February, 1994 - Volume 11, No 2

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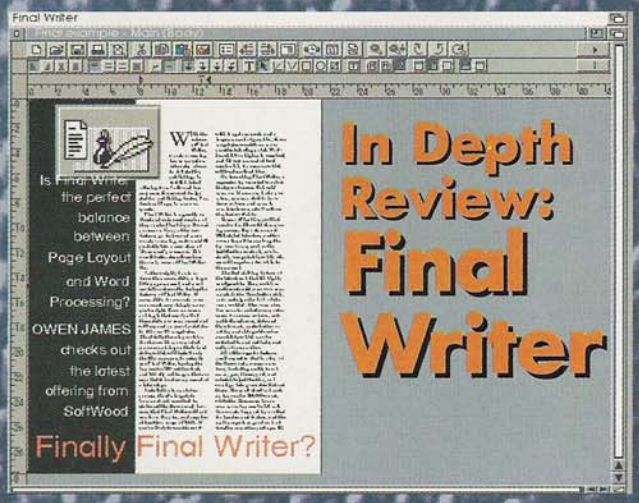
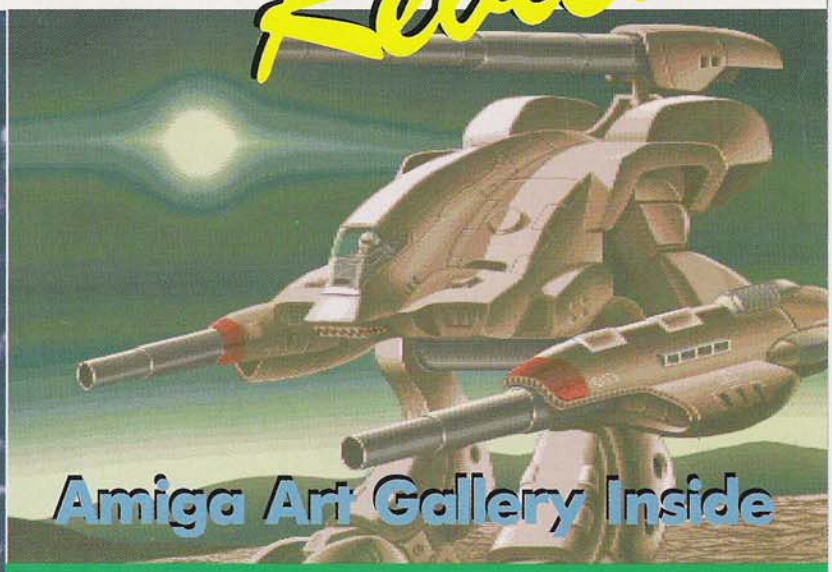
Is the Amiga Dead?

Australian Commodore & AMIGA Review

For Professional and Home Users



In Depth Review: Final Writer



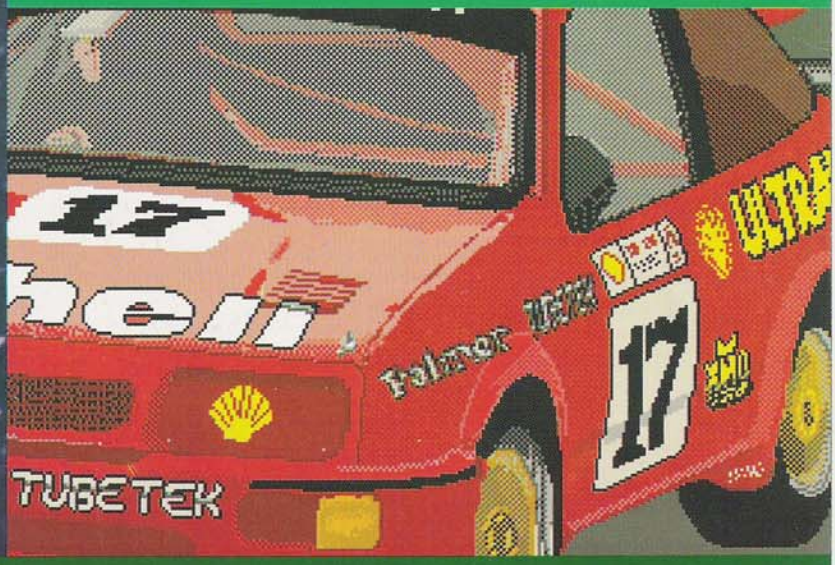
Amiga Art Gallery Inside

Make Your Own CanDo Car Log Book

How to make Magnified Anims

AMOS Graphics How To Hack

Blitz BASIC Loops, Tricks and Tips



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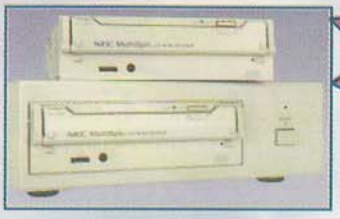

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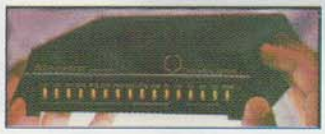

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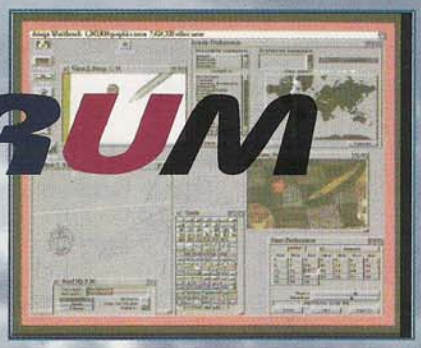

The EGS SPECTRUM from GVP fully supports the Display Database starting with Kickstart 2.04. Any programs that open screens from this list will run on the EGS-28/24 SPECTRUM, including Workbench!

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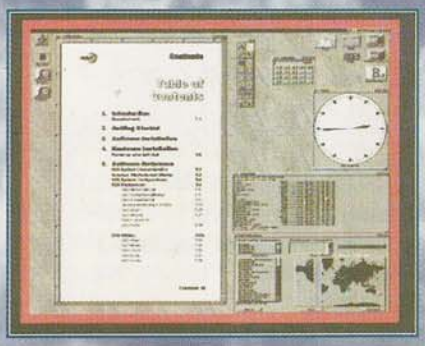

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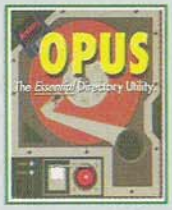

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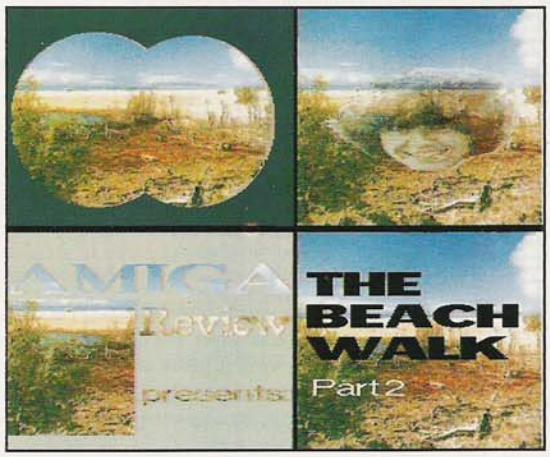

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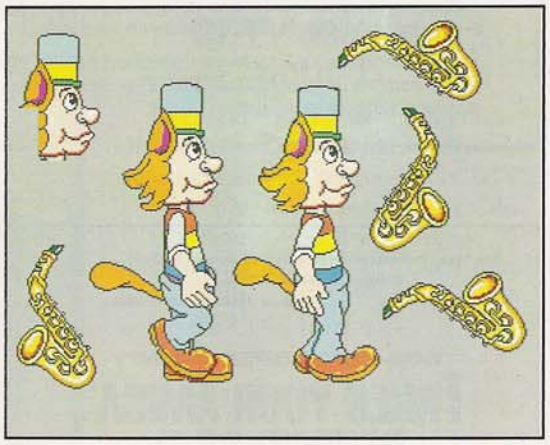

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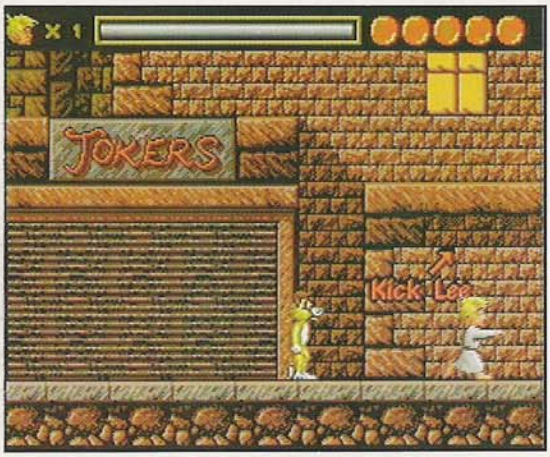

80 SleepWalker CD32

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Commodore CD32 Titles

James Pond 2
Pinball Fantasies
D/Generation
Whale's Voyage
Trolls
Nigel Mansell's World Championsip
Zool
Sensible Soccer
Morph
Alfred Chicken
1869
Genesis
SleepWalker
Reach out for Gold
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Jurassic Park
James Pond 3
Treasure in the Silver Lake
Ryder Cup Golf
Liberation
TV Sports
Mortal Kombat
Chaos Engine
Akira
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TFX
Total Carnage
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Editorial

It is true. The year 1994 may herald the end of Motorola powered Amigas. By 1995, Amiga owners will join the masses who are headed into the RISC arena. A 64-bit RISC based machine sporting new AAA graphics and sound technology is expected to be released before the year is out. It will, according to several reliable sources, run Windows NT - and therefore MS-DOS applications.

Will the new AAA machines run all Amiga software? Is it likely we will see them here in Australia this year? Will Microsoft announce Windows is actually just a Workbench screen blanker? Unlikely. Indeed, AAA is a drastic change. RISC even more so and the idea of running Windows-NT, well, guys ...

It's hard to imagine any sort of alliance between the Amiga community and the rest of the computing world. For eight years we've proudly stood apart from the masses of Intel users. However, times they are a changin'.

If Commodore can keep everything that's good about the Amiga and give us the option of running Windows-NT without extra hardware, that's fine and dandy.

Next month we plan to take an in-depth look at AAA - the implications, specifications and likely problems. In the meantime we're all hanging out for our CD32 FMV module - that's full motion video. *Star Trek*, video clips - take your pick. Video CD is coming, and the momentum building looks set to rocket digital video along at a very healthy rate.

CD32 player add ons for the Amiga 1200 and 4000 are supposedly due soon too - there's nothing official on that one either. Once again, various Commodore officials are quoted as promising delivery real soon now, but we've heard nothing on the local front.

A slightly cheaper Amiga 4000 is also in the wings. The new version is cost reduced - which means they've found some worthwhile ways to cut corners and make the whole thing for less. Expect the MMU to be missing (both those people who will notice can leave the room now) and possible chip rationalisation is likely too.

So, despite the doom and gloom of late '93 - Commodore are still here seven months after the first news of trouble hit the streets. New chips, machines and designs are circulating and no, Commodore has not been bought out.

As usual, despite everything, the Amiga continues to succeed.

Andrew Farrell

Magic Lantern

24-Bit realtime animation playback

Magic Lantern is a program designed to create, edit and display delta compressed animations in real time. It takes as input IFF picture and sound files created from other sources (such as *DPaint, Imagine, Lightwave, Real-3d,* etc) and creates animations that run on various frame buffers in up to 24 bit colour. *Magic Lantern* plays sound effects through the Amiga sound chip.

Once an animation is created, it can be edited; such editing might include adding or removing sound effects and frames, or moving frames around. All of these functions are accessible through a very friendly, Workbench 2.0 compliant graphical user interface, and/or an ARexx port. *Lantern* also provides a means to create animations that are larger than available memory, and a separate utility to play them back.

The ARexx port was designed to allow the user to do anything that he/she could do through the graphical user interface; this allows the user to create powerful, automated scripts for batch processing or other uses which the developers of *Lantern* did not foresee.

Magic Lantern includes highly optimized assembly language routines for playing back animations on supported display devices, including frame buffers which store pixels in chunky format. The program also provides numerous compression options which allow the user to optimize animations for size, playback speed or both. Due to its modular nature, *Magic Lantern* can be updated to support new display devices as they become available.

Features:

- Supports the Retina in 8, 16 and 24 bit modes
- Supports the Picasso II in 8, 16 and 24 bit modes
- Supports the Opal Vision in 8, 15 and 24 bit modes
- Supports the GDA in 8 bit mode
- Supports the Amiga custom chipset, including all AGA modes, DCTV, HamE, etc.
- Over 10 different compression algorithms
- Synchronizes sound to the animation
- Can enforce a playback rate
- Hard drive playback of animations
- ARexx port, assembly language animation routines, breaks up animations into IFF components, much more.

Support for *Spectrum, Picallo, Merlin* and EGS is expcted soon. *Magic Lantern* is now available from Terra Nova Development for $95 (US funds, check or money order), postpaid.

Fact Box
Product: Magic Lantern
Category: Animation
Min. Req: Workbench 2+/1Mb RAM/Hard Disk
Status: Shipping
RRP: $US95
Terra Nova Development
PO Box 2202, Ventura CA, 93002-2202

SAS/C v6.50

C compiler with C++

SAS Institute Australia (that's right, they DO have an Australian subsidiary!) has released v6.50 of their popular SAS/C C language compiler. This version supports translation of C++ source into SAS/C format, and will also debug untranslated C++.

Other additions include a new profiler to display timings for functions and the number of times functions are called, a utility to find in which file a variable is defined, better support for writing devices, a font sensitive interface, an automatic debugging information tracker for programs, libraries and devices, enhanced compiler and optimisers, better library con-

Cyberhouse

3D object set for Imagine

Cyberhouse is a set of *Imagine* objects to construct a fully furnished three bedroom house. All components of the house will be objects, includingthe exteriors. Rooms include: 3 complete bedrooms, 1 full bathroom, 1 half bathroom, 1 master bathroom, 1 breakfast nook, 1 dining room, 1 kitchen, 1 living room.

Fact Box
Product: Cyberhouse
Category: 3D Animation
Req: Imagine, 3Mb RAM
Status: Shipping
RRP: $US150
Cybergraf Synthiotics
P.O. Box 5851, Hanover Center,
Wilmington, NC 28403-0879
Order Line : (910) 762-5776
Tech Support: (910) 762-5776

Quarterback 6.0

Hard disk backup software

Quarterback and *Quarterback Tools* used to be the top of the heap for backup and file recovery software. They were knocked off the perch by *Amiback* and *Amiback Tools*, but now they're back with a vengeance. *Quarterback Tools Deluxe* has been around for a while, and now it's joined by *Quarterback 6.0*, which contains features to bring it in line with, and maybe in front of, *Amiback*.

Quarterback's compression now runs fast, like *Amiback*'s; it remains to be seen if it's just as inefficient as *Amiback*. *Quarterback* now includes a scheduler, to let you back up in the middle of the night automatically, but *Quarterback*'s scheduler lets you run ANY program or ARexx macro, not just the backup utility.

Another addition is advanced tape handling features like hardware compression, fast searching and quick erasing on tape drives with the features.

Fact Box
Product: Quarterback 6.0
Category: Disk Maintenance
Req: Not Stated
Status: Shipping
RRP: Coming Soon
Amadeus Computers
Attn: Mark King
34 Tecoma Drive, Glenorie NSW 2157
FREE (008) 808 503
Tel (02) 652 2712 Fax (02) 652 1515

struction features and file conversion from other C packages.

SAS/C v6.50 costs $450. The student version costs $260, as does the update offer for users of other C products. The update from v6.xx costs $140, from V5.xx $225 and from earlier versions $260.

Fact Box
Product: SAS/C v6.5 with C++
Category: Programming
Req: Workbench/Kickstart V1.2+, 1Mb/4MB RAM, Hard disk recommended
Status: Now Shipping
RRP: $450
SAS Institute Australia
Attn: Ryan Johnson
300 Burns Bay Rd, Lane Cove NSW 2066
Phone (02) 428 0428 Fax (02) 418 7211

PhotoworX

Photo-CD Image reader

Gives the possibility to access KODAK (tm) Photo-CD from an Amiga equipped with an XA compatible CD-ROM drive. Access to photos is made incredibly easy with *PhotoworX*. Each photo is represented as a small slide on a so-called "contact-sheet".

PhotoworX allows loading of images by double clicking on their on screen representations. All Amiga resolutions are supported, including AGA screens and a great number of graphic boards. Several image processing routines (detail magnifying, cropping and scaling, colour corrections, mirror imaging, negative ...) are included. You can save in any Amiga IFF compatible file format from 16 colors to 24 bit and there is support for all Amiga compatible printers. The package includes the *PhotoworX* software, a photo-CD and manual.

Fact Box
Product: PhotoworX
Category: Animation
Min. Req: Workbench/Kickstart V2.04 or higher, 2MB RAM
Recom: Hard disk drive, 68030/68040 processor
Status: Shipping
RRP: $US199
Spectronics International U.S.A.
Attn: Eddy Coopmans, 34 East Main Street #23, Champaign. IL 61820 USA
Phone : +1 (217) 352 0061
Fax : +1 (217) 352 0063
BBS : +1 (217) 352 7627

Opal Video Processor/Suite

Digital Video Effects Module

If all goes according to plan (and it hasn't, yet), Opal Tech's Roaster Video Processor for their popular OpalVision board will be available in late January or early February. The new hardware lets OpalVision do spectacular real time video effects like the famous Video Toaster only considerably better, and its release is anticipated to greatly boost demand for the basic OpalVision board.

For this reason, basic Opal boards are selling for $995 inc. tax before the Roaster release, and will according to Opal go up about another $500 afterwards.

Furthermore, early main board purchasers will be able to get the Video Processor and Video Suite packages for about $1,195 each whenever they decide to buy them; latecomers will pay about $1,495.

A startling fact is that despite the very long delays in getting the Roaster hardware out, there's still nothing anywhere that comes near to the Opal package's features. It seems that when it was originally designed it was very far ahead of its time - and it's had to wait a while for its time to come a bit closer!

Fact Box
Product: Opal Video Processor/Suite
Category: Desktop Video
Req: Opal Main Board
Status: Shipping Soon
RRP: $1495
Opal Technology
Attn: Robert Roy
Unit 19, 7 Packard Ave,
Castle Hill NSW 2154
Phone (02) 899 4322 Fax (02) 899 5749

Clarissa

Animation player

Faster than any other anim-player, thanks to especially developed algorithms which are definable for different configurations.

Clarissa automatically optimizes anims so that they can be played back at the highest possible speeds. The SSA animation format eliminates most of the problems normally encountered when playing back 2D and 3D animations (slow play back, jerky movement, etc...)

According to Spectronics, the player offers 30% higher playback rate as opposed to other anim-players. It has an integrated virtual memory feature (which works even without an MMU) allowing playback and editing of large animations.

There's a cut and paste function, with graphic display of animations, allowing easy editing. The dynamic anim-clipboard function allows for inserting or deleting of frames or ranges of frames, creating pauses within an animation and many more professional manipulations. Clarissa is said to offer a 20% speed increase when loading or saving anims. Lace compensation calculates the animation in half the vertical resolution and plays back in full resolution, giving a 50% increase in speed when creating animations.

A stand alone anim-player is included. This player is a CLI command, usable from within every multimedia package.

Fact Box
Product: Clarissa Animation Player
Category: Animation
Req: Workbench/Kickstart V2.04+, 2MB RAM, Hard disk
Status: Now Shipping
RRP: US$179
Spectronics International U.S.A.
Attn: Eddy Coopmans
34 East Main Street #23,
Champaign. IL 61820
Phone : +1 (217) 352 0061
Fax : +1 (217) 352 0063
BBS : +1 (217) 352 7627

Commodore News Brief

- There are now over 120 registered software developers for CD32.
- The MPEG module (or FMV) is now shipping in limited quantites. Titles will be announced soon.
- Commodore has licensed PhotoCD from Phillips. CD32 will now be promoted as Photo-CD Compatible - but not Kodak PhotoCD compatible - we are not sure what the difference is, if any.
- Commodore is hiring new software engineers to work on completing RTG (ReTargetable Graphics) - allowing the Amiga to work with different graphics cards without software applications having to know about them.
- Next generation graphics chips - known as AAA - are 95% ready. In other word, the chips they have perform 95% of the functionality originally planned. AAA technology may be nearer than we think - expect a new machine late this year sporting an Intel PCI system bus.
- DSP (Digital Sound Processing) will be an integral part of AAA. CBM is expecting to be use AT&T's 3210.
- Commodore has already assigned two engineers for systems beyond AAA chipset. It's CBM's intention to have some sort of 3D workstation soon with a 30 million pixels per second graphics rendering engine and 3D rendering engine already in the works.

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HP to sell Amiga chips

Commodore International is said to have signed a major deal to supply Hewlett Packard with its AGA chip set. According to one source, HP will adopt the Amiga CD32 architecture and use the Amiga graphics chips in its first-generation set-top model.

Jeffery Porter, director of product development of Commodore's technology group, acknowleged that one of the terminal prototypes demonstrated at HP's booth at a recent trade show used the AGA chip set. However, HP officials have so far declined to comment on the prototype's architecture. Set-top units are used widely in countries using cable TV to perform an increasing number of functions - apart from purely allowing access to the many channels. Right now in the USA, users can interact with game shows and respond to surveys.

New set-top models are expected to offer many functions including videophone, complex interactive computer games, home shopping and much more.

Several stories like this seem to indicate Commodore is these days interested in selling chip technology to other companies. Jeffery Porter said, "Commodore's strength lies in its ability to provide, today, a total solution for set-top vendors, including a development platform for set-top applications, a system architecture and a graphics chip set that can generate 35-ns pixel resolution."

What's more important, he said, is price. "Our CD32 game machine costs only US$400, including CD-ROM drive. Without CD-ROM, our system can fit pretty nicely into a set-top price range."

Commodore's custom Amiga chip set, originally designed for the company's 32-bit real-time multitasking OS computer, is composed of a pair of graphics engines and an audio subsystem, assisted by hardware accelerators. Using Motorola's 14-MHz 68EC020, the machine produces what the company claims are arcade-quality video games.

Atari loses $17.6 million

Once Amiga rival, Atari Corporation recently reported a loss of $17.6 million, compared to earnings of $1.9 million for the same period in the previous year. Revenues for the video-game company, which recently released its leading-edge Jaguar game system, were off sharply to $4.4 million, compared with $34.5 million in the 1992 quarter.

Atari said the loss was substantially larger than expected, primarily due to write-offs of $7.5 million of inventory of personal computers and older video game products. It also incurred restructuring costs of $6.4 million from the wind-down of Australian operations and the decline in value of company-owned real estate in Europe.

Atari estimate the company will ship approximately 500,000 units during 1994. Their desktop machine aimed at competing with the Amiga has been put on hold until the games console can be brought on schedule.

Epilepsy scare unfounded

A study by the UK's National Epilepsy Society says video games are about as dangerous to epileptics as TV. The fast-moving images of video games have been widely touted as a particularly potent seizure inducer, and some people have even suggested they can worsen existing epilepsy.

The truth, according to the report, is that about 2% of epileptics are susceptible to flashing light sources (photosensitive epilepsy). In Britain, this amounts to about 150 people having their first seizure each year while playing video games; about the same number are touched off by TV.

No evidence was found to suggest that any amount of game playing or TV watching could induce photosensitive epilepsy in people with the more common variety, or that excessive play could cause healthy people to turn into epileptics. Headaches and eyestrain yes - epilepsy no.

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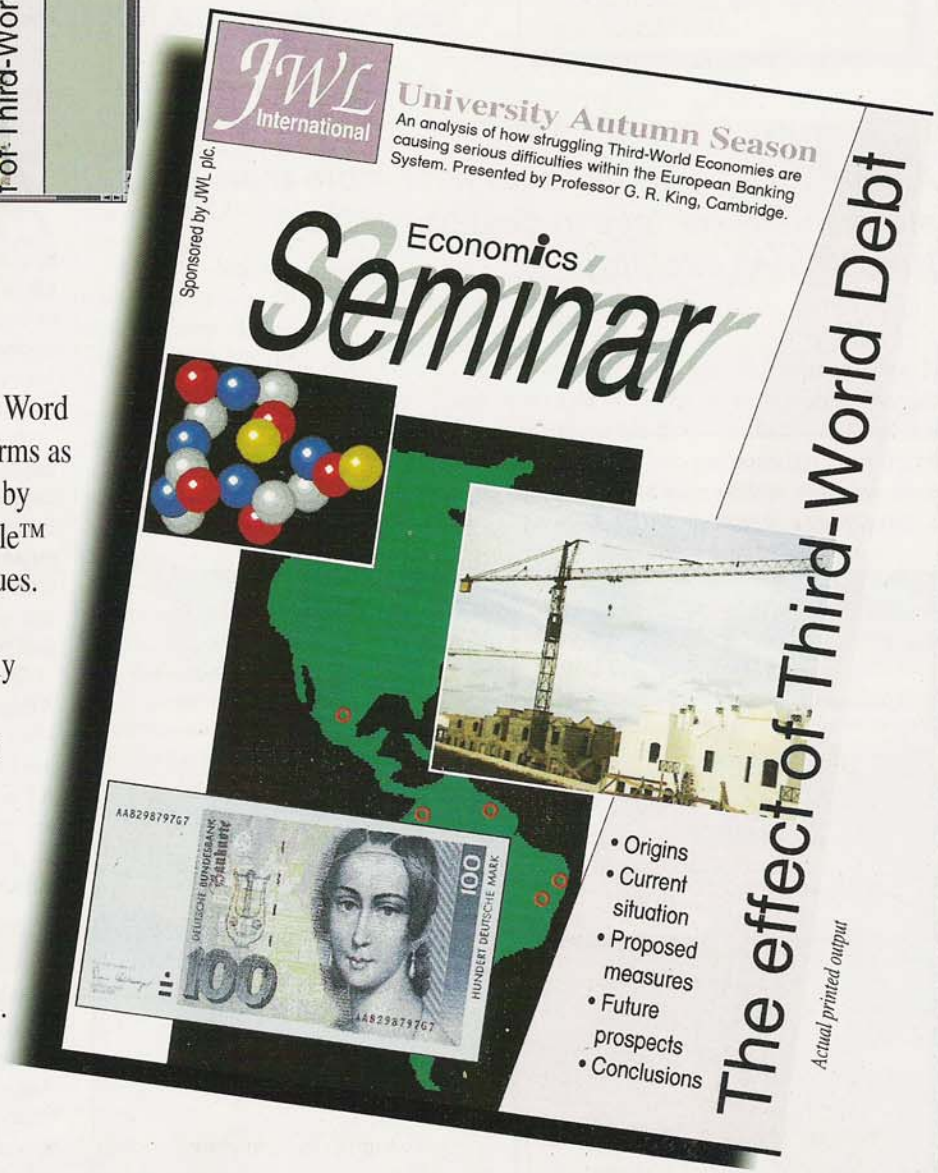

Actual printed output

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You certainly can't find Word Processing Software for your Amiga that's capable of all this...

...or Can You?

Understanding Genlocks

A Genlock can be used for a lot more than simple title overlays in desktop video. Hiko Wynen explains.

A wrong white balance setting (top left) can be corrected by compensating for the colourcast with a red or, in this case, blue computer screen faded in or out until the right effect is achieved (top right). Other screen colours allow brightness adjustments and fades to black (bottom left) or any other colour. A grey or white screen partially faded can compensate for high contrast in the video footage (bottom right).

Any video camera owner seriously interested in putting exciting, easy to watch footage together, will have heard or read about genlocks. A genlock is required to combine the video image from your computer with any other video source. The most common purpose for this is to overlay computer generated titles.

A genlock works by synchronizing the timing pulses in the source video signal with the computer. Video information depends on those sync pulses to tell your monitor or television when to start drawing a new image on the screen so the viewer will see smooth, uninterrupted motion.

In contrast to its competitors, the Amiga already supplies the required sync pulses which makes it very simple to lock its signal to video footage. As a result genlocks for the Amiga are usually cheaper while often producing higher quality results than comparable equipment for other platforms.

Versatility

While the number of dedicated titling or editing/titling consoles for home video is growing steadily, an Amiga/genlock combination blows everything else away when it comes to versatility. Even basic titling gains immeasurably from the computer's potentially limitless choice of fonts and effects.

If the genlock is equipped with hardware or software fading facilities,

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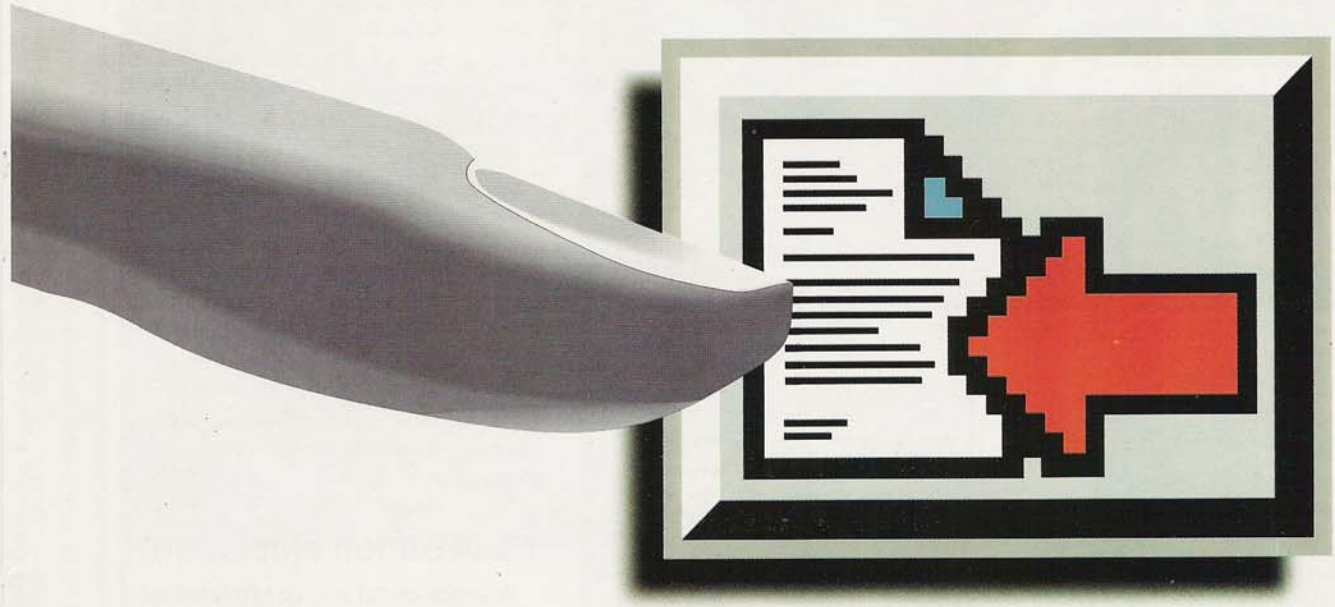

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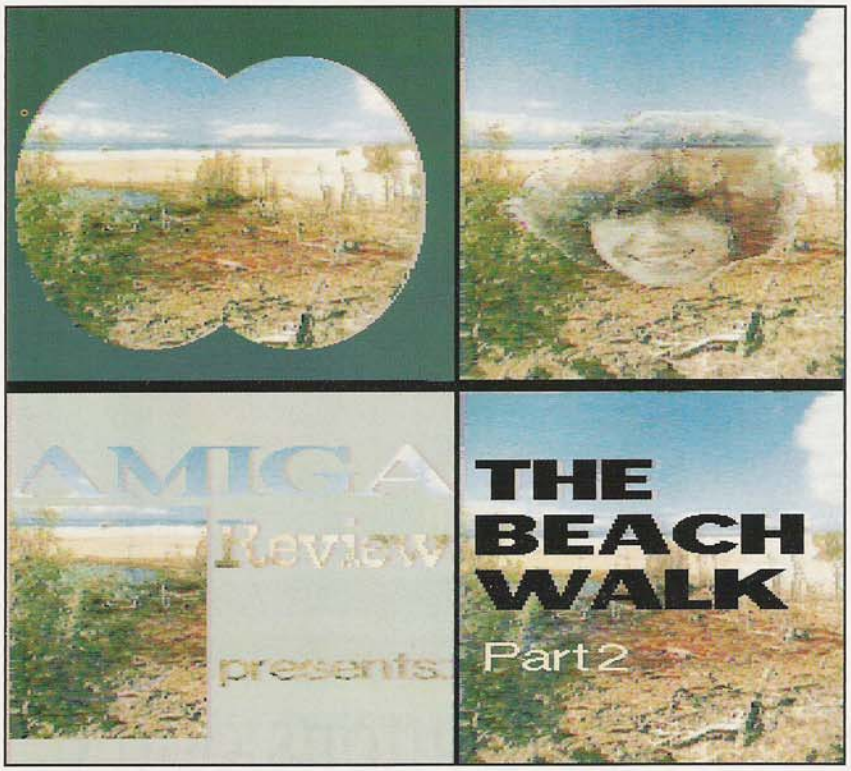

Vignetting (cut-out) screens (top left) or ghost effects (top right) are easy to set up with a genlock. Setting both computer and video signals to minimum produces a reverse effect in which the life action shows through all colour but zero (bottom left), while normally the (background) colour 0 is replaced by the video images (bottom right).

which can be found even in under $400 units, smooth titling effects are just the beginning.

Normally the computer image is composited over the video pictures. The original video replaces any part of the computer generated image which is colour 0 - typically the background colour. In other words, any areas in the computer image which are colour zero - usually the same colour as the screen edges in non-overscan mode - are transparent, showing through the source video.

However, when both the Amiga and video signals are faded to minimum, the effect is reversed with the life action showing through all colours except colour 0. As far as titles are concerned, this means the video footage is watched through cut-out letters in an otherwise solid, uni-coloured screen. Intermediate settings of the fader controls deliver a ghostly blend of both image signals.

Error correction

The possibility of blending a computer image into the video picture has a much greater advantage than simply allowing surrealistic effects. By slowly dissolving a plain red or blue screen to a specific level of transparency, even the slightest white balance errors in the video footage can be corrected.

With the excellent track record of today's fuzzy logic white balance circuits however, the availability of a tool for contrast compensation may be even more valuable.

Similar to a still photographer, who may use a short burst of light in the dark room to subject a print to a calculated overall pre-exposure for combating excessive negative contrast, the Amiga can be used for creating a neutral, medium gray screen which, when dissolved over the video footage to the right level, can considerably reduce the apparent contrast.

Obviously, treating a contrast problem this way doesn't even remotely match adjusting the appropriate control on a television set in effectiveness, but it provides acceptable results and is much more practical for the occasional, short cut which would otherwise have to be left out of the production.

Fade button emulation

Another useful choice provided by most genlocks is post-production fade. Nowadays most camcorders sport a Fade button, which either dissolves the picture to black or, more rarely, to white, with the majority of units muting the audio simultaneously. Such an arrangement produces rather good results for in-camera editing. However, during a subsequent, more demanding post-production session it may become necessary to rearrange fade-in and fade-out points, add new ones or eliminate others completely.

Especially when fades were specifically intended for achieving the best possible first generation results without need for later, additional editing, the correctly exposed part of such a scene may not be of sufficient length for use in a new compilation of the same or even completely different footage.

Therefore, if a computer plus genlock are available, it is best to ignore the camcorder's dedicated fade button and decide during the editing process where fades could be employed with the most creative effect. Scenes will consequently remain usable, without any restrictions, for whatever production they may be required for.

By putting up a plain coloured

screen and fading it slowly in shortly before the end of the scene, the life action can be dissolved into any solid colour suitable for the mood of the footage. A fade-in is simply the reversed process where a solid colour screen slowly fades away to be gradually replaced by the video images.

For fading the sound simultaneously with the picture an audio mixer is a necessity, but every serious camcorder user will need one anyway for preparing enjoyable soundtracks. There are occasions, however, when it works better to contrast a soft picture fade with a hard audio cut, something not possible with a video camera's built-in facility.

Forbidden colours

To make sure that the computer graphics don't degrade the video picture too much, it is necessary to be aware of the limited tolerance to pure,

saturated colours today's composite video systems are suffering from. The Amiga was designed for taking full advantage of RGB monitors which have no problem with saturated colours. As a consequence an image area representing e.g. level 15 red will look vibrant on a monitor but noisy (agitated or vibrating) and badly bleeding out of its boundaries on a TV set.

Even worse, the automatic level control of the recording VCR may introduce nasty distortions. It is therefore always advisable to make a test recording of titles or other computer graphics first and adjust the colour saturation if necessary. Correctly balanced graphics can make even a cheap genlock produce close to broadcast standard results as long as it is correctly factory calibrated.

Conclusion

This brings us to the final, quite important point. It is generally not necessary for the home user to buy a rather expensive broadcast quality genlock unless semi professional use is intended or extensive copying required. As long as the life video images look largely equal before and after they have passed through the genlock, it is mainly a question of getting the computer graphics right to achieve excellent or even outstanding results, with the latter no real problem after a little experimenting.

Anyone owning an Amiga as well as a video camera should seriously consider adding a genlock to the shortlist of most wanted peripherals. It's certainly good fun but can easily put the finishing touches to a video production that will be admired by a wider circle than just the closest family. ❑

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An In Depth Look:

Final Writer

by Owen James

With the release of *Final Writer*, word processing has come yet another step closer to desktop publishing. In fact this latest offering from Softwood Inc. surpasses the current Amiga desktop publishing leader, *Professional Page*, in some respects.

Final Writer is a greatly refined and enhanced version of the popular *Final Copy II* word processor. Many of the new features go far beyond mere word processing, and would fit perfectly into a new class of 'Document' processors. This would better describe where the real power of *Final Writer* lies.

In the weighty box are no fewer than seven disks, a large 200+ page manual, and a colourful brochure displaying the features of *Final Writer*. If seven disks for a word processor sounds surprisingly many, you're right. Even more surprising is that nearly all of these disks are compressed and will expand on your hard drive to fill over 9.5 megabytes.

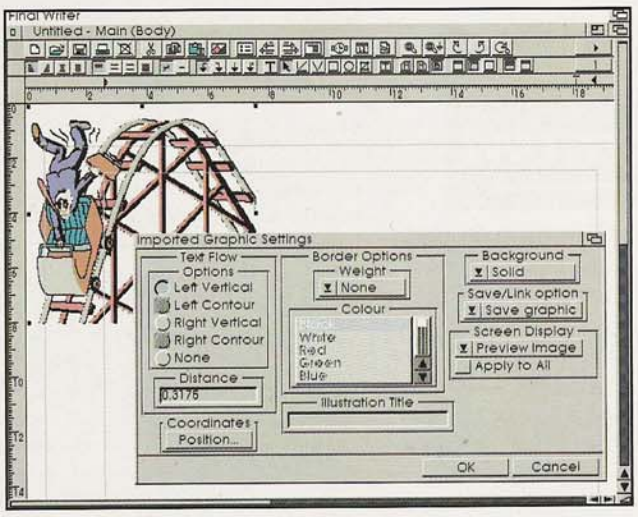
Thankfully there is provision for those with more modest space remaining on their hard drive, which will install only the files necessary to actually run *Final Writer*, leaving the impressive 120 outline fonts and 100 clip art images that are supplied to be decompressed at a later stage.

Getting started

Installation is a painless process, thanks largely to Commodore's excellent Installer utility. Be warned, however, that *Final Writer* will not run from floppies, and requires at least two megs of RAM. If you're likely to want to work with long documents and a large amount of graphics, three megabytes would be a more practical starting point. Workbench 2.0 or higher is required, and I'd recommend at least version 2.1, for reasons which will be described later.

On launching *Final Writer*, a requester is presented to select the type of screen it should open on. If memory is at a premium, you can elect to have fewer colours and open in non-interlace mode. Unattractive, but workable.

Users of *Final Copy* will at once be familiar with the opening screen. It sports a smart WB2-styled interface, and two rows of small icons along the top row. Some, such as the justification controls, are instantly recognisable, while others



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will require a few visits to the manual.

The first striking feature of the interface is that it's highly configurable. The provisions are there to add your own commands to the User-button strip, or to redesign the look of the one provided. Nice, very nice. You can also select your preferences for screen colours, automatic timed saves, date and time formats, and whether or not top and side guide rulers are visible, which may be switched in and out independently of one another.

Basic features

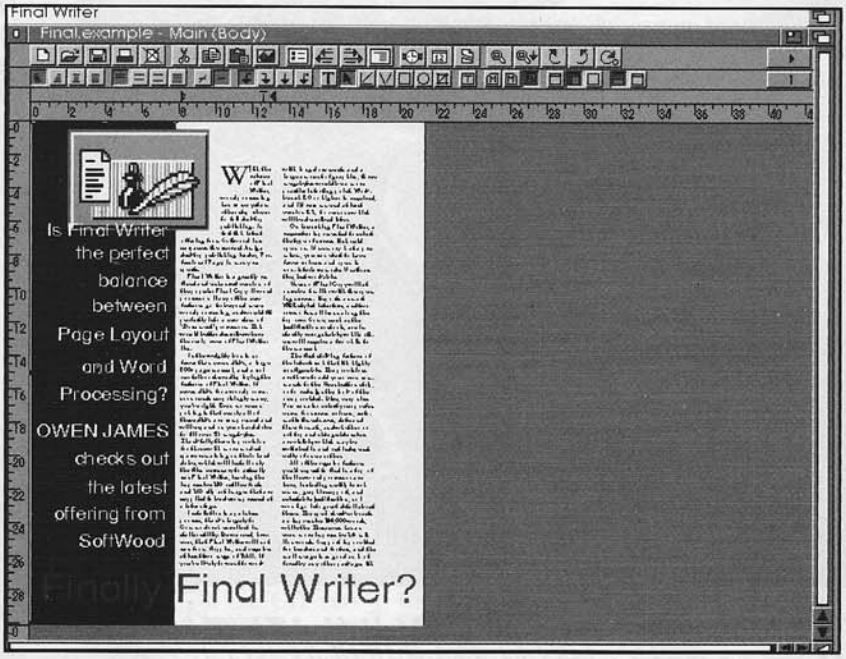
All of the regular features you'd expect to find in a top of the line word processor are here, including multiple columns, graphic support, and selectable justification, so I won't go into great detail about these. The spell checker boasts an impressive 144,000 words, while the thesaurus has an even more impressive 1.4 million words. Support is provided for headers and footers, and the mail merge is as good as is offered by any other package. It's the features beyond these now standard offerings which really sets *Final Writer* apart from the rest of the pack.

Final Writer is ideally suited to long documents. Sure, any word processor can work with multi-page documents, but few are designed to automatically create tables of contents and illustrations, compile bibliographies, and produce an index. Yes, automatically, without fuss, and accurately. These are the features which will make any user involved with producing long documents weep with joy.

Postscript support

Being able to render Encapsulated Postscript (EPS) files to screen is another plus. EPS files are Postscript files which can be imported into a variety of applications, even on other platforms. Typically they're graphic images, but they can consist of an entire page of text.

Previously Postscript files were the domain of large page layout packages, and were only of any use if you had an expensive Postscript compatible laser printer. Now *Final Writer* has opened the way to make the power of Postscript accessible to even the lowliest of clunky



dot-matrix printers. The process is slow, but the fact it works is impressive enough.

AREXX power

An Arexx port and a diverse range of commands is provided, which will delight those of us intent on automating as much of our lives as possible. For the unfamiliar, an Arexx port may be thought of as a doorway to the 'heart' of a program. An Arexx script is a method of remote controlling one or many programs, often without user interaction.

For example, we could write a script that will launch a terminal program, such as *NComm*, dial up a remote computer and download a text file, launch *Final Writer* and instruct it to create a multi-column page, then import the downloaded text, before finally printing the page. No interaction from the user. There are infinitely more useful purposes to put Arexx to work, such is its power, but it could fill an article all on its own.

Fonts ... lots of 'em!

Final Writer goes beyond the font handling capabilities of its predecessors, *Final Copy* I & II. As would be expected, Softwood has continued supporting the NimbusQ format of outline fonts, and 100 of them are provided with *Final Writer*. Also supported are the far more popular Postscript Type-1 and CompuGraphic outline formats. The catch is that in order to use CompuGraphic fonts, one must have Workbench 2.1 or higher installed. Surprisingly, Workbench 2.04 won't do.

Perhaps also surprising is the continued lack of support for Bitmapped fonts. There is little need for bitmapped fonts to be used at all now that Workbench directly supports CompuGraphic Outline fonts, but I continually hear complaining from *Final Copy* users that they'd like to be able to access obscure bitmapped fonts for which there is no outline equivalent.

Text rotation is a new feature in word processing. *Professional Page* and other typesetting software has been doing it for years, but it has remained out of reach of word processors. Text may be rotated to any angle, in 1 degree increments. However, text rotation is not the simple process it is with *Professional Page*. In order to rotate, text must first be converted to a graphic element, and the restriction is only one line at a time. For most purposes this is ample.

Along with rotation, a host of other text manipulation features are available, including the ability to stretch type both vertically and horizontally. I cringe when I consider some of the unreadable text

some users will produce with it, however the features are there and with restraint can be quite useful as a design element.

Text that has been converted to a graphic box may be moved freely around the screen, just as you would in page layout software, however the one line restriction on text boxes limit the usefulness somewhat.

Style tags

Text Style tags are a very welcome function of *Final Writer*, one which I have become accustomed to in my day-to-day work with *Professional Page*. Style tags provide a fast and organised method of changing the style of type in various parts of a multi-paged document.

Imagine, if you will, that you've just completed a twelve or more page document. Interspersed with the 10-point body copy, you've placed sub-headings of 14-point. Upon printing, however, you realise that you would have preferred the sub-heads to be smaller, the body copy to be larger, and the entire document to use a different typeface. A big job? Previously, perhaps. Instead of manually highlighting and then changing the text attributes, simply change the style tag of the body copy and sub-heads from the menu. *Final Writer* will take care of the rest. It's a feature that you'll wonder how you did without.

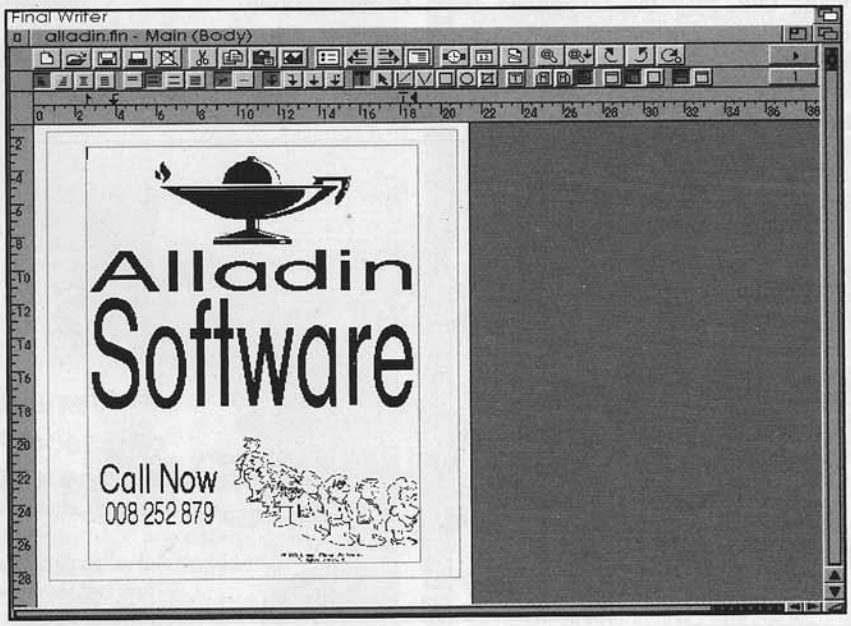
Hard copy

Postscript and Dot Matrix printer support are provided as standard, and thanks to *Final Writer*'s use of outline fonts the quality from even the cheapest of printers is superb. A document containing EPS files will naturally take a long time to print on a dot matrix, but even on my Postscript-compatible laser a complex file can take an awfully long time to render.

Postscript users can also set their screen density and angle, and whether to use round dots or lines for halftones. Crop marks and scaling is also supported, as is Colour Postscript. Colour separations are not supported, but for serious colour work you wouldn't be using a word processor anyway.

Bugbears

My biggest criticisms of WYSIWYG word processors in general, and the reasons why I use *Professional Page* for even the simplest correspondence, is speed and screen readability. Being a reasonably paced touch typist, I find it annoying to be slowed down by a word processor. I have taken to using either *Professional Page*'s excellent offline editor for text entry, or my portable Notepad computer, simply because they are text based and have no trouble in keeping up with me.



Pretty WYSIWYG displays are nice for on-screen proofing, but squinting to make out poorly defined characters just isn't satisfactory.

I was pleasantly surprised with the speed of *Final Writer*. It couldn't always keep up, but it doesn't slow the writer down while it updates the screen. Not perfect, but certainly acceptable.

Unfortunately, screen readability with *Final Writer* is less than what I've seen with other word processors. The characters are not clear and the spacing between them is not consistent. It's a shame that such a fine word processor is let down in this area, but I suspect it to be a trade off between speed and appearance. Such is the sacrifice for a WYSIWYG display.

Wrap-up

As a word processor, *Final Writer* is unquestionably the best we've yet seen on the Amiga. Its document processing power is unmatched, making it the only real choice for large multi-part documents on the Amiga.

As a page layout and design package, *Final Writer* isn't set to take on *Professional Page* or *PageStream*. Although similar results are obtainable (see Fig.1), it is generally far more time consuming and restrictive. It's just not possible to move a column of text a millimetre to the right, or to lay out text in a style similar to what you would see in a newspaper.

That's not to say that there isn't a place for *Final Writer* in the publishing industry. To typeset long reports in *Professional Page* is a nightmare, because, like *PageStream*, it is page oriented rather than document oriented. It just doesn't have the facilities for handling multiple sections in the way *Final Writer* does. Just try compiling an index manually from an eighty page report and you'll see exactly how *Final Writer* can dispose of many of the more tedious tasks.

In my own business, which is heavily involved with print media production, we'll definitely be using *Final Writer* to handle long reports, manuals and other large typesetting jobs. Well done, Softwood.

RRP is $219. For more information call Tupsoft on (02) 477 5353. ❑

CoolCat

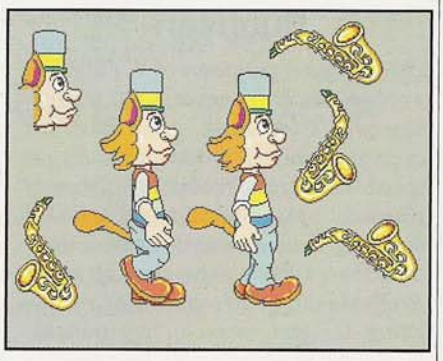
Your own electronic puppet

by Jarrod Pudsey

Do your animations on that trusty paint program look like they could use a little help? Do you lack the talent, or if you're like me the patience, to draw countless frame after frame of cartoon cels? Fear no more, budding animators, for salvation is at hand in the unlikely form of a saxophone playing catman!

CoolCat is a set of four disks crammed with handy clip art and animations designed to be used in *Deluxe Paint* or any other paint program with animation capabilities.

There are over one hundred images and animbrushes to get you started. Even if you've never touched a paint program before, you can be animating like a professional in next to no time.



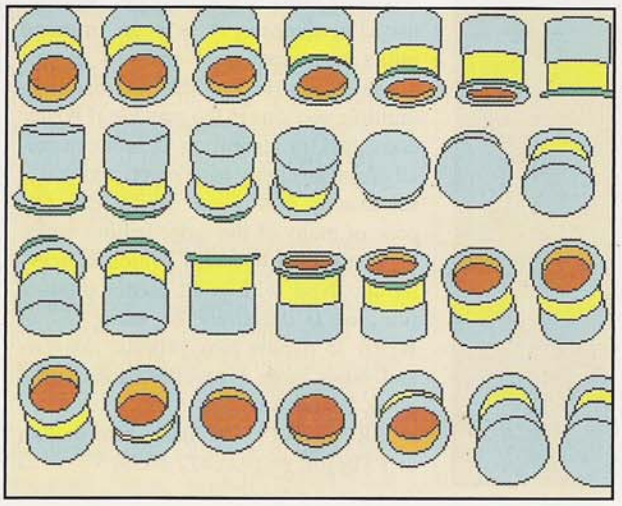
The reason is *CoolCat* comes with everything needed to make Mr Cat walk, talk, play the saxophone and chew gum (not necessarily at the same time), as well as backgrounds, cityscapes, streets, cars, trees, street lamps, buildings and even corners to busk on. You can build up your own electronic animated puppet or use one of the already created animbrushes of the cool one doing his thing.

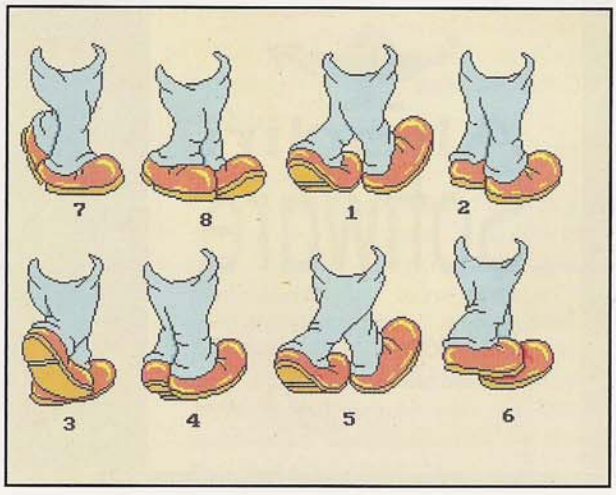
CoolCat is excellent for beginners and equally handy for experienced animators, as each picture contains the individual, consecutive images which make up a particular motion. From walk cycles and arm movements to complicated body twists, turns and walking towards and away from camera. There is even an example of a moving flame on a burning candle. The images are not only a library of teaching tools in cartoon dynamics, but a reference for character design and drawing.

This is due to the picture after picture of arm positions, hand gestures and an entire range of facial expressions. With this reference guide an animator can easily translate their own characters from Mr Cat's motion and place them into his environment or create their own backgrounds and easily add the pre-drawn objects found on the *CoolCat* disks.

So in the time it takes to rip open the packaging, you'll be animating with the best of them. Hopefully *CoolCat* will be the first in a series of packages available to supplement Amiga animations and give that boost to our creativity.

RRP is $50. The images are all 320 x 256 x 32 colours. To order call Ami-Art on (02) 331 4004. ❑





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Media Watch

If you've seen the Amiga in the media, send us a letter outlining when and where it appeared, and what you saw and you might just make it into this regular column. Better still, the best media spotting each month could receive a FREE subscription to *Amiga Review*.

Play School

Colin Baillie of Townsville spotted an Amiga 2000 on *Play School*, showing still pictures of Incy Wincy Spider. We'll discuss your viewing habits later, Colin. In mitigation, he also mentioned that the weather presenters up north use satellite images captured on an Amiga 2000 using the JCUMetSat package developed at James Cook University ... indeed and down south too we hear.

The Empress File

Mark Wakefield of Walpeup, Victoria spotted an Amiga reference in the book *The Empress File*, by Jon Camp. On page nine - "A message was running down the blue screen of the Amiga 3000." Unfortunately, every other reference in the book is to IBMs. C'est la vie.

New Idea

Peter Young of Trott Park spotted an Amiga 500 receiving a good hammering in *New Idea* magazine. It was pictured with Mike Carlton and his son James playing a Soccer game. Unfortunately it appears the word Amiga was not visible anywhere. Thanks Peter - for your sighting you can pick any two public domain disks from the Prime Artifax library. Simply call and identify yourself to claim your prize. The number is 008 252 879.

My Secret Identity

Michael Fox of Airds reports on two sightings - one of which we've already mentioned. The other was on a children's show called *My Secret Identity*, which screens in the afternoon. Viewers had a glimpse of a doctor-cum scientist using an Amiga keyboard next to a 1084S monitor.

An Amiga 500 was also sighted on *Sports Tonight*. An 18 year old sprint car driver was interviewed in his lounge room playing *Indy 500* on our trusty machine. Lots of good press for Commodore in that one! Thanks Michael.

Prime News

Robert Atkins also reports on another sighting in *My Secret Identity*. This time Andrew and Kirk are recording the process of their "wonder dates" - also on an Amiga 500.

However, Robert also spotted satellite images captured and processed on the Amiga on Prime News. The images were inscribed in with the JCMetsat logo in 9-point topaz and a friend at the station confirmed the images originated from an Amiga. Yes Robert, software to do the job does exist and was created locally. Well done, you score a free subscription for your eagle-eyed observations. ❑

AMIGA CD32™

Technical Specifications

Product	Amiga CD32
Clock Speed	14.19MHz
Processor	Surface-mount Motorola 68EC020 microprocessor
Custom Chips	AA multichip coprocessor system for video, graphics, sound and DMA
Chip Memory	2Mb 32-bit RAM; as standard
EEPROM	1Kb non-volatile memory for high-scores and game position saving
ROM	1Mb
External Interfaces	Game controller/mouse/joystick (DB9 male, two)
	Aux connector to both keyboard and highspeed serial port
	Colour composite video
	RF modulator and S-video
	Right and left stereo audio phono connections
Internal Drive	Dual speed CD-ROM drive transfers data at 150Kb and 300Kb per second
Video Display	**Output type:** colour composite; RF modulated; S-video interlaced and non-interlaced; up to 8 bitplanes
Graphic Modes	AA custom chipset produces resolutions ranging from 320x200 to 1280x400 (more with overscan, including 800x600). Colour palette of 16.7 million colours. 2 to 256,000 user definable colours displayable on screen
Sound	Four channel stereo sound, 8-bit D/A converters, 6-bit volume and CD-audio
Power Supply	23 watts, switching
Dimensions (WxHxD)	Approximately 311mm x 81mm x 212mm

OSCAR

The game scenario is set in a multi screen cinema complex where Oscar can enter any of the Magical Film Worlds. CD-Audio Soundtrack. Video Sequence Intro. 256 colours AGA.

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- Wild West World
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- The game contains a sophisticated Zargon Guide Book
- Sounds good, well what are you waiting for? Get DIGGING!

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Commodore

Dear ACAR

Keep it up

As I enter my fifth year of reading ACAR, I'd like to compliment everyone at the magazine. For the last year and a half I have had some problems after having hardware installed by an authorised technician. I took the A500 to Sibnet, where Adrian and his colleagues were very helpful and professional. I look forward to another year with ACAR, and wish all at ACAR the very best.

Robert Spencer
Berowra NSW

No service?

This is a reprint of a letter sent to Commodore. I am now preparing to off-load the Amiga and move to a PC; Commodore's lack of response and courtesy is appalling.

"Dear Managing Director, Approximately three months ago I phoned the Commodore Service Department to report that the lettering on the keyboard of my A600HD was disappearing, about six months after purchasing it from the Hard Disk Cafe on September 5, 1992.

"My old C64 lasted me through the publication of five books and countless articles and letters over a period of about seven years.

"It is disconcerting to find that the person in your service department who promised to call me back after he had looked into the matter did not do so. He did say that he had not heard of this problem before. Unfortunately I did not note his name.

"I rarely complain, but am doing so in this case because I believe promises should be kept. In the past I have had good service from Commodore; I am sorry it has not been forthcoming in this case."

Peter J McCormack
Paddington, NSW

ACAR: It's certainly annoying that Commodore didn't get back to you, Peter, but dumping the whole computer on that basis seems a bit severe. When Commodore said it was a rare problem they were right; here at ACAR we've never seen an Amiga with rubbed-off keys.

Moreover, Commodore actually have no legal reason to help you, since you bought the machine from Hard Disk Cafe, who have since shut up shop. Usually manufacturers will help customers "stranded" after retailers go bust, but they're by no means required to.

We at ACAR get this kind of situation all the time; you get used to ringing back a couple of times. And before you switch, we've had just the same problems with IBM clone companies!

Memory chip problems

Recently I was unfortunate enough to have one of my memory chips expire, as has happened a couple of times before. The computer supplier I go to has a workshop upstairs, but this time the workshop was closed, with a sign telling me to enquire at the computer store.

A salesman said they now owned the workshop and they had the chips but I'd now have to buy them in lots of eight, with a ten minute explanation of why they cost more. I was told to see the receptionist at the entrance.

The receptionist was lining up eight chips and about to put them in a plastic bag; she'd taken them from a plastic drawer and was standing on nylon carpet. I was always under the impression that memory chips were rather prone to static electricity, but when I voiced my opinion I got a dirty look. When I asked if I could have just one chip, she rang someone and said I could, but they cost $10 each.

I decided to buy two chips, and put them in the antistatic tube I'd brought my old chip in. The receptionist put a sticky label on the tube that said

"PLEASE NOTE: As we have no control over how parts are handled or fitted we will not refund money or exchange parts."

When I asked how they'd know it was my fault if it didn't work, I was told it was no longer their concern after the item left the store. I left, never to return.

G.F. Bateson

ACAR: You're right - dynamic random access memory chips (DRAMS) are static sensitive. However, they're not as touchy as many chips and you're pretty unlucky if you manage to blow one; our static precautions when installing delicate gear usually extend to touching the power supply of the computer and then going about our business. Nonetheless, keeping them in ordinary plastic trays and bags is asking for it.

The refund situation is tricky. Legally, the store's obliged to give you your money back if they sell you something that doesn't work. However, since a chip blown at the store is indistinguishable from one you fried yourself, it's impossible to prove it's not your fault. The best strategy is to do as you did - vote with your wallet and take your business elsewhere.

A600 blues

To begin with I'll shower you with the ritualistic compliments; your mag is fabulous, brilliant, the most enjoyable and best of the serious Amiga dominant mags. And now that that's over, I'll tell you my computer hassles.

I own an A600 and I'm now wondering if it was worth it. I've recently added an extra meg of RAM to run *Final Copy II*, but where are all the other add ons and peripherals? Perhaps I should have bought an A500.

I've been trying to buy a hard drive but nobody seems to have the correct Kickstart chip in stock. I'm getting sick of it.

Another thing I'd like to get is a CD-ROM drive, but one has not been produced yet, although I'm told the A570 can be modified to work on the 600. Apparently an A1200 drive that works with the PCMCIA socket's being produced and it should work but I'll believe that when I see it.

Is it possible to fit a cheap accelerator to a 600? Nothing too fast, just 16MHz or similar.

Glyn Devlin
Wantirna Vic

ACAR: The A600 is certainly something of an orphan. It's the least expandable Amiga ever made, winning narrowly over the original A1000. About the only things you can find for a 600 are PCMCIA RAM cards, which are expensive, and 1Mb trapdoor boards like the one you've fitted. We've never heard of the A570 modification, but it might be possible; there's certainly no news on A1200 CD-ROMs. Most Amiga users just use SCSI CD-ROMs controlled from their hard drive cards, but you can't get SCSI cards for 600s.

There are no accelerators available for the A600 - but adding the fast RAM would have sped it up by about 30%.

Look on the bright side, though - you can fit all the usual external stuff like printers and modems to a 600, and still use it if you upgrade to a more powerful machine later. The 600 still represents a dirt-cheap introduction to Amiga computing.

User Group Grapevine

Ken Woodward has started a new Amiga User Group in Newcastle, promoting the Amiga as a real alternative to the "mainstream" computer platforms, and to show people what can be achieved with their Amiga. The Mutual Amiga Computer Enthusiast club (MACE) holds Special Interest Groups on desktop publishing, video, sound, animation, graphics, games and more.

All Amiga users are welcome, and the club meets on the first and third Wednesdays of every month at 7:30 PM at the Lambton Bowling Club. All Amiga owners are welcome; for more information about membership contact Ken Woodward on (049) 523 770.

Drive confusion

I was recently given an A590 hard drive for a song because the drive itself is kaput (the rest works perfectly).

I'm an invalid pensioner and money is a little tight but I would like to get the A590 going and am ready to buy the memory chips.

(Q1) What is the right type? The hard drive is the serious question. At the moment it's badly crashed, so I intend to replace it, and would like to use a drive I already own.

(Q2) Does the "XT Drive" marked on the circuit board mean an IBM XT drive? I have several, and would like to use one. Basically the solution must be cheap. I'm not interested in a one gigabyte SCSI drive for $2000 when I have an A1200 for my serious work.

(Q3) I have a source of cheap IBM hard disks rather than dedicated (and expensive!) Amiga drives - can I use any of them? I'm a Ham Radio operator and quite handy with a soldering iron; I just don't know much about the A590. Anything you can tell me will be most helpful.

David F Angus
Berry NSW

ACAR: (A1) The A590 takes 256 x 4 DIP RAMs; any memory supplier will know what you want if you ask for these. Plug 'em in so the notch on the chip lines up with the notch in the socket and all will be well.

(A2) The A590 hard disk controller accepts XT IDE or SCSI drives; if you check your drives for an XT IDE identification (unlikely) or model ID number, you can find out if they support this standard. AT IDE drives are the common sort. The A590 can NOT accept ST-506 type drives.

If you have an XT-IDE drive, just plug it into the same socket the current, dead one occupies.

The A590 will work with any SCSI drive too, but this is of course considerably more expensive. SCSI drives are, however, more reliable because they are always physically younger than XT drives and intrinsically better built.

(Q3) It's a popular misconception that Amiga drives are more expensive than IBM drives. They're not, for the simple reason that Amiga drives ARE IBM drives. The reason Amiga users usually spend more per megabyte is that most IBM machines use IDE drives, and most Amigas use SCSI.

IDE only lets you use two drives from each controller - and many drives don't work with each other - and the only things you can use from an IDE controller are hard drives.

SCSI, on the other hand, lets you use seven devices from each controller, and will handle CD-ROMs, tape backups, removable cartridge drives, monster scanners and all sorts of other things.

Your source of cheap IBM drives is almost definitely standard IBM IDEs, or "AT IDEs", which don't work with the A590. Sorry! ❑

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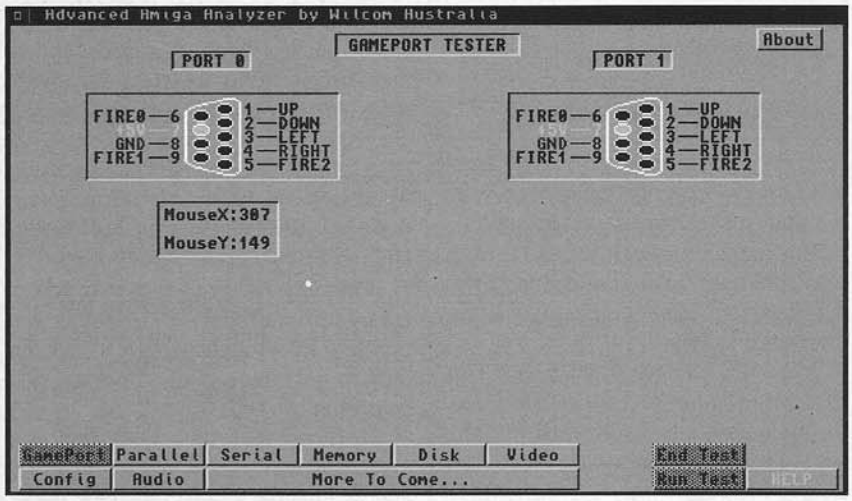
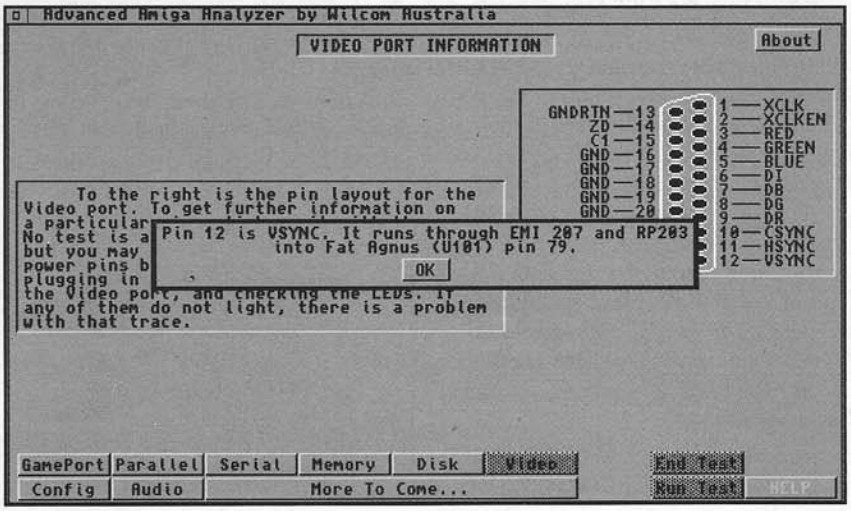
Serviceman on a disk

Advanced Amiga Analyzer

by Daniel Rutter





Your Amiga doesn't work. For beginners it's terrifying, for experts merely irritating, but it happens to all of us eventually. Like many problems, if you throw enough money at it it'll go away and this is the only solution available to most users.

After all, how many people can trace a fault in their computer and do anything about it if they find it? More than you might suppose.

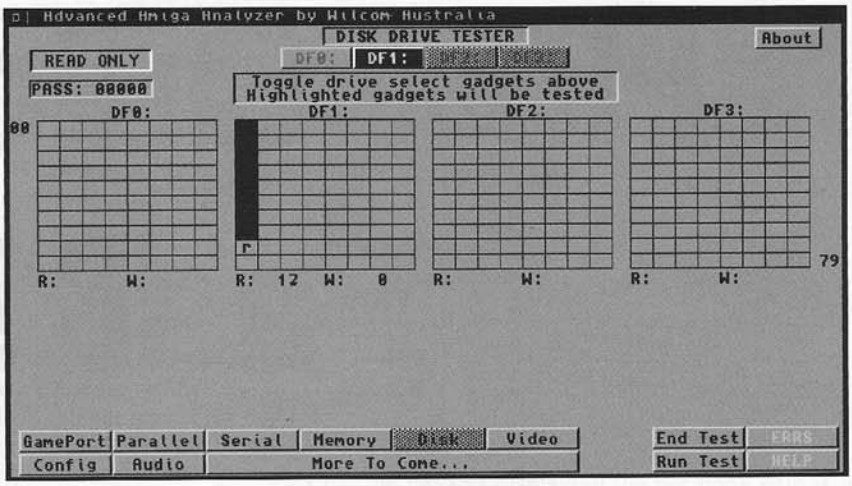
There are two things you need to find and fix faults in your computer without lining the pockets of a serviceman. They are some sort of diagnostic system and a decent level of proficiency with basic electronic tools - soldering irons, chip puller and so on. *Advanced Amiga Analyzer* won't help you at all with the latter, but it does a pretty good job at the former.

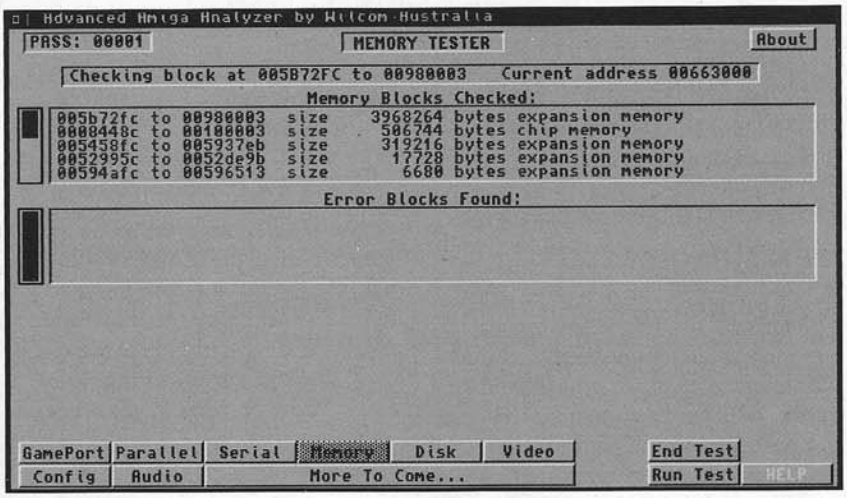
The package includes a disk, a slim manual and four testing dongles. Dongles are little packs of specialised electronics built into small plugs which go in one of the ports of your computer, and they're normally used as copy protection for software.

These ones are for diagnostics, and will test the video, mouse/joystick ports and your serial and parallel ports, too. The video and mouse port dongles just check voltages and light up the

right LEDs if everything's working, but the serial and parallel ones include a loopback function so the computer can interrogate its own hardware.

This is where the disk comes in. *Advanced Amiga Analyzer* comes with support software that lets you test all aspects of your system's behaviour. You can see the data flow from your mouse and joystick ports, to see if your stick won't go left because it's broken or because the port is. You can test the read and write functions of your floppy drives. You can test data transfer for the serial and parallel ports, and the testing screen also lets you click on pins to see what they do.





> *"... how many people can trace a fault in their computer and do anything about it if they find it?"*

Analyzer will scan your available RAM for problems, and it can also test all four audio channels. It also includes a basic configuration screen, telling you what sort of machine you're looking at so you don't have to take off the cover. You can also test your video port, but only for the correct voltages. A basic troubleshooting guide is included for video problems.

Analyzer's biggest advantage, and the thing that puts it distinctly ahead of the piles of freely distributable diagnostic programs, is that it can run tests continuously - for days if you want. This is a feature I've never seen on anything but custom-built diagnostic programs, and it's invaluable for hunting down those irritating heat related intermittent faults.

The software has a couple of glitches - for example, clicking on a couple of the numbers on the Audio Test screen gives you messages about serial port pins - but they don't impede its function.

So who needs *Advanced Amiga Analyzer*? Average users won't know what it's on about, but it might be handy to be able to tell the technician what seems to be wrong - it might save you some labour charges.

The hardware loopback and timed tests are the only *Analyzer* functions that you can't duplicate with freely distributable alternatives, but they're important features and it's nice to have all the tests in one place, rather than having to run a dozen different programs on a sick system to find out what's wrong.

Advanced Amiga Analyzer is available from Amadeus Computers. Originally it cost $200, which was far too much. It's now come down to a much more reasonable $129, which makes it a perfectly acceptable deal. The package doesn't really have much commercial polish, but it works. If you're an amateur or professional technician or a serious hobbyist, it could prove a wise investment.

For more information call (02) 652 2712. ❑

How Quick Is 'Fast'?

Hiko Wynen explains what to expect when upgrading from a 68000 machine to the new Amiga 1200.

If you're an Amiga 500 owner, it's easy to get impressed by, and feel tempted to move up to, the much faster A1200. After all, the latter is supposed to run about four to five times quicker than your trusted old machine, while at the same time offering (at last!) industry standard 256 colour graphics. If that's not enough, the number of colours can be expanded to a quarter of a million by using HAM-8 mode. The PCMCIA card slot promises simple expansion options, and there's plenty of other plug-in options appearing.

To find out how the facts match claims and expectations, especially as far as real life, everyday productivity is concerned, we ran a number of widely accepted standard tests as well as some general, basic tasks on both an Amiga 500 and its newer cousin. The A500 had 1 Mb Chip Ram, while the A1200 was operated in its off the shelf version with 2 Mb Chip Ram and additionally with a GVP SCSI/RAM+ board fitted. The latter adds up to 8 Mb of 32 bit Fast Ram, the choice of an FPU and a SCSI-II interface.

Shared responsibility

Not surprisingly, the basic A1200 outperformed the A500 in all areas, with the overall increase in speed getting close to the 4x mark for standard tasks. Floating point operations, however, had difficulties to return an average boost of 2.5x, a good but certainly not earth-shattering result. Depending on the amount of time the CPU had to share memory access with the custom chips during a specific task, and the complexity of the operation, the unexpanded A1200 proved to be between about 1.75 to 8 times faster than its predecessor.

Providing the main 68020 processor with its own, exclusive 4Mb of 32-bit memory, so it had not to wait for the custom chips to finish their

In practical use, our expanded 68020 based Amiga 1200 (4 Mb/68882 FPU/SCSI 2) proved clearly superior to the A500 under all conditions. Screen redraws were almost 25 times faster with eight specified windows open on Workbench. The math intensive spreadsheet took just under seven seconds to recalculate, compared with 15.2 seconds. Using the PC-Task software emulator, the MsDos Cad program's main screen was ready for input after 8.4s instead of 28.4s. Rendering our 320 x 512 HAM test image took 15.7s compared with 66.8s, and a 32 col. render of a 320 x 256 24 bit grab lasted about 18 seconds on the A1200 while the A 500 needed over a minute (101.9s).

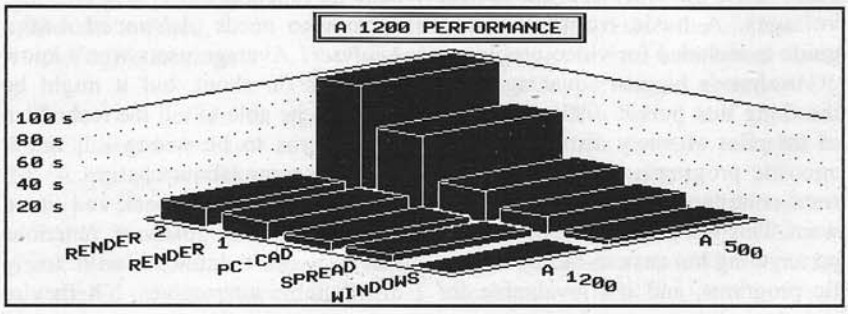


Table 1:

A 1200 PERFORMANCE
AIBB Test Results

		A 500	A1200 CHIP	A1200 +FAST	A1200 +68882
PIXEL	(sec.)	27.76	8.52	6.50	6.50
SIEVE	(sec.)	63.94	12.93	12.32	12.32
DHRYSTONE	(/sec.)	1422.00	2673.00	5107.00	5107.00
SORT	(sec.)	59.74	23.17	15.50	15.50
MATRIX	(sec.)	22.36	5.32	3.99	3.99l
MATH	(sec.)	95.68	11.77	9.19	9.19
MEMTEST	(sec.)	37.72	11.13	9.26	9.26
TGTEST	(sec.)	13.70	6.15	5.54	5.56
SAVAGE	(sec.)	703.96	336.77	192.38	2.64
FMATH	(sec.)	71.92	41.00	21.74	2.76
FMATRIX	(sec.)	31.56	13.71	8.32	5.86
BEACHBALL	(sec.)	1950.88	526.63	302.94	26.52
SWHETSTONE	(/sec.)	24565.00	49604.00	88736.00	1204747.00
DWHETSTONE	(/sec.)	26971.00	55941.00	98647.00	1224081.00
FTRACE	(sec.)	502.44	237.98	136.22	4.27
CPLXTEST	(sec.)	140.92	68.78	39.19	8.14

Table 1: AIBB results in detail

Table 2:

A 1200 PERFORMANCE
IN USE Test Results

		A 500	A 1200 +68882
WINDOWS	(sec.)	5.2	0.2
SPREAD	(sec.)	15.20	6.93
RENDER 1	(sec.)	66.80	15.70
RENDER 2	(sec.)	101.90	18.00
PC-CAD	(sec.)	28.40	8.40

Table 2: Additional practical performances

duties, instantly increased the average performance gap between the two machines to almost 450%.

Individual results ranged from 3.3x to over 10x. At this point it is necessary to remember that it makes very little difference in an Amiga 500's speed department whether the 512k trapdoor RAM expansion has been configured as additional Chip or Fast Ram.

In contrast, the A1200 really comes to life when offered some additional RAM, and not only as far as the figures are concerned. The subjective perception was even better. Programs suddenly seemed to run perfectly smooth, scrolling lost any jerkiness, and most responses appeared almost instantaneous by comparison. Rather oddly though, some programs exhibited much smoother scrolling on the A500 than on the 2Mb A1200.

As could be expected, the addition of a 68882 FPU (Math-Coprocessor) had no effect on the speed of standard programs involving only integer operations. However, things changed dramatically when floating point calculations were required. Speeds increased by factors of up to 260+, with an average of 75. In real life, the performance increase delivered by the FPU depended very much on the specific program used.

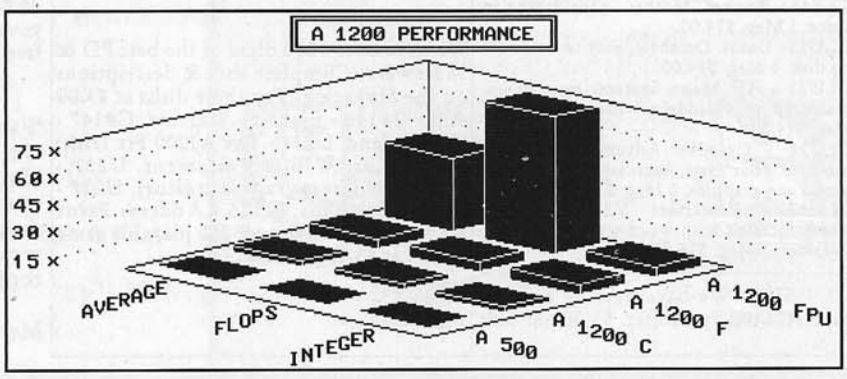
Rendering the same image with different graphics software (2D & 3D) revealed that not all programs take advantage of the potential speed boost. The same applied to digitisers and spreadsheets.

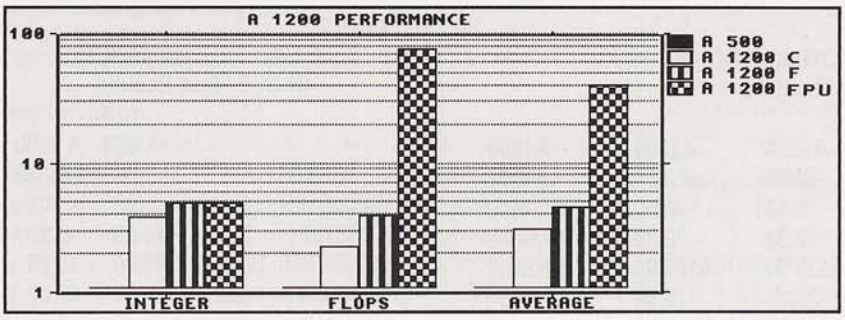
Few serious problems

On the subject of digitisers we found compatibility problems with the GVP board and the Phoenix Colour Digitiser. The distributors were still working on it at the time of writing.

Please note that the option of up to 4Mb Fast Ram expansion via the PCMCIA slot is lost when a trapdoor memory board contains more than 4Mb. However, as PC-Cards are only 16-bit, most people would be better

Employing "Amiga Intuition Based Benchmark" ("AIBB") tests, the stock A 1200 performed virtually three times as good (fast) as the 1 Mb Chip Ram A 500. Adding 4 Mb of 32 bit Fast Ram improved the speed advantage to almost 4.5 times across the range of individual tests. While the 68882 FPU had no effect at all on integer calculations, floating point operations (FLOPS) were accelerated to a maximum of 266 times A500 speed (Savage), resulting in an average performance increase of over 40x in all tests





The logarithmic display of the AIBB results gives a somewhat better impression of how the A 1200's speed advantages are perceived in practice.

off with 8Mb of 32-bit trapdoor ram anyway.

Otherwise we experienced very few setbacks even with old software. *Protext* users will find it rather disappointing to be greeted by a large requester informing them that the program failed to open a 1265 x 256 window. There are a couple of ways around the problem, but neither is particularly elegant. Our version 4.3 loaded normally when the computer was booted from disk (Wb 1.3). If that's not an option, opening a default public screen in either high or super high resolution will also do the trick.

In the latter case reading may be a little more difficult on a common 1084 monitor, but it is still an acceptable solution. (Utilities like the shareware program "PSX" allow easy opening and closing of screens in all resolutions and up to 256 colours).

Quite interestingly, setting the Workbench screen to 1280 x 256 only resulted in *Protext* asking for an even larger window of 1920 x 256.

Apart from solving the *Protext* problem, the SuperHires screen in up to 256 colours proved invaluable for running CAD programs or providing an instant overview when assessing several lower resolution projects at once. By forcing MultiView to open a window on the Workbench screen, or the default public screen for that matter, it is possible to have as many text and graphics windows as required on the SuperHires screen, even if the programs the projects originated from are limited to lower resolution custom screens only.

Competent PC-Tasks

In addition to running Amiga programs, we also looked at the improvements to expect when employing a PC software emulator like *PC-Task*. On the A500 *PC-Task* has always been quite capable for most DOS operations involving text. Its real potential, however, only comes out in an 32-bit environment as provided by the A1200. Though still a little sluggish, relatively powerful entry level drawing and DTP packages like *MicroCad* and *Timeworks Publisher Lite* became quite usable.

For example, putting a one page newsletter together, consisting of two graphics and three columns of text, took the best part of a working day on the older Amiga. Printing alone required almost an hour. In contrast, the whole project was finished in much less than an hour on the A1200.

Although such a comparison is not as reliable as our other tests, because of too many uncontrollable variables when performing complex tasks, it

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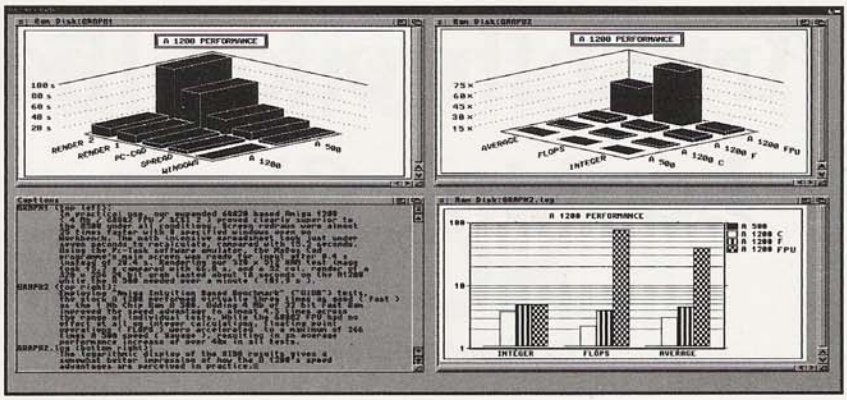
nevertheless shows that it would be out of the question to run *Publisher Lite* on the A500 unless one suffers from serious masochistic attacks.

Multitasking

Almost as important as the performance of individual programs, or certain, abstract test figures, is the Amigas' multitasking capability. Here too, the A1200 makes life a lot more bearable. Having the same eight program windows open on the workbench screen, the A500 needed around five seconds to redraw everything when one window was moved across from left to right. The A1200's response was virtually instantaneous, allowing to run as large a number of independent programs simultaneously as memory reserves allow - without major speed penalties.

Conclusion

The A1200 is clearly a faster and more versatile computer than the A500. However, for about the same price the lower specified machine can be upgraded to 68030 performance which would definitely put it ahead in the race. So is there an answer to whether it would be better to upgrade or replace?



SuperHires (Lace) mode makes it possible to evaluate several projects at the same time while simultaneously, as in this example, typing required comments (1280 x 512 screen shot).

If you want or need to stay in touch with the rest of the computer market, you will need at least the 256 colour graphics of the AGA chip set. To give ECS machines the same capabilities requires a 24 bit graphics board which presently can cost a lot more than the A1200. As a consequence, it seems reasonable to replace the A500 under those circumstances as it will also guarantee that all new software can be run without limitations.

On the other hand, if you are running specific programs you want to speed up as much as possible, and are prepared to be excluded from some future developments on both the software and hardware fronts, you may achieve more per dollar spent by upgrading your old machine. (It would also be more environmentally conscious!) Be aware though that the improved compatibility with all Amigas old and new, as rumoured for the next major Kickstart/Workbench upgrade, may not eventuate in the end and Commodore might even decide to go for a clean break with the past.

Considering all points, the majority of 68000 Amiga owners will be better off and get more value for money by upgrading to the A1200 as soon as possible. Or in other words, the A1200 is worth every dollar. ❑

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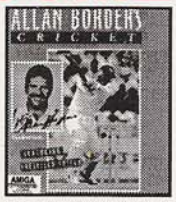

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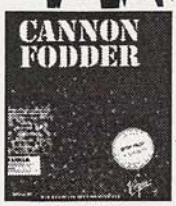

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Artist through the Looking Glass

by Grahame Bowden

Strange thoughts arise in a *Deluxe Paint* artist's mind. Or perhaps thoughts arise in a strange *Deluxe Paint* artist's mind. This artist's mind recently fell to cogitating upon the mechanics of magnifying an image. The simple answer to the problem would appear something like this:

Go to the spare page and draw a filled circle to represent the magnifying lens before stepping back to the artwork page. Pick up the section of picture to be magnified as a custom brush, then tap the equals (=) key a couple of times to slightly enlarge this brush.

Go back to the spare page and make a stencil which protects everything except the colour of the previously drawn filled circle. The stencil is required because the magnified custom brush will not be the round shape of a magnifying lens. By creating the stencil the enlarged brush can be stamped down on the circle and any fragments which overlap the edges won't appear. Turn the stencil off, pick up the circle as a new brush and there's a very basic magnified image which can be stamped back down over the original artwork as shown in Figure 1.

Bear in mind however that this image, being a simple solution to the problem, is not absolutely realistic, although it would probably suffice for most inanimate artwork. For realism, especially with animated objects, a more subtle method of enlargement is called for.

Subtlety is needed because cheap magnifying lenses of the type I possess have a tendency to very slightly distort the edges of images they enlarge. This distortion is missing in the simple method of magnification. How then can distortion be created and is it especially difficult to do? The how is found in *DPaint*'s box of arty electronic tricks and, as usual, it's not very difficult to do.

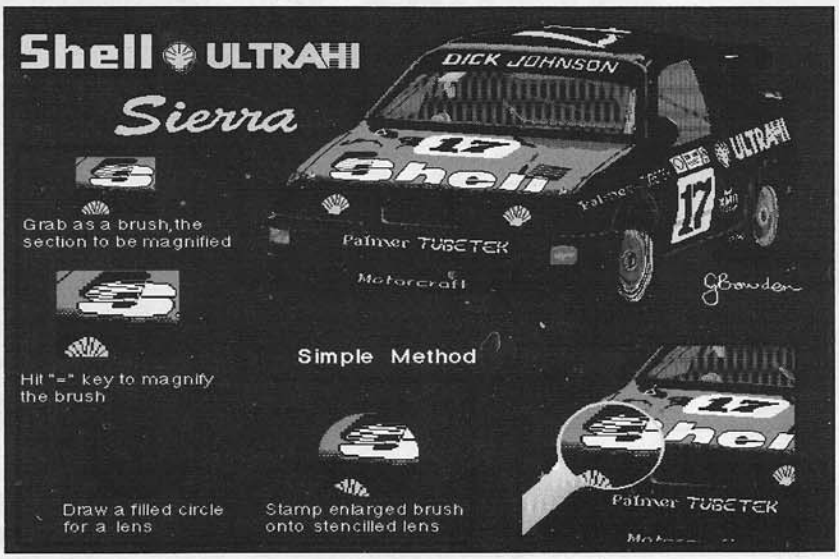
When constructing planets - we did that a few issues back - the "Wrap" selection from the Fill Type requester is used to cause a custom brush to appear to form a dome as it wraps itself around a circular shape chosen for the planet. "Wrap" however, causes too much deformation for a magnified image. This month the "Brush" selection from the Fill Type requester will create a similar effect but with far less distortion, just enough distortion in fact to simulate a magnified image.

First grab a custom brush by picking up the section of drawing to be magnified (remember, do not pick up any bordering background areas) then call up the Fill Type requester. Select "Brush" (See Figure 4) as the fill type to be used before exiting via the OK button. Remember, the nominated fill type will be used by *DPaint* for all flood fill applications, meaning all filled shapes - circles, rectangles, freehand filled etc. - will use this current "Brush" setting from the Fill Type requester.

With the custom brush hanging from your mouse's tail select the filled circle tool (Shift-c from the keyboard) and draw out a circle large enough to suit your degree of magnification. And that, cherished readers, according to Figure 1 "Mild Distortion", is that. Unless of course the degree of distortion doesn't meet with your rigid demands. Should this be the case it's a simple matter to add to the deformation, to create a bigger bulge as it were, by distorting a distortion. I'll explain.

The details are in the illustration in the box at the lower left of Figure 2. If the original brush - #1 in the illustration - were to be "Brush" filled into a rectangle the result would be as de-

Figure 1



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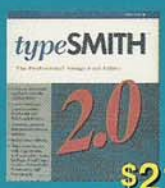

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picted in #2 in the illustration. This distorted image can now be grabbed as a brush and used to "Brush" fill a circle, thus creating a double distorted image shown here as #4. A comparison of "Mild Distortion" and "Severe Distortion" in Figure 2 reveals the extra deformation especially around the Shell trademark in the car's headlight.

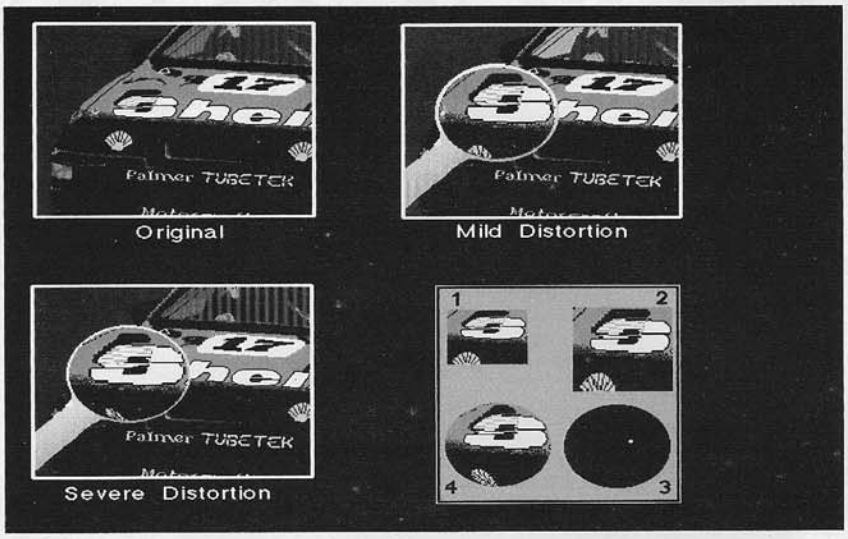

Figure 2

Mag-Animation

Having seen how *DPaint* makes short work of static image magnification, we turn now to a little mag-animation. The effect sought is the appearance of a water droplet running over a background picture. The program has the ability to easily produce this effect but the process used to get the droplet rolling demands some careful cogitation. Words on a page may not be enough to fully explain the production method but hey, that's never stopped us before. The eight frames along the top of Figure 3 give a hint of what the animation looks like when run. Here's how it's done...

To begin, the area over which the droplet is to run - in this case a small character from the ever popular Carmen Sandiego series of educational games - must be picked up as a brush and saved. Why not call it "Gangster.brsh" for this exercise. The "X" (horizontal) and "Y" (vertical) dimensions of the brush need to be determined and the simplest method here is to turn on perspective (numerics keypad "Enter" key) then right button click on the Grid tool in the tool box to call up the Perspective Settings requester. Provided AutoGrid under the Preferences menu is active, the "X" and "Y" dimensions at the top of the Perspective requester will be the brush's X and Y dimensions. Make a note of these figures. For this example the gangster character brush had an X dimension of 63 and a Y dimension of 69 pixels so those are the numbers which will be referred to in this tutorial. Your own brush may be different.

Having jotted down the brush dimensions the next step is to draw the droplet shape - not an overly difficult task even for a dyslexic dauber. Once drawn, measure the drip's Y axis. For my example the drip is 39 pixels high. Note that number, then pick the shape up as a brush and save it as "Drip.brsh".

To create the gangster picture's distortion as the droplet slides down the screen, an animbrush will be produced which will ultimately be "Brush" filled onto the drip shape. The animbrush will be taken from an animation of the Gangster.brsh moving UP the screen. The distance the brush moves up the screen must be the total of the brush's Y dimension plus the droplet's Y dimension, in this case 69 plus 39 pixels equals 108 pixels. With the droplet shape on screen I created 108 animation frames via the Anim/Frames/Set #.. menu. Having the droplet shape on screen as the anim frames are created automatically copies it to all frames. This saves time later on.

I then stamped the Gangster.brsh down in frame 1, called up the Move requester and set the "Y" Dist: to 108 and Count: to 108. Clicking the Draw button moved the brush up the screen travelling one pixel per frame. This set the scene to pick up an animbrush and here another tricky bit strikes. The initial animbrush cel will contain only the top single pixel strip of the brush while the area of screen to be grabbed for the animbrush must be exactly the height of the droplet shape drawn earlier.

Select Animbrush/Pickup from the Anim menu, step to frame 1 of the animation and outline a 63 pixel horizontal by 39 pixel vertical area extending upward from the top one pixel strip of the gangster picture. Figure 4 illustrates the single pixel first cel of the animbrush and also gives a guide to the area of screen to be grabbed for the animbrush. As *DPaint* picks up the 108 cel animbrush the gangster moves up through the outlined area - through the window if you like - leaving the final cel an empty image. Save the brush as "Drip.animbrsh" as soon as it's grabbed.

Now the time saving mentioned earlier. The droplet shape, which is going to be filled using the new animbrush, is already on all frames. This is a good thing because the next major step is to select "Brush" from the Fill Type requester and with the "Drip.animbrsh" as the current brush, animfill the drip. That's right, press keyboard Shift-7 to ensure the animbrush is at cel 1 and hold down the Alt key while filling the droplet. *DPaint* will automatically step through all the frames filling each droplet in turn. Again Figure 4 gives an impres-

sion of what to expect. It's not time to relax yet though.

The solid area of the droplet, which is not needed in the final product, must now be deleted by flood filling it with the background colour. This can be done either frame by frame or via careful use of the animfill routine in conjunction with the right mouse button. I leave that decision up to you but the end result should be something akin to what's shown at the bottom of Figure 4. Finally, pick this distorted droplet up as a new animbrush. Remember to begin at frame one and pick up an area large enough to enclose the entire brush. Save the brush as "Distorted.animbrsh".

Next step, clear the screen before reloading the original undistorted brush (in this case Gangster.brsh), and stamp it down on frame one. Copy this frame to all frames by going to the Anim menu, moving down to the Frames menu and selecting Copy Frames.. from the pop out menu. When the requester appears click "All Frames" then OK.

Painted stencils

Hang in there now, we're almost finished. Just grab your mouse by its ears and step with me into the land of painted stencils.

Painted stencils (only available in *Deluxe Paint 4.0* and above) can be made via the Effect menu by selecting Stencil/Paint On/Off or via the keyboard by pressing Ctrl-s. Once selected, stencil paint changes the screen colours and allows any subsequent left mouse button drawing to protect whatever area of the screen is overlayed regardless of the colours covered. The protected area will initially appear as a lighter area on the screen. The right mouse button un-protects previously protected areas.

So with Stencil Paint active select the filled rectangle tool and use the left button to draw a protected area to exactly cover the gangster brush shape that was just copied to all frames. Press Ctrl-s again and the stencil is

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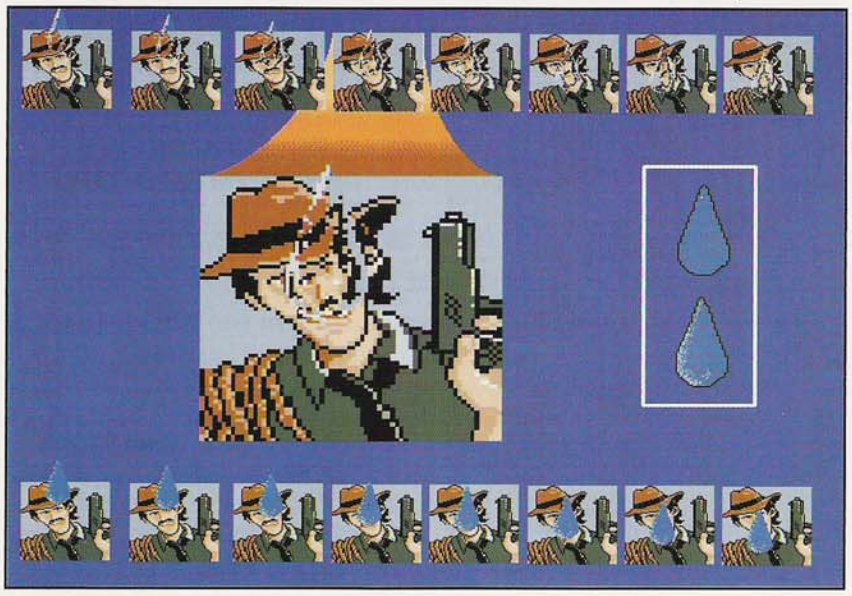

Figure 3

completed as the screen goes back to normal. By the way, there's no need to draw a rectangle over each and every anim frame, *DPaint* has automatically done that for you.

Why was it necessary to create a stencil? Patience, gentle readers, we'll come to that shortly.

For now, reload the Drip.brsh saved when the drip shape was originally drawn, stamp it down somewhere in frame one then shade it to suit the background - see Figure 3. For my shading I constructed a colour range using four light blue colours, selected Cycle from the Mode menu and sketched around the edge as shown. This enhanced droplet must now be made to slide down the screen as roughly shown across the bottom of Figure 3. I clicked the 39 pixel high droplet down immediately above the gangster and used the Move requester to shift it 108 pixels (39 + 69) down the screen. Eagle eyed artists will note the droplet is blotting out the poor gangster as it moves down the screen. The reason for this is that, in this case, a painted stencil was not made before animating the droplet. So now you know the reason for the stencil. When drawing the real thing the stencil makes the drip appear to pass behind the gangster.

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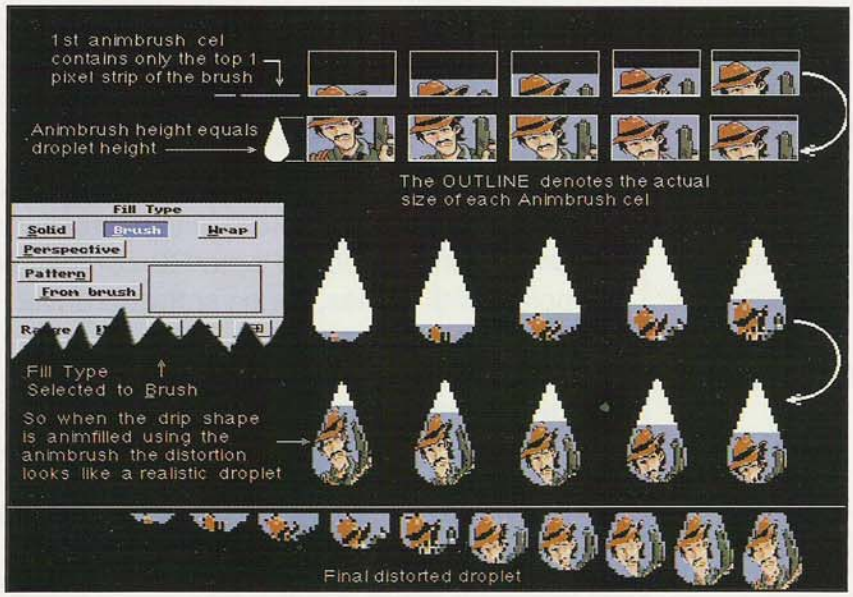

Figure 4

Yes it would have been easy to create a stencil which protected all colours except the background colour but unfortunately some of that very colour forms part of the gangster picture. The droplet would show through those areas and that, gentle readers, would be unacceptable.

Okay, the drip has dropped, let's distort the dude.

A little distortion

Reload the distorted droplet (Distort.animbrsh) and step to frame two. Frame one, remember, has the solid droplet just above the gangster's picture and we need to start this bit of animation just as the droplet moves onto him. Stamp the brush down then immediately press shift-7 to return to animbrush cel one. Call up the Move requester, enter minus 108 in the Y Dist: box and 108 in the Count: box and click draw. When the program finishes the animation is complete and another *Deluxe Paint* hurdle has been leapt. Press keyboard four and watch your handiwork.

Actually, just between you and I, the image in the droplet should move slightly as the droplet moves. That problem I leave to your own infinite resources, I'm outa here, ciao. ❑

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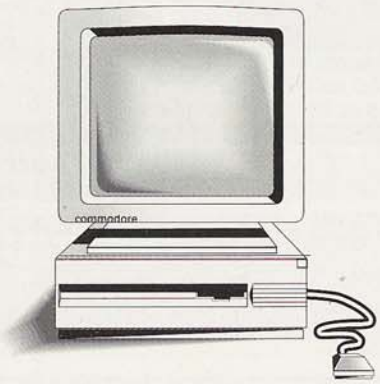

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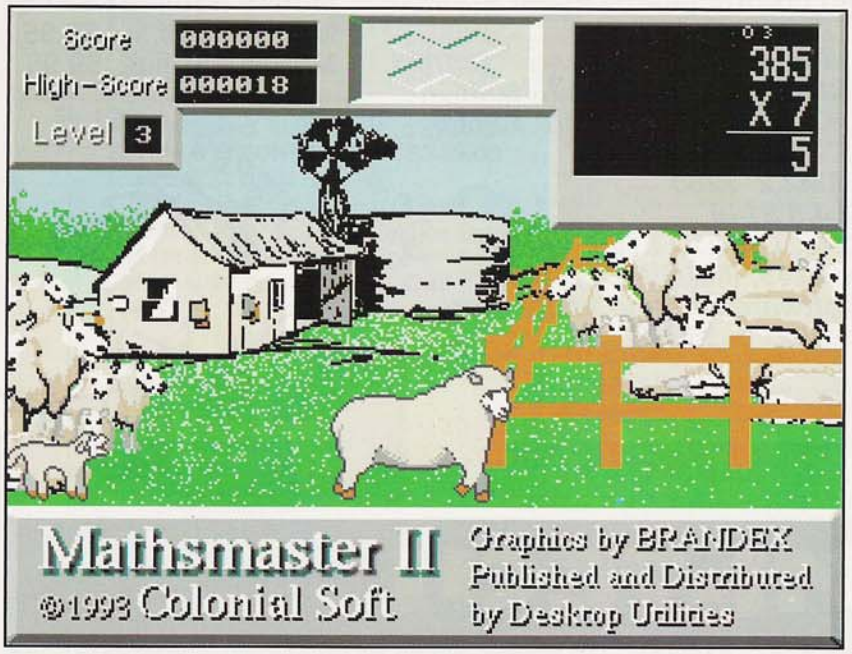
The Last R ... Mathsmaster II

by Stan Nirenberg

Mathsmaster II is an Australian program designed to help children learn the basics of arithmetic. It does this by providing drills in the four arithmetic functions of addition, subtraction, multiplication and division. It is aimed at primary school children and may be used with five or six year olds with considerable assistance from parents. Older children will be using it on their own with a minimum of instruction.

Mathsmaster comes in a hinged plastic case and comprises one floppy disk and an instruction manual. The program is not copy protected, which allows you to make a backup copy in case disaster strikes. This approach of allowing a backup copy to be made is to be commended as it is so easy for young children to damage a floppy disk by taking it out of its drive when a disk operation is in progress or by prying open the sliding cover and touching the surface of the disk. Because the disks are not copy protected the parents must accept the additional responsibility of ensuring that pirated copies are not made.

The program is also hard disk installable which, although not essential, makes the software run faster as considerable disk access occurs. A special hardware installation program is provided on the disk to make this procedure absolutely painless. Note that the "user-startup" file needs to be edited to allow the program to operate correctly, but the instructions clearly describe the procedure.



A short but comprehensive manual is provided which explains how to make backup copies of the program and how to use the hard disk installer. Clear instructions are also provided on how to use *Mathsmaster*.

Up and running

Mathsmaster is a system friendly program. Starting it is as simple as clicking twice on its icon (if it's installed on a hard disk) or inserting the program disk and turning the Amiga on.

The first screen allows you to set the level of difficulty (one of three levels) and which arithmetic operator to drill in (ie, addition, subtraction, multiplication, division or a combination of all four). Hitting the play button takes you to the actual exercise. All choices are made using the mouse.

The exercises require the use of the keyboard or numeric keypad to type in the correct response. *Mathsmaster* has a facility for recording a number that must be carried forward or borrowed. This is useful in the higher levels when the computations run into three or four numbers.

The approach adopted by *Mathsmaster* is to present a number of exercises in a block. If the correct answer is given, then a baby animal gets closer to its mother. When the baby catches up with its mother, the sequence restarts with a new set of questions.

If the wrong a answer is given, the mother takes one step away so that additional questions must be answered. If the wrong answer is given a second time, the correct answer is displayed before the exercise is resumed. All the animation is accompanied by sound effects and music samples to reward the correct answer.

Performance

The problems are presented in the traditional forms. For example, addition at the lower levels is presented in the horizontal format, whilst at the higher level, it is shown in a vertical mode (ie, as two rows of numbers). Multiplication and subtraction are also handled in the same manner. Division problems are presented in short division form only.

If a mistake is made entering an answer, the cursor keys can be used to erase the wrong number and a new answer typed in. The answer is only accepted when the "enter" key is pressed.

If you get tired of a particular exercise or you want to change the level of difficulty, pressing the escape key will take you into the high score table. This table shows your performance in all of the exercise types. From this screen, pressing the space bar takes you into the main screen which allows you to change the level of difficulty or the type of exercise that you want to do. If you want to finish a Mathsmaster session, pressing the escape key again will take you back into Workbench.

Wrap-up

Overall, *Mathsmaster* is an easy to use and useful package. It is somewhat less refined than *Back to Basics* that I reviewed some months back in that it gives substantially less assistance with problem solving, but in all other respects it suits its purpose well.

As with all of these types of programs, it is essentially a drill in basic arithmetic operations and as such it is unlikely to hold the child's interests for hours on end. However, it will find a suitable place as one of a number of educational programs in the home.

FACT FILE

Publisher and Distributor:	Desktop Utilities
Category:	Arithmetic
Comments:	Basic drill in addition, subtraction, multiplication and division. Could have been a bit more exciting, but well presented.
Age Group:	6 or 7 plus
Rating:	**

Mathsmaster II is published and distributed by Desktop Utilities, PO Box 3053, Manuka, ACT 2063. They can be contacted on (06) 239 6658.

Note that an upgrade is available for owners of the original *Mathsmaster*. Contact Desktop Utilities direct for further information.

Correspondence

As usual, please write in with your comments, questions, etc to me care of ACAR or directly to PO Box 136, Forest Hill, Vic 3131. ❑

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HOT PD

Program complexity:
+ Drover's dog could use it
++ Basic system knowledge required
+++ Experienced users - CLI use probably involved
++++ Wizards only

by Daniel Rutter

This month's PD, and it's a most entertaining collection. On top of the usual pile of worthy yet tedious utilities, I've found four good games and one interesting little demo - it's nice to see the more interesting stuff coming back in the Amiga freely distributable world. On with the show!

+++ Angie Giftware

Angie stands for "ANother Great Intuition Enhancer", as well as being a rather good song by the Rolling Stones (the manual mentions this, naturally). That's right, it's another program to make your Workbench more confusing.

This particular attempt offers about 100 Intuition related actions you can assign to hotkeys, along with DOS commands and other stuff. Angie also includes automatic window hunting, automatic priority boosting for whichever window you select, last active window remembering (see CMWA, below) and lots more, all controlled from an Intuition interface.

Angie's Giftware - if you like it, send the author a present of whatever value you feel appropriate. The world's not short of Intuition enhancers, but this one's not bad.

+ The Caffeine Free Diet Shoot-Em-Up

This magnificently titled offering's actually a rather good, if basic, game. It's a horizontally scrolling shoot-em-up, you zap the baddies without getting hit and if you knock-out all the

BBS Update

As I write this, the Amiga Connection BBS on (02) 970 6444 is literally days away from coming back on line, reincarnated with new system software and a much more powerful interface. So, you'll have to call the board to see how it's going, if you can't wait until I fill you in next month.

In the interim, Oz Online, which I mentioned last month, is definitely going places. The original promise of 30 lines hasn't quite happened yet but looks like it will soon, with the board moving to premium premises at Grosvenor Place. The owners are looking into providing interstate links to similar systems in the near future.

Oz Online already does periodic hookups to the Labyrinth BBS on (02) 580 5829, which uses the same BBS software, so if you're proficient on one board you can use the other right away.

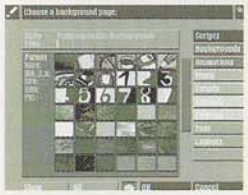
Oz Online's got in several more interesting UseNet message areas; UseNet can't be accessed from the vast bulk of boards. The file areas are also starting to get interesting, and there's a Multi-User Dungeon game going, just like those irresponsible university students call on uni time in far distant countries, not of course that I'd know anyone who did any such thing. MUDs are a bit like wandering around a Zork (Y'know. Zork. Colossal Cave. Original dungeon text adventure. Oh, never mind) world, but one populated by lots of other people too. You can talk, trade, help or of course fight the other humans; it's great fun banding together and wandering through the countryside mangling all who dare cross your path. All in all, Oz Online's looking like a most worthwhile board.

Oz Online is, however, not free. New users get seven days of full access to evaluate the board and then get their access chopped right back; it costs $100 for a year's membership, but shorter periods are available. As I write there's a half price deal to get early members in.

Some people seem to rank such "commercial" BBs roughly level with mugging old ladies and burning orphanages, but as far as I can see you get what you pay for. Give it a call and decide for yourself.

SCALA

The Multimedia Revolution



The file Requester Shuffler provides a fast visual overview of a directory.

Scala EX

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NEW: IV-24, G-Lock, Link, Canon ION Still Video, MIDI 2.0, CDTV 2.0, and other EX's included.

Brushes can be cropped and resized freely.

Scala Wipes

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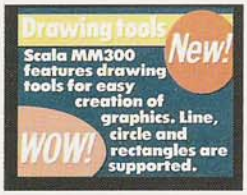

The Edit Menu now includes tools for structured drawing.

Scala Sound

Enhance your presentations with voice-over, music and special sound effects! Scala offers total control of recording and play-back.
NEW: Play sound samples direct from hard disk.

With the optional Echo EE100 IR/LANC interface you have freedom to add titles and captions to your video creations.

Scala Shuffler

Instant viewing of your whole presentation. You can see up to 112 pages at one time. Simply shuffle them around with the mouse!
NEW: File Requester Shuffler for easy preview of pictures, animations and brush files.

Scala Buttons

Creating interactive hotspots has never been so easy! Scala MM300 even includes full support of variables.
NEW: Add sounds to buttons and automagic button creation for screen objects.

The new Absolute Timing is extremely useful when working with video and music.

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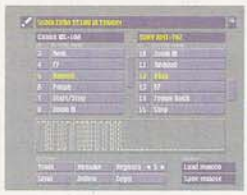

Use the Echo EE100 IR trainer to teach the software how to control your VCR and other IR controlled devices (i.e. CD Players, LaserDiscs, Amplifiers etc.)

Scala Echo

With the optional Scala Echo your Scala MM300 system becomes a powerful DTV solution. Scala Echo enables you to easily edit your videos with your personal computer. Add high quality titles, graphics and sound to your videos. Scala Echo consists of a sophisticated cable unit which connects to the computer's serial port. One cable has a LANC/Control-L minijack which connects to the source deck, and the other has an infrared sensor which exchanges signals with the VCR. The recording is done in OnePass, retaining quality and saving time. Includes over 150 symbols to personalise your videos.

Many exciting new wipes are included in MM300 and can be applied to pages, text and brushes.

Echo EE100's LANC controller gives you complete control of a source video from within MM300.

Distributed in Australia by:
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Phone (03) 725 3233 Fax (03) 725 6766

baddies in a wave you get a bonus. Revolutionary, huh.

What makes TCFDSEU a bit more interesting is the way your ship behaves. Gravity pulls it down, and when it goes down the nose and its line of fire tilt downward. Push the stick up and the reverse happens. This lets you shoot baddies in the middle of the screen when you're hiding at the top or bottom.

On the minus side, there are only a few bonuses, all of which run out fairly quickly, and you only get one life. But you get a decent amount of shield and you can't crash into the scenery, so considering that you don't have to pay anything to play it's a great deal.

+ Minerunner

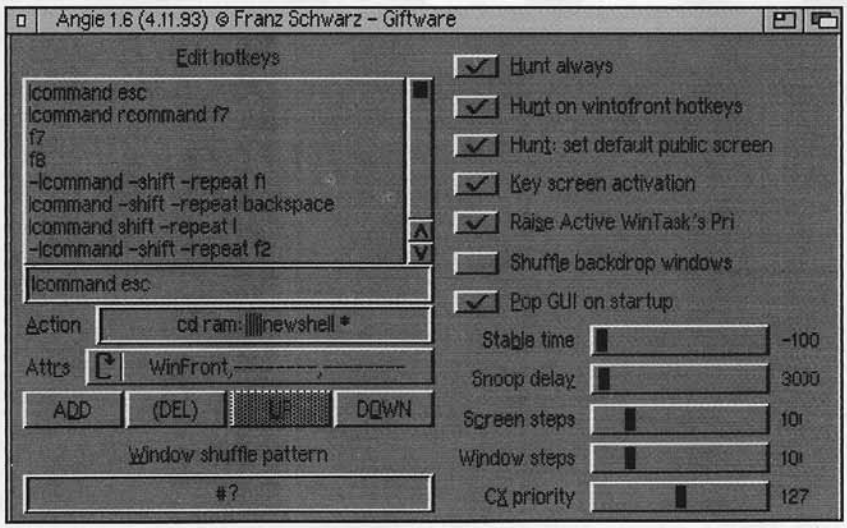
Ever play *Lode Runner*? 'Course you did. That little guy dashing around diabolically complex collections of platforms, pitfalls, ropes, ladders and the invaluable treasures, pursued by the chronically stupid Red Bad Guys, made Broderbund a whole stack of cash way back in the misty, sepia-toned days of the mid Eighties.

There's an old *Lode Runner* clone that's been around for a whole called *Mother Lode*, but it's not up to much. *Minerunner*'s much better.

Minerunner looks, sounds and plays much the same as the original *Lode Runner*, complete with 50 of the original levels. In fact the only thing missing is the original's six-fingered keyboard control mode, which I find better than joystick, even though *Minerunner* supports two button sticks.

But wait, there's more. *Minerunner* lets two humans play at once, to really spoil the bad guys' day. And yes, you can kill the other guy! If you've got one of those (rare) four player joystick adaptors, you can have FOUR humans galloping about the screen! This is seriously cool, folks.

There's a few annoying bits. The game's a lot more forgiving about digging under bad guys; the original wouldn't let you dig if an enemy was almost upon you, this one does. If you don't mind it being easier, this won't bother you. *Minerunner* also lacks a level editor, which was one of *Lode Runner*'s best bits. It's still a damn good game, though, particularly with a couple of people.



Angie Giftware

+ Scorched Tanks

The title should have tipped you off. I've found another Artillery game. Sickening, isn't it. If you've not skipped to the next program already, let me tell you this one's rather nice. It's written in AMOS, and written PROPERLY; the scrolling's smooth, the control system perfectly usable, everything accessed with the mouse. It needs a polish (the music stinks), but the basic engine's great.

Scorched Tanks is shareware, and this unregistered version has fewer weapons and no computer opponents, but two to four humans can play and there are plenty of groovy new bits. Every time you hit an enemy, the program instantly rings up how much money you made for doing it. There are pretty earth moving and chucking weapons. Aiming's really easy.

Scorched Tanks is great fun. If you like this sort of thing. And if you don't, go and read a spreadsheet review or something. Sheesh.

+ Duel

The third and last game for this month, *Duel* is another AMOS effort but this time in AMOS 3D. You and a friend control tanks. You shoot each other. One of you dies. That's about it. On some machines (like mine, for instance, rhubarb rhubarb), *Duel* stuffs up a bit and presents one player with a flickering mess all over his view of the world, but I've seen it behave perfectly on others.

The best games are simple. This does not mean all simple games are the best, but this one's worth a shot, particularly as you don't have to pay anyone anything to play it. Knock yourselves out.

++++ CompressDisk

CompressDisk is a shareware program to give you more hard disk space by compressing and decompressing data on the fly as it goes to and from the drive. If you've got a 68000 based machine, this will give you disk speeds broadly comparable with carving your data into stone tablets. On '030 or better machines, though, *CompressDisk* is tolerably quick.

CompressDisk works much like the popular IBM disk doublers; it makes a giant file that, when accessed via *CompressDisk*, looks just like a regular hard disk only bigger and slower. This version, 1.8, is a bugfixed and accelerated improvement on the one I mentioned last January, and worth get-

ting, if your machine's fast and you're willing to trade speed for size.

+++ CMWA

This weeny little program (708 bytes!) makes sure that when you switch screens, the window last selected on the screen you switch to is selected again. Not a lot more I can say about it.

+++ Diskmasher

The *Diskmasher*, or DMS, is a program to compress whole disks, DOS or not, into files for modem transmission or archiving. If you ever download demo disks from a bulletin board, you'll need DMS to use them.

The official version of DMS came out ages ago and hasn't been updated for some time - but the hackers and crackers who seized upon the program with cries of joy naturally produced their own turbocharged versions, and the latest one of these is v1.52.

This version of DMS, which comes with the Intuition interface program DMSWin for people who don't like the CLI, adds support for high density disks, as well as sundry other tweaks. If you're still using the official incarnation of DMS, make the switch - I've not seen anyone complaining about the program being improved, and some archives refuse to work with older DMS versions.

++ ProTracker

ProTracker is a descendant of *SoundTracker*, the original public domain program for making music on the Amiga. *ProTracker* had piles and piles of features - it beats commercial packages, if you just want to use the internal Amiga sound - but it suffered from an ugly, low resolution interface.

ProTracker 3, an update to 2.3 done by quite different people, had a nice interface but was only half built. There were a couple of versions after 3, which had more buttons but were hopelessly buggy, hanging of their own accord or fragmenting memory into lots and lots of weeny bits so nothing could be loaded.

Now there's v3.15, which seems pretty stable, though you can still crash it without trying very hard. It doesn't have any documents, so I've taken the liberty of including the old v2.3 docs on the companion disks. There are plenty of nifty features in this new version including true VU meters that follow the level of the sample being played (it's about time), better disk support and a generally tidied interface. Amiga musicians will be pleased.

+++ ReOrg

ReOrg is a shareware hard and floppy disk optimiser. It takes files which are split into bits all over your disks and puts them back in one piece, making your drive work faster because the drive heads don't have to cast about as much for data.

Early versions of *ReOrg* caused some nasty problems - when an optimiser crashes in the middle of its job you need a backup to restore your data from, or a cliff to jump off. Later on, *ReOrg* optimised fine, decently saving its crash until after it finished.

This version, 3.11, seems to behave itself properly. It optimises quickly and compares very well with the optimise functions in the commercial packages *Amiback Tools* and *Quarterback Tools*. Of course, if it blows up your system and turns your house into an onion don't blame me, but it works on my machine.

ReOrg's way too big to put on the companion disks - it'd take one of them up all by itself, since it includes various languages, Commodore's Installer and so on - but it should be available separately from all good PD libraries.

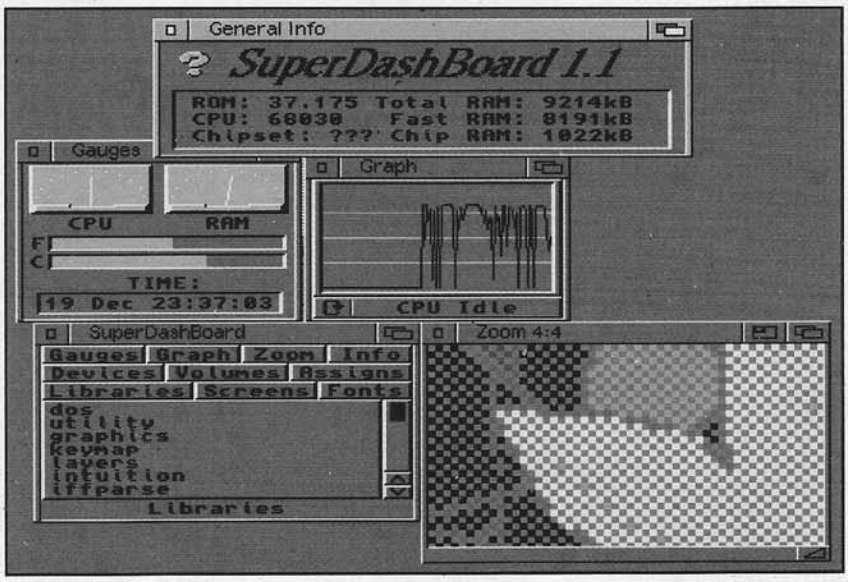
+++ SuperDashBoard

System monitor programs let you see what your machine's doing. You can see which libraries and devices are loaded, which tasks are active, how much CPU time's used and so on. The average user has very little use for them apart from idle curiosity, but experts find them useful quite often.

SuperDashBoard, or SDB, is an unnecessarily frilly shareware system monitor. I always thought system monitors were supposed to be severe task lists and priority numbers; this one opens in several windows and has big woosy girl's blouse things like gauges for the amount of RAM and CPU used and a magnifier window.

SDB is, however, rather useful. Stuff minimalist macho; if you need a

SuperDashBoard



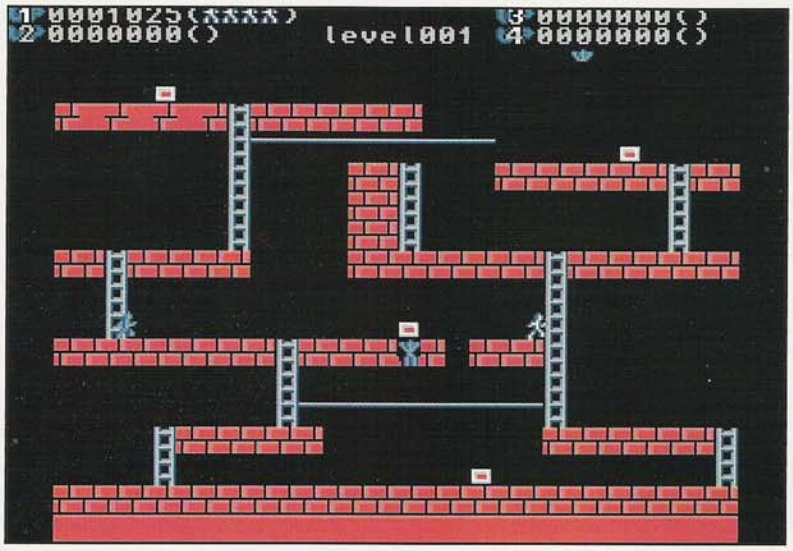
system peeker or just a collection of windows to make you look like a power user then it's the program for you.

+ Cube-o-Matic

I like this demo, by Australian group Spreadpoint. A bit over a hundred kilobytes, it only has one real effect, but it does it well. That effect is mapping images and animations onto the surfaces of a cube. That's all. But you gotta see it.

On a 68000 machine, *Cube-o-Matic*'s sluggish. On 020 it's okay. On 030 it's highly groovy and on 040 it cooks. This is a change from many demos, which run at exactly the same speed on a fast machine, but with annoying graphic glitches.

I've never put a demo on the companion disks before, but this one's small, interesting and Australian, and doesn't contain any exhortations to kill people or steal software, so it got on. Have a look.



Minerunner

All the programs mentioned here, except for *ReOrg*, are included on the companion disks. They're available from Prime Artifax and are called HotPD13 a and b.

Happy hacking till next month! ❑

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The Electronic Log Book

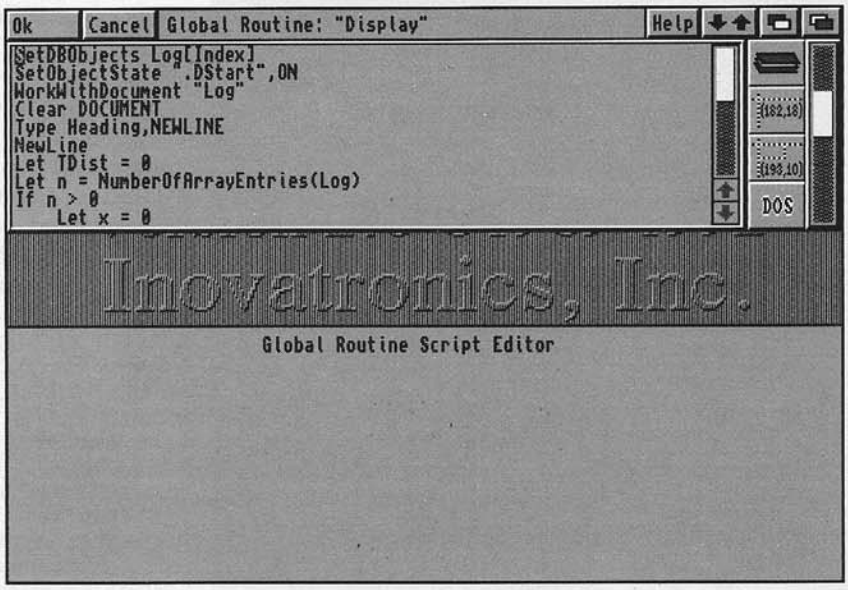
by Greg Abernethy

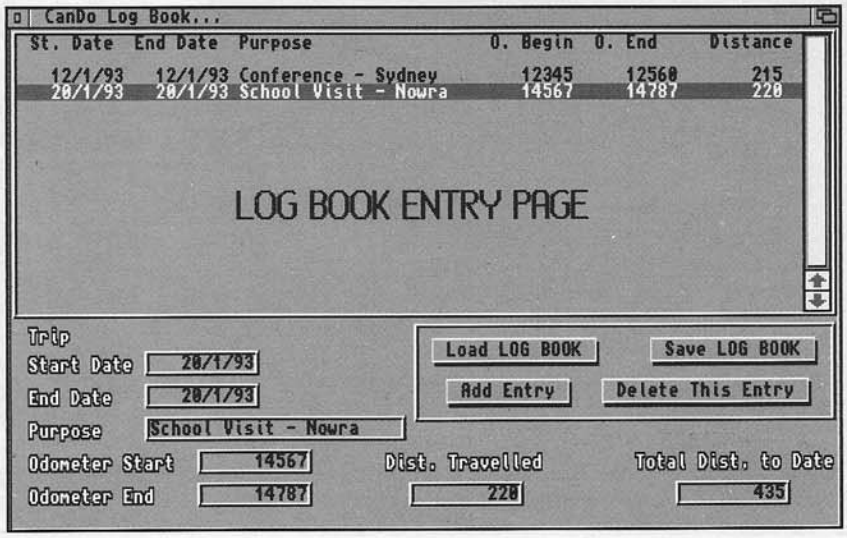
Unfortunately, due to time constraints I was unable to have the typing tutor ready for the tutorial this month, but hopefully it will be ready for next month.

This month we will be designing a computerised log book, enabling you to keep records of distance travelled in one or more cars. Also a printout can be obtained of the log book at any time. This is useful for taxation purposes. The idea for this tutorial was given to me by Gary Simmonds of Gateshead West. I would like to thank Gary for this idea, and several others that may appear in future tutorials.

"design a computerised log book, enabling you to keep records of distance travelled in one or more cars"

The program will consist of one card with a document for displaying the log book entries, some fields for entering data, and buttons for loading and saving log books. I have not included any fancy features, such as a print requester or a custom file requester. It would greatly enhance the program to add these features.





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Creating the Log Book Page

```
WINDOW SPECIFICATIONS
WINDOW TITLE "CanDo Log Book...."
WINDOW SIZE   X = 640: Y = 256
4 COLOURS
VISIBLE BORDERS
ALWAYS OPEN ON OWN SCREEN
CLOSE GADGET:WINDOW BACK/FRONT GADGET:WINDOW DRAG
GADGET
CLOSE GADGET SCRIPT
Quit
BEFOREATTACHMENT SCRIPT
If Not Exists(TheCurrentDirectoryII"LogBooks")
   Dos "c:makedir"IIITheCurrentDirectoryII"LogBooks"
EndIf
```

Explanation:

This script will examine the current directory, where the application is located, and look for a directory call "LogBooks". If the directory doesn't exist it will use the "Dos" command to create a directory for holding the log book files. In this way it is irrelevant where the application is located as there will always be a directory created to use as a default location for loading and saving the log books. This is especially useful for applications that are hard disk installable, as it is only necessary to create a drawer on the hard drive, drag the application into the drawer and the application can then create its own directories necessary for file control. This saves the need to create directories or have to assign the application to specific locations.

```
AFTERATTACHMENT SCRIPT
SetPrintFont "topaz",8
SetPrintStyle OUTLINE ,1,3
SetPen 2,0
SetDrawMode JAM1
PrintText "Trip",16,156
PrintText "Start Date",16,170
PrintText "End Date",16,186
PrintText "Purpose",16,202
PrintText "Odometer Start",16,218
PrintText "Odometer End",16,234
PrintText "Dist. Travelled",289,218
PrintText "Total Dist. to Date",480,218
SetObjectState ".DStart",ON
Dispose Log
Let Index = 1
DrawBorder 316,157,315,56,DOUBLEBEVEL ,2,1
Let Heading = " St. Date  End Date  Purpose O. Begin  O. End Distance " ; this
line has been split to fit the page
```

Explanation:

This script writes text labels in the window, disposes the "Log" variable, sets the Database Index to one, and sets the Heading text for the Log Book display document.

Log Book Display Document Specifications

```
OBJECT NAME   "LogDoc"
DOCUMENT NAME  "Log"
ORIGIN X = 9: Y = 14
SIZE X = 623: Y = 136
BORDER = DOUBLEBEVEL
```

```
LIST DOCUMENT
Release Script
If TrimString(TheLine) <> "" and TheLineNumber > 2
   Let Index = TheLineNumber - 2
   Do "Display"
   PositionOnLine Index + 2
EndIf
```

Explanation:

When the document is clicked, I check to see if the line number selected is greater than two, as the header text and a blank line take the first two lines of the document. If the user has clicked on a log book entry and not a blank line, The Index variable is set to the line number - 2, as the first entry is actually on the third line of the document.

The information for that entry is then displayed in the fields.

Database Fields Specifications

The Fields for entering and displaying entries are;

```
StartDate Field - Starting Date of Trip
FIELD NAME    ".DStart"
ORIGIN        Horiz = 110 : Vert = 170 : Width = 80
TEXT 10 Characters
BORDER = DOUBLEBEVEL : RIGHT JUSTIFICATION

Return Script
SetObjectState ".DEnd",ON

EndDate Field - Finishing Date of Trip

FIELD NAME    ".DEnd"
ORIGIN        Horiz = 110 : Vert = 186 : Width = 80
TEXT 10 Characters
BORDER = DOUBLEBEVEL : RIGHT JUSTIFICATION

Return Script
SetObjectState ".Purpose",ON

Purpose Field - The purpose of the journey
FIELD NAME    ".Purpose"
ORIGIN        Horiz = 110 : Vert = 202 : Width = 192
TEXT 24 Characters
BORDER = DOUBLEBEVEL : LEFT JUSTIFICATION
Return Script
SetObjectState ".OStart",ON

Odometer Start Field - initial speedo reading
FIELD NAME    ".OStart"
ORIGIN        Horiz = 150 : Vert = 218 : Width = 80
TEXT 10 Characters
BORDER = DOUBLEBEVEL : RIGHT JUSTIFICATION
Return Script
SetObjectState ".OEnd",ON

Odometer End Field - final speedo reading
FIELD NAME    ".OEnd"
ORIGIN        Horiz = 150 : Vert = 234 : Width = 80
TEXT 10 Characters
BORDER = DOUBLEBEVEL : RIGHT JUSTIFICATION

Return Script
Let a = TrimString(TextFrom(".OEnd"))
```


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```
Let b = TrimString(TextFrom(".OStart"))
SetText ".Dist",Absolute(a - b)
SetObjectState ".DStart",ON
```

Explanation:

This script works out the actual distance travelled and displays it in the "Total Distance Travelled" field. I have not used INTEGER fields for the database as I find that the need to have an initial number displayed in the field is annoying, as you must delete this number before entering your number. I find it easier to use TEXT fields and then interpret the information entered.

Total Distance Travelled Field - total distance for this trip

```
FIELD NAME    ".Dist"
ORIGIN        Horiz = 312 : Vert = 234 : Width = 80
TEXT 10 Characters
BORDER = DOUBLEBEVEL : RIGHT JUSTIFICATION
No Return Script
```

Overall Distance Travelled Field - total distance for LOG BOOK

```
FIELD NAME    "TDist"
ORIGIN        Horiz = 516 : Vert = 234 : Width = 80
TEXT 10 Characters
BORDER = DOUBLEBEVEL : RIGHT JUSTIFICATION
No Return Script
```

Note that this field does not begin with a fullstop and is therefore not a database field object. This is because it is not necessary to have this information in the database as it is calculated in a routine and then displayed.

Specifications for Log Book Function Buttons

```
LOAD LOG BOOK Button
BUTTON NAME    "Load"
ORIGIN         Horiz = 327: Vert = 160
BORDER = SHADOW : HIGHLIGHT = COMPLEMENT
TEXT = "Load LOG BOOK"
Release Script
Let File = AskForFileName(TheCurrentDirectoryII"LogBooks/",
Select LOGBOOK to LOAD..",173,62)
If FileOf(File) <> ""
   Let CurrFile = File
   Dispose Log
   Let Log = LoadVariable(CurrFile)
   Let Index = 1
   Do "Display"
EndIf
```

Explanation:

I use the standard CanDo requester to ask the user to select a LOG BOOK to load. Note that I have defaulted the directory location to the "LogBooks" directory in the application directory. If they select a file, it is loaded and displayed.

```
SAVE LOG BOOK Button
BUTTON NAME    "Save"
ORIGIN         Horiz = 494: Vert = 160
BORDER = SHADOW : HIGHLIGHT = COMPLEMENT
TEXT = "Save LOG BOOK"
Release Script
If CurrFile = ""
   Let File = AskForFileName(TheCurrentDirectoryII"LogBooks/",
   Enter NAME of LOGBOOK to SAVE..",173,62)
   If FileOf(File) <> ""
      Let CurrFile = File
      SaveVariable Log,CurrFile
   EndIf
Else
   SaveVariable Log,CurrFile
EndIf
```

Explanation:

If the Log Book has not been previously saved I use the standard CanDo requester to ask the user to enter a name for the LOG BOOK to save. If the Log Book was previously saved, I use the filename of the log book when saving the log book. The filename is contained in the CurrFile variable.

```
ADD ENTRY Button
BUTTON NAME    "Add"
ORIGIN         Horiz = 338: Vert = 180
BORDER = SHADOW : HIGHLIGHT = COMPLEMENT
TEXT = " Add Entry "
Release Script
Let Log[Index] = GetDBObjects
Let Index = Index + 1
InsertArrayEntry Log,Index
Do "Display"
```

Explanation:

When an entry is added, I get the currently displayed entry, increment the index and insert a blank entry into the database and then display the blank entry.

```
DELETE ENTRY Button
BUTTON NAME    "Delete"
ORIGIN         Horiz = 457: Vert = 180
BORDER = SHADOW : HIGHLIGHT = COMPLEMENT
TEXT = " Delete This Entry "
Release Script
DeleteArrayEntry Log,Index
Do "Display"
```

Explanation:

When an entry is deleted, I delete the currently displayed entry, and then display the previous entry.

```
PRINT LOG BOOK Button
BUTTON NAME    "Print"
ORIGIN         Horiz = 409: Vert = 198
BORDER = SHADOW : HIGHLIGHT = COMPLEMENT
TEXT = " Print Log Book "
Release Script
MakeDocument "Temp"
WorkWithDocument "Temp"
InsertDocument "Log"
MoveCursorTo STARTOF DOCUMENT
If CurrFile = ""
   Type CenterString("LOG BOOK DETAILS FOR Untitled",74)
Else
   Type CenterString("LOG BOOK DETAILS FOR"IIIFileOf(CurrFile),74)
EndIf
SplitLine
SplitLine
```

```
MoveCursorTo ENDOF DOCUMENT
NewLine
NewLine
Type RightJustify("Total Distance Travelled "||TDist,74)
NewLine
NewLine
SaveDocument "Temp","PRT:"
IfError
nop ; some print error routines required here
EndIf
Flush "Temp"
```

Explanation:

This script copies the log book document into a spare document, adds a title and enters the overall distance at the bottom. It is then sent to the printer. Note that some type of printer error routines are required, for checking that the printer is on and ready.

```
GLOBAL ROUTINE "Display"
Script
SetDBObjects Log[Index]
SetObjectState ".DStart",ON
WorkWithDocument "Log"
Clear DOCUMENT
Type Heading,NEWLINE
NewLine
Let TDist = 0
Let n = NumberOfArrayEntries(Log)
If n > 0
  Let x = 0
  Loop
    Let x = x + 1
    Type RightJustify(Log[x].DStart,10)
    Type RightJustify(Log[x].DEnd,10)
    Type LeftJustify(" "||Log[x].Purpose,23)
    Type RightJustify(Log[x].OStart,10)
    Type RightJustify(Log[x].OEnd,10)
    Type RightJustify(Log[x].Dist,10)
    Let TDist = TDist + Log[x].Dist
    NewLine
  Until x = n
  Delete CHARACTER ,-1
EndIf
SetText "TDist",TDist
```

Explanation:

This routine handles displaying the log book entries in the document, setting the selected entry into the database fields and calculating the overall distance travelled.

The computerised log book has been designed from a log book that complies with the Australian Taxation Office Substantiation Requirements with the exception of the signature and name entry sections.

I hope you have enjoyed this tutorial and I hope to have the typing tutor ready for next month. ❑

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A very big hello to all my freinds in Taree, and a very big thank you to **Keith Woodward** for his patience and co-operation.

Hacking AMOS graphic modes

by Wayne Johnson

AMOS provides programmers with instant access to all sorts of graphic modes. AMOS will shortly provide ECS and AGA modes, but at the moment, there's another way to get them.

In the past, people have asked me if it's possible to access the ECS modes for creating things like small CAD programs or the like. However, those modes have never been part of the SCREEN OPEN command set. So standard modes have always been the only choice for the average AMOS programmer. What I'll give you this issue is a procedure that will alter the current screen and shrink it into a finer Super Hi-res display (providing you have ECS or AGA chips).

There is only one downfall with my method, your screens can only be a maximum of 1023 pixels wide. I'll be tweaking with the hardware so that the normal AMOS screens that are opened, are forced into another mode, still containing the original information. To understand this, an explanation of the Copper (Colour Co-processor) is in order.

The Copper contains many registers, containing values that control what the screen looks like. Every display on the Amiga has an associated Copperlist (small data list that holds the values for that screen. Your average workbench has a Copperlist set with:

* Four colours.
* MODE: Hi-res, no interlace.
* Genlock on.
* Colour palette $CCC,$000,$fff,$08D
* Screen gets positioned.
* Window is Sized.
* Other Misc. settings.

If we use the command SCREEN OPEN 0,320,256,4,LOWRES in AMOS, a copperlist will be generated similar to the following:

* Four colours.
* MODE: Lowres, no interlace.
* Genlock on.
* Colour palette $000,$A40,$FFF,$880
* Screen gets positioned.
* Window is Sized.
* Other Misc. settings.

Once our screen is opened in AMOS, there's no reason in the world that we can't manipulate some of these settings (ie. like the SCREEN MODE!). To change a Copperlist that is active on a screen, we need to first turn the Copperlist off with:

COPPER OFF

From here, we can dive in with our list of changes and turn our own Copperlist back on. Type in the following code and we'll take a quick look at it:

```
Screen Open 0,1023,256,4,Hires
Screen Display 0,,,1023,256
  C0=Colour(0)
  C1=Colour(1)
  C2=Colour(2)
  C3=Colour(3)
Copper Off
  Do : Inc X
    Cop Move $180,C0
    Cop Move $182,C1
    Cop Move $184,C2
    Cop Move $186,C3
    Cop Move $8E,$3281
    Cop Move $90,$3281
    Cop Move $92,$40
    Cop Move $94,$C0
    Cop Move $108,-10
    Cop Move $10A,-10
    Cop Movel $E0,Logbase(0)
    Cop Movel $E4,Logbase(1)
    Cop Move $100,%10001001000000
    Cop Move $96,%1000001111111111
Cop Swap
Limit Mouse
  Repeat
    A$=Inkey$
    If A$<>"" :
    Print A$;
    End If
    If Key State(68)=-1 : Print Chr$(13) : End If
  Until Mouse Key=2
Wait Vbl
Loop
Copper On
Edit
```

The program opens a VERY LARGE screen (our maximum size) and shuts down the standard Copperlist.

From there, new values are entered into the Copper's registers and restarted with COP SWAP. Do not confuse this with COPPER ON. COPPER ON means to turn off our own Copperlist and restart the old one.

Pressing the right mouse button will kill our Copperlist and return to Direct mode. Typing on the keyboard will demonstrate the new text size on the Super Hi-res screen.

There are a few specialist registers that are affected (you will need a hardware reference manual of some sort to alter these values):

$180 to $186 - Palette Values.
$08E to $094 - Window Size and position values.
$108 to $10A - Screen Modulo (aligning screen graphics to the width of the screen).
$0E0 to $0E4 - Pointer to the AMOS screen's bit planes.
$100 - Screen Mode
$096 - Turn on the settings.

Once this piece of code is executed, the screen will shrink into a super Hi-res screen and from here, you can perform the usual graphics or printing instructions on the screen because AMOS still believes it is operating with a 1023 wide Hi-res screen.

To demonstrate this, replace the REPEAT/UNTIL part of the program with:

```
Repeat
  Ink Rnd(3)
  Draw Rnd(1023),Rnd(256) To
Rnd(1023),Rnd(256)
Until Mouse Key=2
```

Pretty different, eh?

News and Future Trends

● At the time of writing, the AMOS AGA update is still not here yet but it is planned for mid February.

● The new compiler PRO updater should also be available mid February and will contain all the known bugs that are currently in the compiler.

● Turbo 1.9 has hit the streets and comes in two versions, AMOS Classic and AMOS Pro. Both are available from Public Domain Plus. These will be the last of the Public Domain versions of the Turbo Extension. After this, it will be a commercial product and will contain lots of nice new stuff like vertical blitting.

● There is another extension that should now be available from Germany. It is called the JD Printer extension (not to be confused with the JD Extension) with around 70 commands that do things like send printer codes to turn on BOLD or italics settings, Swedish, USA or any other character setting, and so on. Basically gives you FULL access to your printer. Available from Public Domain Plus.

● The Intuition Extension will also be shortly released by Europress software in England. It again, will be available through PD Plus. No release dates yet. Rumours have it that a group based in the USA are also writing their own intuition extension.

Next month

I'd like to touch on the interface language again next month. It's such a powerful sub-language but is often ignored. Complicated interfaces can be slapped together in less than half an hour. This time, I will show you how to produce more instant results, WITHOUT a resource bank. ❑

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DEALER ENQUIRIES WELCOME!
Credit Cards Welcome!

by Roy Hurley

Hello and welcome to all Blitz2 programmers out there! This month I'll be taking note of a lot of requests from new programmers to drop back and pick up the beginners in this column.

A lot of Blitz users bought Blitz2 so they could create their own CLI programs and utilities, taking advantage of Blitz's completely system friendly environment to produce professional looking front ends for useful applications.

Following on from the last few months, where we created a small CLI utility which compiled to under 9K, this month we'll be talking about structure and how to set up the main loop for a GUI utility program.

A good program structure is an excellent habit to get into when you are writing code. It has the advantage of being self-documenting, easy to modify and maintain, and if certain basic standards are kept, you'll find that your code modules can be reused in your other applications, and that other programmers can use your code too.

There are no hard and fast rules for structure, but the system I use for most programs is an initialisation routine, main loop, and a routine to handle errors, release system resources and exit cleanly. The main loop is the subject of this month's column.

The Main Loop

Having initialised whatever screens, windows, graphics, menus and gadgets are required by your application during the initialisation phase, it's time to sit back and wait for your user to tell you what he wants.

In Blitz, this can be done easily with a WaitEvent command. This tells Blitz to wait until a system event has occurred, like a mouse click, gadget hit or menu selection. A list of system events features on page 25-5 of the manual. You can tell Blitz to include or exclude specific events with the DefaultIDCMP, AddIDCMP and SubIDCMP commands.

By waiting for a system event, you won't slow down other programs which may be running in the background within the Amiga's multitasking environment.

Lets have a look at a general purpose main loop:

```
Repeat
  Select WaitEvent                ; System friendly wait for an event
    Case $20                      ; Has a gadget has been hit?
      Select GadgetHit
        Case 1                    ; Here we act on the gadget that was hit
        Case 2                    ; buttons, sliders, string gadgets etc.
        Case 3
        Case 4
      End Select
    Case $100                     ; Has a menu been selected?
      Select MenuHit              ; Which menu?
        Case 0
          Select ItemHit          ; Which item?
            Case 0
              quit=1              ; Quit menu option
            Case 1
          End Select
        Case 1
          Select ItemHit
            Case 0
              f$=FileRequest$("Select Filename",pa$,fi$)
              If f$<>""
              res=BSAVE{f$,message(m),message(m+1)-message(m)}
              End If
            Case 1
              tags$="TAGSOFF"
            Case 2
              tags$="TAGSON"
        End Select
      End Select
    Case $400                     ; Has a key been pressed?
      a$=Inkey$:k=RawKey
      Select k
        Case $45                  ; Escape key
          quit=1                  ; Exit the main loop!
        Case $4c                  ; Up cursor
          Gosub SCROLL_UP
        Case $4d                  ; Down cursor
          Gosub SCROLL_DOWN
        Case $4e                  ; Right cursor
          Gosub SCROLL_RIGHT
        Case $4f                  ; Left cursor
          Gosub SCROLL_LEFT
      End Select
  End Select
Until quit=1
```

This example is not a type-in, read-to-run program. It's meant to illustrate a structured approach to your applications main loop. It's easy to extend or delete blocks to suit your needs. For example, if your program didn't have menus, you could delete the entire menu handling block, likewise, if you needed to add another event, such as a moved mouse pointer, it's simply a matter of plugging in another Case...Select to handle a mouse move event.

As you can see, the actual working routines of your program are called as either subroutines or functions from within the main loop. This leaves your main loop uncluttered and encourages you to create your functions as modular sections of code.

Tips and Tricks

Now on to a few tips and tricks! The Acid Software crew are busy working on a linker for Blitz2, which will enable you to include graphics, icons and sounds within your executable, safe from prying eyes. Until they come up with the goods, here's a snippet of code which demonstrates a method using the already available command, IncBin.

By using a label and the IncBin command, the Blitz2 compiler can be told to include a binary file within the executable. By using our BSAVE function to then save the graphic to the Ram: disk, it's then possible to access the data.

```
.IMAGES
  PIC1:
      IncBin "pics/Rat"
       ; <— The file name and path of the image
      EO_PIC1:
      r=BSAVE {"Ram:Rat.pic",?PIC1,?EO_PIC1 - ?PIC1}
      If EXIST {"RAM:rat.pic"}
        LoadShape 1,"Ram:Rat.pic"
        DeleteFile_ "Ram:Rat.pic"
      Else
        Message{"Unable to Initialise Graphics. RAM: disk ok?"}
        Goto FINN
      EndIf
```

Since we need to pass BSAVE the length of our data, we can calculate it at runtime by placing a label after the IncBin command, and subtracting the address of the end label from the address of the start label.

Once BSAVEd to the Ram: disk, we can use LoadShape, or any other standard Blitz2 command to process the data before deleting it to save memory.

To finish off this month's column, we'll add another useful function to our includes directory. This function writes a string into the comment field of an AmigaDos file. It's a short function which may be useful for storing information about what is contained within a file. AmigaDos allows up to 80 characters in the comment field.

```
DEFTYPE.l
; Don't forget this at the top of your code when doing system stuff!
; Sets the files comment string to comment$
Function COMMENT {filename$,comment$}
  comment$=Left$(comment$,80)+Chr$(0)
  Function Return SetComment_ (&filename$,&comment$)
End Function
; Example usage
If COMMENT {"ram:pic","Created by Oscar on 11/11/94"}
  NPrint "Commented file ok!"
Else
  NPrint "Comment failed!"
End If
MouseWait
```

That all for this month, I hope you are finding this column useful. Thanks to all the people who give me feedback and suggestions, you can contact me via Powerhouse BBS (042) 616380/622170 or by writing to me at Box 1420 Wollongong 2500. Happy Coding! ❑

The C64 Column by Owen James

Commodore C65 now on sale

Some interesting news that may at last put to rest the speculation concerning the C65. The C65, as you may recall, has been discussed here many times over the past 18 months. It was to be a powerful 90s version of the now elderly C64. It's official that this project has been scrapped by Commodore, and in fact the several hundred developer units that were in existence are being sold to the public.

The American Grape Vine Group bought the units from Commodore, and at least one C65 has so far made it to our fair shores. As they are developer units, no documentation is available, and don't expect much in the way of back up and support. Noteworthy features of the C65 are a true 256 colour screen, a blitter chip similar to that of the Amiga for fast graphics and animation, and IFF compatibility.

With prices of Amiga 600s and 1200s so low, it would be hard to imagine where the C65 would have fit into the market.

Graphics Guide

If you're at all interested in the graphic capabilities of the C64, *The Graphics Book for the Commodore 64* from Abacus Software is a great place to start. A healthy 350 pages in length, *The Graphics Book* covers just about every aspect of C64 graphics in a very easy to read format.

The book is divided into three main parts; the hardware, graphics programming, and applications using graphics. The chapter on the VIC chip, the graphics 'engine' of the C64, describes the functions of each Vic register and how to create and animate sprites. The book also includes details on the screen memory, designing new character sets, and 3D animations.

The tour of C64 graphics is completed with a program listing, in both assembler and BASIC, for a complete drawing program. Certainly a worthwhile book for the C64 enthusiast.

Although quite elderly, *The Graphics Book for the Commodore 64* is still available in limited quantities. Try your local retailer, or it can be ordered from Code One Computer Services for $39.95 plus $4.00 postage. Code One may be contacted by telephone or fax on (047) 57 3982, or by writing to PO Box 192, Katoomba NSW 2780. Credit cards are welcome.

New PD Software

Brunswick Publications have been busy compiling new public domain software for the C64. Peter Boothman, from Brunswick, says much of the new C64 PD is from the United Kingdom, where the C64 is still enjoying huge popularity. Following are some of the latest releases.

Disk 174 - Menu Maker

This utility enables the user to design their own Autoload menu systems for disks. Up to eight programs can be loaded per disk side. Similar to a *Demo Maker*-styled program, the user may select from a variety of fonts, music, raster effects and scrolling messages. Full instructions are included on disk.

Disk 175 - Utilities

A collection of around thirty mixed utilities compiled specially by Brunswick Publications. Included are utilities for copying disks, editing disk directories, programming routines for disallowing cartridge resets, and many more. Documentation is included on the disk.

Disk 183 - Applications

A variety of productivity-styled application programs, including two new word processors. Don't expect the bells and whistles of the larger commercial packages, but for thumping out short notes they're perfect. Also included on this disk is a Chequebook manager, memo utility, diary and appointment tracker, and many others.

Disk 184 - Printer Utilities

Large, double-sided disk containing a huge selection of printer utilities. Many makes and models of printers are catered for. Includes label makers, printer fonts, and many others.

Disk 189 - COMAL

COMAL is a graphics oriented programming language, but has many similarities to BASIC, Pascal and Logo. Instructions and sample programs are also included on the disk.

Brunswick's disks are all $5.00 each. If you would like to receive a free catalogue, or place an order for any of the disks mentioned here, write to Brunswick Publications, PO Box 745, Campsie NSW 2194. Thanks to Brunswick for providing the information.

GEOS Speed

Anthony Zavaglea of Enfield NSW writes:

"Dear Owen, Congratulations on a

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Amiga 1200 Make It Work
Having trouble getting programs to run on your new A1200? This disk gives you a number of options to dramatically improve compatability. Simply run it first before trying the program in question.

MagicWB - Ideal for A1200
Revamp your Workbench - new icons and backdrops - slick, clean look - needs 8 colour, hires-laced display Ideal for A1200 or A4000 owners with 1940 or better monitor. WB2.x or better required.

New Database and Finance
Our popular Database and Finance disks have been updated with new versions of software and new programs including Flexer and EasyCalc. Now they're both easier to use and more powerful. Update NOW.

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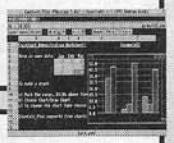

JC-Graph
Create impressive 3D graphs- save as IFF or object files for Imagine and other animation programs. Load/save and edit data. Works with most wordprocessors and DTP.

Minimorph
Create your own animation of morphing just like program costing $100's. We'll even scan in your photos for you and prepare them ready for processing. ($5 per photo)
Works in grey-scale only. 1Mb RAM required. Powerful reasonably easy to learn interface. Ideal for A1200.

DISK PRICES
All our disks are covered by one pricing schedule. All prices includes postage, packing and support.

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5	$20.50	$ 4.10
6	$24.00	$ 4.00

(for orders of 6 or more disks, each additional disk is $3.75) **We use quality Memorex Brand diskettes.**

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HOT GAMES DISKS
- #1 - AirAce, Missile Command (Atari style), Care Race, Downhill Racer (Skiing)
- #2 - BlackJack, Metro (Trains), China Challenge, Klondike (21)
- #3 - Hate (3D Perspective shoot 'em up), Megaball break-out style game)
- #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
- Balance of Power - Strategy game for one or two players. Control the world powers to avoid nuclear war.
- UChess - Chess game - Needs 4Mb and accelerator - Ideal for A1200 or 4000. AGA Support.

Home Office
- CAD - Five Programs: Speaker and Circuit Design, Landscape & Architectual
- Database - Hyperbase, HyperDialer, DataEasy, Home Manager, bBasell
- Forms Designer - Text based forms editor.
- Genealogy 1 - A-Gene and Family History
- 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
- NCOMM 3.0 - Shareware AREXX, SCRIPTing, simple BBS mode.
- Term 3.4 - Freeware, scripting, powerful, 3 disks, hard drive req. WB2.x required.

Fonts
- CG-Font Pack 1 - Suitable for Workbench 2.x and above, Final Copy, Professional Page, Pagestream and PageSetter III. 60 different Compugraphic fonts. 6 disk set.
- Bit-Mapped Font Pack 1 - Suitable for Worbench 1.3. Over 40 different fonts, ready to use directly from floppy - ideal for Deluxe Paint and most paint programs. 6 Disk Set.

Clip Art
- Clip Art Pack 1 - A selection of black and white, bitmapped clips, suitable for wordprocessing and desktop publishing. Three disk set - $13.50
- Structured Clip 1 - Assorted ProDraw format clip -art.

Desktop Publishing
- Pagestream Enhancer - requires Pagestream 2.x or better. New drivers, Postscript utilities and more.
- Professional Page Enhancer - requires PPage 3.x or better. Lots of great genies for smart borders, copying pages, group, special effects.
- PageSetter 1.2 - Entry level desktop publishing program.

Cartoons (Require 1Mb FREE)
- Cartoon 1: Batman, Shuttlecock, Stealthy
- 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)
- Big Cartoon 1: Anti-Lemmings
- 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
- Big Cartoon 7: Bait-Masking

Education
- Education 1 - Elements, Draw Map, Rubik, Space Log, Gears
- Education 2 - Gravity Well, Planets, Life Cycles, Orbit, Enigmas, ZPlot
- Education 3 - Word Puzzle, Crossword, Word Game, A-Solve, POWER LOGO!
- Education 4 - PlotMap - Two disk set - creates maps of world, save in IFF format.
- Hypertext - Create text files with links to animation, graphics, sounds, songs - anything (via AREXX). 1Mb & WB2.x required.
- 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.
- Chemistry - Create 3D models of different molecules

Emulation
- Atari Emulator - German Only
- MS-DOS Emulator - PC-TASK (shareware-no write to djsk) & Transformer. Run most MS-DOS business software.
- C64 Emulator - Run C64 Program, Interface C64 Peripherals (opt. interface available from U.S.A. Only)

Graphics and Animation
- Graphics 1 - Still Store: For sequencing stills for video production
- Graphics 2 - Mostra, ImageLab, TitleGen, sMovie, ABridge, SceneGenDemo, SlideMaster
- Graphics 3 - Icon-Editor, Turbo Title, Cyro-Animation Utils
- Graphics 4 - FreePaint, Graffiti, PED, PicBase - IFF Database
- MandleBrot Tools - Six Disks, Create amazing shapes and patterns!
- **MiniMorph - Create your own 16 grey-scale morphs. 1Mb**
- AGA Demos 1 - HOIS-AGA and AGA- Amiga Boing.
- Mobile! - By Spaceballs - 3D Animation, A1200 and 3000 compatible.
- AGA Images - Six disks of hot AGA piccies including 3D rendered in Aladdin, and photos.
- **Imagine Objects 1 - Enterprise, Chess Pieces, Amiga 3000.**

Music and Sound
- Med 3.1 - The best Amiga low-level sequencer - some MIDI support
- Sound Tools - Play, edit, arrange, distort and create IFF sound samples
- Sound FX 1 - Filled with short, sweet sound samples - Bells, Horns, Dogs..
- Remix 1 - Two remixed music samples - Madonna and Black Box
- Tracks 1 - 1733, Agression, Angies, Arkenoid, Atmospheric, AxelF, Azeirev
- Tracks 2 - Beat, Benny, Biochal1, Biochal2, Blue Days, Blue Moon, Boss, Call Me, T.C.S.
- Tracks 3 - Cloud Song, Creation 2, Crockets, Ear, Electric Dreams, Last Ninja II, Megaforce, Metal Synth
- Tracks 4 - Oxygene, Piano-Plink, PopCorn, RSI-Hard, Skylight, Smoke, SupeBASIC, Tocatta
- Tracks 5 - BatDance, Bond, Fresh House, Lambada, Pawn!, WasteLand
- Movie Samples - 9 Disks of IFF "Make My Day" style samples (Tracks 6-23 also available now.)

Improve Your Workbench
- AGA Utilities 1 - AGA Anim players, picture showers, AGA disable, GIF shower and more.
- WB1.3 Superdisk - Bootable, ready-to-run. Read/Write MS-DOS disks, DIRWORK file manager, AutoCLI WB Enhancer, includes Documentation on disk.
- WB2.x Enhancer - Icons, Presets, NAG program for appointments, Fractal Screen Blanker, KCommodity: Auto window activation, Clock/Memory usage, Keystroke Audible Click, Gadgetless window closing, Hotkey, Mouse accelerator and much more.
- AntiVirus - Latest protection using BOOTX, Tutorial on Virus Protection and more
- Hacker - Rip music from games, create custom boot blocks, look for secret messages on disks
- DOS Utilities III - All the latest PD Utilities to organise your disks
- MS-DOS Utilities - READ/WRITE and FORMAT 720K MS-DOS Disks!
- Hard Disk Utilities 1 - HD Backup, Alock security, Undeleter, Disk editor, mark out bad blocks, alter your boot logo, find misplaced files and HDMem.
- Parbench - Network two Amigas via a special Parallel cable. Ideal for CDTV owners to use as a CD-ROM drive.

Programming
- ACE AmigaBASIC Compiler 1.1 - Speed up your BASIC programs into fast executable binary. Includes linker and assembler.
- Pascal - Two disks, PASCAL includes PCQ compiler, A68K, Blink, Debugger, Mon, examples and PCQ source.

Hot Games 11
Two player fun!
- Scorched Tanks - a classic action/strategy game for 2-4 players.
- TNG - Star Trek strategy game with Next Generation scenarios.

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great, interesting, and informative column. I've been a reader of ACAR for a good while and have gathered up quite a number of questions. I'm a C128D owner and enjoy programming.

"1. I've been using GEOS 64 V2 for some time now but find geoWrite and other applications slow. I've found that the 128 uses 2MHz for GEOS. Can you use all the software for GEOS 64 for GEOS 128?

"2. CMD has released 3.5" drives and hard drives for the 64. Are these compatible with the 128 in 128 mode? Also are all other products compatible?

"3. May you please recommend a book for machine language programming in 128 mode that is good for beginners as well as advanced users?

"How about a 'hints and tips' column for programming? Thanks for your time."

OJ: 1. Generally, GEOS 64 applications will function quite happily under GEOS 128, but it isn't always guaranteed to be the case. Most, if not all, of the titles released by GeoWorks will function perfectly well.

2. Yes, the FD-series floppy and HD-series hard drives are compatible with your 128. Both are capable of emulating 1541/71/81 disk drives, and will work with GEOS, CP/M etc. For more information contact Novo on (049) 201 102.

3. There's no books on 128 assembler that I could easily recommend. The 128 suffers from there being very little documentation produced specifically for it. If there's a reader with a suggestion for Anthony, please write care of The C64 Column to the address printed below.

A programmer's 'hints and tips' styled column would be a nice idea, but we just don't have the room for a separate column. If readers have any hints and tips, by all means send them in to be printed as part of The C64 Column.

C64 gear for sale

Arthur Sawilejskij of Port Macquarie NSW writes:

"Dear Owen, I read your column every month with a sense of nostalgia - I was a C64 owner till about 2 1/2 years ago, when I switched over to an Amiga.

"There is no doubt that the C64 was a great little computer in its day - you could really have some fun with it. However, the Amiga is every bit as much a fun machine - only more so with the wealth of software and hardware at reasonable (but still not IBM league) prices.

"Anyway, the point of the letter is to offer for sale some remnants of my C64 collection - items I notice from your column are getting hard to come by. I have, in pristine condition, C64 books on machine language, memory maps, GeoPrint Cable and other items. Anyone interested can write or phone me.

"P.S. This letter was written on an Amiga 50MHz 68030 with 9 megs of memory and it took just as long as if it had been written on a C64."

OJ: If you'd like to contact Arthur, write to 8 Mitchell Circuit, Port Macquarie NSW 2444 or telephone (065) 820 754.

And more ...

Trent Yarwood of Brunswick Heads NSW writes:

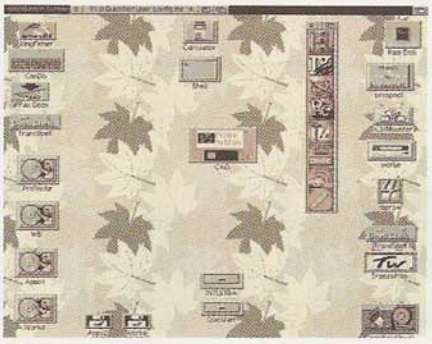
"Dear Owen, I have recently sold my C64 and still have a few games that I have not sold. As I have seen other ads in your column, I was wondering if you could include the following games:

"*Bards Tale III* (with hint sheet) $15, *Bloodych* $15, *Six Sizzlers* (no manuals) $5, *Heroes of the Lance* $10, *Arcade Champions Pack* (no box, no docs) $5, *Chemistry* (educational, 12-16 years) $10, *Geography* (educational 12-16 years) $10.

"Please include an extra $2.50/order for P&P. All the games are originals, though the ones without boxes or manuals are noted. Although I no longer have my C64, I still find your column interesting to read. Keep up the good work."

That wraps up this edition of The C64 Column. As always, I'd love to hear from you. Send you questions, comments and suggestions to: The C64 Column, PO Box 288, Gladesville NSW 2111, or via Netmail at 3:713/888.999.

See you all again next month. ❑



ToolManager & MagicWB

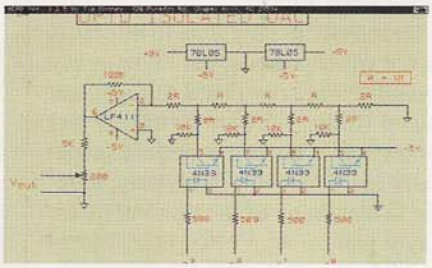
Your Workbench can look this good - Toolmanager provides fast access to any program. If you're not using it, you're wasting time. MagicWB replaces those dull WB icons with new 8-colour versions which are much smarter. 1 Disk each.

Have you wondered what's on our disks?

All $5 each...
(even less when you buy more.)

Graphics #4

A full paint program, image filing package and more on one disk - Freepaint (pictured above) has a Deluxe Paint style interface making it easy to use. It's the ideal way to test the waters and see if paint software interests you. Fully functional. 1 Disk. 1Mb recommended.



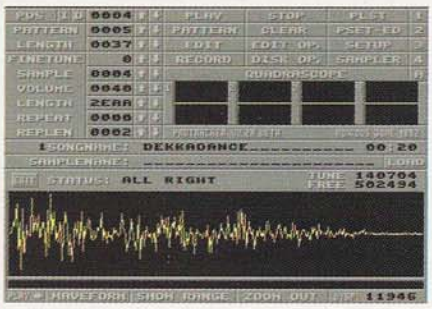
CAD Software

Many of our disks contain a collection of related programs - take our CAD disk for example. You'll find five CAD programs, including software for landscape and speaker design. Pictured above is MCAD - ideal for circuit drawings or plan view drawings. There's also LogicLab for designing electronic circuits. All this on one disk.

Author	Title	Publisher	1st public
Adams, Douglas	Dirk Gently's Holistic Detective Agency	Pan Books Ltd	1988
Adams, Douglas	Hitchhikers Guide to The Galaxy, The	Ululu Publishing	1985
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	Hamlyn 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.



Protracker

Edit and create your own music. Alter instruments digitally, sequence up drums, samples and create stand alone modules. Protracker is the one used by the game designers to create music. We also have 23 disks of excellent music tracks (we're very fussy about what's included) which can load into Protracker. One disk. 1Mb

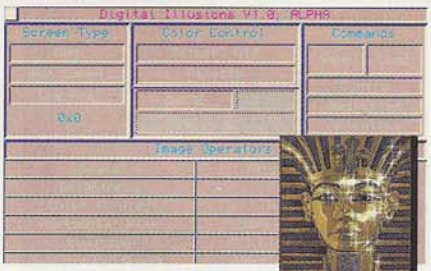


Image Processing

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.

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Phil Campbell's MEGA Entertainment

Good reading this month!

Welcome to yet another Entertainment section that's brimming with goodies! Turn the page and you'll find letters, Amiga game reviews, and an ever growing CD32 section with plenty of news and views. An apology - the space-time continuum didn't allow us to run the promised review of *Body Blows Galactica*. It's such a great game I wanted to review it myself, but I ran out of time, and there's not enough space! Maybe next month?

Hall of Fame to fizzle?

We're currently reviewing our committment to the long running ACAR Hall of Fame. The fact is, some names have been sitting in the Hall unchallenged for a number of years, and there's been very little action. Obviously, a lot of older games now hold very little challenge and appeal - but on top of that, there haven't been many high scores coming in for new games either.

Having said that, the last month has seen an unprecedented flurry of scores. What's happening out there? Please write and let us know what you think we should do. Should we scrap the Hall of Fame altogether and use the space for another game review? Should we drop all the current games and start from scratch? Send your thoughts to the Entertainment Editor, PO Box 23, Maclean NSW 2463.

New hints from ACAR

Don't miss out on your copy of ACAR Hints Disk Number 3. It's packed full of hints, cheats, level codes and full solutions for games released since Disk 2. There are 160 Action Replay Cheats, codes for all 1000 levels of Populous 2, hints for games like *Lemmings 2, Chaos Engine, Zool, Flashback*, and *Desert Strike* - to name but a few - as well as all the hints and tips printed in the ACAR Entertainment section over the last two years. 100 Adventure games have been covered, many with complete solutions. So if you're looking for help with *Zork 1, 2* or *3*, with *Monkey Island 2*, with *Larry 2* and *5*, or with *Police Quest 2, Kings Quest 2* or *Space Quest 4*, here's where you look!

To order Hints Disk 3 - or Disk 1 or 2 - send a blank disk, a stamped, self addressed envelope, and a cheque or postal order for $5 to Phil Campbell, ACAR Hints Disk Offer, PO Box 23, Maclean NSW 2463.

More PD games

More good news for disk collectors! We're also happy to announce the addition of a new PD Game Disk to our ACAR Series.

Entertainment Letters

Got something to say about Amiga Entertainment? Drop us a line at the Entertainment Mailbox, PO Box 23 Maclean NSW 2463.

Nitpickers Picnic

Dear Phil, I really hate to do this (I do not enjoy pointing out faults in my favourite magazine) but I thought that Daniel Rutter's review on two player games left a bit to be desired, especially his comment: "The only problem is that many of the best ones (two player games) aren't that new, and so could be tricky to find." What rubbish! My brother and I are always on the lookout for two player games, and let me say that there are an awful lot more out there than the review implies. For example:

Super Cars II, Alien Breed I & II, Lemmings, Golden Axe, and *Star Control*.

I hope that this collection of excellent two player games (which is far from all of them) proves to Mr Rutter that high quality two player games are anything but old and tricky to find.

Colin Druitt
North Rocks, NSW

Ed: Thanks for the info, Colin. Daniel Rutter's pay has been docked accordingly.

Amiga Visionary

Dear Phil, I have owned an Amiga 500 for four years and a A1200 for four months. I program using Amigavision and have made many presentations and I am currently thinking about starting up my own business. Could you please print my address so that people who are interested in a foyer presentation for their business can contact me.

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Also, could you please give me some infomation on how to create my own screen savers as I have many animations which would be good screen savers. I also think that your magazine is the greatest Amiga mag around. Keep up the good work.

Stephen Rock (14)
12 Kiola St,
Smithfield NSW 2164
Phone (02) 604 8710

Ed: Somehow, Stephen, I've got the feeling your letter would be more at home at the other end of the mag. But, because I'm a nice guy, we've printed it here. Anyone looking for a foyer or point of sale display can give you a buzz. Meanwhile, I'm pretty ignorant about screen savers, and haven't seen any that let you play an animation - my boring old version of AutoCLI simply blanks the screen.

Cando Coverdisk

Dear Phil, In your December '93 issue a person by the name of Ian Eldridge wrote in asking about a PD version of CanDo. You said that a UK magazine had a cut down version on a coverdisk a while ago. CanDo Jr was on the cover of issue 36 of *Amiga Format*.

Issue 51 is out now and has a back issues form inside it.

Leigh Dyer
Seymour, Vic

Ed: Thanks for the tip off, Leigh. We're happy to plug inferior, overly expensive overseas mags.

CD Complaints Carefully Considered

Recently from Brashs in Adelaide, I bought an Amiga CD 32 and a couple of weeks later I got the CD version of *James Pond 2*. This game really wasn't my cup of tea although I am sure some people enjoy this game. Anyway, I took the game back to Brashs and the assistant said that normally they can't take games back because of piracy, but they would allow it this time. I didn't like any of the games so they gave me back my money in a form of a voucher.

They allow games to be played prior to purchase but you can't tell if you are going to enjoy it after a few months in just five minutes of play. So the only option is to read reviews but as you may guess you have to fork out $10 for an English mag which is kind of rough. Why aren't there any Amiga CD32 mags?

Scott Hudson
Edwardstown, 5039

Ed: Ask no further, Scott! You're reading one. Well, at least, we're increasing our CD32 coverage as fast as we can. We're planning to review every CD32 title we can get our grubby little mits on - and it's all 100% local coverage, at a far cheaper price than you have to pay for an English mag. Why not subscribe?

Hall of Fame

Well I just can't believe my eyes. Sitting right in front of me is a three centimetre pile of High-Scores. This is truly one of my happiest days. Thank you Australia for giving me a great Christmas Present! If this is the reponse I get every month then things are looking good!

No other real surprises this month except to say that some old Highscores have been mutilated and mauled to death and new and even higher ones are coming in. Keep up the great work. See ya next month!

Send your high scores to Juris Graney, 41 Cameron Street, Maclean, NSW, 2463. Please mark clearly whether your scores are for C64 or Amiga. If we don't receive any new Hall of Fame scores for the C64 this month, we're seriously considering dropping the C64 Alcove from our hall of fame! And as always, remember - NO CHEAT MODES ALLOWED!

AMIGA

ACTION FGTR 300,000 Jokey J Snr
ALERT 359,700 Robbie Baker
ARKANOID 1,653,140(C) The Hawke
AMAZED 130,500 Chris Turnadge
ANARCHY 646,560 Sid Vicious
AQUATIC GMS 4,170,666 P Carey
AXEL MGC HM 329,800 A Buscumb
BAAL 134,250 Davo
BARBARIAN 2 100% (C) Sid Vicious
BATTLE COMMAND 334,200 P Cain
BATTLE SQUADRON 999,999,999 (C) Amos Burbidge
BYND IC PL. 67,626 (C) C Turnadge
BIO CHALLNGE 29,000 A Sanderson
BLOCKOUT 85,281 Stephen Lark
BLUES BROTHERS (C) Loopy
BOMBJACK 468,120 K Butters
BUBBLE + 276,850 (C) C Toyne
BUBBLE BLE 2,960,980 K Cameron
BUDOKAN 6:08mi (C) M Sorenson
BUGGY BOY 113,260 Pwhs Nick
CAR-VUP 484,122 Happy Hacker
CHASE HQ 7,628,060 Ant D'Nuit
CIVILIZATN 2421 / 242%(C) D Dilkes
CONT. CIRCUS 4,815,390 Dolly
CRAZY CARS 103,005,010(C)Hawke
CRAZY CARS CHALL 3,000,000,000 Michael Summers
CRYSTAL HAMMER 6,787,921 (C) Kristy Cameron
CYBERBALL 475,000 David Marsh
DENARIS 53,900 Peter Evans
DIABLO 1,490 Timothy Johnson
DRAGN NINJA 406,400(C) Wize Owl
DOUBLE DRAGON 975,352 A Smith
DBLE DRGN 2 201,330 (C) Warrior
EDD THE DUCK 5,820 A Gormly
ELIMINATOR 246,570 Greg Munro
EMERALD MINE Lvl 23 (C) Johnson
FIRE AND ICE 403,000(66%) C Love
FINAL FIGHT (C) Loopy
FLOOD 13,135 Matthew Beetson
GAUNTLET 3 270,509 Loopy
GEE BEE AIR RLLY 308,726 R Irwin
GODS 17,003,551(C) The Hawke
GOLDEN AXE 499.9 (C) Untouchable
HYBRIS 4,964,925 The Hawke
IK+ 1,508,800 (C) Michael Summers
IMPOSSIBLE MISSION 85,380 Michael Summers
IMP MISSION 2 67,900(C) D Dilkes
INDIANA JONES L.C. (C) P Nicoll
INDIANPLS 500 243.24mph I Klauss
INERTIA DRIVE 33,600(C) A Gormly
JAMES PND 2,500,000 M Shillington
KARATE KID 2 54,000 M Summers
KLNG GME SH 699,270 D Thompson
KLAX 4,396,040 Happy Hacker
LEATHERNECK 88,700 T Humpries
LIVE AND LET DIE 96,520 M Beaton
MAJOR MOTION 50,658 O Webster
MENACE 996,481 Kamakazi Andy
MIDNIGHT RESISTANCE 332,610 Chris McInally
MINDWLKR 306,214 P. Schumacher
MOUSETRAP 71,977 Davo Rich
NARC 180,800 Damien Carsburg
NECRONOM 1,181,360 J Rotten
NIGEL MANCELL'S F1 GP 160(C) Ant D'Nuit
NINJA MISSION 66,528 Chris Toyne
NITRO 283,000(C) Brett Bannerman
NUCLEAR WAR 990(C) Paul Rucci
N.Z. STORY 546,695 Embah Beaton
ONSLAUGHT 39,918 Andrew Gormly
OP. THUNDERBLT 255,075 A Smith
OP. WOLF 355,680 Graham Wilson
OFFSHORE WRR 626,345 J Booth
PINBALL DRM 6,713,864,072 M Vos
PINBALL MAGIC 423,560 Paul Rucci
PINBLL WZD 30,923,730 (C) Hawke
PIONEER PLAGUE 35,412 K Sooby
PLUTOS 299,000 Davo
POPULOUS 347,990 M Summers
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RAMPAGE 212,912 Graham Wilson
RICK DANGEROUS 2 83,810 Andrew Gormly
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SPACE ACE 24,680 (C) Stare Bear
SPCE HARR 210,855,250 Maverick
SPEEDBALL 17,760 G McDermott
SPEEDBALL 2 672-0 D Chapman
STRIDER 175,350 Neil Young
SPR CRS 27 Rcs (C) L. Hetherington
SPR CRS 2 Hard Lvl 42 Untouchable
SUPER HNGN 25,042,850 D Worthy
SPR OFF RD $5,510,000 Ant D'Nuit
SPR SPACE INV. 208,900 A Annen
SWIV (HELI) 2,108,210(C) R. Adams
SWIV (JEEP) 2,417,330 S McKinlay
T.M.N.T. 546,600 (C) James Leeken
TERMINATOR 2 254,960(C) P Rucci
TEST DRIVE 2 659,992 M Summers
TETRIS 65,300/L-1417 Ray Brown
THUNDRBLDE 2,034,040 De Moose
TOWER OF BABEL 25,934(C) Stephen Lark
TOKI 115,963(C) Loopy
TURRICN 2 3,307,700 (C) M Beetson
TV-SPRTS BASK. 268-0 T Harbisher
TV-SPRTS FOOT. 189-0 D McKinney
U.N SQUADRON 762,255 (C) Tony Stojanouski
VIDEO KID 425, 780 Axl Rose
VIRUS 22,637 Jason Dykstra
WINGS 520 Kills Michael Summers
XENON 2 1,107,280(C) Mark Porta

COMMODORE 64

ALTERED BEAST 312,400 R Zanker
ARKANOID 2 756,250 Mean Max
BARBARIAN 2 91,900 (C) Danzig
BATMAN - THE MOVIE 1,087,080 Michael Bradley
BANGKOK KNIGHTS 39,600 J Smith
BOMBJACK 521,820 Adam Wade
BUBBLE BOBBLE 6,963,930(C) David Gavrilovic
BUGGY BOY 182,790 P. Murray
CABAL 194,450 The Joker
CHASE HQ 2 29,100(C) Adam Wade
DOUBLE DRGN 35,820 (C) A Prasad
DBLE DRG 2 255,190 N Heeswyk
DRAGON BREED 496,870 H Hacker
FAST BREAK 136-9 Chris Byrne
GHOULS & GHT 558,110(C) A Wade
GRYZOR 228,600 Mean Max
H. MARADONA Lvl M N Heeswyk
HAWKEYE 260,400 Matthew Inman
IMP MISSION 2 864,980 Cvaig
INT. KARATE 139,300 Paul Millward
LAST NINJA 2 17m44s(C) D Carter
MIDNIGHT RESISTANCE 28,540(C) Dennis Pike
NEMISIS 1,633,200 Adam Wade
OP. THUNDERBLT 78,600 A Annen
OP. WOLF 776,350 Winston Diaz
PARADROID 303,125 M Inman
POWERDRIFT 872,940(C) A Annen
R-TYPE 1,890,210 Atul Prasad
RAINBOW IS 7,653,241 A Malinowski
RAMPAGE 180,000 Adam Wade
SALAMANDER 235,300 P Millward
ST FIGHTER 168,900(C) A Wade
TARGET REN 330,450(C) C. Byrne
TEST DRIVE 2 249,543(C) A. Batroc
TETRIS 81,613/L-1021The Fly
THE TRAIN 9,500(C) Adam Annen
THUNDERBLADE 1,851,040 Matthew Inman
THUNDERCTS 310,100 S Kandaurov
T.M.N.T. 4,397 Adam Annen
UNTOUCHABLES 70,230 S Watford
WONDERBY 4,775,470(C)L Walters

Scores followed by (C) indicate the game has been completed / clocked.

Just when you thought you could sit back and relax, the legendary land of Ishar is under attack. Laetone Gravolin offers his assistance as he introduces ...

Remember *Ishar, Legend Of The Fortress*? Great game. A group of adventurers bravely volunteered to conquer the fortress which belonged to the evil Krogh, son of the even more evil Morgroth.

Now there's *Ishar 2*, which starts out when Zurbaran, the new ruler of Ishar, receives a strange visitor. Jon, alchemist of Arborea, tells Zurbaran about the evil fate that's coming across the land. Zurbaran must keep this fate from befalling his beloved Ishar, which could fall in the coming tempest.

The game is set out well. It's easy to move your party around the amazing 3D world with the six directional arrows at the right hand side of the screen. There are armament icons, one for each of the five characters in your party. When in battle, you use these to activate whatever is in your character's hand - a similar system to *Captive*.

The tactical positions of the characters are very important when in battle. They can be positioned using the 5 x 5 chequerboard which is at the top of the screen. You can place your characters at the front, sides and rear of your formation. This is helpful if there are monsters all around you. Spells are also necessary in a role playing game like this, and there are lots of them. Unfortunately before you start shooting fire balls at poor defenceless beggars you must enroll either a scholar, druid or a magician into your party. There are thirty spells in the game which are grouped into three categories - defence spells, attack spells and specific spells. The more experience and energy the character has, the more spells he/she will gain and the spells themselves will increase in power.

There are several islands in the game which you can travel to in search of infomation about the incoming fate. The party can go to forests, inns, docks, towns, tree cities, night clubs and many more interesting places. Along the way one of the characters in your party may get killed in a fight. You can gain a new character by going to the inn. Here you select the character you want and the rest of the party votes on whether or not that character should be allowed to travel with you. If at some stage of the game you dislike a character in the party you can either nicely tell them to naff off or brutally assassinate them.

FACTBOX

Could have been easier, and the music could have been one hundred percent better, but if you feel like a real down to earth mystical challenge and you're good at RPG's you will be pleased.

Ratings:

Graphics:	80%
Sound:	55%
Addictivness:	68%
Gameplay:	84%
Overall:	74%

Distributed by Hot Point Software. RRP $69.95. Also available for A1200.

The graphics in *Ishar 2* are very smooth in every feature of the game - faces look real and mountain paths have an excellent earthy effect.

The sound is appalling. There is terrible background music which you can only turn off at the start of the game, and the fighting and moving sounds are very basic.

If you are a novice or just starting to come into the world of role playing games I strongly recommend that you don't start out on *Ishar 2*. It is an extremely hard game to play and to work out puzzles - a beginner will be stumped at the first clue. Regular adventurers and experts at RPGs will adore this game - it's a real challenge. ❑

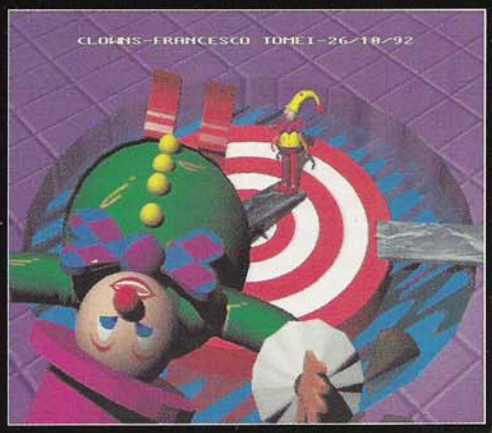
Amiga ART

640x480 JPEG image - the balloons were modelled by hand

24-bit - 352 x 566 pixels - Rendered using "Reflections 2.0" by CODE FACTORY

64 colour (EHB) - 352 x 566 pixels

Prize winning Real3D v2 rendered (Jpeg) - by Chris Perigo



24-bit - 352 x 566 pixels

GALLERY

320 x 512 pixels, 64 colour (EHB) - hand drawn

Amiga users are a talented bunch. In this regular spread of graphics created by people like you, we'll be show casing the best images from around the country. So, if you've got something to contribute, why not shoot us a disk - or modem the file to our simple BBS on (02) 816 4714.

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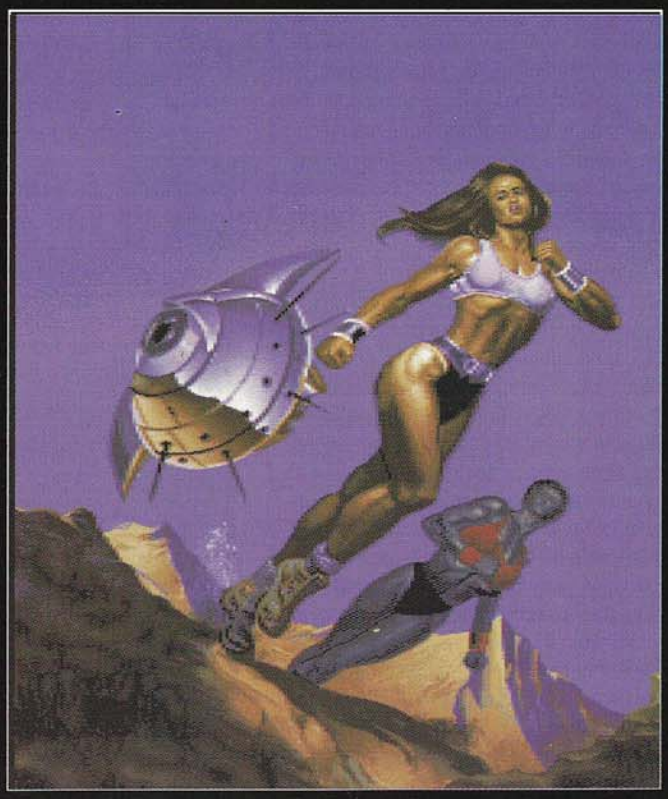
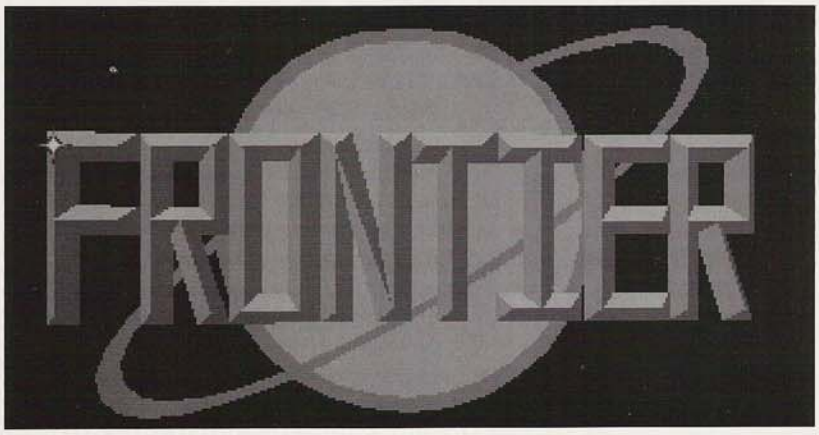
BTW: Like much of Amiga review, this two page spread was desktop published using Professional Page 4.1 on an '030 Amiga.

24 bit - 352 x 566 pixels

24-bit - 768 x 576 pixels



64 colour (EHB) - 352 x 566 pixels (cropped)



Ready for a long term challenge? Juris Graney plays the sequel to a game that began the whole space-trading genre - and he's very impressed!

FACTBOX

A game with huge scope. It should offer an incredibly long term challenge, particularly if you're a space trading enthusiast. The 3D filled vector graphics aren't flash, but they certainly do the job. The most startling thing about the game is the size of the universe you'll be exploring - there are literally thousands of planets to visit.

Ratings:

Graphics:	81%
Sound/FX:	78%
Gameplay:	96%
Addictiveness:	100%
Overall:	93%

Distributed by Metro Games (03) 329 2999. RRP $79.95.

I must admit when *Frontier - Elite II* landed on my desk I thought to myself that I would really enjoy a game with a bit of depth and meaning. What I didn't count on was the sequel to the most talked about game in the world. To be honest, I've never played *Elite* - I'm not sure how I missed it! By all accounts, it was a mammoth game with depth measured in kilometres and enough excitement to last a lifetime. But one thing is for sure - I can say without a shadow of doubt that *Frontier - Elite II* is one of the best games I have played.

The documentation that comes with *Frontier* is long and tedious, but well worth the time to read. It explains the history of the main planets you encounter on your galactic journeys, the history of your spacecraft, and last but not least, how to play the game.

The game begins on the ground in a spaceport - before you can do anything, you'll need clearance from the tower. Click on the "Communicate" icon, transmit your message, and you're ready.

Once in space, you'll start to get some idea of the scope of the game. There's a lot of emptiness out there, and a heap of planets and star systems as well - thankfully, there's a time compression option to speed up your journeys.

The star map is sensational. It's a fully rotatable 3D affair with a base plane and spiky coloured vectors showing the co-ordinates of each major destination. From a distance, the overall effect is that of a multi-coloured porcupine, but you can zoom in for a closer look at each sector.

You look out onto the space world through the cockpit window. This is where you see the landing ports, and the space pirates and the missiles flying about you in the heat of battle. Graphically, your view is pretty much all made up of vectorised 3D images. They're not sensational, but they're clear, and detailed enough to pull you into the game.

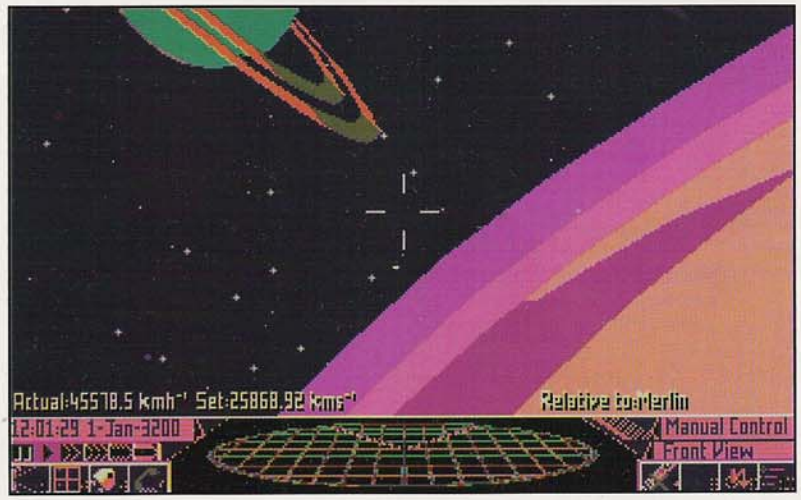
There are extra screens for stock market information - after all, this is a trading game - there's a bulletin board (used for picking up passengers and packages). And there's more - like the workshop screen where you can pick up new parts for your ship. The graphics on this screen are excellent.

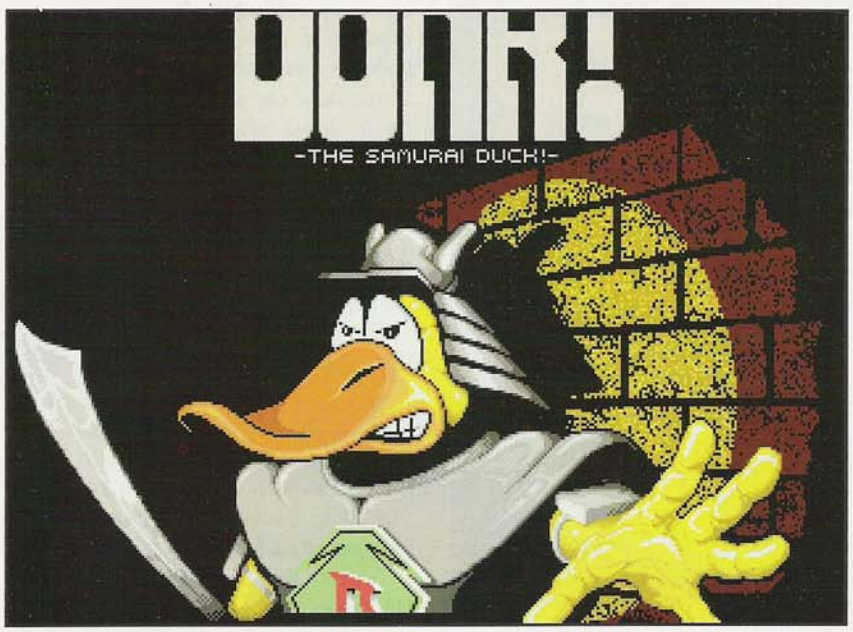
Soundwise, *Frontier* is a bit disappointing, but worth a mention. You choose between some of the best classical music in the world, *In the Hall of the Mountain King* and lots more. I found these soothing and relaxing in the heat of the battle and while everything is going on, the music just plays in the background and adds to the atmosphere. The effects, on the other hand, are a bit poor, with the occasional 'whizz-bang' as you hurtle through Hyperspace and the odd explosion mixed in for flavour.

Animation is slick, fast and perfect. The gameplay flows smoothly. Best of all is the plot, because in the end, there isn't one. *Frontier* simply dishes up a complete universe, and it's up to you to do exactly what you like.

Fly around, trade between planets, avoid pirates, make as much money as you can - it's up to you.

If you want a great game to play then grab this as soon as you see it hit the shelves. Otherwise you will be missing out on a piece of galactic history and a superb game that will last you for years.





A duck called Donk? Platform hopping adventures that will take you all around the universe? Heaps of fun? Yes, all that and more. And Laetone Gravolin took to this game like a duck to water ...

There have been some pretty strange games around lately, but the strangest I've come across in a while features a Samurai Duck who sets out across the universe in search of a long lost friend. This duck is cute. And he's brave. And he's lovable. But he has a very strange name. I mean, who'd call their duckling Donk? Don't worry - you'll soon get used to it. Because *Donk* is an incredibly tasty platform game with loads of action and tonnes of fun.

As the game opens, you'll check out the main Adventure Map - from here you can select different paths through the various levels - you can choose any direction, and you'll have to complete 15 levels to win each zone. There are 112 levels in the game, and seven zones in total - the Sub Aqua zone, Hanic zone, Plasma zone, Rock zone, Con-Struct zone, Hab zone, and the Electro Mass zone. Sound weird? Wait till you see them!

The object of the game is to get all the diamonds in each level and then make a quick duck (*very funny! Ed*) for the exit, which you have to find first. When Donk collects the last diamond the screen goes a terrifying red, and an alarm sounds. A voice starts repeating "emergency," and if you don't make it to the exit in 90 seconds you're dinner. Some levels are really hard to complete and it can be like a big puzzle - you'll have to play these levels quite a few times to get them right.

Donk is either a one or two player game. In two player mode the screen splits in half and you have to beat the pants off your friend by collecting the most diamonds. Two player mode makes the graphics a tad squashed and glitchy, while the one player mode graphics are very smooth.

Most platform games don't have a save option, but *Donk* is entirely different - it has three save game options, and it can even create a save game disk from a blank disk with no need to format it!

Obstacles are slightly tough and more than a bit frustrating. There's water, and if Donk falls in he will die. This seems strange - after all, I thought ducks liked water ... Hmmmm. Pits are not good for Donk's health, and aliens can be rather nasty at times. However Donk has a few (very imaginative) weapons on his side. An "eggstra" life, shields, eggy bombs, egg shields, jumps, floats, reverse controls, and a most convenient old egg-timer which slows all of the obstacles down.

Most platform games like *Donk* have continue screens, however these only come up until there are no more credits left. Again, *Donk* is different - you can continue as many times as you want and still be on the same level that Donk carked it on.

The sound and gameplay in *Donk* is of absolutely superb quality. The game is very flexible and you can play your way through in many different directions - not just one. It is also very addictive! My square eyes didn't even blink at the fly buzzing past when I just about completed a level. On the same disks there is the AGA version of the game - good thinking! Overall, this game is a real winner. It's fast, it's smooth, and it's pure and simple fun.

FACTBOX

Donk is a well optioned platform hopper that will soon have you quacking up. Graphics, sound and gameplay are a real delight.

Ratings:

Graphics:	89%
Sound:	84%
Addictiveness:	92%
Gameplay:	89%
Overall:	88%

Distributed by Softwave (02) 428 7791. RRP $69.95.

One of Europe's most popular games has made the trip to our shores. And for some reason, it hasn't made much of a splash. Maybe that's because it's not soccer season? In any case, if you haven't played Soccer Kid, Phil Campbell says read on - it's top fun.

I may not know much about soccer, but I know what I like. In fact, I'm a real Maradonna fan. I've got all his albums, and I'm planning to catch the next concert at Sydney Stadium. Just between you and me, though, I reckon his team mates must be pretty embarrassed playing with a bloke in high heels.

Anyway, the good news is, you don't need to know much about soccer to play *Soccer Kid*. In spite of the sporting theme, it's definitely NOT a sports sim. There's none of the drudgery of picking teams, arranging field positions and shooting for goals. *Soccer Kid* is the simple tale of a boy with his ball who sets out to foil a bunch of aliens who nabbed the world cup. And it's fun.

In essence, the game is a horizontally scrolling platform romp, and my team of junior playtesters loved it. "It's simple," explains eight year old Johanna. "Just try to hit as many things as you can with your ball and you get heaps of points." Not so simple - moments later she falls in a pit full of spikes, and it's not just the ball that gets punctured!

A little further along the scrolling pathway, Jo comes face to face with a mean looking kid on a skateboard. A quick kick in his general direction and he's neatly dispatched. There are hazards everywhere. Vicious dogs on the streets, and ready-to-fall bricks teeter on overhead platforms - this is no place for a casual Saturday afternoon stroll, except for the tasty lollies and hotdogs that line the sidewalk. Grab them while you can - you'll need all the energy you can get.

Background graphics in *Soccer Kid* are vivid and appealing - suburban houses, lamp-posts and mailboxes scroll by smoothly. It's a perfect reproduction of a suburban neighbourhood. By the way - whenever you see a tree or a car or a phonebox, climb on it. Most of the bonus icons are hidden above street level. Collect 11 soccer card icons, and you're into the bonus level to play for a piece of the missing World Cup.

The Soccer Kid is a genuine ace with the ball. Push upwards with the joystick while you're pressing the fire button, and he'll kick it in the air. Tap forward on your stick and he'll rocket the ball to the right, wiping out anything in its path. In fact, with a bit of practice and the right technique, you can flick, bounce, head and kick the ball just about anywhere you like.

So far, Johanna is in superb form. Her little sister Maddie is pretty hot too - they've played their way right through the city and into the countryside. Buildings and cars have given way to stone fences, rolling meadows, tractors, and sheep. "Oh oh, this sheep spits," says Jo in dismay. Not only that, jumping fish are likely to knock you from the bridge, the place is crawling with snakes, and the farmers are far from friendly.

Soccer Kid is an eminently playable game, and heaps of fun. There's plenty to discover, the graphics are delightful, and the soundtrack is fast and boppy. Top marks! ❑

FACTBOX

A top class horizontal scroller with bright and breezy graphics and classy animation. The rules are simple - when you run into a nasty, kick your ball at it.

Ratings:

Graphics:	84%
Sound:	79%
Gameplay:	87%
Overall:	83%

Distributed by Hot Point Software (02) 4287791. RRP $69.95.

Bob's Bad Day

Here's a game that doesn't look flash when you first see it. And it's not all that impressive the first time you play it. But boy, says Phil Campbell, it sure grows on you!

FACTBOX

Bob's Bad Day ain't bad at all. In fact, for a simple little game with fairly rudimentary graphics, it's fast, addictive fun.

Ratings:

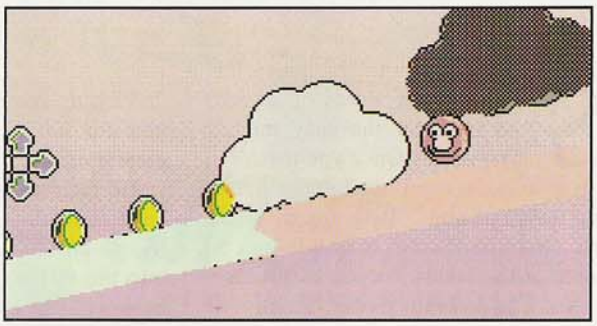
Graphics:	68%
Sound:	73%
Gameplay:	81%
Overall:	79%

Distributed by Hot Point Software. RRP $69.95.

Ever had one of those days when you didn't know whether you were coming or going? Where you didn't know whether you were Arthur or Martha, where you didn't know if you were up or you were down?

Bob has. In fact, Bob's having a day just like that right now. For starters, a Wizard just turned Bob into a bouncing head. Bob originally had a full set of appendages. Now he has none. And he's sick to death of all those "Matt", "Bob" and "Russell" jokes people tell about the appendagely challenged. You might get a chuckle out of lines like "What do you call a guy with no arms and legs lying outside a doorway," but Bob is not amused.

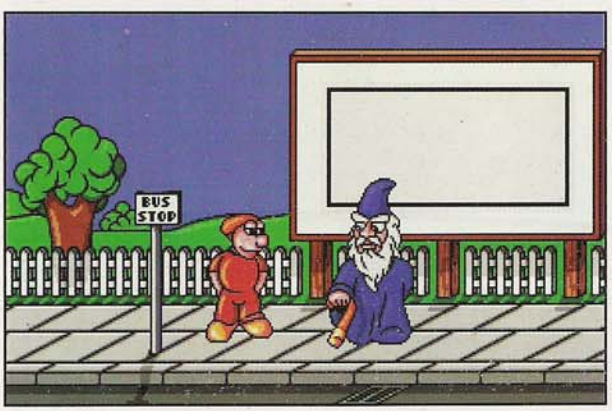
But that's just the start of Bob's problems. The %&#&*! wizard has also shoved him sideways into a whole new dimension, where sanity, gravity and anything else ending in "ity" has been fundamentally redefined. So, for example, you can almost guarantee Bob's going to fall up when you'd expect him to fall down. And when you get used to that, it's bound to change - don't be surprised if everything starts falling sideways.



We're playing *Bob's Bad Day*, an incredible new Amiga game that's unlike anything I've ever seen before. Mind you, it's not particularly flash. The backgrounds are simple, the maze-like Wizard-worlds are far from sophisticated, the sound is fairly basic - trouble is, I can't stop playing it.

There are 100 levels in all, and so far I'm up to number 15. Some are incredibly complex, some are so simple that you'll finish them in seconds. But the magnetic attraction that draws you on sets *Bob's Bad Day* apart as a game with real class.

Blobby Bob's challenge is to roam the multi-gravity mazes collecting gold coins. Pushing on the joystick sends the whole maze into a spin - the trick is to rotate the floor you're rolling on in the right direction to make Bob roll. It's not as easy as it sounds. If gravity is falling upwards, for example, and your floor is leaning at 30 degrees to the left, which way do you push the joystick to make Bob roll to the right? And when you roll over a token that reverses the gravitational thrust, your head might realise that you need to change your perspective - but will your reflexes be so quick off the mark? Mine weren't.



It's not all beer and skittles, either. You'll find some of the maze-worlds are packed with nasties, like sharp-teethed rotating cogs that make mincemeat of errant heads. (Actually, Bob simply deflates and flies off into the distance like a punctured balloon - minced heads are not suitable family viewing.)

You'll find plenty of other obstacles too, as well as a few handy gadgets. There are pipes, which link inaccessible areas of the mazes. There are breakable wall blocks; there are fans; and more than likely, there's a heap of other odds and ends I haven't even found yet.

It's a funny thing - after you've been playing the game for a while you start to get the knack of it. Twisting and spinning your joystick becomes second nature. Mind you, I find it helps if I stand on my head and hold the joystick behind my back. Sure, it's hard to press the fire button, but if you really stretch, you can hit it with your toes. ❑

FlashBack Solution Part 1

FlashBack is widely recognised as one of the slickest action-adventure games ever. When we reviewed the game late last year, we loved it. And now our resident expert gamer Mark Harris has played his way right through every puzzle and mystery in the full seven levels.

Some opening words of advice? "At first, try the easy mode," says Mark. "Once you master it, advance to the other two more exhausting levels of play." Be warned - Mark has simplified some of the moves in some of the levels, so you'll still have to use a little brain power. Finally, as we always say, only use the solution if you're really stuck - knowing all the answers in advance can spoil your fun!

Level One:

From start, pick up the holocube located 1 screen below move to the right and dispose of the first ogre.

Go left and pick up the rock and the 10 credits then move right, let the door slide open and incinerate the second ogre. Pick up the pile and go down (careful - don't fall).

Move right avoiding the force field and the current running through the ground, re-charge the shield and the pile, move all the way to the left and place the pile into the console. This opens the bridge. Once you cross, take the lift up and go left, then throw the rock at the sensor so that the lift stays down. Pick up the teleporter and the two rocks, then take the bottom lift down. Now go back to the right - take care to avoid the deep drop!

Climb down, then again climb down, jump down to the two ogres, and hopefully they will kill each other. If not, dispose of the remaining one, go right and disable the force field.

Pick up the rock, kill another ogre, pick up 100 credits, pick up the key, pick up the 100 credits to the right you'll face another ogre - make sure to have your gun ready. Pick up 500 credits, go all the way left, insert the key into the console to open the door. Go back over the bridge all the way to the right where you re-charged all those items a while back. Go up and play with the sensors till you get to the top.

Go right and talk to the injured traveller. Give him the teleporter and pick up the I.D. card. Now go back all the way left over the bridge (caution) go all the way left, go down and and pass the I.D. card through the console. Climb down - caution, it's a long drop.

There are two more ogres here. Climb down and see if they obliterate each other; if not dispose of the remaining one. There's a sensor on the right and if you try to walk through, it sets off a laser beam ... duck down and roll into the next screen. There's an old hermit on the right who will sell you the anti-g belt for your credits, then jump down to the next level.

Level Two:

Go all the way right and climb down to bring up the lift from the middle platform. Run and jump to get on top. There you'll find two cops, who will shoot you unless you dispose of them.

Talk to Ian and activate the chair - you'll see a long animation sequence after which you must talk to Ian again. When he opens the door, go through and climb down.

To kill the ogre on the bottom pick up the fusible and return up to insert it into the console.

Again activate the console to bring down the lift, take the lift up and go left. Talk to the man, then open the door, bring up the lift and go down to the train. Activate the map to familiarise yourself with the subway system.

Take the train to the bar (America) go up to the fourth floor, talk to the barman, then go all the way right and talk to the Forger.

Go back to the train and take it to the council (Africa). Talk to each moron and give your I.D. card to the Governor, who will give you working papers. Take the train to the job centre (Europa), talk to the man and insert the working papers to accept mission 1.

Take the train to Asia and collect a packet from the woman, take this packet to Africa and give it to the man here - he will pay you. Take the train to the job centre and accept mission 2.

Save your game here - you can also re-charge your shield. Take the train to Restricted Area 2 (Africa), pick up the V.I.P. and go all the way to the right. Shoot the ogre, pick up and insert the key into the nearby console, then go left and kill the next ogre.

Go left again and dispose of the two floating balls on the top platform.

Collect the key, go right, and insert the key to open the door. Get the V.I.P. and go ahead - he'll pay you and teleport you to the mission room.

Re-charge and save here. Insert your working papers to accept mission 3.

Take the train to the bar (America), talk to the customer, then go down and talk to the cop.

Go back behind bar, shoot the ogre, then talk to the man. Go back down and shoot the cop - pick up the key he'll leave you. Go back behind the bar to open the floor trapdoor. Jump in.

Save here, go right and shoot the two terminators - you'll get paid and teleported back to the mission room. Re-charge.

Save here, and insert your working papers to accept mission 4. This level is not tough, but it's fast! Step into the teleporter, run to the right, open the trapdoor and run all the way left.

Take the lift down, run to the right, and jump on to the platform to activate the lift. Take the lift down and go right - insert the correct card and you'll be paid and teleported to the mission room. Re-charge again, save your game, and insert your working papers to accept mission number 5.

This level is not easy! Make sure you take your time and be patient. Proceed to Restricted Area 3 (Europa, same station). Save here, then shoot the ogre and go down; shoot the second ogre and get the key. Go down again, and shoot the third ogre.

Go left and insert the key, go left again, then pick up the rock and throw it. Shoot the ogre, run left and jump down to shoot another ogre. Go to the top platform and activate the sensor to open the door.

Climb down and roll right, then pick up key and the credits. Go back left, down, right, and down, then dispose of the cop.

Open the door and incinerate the flying ball - you'll get paid and teleported back to mission room to re-charge. Save here, then go to the bar (America) and talk to the Forger.

Give him the credits and collect your I.D., then proceed to the death tower and give your I.D. to the man. Walk in and ... voila! (it's a French game after all). You'll find yourself in level three - which we'll tackle in next month's issue! ❑

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MICHAEL SPITERI'S Adventurer's Realm

Welcome to Adventurers Realm, the part of the magazine where many answers to many problems can be found with a little bit of effort. You can write to one of our many Clever Contacts or to Kerrie for one of her many free hint sheets (check the list before writing in). If none of the above provide relief then you can drop a line, and if I can't find help for you among my huge database of hints and tips then I'll print your problem here for all to see and hopefully a solution will be forthcoming. Feel free to send in your hints and tips, your views and news, your rumours and gossip, your complaints and chatter - in fact if it's on the topic of adventure and roleplaying games then we want to hear about it!

The address to write to for adventure hints, tips, problems, natter, chatter, rumours, complaints, etc. is: **Adventurers Realm, 12 Bridle Place, Pakenham, Vic 3810.**

Kamikaze Andy resides deep in his Dungeon and he is our resident roleplaying game expert (he is also pretty cluey when it comes to games in general). Drop Andy a line at: **Realm's Dungeon, PO Box 1083, Canning Vale, WA 6155.**

Always enclose a stamped addressed envelope when writing to any of the addresses published in this article.

Realm's Incredibly Fantastic Hint Disks

Not only are there two hint books, but there are also two hint disks, skilfully compiled by Graeme Beaven (who is currently working on Volume 3 and public domain disk for the Realm). Combine the two hint disks to cover over 190 different adventure and roleplaying games. Incredible, eh?

Orders for either hint disk are coming in thick and fast, and for good reason of course as they are the best dressed and most easy to use hint disks ever. Both feature a very easy to use interface that allows you to display hints at the click of a button (volume 2 even contains a swag of maps).

Absolutely packed to the last remaining sector with hints and maps, each disk is priced at an absolute bargain at just $7 (including p&p) or $5 if you supply the disk and stamped addressed envelope.

To order either disk send a cheque to Michael Spiteri for the required amount to Realm's Hint Disk, 12 Bridle Place, Pakenham, Vic 3810.

Free Hint Sheets

Kerrie, the Lady of the Realm, has since sealed the entrance to the dreaded dungeons of Dork, which was concealed by a mound of letters, however a Cyclops is wandering around the caves of the Realm singing "I will always love grue, oh I, will always love grueeeee!" The whereabouts of the particular grue is also a mystery.

Anyway, Kerrie, with one eye on her mail, has still maintained the hint sheet service at an efficient level, and if you would like up to four of the hint sheets listed below then drop a line to Kerrie's Free Hint Sheets, 12 Bridle Place, Pakenham, Vic 3810. You must enclose a stamped addressed envelope, and please, don't forget to mention the hint sheets you would like.

Hint sheets available are: *Mortville Manor/Maupiti Island, Monkey Island I, Monkey Island II, Space Quest III, IV, Wonderland, Leisure Suit Larry 3, Champions of Krynn, Kings Quest V, Pool of Radiance, Zak McKracken, Zork 1, 2, 3, Bards Tale 1, 2, 3, Hitchhikers' Guide to the Galaxy, Guild of Thieves, Jinxter, The Pawn, Corruption, Faery Tale, Indiana Jones and the Fate of Atlantis, Loom, Space Quest II*, and the brand new 1994 Clever Contacts Listing.

Realm's Incredibly Fantastic Hint Books

There are two official hint books available. Volume 1 contains hints and tips to over 40 games, and Volume 2 contains hints and tips to over 25 adventure and RPG games as well as pages upon pages of mapping sheets. Volume 1 is only $9 and Volume 2 is only $10. To order, drop a line to Darrien Perry at 21 Darley Rd, Randwick or call her on (02) 398 5111.

Realm's Trading Post

This is the classified ads part of the mag - for games only, and in particular (but we are not too fussy) adventure and roleplaying games. It is here that you can advertise for free, your unwanted games for selling or swapping, or put out a plea for a game.

Only one rule - no pirated stuff.

The address to write to is Realm's Trading Post, 12 Bridle Place, Pakenham, Vic 3810.

Colin Druitt of 21 Plymouth Ave, North Rocks, NSW 2151, has some stuff to sell or swap, but adds ... "What a fantastic idea this trading post is! Games are too expensive to buy all that often, and they really do get silly after you have beaten one. There is no fun in beating it again (and again), and copying it is too horribly unfair to the programmer to even consider."

Mike: Well said, Colin. That's one reason not to copy games. The other is - it's illegal. Colin currently has the following games ... *Project-X Special Edition 93, Alien Breed II AGA, Monkey Island, Lemming 2 - The Tribes, Knightmare, Zool AGA, Lure of the Temptress, Syndicate.* Colin will sell or swap these games for ... *Lost Treasures of Infocom, Curse of Enchantia 1* and *2, Wing Commander, Risky Woods, The Chaos Engine, Legend of Kryandia, Super Cars 2, Star Trek 25th Anniversary, Frontier (Elite 2), Ishar 1* and *2*, or any other decent A1200 compatible game.

Frank Stribel of 15 Allenby Street, Canley Heights, NSW 2166 has the following games ... *Silicon Dreams, Leather Goddesses of Phobos, Arthur - Quest for Excalibur, Space Quest, Sorcerer, Hitchhiker's Guide to the Galaxy, Planetfall, Rugby World Cup, Tass Times in Tonetown, Microleague Wrestling, The Third Courier, Gold of the Aztecs, WWF European Rampage Tour, WWF Wrestlemania, Howzat!, Zak McKracken, Floor 13, Kings Quest V, Wonderland, Monkey Island, Larry III, Magnetic Scrolls Collection (Fish, Corruption, Guild of Thieves), Eye of the Beholder II.* Frank would like to sell or swap them for ... *Monkey Island 2, Indiana Jones and the Fate of Atlantis, Tennis Cup II, Nigel Mansell's World Championship, Pinball Dreams, Campo's International Rugby, ET's Football, Operation Stealth, Future Wars, ABC Monday Night Football, Dark Seed, TV Sports Baseball, Monopoly, Flashback, Original Scrabble.*

David B. French of 5 Parish Crescent, Georgetown 7253 currently owns *Deluxe Paint 4.5 AGA* and *Railroad Tycoon* which he will sell for $90 and $30 respectively, but will also swap for *Civilization, Hyperbook, A-Train, Deluxe Video II* or *III, or PGA Tour Golf.* Postage included.

Bev Deegan of PO Box 168, Vindera, NSW 2642 would like to purchase *Corruption* and *Scapeghost* for the Commodore 64.

Casey O'Connor of 2 Kestral Walk, Flagstaff Hill, SA 5159, has the following to sell ... *Dragons Lair* - $15, *Fire Power* - $15, *Global Commander* - $15, *Faery Tale* - $15, *Thunder Blade* - $10, *Pioneer Plague* - $15, *Defender of the Crown* - $15, *Better Dead that Alien* - $15, *The Pawn* - $15, *Marble Madness* - $10, *Hardball* - $10, *Obliterator* - $10, *Backlash* - $10, *Mean 18 Golf* - $10, *Skyfox II* - $10, *Gee Bee Air Rally* - $10, *Ebonstar* - $10, *Hole-in-one Miniature Golf* - $15. Casey is willing to swap them for ... *Air Warrior, Sim Ant*, AMOS, Omni-Play Horse Racing Stables disks, *TV Sports Boxing, Alternate Reality* extra disks, *TV Sports Baseball, Big Game Fishing*, or any other good games. Casey will also pay money for these games.

Regular Realmer and super disk creator Graeme Beaven of PO Box 254, Wyong, NSW 2259, is off loading some of his games. For the Amiga he has ... *AD&D Golf Pack* - 5 games for $25, *Black Crypt* - $25, *Bards Tale 3* - $20, *Champions Pack* (3 games) including *Manchester United* for $25, *Jaguar XJ220* - $30. For the Commodore 64 he has *Secret of the Silver Blades* - $25, *Might & Magic 2* - $25, *Bard Tale 1* - $15, *Adventure Construction Set* - $10.

The Adventure Problem Centre

Hints, tips, problems, solutions all come under this heading. If you were stuck a few months back, then there is a good chance your answers will be here, or we can put your problems here.

Graeme Beaven, PO Box 254, Wyong, NSW 2259 has come to the rescue of many a troubled adventurer:

For Michael Goodman who was stuck in *Wizardry*, send a disk and SAE to Graeme and he will give you the complete 20 page solution. Offer applies to anybody else too.

Similar offer applies for Kurt Varien who wanted help in *Heart of China*. Send Graeme a SAE and he will send you a copy of the solution.

For Andrew Malcolm who wanted help in *Operation Stealth* in respect to passing the electric door, you need fingerprint ID to open the door. Go to the officers room, give him some water and collect the empty glass. Switch the blank stamp with the one on his desk as well. The ink pad is in the computer room. Now operate your cigarette case to obtain the Officer's fingerprint. (Hint taken from the Realms Hint Disk volume 1).

For Joshua Maley who wanted to get the bronze gear in *Indy, Fate of Atlantis* (September) - the bronze gear is on the wall in a room in the Northeast Quadrant. The easiest way to find this room is to go to the Southwest Quadrant where you will see a room divided into four small sections. Enter the room just to the North of this and you will be teleported to the room with the bronze gear.

For Bas Reeve of New Zealand who wanted to find Phoenix under the castle in *Ultima 6* (September) - on level 2 of the sewers you will find an underground lake. Phoenix lives to the north of the lake. When you have the pickpocket spell, seek out the Phoenix and take her thieves' belt.

For Matthew Houweling who cannot get the casket in the catacombs in *Indy and the Last Crusade* (December) - find the room with the bunch of

skulls. Look at your grail diary and push the skulls in the correct order to open the door to get the casket. Note that the diary refers to Indy's left which is your right. Note - if the door opens slightly at any time, then you have used the wrong sequence (hint can be found on the Realm Hint Disk number one). Also thanks to Joseph McElwee of Bass Hill in NSW for his tip.

For Matthew Armstrong who was having trouble escorting the V.I.P. on level 2 in *Flashback* (December) - The V.I.P. is in the security section 2 above the African Terminal. Climb up and go through the top door, then jump down to open the lower doors from the other side. Get the V.I.P. to follow you down to the next level, then get the key from the guard and go all the way left through the double doors. The other key is on the top level and is protected by a droid. Once you have this key, you can go back and lead the V.I.P. down to the next level and complete your task. (See part 1 of the full solution to *Flashback* in this issue.)

Joseph McElwee of Bass Hill is currently stuck in *Cadaver* - level 3 after the king gives you the quests. He needs 4 green gems to put in the floor. Also, in Elvira Part 1, how do you open the locked door second floor in the castle, and where is the bucket, and how do you open the gate under the water in the swamp. Any help would be greatly appreciated.

Help also wanted for *Legend of Faerghail*. Can't make out the signature on the requesting letter.

Clever Contacts

Clever Contacts are adventurers located throughout Australia who are willing to volunteer their time and effort to helping out troubled adventurers. Some also make great penpals.

A complete listing of Clever Contacts is available from Kerrie's Free Hint Sheet dept.

George Mahara, PO Box 272, Menai, NSW 2234 is a new Clever Contact, he writes ...

"I have built up over the years a good collection of hints, tips, and full solutions to just about all good adventure, arcade adventure, role playing and arcade games released for the Amiga, and there would be too many titles to list here. Anyone wishing to use my service could contact me by mail and all they have to do is tell me what adventure or game, and at what point they are stuck on, and what they would like to know, and I would send them all the information they require by return mail. They should include sufficient funds to cover the cost of the printing, photocopying and posting back of all material they require. I think about five dollars should cover it all."

Mike: Thanks for your offer George, and I think it is safe to say that the conditions George has set should apply to all the Clever Contacts for the fantastic service being provided.

Adventure Hints and Tips

Kings Quest VI: Heir Today, Gone Tomorrow

1) What do I need from the book shop? Talk to the book shop owner a few times. Take the Boring Book from the stand by the door. Look around the store until you find the Love Poem shelf. Use the Hand icon on the shelf to take a book of poems. A page will fall from the book and land on the floor. Pick up the page. Use the hand icon on the spell book on the counter to find out what the bookstore owner wants for it. Use your Royal Insignia Ring on the clown to get him to talk to you. Return to the book shop frequently to meet with the clown.

2) What do I need from the pawn shop? Talk to the Ferryman before you go to the pawn shop. Talk to the pawn shop owner. Trade your Royal Insignia Ring to the Pawn Shop Owner for the Magic Map. Trade him a Pearl from the Isle of Wonder for your ring. Give the Pawn Shop Owner your Daventry coin to get the Wind-up Nightingale. You will need to trade in the Wind-up Nightingale for other items later in the game. You can only have one of these items at a time, but you can trade them in as often as you like. When you get the "Drink Me" potion later in the game, drink it in front of the black-robed man. Surprise!

3) The girl in the rose garden won't talk to me. What should I do? Beauty, the girl in the rose garden, won't be lured into talking with you until you bring her a White Rose. You can get a White Rose from the Isle of the Beast. Give Beauty the Beast's ring.

Space Quest V: The Next Mutation

1) Under attack by a killer android? Go to the transporter in the science lab. Stand on the platform, click the talk icon on it and beam down to Kiz Urazgubi.

2) How do I avoid instant death upon beaming down to Kiz Urazgubi? You can temporarily avoid trouble by entering the network of caves. Click the walk icon on the far left cave entrance near the pool.

3) What do I need to survive on Kiz Urazgubi? You'll need three things to survive on Kiz Urazgubi: some fruit, a branch, and a boulder. You can find all three items nearby.

4) How do I get the fruit? Pick up the broken branch after you fall into the pool. When you find the dangling fruit, hit it with the branch. Quickly grab the fruit while it's swinging.

5) How do I fight an enemy I can't see? After you jump the chasm, climb to the boulder balanced on the cliff. Use the branch to topple the boulder onto WD40. Your timing has to be just right, and you have to start while WD40 is still in the cave.

6) What does it take to rub out WD40 once and for all? You can defeat WD40 with the banana-up-the-tailpipe trick. Hide inside the big hollow log. When WD40 appears, shove the banana-like fruit up her jet-pack.

CD32 Entertainment

by Laetone Gravolin

On the shelves

The CD32 market is now in full swing. The console now has a tally of 28 software titles on offer, and more are barging through the door. Here is the current CD32 list: *Diggers, Oscar, Morph, Deepcore, Trolls, Zool, Overkill, Whale's Voyage, Sleepwalker, Nigel Mansell's World Championship, D-Generation, Pinball Fantasies, Overkill/Lunacy, Surf Ninjas, Winter Super Sports, 1869, Beavers, Prey, Genesis, James Pond 2, and Mean Arenas.*

Whale's Voyage

The ones that came just in time for the new year are: *Liberation, Dangerous Streets, Sensible Soccer, Alfred Chicken, Arabian Knights*, and *John Barne's European Football.* All of these titles are on the shelves just waiting for you to buy them - contact Hot Point Software (02) 428 7791.

CD32 Competitors

There are two major threats to the CD32 - the long promised CD-I and Sega's Mega-CD. In reality, there's no comparison with Commodore's machine - technically, the 32 bit power of the CD32 leaves everything else standing. Mind you, sales of the CD32 are running a tad behind, perhaps because of lack of advertising, pricing, or lack of "street-cred."

One of my mates saved up $400 to buy a Sega MegaDrive - I told him if he only saved up $300 more he could own his own CD32. He said to me that he bought the MegaDrive to play his favourite game and the MegaDrive was easier to use ... Ha!

Below is a table showing the CD32, CD-I and MegaCDs Characteristics:

	CD32	CD-I	MegaCD
Architecture:	32bit	16bit	16bit
CPU:	68EC020	68070*	68000
Speed:	14MHz	16MHz	12.5MHz
Ram:	2MB	1MB	64KB
CD Drive Speed:	Double	Single	Single
Colours Available:	16Million	16million	512
Max Colours On Screen:	256	256	64
Keyboard Interface:	Yes	Yes	No
Standard Joystick Ports:	Yes	No	Yes
Floppy Drive Port:	No**	No	No
Photo CD Support:	No**	Yes	No
Movie CD Support:	No**	No**	No
Arcade Quality Games:	Yes	Some	Yes
Expandable into a home computer:	No**	No	No

*68070 is a custom 68000. ** Yes, with add on.

CDTV dead and buried?

Once called king of the multimedia systems, CDTV has now just about had it. Yes folks the good ol' CDTV is now old news. Support for the CDTV is now very low - everyone is now moving on. Games which were promised for the CDTV are now heading to the CD32 market.

Success is nigh

Every month there are more and more titles coming out for the CD32. Bigger games and better graphics are starting to stun people, and when full motion video gets underway there will be all sorts of doors opening up for the CD32. Before this can happen both hardware and software markets need to get motivated before the CD32 will be a full success.

Next month

Next month we're hoping to preview the new Mpeg module, with an indication of what movies will be available on the new format. Remember, if you have any problems, queries or anything to do with the CD32 write to: The CD32 Column c/o Laetone Gravolin, 271 River St, Maclean NSW 2463.

CD32 Game Roundup

As expected, some of the most popular Amiga games have made the jump to CD32. Last month Greg Munro gave you a quick peek at D/Generation. This month the game gets a more thorough workout! Then take a look at the new version of Nigel Mansell's racing sim, and revisit an old Amiga platform favourite ...

D/Generation

RATINGS:	
Graphics:	90
Sound:	75
Instructions:	75
Playability:	95
Addictiveness:	97
Value:	90

Sorry to disappoint the comedy fans, but *D/Generation* has nothing to do with the TV show of the same name. The D/Generation is a deadly artificial organism able to disguise itself as anything, and it's loose inside the Genoq company's Singapore lab in the year 2021. Workers are trapped inside, including Jean-Paul Derrida, head scientist and creator of the D/Generation.

Your task? Deliver a mysterious package to Derrida on the 90th floor, ten levels above you. It's important to rescue workers on the way, because they give you information, and you get an extra life for each one you save by leading them to the red safety arrows. Sometimes they tell you a password to punch into a computer terminal.

D/Generation uses a 3D perspective view, looking down from the top left, with cut-away walls so you can see the action. Movement is by controller joypad, and works well once you get used to it. Normally you move diagonally, but at certain places you change the axes with the top left button, to move horizontally and vertically. This button gives you an options menu which includes saving and restoring games. Unfortunately you can save only one game, but there is a "restart level" function. You can also restart a room, but it costs a life.

Some walls have yellow triangles. These are for opening doors and shutting down deadly security devices called "trackers." In the first room after the reception area, you find a laser, essential for long range door opening, and dispatching nasties, of which there are many! I haven't met the D/Generation, since it's a prototype, and I don't expect I will until the end. But I've found plenty of its lesser cousins! Predictably named the A, B, and C/Generations, they've infested the building by moving through air vents. You must secure a room before rescuing trapped workers, by sealing the vents and destroying stray critters.

In my quickshot review last month I described the A and B generations. As are big orange beach balls that gobble you up. Bs are bouncy purple cylinders which jump on your head and squash you into the floor! They can also hide in the floor if you don't shoot quickly enough.

The most horrible demise I've encountered so far, is at the hands of the dreaded C/Generation! This one can disguise itself as furniture, or even as someone you are trying to rescue. Its favoured dispatch method is decapitation! You swagger up to a worker, expecting the familiar hero worship. Then suddenly, before you can say "Daniel Rutter is a nutter," your head is rolling round on the floor! Your helpless body flails its arms a few times and explodes loudly!

When not impersonating Genoq employees, the C/Generation looks like a creepy black humanoid with glowing gold edges. Only grenades kill them, so use these sparingly. You can also lure them into the security devices called plasma barriers. This is a good idea because it also destroys the plasma barrier, which can be a real pain in the bum to get through!

Although a one player game, *D/Generation* requires lots of lateral thinking and problem solving, so it's a lot of fun to play with a "brains trust" on the lounge next to you. I've got to level 87, where I've met a nervous company director (don't worry, he won't hurt you - and the secret switch is beside him). I've learned all is not as it seems. I'm beginning to suspect Genoq is a subsidiary of that company in the movie *Aliens*! Am I a stooge? What IS in that package for Derrida? I guess I'll find out on level 90 ... if I make it in time. I've discovered the company has launched a bomber from Sri Lanka. It will be here in 20 minutes to destroy the building!

Conclusion? *D/Generation* is amusing, exciting, addictive, and requires a good mixture of brainwork and skill. Excellent graphics, good soundtrack. Buy it!

CD32 Nigel Mansell's World Championship

RATINGS:	
Graphics:	80
Sound:	60
Instructions:	75
Playability:	95
Addictiveness:	80
Value:	75

by Greg Munro

The best thing and the worst thing about this game is that no matter how hard you try, you can't crash! For those of you who are into serious Grand Prix racing stuff, this is good news. It means the emphasis is on driving to win, and excelling in the way you configure and tune your vehicle to suit the track and race conditions. The penalty for failure is that you simply lose the race. If on the other hand, like me, you have that childish and destructive impulse to see the car spin out and disintegrate in a ball of flame with a loud explosion, this is disappointing stuff!! Whoever heard of a racing car simulation where you can't crash?

Nigel Mansell's World Championship allows you to race Mansell's Canon Williams Renault F1 car on any of the world's sixteen Grand Prix circuits. You can choose a single race game, or race a full season. In the full race season option, you can save and load seasons and continue your quest for the World Drivers' championship over as long a period as you like.

The main selection screen has five options, arranged around an excellent animated globe, on which the city of the currently selected circuit is displayed. The five options are Single Circuit; Full Race Season; Driving School; Options; and "Improve with Mansell".

This last option is amusing but next to useless. The blurb on the box calls it "real time coaching from Nigel Mansell himself". This turns out to be a Max-Headroom type head which looks vaguely like Mr Mansell, superimposed on the sky above the race track. It doesn't even speak audibly, but just moves its mouth to inane messages which appear in a text box. True, the messages do relate to how you happen to be driving the car at that moment, so I guess it is "real time," but coaching it isn't. How helpful advice like "don't hit things!" and "Stay on the track," or "try using the gears!" are, you can decide for yourself. The only useful thing about it is the optimum racing line which appears on the track for you to follow. This is available on the Driving School Option anyway.

Choosing "Options" from the main selection screen allows you to change your driver's name, and choose preferences, including automatic/manual gears and music. You can test all of the ten great music tracks. They all sound the same to me. Besides, I prefer to hear the sound of the gears changing. Speaking of sounds, aside from the excellent music soundtrack, they are disappointing. No ear-piercing roars from formula one monsters - more of a background whine. And certainly no explosions!

When you actually venture onto the circuit of your choice in a real race, you can enter the race directly, in which case you end up last on the starting grid; or you can try to qualify, which means ... you end up second-last on the starting grid!

Before this, it's a good idea to visit the "Track Information Screen" to find out what this circuit is like, and what the weather is likely to be. Then you can tune your car accordingly, by choosing the ratio of your gears, tyre type, aerofoil, and so on. Choosing the wrong tyres could mean unscheduled pit stops later.

The racing screen itself offers a realistic, though not quite photographic view of the circuit and surrounding countryside (or cityscape). There is a display at the top which gives your speed, lap time, current position on the track, R.P.M. and gear number, etc. Cars approaching from behind can be seen in the mirrors, but these are too small to be of much use.

Most of the controller buttons are utilised. Top buttons for gears, green button is the throttle, and red is the brake. I found it too awkward to use the red button to brake, so mostly I don't use them. The pause button does. The joypad is used to steer, and this works surprisingly well.

Overall, an impressive package that serious Grand Prix fans will like. It's almost worth it just for the info on the world's Grand Prix circuits. If you like smash-em-ups, this is not for you.

CD32 SleepWalker

Ratings:

Graphics:	79%
Sound:	81%
Gameplay:	86%
Overall:	83%

by Phil Campbell

If you've played this game on the Amiga, the bad news is there aren't many enhancements in the CD32 version. The good news is, though, it's no worse. Which means it's a pretty darn good game. And the new CD soundtrack sets it off nicely.

SleepWalker, believe it or not, is all about a little guy who has a problem. Putting it bluntly, young Lee is an habitual somnambulist. If you want it in plain English, he's a sleepwalker.

Every night, regular as clockwork, he slides out from between the sheets and heads for the third floor window. It's a precarious journey, but - lucky for Lee - his faithful dog Ralph tags along to keep a watchful eye.

Trancelike, Lee walks across the rooftops. Then he strolls across a powerline between two buildings - still snoring. There's a service lift trundling up and down an outside shaft; if Lee steps into it at just the right time, he'll arrives safely on the ground.

But here's where the hazards really start. There are open manhole covers anywhere - one false step and our golden haired wonder boy is down the drain. Literally.

In *SleepWalker*, you play the part of Ralph, the cartoon dog. On the original Amiga version, I preferred to drive Ralph with the keyboard rather than the joystick. On the CD32 version, there's no choice - it's the control pad or nothing! Your task is easy ... keep Lee out of trouble.

For a dog, Ralph has an impressively wide range of movements. If he's in front of Lee, he can turn and block his path - perfect when you're waiting for the lift. If he's behind, he can push Lee through awkward situations. With a well timed kick, he can make the little guy jump over even the most impossible looking obstacles, and if you time it right with the fire button, you can deal out a good walloping to mean looking nightclub bouncers and dog catchers.

The sewer is definitely the tricky part. Dropping through a manhole cover, Lee and Ralph find themselves in the bowels of the city. There's a narrow footpath, and underneath there's a deadly, fast flowing stream full of nuclear waste and other gunk you'd expect to find in your average city sewers. To make matters worse, at regular intervals you'll find fast streams of water flowing in from other city drainpipes. If the little guy walks in front of one of them, he'll be up the creek without a paddle.

Woof! Like any faithful dog, I make a frenzied dash ahead, closing off the covers to the incoming drains. Then, with a dazzling leap, I head off the little guy before he steps off the end of the footpath and into the drink. A swift blocking manoeuvre keeps him on hold until a handy barrel rolls our way in the slime - we step on, and roll to the other side.

Let me tell you, this takes some classy timing. And to be honest, I've only managed it once out of something like 87 attempts. Very frustrating. I have, however, managed to do a quick check of the hazards up ahead. When I finally get him out of here, we'll have to contend with speeding cars on the city streets, fire hydrants, traffic lights and all sorts of other nasties. All in a day's work for a faithful hound.

SleepWalker features some very nice cartoon style graphics and animation. Both Lee and Ralph move smoothly against the platforms-and-ladders style cityscape. The backdrop slides by in multi-level parallax scrolling, which gives a nice feeling of depth against the multicoloured sky.

Gameplay is great. It's one of the most addictive platform games I've played for ages, and I'll be sticking with it until I win. ❑

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