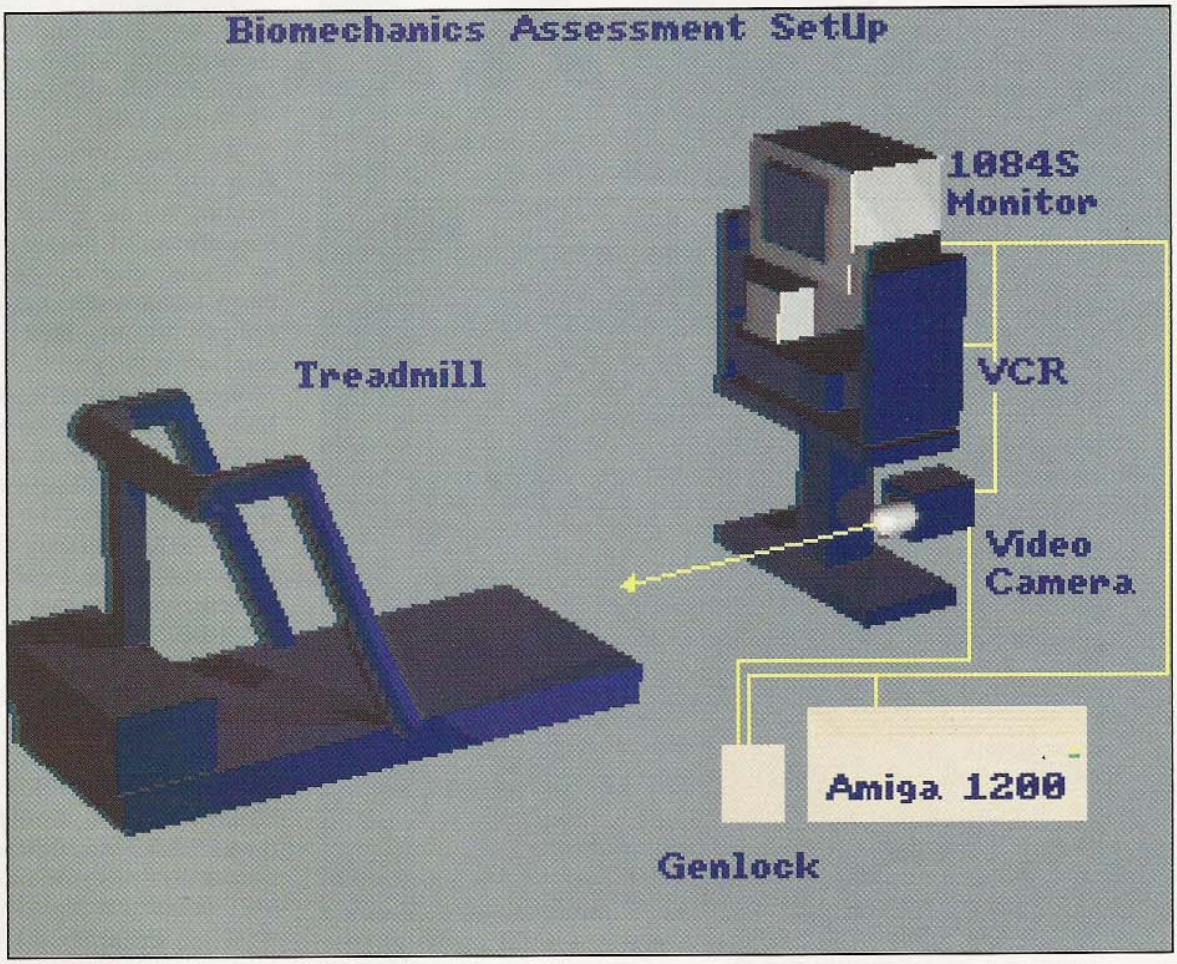
Send registrations and cheques to:

AADA
Aussie Devcon
GPO Box 4713
Sydney NSW 2001

For any enquiries call:
(02) 544-6300 phone/fax
015-238 973
(08) 254-2261 phone/fax

Amiga helps Podiatrists

By Greg Abernethy



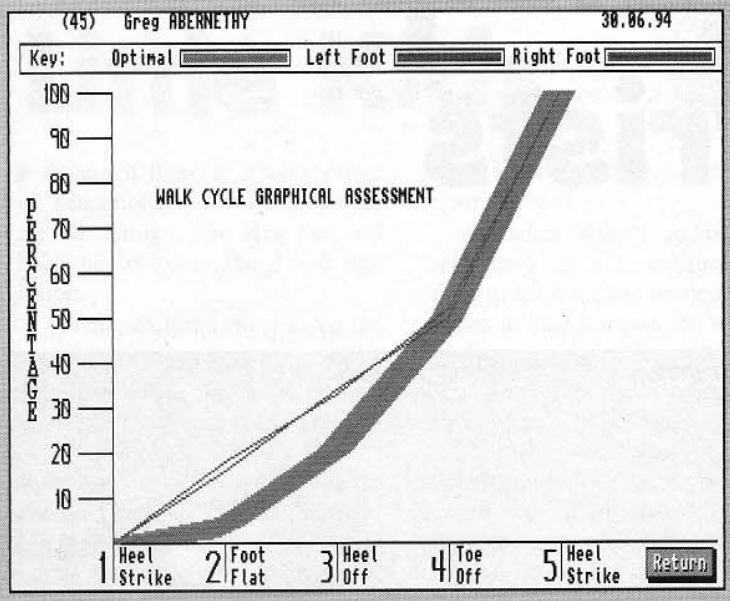
For the past couple of years I have been developing biomechanics assessment software for Leisure Coast Biomechanics in Wollongong.

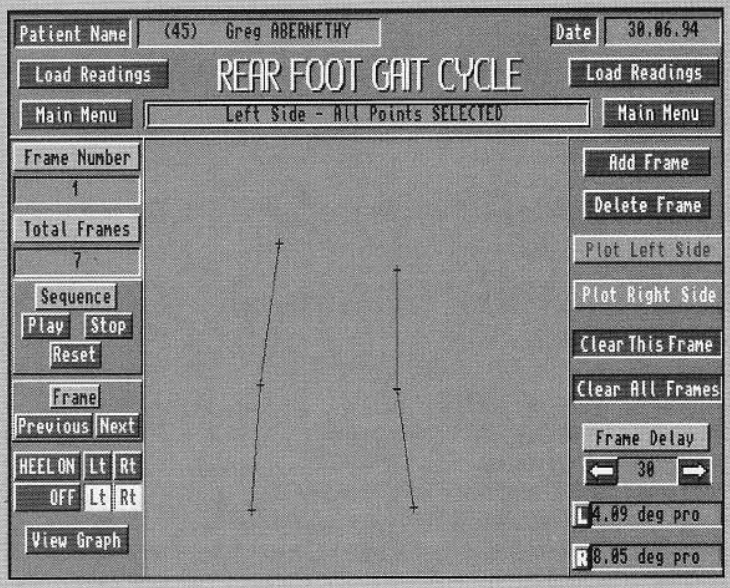
The software is designed to be used in conjunction with a genlock, video camera and treadmill to diagnose problems with a patient's feet and legs.

You may have heard the words "supinated" and "pronated" being used on shoe commercials; these terms are used to describe the angle of your feet in relation to a set standard.

The software allows the podiatrist to determine supination or pronation by examining a video of a patient walking on a treadmill, and measuring the angle of the lower leg.

This provides an accurate assessment, and an orthotic (shoe





insert) can be designed to correct the problem.

The program began as a very simple application, but has since developed into quite a complex one, with a fully functional patient database, Gait Cycle assessment, Walk Cycle assessment, as well as graphing features.

Currently, we are working on designing a module to determine pressure points on the base of the feet.

A video camera will be used to snap an image of the foot, and then a graph will be constructed from the image to display the pressure areas across the foot.

"the most cost effective platform for the special needs of the software"

The hardware is an Amiga 1200 with 10Mb RAM, a maths coprocessor, a 1084S monitor, an Electronic Design genlock and Vidi Amiga 12RT.

An Amiga computer was used as it was the most cost effective platform for the special needs of the software. We needed the ability to overlay graphics on a video image using a genlock, and the Amiga is the most suitable computer in this area.

John Koster, of Leisure Coast Biomechanics, is able to provide a package containing all the equipment required, including treadmill and video camera, for approximately $12,000. Doing the same thing on another platform, if possible, was estimated at $40,000 to $50,000.

Much time was spent trying to find a comparable system on the other platforms, but we were unable to find anything suitable for our needs.

John will be displaying the Biomechanics Assessment equipment at the Sydney Hilton between the 15th and 17th September.

If you would like more details on this system, please contact:

John Koster
Leisure Coast Biomechanics,
Corrimal Street, Wollongong.
The phone number is:
(042) 293 622.

❑

Turn Yourself Into a Painted Surf Ace

By Graham Bowden

◗ Oh I do like to be beside the seaside. Apart from the sharks that is. Why, just this past weekend I, the ancient mariner of the wave ski set, trekked down to my local point break to enjoy a few hours of tubular pleasure. Alas, it was not to be.

You see, I came face to face with a rather nasty man eating shark quite early in the proceedings.

Put rather a damper on the day it did, but hey, wouldn't you be just a little testy if your fishmonger sold you shark when you'd asked for bream? Thankfully this nasty man was more upset with the the flake he was eating than he was with the geriatric who'd very nearly crowned him with his goat boat. Still, it was touch and go there for a while.

It occurred to me though, as I finally began carving up a few waves, that the sea is a favorite with artists almost as much as it is with surfers. Of course artists don't get their feet wet, but they are concerned with the shape of the swells and the wash of the waves. Although electronic art adds a new spark to traditional art forms, the nitty gritty of producing the shapes is really no easier. Or is it?

With Deluxe Paint AGA along, it is. Mistakes are especially easy to overcome, provided your work is saved often - including a constant backup in case the power goes down during a save - and you use DPaint's Background / Fix feature. More on this later. For now, cast your peepers over Figure 1 (over page) and believe me when I tell you that it didn't strain the custom chips in production. It did require a fair deal of palette fiddling and range creating along with extensive use of the airbrush tool in conjunction with Color, Smear, Shade, Blend and Smooth modes but at least you won't end up with paint in your hair and thinners up your nose.

Take Figure 2 as a starting point, and let's get under way as this month we create the foreground wave.

The base

The cresting wave which looks so impressive in the final product began life as a series of custom brushes. A quick flick through some old surfing mags provided the necessary inspiration for the progressive shape for these brushes. To get the gentle build up of the wave reasonably correct, a couple of guide lines were drawn using the curve tool. These lines should be drawn using about a two pixel brush and any contrasting palette colour, one that won't be used in the wave. The brush size was enlarged to about five pixels across and the curve tool was again employed to draw the building wave segments. Several colour ranges now had to be created to allow for the changing shading of the wave as it built to a rolling breaker.

I figured the easiest way to do this was to create the palette of blues shown (Figure 2) from which to prepare the colour ranges. Several separate ranges were used as the wave crested. As Figure 2 shows, these ranges moved from the deeper end of the palette for the swelling wave through to the lighter end for the crest itself. It's also important for the colours within the ranges to overlap, as indicated again in Figure 2, so that when the wave is drawn, the steps in colour along its face are kept to a minimum. Bear with me.

Select the Shape fill type from the Fill Type requester (keyboard Shift-F) and the first colour range from the Range requester. Fill the first two wave segments, being careful to pull the Shape "rubber band" in a direction which keeps the light colours towards the top of the wave. Shape fill the remaining wave segments in pairs using successive colour ranges. A quick glance will show that a total of 4 ranges were required for the 8 wave segments depicted along the top of Figure 2.

With these created, call up the Spacing requester by right clicking the vector tool or simply hit Shift-V on the keyboard. Select "Airbrush" as the spacing mode and enter 2 in the accompanying box. The low number in the box is required to reduce the density of "splats" Deluxe Paint puts down when the vector tool is used. Try drawing a few lines around the screen with several different densities as an experiment, if you're not sure on this point.

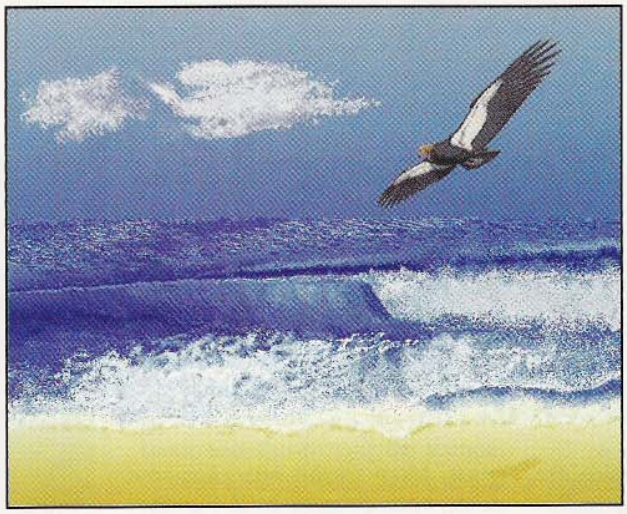


Fig.1

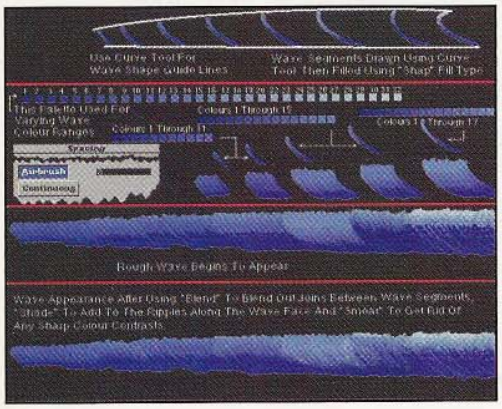
By the way, the curve tool and all the unfilled shape tools (circle, rectangle etc.) will also use the current settings from the spacing requester whenever they are employed.

It's almost time to paint the wave. Get rid of the curved lines used as a guide when the wave segments were created. Provided the guide lines were drawn with a two pixel or larger brush, it's a simple matter to flood fill them with the background colour and watch them disappear. Pick up the smallest wave segment as a brush before selecting the Vector tool as the drawing medium.

Prior to actually beginning the wave, the airbrush nozzle size will need to be adjusted down a pixel or three to stop the wave from appearing too splattered. Click the airbrush tool in the toolbox using the right mouse button and adjust the size of the spray nozzle up or down to suit. I found ten pixels nozzle diameter was about right. Now with everything set up, draw the first short section of wave (say about 25-30mm if you are using hi-res) across the screen. Because the vector tool used the airbrush as its method of application, the effect is reasonably, um, wavey.

Grab the next sized wave segment and vector another section on from the end of the first one. Continue in this manner, grabbing each wave segment in turn, until a roughly acceptable swell has spread completely across the screen. This is now the base for the roller to come. It's still pretty basic though. It needs a few of DPaint's magical enhancements to water it down.

Fig.2



Abracadabra!

First we'll wave the wand to get rid of the obvious joins between wave sections, then a short abracadabra will enhance the ripples along the wave face, before finally the white water and accompanying spray down at the broken end will be added. Pay close attention, because this part requires a LOT of experimenting. The Background / Fix feature from the Effects menu will cop quite a hammering throughout this stage of the project.

The Background / Fix feature effectively makes a stencil of the entire screen. Any changes made after the background is "Fixed" can be easily deleted by clearing the screen. Only the changes will disappear, leaving the picture as it was at the last "Fix". Each time a section of wave has been acceptably modified, save the picture to disk before selecting Background / Fix and moving on to the next section.

Grab the smaller of the multi-pixel brushes from the toolbox and select "Blend" from the Mode menu (or F6). Make a stencil to protect the background colour so that it doesn't get mixed in with the wave. Select the airbrush tool and adjust its size down to about four or five pixels diameter before beginning to blend the joins in the wave segments. Don't get too carried away trying to get it exactly right; there's still some smearing and shading enhancements to come, which will also help to hide the joins.Hit the keyboard full stop key, then the "=" key to nail a two pixel brush. Grab "Shade" from the Mode menu (or even quicker, hit the F5 key) and get ready to ripple. Shade mode, you may remem- ber, will only affect the colours from within a colour range, changing the pixels under the brush one step up or down the range depending on which mouse button is held down.

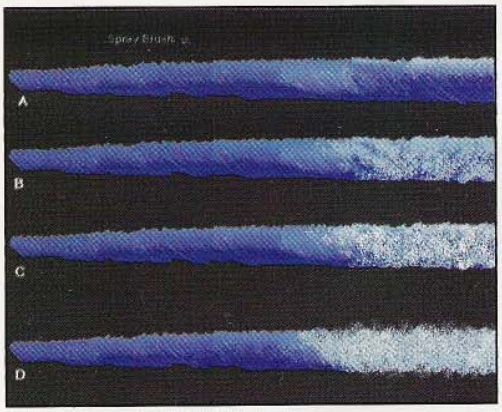
As the wave was created using various colour ranges, it's now a matter of selecting the sketch tool (keyboard s) and drawing curved lines - to suit the general curve of the swell - up and down the wave front using either mouse button until you are satisfied with the effect.While all this blending and shading is happening, shift to "Smear" mode (F4) occasionally, and use it to smudge any sharp colour contrasts away.

Try several different size and shape brushes to dress up the effects. Remember, there's a lot of experimentation going on here so expect to have to redo many of your changes. Use background fix to your advantage and don't be too concerned about the broken end of the wave. That will be attended to next as we add the spray.

Spray Time!

The decision as to where to begin the broken water I'll leave to

Fig.3



your own aesthetic tastes, while I'll just deal with the mechanics of creation.

The foam begins with a multi pixel custom brush. The pixels of the brush should include about the four or five lightest colours from the range used for the wave itself. Create another colour range using these colours and set the "rate" box in the Range requester to 20 so that when MultiCycle is selected, the colours of the brush will cycle.

Select MultiCycle from the Prefs menu. Adjust the airbrush nozzle size up to about 15-20 millimetres diameter and with the background protecting stencil still active, go to town and splash spray all over one end of the wave until it looks something like Figure 3B. Next, select a very light grey or even white from the palette, select Mode / Color (F2) and use the custom brush to lightly daub this bright spray over the wave. You'll also need to use some very light aqua shades to get the total effect shown in 3C.

So far so good. Grab mode Smear (F4), decrease the airbrush size down to approximately five millimeters and move around the wave mixing up all the spray. Experiment with different sized brushes from the toolbox and use good old Background / Fix until the wave looks right. All that remains is to create the flying spume spilling out from the wave crest. Turn off the stencil, grab the "spray" custom brush, select sketch (keyboard s) and Smear before dragging the spray out around the wave.That doesn't look too shabby, does it? Sure there's a bit of stuffing around with effects but hey, that's why the developers put them into the program.

The learning curve should be starting to flatten out a little by now so that next time we meet, the rest of the picture should be a little easier to complete. Practicing the blending and smearing techniques should make the finishing touches in the next tutorial much easier.

❑

Microvitec 1438 Multiscan Monitor

"At last, a decent Amiga monitor!"

By Daniel Rutter

When Amigas first came out, their graphic abilities put them well ahead of the pack. The clunky EGA IBMs of the time were shamed by the Amiga's 4096 colour palette and ability to display images at resolutions of 640x512 or even higher - who cared that it flickered?

Well, everybody. The arrival of several models of flicker fixer in the late 1980s allowed any Amiga owner with the Slab O' Cash required to enjoy high resolution, flicker free video. Flicker fixed Amigas are easy to deal with; they output video at 31kHz, and that's it. If your monitor can handle that one scan rate, everything's grouse.

Then along came AGA, which can output 31kHz but can also do 15kHz like the old, unfixed machines. And AGA machines DO do 15kHz, when you're playing many games, watching demos, using the boot menu or grumbling at an error box. So a monitor that can't do 15kHz is not for them.

Commodore finally addressed the problem with the 1940 and 1942 monitors - only the 1942 has appeared in Australia in quantity. These aren't actually multiscan monitors - the ONLY frequencies they can sync to are 15 and 31kHz, which is fine for standard AGA Amigas. Unfortunately, the 1942 is not a great monitor, for one really good reason.

The whole point of an AGA monitor is it has to be able to switch screenmodes. The 1942 can do this. But WHEN it does this, it lines the screen up differently. Typically, flicking from a high res screen to a low res one puts the low res screen a couple of centimeters to the right, so if you had the high res one perfectly centered the low res one will be bouncing the electron beam off the side of the tube and creating an annoying ghost on the right edge.

Tweak the horizontal position knob and all is well, but who wants to do that every time you switch screenmodes?

The Alternative

What's needed is a monitor with a position memory, so you can set up a mode perfectly and have the monitor snap back to those settings after using a different mode. The Microvitec 1438 is such a monitor - but it's still not perfect.

The Microvitec, manufactured in Germany, is a resolutely tedious looking monitor, with a 15 pin input cable and a power lead that terminates in a 3 pin IEC plug (not socket) which lets you connect it to the power pass-through port on the back of your computer. If you don't have an A4000 or a nonstandard power supply then you don't have a pass through, but a regular power lead is included too. The 15 pin video cable requires a 23 to 15 pin adaptor,

which A4000 owners already have and which Amadeus, the Australian distributors, are bundling with the monitor anyway.

The 1438, like almost all high resolution monitors, does not have speakers. This is no great loss, because if you can afford a nice monitor you can also afford $150 or so for a nice pair of computer speakers, which sound far better than the tinny little things in a 1084. Or just hook the computer up to the stereo.

The 1438 does, however, have a tilt/swivel stand included, so you can get the angle right without buying extra bits.

The Microvitec's picture tube is good, but not fabulous. Compared with a 1084 it's brilliant. Compared with a cheap VGA monitor it's maybe a little better.

Compared with the Sony Multiscan HG I'm typing this on (about $1000, and no 15kHz) it looks very curved (the Sony's vertically flat) and compared with the mighty NEC Multisync 4FGe I also use (though not on an Amiga - the Multisync doesn't scan down to 50Hz) it's pretty sad. But the NEC's $1700.

Failings

There's only one glaring problem with the 1438 - it's short on screen controls. Most monitors, including the 1084, have horizontal and vertical size and position knobs, but the Microvitec lacks vertical position and ho- rizontal size. What this means is you can't stretch the picture to the left and right edges of the screen, which is annoying.

The best job you can do is boot a game or demo, so you've got an example of a screen that ignores Workbench's screen size and position information, and twiddle the knobs you've got until the image is as central as you can get it.

Now you boot Workbench and play with your screen using the ScreenMode and Overscan Preferences items. You'll probably find that the results still leave a fair area of screen uncultivated, so you might consider trying a little PD program called MonEd, which lets you modify monitor drivers for different specifications. It's not for the meek and it is theoretically possible to damage a monitor with downright stupid settings, but it's how you get the best display on the Microvitec.

Conclusion

So, in brief, the Microvitec 1438 is not a bad monitor, but not a brilliant one, either. It is, however, better than the 1942. At $799 it's not too expensive, though for the same money you might like to consider a good condition second hand NEC Multisync 3D, which would have less warranty but more solid construction. The 3Ds are quite rare, though.

For more information contact:
Amadeus Computers
008 808 503

Monitor Terminology Explained

Lousy

The lousiest way you can look at your Amiga's video output is with a TV. You can plug any TV into the RF (Radio Frequency) output from an Amiga 600 or 1200, or into an RF modulator connected to any other model Amiga.

The result will be fuzzy, because the Amiga's video is having its brightness and colour information (luminance and chrominance, abbreviated to Y/C, technically) squashed together and turned into an RF signal like the one that comes down your antenna wire, then fed to the TV, which reverses the process before putting the image onto the screen.

You should only use a TV if you have nothing else, or if you've got a huge TV and want to do some really impressive gaming.

Average

The next step up is composite, which has the Y and C data together, but no further encoding. This is the sort of signal that videos and TVs with a "video in" jack expect; it looks considerably better than RF, but still isn't great. The A1200 and A600 have a colour composite jack on the back, but all the other Amigas only have black and white, except for the 4000, which has no composite output at all!

Good

Something you probably won't be able to use is Y/C mode, which has separate luminance and chrominance information.

No standard Amiga has a jack to output this; you only get it if you've plugged a genlock into the Amiga's regular video output and the genlock offers Y/C (they usually do, along with colour composite). The CD32 has a Y/C jack on the back.

Y/C uses either two RCA leads or a weird little round DIN plug, and, in general, you can only display it on expensive monitors and TVs. An exception is the humble Commodore 1084 monitor, which has separate Y and C inputs!

Y/C is also known as S-Video mode, because it's the standard output mode for the higher definition S-VHS video.

Better

Which brings us to the Amiga's most common monitor

option - the 1084 or clone. These monitors plug into the ordinary 23 pin video RGB (Red Green Blue) connector on the back of every Amiga, and can display reasonably sharp images (well, better than Y/C, anyway), at the standard 15kHz scan rate, which gives maximum non-overscanned, non-interlaced resolutions of 640x256 in PAL and 640x200 in NTSC. These monitors are fine as long as you only use non-interlaced video; interlace is OK for picture viewing but very annoying for continuous use.

The AGA machines are capable of outputting high resolution non-interlaced video, but a 1084 or clone is not capable of displaying it. If you want to, you have to get a monitor that handles higher scan rates.

An IBM-style VGA monitor may do for the non-interlaced modes, if it can sync to 31kHz, but there are some screens it won't be able to display. The boot menu, the error box screens, and many games and demos don't promote, and hence show up as garbage on a monitor that doesn't handle 15kHz.

So you need a multiple scan rate, or multiscan, monitor. These are considerably more expensive than a 1084, but contain much better picture tubes as well as the extra scan electronics.

Best

To go above 31kHz you need to scrap the standard Amiga graphics modes and install a 24 bit graphic board, which generally gives the ability to drive bigger monitors at monster resolutions and do it all in 16.8 million colours, with as many of them on screen at once as you can fit. 24 bit board prices and specifications vary widely.

❑

Jargon Buster

Multisync - Generic word for multiscan monitors, which is actually a trademark of NEC so you shouldn't use it. But everybody does.

Multiscan - Computer monitor that can synchronise to a large number of output scan raters.

Scan rate - The image on your monitor is made out of horizontal lines. Users of 1084 type monitors will be quite aware of this, as there are fuzzy dark bits between the lines in non-interlaced modes.

The scan rate is, approximately, how many of these horizontal lines are drawn on the screen, measured in lines per second. So if you're using the standard 15kHz mode (and if you're using a 1084, you are!), and you're running at a resolution of 640x256, the machine can "paint" more than 60 full screens per second, in theory (a "refresh rate" of 60Hz). In practice, all the nice neat maths gets screwed up by overscan, but one thing which does stay solid is that the higher your refresh rate, the fewer lines you can display.

PAL - This is the Australian/European TV video mode (some of Europe uses SECAM, but for Amiga purposes you can consider PAL and SECAM to be the same). It's got a higher resolution than the American NTSC mode, but a lower refresh rate. So the picture's clearer, but flickers more.

NTSC - The USA's TV video mode, with lower resolution but a higher refresh rate. Check out Good Morning America on late night TV, and observe the distinctive venetian blind look of NTSC converted to PAL.

Interlace - A 1084 type monitor can only display 256 vertical lines, plus a bit for overscan. But you can double the vertical resolution by scanning twice for each full screen - filling in alternate lines. The result is 512 vertical lines, but a lot of flicker, especially on perfectly horizontal high contrast lines. TV is actually interlaced, but the flicker is a lot less apparent, because TV isn't as sharp as RGB video, and there aren't as many high contrast horizontal components.

Overscan - When you push your screen resolution beyond the listed size - 640x256 non-interlaced, for PAL machines - you're using overscan. TV signals are all overscanned, and the Amiga is still the only PC that can output overscanned video without extra hardware.

RGB - Red Green Blue video, what you get out of the 23 pin port on the back of all Amigas except the CD32.

Mode promotion - What the AGA Amigas do to make interlaced screens into non-interlaced, 31kHz ones. If you turn mode promotion on, any well written program that asks for a high resolution screen will get a non-interlaced one. Badly written programs, however, may specifically ask for an interlaced screen, and get one. To pull these programs into line, there are a variety of freely distributable mode promotion utilities which speak with rather more authority than the standard Commodore one.

Dot Pitch: An oft-quoted but not dreadfully important monitor specification. Dot pitch, measured in millimetres, is the spacing of the pixels on the screen. Anything under 0.3mm will do; most mid-price screens are 0.28 these days.

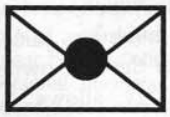
❑

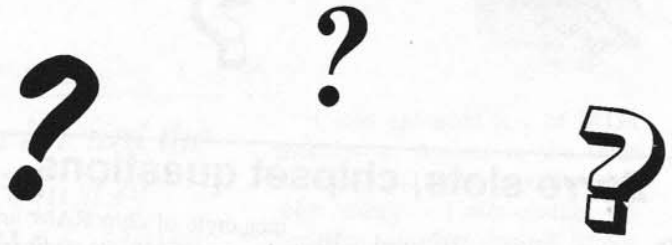
Help Line

By
Daniel Rutter

Help Line this month is dedicated to only one reader's letter - but it's a corker! Lynd Koh of Willetton, WA, sent us a whole PILE of questions, not all of which we had room to print. Usually when somebody overloads us with questions we just answer the obviously life-threatening ones and then let somebody else have some air time, but this time the questions are neither dead simple nor pointlessly abstruse - most Amiga users will be interested to know this stuff. So here goes!

Send your letters to
The Editor
PO Box 288
Gladesville 2111





Letter of the month

Dear Helpline,

I have some questions I'd appreciate your help with.

1) What's the difference between Zorro II and Zorro III slots?

2) What's the difference between the ECS, AGA and AAA chipsets? Is there any way for me to upgrade my A2000 to a more advanced chipset?

3) Has Motorola really scrapped the 68060? If so, what are they producing instead?

4) Would it be possible to create a portable Amiga?

5) What do IDE and SCSI stand for? What's the difference? And what's the difference between SCSI 1, SCSI 2, FAST SCSI 2 and SCSI 3 hard drives? How do you connect your Amiga to a hard drive?

6) What's the difference between Chip RAM and Fast RAM? And could you explain the different memory options for the Amiga? What do the ads mean - SIMMs, 1x8-80, 4x8-80, FRAM, DRAM, VRAM, ZIPs, Page ZIPs, DIPs... I also read somewhere that GVP memory modules are different from standard RAM and that you can't use them with other memory expansions. What about PCMCIA cards? Are they only 16 bit?

7) Is there such a thing as a parallel port modem? Are they any faster? Would I have to buy a high speed expansion board to get a speed boost?

8) Is it possible to upgrade the power supply for my computer so that it can support more hardware?

9) How should I upgrade my computer so I can take advantage of the latest hardware like optical drives and so on? Would it be better to just buy an AGA machine?

10) What is the difference between a standard monitor like the Commodore 1084S and a multisync?

11) What is the difference between a tower system and a normal A2000 or A4000?

12) What is SMPTE?

Lynd Koh
Willetton, WA

Zorro slots, chipset questions...

❶ The Zorro II and III specifications describe the Amiga's 16 and 32 bit expansion standards. Every Amiga expansion board is either a Zorro II or III.

You find Zorro II slots in the A2000, A3000 and A4000, and the faster, more capable Zorro III in the A3000 and A4000. Zorro III slots can accept Zorro II cards (which don't perform any better than they would in a Zorro II slot), but not vice versa.

The A500 side expansion connector has all the right wires connected to plug in a Zorro II card, but is physically incompatible; it's possible to plug a single Zorro II card in with a third party adaptor, but the result is a nude card standing to the left of the A500 and just begging for a disaster. The A1200, CDTV and CD32 are totally Zorro-less.

❷ ECS stands for Enhanced Chip Set, and it was the second major version of the Amiga chips, and not very different from the Original Chip Set (OCS). ECS essentially consisted of three new chips; the new 1Mb and 2Mb Agnus chips, allowing a megabyte of chip RAM instead of the previous 512k in ordinary machines and 2Mb in the A3000 or an older machine with a third-party expansion board, and the new Super Denise.

ECS, in cahoots with Workbench 2, added a whole load of screenmodes that virtually nobody uses, and also the Productivity mode that allows ECS machines to output 31.5kHz flicker free high resolution video in four colours. This mode is okay for desktop publishing, Workbench and the like, but not dreadfully useful overall.

AGA, the Advanced Graphics Architecture, was originally called AA, until someone pointed out that in Germany, a major Amiga market, "ah-ah" is the equivalent of the English "poo-poo".

AGA adds a lot of new stuff, most notable 8 bit graphics with a 24 bit palette. This means AGA machines can display 256 colour images from a palette of 16.8 million colours, or use the existing Hold And Modify technology with 2 extra bitplanes for 262,144 colours on screen.

AGA is also twice as fast at graphic operations than ECS.

060 dead?!

❸ There have been no official reports of Motorola discarding 68060 development, just rumours, and none of those from reliable sources. A more plausible explanation for the slow emergence of the '060 is that Motorola's involvement in manufacturing the new PowerPC

CPUs for IBM and Apple is making it a lot more money than the 060, which now looks like the last in the 680x0 line, will ever do. (The 68060 is definately shipping, but not in quantity - Ed.)

Amiga on the move

❹ There already are portable Amigas - the A600 particularly, the A1200 second, the A500 last. LAPTOP Amigas, on the other hand, have only approached production once, despite rumours and begging letters that have floated around for years. A company called Newer Technologies announced a semi-cloned Amiga laptop more than four years ago, and Commodore Business Machines promptly trussed them up in red tape from which they never emerged, despite an attempt a couple of years (!) later at making two models to be shipped without the copyrighted custom chips.

The biggest problem with making an Amiga laptop is that the Amiga chipsets are all power hogs. When you're plugged into the mains a few more watts makes no nevermind, but if you're running from batteries an electrically inefficient chipset's a killer. A laptop with one hour battery life isn't much use.

The new AAA chipset is a CMOS design, which in English means it sucks much less juice. Time will tell whether the new owner of the Amiga technology allows a laptop to be produced.

Speak Hard Disk-ese in 1036 Easy

❺ IDE was the first of the high level drive interfaces, which emerged in 1984 and has now become the standard drive controller for the vast army of PC clones out there. This means that IDE drives are plentiful and second hand units are available at good prices.

The A600, 4000 and 1200 all include an IDE interface on the motherboard, so you don't waste expansion space adding the HD controller. For smaller machines the choice is obvious, because IDE drives are a little cheaper than the other high level format, SCSI, and the controller is also simpler. Result - less size, lower cost. IDE is slower than SCSI, but on a low to medium powered machine you'd never know.

IDE is very much an internal system, since cables can only be about 45 centimeters long at the most before problems arise, but that aside it deservers its popularity - drives and controllers are cheap, and the speed's fine for all but the turbo-crazy.

SCSI, pronounced "scuzzy", despite the marketing men's attempts to make people say it "sexy", was originally developed as the Shugart Associates System Interface (SASI). SASI was created to allow easy connection of various sorts of devices - not just hard drives - to PCs without building a separate controller for every gadget. IDE is similar to SCSI in that it too uses "smart" peripherals, but IDE doesn't support any hardware other than drives. From a SCSI controller you can run regular hard drives, tape backups, CD-ROMs, magneto-optical drives, removable hard drives, printers, digitisers and more.

SCSI at present comes in two flavours. The standard SCSI-1, finalised in 1986, supports transfer rates of up to four megabytes per second (impossible to achieve in the vast bulk of configurations), and eight devices can be addressed. This isn't quite as great as it sounds, since one of these devices is the controller itself, but there's no other way to connect many new high-tech peripherals.

The other flavour of SCSI, SCSI-2, had its specs completed in August 1990 and should have been published in full by the time you read this. It allows a theoretical ten megabytes a second transfer, and extends the transfer bus to a full 32 bits so monster machines can actually approach this maximum without being choked back to an eight bit data bus. Mind you, to do this they have to be working in what's called synchronous mode, which it seems only twelve people in the world understand and only four have bothered to implement. Everyone else uses asynchronous, which halves the speed.

SCSI-2, SCSI-2 FAST and SCSI-2 WIDE are specific terms within the SCSI specifications. If you get a SCSI-2 controller and SCSI-2 drive, without specifying FAST or WIDE, you'll end up with sub-2Mb/sec transfer rates.

SCSI's multi-device design shows up in the possible cable length, too, which is an expansive six metres for the common single-ended version and up to 25 for the less popular differential design. Thus networking of machines to a central server with very fast SCSI connections is possible.

If you're after real bulk storage SCSI is the way to go. SCSI drives of a gigabyte or more are freely available, and removable Syquest and Bernoulli drives give theoretically unlimited storage. For domestic purposes, though, SCSI may be overkill.

Connecting an Amiga to a hard drive is not hugely complex - it's basically a case of connecting the card/controller box and the cable. The only problem most people encounter is correct termination of SCSI devices; the devices at both ends of the SCSI chain have to have terminating resistors on them or you'll lose data. SCSI devices also have to be set to all different ID numbers; recent devices make this easy, old ones either have confusing jumper blocks or, even worse, a fixed ID.

SCSI-3 is not a standard. Nobody's made a SCSI-3 controller or drive, yet. If somebody tries to tell you they have, politely excuse yourself - at best it's some hybridised roll-your-own interface, at worst it's a ripoff.

Memory explained, weird modems...

❻ Chip RAM is the memory that the Amiga's sound and graphics custom chips can address. Old Amigas have 512k of it, newer models 1 or 2Mb. You can't display a picture or play a sound if you don't have enough chip RAM left to hold it - although some sound players get around the problem by loading the sound from disk as it plays.

Fast RAM is not directly accessible by the custom chips, and because of that operates faster. Accelerated Amigas require fast RAM to work at full speed - an A1200 runs twice as fast with fast RAM, '030 machines actually run slower than 68000 on average if they've only got chip RAM.

SIMMs are Single In-line Memory Modules, collections of RAM chips on little circuit boards which snap into sockets on your RAM expansion board. They're more expensive than the same amount of RAM in bare chips, but they're much easier to deal with.

Designations like 1x8-80 and 4x8-80 are applied to SIMMS, and tell you how they're laid out. 1x8 means it has eight one megabit RAM chips; since a bit is an eighth of a byte, a megabit is an eighth of a megabyte, and eight one megabit chips make a megabyte. Likewise, the 4x8 SIMM would have 4Mb of RAM The -80 bit means the SIMM has an 80 nanosecond (nS) access time, which is normal for most RAM today. The lower this number, the faster the RAM, but it doesn't matter unless you're running a monster machine (60nS RAM is used on superfast '040 accelerators).

FRAM is Ferroelectric Random Access Memory, which is a form of non-volatile RAM. Non-volatile RAM doesn't lose its data when you turn the power off. At the moment, FRAM chips are orders of magnitude more expensive than conventional RAM, and don't come in large sizes, so they're only being used for things like high score saving in Sega cartridges.

DRAM stands for Dynamic Random Access Memory, which is the kind normally used to expand computer memory. If you go into a store and ask for RAM, you'll get DRAMs.

ZIPs and DIPS are two ways of packaging RAM chips - different shaped black plastic packs with pins in different places. DIPs, or Dual In-line Packages, look like the traditional "chip" - an oblong package with a line of pins down each side. ZIPs (Zigzag Inline Packages) look like DIPS turned onto a long edge, with all the pins in a staggered arrangement along the bottom of this edge.

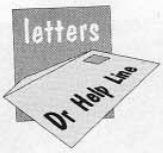
The A3000 uses ZIPs for its motherboard memory expansion, as do a few other expansions like the SCRAM 2000/500 boards. Page ZIPs are inferior to Static Column ZIPs, but you need only be concerned about either if you own a 3000. The A3000 can use Burst Mode if it's got Static COlumn RAM installed, which, in brief, makes everything about the machine faster.

VRAM, or Video RAM, is superfast RAM specially designed for video applications. It's expensive, but it gives the screaming performance needed for high speed true colour graphics.

GVP SIMMs used to be an oddity; it seems GVP didn't actually invent them, but just picked a new, smaller SIMM design for their memory, ensuring that GVP customers had to buy GVP RAM modules because nobody else made RAM to fit. Nowadays, GVP-type SIMMs are used by a few other products including some Macintoshes, and they're made all over the place - one brand is actually assembled in Sydney!

PCMCIA RAM cards are indeed only 16 bit, and more expensive per megabyte than standard RAM. A 1200 with 4Mb of PCMCIA RAM will indeed have extra memory, but it won't run any faster. Unless you've got a very good reason for keeping the trapdoor expansion area free (I can't think of one - all the good A1200 expansions take RAM), don't use PCMCIA RAM.

❼There is no such thing as a parallel port modem. Custom datacomms systems use all sorts of weird boxes, but as far as consumers are concerned modems go in the serial port, full stop.



Power supplies... upgrading .. monitors

■ Your A2000's power supply is already pretty good. You can fill all your slots with cards and all your bays with drives and be pretty certain that there won't be any problems. The only people who need to upgrade their power supplies are A1200/500 users who add tons of extra hardware - then it's just a matter of grafting the old power cable onto an inexpensive IBM clone supply, which has the same oltages.

You can turn a standard 2000 into a seriously humungous computer with the addition of a big graphics board, huge SCSI drives and all the rest; lots of people have done it. AGA ma- chines have a more powerful base on which to build, but AAA promises to be such a leap beyond AGA that for my money I'd sit tight and get one of those machines when they come out.

On the plus side, most extra bits for your 2000 are transferable to a future machine - a SCSI drive doesn't care what computer its controller is running on.

■ The 1084, long the sta- ndard Amiga monitor, has one shortcoming. It can't dis- play high resolution flicker free graphics.

The reason for this is that the 1084 can only synchronise (sync) to a signal at 15.75kHz, which is the rate a standard OCS Amiga puts out. Flicker free video, as supplied by a flicker fixer, is 31.5kHz. A multiscan monitor (Multisync is a trademark of NEC, but it's commonly used as a general word, like Kleenex or Hoover) can sync to a variety of frequencies, and for Amiga use should be able to sync to frequencies from 15.75 to 31.5- kHz.

Few monitors fit these re- quirements, mainly because the IBM world drives monitor design and IBMs left 15.75kHz behind long ago. The only currently pro- duced monitor available in Aus- tralia that fits the bill is the MicroVitek Autoscan 1938 model, selling for less than $800. In the second hand market, popular mo- dels are the NEC Multisync 2 and 3 monitors, although hooking up some of the multiple types of Mu- ltisync 2's can be, something of a hobby.

The Commodore 1942 and 19- 40 monitors aren't multisyncs they're bi-syncs. They ONLY sync to 15.75 and 31.5kHz, and nothing in between.

Towers and SMPTE

■ Tower systems are, essentially, just the same computer in a different box, or at least they're meant to be. Commodore officially released only two tower systems - the A3000T and the A4000T. The A3000T was, indeed, just a 3000 in a bigger box, with 3 5.25" internal drive bays, 4 3.5" drive bays, 5 instead of 4 Zorro III slots, 4 instead of 2 IBM AT slots, and a 210 megabyte SCSI hard drive. There was also a 25MHz 68040 version of the 3000T.

The A4000T, just to be confusing, is quite different from the stock 4000, with a built in SCSI-2 drive interface instead of IDE and two video slots, allowing more than one video card to be running at once. It's got a 210Mb SCSI drive as well, and 5 Zorro III slots instead of 4 and 4 IBM AT slots instead of 3. The two video slots and two of the AT slots, though, are in-line with Zorro III slots, so you can use one or the other but not both.

There are a few third party tower designs for A500s, and various maniacs have wedged their Amigas into giant cases. The only guaranteed difference is a tower machine stands on a narrow, rather than a broad, side.

■ SMPTE stands for the Society of Motion Picture and Television Engineers. Usually the acronym refers to SMPTE time code, a universal way of syn- chronising video and audio supported by all the Big Expensive Hardware you see in professional production houses. When video or audio tape has a SMPTE time code "striped" onto it, it can be synchronised very accurately and completely repeatably with any other system that supports the code. Send your questions to Help Line, care of

PO Box 288,
Gladesville 2111.

Letters to the Editor

Classifieds please!

I would like to compliment you on producing such a well presented and informative magazine for Commodore and Amiga users like myself.

The reason I'm writing to you is that I was wondering why ACAR does not have a classified advertisement service for its readers. Such a service might do well in the magazine.

I would use it now, as I would like to upgrade from my Amiga 500 to an A4000 or maybe even one of the new AAA machines. For this reason, I would like to sell my A500. I have advertised it in the local papers and the Trading Post but have had no luck in selling it so far.

What I have to sell is an A500 (Kickstart 1.3 and 2) with an A530 › Turbo accelerator with 170Mb hard drive, 1Mb chip RAM and 4Mb fast RAM in the A530, and a 1084S monitor. I wold like to get $1800 ono for the lot - I'll even give away a few PD programs on the hard drive.I'm willing to sell the A530 separately, for $1300 ono. It's still under warranty, until 21 May 1995.Thank you very much for your time.

Anthony Flanagan, Smithtown NSW (065) 65 4300

Ed: Because of your request, a few others, and our desire to fill more of Amiga Review with copy we don't have to pay anyone for, your wish will be granted from next month - free reader classifieds!

However, we're not entirely surprised you didn't shift the gear; your prices are a bit high. If you get an offer of $1300 the lot or $1100 for the A530, we'd advise you to take it; remember, computers are an appallingly bad investment!

Amigas in Port Hedland

I have not long been an Amiga owner, but having bought an A600 I don't think that any other computer comes close in value for money. I enjoy reading Amiga Review, and find your solutions to other people's problems are quite often relevant to me as well.

I wrote this letter in response to Tim Pomear's letter in the June 1994 issue. Living in Port Hedland, I know how the remoteness can be a nuisance. I'd just like to inform him that Hedland College has a BBS which includes both IBM and Amiga files, and supports connections up to 9600 baud. The Amiga section is quite extensive, for a local BBS. It is also possible to apply for an Internet E-mail account.

The BBS number is (091) 720 433, and I suggest he contact the computer manager on (091) 720 400 if he wishes to apply for an account.

If anyone wants to talk Amigas with me, they can E-mail me at nathan @hedland.edu.au. Thanks for the magazine, and keep up the good work!

Nathan Johnston, Port Hedland WA

Commodore Concern

I am writing to express my concern about the future of Commodore in Australia. Is it going to continue? Or will it die out, leaving us all stuck with Macs or IBMs?

I also want to know about the A1200 CD-ROM drive. I have heard a new, CD32 compatible drive is coming out, but haven't heard anything since. Do you know if this is in production? If it is, I think it would be a huge **success.**

If anyone would like to correspond with me about the Amiga, please write to me at this address:

Andrew Malcolm

13 Shiral Ave

Kanahooka, 2530

P.S. Keep up the good work - this is a great magazine!

Ed: See below for the latest instalment in the Commodore saga - we're not sure how Australian distribution will work, since a couple of companies have said they'll be handling the Amiga here but there's no information on how they've figured that out when nobody presently knows who's going to be running the show world wide.

The A1200 CD drive exists, but it's not in production, because nobody's making Amigas of any flavour at the moment. Getting them onto the market shouldn't take much longer than producing the current AGA machines, once somebody's in charge again; the technology is complete.

Rough Trot

I have only recently started buying Amiga Review regularly, since Commodore has been in strife. I find it to be one of the best sources of up to date information on the Amiga - and Commodore.

I think you lot do a great job for a computer which really needs more attention here in Australia. I like the way you promote the Amiga by telling its vast number of users to hang in there even though Commodore's a but rough at the moment. Keep up the good work, guys!

I'd like to confirm some information I heard (another word for rumours...) about Samsung or

Hewlett-Packard buying the Amiga technology. If they do, will they continue the Amiga or will they just rip it apart, take what's useful and put it in an IBM clone?

This really has me worried, since I hate everything about MS-DOS and Microsoft's idea of a windowing environment!

Chris Todd

Ed: See the reply to Philip Hoosen, below, for the good oil on where the Amiga's going - and rest assured, we've heard nothing serious about any bidder wanting to cannibalise the Amiga! - DR

Future of Amiga

I've been hearing a tremendous amount of rumours on the subject of CBM's well-being. How healthy is Commodore? The new AAA Amigas are said to be due for release at the end of this year. Is this true? How expensive will they be? Will they make the current models obsolete? How compatible will software be?

I need information on these two subjects, as I'm considering buying an A4000. Is it a good time to buy?

Philip Hoosen. Carlingford NSW

Ed: Commodore International is no more, having run out of money and been liquidated. However, this doesn't mean we've seen the last of companies called Commodore, because the original Commodore was comprised of more than 30 separate companies around the world; Commodore UK and Commodore Germany were doing well financially when Commodore US was dying. At the time of writing, Commodore UK has the biggest bid in for the Amiga technology, so it's quite possible we'll be seeing a new, leaner, meaner, more efficient Commodore (or maybe just Amiga) very soon.

The AAA Amigas may well be out early next year - although a Christmas launch would be good financially for the new Amiga owners - but it's possible that they won't be able to get things rolling in time. Accounts of how much time will be needed to get the (mainly completed) technology to the production lines vary, so wait and see seems the best strategy.

AAA machines will certainly make the current machines obsolete, but AGA may continue in production to meet demand for an affordable Amiga.Old software should be completely compatible with new machines, but it often isn't. This is because many programmers don't follow Commodore's guidelines for Amiga coding, or, less often, because the new machines don't quite behave as they should.

Now is not a great time to buy an A4000. It's very much a seller's market, and A4000's are thin on the ground. A4000/040s are virtually impossible to find - although you might like to know that this letter reply is being typed on a 4000/040 with monster monitor, Emplant card, 1500Mb HD storage, Excalibur superfast 040 board and (wait for it) EIGHTY-TWO MEGABYTES of RAM.

This machine is not for sale, and neither does it belong to Amiga Review. Do not break into the office, you won't find it. - DR

Late Issue

It's now half way through July and I have not received the current copy of your magazine. I think you owe me at least two free editions in return for the money I have had to spend on telephone calls and postage over the past months just to get what I had already paid for.When do I get THIS month's copy, and what assurance can you give me that future copies, already paid for, will be delivered on time?

Ed: The July magazine came out late, thanks to the change of management and format. In general, the feedback we've received on the new-look Amiga Review is that it was well worth the wait!

The August Amiga Review (you're reading it now) was scheduled for release on the 10th of the month, with the September issue on sale on the 31st of August. - DR

Amiga BBS Support

Congratulations on the new look of the magazine. ACAR was already the best Amiga mag around and now you've made it even better. Being mainly interested in graphics and art on the Amiga, I always check out the Art Gallery pages. While I think rendered art can be fantastic, I would like to see more hand (mouse?) drawn pictures included in these pages. A disk of my art will soon be on its way to your office.

I would also like to comment on Andrew Leniart's article in which he states that "it's a well known fact that many, in fact most, Amiga supporting bulletin boards are run on IBM clones under MS-DOS." Really? According to my latest BBS list there are many Amiga boards run on Amigas. Andrew also says "why waste good Amiga CPU time with a meaningless task like running a

BBS...?" - I wonder if the sysops of AMiga based boards feel running the boards to be meaningless? Keep up the high standard of ACAR - it's a credit to you all.

Nic Frame, Leichardt NSW

Ed: The contents of the art gallery are drawn from the submissions we receive, and the most impressive public domain art we collect. If we get a brilliant hand-drawn picture we will certainly include it - but most of the stunning pictures seem to be raytraced. We look forward to seeing your pictures!

Andrew Leniart said "Amiga supporting", not "Amiga specific". Amiga-only boards are, indeed, often run on Amigas, but the vast majority of BBSes are run on IBMs, and many of them include Amiga file and message areas and are therefore Amiga supporting.Irate sysops who wish to express their opinions of Andrew Leniart (who runs his own board, of course) are free to send him abusive netmail.

If it's particularly amusing, forward a copy to Andrew Farrell! - DR

Upgrading A500

I've been an Amiga owner for about six years, and still own a prehistoric A500. I think it's time to upgrade.I was wondering if I should upgrade the computer I've got or just buy a new one; if I do buy another one, what should I get around the $400-$500 mark? If I decide to polish up my A500, would it be possible to add the AGA chips? Would it be worth buying an old A600 and upgrading that

I think ACAR is the best hunk of paper I've ever seen, compared to other Australian stuff.

Ed: For $400-$500, you could get a second hand A2000 without many knobs on. It might have a 50Mb hard drive; a bigger one would be a bonus for that price.A 2000 is much more expandable than a 500, and the expansions cost less. To get a new A1200 would cost about twice your budget!You can't add AGA to a 500, or indeed any of the old ECS machines. The chipset is completely different. If you get a 600 you'll rapidly discover that they're almost totally NON-upgradable - so don't! - DR

PCs Are Junk?

I was wondering were (sic) can I find t-shirts or anything supporting the AMIGA computer hats, jumpers etc.I am sick of reading about DOOM and WOLFENSTAIN (sic), and can I get them on my AMIGA who wants them they are so boring and slow the graphics are so bad we wont (sic) talk about the sound.

Why would you want these games any way when you can have FLASHBACK or CANNON FODDER on the AMIGA which are one hundred times far better. And Emulaters (sic) WHY!! why would you want to tuen your perfect running AMIGA into a big slow mega byte eating dinosaur. We must get our act together or there will not be an AMIGA it will probaly (sic) turn into an optional switch on a 686 PC.

Angelo Paul Caselli,
Dapto NSW

Ed: We're heartened to see such a balanced, reasonable view of the fraught question of Amiga under-promotion.

Why, often as we played our ritual couple of hours of late night network DOOM we considered what a pathetic excuse for a game it was; pressing one button in Microsoft Word 6 and perfectly formatting a huge document with no effort, likewise, fills us with revulsion.

Indeed, the Amiga is the best computer in the entire universe for absolutely anything at all, and anyone who thinks differently should be beaten around the head in a friendly manner - DR.

Satisfied Customer

Wow! I don't believe it! Amiga Review looks GREAT!

ACAR's content was always good, but now the layout matches! I use both Amigas and PCs, and I saw what you did when you took over PC Review; it's good to see that the same thing's happened to the magazine for the more interesting computer. I missed Professional Amiga User when it died; now ACAR looks just as good, but with lots of colour!I don't know about the smaller games section, but it's true that you can't really compete with the huge Euro-mags. Given that these are always stacked with ads in inconvenient currencies, I don't think they're very good value. On the subject of which, if an extra buck is what the overhaul costs then so be it. Given that there aren't any more ads then I think it works out commendably even. Good on you all!

George Higgins
Brookvale NSW

Ed: If we didn't get letters like this, we'd have to make them up.

❑

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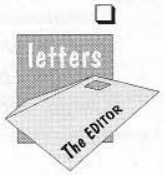

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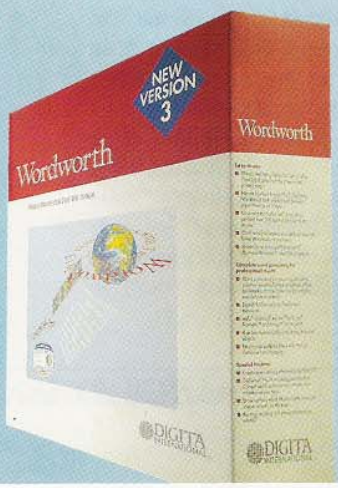

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WORLD OF WORDWORTH

HOT PD

By Daniel Rutter

A few reader contributions this month, which is great to see. If you've created something you'd think is interesting enough to be mentioned in this column, please send it to me care of Amiga Review, PO Box 288, Gladesville 2111. If you want your disk/s returned, your desire to be published is not strong enough.

Star Trek Piccies

From "H" Gibbens (hey, that's what everybody calls him, all right?), who is something of a Star Trek/Star Wars freak, came a load of rendered pictures and an animation. Hey, what an aberrant thing for an Amiga owning Star Trek fan to do; render pictures of the ships.

They're all in HAM-6 mode, which is good because it means you can display them on any Amiga, no matter what its vintage, and bad because the image quality stinks compared with HAM-8 or 256 colour mode. The subject matter is simple enough - various Star Trek and Star Wars ships, bases and planets (including, naturally, the Death Star and the Borg), either flying around or duking it out.

The animation is a rehash of Tobias Richter's ancient Video-Scape 3D effort showing the climactic moment from the Star Trek movie The Wrath of Khan, in which Kirk beats Khan by using a strategy far, far too simple for even Trekkies to be impressed by. No matter, the animation's pretty.

AFL *

Sports are not my strong point. But, even I know that it's not normal for Carlton to go down by sixty points to the Swans (their apres-match party must have been spectacular), but my astoundingly lousy performance against the computer was more my fault than the game's.

The players are teeny, the sound virtually nonexistent (once you turn off the annoying crowd noises), but the gameplay is fairly realistic, even if seven-pixel midgets viewed from above are never going to make the sports news replays.

You have a full complement of teams to choose from, you can see plenty of the ground at one time and you can change things like game length and speed to suit your taste. My only real gripe is that the game, like all football variants, lets you control the player nearest the ball.

Fair enough, but it tends to select the guy the ball's going away from, not the guy it's going towards. On the plus side, you control more than one player at once much of the time; there's no way to make them converge, but the shotgun effect means one of them's likely to be in a useful position.

All you need to run AFL is 1Mb of RAM.

UCD ***

UCD is a ShareWare utility for changing the current directory. It scans a disk and builds a file containing information about the directory structure. It's only useful for hard disk users, but if you're sick of navigating around a million assigns and fiddly little directories, sacrificing a few kilobytes for the dirlist pays off.

I last mentioned this program fifteen months ago, and dedicated less than 60 words to it - but Uffe Holst Christiansen, the Danish author, read my mention when he was here in Australia and has now kindly sent me a disk containing the latest version, 3.53. Ah, international celebrity.

Program complexity:

* Sports commentator
** Weatherman
*** Senior anchor
**** Denton

This version has a file requester when you run it with no arguments (can't remember the name of the directory? Hunt for it fast - no disk thrashing!), a more efficient brain file format that's only about 12 percent bigger than a raw text listing of the directory names, yet stores all the location info too, wildcard support so you don't have to type 163 character dir names, UNIX style path formatting for those with the urge to say /boot/dir1/dir2/dir3/. ./showoff, and a variety of lesser changes.

UCD works best with a bit of setting up, (environment variables and aliases) and there's no automatic installer included, but if you're hip enough to want it you should be able to handle this.

Virus Checker 6.41 ***

I last mentioned John Veldthuis' excellent, not to mention memorably titled, virus checking program seven months ago, at version 6.32. Since the mighty BootX STILL hasn't been updated after its original author dropped it and the Amiga anti-virus coalition Safe Hex International picked it up, Virus Checker is to my mind the undisputed front-runner in user friendly yet bulletproof electronic micro-organism disposal.

This current version, 6.41, adds a query before deleting files to make it harder for trigger-happy users to trash useful data. Virus Checker also now features a brain file, so to update the checker all you need to do is get the latest brainfile, not the whole program.

It recognises plenty of new viruses - Wahnfried, Sentinel, Overkill, Mutilation, Guardians, Ingo Return, F--- device, Angel, Detlef, Disktroyer, another version of the Nano File, the Dag creator trojan, the DM-Trash trojan, Satan, Soapaulo and Starcom, on top of the slabs of nasties it already knew.

There are also, naturally, a couple of bug fixes. None of these are especially spectacular, but the most notable is that John has removed detection of both flavours of the Crime virus, whose authors successfully made them so similar to PowerPacked files that false alarms happened all the time. I do not anticipate an epidemic of Crime infections as a result; the Amiga virus "scene" is, thankfully, nice and quiet.

Daleks *

It appears that Poland is somewhat isolated from what we naively term the modern world, for the author of this game has no idea what a dalek actually is. If you share his ignorance, then I suppose you live somewhere just as isolated from recent Western culture, or perhaps you're a High Court judge.You can be forgiven, however, for not knowing about the ancient game, Daleks.It's one of those prehistoric text games - you're a question mark, the daleks are D's, and they follow you around the oblong arena. Make them crash into one another and they die, and the, uh, thing they leave behind kills other daleks that run into it. You have a limited number of zaps from your Trusty Sonic Screwdriver which kill al surrounding daleks, and you can teleport as often as you like, losing points every time.

Is this game visually spectacular? Absolutely not. Is the sound great? No, because there isn't any. Is it, therefore, a whole bunch of fun? Not really. But it is an historical artifact, and it only took up 5% of one of the companion disks, so there.

Embedder ***

Own an AGA machine? Sick of doing the Boot Menu Shuffle every time you strike a program/game/demo that's too dumb to detect the new chipset and consequently runs, but with graphics that look like they've been salami sliced and randomly reassembled? Enter Embedder.

You can run Embedder from Workbench or Shell, and it turns off various AGA stuff and processor caches too, runs the requested program, and turns everything back on again when you exit. You can select what gets disabled, and you can even use it on standard ECS machines with Workbench 2 if you want to disable caches. Magic it isn't, convenient it is.

PGP ****

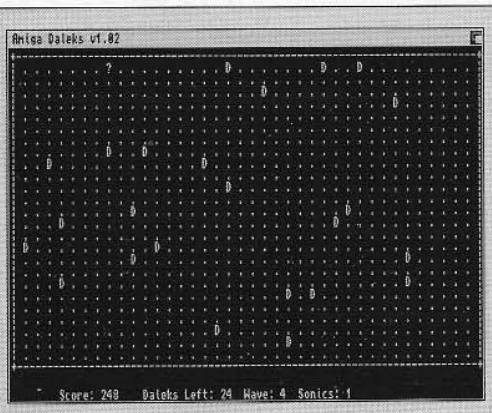
Pretty Good Privacy is a system that is the bane of neo-technofascists the world over. It lets ordinary people encrypt messages in such a way that only with unusual effort can anyone other than the intended recipient decode them. The way it does this is by everybody using PGP having two "keys", a private key and a public one. The public key is freely available, and is used to encrypt messages going to that person.

But the public key can only ENcrypt, not DEcrypt. To read an encrypted message, you need the private key of the person it was addressed to - and it's very difficult to break the encryption!

This Amiga version brings PGP encryption to people not using IBM compatible or monster UNIX machines. If you happen to require file encryption for, ah, whatever reason, this is the program to use.

ForceIcon **

CD-ROM discs are read only media. This is not news. But an irritating side-effect of their unwriteable status is that if they've got a garish, misplaced or otherwise objectionable icon, you can't do diddly about it, for a disk's icon is stored as a file on that disk called disk.info and if



Daleks. Exciting huh?

you can't write to the disk you can't change the icon.

ForceIcon overcomes the problem, by wedging itself between the drive and Workbench, and letting you change the icon image and position. One for the CD-ROM equipped Amigoid With Everything.

MotoWB **

Amiga users have something of a mania for self-promotion; the cruel would call it insecurity, others would say it's pride.

If you're one of those who're compelled to put maker's names all over everything (hey, if it works for Ian Fleming and William Gibson...), the MotoWB package gives you some nifty Motorola-logo backdrops for your Workbench, and right purty they look when allied with MagicWB.

The downside is that these images will clash with your icon colours if you're using a non-AGA machine with MagicWB. Some images, like the stolen-from Windows autumn leaves I have on my Workbench, remap well into different colour schemes; MotoWB doesn't. Sorry, folks.

Navigator **

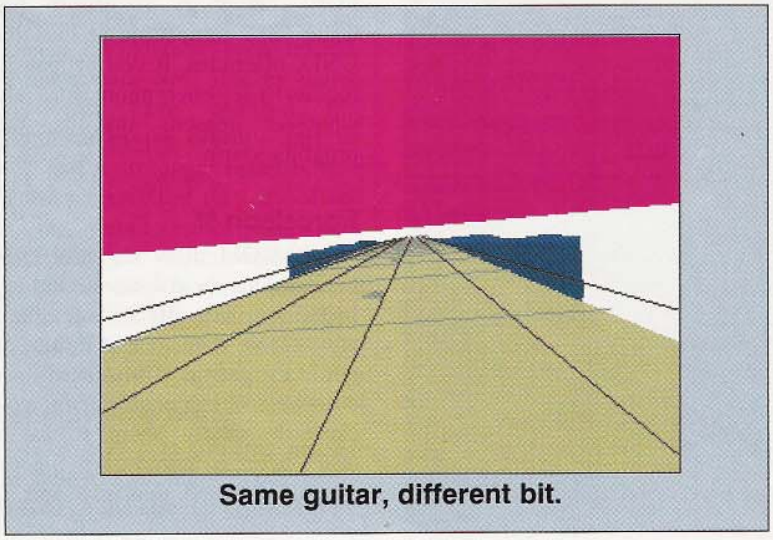
Another oddity, which I rather like. Navigator is a pseudo-Virtual Reality system, that lets you walk, drive or fly around various simple, blocky vector graphic objects. You can play with rendering modes, view all sorts of statistics and observe how silly vector objects look when you fly right through them and find walls that are only visible from one side.

The program comes with 16 worlds, from buildings to abstract objects. I found it rather fun to fly around the weird abstract worlds. Good for showing off a blitzing processor.

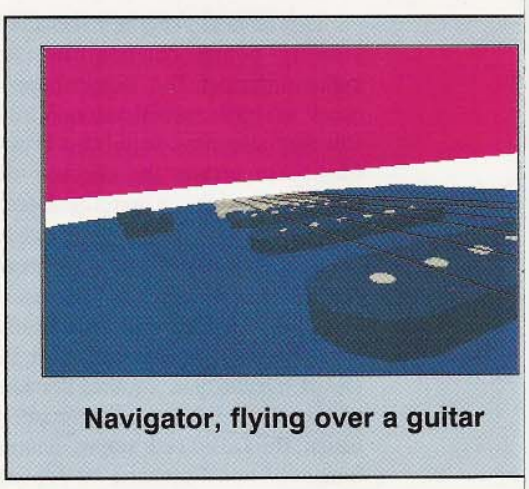
TolleUhr

Workbench clocks are a genre surpassed only by Minesweeper games in the glut-on-the-market stakes; here's another attempt. The fact that I even bothered mentioning it means it definitely stands out from the crowd.

TolleUhr reminds me of the earlier TinyClock, which graces many an Amigan's Workbench, but it's heaps more configurable. You can run TolleUhr from CLI or Workbench (Workbench 2 is required), and set everything from menus or icon ToolTypes.



Same guitar, different bit.



Navigator, flying over a guitar

There's no digital mode, but there is an optional second hand, customisable colours for everything, customisable back- ground pattern, different hand shapes and thicknesses, different borders, and, naturally, more.

The only thing I don't like about TinyClock is when you've spent ten minutes setting up a half-dozen of the little truckers for a really nice screenshot, the system hangs. Twice. This may only happen to people called Daniel at twenty to one on Thursday mornings.

UU utils

More UUEncoding stuff (Rocky and Bullwinkle "a-gain" comedians may now say their piece). In case you missed my 285 previous mentions of UUcoding, it's a way to send binary files via text-only messages, and is very useful. This time I've scared up uuIn, uuOut and uuPrepare, Workbench 2 UU-ers with some nice bells and whistles.

UuIn is very fast, and includes automatic optimisation for 020 and higher processors. It will automatically generate multiple output files using maximum lines and/or maximum bytes limits, and prevent widow files that contain no full data lines, which cause

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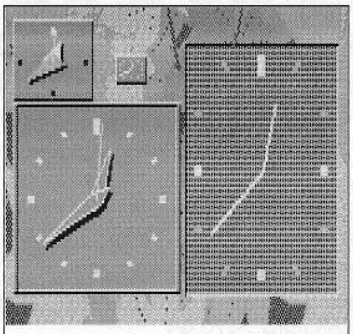

Various TolleUhr clocks, and a weeny bit of my Workbench.

some decoders to barf.

The name and protection modes encoded in the begin line can be specified, and there are intelligent defaults for people who have no idea what that means. There are options to terminate data lines with a checksum and add a size line at the end of the data. There's in input/output buffer to reduce drive thrashing if you're cranking through a BIG file (don't post THAT puppy in a public forum unless you want it to be your last message there...).

It's only 5k and you can make it resident. And all errors and strange conditions have descriptive error messages, and aborts if it is sent a break signal (Control-C). A very well behaved little chihuahua.

UuOut has all the applicable features of uuIn, plus it sanity checks its input so that non-uuencoded data lines are skipped over instead of spawning garbage, handles UU archives containing several files without letting incomplete files stuff up others, and fits in only 4k.

UuPrepare is AREXX script that massages raw UUencoded data into a form more accepted by the net - sticking on headers and footers to your specification.

These, then, are now my UU tools of choice. I promise not to mention anything to do with this area of computing until something demonstrably better comes along ("Yeah, sure" from the peanut gallery...).

That's it for this month. Everything mentioned here's on the two disk companion set, available from Prime Artifax as HotPD 17, except for AFL Football (on its own disk) and the space pics and animation (available as Star Trek Pics 1 and Wrath of Khan Animation).

If you want a copy of AFL football, send $5 to the author, Adam Roberts, at RMB 1215, Bayunga Rd, Murchison Nth. Vic 3160. His phone number is (058) 266 351.

Next month I should be delving into the last 25 floppy Fish disks, rounding out the big 1000. See you then!

❐

Spottings

Mindless Violence

Jamie Preston of Urunga, NSW, watching that masterpiece of impressionistic cinema "No Retreat, No Surrender 3" (extraordinary how they've kept the dramatic tension up for three whole movies) spotted a twin-floppy A2000 showing a picture of a person, and later displaying a text file in Kindwords. The monitor used was the old boxy 1084. Again. We're starting to suspect a conspiracy.

Our World

Chris Todd spotted an A500 being used to tally up something about sharks and whales on Our World with Glenn Ridge on the 19th of June. Ten days later he saw two Amigas on Real Life, in a story on whether computers are good for kids - the first Amiga was running Lotus Turbo III and the other one, an A1200, was running Pinball Fantasies.

Real Life

Travis McNeil of Horsham, Victoria, also spotted the Amigas on Real Life, and since he's a kid (or possibly middle-aged and dyslexic, who can tell) and wrote us a letter with just the right suck factor, we're giving him a free subscription. We can do that. So there.

Capital City

Reg Forsaith of Lilyfield, NSW, spotted an Amiga on the ABC show Capital City, where Max was using an A500 and 1084S to play Battle Chess and as the monitor for his front door security system. He also mentioned that one of the hairdressing salons in Roselands uses an A500, 1084, video camera and software to show potential victims what they'll look like with new hairstyles.

Another Kids Program

Chris Monger of Banksia Park, SA, joined the ranks of Amiga Review readers who seem to spend an unhealthy amount of time staring at low budget ABC kids' shows when he spotted an A1000 with an NTSC monitor running some sort of research program and showing pictures of various plants, in a show called "Rat-a-tat-tat".

School Textbook

Michael Harrold of Drysdale, Vic, is in year 11 of high school and is using a textbook called "InfoTech 2000", which in the Graphics Programs section on page 76 contains an A2000 with the (gulp) old 1084, running DPaint 3.

He also spotted Amigas on the SBS computer program, The Big Byte, where an interview with some of the Team 17 designers featured a few 1200s and a CD32, running Stardust, which is not actually By Team 17, a testament to the dedication of the Big Byte team.

The ABC's even more recent computer program, Hot Chips, did a feature about music on computers and showed a number of the inevitable Atari STs, a lot of Macintoshes and an Amiga 1200 or two, hooked up to Major Sound Gear. No IBMs!

Michael also spotted the Amiga on No Retreat, No Surrender 3, but managed a spotting in a still more tasteful movie, Scanners 3, which included an A2000 being used to explore new genes. Anyone who's seen the flick will realise that this will hugely boost the Amiga's reputation in the medical profession. ❑

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"Star Trek - the lost episodes" *Transcript*

We plucked this from the Internet comp.sys.amiga.misc area, where it was posted by supp@ridgefield.sdr.slb.com (Michael Supp), who had got it from jrd@roddenberry.ebt.com (John R. Durand). It's an extension of an old funny line that I shan't tell you, because it spoils the joke. If you don't watch Star Trek - The Next Generation, you won't get it. But if you don't watch Trek, not getting htis joke must be the least of your problems.

<Picard> "Mr LaForge, have you had any success with your attempts at finding a weakness in the Borg? And Mr. Data, have you been able to access their command pathways?"

<Geordi> "Yes, Captain. In fact, we found the answer by searching through our archives on late twentieth century computing technology."

<Geordi presses a key, and a logo appears on the computer screen.>

<Riker looks puzzled.> "What the hell is 'Microsoft'?"

<Data turns to answer.> "Allow me to explain. We will send this program, for some reason called 'Windows', through the Borg command pathways. Once inside their root command unit, it will begin consuming system resources at an unstoppable rate."

<Picard> "But the Borg have the ability to adapt. Won't they alter their processing systems to increase their storage capacity?"

<Data> "Yes, Captain. But when 'Windows' detects this, it creates a new version of itself known as an 'upgrade'. The use of resources increases exponentially with each iteration. The Borg will not be able to adapt quickly enough. Eventually all of their processing ability will be taken over and none will be available for their normal operational functions."

<Picard> "Excellent work. This is even better than that unsolvable geometric shape idea."

...15 minutes later...

<Data> "Captain, we have successfully installed 'Windows' in the Borg's command unit. As expected, it immediately consumed 85% of all available resources. However, we have not received any confirmation of the expected 'upgrade'."

<Geordi> "Our scanners have picked up an increase in Borg storage and CPU capacity, but we still have no indication of an 'upgrade' to compensate for the increase."

<Picard> "Data, scan the history banks again and determine if there is something we have missed."

<Data> "Sir, I believe there is a reason for the failure in the 'upgrade'. Appearently the Borg have circumvented that part of the plan by not sending in their registration cards."

<Riker> "Captain, we have no choice. Requesting permission to begin emergency escape sequence 3F-"

<Geordi, excited> "Wait, Captain! Their CPU capacity has suddenly dropped to zero!"

<Picard> "Data, what do your scanners show?"

<Data, studying displays> "Appearently the Borg have found the internal 'Windows' module named 'Solitaire', and it has used up all available CPU capacity."

<Picard> "Let's wait and see how long this 'Solitaire' can reduce their functionality."

...two hours pass...

<Riker> "Geordi, what is the status of the Borg?"

<Geordi> "As expected, the Borg are attempting to re-engineer to compensate for increased CPU and storage demands, but each time they successfully increase resources I have setup our closest deep space monitor beacon to transmit more 'Windows' modules from something called the 'Microsoft Fun Pack'.

<Picard> "How much time will that buy us?"

<Data> "Current Borg solution

rates allow me to predicate an interest time span of 6 more hours."

<Geordi> "Captain, another vessel has entered our sector."

<Picard> "Identify."

<Data> "It appears to have markings very similar to the 'Microsoft' logo..."

<Over the speakers> *"THIS IS ADMIRAL BILL GATES OF THE MICROSOFT FLAGSHIP 'MONOPOLY'. WE HAVE POSITIVE CONFIRMATION OF UNREGISTERED SOFTWARE IN THIS SECTOR. SURRENDER ALL ASSETS AND WE CAN AVOID ANY TROUBLE. YOU HAVE 10 SECONDS TO COMPLY."*

<Data> "The alien ship has just opened its forward hatches and released thousands of humanoid-shaped objects."

<Picard> "Magnify forward viewer on the alien craft!"

<Riker> "My God, captain! Those are human beings floating straight toward the Borg ship - with no life support suits! How can they survive the tortures of deep space?!"

<Data> "I don't believe that those are humans, sir. If you will look closer I believe you will see that they are carrying something recognized by twenty-first century man as doeskin leather briefcases, and wearing Armani suits."

<Riker and Picard, together - horrified> "LAWYERS!"

<Geordi> "It can't be. All the lawyers were rounded up and sent hurtling into the sun in 2017 during the Great Awakening."

<Data> "True, but appearently some must have survived."

<Riker> "They have surrounded the Borg ship and are covering it with all types of papers."

<Data> "I believe that is known in ancient venacular as 'red tape'. It often proves fatal."

<Riker> "They're tearing the Borg to pieces!"

<Picard> "Turn the monitors off, Data, I can't bear to watch. Even the Borg doesn't deserve such a gruesome death!"

❑

IF OPERATING SYSTEMS WERE AIRLINES

This one's been going around, in various forms, for some time. Enjoy.

Amiga: The airport terminal is nice and colourful, with friendly personnel, easy access to the plane, an uneventful takeoff. More adventurous travelers can travel on multiple planes and visit multiple destinations all at the same time. During these multiple plane trips the user can even take a side trip on the Mac, DOS, Unix, or Windows airlines.

DOS: Everybody pushes the plane until it glides, then jumps on and lets it coast until it hits the ground again, then they push again, jump on again and so on.

DOS with memory manager: The same thing, but with more leg room to push.

Macintosh: All the stewards, stewardesses, pilots, copilots, baggage handlers and ticket agents look the same, act the same, and talk the same. Every time you ask questions about details, you're told you don't need to know, don't want to know, and everything will be done for you without you having to know, so just shut up.

MPE: It's difficult to get a ticket because you have to sign up for the right plane, specify you want a seat to sit in, identify each piece of baggage and list it on your ticket, and once you enter the plane you may never see the same steward/ess twice. However, once the plane takes off, the ride is exceptionally smooth and usually on-time, unless you cross a timezone (this results in your being placed in a holding pattern for 1 hour until the plane's clock and the local clocks are synchronized). Should the unthinkable happen and your flight ends in a crash, you will be magically whisked back to the origin of the flight, where you will be placed on the next plane out.

OS/2: To board the plane, you have your ticket stamped ten different times by standing in ten different lines. Then you fill out a form showing where you want to sit and whether it should look and feel like an ocean liner, a passenger train, or a bus. If you succeed in getting on board the plane and the plane succeeds in getting off the ground, you have a wonderful trip, except for the times when the rudder and flaps get frozen in position, in which case you have time to say your prayers and get yourself prepared before the crash.

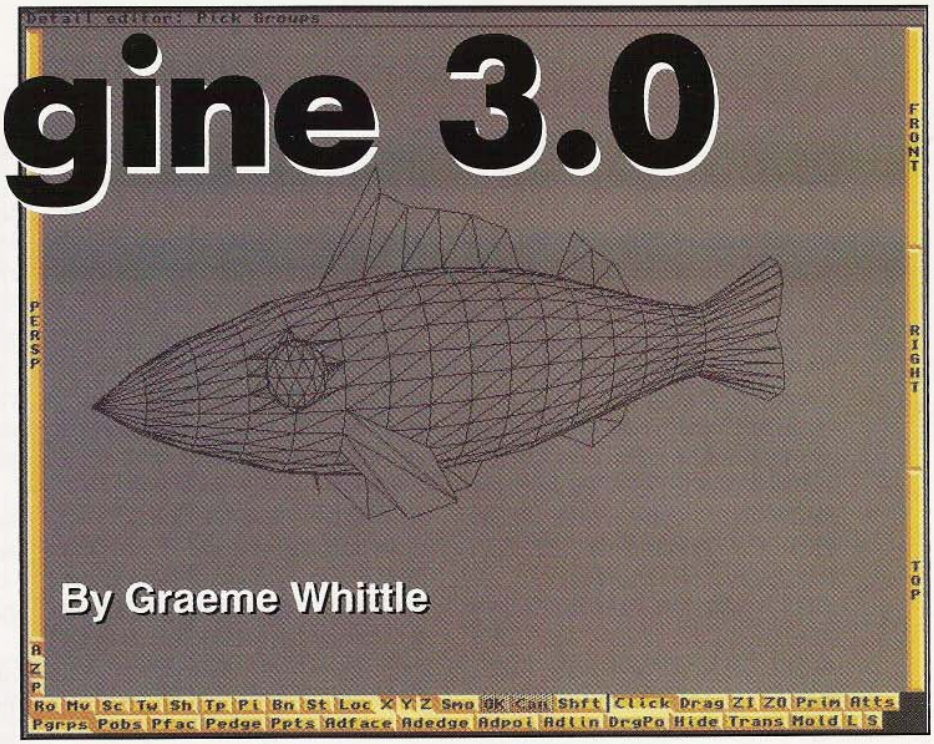
Windows: The airport terminal is nice and colorful, with friendly stewards and stewardesses, easy access to the plane, an uneventful takeoff then the plane blows up without any warning whatsoever.

Windows NT: Everyone marches out on the runway, says the password in unison, and forms the outline of an airplane. Then they all sit down and make a whooshing sound like they're flying.

Unix Airline: Everyone brings one piece of the plane with them when they come to the airport. They all go out on the runway and put the plane together piece by piece, arguing constantly about what kind of plane they're building.

❑

Imagine 3.0



Tutorial - Part 1

This is the first instalment in a step by step guide to the inner workings of Impulse's Imagine program. This powerful 3D renderer and animator, while representing great value for money, has always been plagued by poorly written manuals. Often, after shelling out their hard earned cash, users struggle with the program for a week or so and then simply give up in frustration. So if you fit this description, or even if you feel comfortable with Imagine already but would like to know a few more tricks, read on!

What You Need

To get the most from these tutorials you will need an Amiga with a hard disk drive, at least 2Mb of RAM and Imagine 3.0. Users with version 2.0 will need to upgrade, as I will frequently be using tools provided only with 3.0. You will also need a certain familiarity with Imagine - but if you think the tutorials are too difficult or that there are missed steps then write to ACAR and I will endeavor to help. Please bear in mind that these articles are not a manual replacement but a creative resource in which you, while learning, will also be producing objects, animations and effects.

The approach

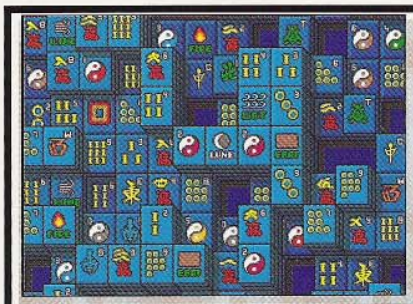
In this month's instalment, we're going to start with the detail editor and create a fish. Did I detect a groan or two out there? Why a boring fish? How about an intergalactic tanker or a man eating ravenous blob? My reason for creating a fish is quite simple - a fish is an organic form ideally suited to the Imagine detail editor but not too simple.

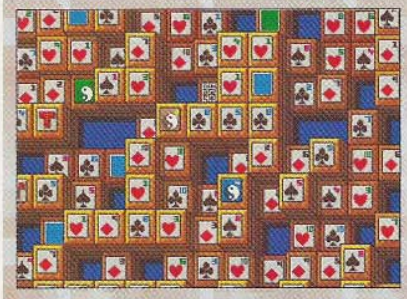
One more thing before we start. I will mainly be using menu commands and leaving it up to you to learn the keyboard shortcuts. The commands will be written in upper case and a submenu selection will be separated from its parent with a >. For example, if I choose to change the pick method from click to drag box it will be written thus: MODE > PICK METHOD > DRAG BOX.

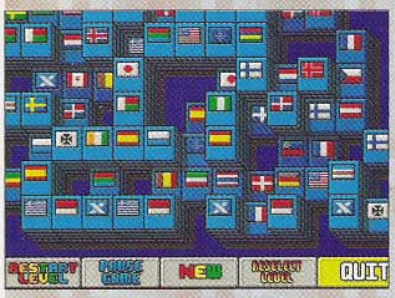
Tutorial 1

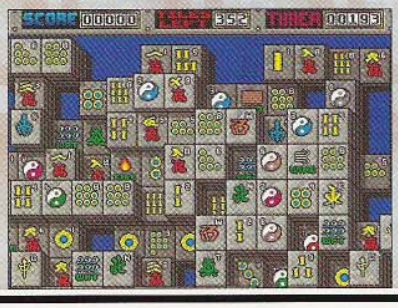
Create a new project and call it whatever you like. It should be noted that when you create a new project with Imagine the program actually makes a directory to which it automatically adds a .imp suffix even though this suffix isn't listed when you re-open the project. Imagine also includes a subdirectory with any .imp directory called "objects" and, for the sake of convention, it is here that we will be storing our bits and pieces.

Now go straight to the detail editor and from the menus select: OBJECT > ADD > PRIMITIVE. A selection box now appears from









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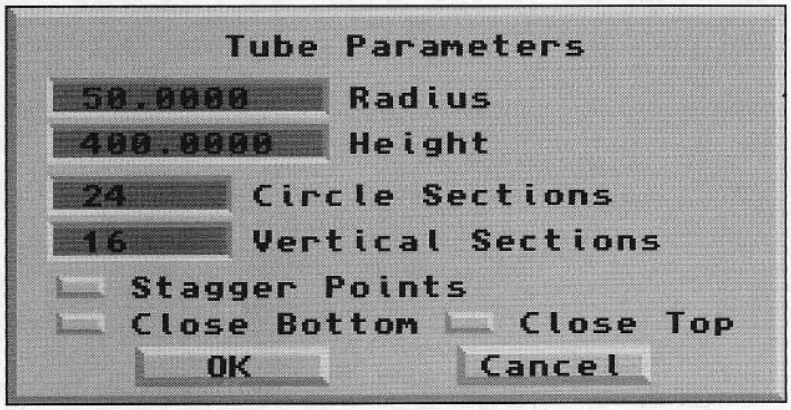
Pic 1



which you have a choice of six primitive objects. Choose tube. Another box now appears requesting information about the size and number of vertices and so on; see Pic 1 and change the parameters to those illustrated (note that the stagger points option has been switched off). A vertically aligned tube now appears in the tri-view.

The next step is to rotate it 90 degrees. There are two ways to do this. You can press the M key to rotate objects or you can do it from the transformation requester. In this case the latter is the best choice because we want a precise change of alignment. Select the object by clicking on the little spot at the centre of its axis. Now choose OBJECT > TRANSFORMATION, type in the parameters illustrated in Pic 2 and select perform. The tube will now be aligned horizontally with respect to the screen. Note that by doing this you have changed the alignment of the object's axis as well and it no longer matches that of the screen. It is very important in the detail editor that you understand the difference between the global axis (screen axis) and the local axes (object axes). More about this later.

Tapering the body

The next step towards getting the tube to look more like a fish is to change the circular cross section to an oval one. Select the object and press the S key to enter scale mode. The object is now replaced with an orange bounding box and can be scaled interactively.

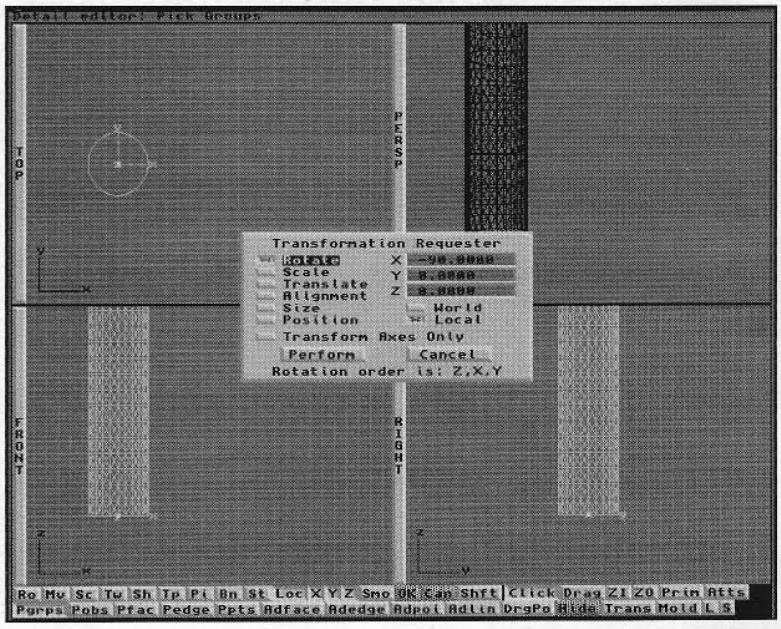
The trouble is that it will be scaled in all three dimensions and we only want to change one, the width. Change the scaling to local mode by pressing the L key, and then press shift-X. This will restrict the scaling to the X axis only.

You can now reduce the tube's width interactively with the mouse until you have an oval shaped tube. Press the space bar to confirm your actions or "ESC" to abort if you make a mistake.

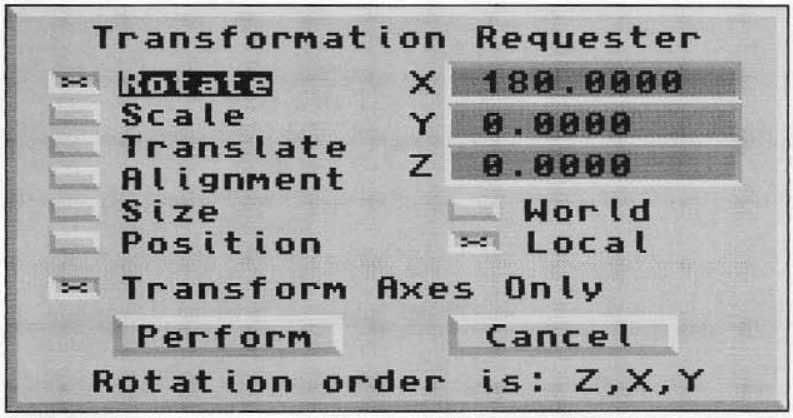
Note that you could have done this without changing to local mode, but it is important to get into the habit of using the local mode as the object axis does not always match the screen axis. Keeping track of axis alignment, size and position is the key to Imagine.

It's now time to taper the ends of the tube into the head and body of the fish. Firstly, you need to move the tube's axis relative to the body. Press shift-M; this allows you to move the axis only. Now change to local mode with L and press shift-Z, as the local Z axis is along the length of the fish. Now use the mouse to interactively slide the axis a little less than half way along the tube. Press the space bar to confirm your actions. Select the Tp switch at the bottom of the screen to access Taper mode and interactively taper the back of the fish. If you wish you can also select Smo to smooth the taper. It may be necessary to do this twice to get adequate tapering. Note that the taper only takes place along the Z axis, and only along the length of the axis. This rule applies to all of the deformations.

Pic 2



Pic 3



Now we need to rotate the axis 180 degrees so that the Z axis aligns with the head. From the menus choose: OBJECT > TRANSFORMATION and type in the coordinates shown in Pic 3. Note that the "local" button and "transform axis only" are both on. Select perform, then shorten the length of the Z axis (shift-S, L, shift-Z) until its end is at the front of the tube. You can now taper the front of the fish, this time to a point. It will be necessary to repeat the command a few times. By moving the axis forward and changing its length you can change the aspect of the taper until you achieve a pleasing shape.

The nose

It's now necessary to join all the vertices of the fish's nose to make a nice point. From the menu bar choose MODE > PICK METHOD > DRAG BOX and then MODE > PICK POINTS. Now, while holding down the shift key for multiple selection, use the mouse to drag a box around only the vertices at the tip of the fish's head.

Then from the menus select OBJECT > JOIN and the vertices will merge into one. Unfortunately the remaining vertex is off centre, so go back to MODE > PICK METHOD > CLICK and then choose MODE > DRAG POINTS and in the front tri-view window drag the vertex into the centre.

The tail

Return to PICK POINTS and DRAG BOX modes and this time select the vertices at the end of the fish in the same way as you did the tip. Press S for scale, L for local then shift-Y for Y axis only. With the mouse, expand the tail vertices until they look something like pic 4. Before you press the space bar, hit M for move and you can drag the tail back into a more realistic position. Now zoom in on the tail (Amiga-I), and join the tail the same way as you joined the nose. This time, though, select and join only two vertices at a time to make the tip of the tail into a single edge. Be careful to deselect the previous vertex before joining the next.

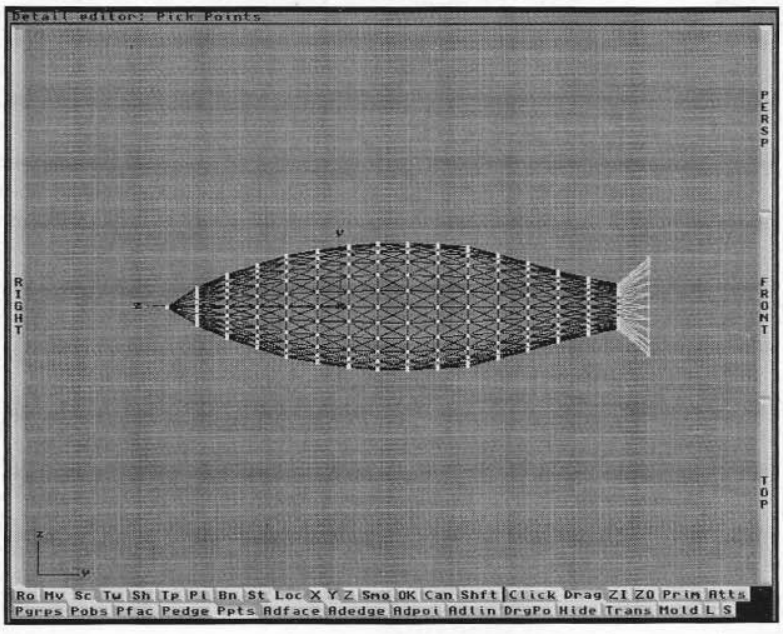
You will now need to go back to CLICK and DRAG POINTS and individually align the vertices in the top window. In the right window, position them (see pic 5 over page).

Fins

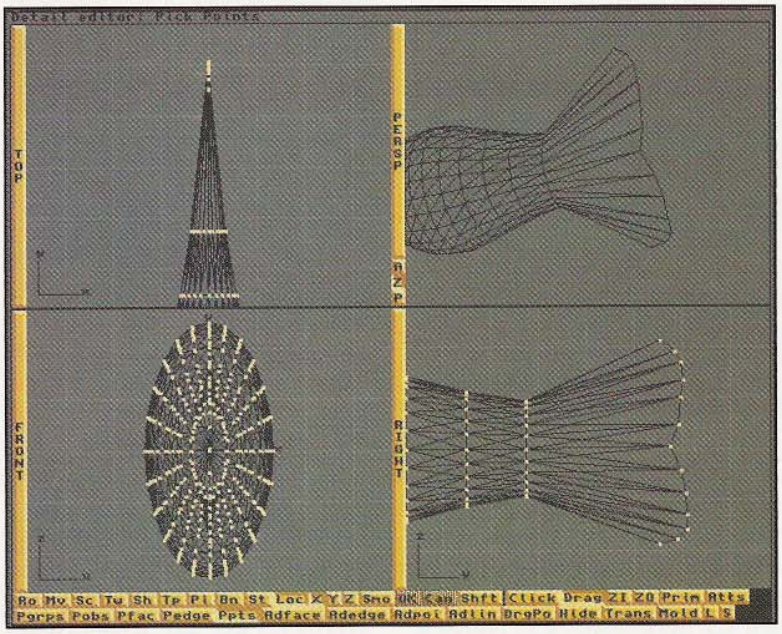
To create the dorsal fin we are going to use the extrude function. First, be sure the local Y axis is pointing up. Stay in CLICK method but choose MODE > PICK EDGES. Zoom in on the dorsal area of the fish and, holding down the shift key, pick only the edges on the very top of the body where you want the fin. Choose FUNCTIONS > MOLD (the extrude requester will automatically come up as it is the only transformation applicable to edges) and change the extrude length to 40. Select perform.

You now have a crude dorsal fin. Use DRAG POINTS mode to shape the fin. Repeat these steps

Pic 4



Pic 5



for a second dorsal fin, then go back to OBJECT mode and rotate the axis 180 degrees around X before you create the ventral fins. If you do not rotate the axis the fin will end up inside the fish, as extrusions go from the axis centre along the Y axis.

The swimmer fins are extruded in the same way. First go to OBJECT mode and rotate the axis so that Y is pointing to the right of the body, then go to PICK EDGES, pick an edge near the head and extrude it. Now rotate the axis to the left and do the same on the other side. If you find the correct edges difficult to select, try changing to DISPLAY > NEW-MODE and then selecting them from the perspective window. Be sure the A, Z, P buttons down the side are all off, though. You can now go to DRAG POINTS mode and manipulate the trailing edges of the fins to appropriate positions.

The eyes

Return to PICK OBJECTS MODE. From the menus, choose OBJECT > ADD > PRIMITIVE and create a sphere with a 16 radius, 12 circle sections and 6 vertical sections. Select the sphere and move it to an appropriate eyelike position in the right window, then move it in the top window so that about half of it is sticking out of the side of the face. Now copy it to the clipboard (Amiga C) and immediately paste the copy back (Amiga P). Lastly, move the copy to the other side of the face so that it mirrors the first.

It is now necessary to join the eyes to the fish. You could simply group them with the body, but we want to create a fish that is one single object. There are many advantages to this, especially when it comes to animation, and it also gives you an excuse to use the slice command.

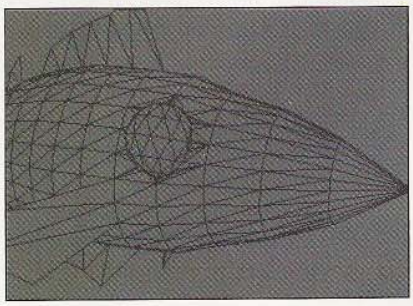
Pick all the objects. You can do this by selecting the body and the two eyes while holding shift, or you can choose PICK/SELECT > PICK ALL from the menus. Now choose OBJECT > SLICE and Imagine will cut the eyes flush with the sides of the face. It has, however, produced some parts you need to discard and grouped all the parts together. To get rid of the unwanted parts, go to PICK GROUPS mode, pick the entire group and choose STATES > UN-GROUP. Now, in PICK OBJECTS mode, pick and delete (Amiga-D) the two inside parts of the eyeball and the two little disks from the fish's cheek that were cut by the eye. You will also need to delete the axis which the slice command added as a parent axis - it was probably right on the fish's nose.

To join the eyes to the body, firstly select the body's axis (this will ensure that this axis is the remaining one), then hold shift and choose OBJECT > JOIN, directly followed by OBJECT > MERGE. The first command will create a single object from the three and the second, at least according to the manual, tidies things up a bit.

So there it is, a fish. I hope yours looks at least a bit like mine, but if it doesn't don't worry, just try following the steps again. Many of you may already be thinking of different ways you could have done certain steps; creating the body in the forms editor perhaps, or adding the fins in the same way as I added the eyes. There are no rules to this, but mastery of the detail editor is fundamental to individual creativity with Imagine.

I hope you saved your fish, because next month we'll be adding more detail (a mouth, for a start) and giving it colour and texture. Watch the alignment of those axes, and have fun with Imagine.

❑



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❑

PageStream 3.0 vs ProPage 4.1

	PGS3	PP4.1	XP3.2	PM5
Interface				
Maximum number of open documents	unlimited	1	25	unlimited
Maximum number of document views	unlimited	1	1	1
Reveal/Hide document views	●			
Moveable document view windows	●		●	●
Save program defaults	●	○	●	●
Load program defaults	●		●	
Pasteboard/bleed area	●	●	●	●
user-specified pasteboard dimensions	●	○	○	○
Move toolbox and change orientation	●	○	○	○
Edit Box (control/measurement palette)	●		●	●
Number of operation/selection panels	6	0	6	3
Number of view magnifications	13	5	6	8
user-specified view magnification	●	●	●	●
view magnification zoom	●	●	●	●
maximum view magnification	3000%	400%	400%	800%
Drag page to scroll	●		●	●
Scroll bars	●		●	●
AutoScroll	●	●	●	●
Show/Hide invisible characters	●		●	
Greek text and pictures	●	●	●	●
Document Construction				
Number of pre-defined page sizes	15	6	5	13
Maximum page size (in inches)	2000"x2000"	48"x48"	48"x48"	42"x42"
Change size of pages at any time	●	●	●	●
mix page sizes in a document	●	●		
Maximum document size (in pages)	unlimited	9999	2000	999
Hide pages	●	●		
Page spreads	●		○	○
Maximum number of master pages	unlimited	0	127	2
Modify master page objects on real pages			●	
Hide master page objects	●			●
Visual page arrangement	●	●	●	○ script
Insert/Delete/Move multiple pages	●	●	●	●
Automatic page numbering	●	○	○	○
Link and unlink columns	●	○	●	●
Layout Aids				
Snap-to-guides	●		●	●
page (margin and column) guides	●	○	●	●
ruler guides	●		●	●
adjustable guide strength	●			
show and hide guides	●		●	○
user-defined guide color	●		●	
Snap-to-grid	●	●		○
adjustable grid strength	●			
show and hide grid	●	●		
user-defined grid color	●			
grid offset	●			
grid display interval	●			
Baseline Grid	●		●	
baseline grid offset	○		●	
Number of measurement system options	11	3	7	6
points and printer points	●		●	
maximum precision	0.001 points	0.001 inches	0.001 units	0.001 inches
mix measurement systems in fields	○		●	○
Rulers	●	●	●	●
show and hide rulers	●	●	●	●
adjustable ruler offset	●			
adjustable ruler zero point	●		●	●
adjustable ruler direction	●			
custom vertical and horizontal rulers	●			●
Coordinate display	●	○	●	●

	PGS3	PP4.1	XP3.2	PM5
Long Document Publishing				
Chapters and subchapters	●		○	○
Chapter numbering	●			
Automatic table of contents				●
Automatic indexing				●
Automatic continued from/to numbers			●	●
Anchor objects to text	●		●	●
Word Processing				
Cut, copy and paste text	●	●	●	●
Character and paragraph styles	●	○	○	○
local style override	●	●	●	●
link style sequences	●		●	●
based styles on other styles	●		●	●
Load and save styles	●	●	●	○ load only
Find and replace text and text attributes	●	○	●	●
Find and replace styles	●			●
Spelling checker	●	○	●	○
user-defined spelling dictionaries	●	●	●	●
Import/export formats	7/7+	9/0	?	?
conversion of quotes, commas, dashes	●		●	quotes only
List articles in a document	●			●
Maximum number of tabs	unlimited	16	20	40
number of alignment options	4	1	4	4
place numerically or manually	●	○	●	●
right indent tab			●	●
user-definable tab fills (dot leaders)	●		●	●
user-definable alignment character	●		●	
Typography				
Number of font systems supported	3	1	2	2
Font sizes	1 to 50,000	2 to 720	2 to 720	4 to 650
increments	0.001 points	0.125 points	0.001 points	0.1 points
horizontally scale text	0.0001 to 655%		25 to 400%	5 to 250%
Number of text styles	10	8	8	8
editable styles	●			
Set text color, fill and stroke	●	○	○	○
Rotate and skew text	●	○	●	●
rotation increments	0.001	1	0.001	0.01
edit rotated text	●	●	●	●
Vertical justification	●		●	●
Automatic drop caps	●	○ script	●	○ script
Automatic bulleted paragraphs	●			○ script
Paragraph rules			●	●
Widow and orphan control	●		●	●
Control spacing before/after paragraphs			●	●
Keep paragraphs together	●		●	●
Auto and manual kerning	●	●	●	●
user-definable kerning tables	●	●	●	
Auto and manual tracking	●	○	●	●
user-definable tracking tables	●		●	●
Hyphenation	●	○	●	●
create custom hyphenation dictionaries	●	○	●	●
discretionary hyphens	●		●	●
min, max, opt character/word space	●		●	●
Absolute/relative/grid leading	●	○	○	●
increments	0.001 points	0.01 points	0.001 points	0.1 points
Left/right indent and first line in/outdent	●	●	●	●
List fonts used in document/chapter	●		●	● script
Smart quotes	●	●		
Smart dashes	●			
Automatic ligatures	●		●	
Hanging punctuation	●			
Optical alignment	●			

● Feature present ○ Feature present/limited implementation script: means done through an automated script unlimited: means limited only by machine constraints + means more modules will be added after initia

, XPress 3.2 & PageMaker 5.0

	PGS3	PP4.1	XP3.2	PM5
Text Frames				
Max number of columns in a frame	unlimited	1	30	20
Frameless text	●			
Drag resize text	●		●	
Convert shapes to text columns	●			
Graphics				
Bitmap picture import/export filters	5/5+	5/0	?/?	?/?
set line frequency, angle and pattern	●		●	●
contrast control	●		●	●
bitmap fencing for text runaround	●		●	●
irregular bitmap cropping in any shape	●		ↄ	
display bitmaps in color	●	●	●	●
externally linked bitmaps	●	●	●	●
Structured drawings import/export filters	●	●	●	
number of formats	5/5+	2/0	?/?	?/?
dissolve drawings into paths and shapes	●			
Import EPS illustrations	●	●	●	
Interpret EPS illustrations	●	●		
EPS import/export filters	2/2+	3/0	0/0	0/0
show bitmapped previews (TIFF/PICT)	●	ↄ	●	●
Save/Export/Print pages as EPS files	●	●	●	
List all imported graphics in a document	●	●	●	●
Color				
Number of color models	6	2	6	8
PANTONE®	●	●	●	●
EfiColor®			●	
24 bit color support	●	●	●	●
Create process and spot colors	●	●	●	●
Shade increments	0.01%	1%	0.1%	1%
Automatic and user-definable trapping	●		●	●
choke, spread, knockout, overprint	●		●	●
trapping values for each process plate			●	
Angles/frequencies for each spot color	●	●	●	●
Drawing and Object Editing Features				
Drawing tools (shape and path)	●	shape only	shape only	shape only
Select multiple objects	●	●	●	●
add/remove from selection	●		ↄ	ↄ
select behind	●		●	●
Bring to front/send to back	●	●	●	●
bring forward/send backward	●		●	
Cut, copy and paste between documents	●	●	●	●
Move and nudge objects	●		●	ↄ
Step and repeat duplication	●	ↄ script	●	●
Merge and split paths	●			
Rotate and skew objects	●	ↄ	●	●
rotation increments	0.001	1	0.001	0.01
Group/Ungroup objects	●	ↄ	●	
Lock/Unlock objects	●	ↄ	●	
Align and distribute objects	●		●	
Apply color and line/fill styles to objects	●	ↄ	ↄ	ↄ
percentage (tint) fill precision	0.01%	0.1%	0.1%	1%
bitmap fills	●	●		
gradient fills	●		ↄ	
multiple lines per object and line offset	●			
fill lines with any type of fill	●			
Max line width	1000 points	27 points	504 points	800 points
increments	0.001 points	1 point	0.001 points	0.1 points
number of line styles	11	9	11	8
editable line styles	●			
Text runaround objects	●	ↄ	●	●
Extend objects across page spreads	●		●	●

	PGS3	PP4.1	XP3.2	PM5
Printing				
Actual size, percentage size, thumbnails	●	●	●	●
Current page, page range, even/odd	●	ↄ	ↄ	ↄ
Print process separations	●	●	●	●
Plate control	●		●	ↄ
Signatures (printer spreads)	●		●	ↄ script
Tiling	●	ↄ	●	●
Crop and registration marks	●	ↄ	●	●
Print to disk	●	●	●	●
Suppress printout of selected items	●	●	●	●
Chain-print multiple documents			●	
Print empty pages option	●		●	●
Render to bitmap picture	●		●	
Collect for service bureau			●	
Save pages as EPS illustrations	ↄ	ↄ	● + preview	ↄ
Custom printer drivers	●			
Create bleeds	●		●	●
File Management				
Open document format other than own	●			
Revision numbers	●	ↄ		
revision control and log	●			
Job numbers	●			
Auto-save	●		●	
Auto-backup	●		●	
Panose® font mapping			●	
Environment				
Undo levels	unlimited	1	1	1
Online context sensitive help	●		●	●
Open program architecture (extensions)	●		●	●
Article (story) editor	●	●		●
Picture (bitmap) editor	●	ↄ limited		
Publish and Subscribe or OLE compatible	●		●	●
Scripting capabilities	●	ↄ	ↄ	ↄ
script record	●			
script edit	●	ↄ external		
internal script macros	●			●
Amiga Environment				
AGA compatible	●	ↄ limited	n/a	n/a
Public screen support	●			
Locale compatible	●			
Font sensitive menus and requesters	●			
Amiga Style Guide menus	●			
Amiga Style Guide shortcuts	●			
Amiga Style Guide windows	●			
Amiga Style Guide requesters	●			
Amiga Style Guide gadgets	●			
Amiga Style Guide pointers	●	ↄ		
Amiga Standard Library file requester	●			
The Bottom Line				
Technical support	free	free	90 days free	90 days free
CompuServe support	●	●	●	●
GEnie support	●			
Portal support	●			
Internet e-mail support	●			
Price	$395	$299.95	$895	$895

release ? means unknown

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Online

By
Daniel Rutter

Aminet CD-ROM

This month in Online (while Andrew Leniart, down in the basement, finds out just how effectively gaffa tape can restrain you), I'll be looking at the Aminet CD-ROM - the February 1994 edition. What has this to do with being online? Glad you asked.

Aminet is a monster Internet Amiga archive, a library where software authors can place their freely distributable programs for others to download. The CD-ROM contains most of the archive, and consists of 3900 applications, utilities, games, graphics, and other files.

Because of the immense size of Aminet (when the disc was compiled it had grown to over a gigabyte of compressed files!) some files had to be omitted, mainly Soundtracker music modules and demos. This is not a terrible loss, since most of the MODs on the old Aminet disc were very average, and the best demos were left in.

What is it?

The backbone of Aminet consists of about 15 computers all over the world that are linked to Internet, a computer network that connects most universities and many businesses in the world. Internet has been much in the news lately, with people who should know better touting it as the Information Superhighway when it's really more of a Digital Bayou, a huge steaming disorganised fertile morass of ever-changing, ever-growing mounds of data.

Getting back to Aminet, whatever gets uploaded to the archive has to be approved before it is made available to the public. The moderated system means that most of the contents of Aminet are quite well organised, but there are still some redundant files.

Given the horse-choking quantity of data on the CD, I think this is forgivable.

There is no censorship on Aminet; the only conditions for inclusion in the library are that every file uploaded has a description file in the correct format, and the archive itself is okay and virus free (there may be clever new viruses in there that the checkers missed, but it's unlikely).

This doesn't mean Aminet is full of dirty pictures, though; it's an area specifically for Amiga-related software.

As a side note, there are a handful of M-rated babe shots on the Aminet disc, including some ladies from the Consumer Electronics Show last year who are of such astounding proportions that I can only assume they require the services of two supertanker pilot tugs to assist in guiding their chests through doorways.

Who runs it?

Aminet is run by volunteers who do the daily administration. The disc contains considerable data on Aminet's history, as well as a collection of rather unflattering pictures of some of these people.

What is unique about Aminet is that large amounts of data are made available to a wide audience in a very short time.

If a programmer uploads his latest release to Aminet, he can expect that it will have been downloaded and tested by one thousand people within a week. If he finds a bug in his program (or 997 of the one thousand people find it for him and send him rude E-mail), he can distribute an update to the whole world in a day.

In that respect, freely distributable software is even better than commercial software, which requires considerable time and expense to duplicate lots of copies, package them up and distribute them the old, clumsy, physical way.

What's on the disc?

The CD-ROM contains business and database applications, developer's tools and source code, hardware information, games of all kinds (including my all-time favourite, NetHack!), utilities for managing disks, souping up the Workbench, archiving and dearchiving files and doing about a million more things, text editors, graphics viewers, editors, and pictures, music editors and players, and much much more.

How do you find stuff?

The Aminet disc includes comprehensive INDEX files in most directories. Every INDEX file contains a list of all the files in that

directory and the directories below it, and the one at the very top of the directory tree contains a list of all files on the CD.

You can browse through the INDEX files from the shell by using a text editor or the c:search program for a keyword you expect in the file name or the description of the file you're looking for. Alternatively, there's a little program called "Findfile" included that will do the same thing for you.

Most of the files on the Aminet disc can only be accessed by using the shell. If you're savvy enough to get a CD-ROM up and running, you should be able to handle this.

If you're one of the army of low-budget multi-machine nuts out there with ParNetted CDTVs hooked up to your tower-case A500, it'll be a doddle.

Aminet does not do the corkscrew-inside-the-bottle trick; there are enough uncompressed archivers on the disk to extract all the other archivers, and then you can extract all the other archives without hunting around a million BBSes for some obscure compression program. No LHA.ZIP, ZIP.ARJ, ARJ.ZOO, ZOO.ARC, ARC.LHA!

Online Aminet

If you want to get updated more often than is possible with the quarterly CD-ROM, you have several possibilities. By far the best way is getting yourself connected to the Internet, via a big BBS, Compu$erve, your friendly local money-hungry university or whatever.

You can then use FTP, FSP, Telnet, NFS, IRC or Gopher to grab Aminet stuff; there are site lists on the disc, and working out how to surf the Internet is your problem.

If you've got a restricted Internet account that only lets you send and receive mail, you can still snarf Aminet software, by using an email server that sends out uuencoded binaries (grab the whole archive! Choke your account host!), and there's an E-mail mailing list that sends lists of new files - which are also posted to the comp.sys.amiga.misc and de.comp.sys.amiga.archive newsgroups.

What's it cost?

The price of the Aminet CD-ROM, available from Solutions Rendered on (02) 838 0733, is a lousy $39. If you've got a CD-ROM drive, there's no excuse for not having it; if you're considering getting a drive, Aminet is a big incentive.

The disc even carries a full money back satisfaction guarantee from Walnut Creek, the manufacturers; this guarantee no doubt exists because nobody is likely to be dissatisfied.

If this sounds like something of a rave, you're right. I really like the Aminet disc. Tons and tons of good stuff for very little money. Buy it.

❑

Communication Glossary

ACK: Acknowledge. Yes, I received that last byte, or string of bytes. Normally only used in file uploading or downloading.

ANSI: A terminal protocol.

ASCII: American Standard Code for Information Interchange. A seven-bit code used widely in data communications to transmit the letters of the alphabet, plus the standard punctuation marks and certain control characters. Every character has a corresponding numeric value that is common on most home computers. This allows different types of machines to speak with each other.

Auto-answer Modem: A modem that can answer an incoming call by generating a carrier tone that signals the originating modem its call has been received.

Auto-dial Modem: A modem that can simulate a telephone dialer using either pulse or touch-tone dialing signals. Austpac: Packet switching network provided by Telecom. Allows computers who talk at different speeds and languages to exchange information. Baud: A speed expressed in bits per second transferred over a communications line. 300 baud is roughly 30 characters per second. Most BBS's support 2400 baud and many now support 9600 baud along with modems offering special data compression techniques.

Bell: The American standard for data communications. Binary: A number system using base two rather than base ten as in decimal.

Bit: Short for binary digit (either 1 or 0), the elemental unit of digital information. Every character is made up of several bits (usually eight). A bit is either one or zero, corresponding to pulses that may be transmitted audibly on telephone lines.

Buffer: Often called capture buffer. In general, a temporary storage place for data. A capture buffer is temporary storage for data "captured" from a communications link.

Bulletin Board: A computer you can access via modem especially for leaving messages to other users. Various subject areas are available, and normally programs can also be uploaded or downloaded.

Byte: On an eight bit computer, eight bits make up a byte. Usually one byte is equivalent to a character. Each character in the ASCII set can be represented by only seven bits. Thus, a byte can be thought of as equivalent to a character for approximation purposes only.

Carrier: A steady signal that can be changed in tone (modulated) to transmit data.

...cont

Checksum: The last thing you do on your tax return. Also used as a test for the integrity of information transmitted by any means where corruption may take place.

Control Characters: ASCII characters that do not print out, but are used to control communications. Control characters can, for example, signal a sender to stop transmitting information when the receiver is busy.

Data: Information in code, text or numerical form, generally represented in ASCII code for digital communications. Database: A file or program which contains information in a specially formatted way. Normally made up of records and fields which are roughly equivalent to a card file system. **Download:** Transfer a file from another computer to your computer.

Music

Modules update

The days of only a few different module formats for the Amiga and Amiga only have passed. A few years back, users didn't have to care about anything than playing SoundTracker and later Protracker modules. Nowadays users not only have to watch out for dozens of different module formats from Amiga world but also from PC world.

The situation got even more confused a few months ago when Finnish Amiga coder Jarno Paananen started developing new players for Amiga. First came S3M support and now there is support for MTM and 6 to 8 channel extended Protracker module format.

Comp.sys.amiga.audio news group (on Internet) was flooded with questions about S3M and no one knew what to do. As I mentioned above, Jarno Paananen is the guy to thank for all of this. He made the amiga version of S3M playing routine, that routine is used in all S3M players in Amiga.

Channel Limits

The thought that Amiga is limited to 4 audio channels is true, but with mixing channels together you can get as many channels as you want. Of course mixing always reduces the sound quality, but with good routines the quality loss can be minimized.

Paananen's routines make possible to mix for example 32 channels (32 simultanious samples) to be played with Amiga 8-bit outputs. This idea is not a new one, but until now those routines haven't been useful in Amiga mostly because lack of sufficient CPU power to make real time mixing possible.

What's out there?

Following is a brief overview of module formats now floating around:

S3M: Scream Tracker III format. Supports 32 channels but only 16 digital sample channels, other 16 channels are reserved for FM synth sounds created with adlib and compatible (I am not sure about the compatibility issue, I do not own a PC to try out with). Basically, this is just like normal PT format except different internal layout and with a new interesting panning option.

MTM: Multi Tracker Module format. Supports up to 32 digital channels. Effects are same as in ProTracker format but the internal layout is totally different.

I have found 1 MTM module this far that uses all 32 channels, but my humble opionion is that if module author can't do good music with 16 or less channels then the author should start learning to make modules with a 4 channel tracker.

Any modules using over 16 channels makes me think, "Where are those channels used?" They don't sound any better than a four channel PT module with surround option.

6 or 8 channel (6CHN/8CHN): This is exactly the same as normal PT format but with extended patterns supporting an excess of 2 or 4 channels. Also called FTM modules after Fast Tracker.

Other formats: There are such formats as .FAR (Farandole, max 16 channels) and 669, but there isn't support for them on the Amiga (yet).

How to play these?

Now that I have made you curious about the possibilities of these module formats you might start wondering: How can I play these?

First of all there is a program called PS3M (2.5 will be released any day now) which is made by Jarno Paananen. PS3M is simple requester driven program which can play all the above mentioned module formats.

D.A.S.MP was the second to have ability to play S3M modules and now upcoming version 3.2 will have player libraries to play S3M, MTM, and 6-8Ch modules. DASMP is MUI application and I am the author of this program so I can't praise it without this article coming advertisement.

The third program to play these is HippoPlayer which works even with Kickstart 1.2, compared to other two which require 2.04 or higher.

All those players use basically the same mixing routine provided by Jarno Paananen with little

internal differences. For example DASMP uses only 16 kilobytes CHIP ram per channel instead of 65 kb taken by PS3M and supposedly by HippoPlayer. PS3M is requester driven, HippoPlayer has normal intuition interface and D.A.S.MP has the MUI GUI which the appearance is almost completely under user control.

Well, how do these modules sound?

My first feeling when I heard the very first of my S3M modules was stunned. I almost dropped from my chair, I could never have dreamed my A500+/28Mhz could produce so good sounding music. Of course there are a lot of awful ones as well as good ones. The good ones are really worth listening to.

As with all music some of you will like them and some of you will loath them and you are of course entitled to your opinion. The quality of sound does drop

"when I heard the very first of my S3M modules I was stunned."

when mixing 16 channels to two Amiga outputs but for that there is also cure coming. All new versions of three above mentioned programs will have 14 bit playmodes in their new versions, and believe me it really makes even a 20 channel MTM module to sound good.

Where to get these modules?

I uploaded about month or so ago several (about 30) S3M modules to Aminet in aminet/mods/8voic. All S3M modules start with S3M_ I d#?. the modification to names to make it easier to user to find them.

I also uploaded few of MTM modules to Aminet in the same directory and these modules start with mtm_ Unfortunately my financial situation doesn't let me upload every S3M, MTM and FT (6-8ch) to Aminet because it costs me real money. If you can get hold of FTP access you can do the same as I did and start roaming the Internet world to find these modules.

❑

Check your local PD supplier, BBS or Amiga club for Amiga music modules or call Prime Artifax on (02) 879 7455.

Duplex: Twin accommodation. Refers to the two-way nature of modem communications. In full-duplex communication, both terminals can send and receive simultaneously. In half-duplex operation, both ends can send and receive, but not at the same time. With full-duplex, echoback communications, a transmitted character is not displayed until it has been verified by the receiver.

Electronic Mail: Messages directed to a specific user on a Bulletin Board system. A personal message, similar to mail. Frequency: The number of cycles of an oscillating waveform that occur each second.

Glitch: Hiccup on the telephone line. Some information may be garbled making it unreadable.

Hayes: A widely accepted standard set of commands for controlling modems and setting various options within them.

LF: Line feed. Moves the cursor to the next line.jModem: A device that modulates audio tones to carry digital signals and also demodulates the signals at the receiver so they can be understood by a computer.

NAK: Negative Acknowledge. Used in file uploading/downloading. As in, nah, that didn't work!

Noise: Random disturbances that degrade or disrupt data communications, present to some degree in all transmission links. Originate/Answer

Modem: A modem that can either start a telephone call or receive one automatically. Some modems automatically assume originate or answer status, others require manual switching to the proper state.

Parity: A means of checking for errors by adding an extra bit to each ASCII character transmitted.

Protocol: A set or rules for the transmission of data. Protocols describe when transmission will start and stop, what error checking system is in effect and the like. It is the format by which information is sent through the telephone system to minimise errors. Files are normally broken down into smaller parts sometimes called packets. A checksum is calculated and then compared with that calculated by the receiving system to ensure everything arrived intact.

RS-232: A standard for transmission of serial data covering both hardware configurations and transmission parameters. Different manufacturers may implement some or all of the RS-232 standard in their communications products.

SEAlink: A downloading/uploading protocol.

Serial data: Data sent one bit at a time, as opposed to parallel data sent several bits at a time. Modems operate on serial data. Sysop: System Operator. The person who is responsible for the smooth operation of a particular remote access system such as a Bulletin Board.

Teleconferencing: Several people get together to talk via electronic means, either telephone or computer, about a particular subject. Often used in multi-user remote access systems.

Terminal: A device that receives or transmits digital information. Communications software is designed to control computers during terminal mode operation.

Upload: Transfer a file to another computer.

X-ON/X-OFF: A protocol for pausing data transmission using simple control characters.

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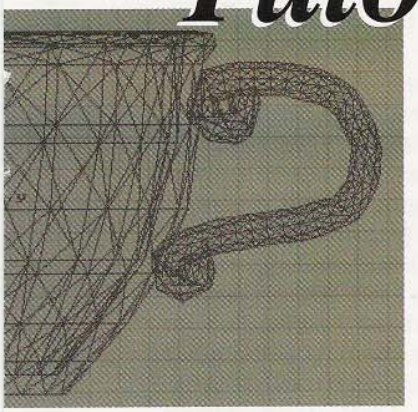
Tutorial



Raytracing

By Bruce Brown

Vapourware has struck again!

The device which would have run Newtek's Lightwave 3D software at lightning speed, the Screamer, is no more. Apparently Newtek have opted for a PC rendering module instead. And the other speed device, that also appeared to have died, has surfaced once more.

Realsoft, the makers of Real 3D, have received a prototype of the WARP board by U.S. Cybernetics and are currently examining it for a WARP version of Real 3D.

The other major brands of Amiga graphics software are also supposed to be working on WARP versions as well. Although this verifies its existence, it doesn't mean the product will be available in any near future. Remember those Opal module things? According to the latest news they should be available by the time you are reading this. We can only cross our fingers and hope. Like they say, "Seeing is believing!"

One product that is vapour free is Imagine 3 from Impulse.

Registered owners of Imagine have received a newsletter describing some of the interesting new additions to the program.

Along with the news of Imagine was the feature of a 3D digitiser under $1000. Look out for an exploration of Imagine 3 in an upcoming issue of ACAR.

Now on with the tutorial.

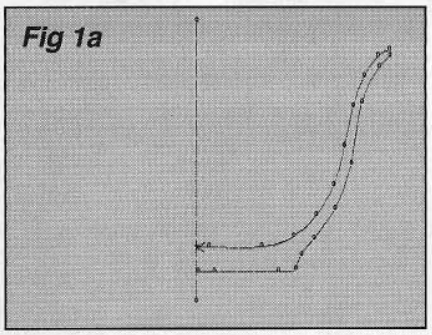
Modelling

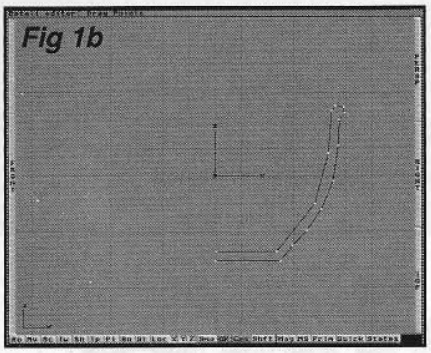
The most important part of 3D graphics is modelling. It is the basis for all other areas of 3D computer graphics.

When modelling, it's important to create your objects to your needs and only model what you need. If an object is to appear in your scene a long distance away from the camera, there is no need to give it object any great detail. If, however, the object will be viewed at close range, then it is best to give that object more detail, or at least the areas of the object in close view.

The amount of objects that can exist in a scene depends on the amount of RAM available. If the objects are less complex then the more can be added to the scene.

When modelling only what you need, it is possible to not include sections of objects that will not be visible - a house object viewed from the outside need not have any interior and if viewed from only one angle, it may not even need a back or sides. For this tutorial I





have created a simple scene which seems to be a favourite topic of Amiga artists - a household scene. The reason I have chosen this is because it can contain various modelling techniques.

There is more than one way to model almost every object. The trick is to find the simplest and most effective method. First of all, let's create a cup.

Cup Object

To create this object requires the feature called Sweep, Spin or Rotate. This is a handy way to create objects in a lathe fashion. Objects of this kind could also be made by creating the individual cross sections along the axis of the object, but the Sweep tool makes it much simpler. The process is to create an axis of rotation and a profile of the object to rotate around the axis.

Real3D: Click in the view window. Hit Amiga-X to get a view of the Front direction. Select the menu Create / Controls / Axis. Move the mouse pointer near the top centre of the view window and click once with the LMB (Left Mouse Button). Move the pointer to the bottom centre of the window and a line will appear. Make the line as vertical as possible and click LMB once. To aid in keeping a straight line select View / Grid / Snap to Grid and View / Grid / Visible if needed.

For the profile, select Create / Controls / B-Spline Curve. Move the pointer over the axis line and click LMB to begin the curve. Continue to add points like this in the shape of a cup section (Fig 1a). Finish the last point again on the axis. To undo a point use the Del key. To cancel the curve press space. Click the RMB to make the curve. Select Modify / Freeform / Move Knotpoint or Amiga-K to edit the curve (click on a point using the LMB and move it with the mouse).

Multi-Select the curve then the axis (In the select window click on "line.1" with the LMB, hold down the shift key and then click on "line"). Select Create / Freeform / Rotate. Enter 4 or above (4 is adequate), then click OK. Select the mesh and save it (Select Project / Objects / Save).

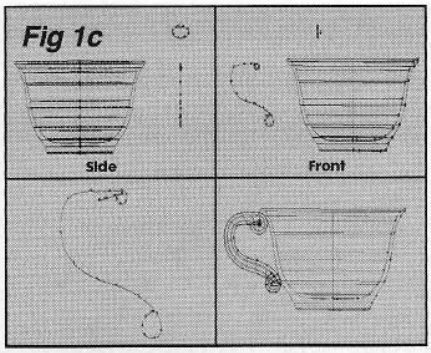
NOTE: Real3D uses splines instead of polygons. When using the B-Spline Curve to draw the profile, Create / Control / OpenLine could also have been used, but the resulting sweep would consist of polygons instead of a smooth B-Spline. With the Rotate value at 4, the cup would have four sides. Therefore a higher value would be needed to reduce faceting (flat surfaces). To eliminate the sharp angles along the edges and vertices, the polygon surface must be converted to a Phong surface. To do this select the finished mesh then select Modify / Freeform / Type and click on Phong. The result is a much less smooth surface than B-Spline, but a faster rendering object.

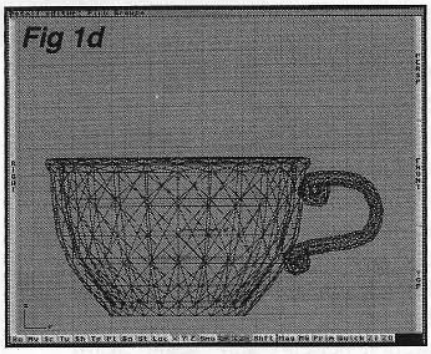
Imagine: Enter the Detail editor (Select menu Editor / Detail). With the RMB select the menu Functions / Add / Axis. Select Display / Grid on-off to toggle the grid on and select the bar on the left of the Front view to enlarge the view. With the mouse, move the crosshairs over the light dot on the axis (this is the select point of an object) and select it with the LMB (Left Mouse Button). It will now turn violet. Select Mode / Add Lines.

LMB click a point in line vertically with the axis, anywhere below it. Continue placing points in the shape of the cup profile (Fig 1b) until the last point lies on the vertical axis again. To change the shape of the curve select Mode / Drag Points and use the LMB. Select Mode / Pick Groups, the axis and curve are selected, and then select Object / Mold / Spin. Make spin angle 360, and sections 24. Click on Perform. Select Object / Attributes (or hit F7) and rename from axis to cup and hit OK. Save the object (Select Object / Save).

Now for the handle, using path extrude.

Real3D: Using Real3D, path extruding is not always required. For a simpler method select Create / Compound Tools / Circular Subdivided. First click the LMB and drag out a circle for the section size and click again. Now use the LMB to create points in the shape of the handle. When done click the RMB. For a path extruded handle use the following method. Select the axis and profile curve and select Modify / Structure / Delete, leaving only the cup mesh to clean things up. Hit Amiga-Y to get the side view. Hit Amiga-M several times to reduce the view size if needed. Select Create / Controls / B-Spline





Circle, with 8 subdivisions, click with the LMB and drag out a circle for the cross-section of the handle (Fig 1c). Use Amiga-K or any of the Modify / Linear commands to change the shape of the curve. Hit Amiga-X. Select Create / Controls / B-Spline Curve and draw, clicking with the LMB, a curve the shape of the handle.

Select the section curve and select Modify / Linear / Move and Modify / Linear / Rotate to position it at the start of the path curve and perpendicular to it (Fig 1c). Multi-select the section curve then the path curve. Select Create / Freeform / Orthogonal. Move the handle mesh to the correct position on the cup, resizing it if necessary. Multi-select the cup mesh and the handle mesh and select Create / Boolean / Or. With this level selected, select Modify / Properties / Name and rename to Cup. Save the object.

Imagine: Select menu Functions / Add / Axis. Select menu Pick-Select / Pick Select. Select Mode / Add Lines and in the Right view, draw points in the shape of a handle for the path. Select Mode / Pick Groups. On the row along the bottom of the screen, click on Prim (Primitive) and choose Disk. Make Sections lower, about 10, and choose OK. Select the menu Pick-Select / Pick Select. Select Mode / Pick Points. With the LMB in the Front view, click on the centre point to select it.

Select Functions / Delete and then select Mode / Pick Groups. In the Front view, resize the disk using the Scl or Sc (Scale) button on the bottom row and the XYZ buttons so it is the size of a handle cross-section. Hit the Spacebar when done. Use the Pick-Select menu to select the path object by choosing Select Next / Previous (Or Amiga N or B).

The objects will cycle; when the path is highlighted choose Pick Select. Hit F7 and change its name to PATH. Select the section object and select Object / Mold / Extrude. Click on Along Path, Align Y to Path, change Sections to a higher value (about 20), and click on Perform.

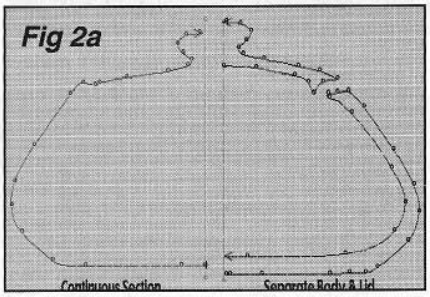
Use the Mov or Mv (Move) button to align the handle with the cup object (Fig 1d). Select the cup object and then, using the shift key, select the handle object (or with the cup selected, highlight the handle, hold the shift key, and use Pick Select). Select the menu Functions / Join. Save this object.

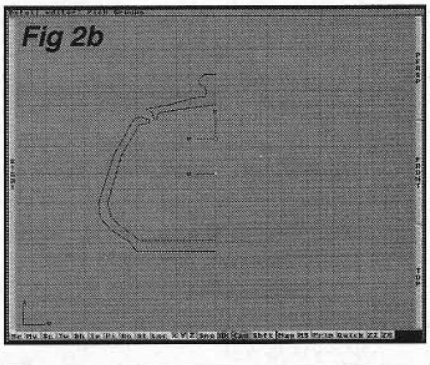
The Teapot

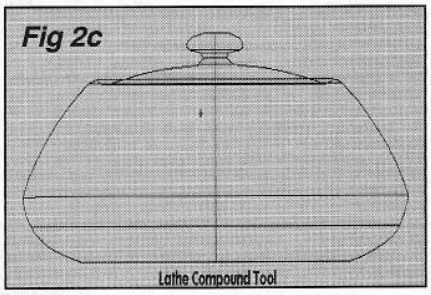
Use the previous methods for creating the body and the handle objects. For the body, use sweep sections similar to Figure 2a and 2b with the lid and body separate objects or part of the one curve.

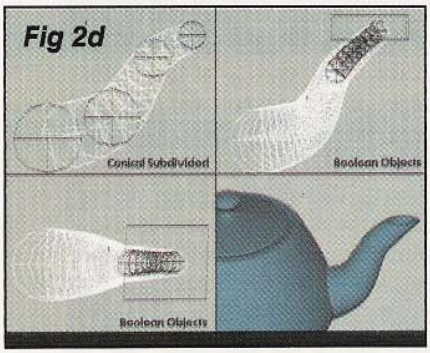
Imagine: Because the Teapot can be a closed object, the Lathe tool can be used instead of Rotate (Fig 2c). Select Create / Compound Tool / Lathe. The first thing the tool does is create an axis. As before, click at the top and bottom of the view to draw the axis. Click in the view, starting at the bottom edge of the teapot section, and drag out a line. Click with the LMB again to begin bending the line to the shape of the teapot. Click the LMB to paste it. Now continue using the LMB to create the shape of the teapot. If the curve appears to bend in the wrong direction, click the RMB and it will become straight. Move the line and click again with the LMB to drag and bend the curve in the opposite direction. To draw a straight line, click the RMB, move the line to its position and click the LMB twice to paste it. When done click the RMB twice.

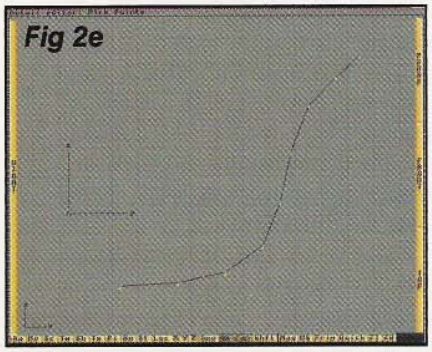
The spout can be made as a path extrude with a taper.











Real3D: Again, Real3D makes it easier. Select Create / Compound Tools / Conical Subdivided. This time, instead of defining the size of the circle section and then drawing a line for the handle as with the Circular Subdivided tool, only circles are drawn (Fig 2d). Each one represents the size and position of that section along the object. For the spout, a large circle should exist at the base, followed by progressively smaller circles in the shape of the object. Some Boolean operations are needed to complete it (Fig 2d). Select Create / Visible / Cube or use the Tool window and draw a cube (click LMB, drag out the shape, click again) that will cut the top off the spout (Fig 2d).

Use Create / Compound / Conical Sub to draw an object for the inside surface of the hollow spout. A short distance into the top is all that is needed. These objects will now be used to cut away the spout. Make sure the objects are in the right positions. Hit Amiga-Y or Z to check and move them. Multi- select the spout object then the cube. Select Create / Boolean / And Not. Multi-select the new level and the inside surface object and again use Create / Boolean / And Not. Click in the view window and use the arrow keys to change the view. Hit Amiga-S to bring up the settings window. Change Draft to Environment rendering. Select OK and press Amiga-R to render the object.

A more complex process using a Creation Method can be used. Make a Creation Method, Create / Structure / Method, Creation. Inside this method make the cross section object and add the tag SCRE l=1 to it (Select the object and use Modify / Properties / Tags). At the same level create a Control Curve Method. Inside this method create the path object and a shape curve. The shape curve defines the size and position of the created cross sections. This curve should be coplanar to the path and have an equal number of points.

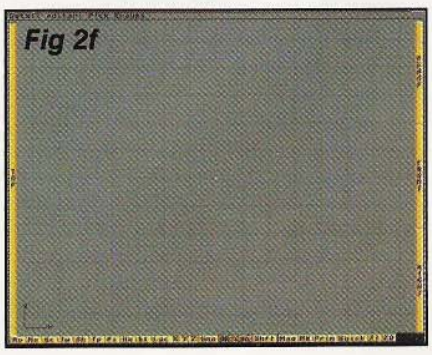
A horizontal shape curve will create cross sections of similar size. A shape curve on an incline or decline will create an increase or decrease in section size. To create the sections, open an Animation window, Amiga-A, and change the number of frames or Resolution to the number of points along the path curve. Hit play and the sections will be created.

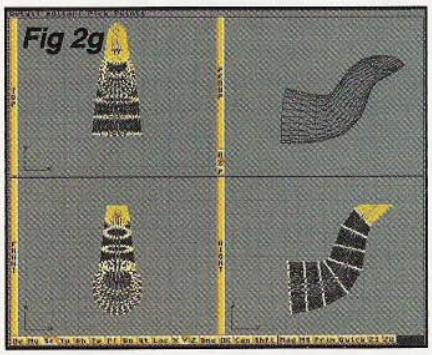
Once created, select the sections in order and use Create / Freeform / Build from Curves to make a surface. Save this mesh if required, then delete remaining structure. The sections could have been created one by one from scratch, then a surface created by using Build from Curves. This method will be used for the next object.

Imagine: Making the spout is similar to the handle. Select Functions / Add / Axis. Enter the Right view and select the axis. Use Mode / Add Lines to draw a path curve for the spout starting at the base (Fig 2e). Enter the Front view. Select Prim from the bottom panel. Choose Disk. Select the disk and use Mode / Pick Points. Select the centre point and use Functions / Delete. Select Mode / Pick Groups, and this is now the section to be extruded. For a more convincing spout, a section with an inner surface can be used (Fig 2f). Make an axis, add a two point line colinear and at a distance from the centre, sweep it 360 degrees at 24 sections, use Object / Transformation / Rotate and set X rotation to 90, turn Transform Axis Only on, and select Perform.

Select the path object and choose Object / Attributes or hit F7. Change the name of the object from axis to PATH. Select the section circle and scale it if necessary to the size of the section at the base of the spout. With the section still selected, choose Object / Mold / Extrude. Activate Along Path, Align Y to Path, Sections to 10, and X and Z scale to a 0.5 value. Select Perform when done. If the resultant spout appears to have overlapping sections, try again, reducing the number of sections and / or the size of the original cross-section. If the final extruded section is too large or small, likewise try again, changing the X and Z scale value.

To give the spout a finishing touch, select the spout and choose Mode / Pick Method / Lasso.





Select Mode / Pick Points and holding the shift key to multi-select, drag a lasso around the end section of the spout in the Right view. Click on the Rot or Ro and the X button on the bottom panel and rotate the section until it is horizontal. Hit space when done. Click on the Sc or Scl and the X and Z buttons to scale in the Y direction slightly longer. Click on Mov or Mv and move it into a suitable position (Fig 2g). The object should now look more like a teapot spout.

To make a spoon

Real3D: Save all work and select Project / Project / New. In the X view make two closed curves using Create / controls / B-Spline Curve with the same amount of points and same starting point (Fig 3a). Use Snap to Grid to help if necessary. The first curve represents the section for the scoop of the spoon and the second the section for the handle. This time using Snap to Grid and an appropriate grid size, duplicate the curves and lay them out in the Z view as in Figure 3a making sure the first and second curves lie in the same position. Likewise, the last and second last curves also lie in the same position.

The Macro functions in the Project menu can be used for repetitive actions like duplicate by selecting Record, performing an action, turning record off and repeating the current action. Spread Current can also be used to spread out the curves from a recorded Duplicate and Move action.

Turn Snap to Grid off. Using Modify / Linear / Extend, begin shaping the curves into a spoon shape (Fig 3a) by dragging a box with the LMB around the centre point of a curve once the function is selected, and then around one of the end points. Using the mouse, the curve can be stretched symmetrically to the desired length. Remember that the end curves consist of two instead of one, to ensure correct closure of the object.

Once a reasonable shape is achieved, begin creating the side shape of the spoon in the same manner (Fig 3a). The side shape will require the curves to also be moved vertically. For correct placement and size of curve sections the view can be zoomed (Amiga + and -) for greater detail. When all curves are finished, select them in order from one end to the other and use Create / Freeform / Build from Curves. Delete the curves and rename the resulting mesh to Spoon. If the mesh needs to be re-edited then select Modify / Freeform / Surf to Curves and the mesh will be converted to the original curves again.

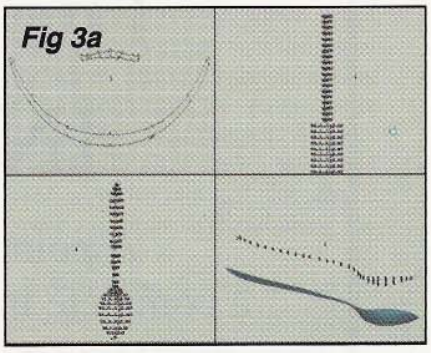
Imagine: For this object the Forms Editor can be used. This editor allows an object to be built out of changeable cross sections. Enter the Forms editor (Editor / Forms Editor). Select Object / New. Change "# of Points" to 16, cross-section to Y-Z, Y axis for section symmetry, and click OK. Enlarge the Top view and click on the RS / TS symmetry button on the bottom row. Select Display / Grid On / Off.

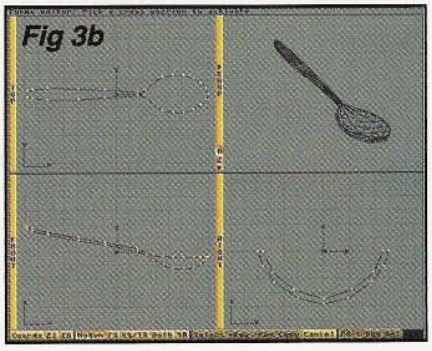
By clicking on points and dragging the mouse, the object can be edited.

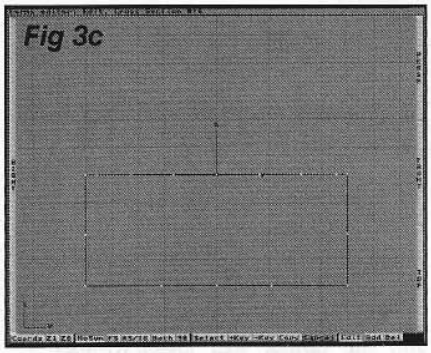
Hit ZI on the bottom panel to zoom in one step. Drag each set of end points (notice the auto symmetry) to each side of the view. Position them so both of the end points are together near intersecting grid lines. Choose Select / Drag box and drag a box around one pair of end points, selecting them.

Select Object / Snap to Grid and the points will jump to the nearest grid intersection. This ensures that both points are in the exact same position creating a closed end. Do the same for the other end. Choose Select / Click and begin moving the points in between to create the shape of a spoons top view (Fig 3b).

Select the Front view. Choose NoSym on the bottom panel and begin moving one row of points to create the shape of the spoon. When moving points on one side, the corresponding point of the same section changes colour and a line appears between them. When this line is vertical, the points of this section in one view are in line







with its points from the other view, so make sure it is as vertical as possible. Move the other row of points to make up the opposing side into the spoon shape (Fig 3b).

Enlarge the Right or Section view. Move the points as shown in Figure 3c. This is the section at the tip of the scoop and all other sections take their shape from this one, as it is the only key.

In this view, only the shape is important. Enlarge the Top view again and select +key on the bottom panel. Click on the far left set of cross-section points to make this a Key Cross-section.

Do the same to make a key for the section where the handle stops and the scoop begins as well as the next one along, towards the tip of the scoop. Now the area between the tip and the base of the handle as well as the base to the tip of the scoop uses this rectangular section.

The area between the base and tip of the scoop needs to be changed to a semi-circle shape. To do this select -key and delete the key at the tip of the scoop. Choose Select on the bottom panel and click on the key section that is next along from the scoop's base. In the Right view, change the shape like that of Figure 3b. For added detail, change the rectangular handle section to give a curved or shaped top surface.

This covers some of the most common modelling techniques - Sweeping, Extruding, and Building from Sections. These objects can now be placed, have materials added to them, and be rendered. Consult the manual if you have any difficulties, and try thinking up other ways to create the same objects, or use these techniques to create different objects.

Next time I will continue with object creation and how to set them up with attributes and get them ready for rendering.

Don't forget, if you're out there struggling I would be more than happy to help you out, and if you've got some great pictures to display, please send them in.

Send questions or pictures to:

Animation Column
PO Box 288,
Gladesville 2111

Or upload your images to (02) 816 4714.

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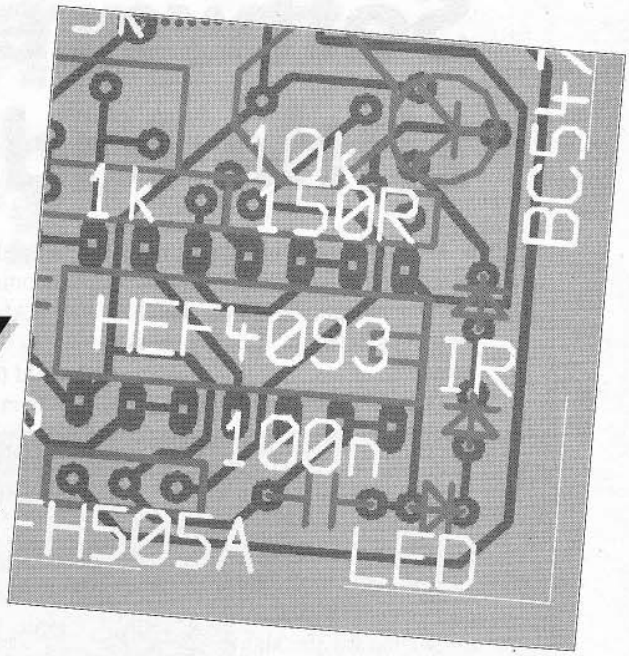
Infra-REXX



By Daniel Rutter

Interfacing Amigas in infrared remote control applications isn't new.

Video Director uses a little infrared transmitter that connects to your joystick port to allow users of consumer level VCRs to do computer controlled video editing. EE-100, a video editing system for Scala MM300, works in a similar fashion.

InfraREXX is different, though, in that it's not designed for any one application - it's just a general purpose Amiga to infrared interface that lets AREXX commands send infrared messages and infrared input control AREXX-aware programs.

As if that's not enough, InfraREXX is also freeware - you don't have to pay anybody anything if you don't want to.

Yeah, sure

OK, it's not quite that good. InfraREXX is useless without the appropriate hardware, which plugs into the joystick port.

The InfraREXX package includes a full parts list and circuit diagram, which you can build yourself or give to your favourite electronics whiz. Alternatively, the constructionally challenged can pay a lousy $US25 for the complete receive/transmit hardware built and ready to go, with partial deals available for the true cheapskates.

Since only Philips publish the details of their infrared controllers' signals, you also need to make use of the built-in example files and, if all else fails, resort to guesswork in order to identify the all-important bit rate of the signal.

Get the bit rate wrong and the signal is nonsense.

What's it good for?

InfraREXX can be used for all sorts of things. It's a poor man's LAN-C connector, letting you control your VCR from the computer.

But you can also use the VCR remote to control an animation player on the Amiga, provided the animation player takes AREXX input.

Have an AREXX server running on two machines, allowing them to communicate through thin air. Use a simple remote to reboot a demo machine with no keyboard.

Since you can tie any AREXX command to any infrared event, the possibilities are endless.

The InfraREXX package is available from Prime Artifax on (02) 879 7455, and it contains all the data you need to build your own hardware.

If you want to buy the box pre-fabricated, you'll have to send your $US25 to the author, Leon Woestenberg, in the Netherlands. Buying the hardware also gets you automatic registration (otherwise $US10), which is good for free software updates; an unlimited number by Internet or Fido netmail or two by regular post.

But you don't need to register if you don't want to; updates will filter through anyway, since the software is still free.

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Software for Little Kids

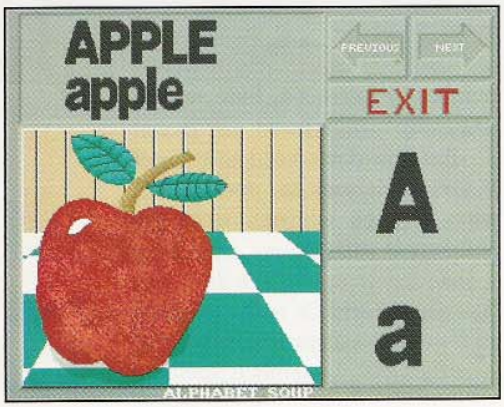
Although there is a large range of educational software available for the Amiga, one area that has been neglected is the 3 - 6 age group.

Young children enjoy using the computer as much as older children, but find most of the games too difficult or stressful. Admittedly, this is probably not a good area for marketing purposes, as it's difficult to make software that combines ease of use and allowance for the shorter attention span of younger children. This month I will be reviewing four titles recently released by Rush Software that have been designed to fill the gap.

Alphabet Soup

Alphabet Soup was designed for infants to allow them to learn alphabet recognition in a fun environment.

Each letter of the alphabet is represented in upper and lower case along with a picture, with the Amiga's speech used to say each letter and the word for the picture. The program comes on two floppy disks, and is hard disk installable. It can be run from an Amiga with a single floppy drive, but two are recommended.



Alphabet Soup's interface is very easy to use, requiring the child to click on any section of the screen to hear a sound, the word or the letter spoken. The pictures are colourful and there are some amusing sound effects.

Amanda's Alphabet

This is a jigsaw puzzle program revolving around the letters of the alphabet. A picture is broken up into nine pieces and has to be reassembled.

The pictures are colourful and sound is also used to enhance the jigsaw. This program teaches hand-eye coordination as well as problem solving skills.

Sequence Fun

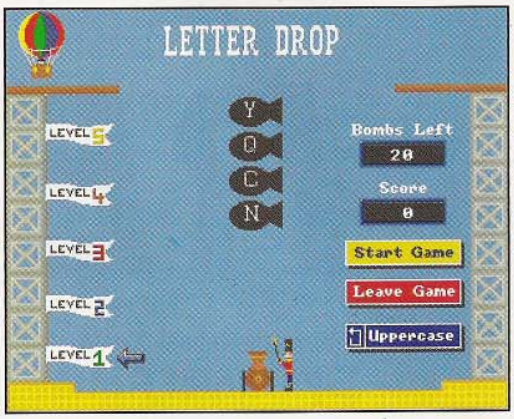
Sequence Fun allows children to learn problem solving skills by solving pictorial representations of a process.

For example, one sequence on the disk shows a ball rolling down a slope. The sequence is in the wrong order, and must be placed in the correct order.

The program also has a Sequence Creator so that parents and teachers can create their own sequences. The program is very easy to use, has plenty of colour and some sound and speech is used.

Letter Drop

Letter Drop allows young children to learn alphabet and keyboard recognition skills in a fun environment. The program



supports both upper and lower case letters, with five levels of difficulty.

The object of the game is to save ToyTown from the letter bomber who is trying to cover the town in letters. The child must press the letter on the keyboard that matches the letter being dropped.

All of the above programs are hard disk installable. The software is enhanced by the use of bright colours and sound effects. They are very easy to use and ideally suited for younger children.

No frills pricing

The major advantage of this sofware is the fact that Rush Software have released these titles as NO FRILLS SOFTWARE. The programs come in a plastic sleeve with the manual on disk.

The price for each title is $29.00, and they can be ordered directly from Rush Software on (042) 342107.

❑

By Greg Abernethy

CanDo

By
Greg
Abernethy

Database Variable Problems

Coming to grips with the databasing features of CanDo is one of the biggest problem areas when designing an application - so this issue I'll explain how to use the various features correctly.

Naming your variables

When designing a database, I find it best to sit down and decide exactly what fields are going to be used, and what function each will perform.

For example, if I wanted to design a database to contain information on a group of people for a client list for mailing purposes I would set it up as;

Client[].Firstname
Client[].Surname
Client[].Street
Client[].City
Client[].Postcode

This gives me a clear idea of what will be contained in each field when it comes time to manipulate the data. I select a database name that is relevant to the application, (Client), and then use a descriptive title for each field.

Next, I set up the fields on screen and give them the field names I have set up - for example ".Firstname". Then I add some buttons to allow the user to cycle backwards and forwards through the database, add or delete records and print the database. I have covered creating the buttons and the scripts in earlier tutorials.

You should now have a screen displaying your fields, ready to receive data.

Here are some pointers for designing an intuitive, foolproof database.

Label each field with a descriptive title using a text field next to it, or by using the PrintText command.

Always set the cursor in the first field when the program loads. Also, each time the RETURN key is pressed while in a field, move the cursor to the next field or return it to the first field if it is in the last field.

This looks much more professional - and makes it much easier to enter data - than requiring the user to click in each field before entering data.

Always use the GETDBOBJECTS command to get the information for the current record before displaying the next record, adding a new record or when saving the database. This is required to update the information for that record.

Never use record 0 in a database, as it causes confusion when determining the number of records. The NumberOf ArrayEntries command will show you have x records, but the number of the last record will actually be x - 1. This can cause problems when displaying records selected from a list.

On the subject of lists, a document that contains a list of the names in the database as an alternative to the NEXT or PREVIOUS buttons is much more convenient for fast selection of distant records.

Screen open error with CanDo 2.51

Recently I designed an application using CanDo V2.51 and was testing it on a friend's Amiga 1200. I was getting continual "Unable to Open Screen. Insufficient CHIP RAM" errors, even though the A1200 had 6Mb of RAM. Luckily, I received some information from Inovatronics that solved the problem, and can solve it for you too:

1) Verify that the two files screenmode.prefs and overscan.prefs are in your env:sys directory. You can check this by opening up a Shell and typing list env:sys.

2) If these files do not exist, run the ScreenMode program in your Prefs directory, and select Save. Next, do the same thing with the Overscan program in your Prefs directory. This will create the necessary preference files, keeping the default preferences you have been using so far.

3) Reboot your machine to have the changes take effect.

Goodbye until next month!

❑

C64

By
Owen James

Peeks and Pokes

You may be surprised to discover that the C64's operating system, while seemingly etched in stone, isn't unchangeable. True, it is stored in Read Only Memory, which by its very nature cannot be edited, but this limitation can be overcome.

What's the point of all this? If you've ever wished the default device was a disk drive rather than datasette, or you're sick of the usual READY prompt, or you'd like to make GET a more useful function, read on.

To make this work, we're going to switch out ROM altogether, and replace it with our own modified version. Firstly we'll need to copy ROM into RAM.

This is no big secret. It works on the same principle you may have used to define your own character set. Type this: (it'll take a while to complete)

```
10 FOR J=40960 TO 49151
20 POKE J, PEEK(J) : NEXT J
30 FOR J=57344 TO 65535
40 POKE J, PEEK(J) : NEXT J
50 POKE 1, PEEK(1) AND 253
```

It may appear that this program is doing nothing more than poking values that were already in memory. Not so - if you look closely you'll see that it's trying to poke into ROM.

When you Poke into ROM, the values are actually stored in 'hidden' or 'shadow' RAM. This RAM isn't accessed until you change the C64's memory maps.

Lines 10 through to 40 copy BASIC ROM and KERNAL ROM into shadow RAM locations. Line 50 changes the C64's memory map so that ROM is switched out and the extra RAM (with the ROM code copied into it) is switched in. Now that the 64's intelligence is in RAM, you can go about changing it.

Since most of us are disk-based users, we might like the drive as the default storage device. POKE 57818,8 and you can forget having to type a ',8' on the end of file names.

And getting rid of a nuisance question mark? It's as simple as typing POKE 43846,32. Now when you use INPUT as part of your BASIC programs you'll see a space instead of the question mark. Some other question mark replacements you might like to try are a colon (change the 32 to 58), a fullstop (39), or even a less-than sign (62).

Any character could be used instead. Colour changes for user responses are also possible; just look up their ASCII codes in the back of the C64 manual.

The GET command normally requires more than one step to make it productive. Usually you have to type GET A$: IF A$="" THEN and so on. Let's make it a little more simple. Just type POKE 61765,252 and GET will halt until a key is pressed.

The above routine for copying ROM into RAM is a little slow. This is because it's a BASIC program, and it's moving memory a single piece at a time. Here is a routine for moving BASIC ROM into RAM in a little over one second.

```
10 POKE 88,0 : POKE 89,192
20 POKE 90,0 : POKE 91,192
30 POKE 95,0 : POKE 96,160
40 SYS 41919 : POKE1,54
```

Line 10 stores the low and high bytes for #49152 (the end address of the transfer plus one). We get 192 by dividing 49152 by 256 to get the high byte. Since there's no remainder in the calculation, the low byte becomes zero.

Line 20 stores the low and high bytes for the destination address, which is again #49152 to access the hidden RAM.

Line 30 is the low and high byte for the source start address (40960/256=160). And line 40 does the quick transfer and switches out BASIC ROM. Note that this is just moving BASIC ROM, not the Kernal ROM.

You can modify the above routine slightly to move this also, just remember to POKE 1, PEEK(1) AND 253 to switch out both ROMs.

Changing the "READY." prompt is a fairly useless exercise, but I'll cover it as an example. "READY." is stored from 41848 and can be changed by simply poking new character values. Again, just use the ASCII chart

from the back of your manual.

How about using punctuation with INPUT? Simply POKE 44140,0:POKE 44144,0. Now try using colons, semi-colons, quotes, or anything you like when prompted for an input. They'll be stored just like any other character.

Normally data is separated using a comma (DATA 57,43, 66,...). The trouble is that the number keys are right at the top of the keyboard, and the comma key right at the bottom, making data entry slow.

The simple solution is to change the data separator from a comma to a more easily accessible key, like the addition or subtraction key. 44183 is the all-important address, so a POKE 44183,45 will allow a minus sign to be used in place of a comma.

Have you ever tried to get the ASCII value of a null string? If you have then you would have received an ILLEGAL QUANTITY ERROR in reply. POKE 46991,5 to fix this.

And why not have some fun by editing the C64's error messages? Use a MC monitor to hunt through memory to find the position of the text. Just to get you started, the address for the word SYNTAX is from 41525. Change it to a "HUH?" error or whatever you like. How about an "IDIOT AT KEYBOARD ERROR"?

MAIL

Mark Thomas of Narellan Gardens NSW writes:

Dear Owen, Your column is brilliant! I've been reading ACAR for a few months now, and really enjoy it, especially the C64 Column. I have a few questions for you.

1. I have a GEOS utility called Graphics Grabber on Deskpack 1. However, whenever I try to grab a graphic from my Print Shop and Print Master disks, a dialogue box tells me to insert the disk Graphics Grabber was originally run on. When I do there is a bit of head bump, and the same dialogue box appears. Help!

2. Is the Shoot 'em Up Construction Kit shareware?

3. This is probably out of your area, but there is a fantastic C64 magazine in England called Commodore Format.

However, I can't find it in any newsagents. Do you know of a place in Sydney's south west where I can get it?

4. Does anyone out there have a solution to the game Magicland Dizzy?

1. Your drive's 'head bump' and the reappearance of the dialogue box leads me to think there may be a problem with the disk.

The disk you are replacing is not being recognised as the disk it is looking for.

This may be because of an error on the disk, which is a common cause of the scratching and groaning noises sometimes heard from the disk drive, or it may be that the exact disk it's looking for is not being replaced.

Is your copy of Deskpack an original?

Do you have a backup copy of it? It may be wise to create a disk containing a copy of just the GEOS Desktop, Graphics Grabber and, if possible, some of the graphic files you wish to convert. Having all of these on the one disk should dispense with the need for disk swapping altogether.

2. Although hard to come by these days, the Shoot 'em Up Construction Kit, or SEUCK as it is lovingly known, is still a commercial program. To get it, try contacting Code One on (047) 57 3982.

3. At the time of writing, Commodore Format is still available. Ask your newsagent if he would mind getting a copy in for you. Even if it's not a regular line, they're usually happy to get magazines in by request. I don't know of anywhere in Sydney's south west carrying it, but several newsagents in the Blue Mountains west of Sydney keep it in stock.

4. Any reader with a solution to Magicland Dizzy should write to Mark direct at 6 Cedarwattle Place, Narellan Gardens NSW 2567.

That just about wraps up this edition of The C64 Column. As always, I welcome questions, suggestions, and other feedback. Write to me at::

The C64 Colomn
PO Box 288 Gladesville,
NSW 2111.

Modem users can also reach me at Fido 3:713/888.999.

❑

Next month: FULL REVIEW of NEWTEK's LightWave 3D Don't miss it.

Power Amiga DOS

By Daniel Rutter

There are two basic ways for you to talk to a computer at present. Command lines and graphical user interfaces. The Amiga has both built in as a matter of course, in the form of the CLI/Shell and the Workbench.

Graphical user interfaces are great things. Sure, they need more computing power than command lines, sure, they tempt you to waste your life and your computer's storage space making them unnecessarily gorgeous (I'm considering starting up Magic Workbench Users' Anonymous, but I need an acronym that doesn't sound like a smooch), sure, certain of the old guard view them as at once heretical and amusing. Disregarding all that, the graphical user interface is a friendly, accessible, efficient way to use a computer without learning a million cryptic commands.

But this doesn't mean they're good at everything. Some computer users need more power (Tim Allen fans may now grunt. Thank you), and there are things a GUI just can't do.

Let's say, for instance, that you have a directory full of pictures - a hundred or so. This directory is on a hard drive called Work, and it's inventively called Pics. For some very good reason, you want to copy all the pictures whose names begin with G or V to a directory called Zog on a drive called Spud.

In order to do this from the Workbench, the fastest way is to open the window for Work, then the one for Pics, then select View By Name, then box-select all the G files, then, holding Shift, manipulate the window until the V files are visible, box-select them, and drag the whole thing to the Zog icon in the Spud window, which you have probably forgotten to open. Opening the drive window will, of course, deselect all those files. Hurrah.

Personally, I'd do it by typing:

work:pics
cp g v* spud:zog*

This is not poetic, I grant you, but I'm halfway through my traditional computer-time Toblerone while you're still squinting at the pretty icons.

It gets worse

Want an even more irritating example? What if you wanted to copy all the files that ENDED in G or V? I'd be smirking at you for a good few minutes then, and after you realised you'd forgotten to open the Spud window and I laughed heartily you'd lose a few more minutes clubbing me to death.

Point taken? Good.

This column's going to be dedicated to the power DOS user; the kind of person whose computing life involves solving problems like this, or, more likely, being baffled by them. I'm not going to be super-technical, I'm not going to tell you how to use your Amiga blindfolded, I'm not going to teach you to write Galaga as a shell script. What I am going to be on about every month is how to do genuinely useful things with the shell, and the programs that can help you do them.

I'll mainly be talking about Workbench 2 and above. It's been around for more than four years now, which in computer years is about 100. If you don't have it and do anything other than play (old!) games, get it. Advertisement concludes.

I will also not be spoonfeeding my readers. I assume you're reasonably competent with DOS - that you know how directories work, can handle the basic file manipulation commands and have a passing familiarity with wildcards. Workbench 2 and higher have rather good manuals, which deal with this stuff. Hey, nobody said it'd be easy.

Super-Shell!

My first topic this month was hinted at by the couple of commands above. "Cp" is not a standard AmigaDOS command. And AmigaDOS does not by default accept the IBM-ish "*" as a substitute for its charmingly quaint "#?" match-anything wildcard. You could make an alias for the first and run a simple patch program for the second, but you needn't, if you're using CShell.

CShell, or Csh to its good friends and lowly supplicants, began life on monster UNIX systems and was ported to lesser machines like Amigas and IBMs when they became meaty enough to handle a shell program 123k in size, with 368k of support files. Csh can do an awful lot of things, and I'll be mentioning its more interesting and accessible features in this column as the months roll by.

Basic baubles

Some of Csh's features I use all the time. By far the most useful, although not a feature unique to Csh, is command completion. Type the first few letters of the name of the "very_ annoying_ filename.program" and hit Tab, and Csh will scan your current directory and pop up

a matching filename. If there are several, just keep hitting Tab until one matches.

Naturally, there's more. Say you're in a directory with a lot of similar filenames - say a load of animation frames that only differ in the last couple of characters. These animation frames, naturally, are called

BigFatAnimByJoeBlowFromWollongong.xx

and there are 99 of them.

You want to view number 50.

If you type "bi" and then Tab, you'll have the amusing hobby of pressing Tab more than four dozen more times. Whoopee.

But if you type "bi" and then Shift-Tab, Csh will look at the directory and automatically fill in all the characters that a bunch of files, starting with bi, have in common. So you'll get everything up to and including the dot before the frame name, and you have to hit only six keys to get to the file you're after.

What if you wanted to view ALL of these files? Easy. To insert every single file name into your command line, sequentially, hit Escape-Tab. For this example this wouldn't work, since the stupid long filenames would make the command line far too long for AmigaDOS to understand, but it's the thought that counts.

In this case, there's still a way to view all those pesky files. Using the Foreach command (which I habitually abbreviate to "for"; Csh's abbreviation feature is on by default and a boon to the lazy) you can order Csh to generate a whole load of command lines from a template you supply. Here's how it works. Typing:

for i (bigfat*) view $i

tells Csh to take the variable $i (this can be any letter you like, but using i links you with a great programming tradition and makes you feel more professional), and thwack into it each filename that matches the string "bigfat*", one after another. For each instance, Csh is to run the program "view" (which is whatever viewer you like), and then feed it the current filename. When the viewer quits, Csh goes on to the next matching name.

You can make this a bit more complex, too. If your viewer outputs a pile of annoying text which scrolls in the shell window and slows things down, then

for i (bigfat*) view >nil: $i

is in order - output from view goes to the nil: device, also known as the bit bucket, from which no data ever returns. Now, however, you've got no idea which picture you're up to. If all the animation files look very similar to the ones on either side, how are you to tell which one to do whatever you want to do to it, to? Try this:

for -v i (bigfat*) view >nil: $i

The -v, or Verbose, flag tells foreach to say "foreach:" and then the filename every time it goes to a new file. Verbose by foreach's standards, yes, but succinct compared to the multi-line status reports generated by programs like the brilliant FastGIF.

Find those files!

On another subject, Csh includes a nifty "whereis" command, which does a simple high speed search for a file pattern. If you know there's a text file called "badjoke.txt" somewhere on the abovementioned Spud drive, typing

whereis badjoke.txt spud:

or

whereis bad spud:

or

whereis *joke* spud

will shortly tell you where. If you've got abbreviation turned on, typing as little as "wh" will do for the whereis command.

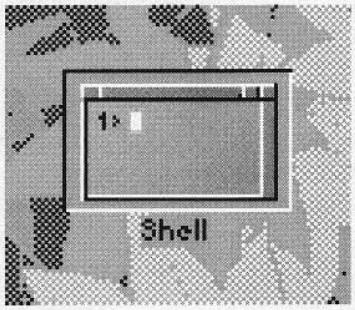
A full featured Intuition-based AppWin- dow equipped multiple-menued file finder it ain't, but I can only repeat; by the time the pretty boys have finished adjusting the wing mirror on their brand new MX-6, us supercharged V8 Mini Cooper S drivers are in the next postcode. The ride's not as comfy and the vehicle's not as sexy, but you certainly get there sooner!

In closing, and with some trepidation, I invite all you folk out there with curly DOS problems to send 'em in.

If there's some particular feat of command line gymnastics that you feel must be possible but you're danged if you know how, jot it down and send it to me at Amiga Review, PO Box 288, Gladesville 2111.

If I know the answer I'll tell you, if I don't I may throw the question open but will probably burn your letter, and if you include a stamped self-addressed envelope I promise to steam off the stamp and use it myself. Don't just sit there! Get writing!

❑



AMOS

By
Wayne
Johnson

Intuition Gadgets

As explained from the last issue, I want to take a look at design issues for customising graphics or even disguising graphics to make a non-Intuition BASIC program look and behave much like part of the operating system.

Lets examine a couple of Intuition gadgets used on the Workbench and see how we can use them in our own programs to make them look much smarter. As you know, you can use the Interface Sub-Language to accept IFF pictures with gadget definitions on them, which are converted to an image bank and then included in your programs.

There is no reason why you can't have an IFF picture containing Workbench gadgets and alter them slightly to fit in the dimensions required by Pro's Interface namely, x pixels divisible by 8 (eg. 8 pixels, 16 pixels, 24 pixels, etc.), and any pixel amount for y.

There are two ways to get a copy of the Workbench gadgets. One is to use a Public Domain grabber program like GrabIFF or 3rd-Day. Both are excellent and the ones that I use regularly. You can contact Prime Artifax for either of these. They will let you grab a copy of any screen and so allow you to grab a copy of some gadgets that are on the current Workbench screen.

If you are going to do this, it might be wise to open a window before hand. This way you will have most of the required gadgets in the window that you will want to use. The second way is to paint them yourself. Don't groan, they're not that complicated. See Figure 1 for a blow-up of the new altered gadgets.

As you can see from the CLOSE_GADGET on the left of Figure 1, Intuition normally displays this gadget as 19 pixels wide. Unfortunately, 19 does not lie on the 8 pixel boundary so we must change it a little to make it fit for AMOS.

We have two choices; either enlarge the gadget to 24 pixels wide or reduce it to 16. If we choose 24 pixels, the gadget will look much too large, so we'll go for 16 pixels because it's a little closer to 19. The same goes for the BACK_GADGET. Notice the final altered gadgets on the right in Figure 1.

Use the Interface bank maker to turn the resulting IFF image into a bank for including in your AMOS code.

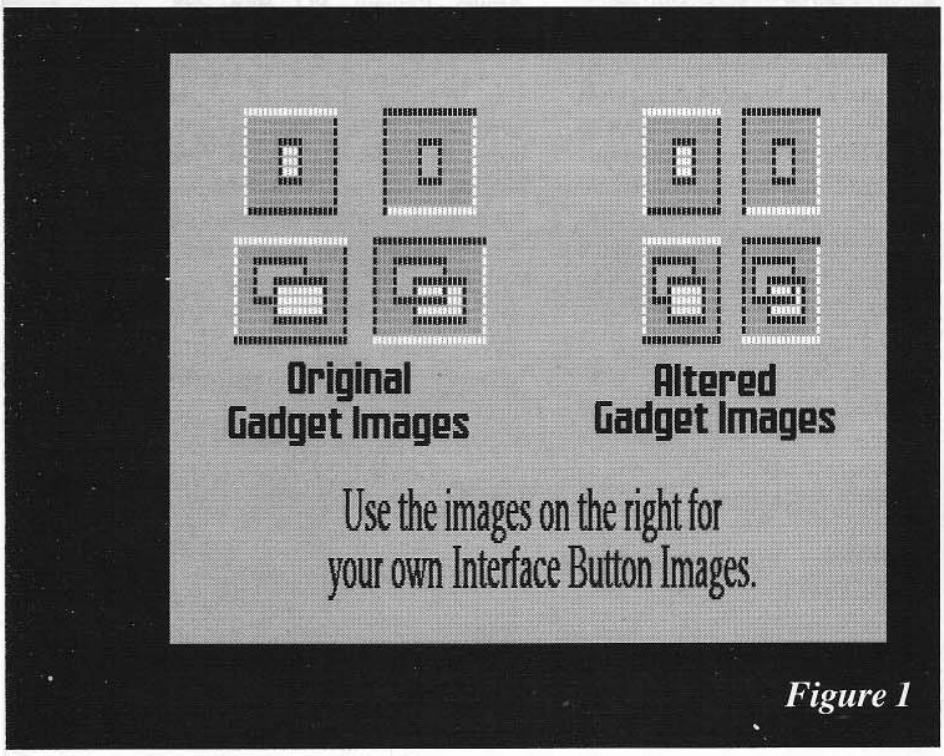


Figure 1

Disk Loading Games

Writing a game in BASIC certainly does lose a lot of respect from its users when it's as plain as day that BASIC was used, even if the game is very slick. These people need to spend a little more time with PCs.

To overcome this, it's a good idea to disguise your programs and make them look as professional as possible.

One technique I mentioned just before is good for getting the Workbench look for utilities, but games require a little more thought, especially in the area of loading.

Loading Screens

For example, I have noticed games in the past that have clearly been written in AMOS because of the disgusting orange screen and yellow flashing cursor present while the disk loads. As time went

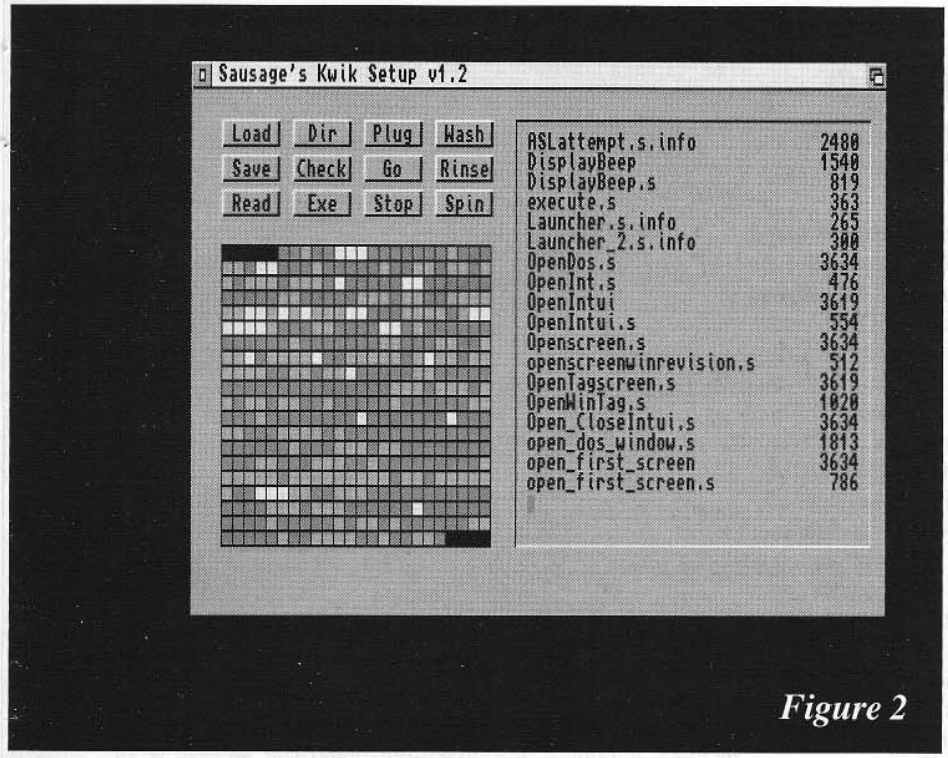


Figure 2

on, programmers became more careful of this and presented a blank screen with LOADING displayed between loading sections.

However, this was usually a low res Topaz font in some ghastly colour (like Figure 3), that obviously seemed appealing to the programmer at the time. Many lashings to those people.

A better idea for a Loading screen is to make it hires, 1 bitplane deep displaying a loading graphic in a nice font like Figure 4. This way, the game will look more polished rather than slapping a lousy low res bit of text in between sections.

Another common habit I found from disks that were sent to me, was the initial startup when the disk was inserted. Most off the shelf games will send the screen completely black as soon as the Amiga kicks the disk in.

There's no magic in doing this yourself. Assembly programmers can alter the bootblock to blank out the display at bootup time, but for AMOS programmers, the secret is simply in changing the system colours.

Preferences are stored on a floppy disk. If you have the Preferences program (best to use the old 1.3 Preferences program even on WB2.0) temporarily stored on your game disk, you can alter the colours by using the following procedure:

1. Make the disk bootable using the INSTALL command in DOS.

2. Boot the disk and start Preferences.

3. Change each colour to black before clicking on SAVE. Now, as you can imagine, if everything is black you're going to have a hard time even finding the SAVE gadget.

This is true and the only way to really do this with success is to change only three of the Workbench colours to black leaving the last for a moment. Take the pointer to the place where your colour slider will end up once you have changed the last colour to black. From here, hold the Left Shift and Left Amiga key and the cursor keys to measure how many keypresses it will take to move the pointer onto the save gadget once everything is pitch black.

The result, when you boot up your game disk, is that the screen will stay pitch black until your game loads and starts. Another thing; when compiling your programs, do not select SENDPROGTOFRONTUPONBOOTING.

This will cause the gross orange screen to flick momentarily before AMOS can set the screen up in time. Instead, program a slight delay at the start of your code (about 3 VBLS) and then bring your game to the front yourself.

Any suggestions? Contact me on Amiga Connection (02) 970 6444, File Server (02) 876 8965 or Midnight Caller (02) 869 0223.

❑

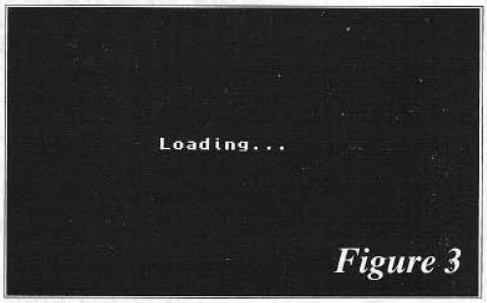


Figure 3

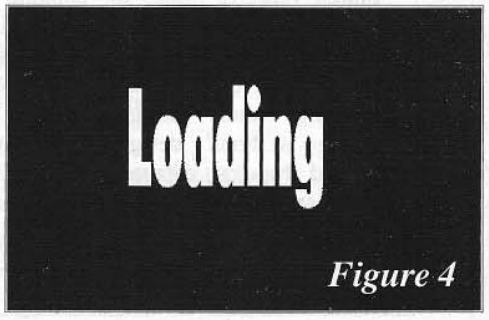


Figure 4

CD32 Offers Home Banking in USA

VanCity Savings Credit Union, a major Canadian financial institution, made it's first public announcement of it's revolutionary new home-based banking system. Named "TeleView", this system is aimed at the average VanCity member, and requires no special computer knowledge to oper- ate.

The system uses the Amiga CD32 CDROM console as it's host, as well as custom GUI application software and a custom external modem developed by TVi. The system is operated by a wireless infra-red remote control unit (or the included CD32 game controller) and allows users to do a variety of common financial transactions, inclu- ding bill payment, transfer of funds between accounts, up-to-the minute online account statements and balances, and interest and investment rate queries.Taurus Ventures Incor- porated ("TVi") is currently developing an easy-to-use home-based banking system for VanCity Savings Credit Union, the second fastest growing credit union in Canada.

Taurus Ventures brings to it's projects a combined experience of 30 man-years in the areas of software engineering and design, authoring systems design, embedded systems, database management systems development, games coding and porting, graphics and animation production, and project management.

TVi is based in Burnaby, B.C. Canada, often referred to as "Silicon Valley North" due to the large number of computer hardware and software firms that the area has attracted. TVi intends to be the preeminent producer of interactive GUI-based applications. TVi offers a full-service approach to development, working closely with the client from proof-of-concept demonstration system and initial design specification to final production, manu- facturing, support and dis- tribution.

TVi is currently developing an easy-to-use home banking system for VanCity Savings Credit Union, a major Canadian credit union. "TeleView", as this project has come to be known, is aimed at the the average credit union member and requires no special knowledge to operate. TeleView employs the AMIGA CD32 game console as it's host, combined with custom software and hardware, and offers the credit union member access to their banking functions via a graphical user interface. The software resides on a CDROM, and uses the TVi Modem to call the financial institution.

The AMIGA CD32 is an excellent delivery system for applications like TeleView due to its amazing versatility. The CD32 achieves its versatility due mainly to its custom chipset and the AmigaDOS true multi-tasking operating system. The CD32 can play Audio CDs, CD32 or CDTV entertainment software, and with an optional Full-Motion Video cartridge, it can play MPEG movies. When connected to the TVi Modem and a standard phone line, the AMIGA CD32 becomes a versatile computer appliance capable of doing telecommunications, home-banking, homeshopp- ing, multi-player gaming or any other use that requires information to be sent or received from a remote site. The TVi Modem also includes a built-in infra-red receiver for using wireless controllers.

Taurus Ventures is a registered commercial hardware and software developer for Commodore Business Machines, and uses AMIGA computers in virtually all aspects of company operations.

Our close relationship with Commodore has grown even stronger due to Commodore Canada's Western Regional Management sharing the same address. This ensures that TVi stays abreast of all the latest AMIGA technology and developer news. Com- modore Canada has expres- sed the utmost confidence in the success of both the TeleView software and the TVi Modem.

The TeleView software was developed using the "C" language and TVi's proprietary software libraries, "HKLib" and "MediaLib" which allow their development team to rapidly create any variety of new application for the CD32 or AMIGA computer platforms. TVi plans in the future to port their libraries for use on PC, Mac, CD-i, or 3DO platforms. giving Taurus Ventures a much stronger market advantage.

The TVi Modem/InfraRed Receiver was developed by TVi's hardware engineering team, and to the best of their knowledge is unique in the AMIGA CD32 community. The TVi Modem/IR device has been granted "Commodore Approved Product" status by Commodore International.The Modem is an external 2400 baud Hayes compatible device, which attaches to the CD32's auxilliary/keyboard port. It is small, light, and compact and is styled to complement the CD32's case design.

The InfraRed Receiver will accept signals from the original CDTV Remote Controller or can be adjusted to accept signals from a variety of third party remote control units. The TVi Modem/IR unit has a keyboard pass-through to accept text input from a standard AMIGA keyboard while the modem is in use.

Contact Information: For more information about Taurus Ventures or any of it's products, please contact us at: Taurus Ventures Inc. (TVi) Suite 400 - 6400 Roberts St. Burnaby, B.C. V5G TC9 Phone: (604) 298-5657 Fax: (604) 298-5658

Imagine Objects

Five Disks • Imagine Required

Disk One : Enterprise, Chess peices, A3000
Disk Two: Amiga 3000, very detailed Amiga 1000., with key caps
Disk Three: Alien drop ship, Australia, Bed, Chair, Couch, Electric Guitar, Frog, Person, Skull, Toothpaste
Disk Four: Train, various Trees
Disk Five: Battle Tech, Tonka Truck, V-Tech (this disks objects are compressed with LHARC - included, and may require lots of memory to load)

Entire set $19.95
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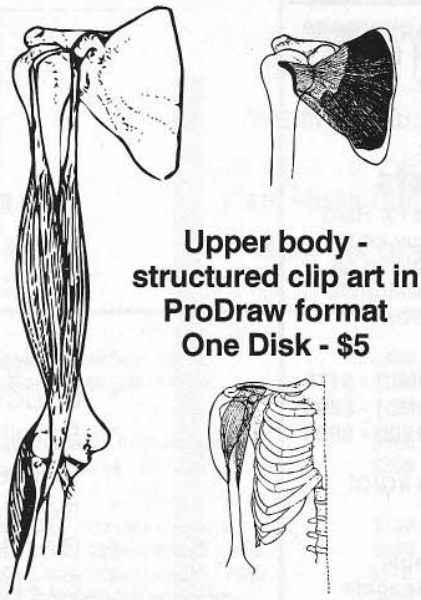

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We also have a number of other new strategy classic games, including Yahtzee.

Author	Title	Publisher	Yr publ.
Adams, Douglas	Dirk Gently's Holistic Detective Agency	Pan Books Ltd.	1988
Adams, Douglas	Hitchhikers Guide to The Galaxy, The	Guild Publishing	1986
Baum, L. Frank	Wizard of Oz, The	Mandarin Publishers Limited	1993
Beresford, Dick	Uncensored Boy's Own, The	Macdonald & Co (Publishers) Ltd	1990
Boardman, Tom Jr	Science Fiction Stories	Octopus Books Limited	1983
Burnet, Frances Hodgson	Secret Garden, The	Octopus Books Limited	1983
Carroll, Lewis	Alice's Adventures In Wonderland	Octopus Books Limited	1981
Clarke, Arthur C.	2010: Odessey Two	Granada Publishing Limited	1982
Clarke, Arthur C.	2061: Odessey Three	Grafton Books	1989
Crichton, Michael	Jurassic Park	Random House	1991
Davis, Jim	Garfield: Here's Looking at You	Ravette Books Limited	1985
Davis, Jim	Garfield: Life And Lasagne	Ravette Books Limited	1986
Davis, Jim	Garfield: We Love You Too	Ravette Books Limited	1985
Doyle, Sir Arthur Conan	Lost World, The	Heinlein Publishing	1986

Database II

A collection of simple to use database programs for maintaining all sorts of lists - from catalogues to clients. Flexer - pictured above - is one of the new programs included on release II of the database compilation. Flexer's form-like display makes it ideal for beginners, and powerful enough for advanced users.

Workbench 2.x and 3.0

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SuperDark 2.1 NEW

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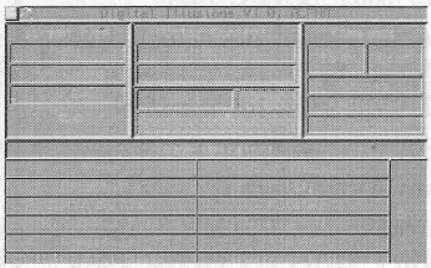
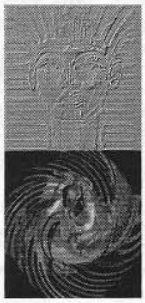


Image Processing



Digital Illusions is fully functional and allows impress image processing and animation functions to be executed on IFF images. Powerful AdPro style interface. One disk. (HAMLAB demo inc. too)

Education #5

We now have a total of six disks of education software. Mem (a memory game - picture above) is from education #5 - one of five programs on the disk. Others include Maths Adventure, Division, Counting and Lemonade. Education 6 has an excellent puzzle game called OXYD.

NEW NEW NEW NEW NEW NEW

Workbench 3.0

NEW NEW NEW NEW NEW NEW

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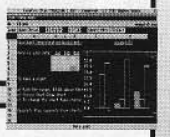

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• #4 - Galaxian, Pacman, Space Invaders and Asteroid look-a-likes - "the classics"
• #5 - Imperium, Mech Fight, SCombat
• #6 - Chute!, Defender, Pharoah's Curse, SkyFight, SpaceWar
• #7 - Amiga Tanx, Cave Runner, X-Fire, Bally III, Llamatron, Obess-O-Matic
• #8 - Asteroids, Bug Blaster, Microbe, Poing, Revenge of the Mutant Camels, Ring War, Trix
• #9 - Pacman (brilliant copy of the original), OmegaRace, Columns, Nebula and POD.
• #10 - Donkey Kong, Galaga (the best!), Artilerus, Fleuch
• #11 - Scorched Tanks - the latest super version, 2-4 players.
• Adventure 1 - Island of Nephoton, Rescue & Jungle, Zut Alors! and Treasure Island. Some text based.
• Star Trek - The Game, with sound-FX, animation, point and click interface, various missions. 1Mb
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• Database - Hyperbase, HyperDialer, DataEasy, Home Manager, bBasell
• Forms Designer - Text based forms editor.
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• Genealogy 2 - ArJay - Up to 1000 people, WB2.x/1Mb required.
• Home Budget - Assorted home finance programs.
• Home Tools - TouchTyping, simple database, Furniture Helper, Resume Maker, VCR Database, Diet Aid and LP Database.
• Spreadsheets - Easy to use SCalc, SPREAD and EasyCalc
• Finance - BankN, Your Money, Budget and CheckBook
• Text Editors - Az, UEdit, QED, DME + Text Editors Guide
• Wordprocessing - Text Plus, AmigaFOX, Liner, SuperRetLab, GWPRint & Print Studio
• Protext 4.3 - Includes spell checker, word count, footnotes, anagrams - hundreds more features. Text only - no graphics.
• Bowling - Keep track of bowling scores. 1Mb required.

Communications
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• Term 3.4 - Freeware, scripting, powerful, 3 disks, hard drive req. WB2.x required.

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• Cartoon 2: Amy Vs Walker
• Cartoon 3: Jugette, Jugette 2, Juggler 2
• Cartoon 4: F16 Combat, Stealthy Manver II
• Cartoon 5: Bigs Bunny
Big Cartoons (Require 3Mb)
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• Big Cartoon 2: Coyote
• Big Cartoon 3: Pogo
• Big Cartoon 4: The Dating Game (2 disks)
• Big Cartoon 5: Unsporting
• Big Cartoon 6: Enterprise Docking
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• Education 2 - Gravity Well, Planets, Life Cycles, Orbit, Enigmas, ZPlot
• Education 3 - Word Puzzle, Crossword, Word Game, A-Solve, POWER LOGO!
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• Stockmarket Simulation - Buy and sell shares, take out a bank overdraft, and eventually qualify to joing the insiders club. Local program to simulate local conditions.
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Emulation
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• MS-DOS Emulator - PC-TASK (shareware-no write to disk) & Transformer. Run most MS-DOS business software.
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• AGA Utilities 1 - AGA Anim players, picture showers, AGA disable, GIF shower and more.
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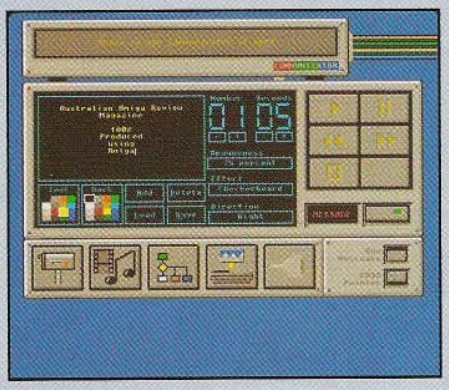

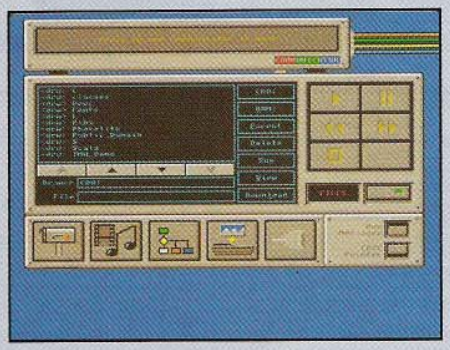

Your CD32 player packs a mean punch considering an equally endowed IBM PC would probably cost the thick end of $3,000. The frustrating thing about owning one is knowing you have a CD-ROM drive you can't use from your existing Amiga.

The Communicator promises to end the misery of owning an Amiga and a CD32 by connecting the two together.

Add an FMV module and you have a Video-CD player, an Audio-CD player and a CD-ROM drive which can be controlled by Scala for multimedia presentations - guaranteed to knock the socks off your audience.

Presentations

If you don't own Scala, the Communicator includes a very simple presentation package. There are a few transitions between screens - and very limited control over your text.

You have no choice of fonts, and no text wipe options. It is adequate for store front displays, but little else. I recommend you choose the Scala-Ex for any serious work.

When operating as a CD-ROM, the CD-32 can be used to run programs by launching them from your Amiga. It can be used to view images in the same manner. And you can run CD-32 programs on your Amiga by downloading them.

This is not a very clever method of moving files around. It is serial communication, it is slow, and it is a little unreliable. You cannot access the CD-32's drive from DirOpus as if it were just another device.

This would have been the preferable method. Instead each file is selected from the Communicator's interface and transferred to your Amiga.

It works, albiet a clumsy solution. We had trouble getting faster speeds to work reliably, although they should be possible in theory, 14400 was the best I could muster.

Over, the Communicator sports a cute interface, but one which would do better if it was integrated into the Amigas operating system. With Scala, this is the ideal add on to any multimedia situation.

Review copy supplied by Sigmacom. Recommended retail price is $249. A lite version is coming that will not have the MIDI and keyboard connectors and will sell for less.

❑

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KidPix

Painting made fun

By Daniel Rutter

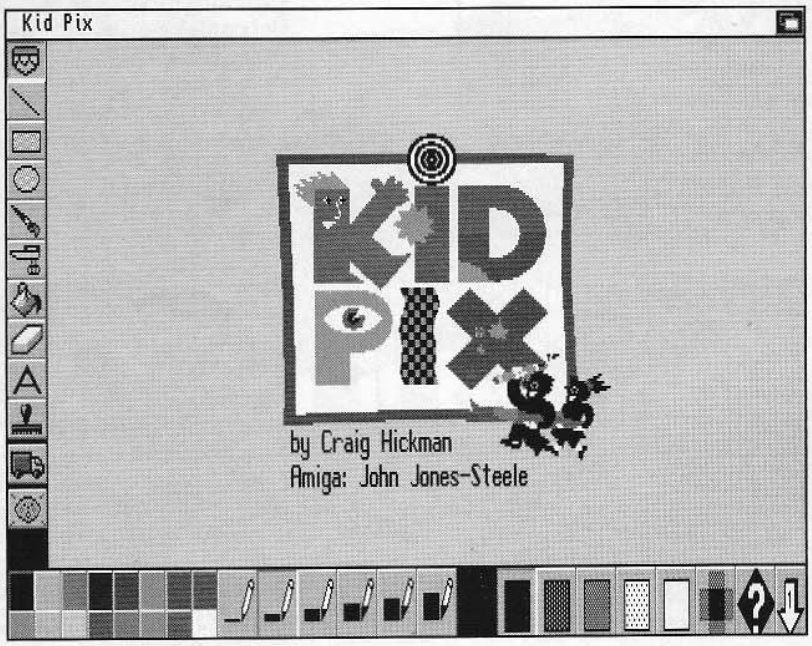
Kiddy paint programs are popping up like mushrooms. First on the Amiga was Hoopy Paint, then came Microsoft's puzzlingly zany (and, of course, wacky) Fine Artist on the PC, along with the PC version of KidPix.

Now KidPix has made it to the Amiga, with all the rampant frivolity of the PC version - and all of its shortcomings, but more on them later.

Wossit do?

In case you missed our review of Hoopy Paint (shame on you) and are rather mystified by the whole idea, kids' paint programs are bright and cheerful, with lots and lots of silly noises and amusing knobs on. They are NOT intended to do anything useful; they're digital finger painting - easy, immediately satisfying and fun for persons of limited height.

KidPix doesn't have Fine Artist's haphazard looking interface; all the buttons are in clearly defined rectangular boxes. All of the tools on the vertical bar down the left side, except for the "oops" button, open a horizontal bar of other tools across the bottom of the screen, often with other bars accessible by clicking on an arrow on the right hand end. Small kids tend to deal with this arrangement by clicking at random and enjoying the results.



Drawing Tools

KidPix provides plenty of silly tools. Along with the usual free form drawing, boxes, ovals and lines with assorted fills come plenty of less orthodox gizmoes, all tuned to producing a satisfyingly peculiar result without any great artistic input. Symmetrical lines, dribbly paint, squiggly lines, lines made out of slowly rotating other lines, stars, coloured blobs or little Pac-Men, algorithmic snowflakes, Spirography things, several amusing ways to clear the screen, and a rather cool text feature that says the name of a letter or number as you stamp it down.

There are more than 100 other stamps - animals, people, faces, all the components of a little train, a couple of the inevitable dinosaurs. Unlike Fine Artist and like Hoopy Paint, the stamps are part of the image, not a separate and movable component - they behave like standard DPaint brushes, not fridge letters.

The Electric Mixer toolbar gives a variety of options for mucking about with your picture. It can have lines drawn all over it and the spaces between them colour flipped.

It can be turned into nine miniatures. It can scroll to the side, wrapping around from the other side. You can also drop a single third scale miniature of the image anywhere you like.

The Moving Van is a simple cut and paste. You can't copy, only cut, and you can't do any shape but a rectangle, but that's just as well considering the target audience.

Some other highlights include rather nifty automatic trees - just click where you want the bottom of the trunk to be and a randomly branchy tree grows. One of the erase modes lets you rub through to a black and white animal picture. These pictures show up in other erase tools, too, but only as part of a wipe or fade.

Baby-proofing

Parents of particularly tiny people will appreciate KidPix's Little Kids Mode, which changes the menu structure to a single, small menu whose only item goes back to normal mode. This stops small ones quitting the program and wreaking havoc on Workbench, or confusing themselves by dropping KidPix into one of its other languages (German, French, Spanish or Italian).

The program's not actually localised in the Amiga Style Guide sense of the word, since these are the only languages it can support, but it's interesting to hear how other countries pronounce the alphabet.

Problems

KidPix has a few restrictions. As usual with such programs, you can only use one resolution and number of colours (medium res, 16 colours).

Unlike Hoopy Paint, it doesn't have any supplied pictures to colour in and play with, which is a considerable shortcoming. You also can't import your own pictures, since it only deals with 16 colour 608x212 pictures - you can create pictures for KidPix in a "real" paint program, but they have to be the right size.

KidPix also has lousy screen drawing routines - the screen flickers like a slow IBM compatible when you're doing things like resizing large rectangles; something of a giveaway of its IBM-ported nature. Do kids care about this? No.

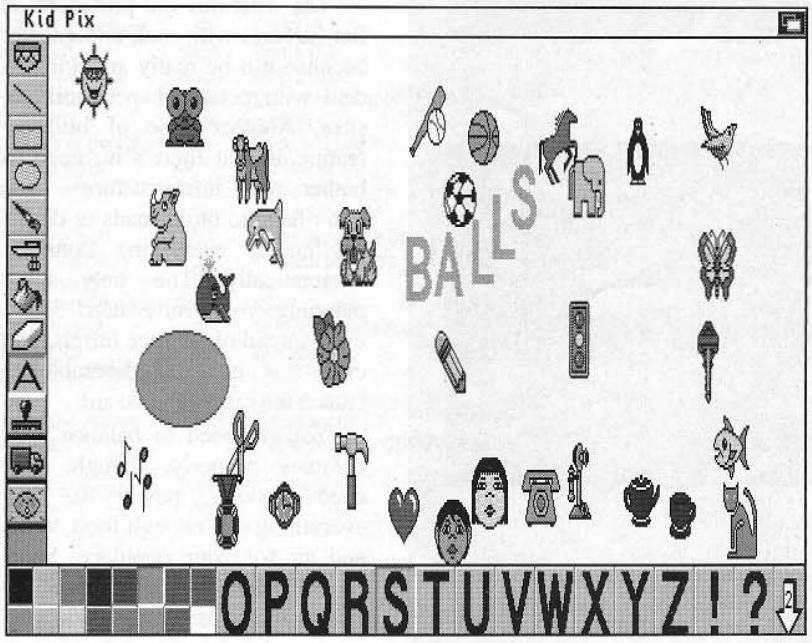
On the plus side, KidPix multitasks. Hoopy Paint's written in AMOS, a language which sorta-kinda multitasks but bas- ically behaves like its Atari ST predecessor. KidPix behaves properly, and uses ordinary requestors and menus. Why reinvent the wheel?

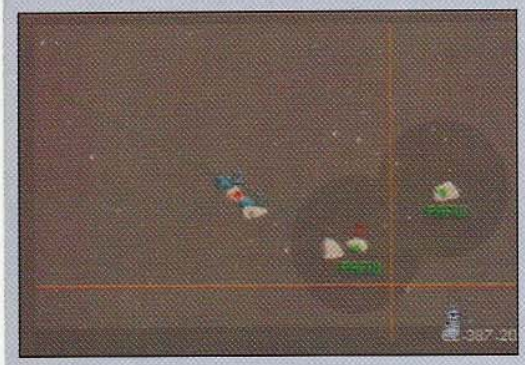
Overall

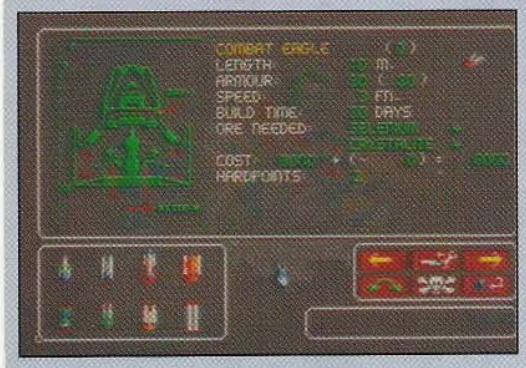
Overall, KidPix is an excellent collection of silly painting toys. If it had built in pictures, it'd beat Hoopy Paint, but as it stands they're pretty even overall. KidPix is well worth a look if you're after something to keep the littlies quiet that doesn't involve carnage; get ready to start sticking printouts on the fridge!

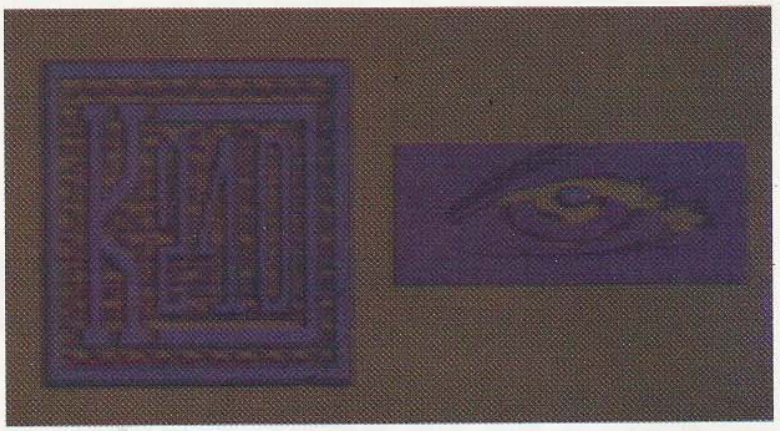
KidPix is available for $79 from Amadeus Computers on 008 808 503.

❑









This is an outer space strategy game. Your aim is to conquer (gasp!) your section of area K240 of the Fragmented Sectors, forsaken deep space wildernesses full of gently drifting - and occasionally colliding - asteroids. You build assorted life support, mining, manufacturing and defence structures all over the rocks, construct scouts, spy satellites, warships and missiles and dispatch all the things that go bang towards whichever alien race has been unfortunate enough to boldly go in your direction.

The asteroids are presented as flat surfaces with rock underneath, because it'd be really annoying to deal with potato shaped building sites. Another ease of building feature is that there's no need to bother with infrastructure - you don't have to build roads or drains or fences, everything connects automatically. The only town planning you really need is an even spread of defence turrets, and even that is a bit debatable as battles are rather haphazard.

You do need to balance your colonies properly, though. You need enough power to run everything and enough food, water and air for your populace. Since mine workers are prone to industrial action and good old fashioned life-affirming rioting, you also need a nice draconian security force.

The asteroids really do drift, which can be a very bad thing if one of them decides to drift into your beautiful expensive colony. Fortunately there are ways around the problem - gravity cancellers stop an asteroid moving and freeze any that come near it too, and you can mount engines to steer asteroids independently.

Your machinations are overshadowed by the monster Terran Empire, which is dedicated to the eradication of all things nonhuman and hence gives you a few ships at the beginning and hefty bonuses whenever you mercilessly sterilise an enemy asteroid. You can also make dough by finding new rocks, or by selling ore you've blasted out of the ground, but you need ore for building spacecraft as well.

Besides warships of different sizes with a variety of armament, you can build missiles, which can be loaded with warheads from simple explosives through fire bombs (oxygen supply included, of course) to the really nasty ones like Virus, which slowly renders an entire asteroid uninhabitable, to the startlingly expensive Mega, which simply blows the whole rock into pinhead sized bits.

You advance your technology by buying blueprints from Sci-Tek, who supply them when the next Imperial ore carrier blows through. It's a fresh twist on the old research department.

Spy satellites are another option; for a price, they let you keep tabs on everything happening on an enemy world, and peek at what the bad guys know about you - if you find they don't know about some of your bases, build the expensive stuff there.The graphic presentation isn't flashy, but it's legible. The animation's minimal, the images themselves not very inspired, but it's easy to tell what everything is.

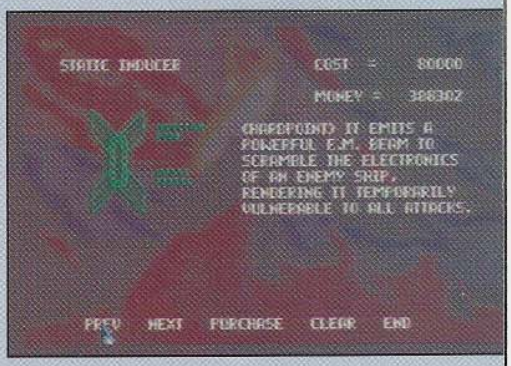
K240's sound is lousy. The effects are very sparse and boring when they happen and there's no music. Not a great failing - I usually have the stereo on when playing strategy games, anyway.

The manual is dauntingly thick, but less frightening when you realise that it's multilingual. You still get plenty to read, though, and all the numbers are listed - you don't have to fumble for the rules, only for the way they work together.The technique for selecting an individual ship is rather fiddly. You change the cursor from a hand to an arrow with the S key, and then you click on the ship. Easy enough with transports and the bigger warships, which just sit there above the asteroid, but tricky with the little fighters, that buzz around like gnats and require a flurry of mouse clicks to catch.

Overall, K240's interface is a bit clunky. There are a few keyboard shortcuts and you can tie up to 10 asteroids to the function keys for viewing, but you spend a lot of time shuffling between the option boxes under mouse control. When you're setting up a load of colonies it's tiring to keep building mines and life support and turrets and landing pads and hospitals and so on for all of them, all much the same. But if you're not impatient, there's nothing excessively annoying in the interface.K240 is hard drive installable. It irritates me greatly that some game writers STILL insist on putting their work on non-DOS disks; help stamp out the practice by supporting DOS games!

Overall, K240 won't set the world alight, but it's got enough that's new to make it worth a look. If you like the idea of medium-scale sci-fi alien bashing on a slowly shifting battlefield, check it out.

❑



K240

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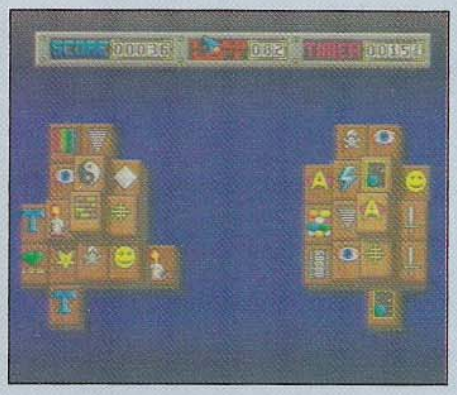
Phone:(02)634 6499



I admit it. When I saw the box, I groaned. Another Shanghai game! But, this version was pleasantly good. Activision's Shang- hai was one of the earliest games for the machine, coming out around the same time as Marble Madness, and in the interim Fred Fish's freely distributable software library has included China Chall- enge on disk 444 and Imperial on disk 960, both less pretty but perfectly serviceable versions of the concept.

In case you missed them all, though, Shanghai games present you with a stack of tiles, from which you must match pairs. You can only match tiles that don't have another tile to their left and right - if the tile you're trying to match isn't on the bottom layer, it's only blocked by tiles at the same level.

There are assorted variations on the theme, all of which are included in Dragon Tiles. It's got a load of tile sets, including the original hard to remember Mah-jong set but with others - playing cards, runes, pictograms, all of which can be on four different tile bases. There are many tile layouts, and a layout editor that lets you create your own. There are 75 built in layouts and 25 editable ones. There's a completion indicator that lets you know which levels you've managed to beat, and you can save during a game.

The funkiest thing about Dragon Tiles is its display. PC and Macintosh Shanghai games can have big layouts and detailed tiles, because they expect the players to be using big high resolution mon- itors. Most Amigas run on 1084s or clones, though, so games like Imperial have lumpy, ugly little tiles.

Dragon Tiles gets around the problem by using big tiles, but having a playing field that's bigger than the screen and scrolls very smoothly with the pointer. You don't have to move the pointer to the edge of the screen - it auto- matically scrolls the other way every time you move. The system isn't as good as a monster monitor, but it's a lot cheaper and works well.

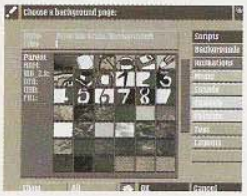
Sound is sparse but effective, and manages not to be annoying. You can install Dragon Tiles on hard disk, but there's no installer included to do it - just a page in the built-in help. It also doesn't multitask very well; you can flick back to the workbench, but then you've lost Dragon Tiles forever.

Dragon Tiles is from Software Circus on (02) 313 8484.

❑

SCALA MM300

The Multimedia Revolution



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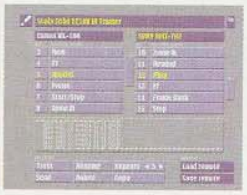

Use the Echo EE100 IR trainer to teach the software how to control your VCR and other IR controlled devices (i.e. CD Players, LaserDiscs, Amplifiers etc.)

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By Norman Cantrell

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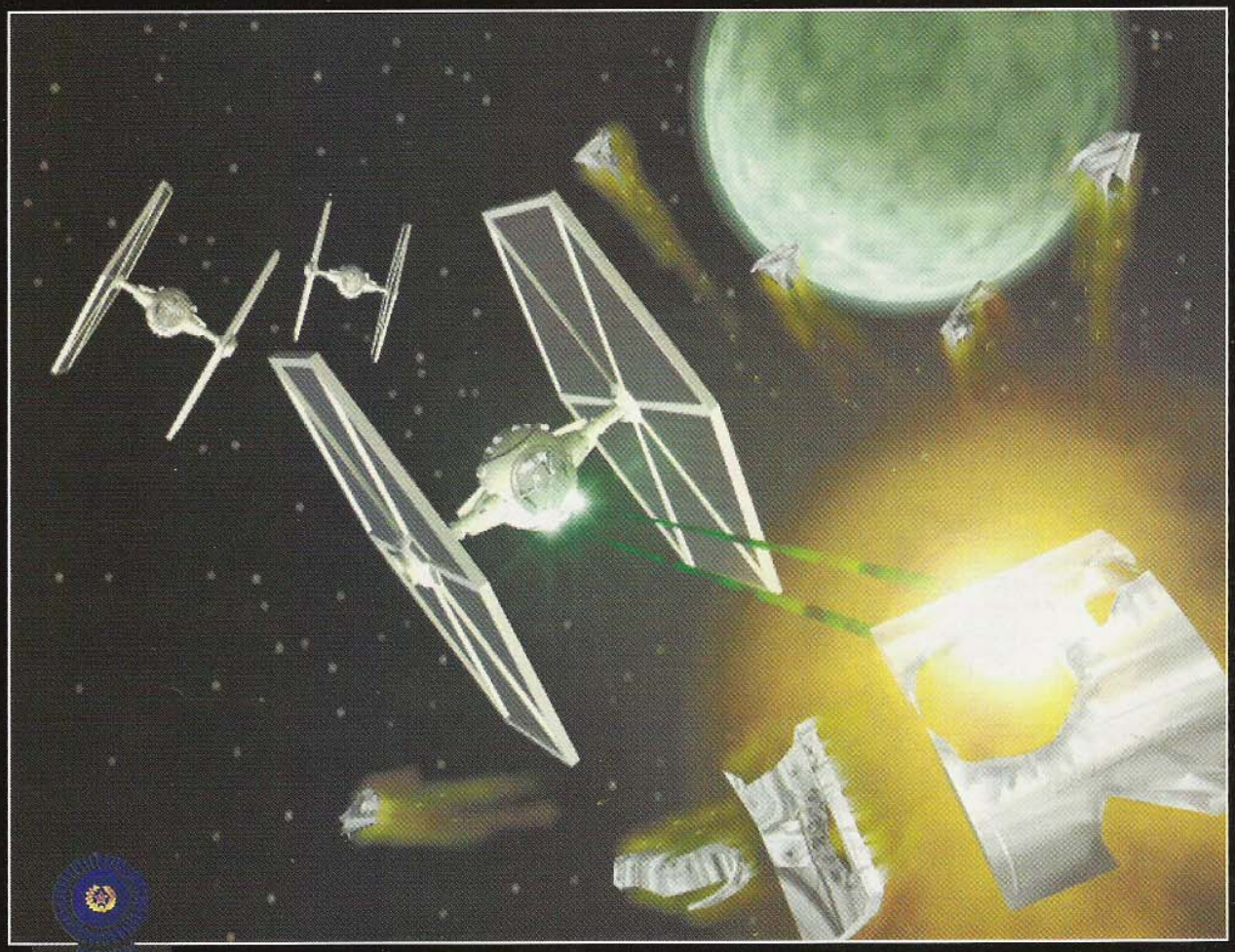

PIC OF THE MONTH - $50

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By Matthew and Glenn at ENVISION THIS.

672 x 536, 24bit, Created with Vista Pro & EGS Paint.
Girl was hand drawn. By Tim Polmear.

690 x 512, 32 colours, Hand drawn with
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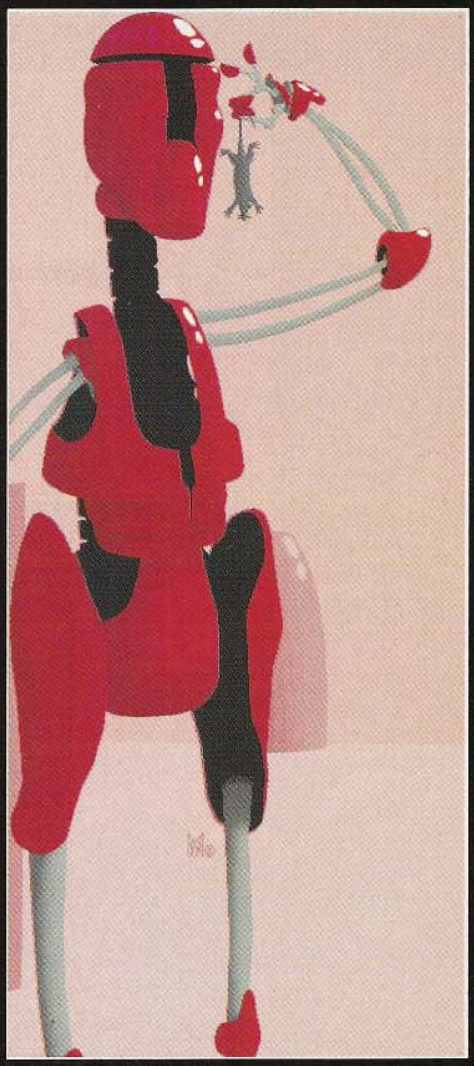
704 x 566, 24bit, Created with Imagine.
By Mark Johnson, Video Pixel.



320 x 1200, EHB, Hand drawn with DPaint
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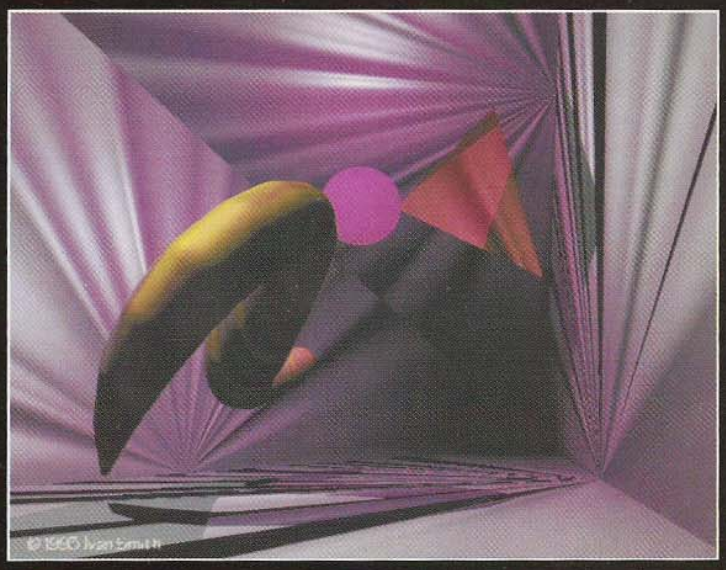
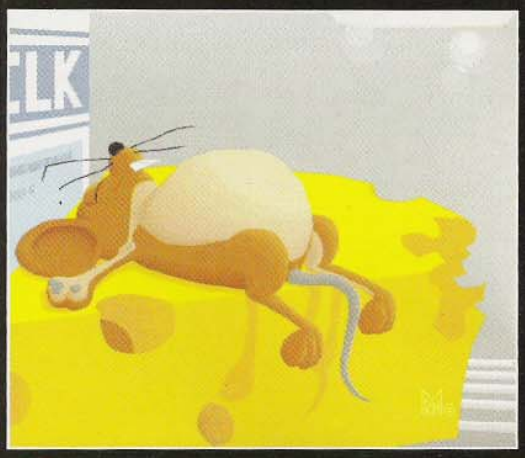


640 x 512, 24bit, Created with Real 3D 1.4 Turbo.
By Ivan Smith.



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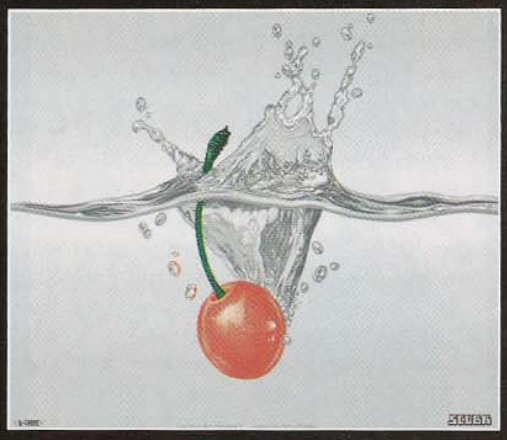

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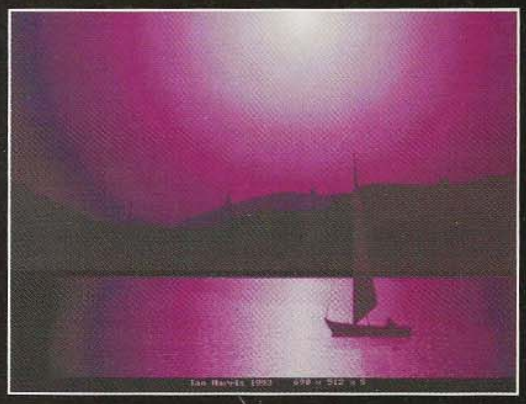
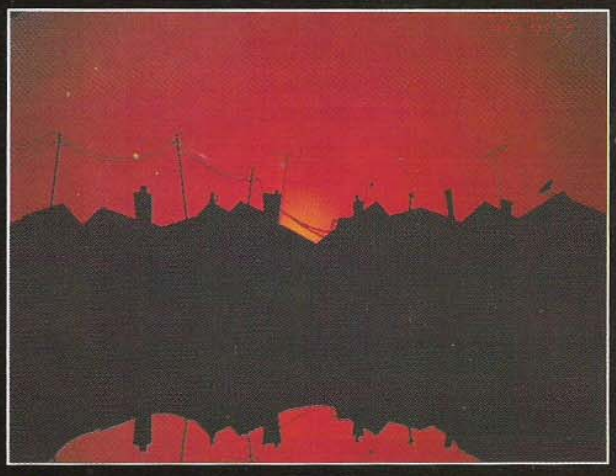


690 x 512, 32 Colours, Hand drawn with
DPaint AGA. By Ian Harris.



700 x 512, 32 colours, Hand drawn with DPaint AGA.
By Ian Harris.

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320 x 512, 32 colours, Hand Drawn with DPaint.
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640 x 512, 24bit, Rotoscoped from a scaned image in Opal paint. By Dave McRae.

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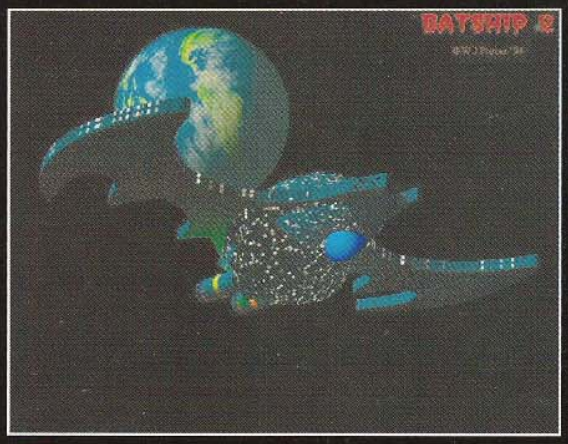
By Avi Pilosof.



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Plain English explanations, in an entertaining style, offering intelligent information on getting more out of the Amiga are preferred. Any wordprocessor format is acceptable, although straight ASCII is preferred. IFF images should include captions in a separate text file (or on the end of the main text file).

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We do pay for contributions, starting from $50 per 1,000 words up to $150 for really good stuff. Please don't send your original disk, as we cannot guarantee safe return.

o o o

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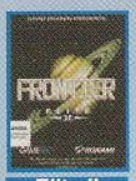

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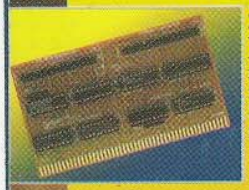

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