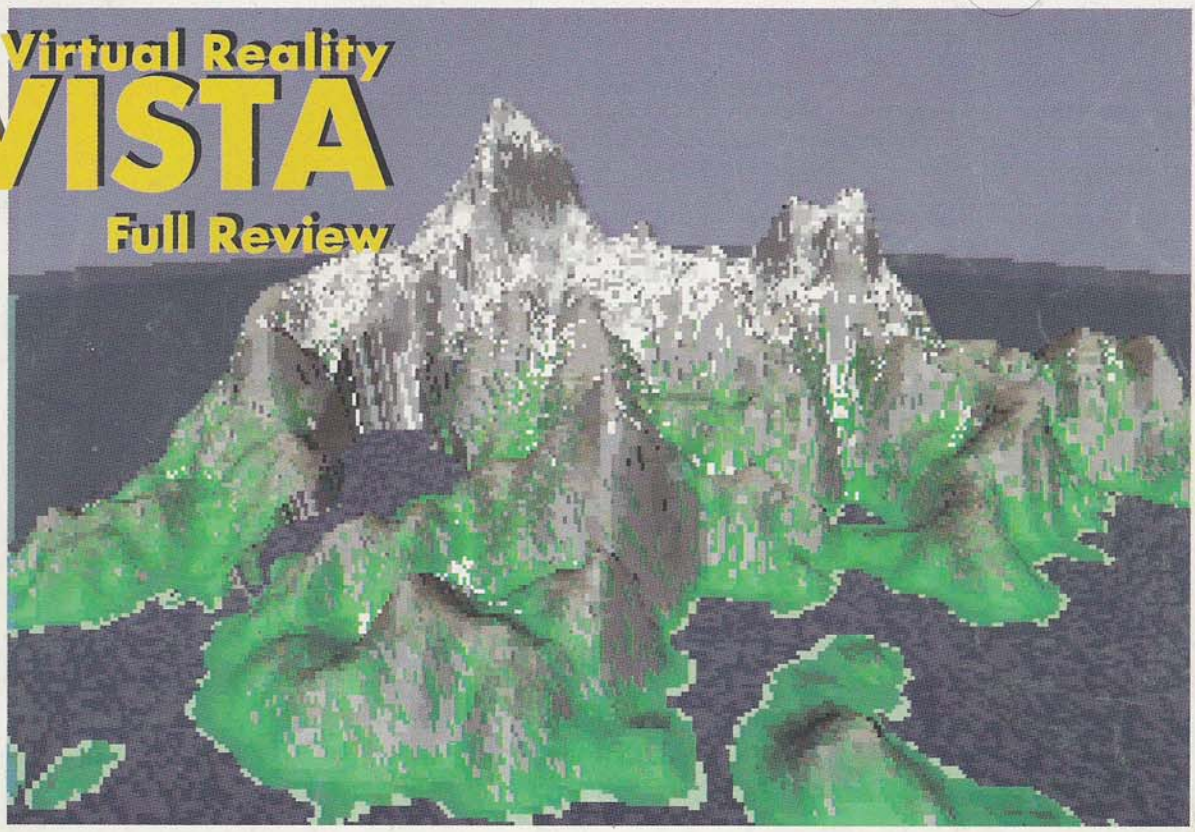
Vol 8 No 3

March $3.50
1991

The Australian COMMODORE and AMIGA REVIEW



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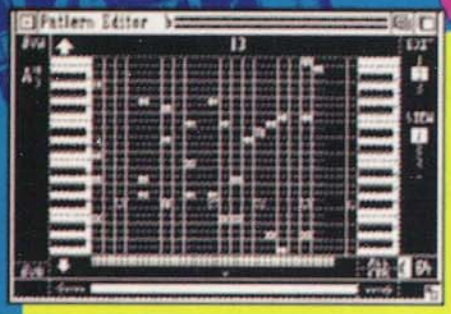

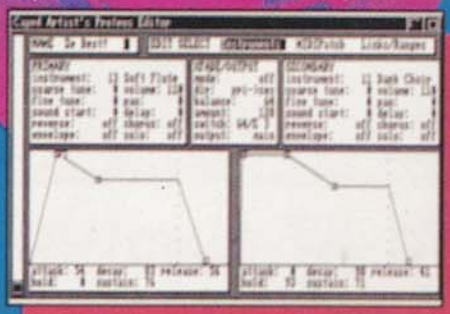

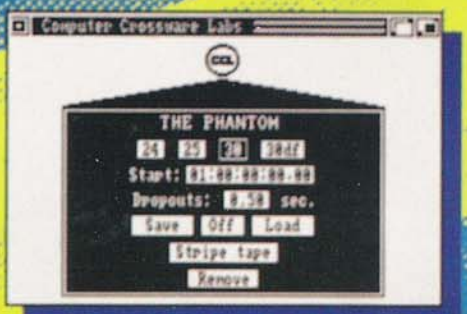

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Australian Commodore Review:
21 Darley Road Randwick,NSW 2031
Phone: (02) 398 5111
Published by:
Saturday Magazine Pty Ltd.
Distribution: NETWORK Distribution
Printed by: Ian Liddell Pty Ltd
Editor: Andrew Farrell
Production: Brenda Powell
Design & Layout: Andrew Dunstall
Subscriptions / back issues:
Darrien Perry (02) 398 5111
Entertainment Editor:
Phil Campbell

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Editorial

Hands up all those people who noticed we goofed up on the front cover last month. Yes, we put January instead of February and we got the volume number wrong too! Well, it's only the second time it's happened in over eight years of publishing. No doubt the February 1991 edition will become a real collector's item. We promise to get the dates right from here on so as not to confuse anyone else. Well, what's happening in the world of Commodore?

The American winter releases have dried up, and as the United States heads into winter, its time to sit back and take stock. A lot has happened over the past six months. The development of the Amiga into professional video has blossomed as expected. However other areas appear to have got caught on a snag somewhere back in the mid-eighties. Mainstream uses of computers, wordprocessing, spreadsheets and databases, seem to have suffered on the Amiga.

Things are looking up. *Superbase 4.0* is nearly ready to ship, *QuickWrite* from New Horizons is a strong wordprocessor and it's reviewed in this issue. It answers the need for something reliable at under $100. In other departments we've seen the arrival of *Professional Page 2.0, PageStream 2.1* and a range of new clip-art and accessories. We plan to look back and compare some of these products over the coming months. What we would like to see is some of your comments on products we plan to look at.

If you're into desktop publishing and are using the latest version of *Professional Page* or *PageStream* or *Saxon Publisher*, post us around 100 words on what you like and dislike about your package of choice. The same goes for owners of low end Epson, Citizen and Star printers. We would also like to hear from anyone who is using a 9600 baud modem often. If you can help, post your comments to: P.O Box 288, Gladesville 2111. Best comments will published along with our own comparisons over coming issues.

Last month I promised to spill the beans on a new service involving the Amiga and TV-modems. Well, at this time we are only days from the launch, so we're going to keep you in suspense until next month when all will be revealed. Read about it in April! ❑

Andrew Farrell

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  - ✓ Removable media drive support. Automatically senses cartridge changes and informs AmigaDOS, ensuring safe and reliable use of removable media SCSI drives.
  - ✓ Allows Direct AUTOBOOT from Fast File System Partition.
- **New INTUITION COMPATIBLE SCSI installation** and "tuning" utility included. Major features include:
  - ✓ ICON and gadget based INTUITION interface.
  - ✓ Bad Block Remapping of hard drives.
  - ✓ Auto or manual hard drive partitioning and AmigaDOS formatting.
  - ✓ Read and modify existing RDB parameters on hard disk.
  - ✓ Simplest and Easiest SCSI installation in the industry.
- **Low parts count (through VLSI Integration) EQUALS:** lower power, higher reliability, longer life and ultimate PRICE/ PERFORMANCE! See TRADE-UP offer.

The Series II A2000 SCSI "Hard-Disk-Card"

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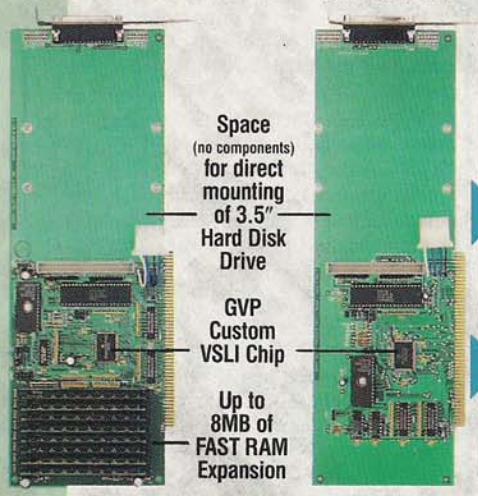

GVP's New FAAASTROM SCSI driver and installation software is also available as an upgrade kit for GVP's original IMPACT SCSI controllers, for ONLY $89.95. Offers major performance increase over previous GVP AUTOBOOT EPROMs.

New Series II 48MB Removable media hard disk drive. GVP now also offers the NEXT GENERATION removable media hard disk drive which offers increased capacity (48MB formatted) and major technological advances in cartridge air flow filtering design and robustness. Call for details.

SCSI TIMES 1990

The ULTIMATE Trade-Up Offer???

FINISHED

GVP today introduced its new Series II product line and announced a bold new trade-up program, which is certain to further bolster GVP's dominant market share in the Amiga hard drive market.

Details of GVP's new TRADE-UP program are as follows:

- For $199 plus $6 for shipping (Aus only) end-users can trade-up to the new GVP Series II SCSI "Hard-Disk-Card" (without drive) by simply sending in their present SCSI controller (from ANY manufacturer) together with a money order or certified check, payable directly to GVP.
- All trade-in controllers must be sent to GVP FREIGHT PREPAID.
- Owners of any GVP or Commodore SCSI controllers, are eligible for an additional $10 rebate, if they trade-in a FULLY FUNCTIONAL and working controller. These owners need to submit a certified cheque/money order for $195 only.
- For an additional $89, existing controllers can be traded-up to the new Series II "Hard-Disk + RAM-Card," which includes the 8MB FAST RAM expansion capability, populated with ZERO RAM.

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RAM RUMBLES

User Group Updates

A reminder to all user groups out there. If your most recent published details about your group were incorrect, or you were not listed, write to us and we will publish the correct details here. For the latest complete listing of Amiga user groups, see our *Amiga Annual 1991*.

Additions/Alterations

S.A.

Southern Districts Commodore Users Club
Meetings: House behind Salvation Army hall.186 Elizabeth Road, Morphett Vale S.A. 5162. Contact: R. Cloosterman (President) (08) 382 0781 orJ. Van De Belt (Newsletter Editor) (08) 382 8660
Meetings are held on the third Wednesday of each month. Address all correspondence to: SDCUCI, The Secretary, 12 Alexis St, Christie Downs, S.A 5164.

Qld

Ipswich Commodore Computer User Group
P.O Box 252, Ipswich QLD 4305
Meetings: 7.00pm every Tuesday night at Ipswich East State School, Jacaranda St, East Ipswich (Enter school via Leslie Street.). Contact: Andrew Buttner (President) (07) 281 8820 home or (07) 281-4355 (work). The group caters for C64, C128, IBM and Amiga users. They have a newsletter called "Feedback" and a disk magazine called "AmiMag".

City Amiga Interest Group
Meetings: Third Wednesday each month, 7.30pm. Christian Life Centre complex, Cnr Sydney and Lamington Street, New Farm, Brisbane. Contact: Adrian Royce, 237 Harcourt St, New Farm 40005 (07) 254 1895. The group is geared toward Amiga owners with tutorials and monthly guest speakers.

NSW

Newcastle Commodore User Group
For ALL C-64 and Amiga Owners
4/13 Smart Street, Charlestown NSW 2290
Meetings: 4th Tuesday of each month in Charlestown public library. Meeting Room, Ridley St, Charlestown 7.00pm. Contact: Sue (049) 471118 or George (049) 574271

Another Magazine-on-a-Disk

The Victorian Amiga Users Group Inc, one of the better organised user groups in the country, are softening the step of joining up by offering a survival guide to members. They are also producing a disk to accompany their newsletter, with extra pictures, articles, sounds and advertising ready to run from Workbench. The January issue contained some interesting items including an impressive ray traced opening screen with music. For information call Alan Garner on (03) 879 2683.

Commodore in the Media

Fewer spottings this month. Do we need better incentives? Isn't your name in print enough? It should be! Send in your spottings today. Any Commodore, doing anything in public, on television, in business. We want to know about it.

ABC Quantum

On Wednesday January 16th viewers of Quantum had a quick glimpse of an Amiga 2000 aboard HMAS *Cook*. It was connected to "Gloria", a towed sonar used to measure contours at the sea bed. The Amiga was used to produce a colour relief and cross sectional maps of the sea floor, not only for marine research, but as an aid to submarine navigation. So there you have it. The results were spectacular.

Thank you Mark Schroeder of Telopea for that juicy sighting. For your trouble we've sent out a copy of GraphicsPalette, the Graphics Desktop Video Disk-Zine. This three disk set compiled by Dennis Nicholson contains some fabulous graphics, and reviews, hints, tips and information.

Airport Exposure

"On my travels around central Queensland I have always kept my eyes peeled but never have I found one example of the Amiga at work," writes Rob Williams of Rockhampton. "Then during the recent massive floods. at which time the airport was closed, I was among the

Continued on p06

Update

To all our avid readers - greetings! I have some very good news for you, both in regards to new products and special prices. Firstly, Myer/Grace Bros. are currently running Expos in some of their major stores and you will find there both a whole range of our current and newly released products and a wide range of Amiga products being offered at half price, including Joysticks - GO THERE!!!
On the basis that not everybody is near enough to those stores and not wanting our country cousins to miss out - if you will ring our Head Office on 748 4700 or 008 227 465 and give your name and address for Melissa, she will arrange for a list of great Amiga products to be sent out to you which you can order directly from us at very special prices - many of them at half price. This offer only applies till the end of March and does not apply to our normal range of full price products.
Now, on with the new products:
WORLD CHAMPIONSHIP BOXING MANAGER - AMIGA
All boxers want to be the champ! This package puts your skills as manager / promoter to the ultimate test! Great graphics!
TURN IT! - AMIGA
Simply the best puzzle game ever released for the Amiga! Simple to play, but sheer hell to learn. TURN IT! will have you hooked!
FINAL COUNTDOWN - AMIGA
If you liked Impossible Mission, then you'll love Final Countdown! Explore an alien spacecraft, and disarm all active devices, once you find out what they look like, interface with the alien mainframe; brilliant action!! You'll love it!
CRICKET CAPTAIN - AMIGA
Can you take your team to the top? Stunningly presented Cricket management game with arcade sequences.
MUGICIAN - AMIGA
The supreme music utility from Thalion is now available in Australia! Suitable for both newcomers and professionals, MUGICIAN gives you total control.
BOMBER BOB - AMIGA
Cute, addictive arcade shoot-em-up that will have you coming back for just one more go time after time after time.
SUMMER CAMP - C64
Screen after sccreen of madcap action, addictive gameplay and some of the most colourful, cute, crazy but deadly characters you're ever likely to find.
CREATURES -C64
Clyde Radcliffe Exterminates All The Unfriendly, Repulsive Earth-ridden Slime; possibly the longest ever title for a game, this arcade platform game was justifiably rated 96% by ZZAP magazine in the U.K. Great fun.

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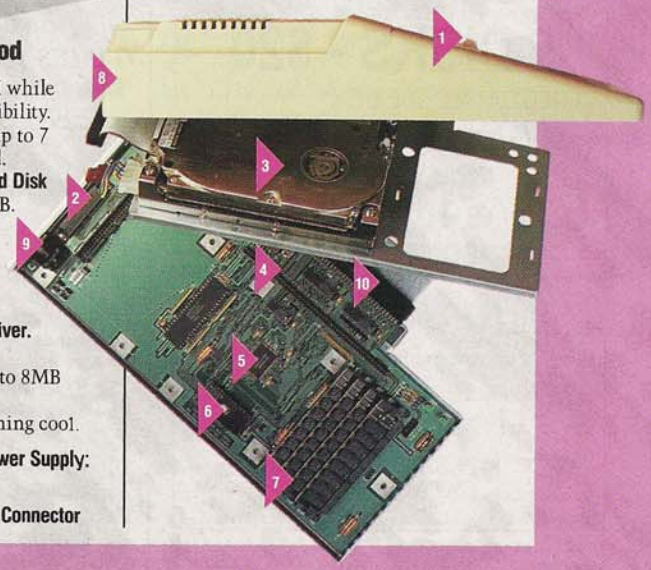

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first to fly out on the sixteenth, the day after the airport reopened to light planes.

"I took a casual glance at the departure/arrival monitors on the way through the terminal knowing they probably wouldn't tell me anything, but surprise surprise, there was a Workbench 1.3 prompt and familiar logo on the screen. Obviously the folk at the airport know a real computer when they see one."

Various spottings

Apart from the usual sightings on *Neighbours* and Amiga 2000 on *Play School* there was a poster of the C64 in *Revenge of the Nurds II - Nurds in Paradise*. Also, in *Let The Blood Run Free*, people who just died were checked into heaven by an Amiga 500. *New Idea*, Nov 1990 page 28, shows a women who won a competition for the best fiction story submitted to them. Behind her the prize - a C64. Thank you G. Jones of Buderim, Qld, for those media moments.

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John Wolfskill
Amiga World
Senior Writer, Technology

NOTEPAD

CDTV applications library

Commodore International has announced a library of more than 35 planned multimedia titles which will play on Commodore's CDTV interactive Compact Disc system at i's introduction around the middle of this year.

The library, which includes titles in numerous educational, instructional and entertainment categories, will bring new levels of interactivity and enjoyment into the home environment. The titles play on the CDTV player which is similar in appearance to a VCR or CD player and is suitable for the home living room or den. The CDTV player is also compatible with the more than 30 CD+G (Compact Disc Plus Graphics) music discs available, as well all standard audio Compact Discs.

The CDTV library provides consumers with a comprehensive selection of topics, including reference, education, children's, women's, sports and leisure, self-improvement, adventure and simulations. The titles range from interactive versions of the *King James Bible* and the *World Vista Atlas*, to entertainment titles such as *Battle Chess*, *Sim City*, and *Sword of Excalibur*.

"The challenge facing the consumer electronics industry is providing content, not just advanced technology," said Nolan Bushnell, general manager of Commodore's Interactive Products Division. "CDTV enables consumers to experience sound, images and text in ways that are not possible in the separate worlds of audio, video and computing."

CDTV represents a major advance in technology and capability over any commercially available entertainment format, combining audio, video, graphics and computer interactivity into a single, Compact Disc-based system. The storage capacity of the Compact Disc is enormous -- the equivalent of more than 250,000 pages of typewritten text. For example, the complete American Heritage Encyclopedic Dictionary, fully illustrated, will fit on a single disc. This storage capacity enables developers to engineer products which combine unparalleled levels of interactivity with vivid graphics and CD sound. "CDTV is more than a new product, it represents a dramatic shift in the way we receive and use information, are educated, and entertained," said Bushnell.

According to Bushnell, the key is interactivity and immediate access. For example, the recipes in the CDTV version of the popular Silver Palate cookbook series (to be retailed as *New Basics Electronic Cookbook*) by Xiphias, provides the cook with step-by-step instructions, alternate seasonings, realistic "mouth-watering" images of the meal in progress, and the ability to recalculate portion sizes instantly. If the cook is planning a dinner party for 10 and then decides to invite two more guests, the program will adjust the ingredient amounts and cooking times accordingly. In addition, the program will "suggest" menus based on whatever combination of ingredients happen to be in the house at mealtime, as well as direct the cook to low-sodium or low-cholesterol recipes if desired.

Tiger Media's *Airwave Adventure -- The Case of the Cautious Condor*, is the first original entertainment title developed specifically for multimedia compact disc. It's an adult murder/mystery set in the 1930's, where the "player" has 20 minutes and 1500 possible paths to search rooms and interview characters in order to solve who had the means, motive and opportunity to "do the deed."

Discis has developed a variety of children's stories, including *Cinderella* and *The Tale of Peter Rabbit*, featuring the author's original illustrations and text, with added music and sound effects. The user has the option of hearing real human speech present the text orally with the words highlighted in phrase groups common to normal speech

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and speaking patterns. In addition, the user can point the remote control and click on a specific word and have it pronounced for them, click again for a definition, and again to have the word said in an alternate language (e.g., Spanish) if desired.

According to Bushnell, these first 35 titles represent just the beginning of the development of the CDTV library. The company and other developers plan to introduce additional titles on a regular basis, including *Murder Anyone?*, *North Polar Expedition* and *Family Medical Advisor*, among others. Several of the world's premier applications developers such as LucasFilm, Accolade, Cinemaware, Sierra On-Line, Virgin Mastertronic and Spectrum Holobyte have products in development for CDTV.

The CDTV player will sell for less than $1,000 (US), and is scheduled for launch in early 1991. It will initially be sold through selected audio, video and computer retailers, and department stores in select markets. Prices for CDTV discs will range from $30 to $100.

Preliminary CDTV Titles

Home Reference
Gardenfax - Houseplants
Intersearch
King James Bible
Animated Pixels
World Vista Atlas
Applied Optical Media
The American Heritage Encyclopedic Dictionary
Xiphias
Family Medical Advisor
Digita
Time Table of Science and Innovation
Xiphias
Time Table of Business and Politics
Xiphias
Illustrated Works of Shakespeare
Animated Pixels
Japan World
TopClass Tech

Childrens' Classics
Cinderella
Discis
Tale of Peter Rabbit
Discis
Scary Poems for Rotten Kids
Discis

Childrens' Stories
A Long Hard Day at the Ranch
Discis
Moving Gives Me a Stomach Ache
Discis
The Paper Bag Princess
Discis

Childrens' Fun
Animated Coloring Book
Gold Disk
All Dogs Go to Heaven (Electric Crayon)
Merit Software
Snoopy
The Edge

Education
North Polar Expedition
Virgin Mastertronic
Fun School (three discs for different ages)
Mandarin

Cooking
New Basics
Electronic Cookbook
Xiphias
(Silver Palate cookbook series)

Thinking games
Battle Chess
Interplay
Airwave Adventure --The Case of the Cautious Condor
Tiger Media
Defender of the Crown
Cinemaware
Classic Board Games
Merit Software
Many Roads to Murder
Vent
Murder Anyone?
Vent

Adventure and arcade games
Excalibur
Virgin Mastertronic
Space Quest III
Sierra-on-Line
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Professional Page 2.0

A major update to Gold Disk's Professional Page **has been released. The new version includes the ability to rotate boxes containing text, structured drawings or IFF images. Full Pantone colour support is included, with on screen representations of over 1000 Pantone colours. Percentage tints of colours are possible. The new version can colour separate 24 bit images without the need for external utilities. There's also a powerful built in article editor with spell checker. Style tags for paragraphs can be set and applied to text to make applying specific groups of settings to text fast. For more information contact Dataflow on (02) 331 6153.**

Eclips

PageStream, PageSetter *or* Professional Page *owners can make use of the* Eclips *clip art collection containing over 300 different clips. All are designed for black and white reproduction, although you can easily add colour using* Professional Draw, *the program*

in which all the clips were created. The collection comes complete with a full catalogue making each illustration easy to locate on one of the four disks. The files can easily be moved to your hard drive. All are high quality, with half tones and highlights.

Available from Dataflow dealers. For more information call (02) 331 6153. RRP is $139.95.

New touch tablet

If you're after a touch tablet for your Amiga or MS-DOS compatible, Serendipity Software have a new offering at a good price. For $499 you get a 1000 LPI Calcomp Wiz tablet, 7.5 x 7.5 inches. The Tablet comes with a driver which fully emulates the mouse, and allows simultaneous of the mouse and tablet. Supports extended select in Workbench, works with screen blankers, and mouse accelerators. Also includes scaling software for tracing very small images.

For more information contact Peter Skarpetis and Serendipity on (02) 449 8133, Ext 283. RRP is $499. The unit works with any Amiga. Sounds great - watch for a review soon.

Flicker-free video

M.A.S.T. are now distributing the FFV (Flicker Free Video) by IDC. With Flicker Free Video and a standard VGA or multi-frequency monitor, any Amiga 500, 1000 or 2000 computer can produce a high quality flicker free display, without interlace flicker and without visible scan lines. The product plugs into the Denise socket on all models of the Amiga. Installation is simple and does not require soldering or advanced technical knowledge.

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by Andrew Farrell

Virtual Reality with VISTA

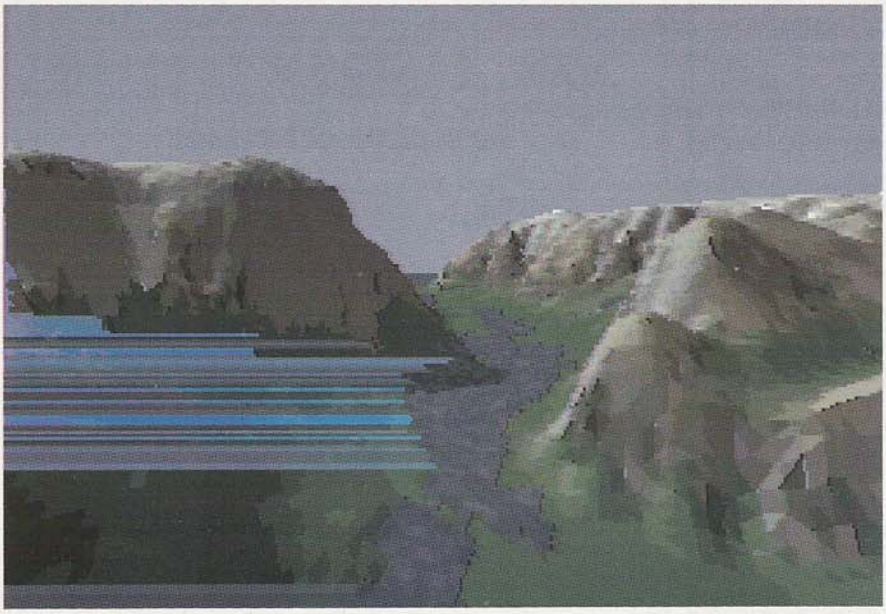
It sounds like a new dimension of existence. With names like Virtual Reality Laboratories and Hypercube Engineering stamped on the packaging, you could be forgiven for thinking we're about to embark on a journey into some new form of existence. Actually, *Vista* is all about imitating the reality we know. Real or imagined landscapes can be generated, rendered, explored and animated - all within *Vista*.

There are two versions of this product. The professional edition requires three megabytes of RAM, offers many more features, and is best used on a system with some form of accelerator board. (See a full review of it in the March/April edition of *Professional Amiga User Magazine*.) Right now, we'll be examining the standard version which runs happily on a one megabyte Amiga.

What is it?

Vista generates three dimensional landscapes. It does this using fractal geometry or from U.S. Geological Survey DEM (Digital Elevation Model) files, of which several are included with the package. This data enables you to render real world landscapes.

What you see is controlled by setting a camera and target point. Your view of the chosen world is then rendered onto a HAM screen. The image is constructed of thousands of tiny polygons. Each polygon is part of a particular geographic attribute which is rendered in a particular colour. These settings can be altered to dramatically change what you see.At the end of the day you'll have a pretty picture on the screen which can be saved as an IFF file and used as a background for a larger work. Or, you might have a series of images ready to load into a HAM-animation paint program such as *Photon Paint*. Or you might save the landscape as a *Turbo Silver* object ready to animate in more bizarre ways. Or you might want to study what you can see for education or recreational purposes. The uses are many and varied only by your memory, processing power and time. *Vista* works fine on a standard machine, but it works better on anything but. Add more memory, more processing speed and more disk storage, and *Vista* comes to life.



Getting started

Vista is not copy protected. Installation is as simple as copying a few icons across to the right spot. There is a version for those with a maths coprocessor (normally part of an accelerator board); this version runs appreciably faster. Check out the readme file too as there are some additions to the manual here worth noting. You're now ready to start.

The screen begins displaying a top view of a default scene. To the right is a series of gadgets and requestors for setting the render options and viewing position. A few pull down menus allow you to LOAD and SAVE projects, IFF images or set up scripts.

To start, try loading one of the real landscapes. Once the file is loaded, the left side of the screen displays a simple top view of the landscape. You can now choose the camera and target position by clicking on the appropriate gadget and then clicking in the scene wherever you want. The elevation for the chosen point will be set slightly above the level of the land you have clicked. I found that higher camera elevations tend to be better, as they provide a steeper viewing angle and a lot more scenery is visible.

Click on the render gadget and a low detail version is rendered. If you like it,

select the higher detail version (more polygons are introduced into the detail) and sit back and wait. It may take a while, but the results are worth the wait.

Getting rendered

This method of rendering an image is not unique. Other landscape generators have used it for some time. (See end of this article for a list, including public domain.) However, *Vista* offers a pleasing interface, good control over the view, characteristics and colour of the landscape from an easy to learn interface. It is also the first to offer animation.

All of the gadgets are easy to understand and relate to real life aspects of a landscape view. First of all, the camera has an X,Y and Z elevation and a zoom or wide angle lens. These may be altered using the mouse, clicking on the required landscape position or you can manually enter the coordinates.

The Target for the camera works in much the same way. Each axis may be locked to maintain its existing setting even though a new position is selected with the mouse. This is handy once you set a specified elevation and wish to change the x or y position. For animation this enables you to maintain a steady path along one axis whilst altering others.

The light direction can be set using simple compass points, altering the way high points cast shadows across the scene. Like a real landscape, the further away you stare, the more your view becomes distorted or clouded by the density of the atmosphere. This is taken care of by using the Haze gadget which can be set from 1 (clear) to 32 (really hazy).

The snow and tree lines work from a particular elevation point. As long as your landscape reaches that point the artificial intelligence does the rest. The trees will automatically climb up and down ravines into the mountains. Snow will fall off cliffs, makes its way across tree tops or freeze up rivers.

Clicking on the palette gadget opens a new window filled with colour settings and a few more angles affecting our camera position. The base colour for each of the 24 landscape characteristics can be altered. Of course, each time this particular attribute is rendered, depending on where it is in relation to light, camera and target, it will be rendered in up to 100 different shades of this base colour.

The camera bank, heading and pitch can be set much like altering the stance of an aeroplane. This is especially useful for flyby type effects when creating a series of views for an animation, or for viewing a scene from an odd angle. From this menu you can also set a specific X, Y or Z distance between the target and camera.

One rather odd feature at this point is the sound function. When selected, during calculation of the polygons you'll hear a brain scrambling array of odd sounds as the numbers being figured are translated into tones and noise. At least you know it's working! Some landscapes really sound good.

Polygons and fractal graphics

With all these settings carefully adjusted, the final most important one remaining is the number of Polygons. In its finest resolution you'll be staring down the angles of some 131,072 polygons. Of course, all this takes a lot of time to work out and you may just want to see roughly how it will all look. So, rendering with fewer polygons is possible. Other settings use larger polygons which require less time to fill the screen and render the landscape. The lowest setting is 2048.

Because each scene is constructed using these tiny building blocks rather than topographical lines or preset objects, it is possible for *Vista* to render a new imaginary landscape generated using fractal geometry. With this capability there is virtually no end to the number of unique landforms which may be generated. To this end, there is a random seed for the fractal generator, or you can enter a specific number. Once you find a landscape that looks good, all you need to do is note down the number. There's no need to save the entire landscape when just one figure can have *Vista* pumping out a fresh copy whenever you need it.

In the colour menu there's setting for the Fractal divisor and Fractal dimension. Now there is not the space here to expound on how fractals work or just what these settings actually mean from a goemetric view point. In essence, the divisor will alter how many landforms a particular seed generates, and the dimension will alter the vertical height of the landforms generated.

Animation

This is where the most amazing aspects of *Vista* become apparent. By opening a simple script file, you can record consecutive camera and target settings. *Vista* will then generate a scene for each setting automatically, and saving each scene as a file with an ascending numeric suffix eg: Zoom.002, Zoom.003 and so on.

With all these IFF images saved, and a little skill in the placement of the camera (using axis locking will help immensely) it is possible to generate some astounding animations which resemble aeroplane views of the most amazing landscapes you've probably never seen. You'll need *Photon Paint* or any other program that can load single frame HAM animations. The animation which originally sang the praises of *Vista* at its launch was over 300 frames long and most people just shook their tiny heads and said it couldn't be done.

Here is also where you need lots of memory and a fast machine. Because many of you don't have that *Vista* yet, but you may be thinking of investing in the hardware to run it and other such programs, I've put together a *Vista* sampler which you can order for a few dollars by calling (02) 879 7455. On it you'll find a few images and an animation or two which should give a good rounded example of what's possible.

Conclusions

Vista has a lot of power. It is scraping the surface of a whole new application for home computers which as processing power increases will become part of our entertainment, education and daily existence. The ability to generate three dimensional views of an imaginary world is the first step to virtual reality where the user feels a part of a world never before explored. A world whose sensations, colours and contours and mixed on the electronic easel and viewed through stereo vision headsets. Already, Amiga based games using this technology have arrived in arcade games in Europe. *Vista* allows anybody to explore this area. It's a lot of fun.

Distributed by:
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Pro version $199.00

For interest's sake:

SceneGenDemo - Fish 299

A scenery generator similar to *Vista*. This demo version provides a good look at what all those polygons can look like. This is the enhanced low-cost commercial version from Fish 155. Worth a look.

From your local PD supplier.

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QuickWrite

No thrills wordprocessing, or a high-powered entry level package? It looks not unlike a cut-down version of *ProWrite*. *Andrew Farrell* examines what's missing and what you get in New Horizons' latest $99 offering.

We've put up with *TextCraft*, *KindWords* and other equally dodgy attempts at wordprocessors for under $100. For many, the only choice was to use something costing twice the price and wade through the mass of unwanted features in the cumbersome manual. New Horizons have managed to keep a relatively clean slate in these departments. Their documentation has always been well designed, easy to read and accurate. More importantly, their software has been almost bug free. In fact they promise it is bug free. *Prowrite 3.0* is a classic "how to do it right" wordprocessor.

QuickWrite is much the same, only it's half the price with a few of the power features chopped out. If you're not into desktop publishing, and don't need the integration *Transcript* offers for *Professional Page*, this product may be the answer. It offers a degree of "Wysiwyg"-ness and it is almost as fast as a pure text editor.

Theres no fancy fonts, but there are styles - **Bold**, *Italic* or Underlined. And you can take advantage of your printer's built-in fonts from the Print menu.

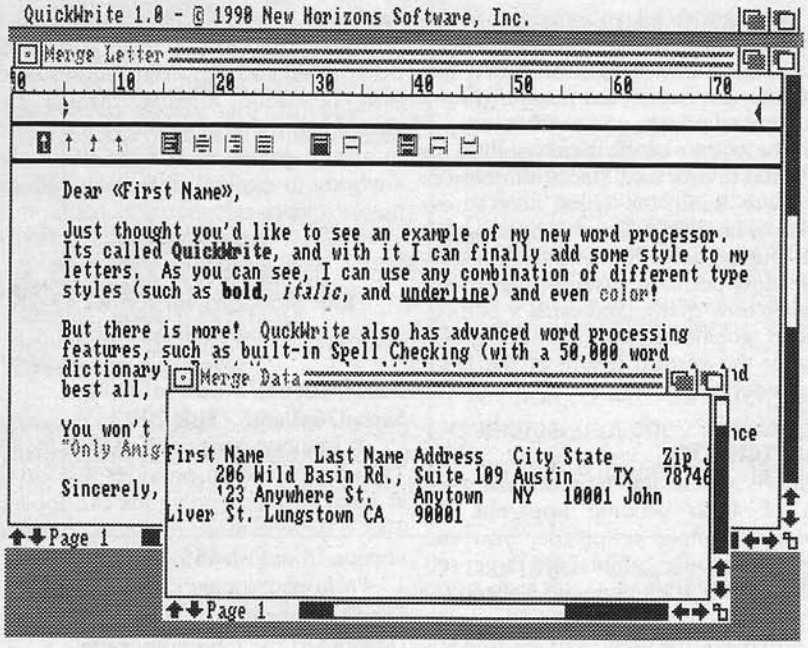
I guess many would consider this lack of fancy features in the "end looks" area a bit of a drawback. However, when you consider the number of times you found waiting for a bit map to print in your letter, or the fact that the IFF logo for your business looks so much worse than the properly printed version, all those extras seem pointless. The point is, wordprocessors are for processing words. Nothing gets in the way of that aim in *QuickWrite*.

And when it comes to formatting your text, you can set plenty of options including margins, headers, footers, title page, different pitch and spacing. Setting TABs is easy, using the old ruler and pointer method. Justification is achieved by highlighting text and clicking the appropriate gadget in the ruler or using a pull down menu or key short-cut! That's right, there's a few ways to do most things, not to mention the AREXX port, if you want to run *QuickWrite* from another application.

At any point in your document you can insert a page break, date, count, time or page number. The format of these items can be altered using another pop up menu.

The find option is simple. You "search" or "search and replace" with a case sensitive option. What you can't find is the odd character that may have made its way into a document from a foreign source. The most common of these are additional carriage returns or line feeds. However, *QuickWrite* handles import and export of ASCII files nicely, with the selection of CR's after each line or paragraph. This means you can just as easily prepare a file for use in a publishing program as you could create one to be posted on a BBS.

The file requestor is a little out of the ordinary, and yet it is still simple enough to understand. You can easily switch devices even whilst the directory is being fetched - essential for floppy disk users. *QuickWrite* normally only lists files which it thinks it knows how to load - so you won't see any .info files or program files. You can load *ProWrite* files, but any font or picture information will be lost. A "show all" gadget allows all files to be listed. Trying to load a file type *QuickWrite* can't handle will result in a requestor telling you this is a bad file type - the program doesn't just GURU out on you like some other wordprocessors. The worse part about the file requestor is that you cannot enter in a complete volume name or path directly; you must use the mouse to work through the directories and volume names.



(Continued on p16)

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QuickWrite can save text in its own format, as ASCII or in *Professional Page* format (styled text is preceded by a code which will make it the same in *Professional Page*). It can also import ASCII with CR's after each paragraph or line and fix it up so you can edit it as complete paragraphs. It will also import *Professional Page* text and convert the codes into the correct text styles. This is of interest for *Professional Page 1.3* users, however the next version which we now have and are using to produce our other magazine (*Professional Amiga User*) offers an in built Article Editor which makes the requirement for an external wordprocessor redundant.

Mouse control during editing is fast and intuitive. You can double click to select a word. A third click selects the sentence, whilst one more returns you to a normal cursor. ALT-double-click grabs a paragraph, ALT-scroll up or down moves up or down one screen respectively. Fast perusing of text is a snack. There are keyboard short-cuts for just about every menu option, not to mention a few useful extras for adding forced paragraph or page breaks.

Spell Checker

For those involved with figures, there is decimal TAB support, allowing you to align numbers by the decimal point, eg:

128.7
4065.678
1.2
1985733.009
66.3

If you can't spell there is a 50,000 word dictionary. Now this may seem less than the 100,000 offered by more expensive programs, but it would certainly cover the 2,000-3,000 you use on a daily basis. If there's something you need to add, the spell-checker can learn as you go. You can check a portion of text, or the entire document.

Spell checking can be started from any point in the document. The checker is smart enough to ask if you want to go back and check the top part of the document you missed. You can also check single words. Word matching is reasonably intelligent. Unknown words are added to a user dictionary which can be saved after a spell check. The worse point is that the dictionary is American, and you're forever adding words it has on file with a z instead of an s!

Document information provides critical facts such as the number of words, characters, paragraphs, lines, pages, average word and sentence length and a readability grade. Display of the ruler, page guides and format codes is optional - each can be manually selected or switched off.

Interface

The screen has a neat organised appearance. There are slide bars at the right side and bottom edge of the document window - of which there can be several open at one time.

The program can open in a number of resolutions, or in the Workbench enviroment. Full support for Workbench 2.0 displays is included along with additional features for Workbench 2.0 users, including Public Screens.

Printing

When everything has been formatted, you can print a range of pages in NLQ or Draft mode. Presumably the documents can be loaded into the Postscript output program for *ProWrite*. (The AREXX MACROs are also upwardly compatible as the commands are a subset of *ProWrite 3.0*).

The print menu also handles multiple copies, collated and print back to front to help with organising your printed pages quickly. For marketing sorts, there's a merge function to enable a list of names and addresses or any other information to be replaced into a standard letter. All you do is enclose the field names in your document in double angle brackets. At print time these fields are replaced with the entries in a separate data file.

Conclusions

QuickWrite is a solid wordprocessor which although lacking some of the fancy features other packages in the price range offer, beats them all on reliability and the inclusion of some of the real functions that matter. If you're looking for a reliable, entry level wordprocessor which you may upgrade down the track, *QuickWrite* could be the answer. I was impressed by its speed, ease of use, excellent documentation and clean screen layout. Certainly the best in its class. Well done New Horizons, this is the sort of professional quality software we need more of. ❑

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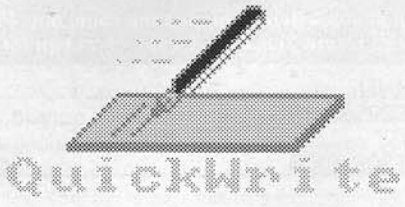

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ATonce-Amiga

- AT emulation for the Amiga 500

Yet another emulator. Only this one is faster, cheaper and more compatible than ever before. And it can multitask. Is it time to bury your bridgeboards and take a look ATonce? Andrew Farrell ripped open an Amiga 500 to put the emulator through its paces.

As soon as someone proudly points out that such and such a program doesn't exist on the Amiga, I am always quick to respond; "I'm sure I have an emulator that will let me run it on the Amiga". Yes, only Amiga lets you pretend you're an Apple Macintosh or IBM XT compatible. Thanks to this neat little $549 package you can also confidently operate at the higher speed of an AT.

Installation

The Vortex ATonce AT emulator is as compact as you could ever hope. The board slots into the 68000 socket, replacing it entirely. It is smaller than a 3.5 inch diskette, measuring 8cm x 7cm, and contains two large chips and four smaller ones. One of the big boys is the 16-bit 80286 CPU.

There is no soldering or jumper leads to install. The only tricky part is pulling your Amiga 500 apart. Remember, this voids your warranty, however if carried out according to the included instructions you should have no problems. You will need a special six point phillips screwdriver to undo the screw at the base of your machine. But it's all worth it. Your memory expansion socket and system expansion are left free. And so they should, the ATonce board can take full advantage of whatever else you have connected.

Levering out the 68000 chip is easy if you're patient and use a nice flat long ended screw-driver to gradually lever it out. Push the new board in place is best done by aligning one group of legs and then pivoting on this point until the other group begin to contact. At this point you may need to squeeze the legs in slightly to make them fit. Once they begin to slide into their sockets, press the board home firmly making sure you have a correct fit as the legs slide into place. Bent legs, should such a disaster happen, can be very carefully straightened, but do bend very slowly.

Once you have the hardware firmly in place, store your old 68000 chip in a safe place - push it into some polystyrene if you have any. You will also need to remove the Gary, and place a small socket with a built-in resistor under this chip. Before you reassemble your Amiga, test it all out to be sure it works.

Booting up

Before you can boot up you'll need to lay your hands on a copy of MS-DOS, as this is not included in the package. Naturally, you'll want an original copy with the manual. This will set you back around $150. Even with this cost (assuming you don't decide to use a copy of MS-DOS from a friend), the Vortex unit is around the same price as the opposition.

Two disks are included. One of these is the ATonce system disk, and on here is a startup icon. Before starting, be sure to read the file readme.gbr. It contains vital information regarding a few exceptions to the installation procedure and important notes on hard drive installation. If all that is in order you're ready to boot-up.

On the system disk is the startup icon. Double click and your Amiga will reset. Just when you think nothing is working, the AmigaDOS copyright message reappears, the MS-DOS screen jumps to the front with a summary of memory and devices along with the message to insert an MS-DOS disk. Although this rebooting of the Amiga to launch the emulator is a little disconcerting at first, it is understandable considering what is taking place. If you get all the above messages at this point your hardware is correctly installed. Insert your DOS system disk (3.2 or higher - 4.01 recommended) and boot the system. Before long you'll be staring at the standard unfriendly MS-DOS A> prompt. The usual CTRL-Alt-DEL reset key sequence is now active. Your system will be configured to a default of:

1 x 3.5 Internal Floppy Drive
No hard disk
CGA (4 colours, Mode 2) Video Emulation
DOS-memory of 512K
Expanded/Extended memory is zero
Amiga-mouse acting as serial Microsoft mouse on COM1
Serial interface on COM2
Parallel interface on LPT1

These settings should be altered using the separate install program to reflect your own personal preferences and the hardware capabilities of your system. INSTALL is run from the CLI or Workbench and is found on the system disk. You can take advantage of extra RAM, hard drive partitions of no more than 32MB, and additional floppy drives be they 3.5" or 5.25".

Video emulation of CGA, Hercules, Toshiba T3100 and Olivetti GO317 modes is supported. The higher resolutions are interlaced monochrome and I would recommend them only to owners of a flicker fixer or a good screen filter. Overall, the manual explains installation and setup of MS-DOS clearly.

Functions

If you want you can run Windows. This is a graphic interface for MS-DOS written by Microsoft. You'll need some extra RAM and around 10MB of hard drive storage. To run Windows you'll also need to choose the Olivetti/AT&T Monochrome or PVC video mode which is 640 x 400.

You can set up a RAM-Disk from MS-DOS and install the Microsoft expanded memory device. The Amiga clock will drive the MS-DOS date function. There are a few odd little utilities to handle unusual compatibility requirements.

AmigaDOS hard drives are supported in a similar fashion to the Commodore Bridgeboard. You can devote an entire partition to MS-DOS - this is the fastest method of adding hard drive storage, but requires complete dedication; the partition cannot be shared with AmigaDOS.

Alternatively, you can create a dummy file on an AmigaDOS partition which will appear as a drive to MS-DOS. This method is a little slower, but easier to set up.

If you have a large enough hard drive, opt for the first method. Many partitions and MS-DOS drives may be set up using the install program. The procedure is reasonably simple and partly automatic. I created a file based MS-DOS hard drive and installed MS-DOS. An autoboot option even allows you to boot from this pseudo-hard drive. A well-designed system.

Several utilities are included to handle transferring files between AmigaDOS and MS-DOS devices and numerous other extraordinary functions.

The emulation will multitask with Workbench. However, you must select memory mode eleven to reduce the chip RAM used otherwise you will not be able to launch any more Amiga applications which require their own screen. Nevertheless, it's handy to have AmigaDOS in the background. The multitasking facility is nothing like what you get running a Bridgeboard where MS-DOS can happily run in a window on Workbench; ATonce only runs on its own screen. Reconfiguring ATonce means rebooting.

Conclusions

Running under software emulation of video handling, it would be too much to expect full AT performance. However, the ATonce emulator does rate very well. According to Vortex the unit clocks in with a Norton SI rating of 6.1. It is twice as fast as the KCS PC board (at around $799) and six times quicker than the XT-Bridgeboard.

The system is reasonably solid; although we suffered a few minor hitches along the way, these were sorted out when we reseated the offending chips. The readme file also suggests that various revisions of the A500 may suffer some other problems - most of which can be overcome. The manual leaves much to be said in the readme file. Hopefully this will be changed. What is documented is well explained, and the installation process is illustrated with a number of photographs. Once booted the system performed as could be expected. All the programs we tested functioned without any problem. For the money, it's sure one very cheap AT computer. Definitely the best of its kind.

Thank you to Fonhof Computers for the loan of ATonce.

ATonce is only available direct from Fonhof Computers. Retail price of the board has just dropped to $549.

For more information contact John Fonhof on (02) 639 7718.

A few of the MS DOS programs known to run on the ATonce emulator

Borland Turbo	Framework
Windows	Lotus 123
Flight Simulator	Wordstar
Microsoft Works	GEM 2.2
UCSD Pascal	XTGold
WordPerfect 5.1	QA
Norton Utilities	PC Tools
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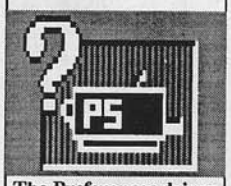

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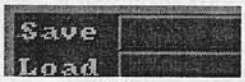

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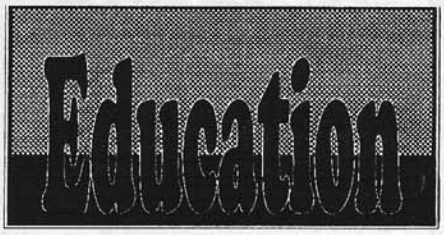


Some tips for selecting math software

by Anne Glover

How is the Math homework going? Is Mum having trouble with tangents and trigonometry while Dad is stumbling through quadratic equations? Meanwhile are the kids getting frustrated? They must do their homework but Mum and Dad are about as helpful as the pet cat! They have good intentions but keep on getting in the way and making a mess.

Perhaps some help is at hand in your local computer shop. There is currently quite a range of Math software available for the Amiga and the C64. The 12 packages I have recently examined are only a sample from a wider selection. (Those people who still think there is a limited range of educational software available for the Amiga must be walking around the shops with their eyes closed. If your computer shop doesn't stock a decent range of education software, ask them to get some more in!).

Each of the following programs have differing styles and capabilities. One of them, however, may help to alleviate the homework phobias in your house. They should also be able to develop mathematical concepts, perhaps provide a structured study session for exam times and fill in some of the gaps a child may have developed due to illness, changing schools or changing teachers.

Firstly a few words of warning. A piece of software, no matter how well it is designed, will never on its own replace a competent teacher. Nor will it do miracles with a poorly motivated child. However as a supplement to or an extension of classroom activities these packages have a lot of value.

Further, don't expect any overseas or interstate program to slot perfectly into your local Math curriculum. There will be significant overlaps but there will probably also be major omissions. Even a program produced recently in your own State may still fall short of the syllabus requirements. The style of teaching will also vary between programs as it will over time and distance.

Topic

Before purchasing the software you will of course look carefully at the topics to be covered. The teacher may be looking to cover those traditionally difficult-to-explain topics in a more effective way or to put some extra life into those important but dry-as-dust topics; while parents may be looking to extend a particular child's interest or reinforce a poorly understood area of work. Some programs deal with a small component of the Math syllabus eg multiplication and division only, while others try to cover a 4 year course.

When examining the topics look to see if they are dealt with in differing ways and if they include a number of different types of activities. Do the activities include varying levels of skill so the child can grow with the program? Also check to see if it presents problems in differing formats eg horizontal ie 16+27=? and vertical ie 16+
27.

Does it mix these forms around, include more than two numbers in a sum and locate the unknown in varying places: eg 12+34+?=65. The best program will not necessarily be the one with the greatest number of topics, although this one may initially appear to provide the best value for money.

Fun to use

Check to see if the answers to problems are explained in a reasonable manner, or do they just magically appear on the screen. Will the student using this program be able to understand and work with these solutions? As always try to buy programs that are student centred with the student directing play. Is it easy and hopefully fun to use? The motivation and the personality of the student will determine how important this factor is, as will the use to which you hope to put the program. The classroom context will differ from the home context and this should be kept in mind at the point of purchase.

So try to determine if a strict program with heaps of Math is what you need or a basic program with small rewards after completing a task, or finally, a games program with Maths thrown in. It doesn't matter how wonderful a program is, not a lot will be learnt from it if it stays in the disk box all the time. Careful selection is most important.

If necessary, determine if more than one child can use the program at a time. Students often learn a lot playing and working together. Check to see if it suits the range of students you have in mind, either the class, the family or the group of friends. One or two less able students can easily feel ostracised if an inappropriate selection has been made. See if the student can relate to the way the program is written, eg are sums worked from right to left, the way a child would naturally do more complex sums.

Problem areas

Does your child have specific problem areas that need to be addressed? This may have been your initial reason for looking at Math software, don't be swayed from your path by the pretty packages, remember why you are there. Look carefully at how the software addresses these specific problems.

Do you have a child with a Math phobia? In this case a program that builds his or her confidence is important. A program with less Math and more fun will be valuable if it changes entrenched attitudes and builds a feeling of competence. So matching the software to your needs is most important. If it doesn't suit the needs of the group and will not grow with them it may not be good value for your money. If copy protection is an issue because of Johnny's habit of storing disks under his bed with his other junk, look into this too.

Finally, there does seem to be a dearth of good, fun, Australian made Math programs on the market at present. So come on all you AMOS whizzes out there, this could be a lucrative opening for you! Surely a few of you budding programmers with a talent for games have a Math and/or teaching background, maybe now is the time to come out of the closet! ❑

Education

Math, math and more math

by Anne Glover

1. Magic Maths

AGES: 4-8 YEARS

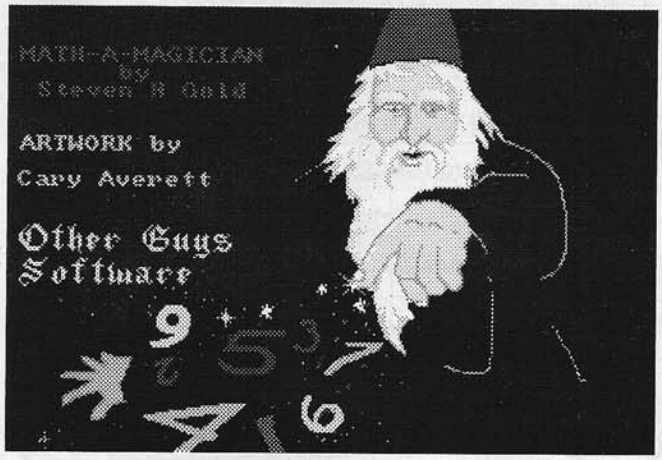
AREAS COVERED: Addition and Subtraction separately and mixed, three levels of difficulty, horizontal sums only, ie 24+45=?.

ABOUT THE PROGRAM: Magic Maths is set up as a games program. The five games cover Adding, Subtracting and counting only. The tasks vary from counting blocks for the four year olds, to sums such as 116+17 for the older children. Correct answers prompt the bus to go or the robot to run. The kids may feel as though they are playing games instead of working, although this one cannot compete with the true games on today's market. The program runs quite well, it is easy to use but is copy protected (disk-based) and this may present problems if you have four or five year olds using it unsupervised. The distributors have, however, told me they will back these programs up with a lifetime guarantee.

CONCLUSION: Useful for students who need to have Addition and Subtraction reinforced in a fairly non-threatening manner, at home or in the classroom. However, only the horizontal format is used and sums are worked from left to right.

DETAILS: Produced by School Software in Ireland.

Distributed by:
Pactronics (02) 748 4700
RRP Amiga $59.95
C64 $15.95 disk only



2. Maths Mania

AGES: 8-12 YEARS

AREAS COVERED: Shape recognition, multiplication and division, separately and mixed. three levels of difficulty, horizontal format only.

ABOUT THE PROGRAM: The Math in this program is presented in the form of games, as it is in its sister program *Magic Maths*. This one is also copy protected. Three of the five games deal with multiplication and division only. At the lowest level students are given sums such as 5x2=?, at the more difficult level they are asked to solve 3x40\4. A correct series of answers will allow the submarine to submerge or the scales to balance.

The remaining two games develop skills in shape recognition, logic and memory skills. The first of these games is like "Mastermind" where a sequence of shapes is to be guessed at. The second game involves remembering the location of shapes spread across the screen, a bit like "Concentration". These two games are quite fun.

CONCLUSION: A strong emphasis on multiplication and division, so a useful program to reinforce these skills alone, if this is your requirement. Once again only the horizontal form is used and answers are worked from left to right.

DETAILS: Produced by School Software in Ireland.

Distributed by:
Pactronics (02) 748 4700
RRP Amiga-$59.95
C64-$15.95 disk, $12.95 tape

3. Better Maths

AGE: 12-16 YEARS

AREAS COVERED: Includes algebra, ratios and gradients, factors, quadratic equations, mensuration, statistics, simple interest, percentages and simple calculations, algebraic expressions and algebraic factor tables, sequences and series, geometry, trigonometry and tests.

ABOUT THE PROGRAM: This is the third in the series by School Software in Ireland. As it is produced for older students no attempt is made to disguise its function. This one is a straight Math program with no games.The first section tutors the student in a range of topics, they are then asked a question and required to fill in the blanks from a choice of possible answers. *Better Maths* 1 and 2 follow with plenty of questions and some tests. Scores are registered to chart your progress if you wish.

CONCLUSION: A good basic Math program that includes a tutorial to help motivated students. This one will fill lots of gaps but will not extend top students in the upper years. There is no attempt to make Math fun or to make it relevant to anything in particular, but it does cover a lot of work.

DETAILS: Produced by School Software in Ireland.

Distributed by:
Pactronics- 02) 748 4700
RRP Amiga-$59.95
C64-$15.95 disk, $12.95 tape

4. Primary Maths

AGES: 3-12 YEARS

AREAS COVERED: Includes counting, adding subtracting, multiplication and division, fractions decimals, tables and Math problems in words. Topics cannot be mixed.

ABOUT THE PROGRAM: This is a more serious Math program for young children. It covers a lot of Math without any real pretence at games. A basic re-

Continued on p24

INTERLINK EVEN CHEAPER

For this issue Interlink Software has decided to benefit Australias Amiga owners by lowering it's software prices. In an effort to keep these prices down we need your help, your continued support will result in these prices becoming permanent. Interlink also has a number of other surprises up it's sleeve for 1991 that will shortly be revealed. STAY TUNED HERE FOR MORE DETAILS AS THEY ARE RELEASED!!!

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ward is provided at the end of some tasks for the younger children.

The program is easy to use, but some sections are very hard on the eyes. The graphics and sound are very basic and much of the work is pretty dry. My junior tester called it "a bit boring".

CONCLUSION: This program includes heaps of Math for your money but it is certainly not the most exciting treatment of the work. It may be of some use in the classroom or by very motivated students in the home.

DETAILS: Produced by LCL in Britain.

Distributed by:
Pactronics (02) 748 4700
RRP $49.95 Amiga and C64

5. Mega Maths

AGE: 14 YEARS-ADULT

AREAS COVERED: Includes Logs., 3 dimensional geometry, tangents and normal of curves, standard integrals, standard derivatives, integrals of functions, uses of integration and trigonometry.

ABOUT THE PROGRAM: This the the third in the series by LCL in Britain, the first being Primary Maths and the second (not reviewed) called Micro Maths.Here is a serious Math program for more advanced secondary students or adults..

No tutorial is included, it is based and a question and answer format. Basic instructions are given after incorrect responses so the motivated student with adequate resources and support would be able to teach himself or herself to some degree. The average student will not only be lost, but possibly discouraged and certainly bored.

CONCLUSION: This is the most advanced Math course in this batch of reviews. It includes heaps of Math and if that is what you are looking for it represents good value for your money. If you are looking for a program to motivate and gently extend an insecure student, this is not the program for you!

DETAILS: Produced by LCL in Britain.

Distributed by:
Pactronics (02) 748 4700
RRP $49.95 Amiga and C64

6. Math Blaster Plus

AGES: 6-12 YEARS.

AREAS COVERED: Addition, Subtraction, Division and Multiplication. Fractions and percentages. Some functions can be mixed, come in different formats and varying levels.

ABOUT THE PROGRAM: This Math program has the work set out in five different games. These games vary from good fun to the mundane, they are aimed at the younger students. Sums are worked from right to left.

The program is a very flexible one as it allows you to program in your own data, keep records, print certificates and even set tests. A comprehensive booklet is also included.

The graphics are cute and in most cases large enough and clear enough to be used by a group of students. More than one child can make use of this program. The pull-down menu allows you to vary and mix the format of the questions. Terms such as quotient, dividend and factor are used during questioning.

CONCLUSION: A good flexible Math program that tries to make the work a bit of fun. It covers a lot more than some programs, but less than others. If the ability to program in your own sums, keep records and print certificates is important to you, this will be the program for you. As it is suitable for individuals or small groups, this is a good one for the home or school. Highly recommended for the younger students.

DETAILS: Produced by Davidson and Associates in USA.

Distributed by:
Dataflow (02) 331 3665
RRP $69.95 Amiga format

7. Math-a-Magician

AGE: All ages (suggest primary students).

AREAS COVERED: Addition, Subtraction, Multiplication and Division all separately. Four levels of difficulty. It can deal with whole numbers or fractions, with or without a timer. Horizontal and vertical formats.

ABOUT THE PROGRAM: After some great introductory graphics and music the program doesn't quite live up to our now high expectations. This is pretty much a straight Math program. Beginners will be asked to add 5+3, and the experts to add 4784 + 3037. Points are allocated for each attempt, until the correct answer appears. Sums are worked from right to left. The graphics are large and clear and some cute comments are made in response to the student's answers.

Multiplication and Addition tables are also dealt with but I cannot imagine the average child spending much time on these unless their hands are tied behind their backs.

CONCLUSION: This one is cheaper than many of the other Math programs and is reasonably good value. It would be useful to reinforce the basics of Addition, Subtraction, Multiplication and Division, however all are worked on separately. The numbers are large and clear and would work well with groups of students.

DETAILS: Produced by The Other Guys in USA.

Distributed by:
Dataflow (02) 331 3665
RRP $49.95 Amiga format

8. Math Wizard

AGE: 5-10 YEARS.

AREAS COVERED: Addition, Subtraction, Multiplication and Division separately or mixed in horizontal or vertical formats. Three levels of difficulty and word problems are also covered.

ABOUT THE PROGRAM: This program takes a while to get going but it does have some reasonably good Math activities. Two players can be involved at times and the program has a lot of flexibility built in. Sums are worked from right to left.

"The Troll's Toy Shop" presents problems in a written format, eg Bill has 12

Continued on p26

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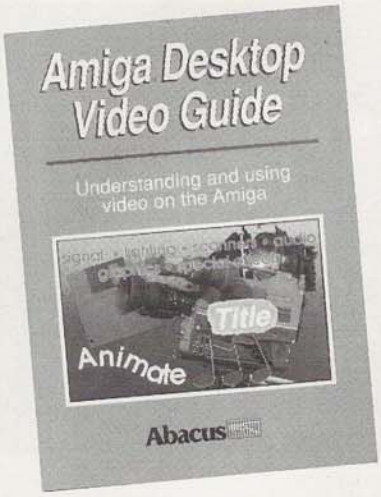

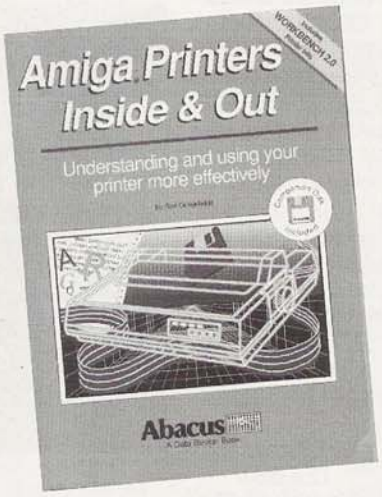

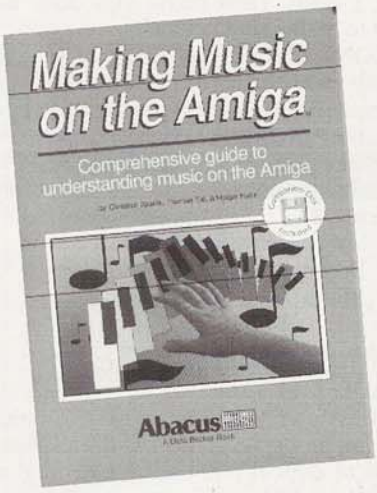

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loads of sand to deliver. His truck will hold 3 loads. How many trips does Bill need to make?

CONCLUSION: This program is quite flexible and can be used by two players. If word problems are an area that need special attention, this is one of the few programs that would suit your needs.

DETAILS: Produced by Unicorn Software in USA.

Distributed by:
Dataflow (02) 331 3665
RRP $69.95 Amiga format

9. Math Master

AGE: 5-12 YEARS

AREAS COVERED: Addition, Subtraction, Multiplication and Division. Three levels of difficulty in either horizontal or vertical format.

ABOUT THE PROGRAM: This is a very basic program with a real Aussie flavour. There is no attempt made to turn the work into games but the cute Aussie scenes may provide some interest for a short time. Watching a joey jump into its mother's pouch or a platypus swim across a creek is the reward for a correct answer. Sums are worked from right to left.

CONCLUSION: A rather "plain Jane" program, but it is made in Australia so if supporting the local product is important to you (and it should be important to all of us) then this program is worth a look.

DETAILS: Produced by Southern Cross Software in Australia.

Distributed by:
Southern Cross Software (06) 239 6658.
RRP $49.99 Amiga format

10. Math Talk

AGE: 5-13 YEARS

AREAS COVERED: Addition, Subtraction, Multiplication and Division. In horizontal or vertical formats or mixed, with timer if required. Variable levels determined by your input.

ABOUT THE PROGRAM: This is an interesting one, it allows students, teachers or parents to enter their own Math problems into the program. If you wish, the computer will then help you solve that problem. Of course they are worked from right to left. Results can be recorded and pages of work printed up. This might be all a bit much for the 5 or 6 year olds but the middle and upper primaries would get a lot of use out of this one.

There are also two Math games included, these are true Math games and not simply rewards for correct answers.

CONCLUSION: A bit much for the littlies but a great program for the 7-12 year olds. This is a very flexible and functional program that will really help solve some of your student's little problems. Highly recommended.

DETAILS:
Produced by First Byte in USA.

Distributed by:
Dataflow
(02) 331 6153.
RRP $59.95.

11. MathTalk Fractions

AGE: 8-15 YEARS.

AREAS COVERED: Fractions, Decimals and Percentages. Addition, Subtraction, Multiplication, Division and conversion of the Fractions etc. Levels are determined by your own input.

ABOUT THE PROGRAM: This is a superb program, it is easy to use, extremely flexible and really fun. As the levels are determined by your own input, the program will suit a wide range of abilities and will grow extensively with the child. It also gives students the opportunity to develop some responsibility for their own learning if they place their own problems into the computer.

Like its sister program "Mathtalk", students will be tutored if they wish in the questions they were unable to answer. The Math is at times presented in the form of true games. The only drawback of this program is that it cannot cover a huge amount of the syllabus.

CONCLUSION: Highly recommended for students floundering through fractions, decimals and percentages. Don't however expect this program to cover all of the Math syllabus.

DETAILS: Produced by First Byte in USA.

Distributed by:
Dataflow (02) 331 6153
RRP $54.95

12. Amiga LOGO

AGE: 10-ADULT

ABOUT THE PROGRAM: AMIGA LOGO is a programming language, it is not a Math tutor in itself. However I have included it here because it is used extensively in Math classrooms.

AMIGA LOGO can be used as a calculator, it can speak and print answers. Freehand images can be drawn with the mouse or you may instruct your Amiga to draw images on the screen. This latter function is AMIGA LOGO'S main claim to fame as it allows student or teachers to draw up accurate diagrams to be examined, edited or studied.

Computer Studies classes also use AMIGA LOGO to demonstrate or study programming, while the Industrial Arts Departments use this program to develop, adapt and study their models with ease and accuracy.

CONCLUSION: Recommended for classroom use, with the teacher's guidance. In the home it could be used to complete Industrial Arts, Computer Studies, Maths or Art assignments, or to experiment with programming and design. This is not a Math tutor, it is a programming tool.

DETAILS:

Distributed by:
CBM Education Dealers
RRP $100 Amiga format

IN THE DOMAIN

USING PD DISKS is not always as straightforward as you'd like, especially if you're a beginner. The disks are usually full of terrific software, but it's not always obvious what you do with them to make them work. The great variety and occasional experimental nature of PD software sometimes makes it hard to know what to do. Tim Strachan gives us a few points that may help:

Bootable and non-bootable disks

A disk is either "bootable" or "non-bootable" - ie, you can "boot up" with it like a Workbench disk where you see the "Workbench hand" screen when you power up; or you'll find that you put it in the drive and the hand just stays there. In this case, all you have to do is boot up first with your own Workbench disk, and then put the PD disk in a drive.Then just click on the icons as usual.

If you don't know what kind of disk a disk is, try to boot up with it first - if it won't boot, try your Workbench disk first.

NB: it's a good idea to get into the habit of checking all disks (bootable ones at least) with a good Virus Checker before you do anything else with them.

Instructions

A bootable PD disk will usually either load up the Workbench screen and present you with icons to click on; or it will load directly into a program such as a game, or possibly give you instructions of what to do. Quite often the instructions you need are in a "doc-file", ie document-file of some kind visible as an icon. Occasionally, the instructions you need can be accessed from within a program from the Menu.

Exiting programs

Usually you'll be able to click on the "close gadget" in the top left corner of a window or screen. If not, try finding a "quit" or "exit" option in the menus. To exit Basic programs, the CTRL-C key combination usually works. If you've tried these and nothing works, here are desperate measures - the ESC key sometimes works, as do such combinations as CTRL with X or S or Q or ESC. And occasionally a mouse click on one or both buttons will get you out. Graphic screens are often exited by clicking in the top left corner on an invisible close gadget.

Multi-tasking

You should still be able to access the rest of your windows and screens whatever you've got running, by clicking on the "front/back" gadgets in the top right hand corner. If not, you can almost always switch screens with the LEFT-AMIGA key pressed with the N or M keys. At least you can use this method to get back to your Workbench screen in the occasional case of a program "hanging". But, in general, don't leave unsaved work around when you're playing around with new PD programs - if a program crashes the computer, your work will be lost.

Directory utilities and CLI

You can always use a "directory utility" (such as Zippy, SID, Dutils, Diskmaster or OPUS) to investigate any kind of disk - I recommend that you become familiar with such a program, it will save you a lot of messing around and make your computing much more enjoyable and speedy. If you want to go further, you can learn how to use the CLI to investigate disks.

Remember that Workbench usage only lets you see files and other objects which have icons attached - however there may be other files which have no icons and are therefore inaccessible from Workbench.

"NDOS" & "bad" disks

If ever you put a disk in your disk drive and up pops a disk icon with either of these labels under it (such as "DF0:NDOS") you've got a disk which isn't a standard Amiga format disk. This could be because:

a. the disk isn't formatted or initialised for the Amiga - hence "BAD"

b. the disk has a "read/write error", in which case you'll probably get a system message telling you so c. the disk has a "non-Dos loader", ie can be booted up, but not in the normal Amiga way - some games appear like this, and will be "NDOS".

Mandel Set

For mandelbrot, juliet and other fractal type people a new compilation of all the best mind-altering graphic generating programs has been made. The six disks of colourful math-based software cost $24 and contain all the best programs from the Fish collection including derivatives of the theme to generate clouds or water. Includes *FractalLab, DEM, CPM, Cloud, Fractals, Mandel, IFs, MandAnim, IceFrac, Slicer, Mandelbrot, Plasma, MandelBlitze, MandelMountains, MandelVroom, Zplot, PolySys* and *TurboMandel* for those with 68881/2 math coprocessors. Ideal for the animator, and artist.

Chemistry

Students of this fine subject will relish the wonderful three dimensional shades models of molecules generated by *Chemesthetics*. Includes the IFF and ARP libraries with icon based installation.

Movie-Setter Anims

Two disks of cute cartoon animations by the famous Eric Schwartz produced with help from *Moviesetter*. Includes Stealthy, VTOL_contest and Pogo. All have sound and are really worth checking out. 1MB recommended.

Gallery

Over the past six months we've collected some very slick HAM ray traced and digitised images, not to mention some very sharp hand drawn hi-res images from CompuServe, local bulletin boards, artists and Fred Fish. Now they've been compiled into a collection which will continue to extend in Gallery disks as time goes by. All may be viewed from the Workbench. Many are ray-traced using the latest programs such as *Imagine* or *3D-Professional*. Full listing will be published soon.

These and other disks are available from your local supplier of PD, Bulletin Boards or by calling Prime Artifax on (02) 879 7455.

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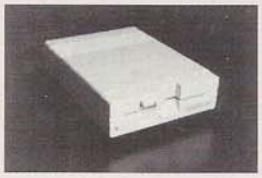

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Tutorial

by Andrew Leniart

Part 9

This issue I will go over some of the areas that a lot of readers seem to be having problems with, and go over previously discussed topics from a slightly different angle. If you are one of the many that sent in a letter saying you didn't quite understand one thing or another, go and grab yourself a cup of coffee, sit down and give the Amiga a boot and we'll see if we can set you straight.

Back to basics

There seems to be a bit of confusion about the formatting of a computer disk, what it is, why it needs to be done and how. Let's start at the beginning.

When you buy a blank computer disk, it is not yet ready to be used with your Amiga. As a matter of fact, any 3.5" blank disk you buy, regardless of brand name, can be used on any sort of machine, be it an IBM, Apple, Macintosh or whatever, that takes a 3.5" disk.

Try this little test. Get out a freshly bought unformatted disk from a box and insert it into one of your disk drives. What you will find happen is that the Amiga's disk drive will grunt and groan for a bit as it tries to make sense of the disk you've put in and will eventually spit the dummy and place a name such as BAD under the disk icon on the workbench screen. Try to access this disk by double Clicking it and you will soon understand why the need to first format a new blank disk.

In order to be able to use a new disk in our Amiga, we first need to prepare the disk in such a way so that the Amiga may use it. We do this by the way of Formatting. So what is Formatting?

Formatting

Formatting a disk simply means to prepare a disk in such a way that the Amiga can Read and Write to it. Simple as that. Normally, the new Amiga user would use the Workbench menu item called Initialize, and I guess that most of you have used this function at one time or another.

Initialize does exactly the same thing to the disk as the CLI Format command. The only difference is that it does it via the simple point, Click and menu pull down menu methods from the very easy to use Workbench. When doing this process from the CLI, things get a little more complicated as you need to enter certain arguments (or instructions) specifying the disk drive and any additional details about the new disk's name and so on. Let's have another quick look at the Format Syntax or Command template.1.2 Version Workbench:

Format DRIVE <disk> NAME <name> [NOICONS]

The 1.3 version of Workbench has an extra couple of goodies, but there is only one of which I'll cover here to avoid confusion, and that's the [QUICK] argument.

Looking at the above command template, we see that we need to enter the following information for the command to work.

FORMAT - The command name itself.

DRIVE - The drive which contains the disk you wish to format.

NAME - The name which you want the disk to be called when the process is completed.

NOICONS - Specifies whether or not you wish to have a Trashcan icon automatically placed on the disk for you.

QUICK - This argument speeds up the formatting operation so that it only takes a few seconds on a disk that has been formatted at least once before. This is useful if you just want to clear a disk completely of data and make it blank.

Note that the last two arguments [NOICONS] & [QUICK] are optional and need not be entered for the command to work. So, keeping in mind the input required, to format a disk in your external drive DF1: you would enter the following command in a CLI or Shell:

Format Drive DF1: Name "Spare-Disk" NoIcons

Having typed that in, pound the RETURN key once and just follow the instructions given on screen. At the end of the process, you will end up with a disk called "Spare-Disk" on your Workbench screen without a Trashcan in it once opened. Go ahead and try it now.

A final note about this command. If we had left out the "No-Icons" argument in the above example, then the disk would have a Trashcan in it. Format the disk again leaving this argument out to see what I mean.

Diskcopy

I've received a few letters from readers complaining that the examples I gave for using the Diskcopy command in the second installment of this series would only work some of the time and not others. After a little bit of investigation, it always turned out that this problem was not the fault of the command, but that of the software companies which release the disks which you are trying to backup. What the hell am I talking about?

Copy protection

The Amiga DiskCopy command can only copy disks which are not copy protected. The same goes for the pull down menu item on Workbench, "Duplicate" which does the same thing as the CLI Diskcopy command. For example, your Amiga will always happily copy disks which you have created yourself or disks which are not copy protected such as your original WorkBench and Extras disks, and some other unprotected commercial software. However, for obvious reasons, commercial software that has been released without some type of copy protection is a rare commodity these days.

But it is still possible to back up commercial software. Whether or not it's legal is another question which you'll have to find the answer to yourself.

The way to backup a disk which Diskcopy can not handle is to use a special copy program designed for this purpose. There are quite a few around, with one of the most popular probably being

Continued on p34

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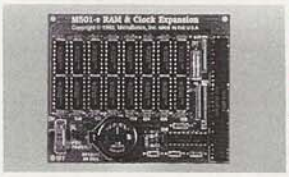

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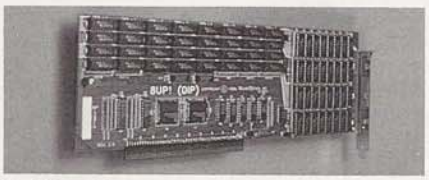

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Xcopy. Another old favourite goes by the name of Marauder and there are others as well.

These programs may be bought quite legally just like any other piece of software from most software distributors. Nuff on that for now - so moving right along...

A smaller CLI

Just about everyone knows that the CLI or Shell window which we work with can be re-sized to any size we choose by using the mouse and dragging the window to the size we want with the gadget on the lower right corner of it's window. But did you know that you could have the CLI open up to any size you desire every time you start it up? Here's how...

Open up a CLI or Shell and type in the following command and hit return:

NewCLICon:0/20/250/50/My-CLI

What you should end up with is a small NewCLI window in the topleft hand corner of your workbench screen with its title being "My-CLI". Let's have a look at the command parameters.

NEWCLI CON: are the commands to make a new CLI window a certain size. The numbers which follow this are the important ones that tell the Amiga what size we want the CLI.

The first number tells the Amiga where to put the CLI in regard to the left hand side of your screen. Let's call this parameter X. When X=0, then the Amiga places the CLI at the very left hand side of the screen. Increasing this number will move the CLI that number of "pixels" to the right side. So the same command above with an X parameter of 10 would have placed the window 10 pixels to the right.

The second number after the first forward slash "/" tells the Amiga where to put the window in relation to the top of the screen. We'll call that parameter Y. In our example above, Y=20 instructed the Amiga to place the CLI 20 pixels down from the top of the Workbench screen. Type in the command again and change both of the parameters to zero and you will find that the CLI will end up right in the top left hand corner.

Okay, that's the positioning of the CLI window to start off with. But what of the size? That's where the last two numbers come into play. The third number in our example specifies the width of the CLI. In our example, this is 250 pixels wide, while the last number specifies the height of the window. The final parameter is naturally the name which you want to give the CLI, My-CLI in this particular case.

Note that this name can be anything you like. Try it out and experiment a bit by changing the numbers around and you will soon get the drift of how it works. There is not a great deal that can go wrong. If you enter too high a number the Amiga will simply report back an error and you'll just need to try again. After playing around with this feature, some of you, like me, might find a particular size and positioned CLI window that you would like appear each time you double Clicked your Shell or CLI icon. Well the good news is that it IS possible and here's how to do it...

First up, make sure the copy of your WorkBench disk that you are using is "write-enabled". Check this by making sure the little square hole at the top right corner of the diskette is closed. We need to do this as we are going to get the Amiga to write information to the disk. Having done that, open up the disks window on Workbench and highlight the CLI or Shell icon you start your CLI's with by Clicking on it ONCE.

Next step is to go up to the Workbench pull down menus and using your right mouse button, select the "Info" menu item. A window will appear giving you all sorts of information about the icon you have selected. Here is where we make our changes. At the bottom of the window is a long box labled "TOOL TYPES". Within that box are two extra gadgets, those being ADD and DEL. Click once on the ADD gadget and a cursor should appear in the box ready to accept your new parameters. Now is the time to type in your favourite size and name parameters for your CLI window. However, it must be done in the following format.

WINDOW=CON:0/45/640/90/AutoCLI_Shell

Note that the two commands "WINDOW=CON" must be in upper case otherwise your changes will not work. The above example contains my personal favourite parameters and while these suit me, they may not suit you. Just change the parameters to your own favourite size, position and name that you discovered when experimenting earlier. When you've finished typing in the details, simply Click on the SAVE gadget and the Amiga will save the changes to disk. Double Click the CLI icon again now to see the results.

If ever you wish to revert back to the original way the CLI used to open, it's a simple matter of going back into the Info window we made our changes in and Clicking on the DEL gadget in the Tool Types box. Save this again and all will be back to the way it was before.

Letters

Time to answer one or two of your letters. Please keep them coming and thanks to all those that have already sent in some feedback. The first for this month comes from Lance Turner of Tweed Heads NSW who writes.

"I have subscribed to ACAR and read the CLI Tutorial parts 6 & 7 which have helped, but missed the first five parts which I assume covered the basics which we need. Could you please tell us how to get hold of these first five parts and also the name of a good book on AmigaDOS V1.3 and using the Amiga. Also, when listing a large directory, ie: <List c> the information is scrolled up quite fast. I know this can be paused with the space bar and continued with the backspace, but is there any way to scroll down and re-look at information already off the screen?

Reply

In answer to your first question Lance, you can order back issues of ACAR by writing to us direct at:

21 Darley Rd
Randwick NSW 2031.
$2.50 per back issue.

As for good books on the Amiga and CLI, I like *AmigaDOS Inside and Out* published by Abacus, and distributed by Pactronics (02) 748 4700. It's well worth the forty odd bucks it costs for the wealth of information that it contains.

Another good way to get information about using your Amiga is to grab hold of a copy of *Megadisc,* advertised in *ACAR. Megadisc* is a magazine on disk and contains a heap of tricks and tips for the new Amiga user which are all written by enthusiasts of the machine and the editor, Tim Strachan, himself. Very reasonably priced and well worth the money.

Your request to view information that has already scrolled off the screen is not really possible from the CLI itself.

There is an easy way to do it though, and that is to "redirect" the output of the DIR command to a text file somewhere like in Ram.

Here's one way to do it:

CDDF0:cDIR>Ram:C-Directory

What this does is create a text file in Ram: by the name of C directory and copies the information normally scrolled on screen to this text file. Having done this, you are now in a position to use a text viewer like *More* on your Workbench disk or one of the many text viewers available in the public domain to view the text file.

Try it out and you'll see what I mean, but don't forget to save it to disk if you want to look at it another day without going through the above exercise all over again. For more detailed information on redirection, check out this column in the back issues of ACAR when you get them. Hope that helps you out. In any case, thanks for your input, a PD disk on its way.

The other letter for this month comes from Russell Hunt at Chiltern who writes..

"Andrew, how can I bring about the use of fonts that have been transferred into a word-processing program from another. I can tell from the CLI that the transfer has been successful but the new fonts do not show up on screen in the fonts menu in *KindWords*. Would you be able to describe the correct procedure please?"

Reply

Unfortunately Russell, the word processor that you are using does not have the capability to use other external fonts, so you will need to upgrade your software to a package that does. There are quite a few available and probably one of the best ways to choose one would be to read some reviews on various word processors in previous issues of ACAR.

However the way to copy any fonts over from another disk is relatively easy. Assuming you have the disk containing the fonts you want in DF1: and the disk you wish to copy to in DF0: then all that is required is the following:

CopyDF1:Fonts DF0:Fontsall

and hit return. Though I suspect that you already know this as you say you can see the fonts have been copied over successfully via the CLI.

Well, that's about it for this month. We'll be doing some more recapping of problem areas next issue along with more replies to individual questions and problems, so stick with us. Till then, keep hammering that keyboard.

Catch you later. ❑

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Telecomputing Column

by Jonothan Scowen

In this month's column we'll be looking at some of the bulletin board programs available for the Amiga, and there's a brief interview with a BBS sysop (System Operator, pronounced Siss'Op). I also went into finding out a bit more information about SkyPix, a novel new way of making your way around BBS menus.

BBS Programs

The best sort of BBS program is one with the power to grow with your needs down the track. You would want one that could handle Fido (the international echo mail system) and several telephone lines. One such program for the Amiga is *Paragon* by Inner Circle Software in America. *Paragon* can handle up to nine lines and Fido. It is a BBS that can just about do anything, if not, it will be able to soon. The authors, Jon Radoff and Eric Drewry, are constantly upgrading it.

The other good thing about *Paragon* is the number of doors available - these are programs to run with it. There are hundreds of programs available, including TimeBank programs and programs to gamble your time. Also a multi user chat program comes with the package which has 99 rooms and many options.

To operate *Paragon*, you need any Amiga computer, a Hayes compatible modem, at least two disk drives (a hard drive is recommended), and at least 1 Meg of RAM.

Paragon is not available through shops in Australia to my knowledge, the agent for Australia is unknown due to recent changes but it is available in America at :

Inner Circle Software
P.O. Box 486, Northborough, MA 01532
Support BBS: 508-393-3875, 9600 baud (HST). FidoNet: 1:322/545

I will let you know when it is available in Australia.

Paragon has very good SysOp security options, just about anything can be edited for individual users, menus are totally made by you and can do a wide variety of things. It costs approx $260 (Aust). For the latest information on *Paragon* call All Amiga BBS (02) 876-8965.

The cheaper alternative is to get a Public Domain program. There are several available for the Amiga, including *Tag-BBS*, *MicroHost*, *ColourBBS*, *Soft-Span BBS*, and many more which are available on most BBS's or Fish Disks. More about these next month.

Skypix kicks off!

I had never seen Skypix before until I called a BBS in Sydney called The Dense Mist BBS. It was amazing the things that you could do. Skypix can only be used on the Amiga due to its advanced graphics and sound capabilities. *JRComm* V1.01 or *SkyTerm* are the only two terminal programs that can handle SkyPix BBS's.

When on a SkyPix BBS you can use your mouse, which is quite an unusual feeling via modem. You also get quality graphics (not ASCII characters) almost just like ordinary pictures. Animations and sound are also possible. SkyPix requires you to download the files first before using them; this process can be rather long, sometime 10 minutes for sound samples, but pictures are less than a minute. A directory has to be set for these files to work inside your terminal program. Once downloaded it is quicker to load up the menus next time.

Skypix is a superset of commands above ANSI graphics commands. Basically a protocol between the BBS and the terminal software program to display fancy graphics, play sound/music, make use of mouse functions, transparent Upload/download, etc. Skypix is copyrighted by the Author Michael Cox in the USA. Permission to use the protocol within a terminal program or otherwise must first be gained before it can be implemented.

BBS Update

I apologise to readers in other states beside NSW - as I am based in Sydney it is a bit too expensive to call other states, but I will try my best. If anyone is interested in helping me in calling new BBS's in other states could you contact me at the places mentioned at the end of this article.

The Dense Mist (02) 416-3143

A great BBS. This system is operated using *SkyTerm* (a SkyPix program) which enables you to use your mouse, view pictures/animations, and hear sound samples. If you have never seen SkyPix I suggest you call for a real surprise, it is quite unbelievable what is possible. At the moment there are not a lot of files but another hard disk is on its way which should make it a very good BBS.

TeleInfo Systems Australia (02) 975-1099

This BBS is one of the biggest in Australia. There are two gigabytes of storage, 20 lines and 14,000 files accessable for members. The BBS is great for a chat. There is also for lots of mail, files, and everything else. Teleinfo never seems to stop expanding, it just keeps on going and going. The BBS caters for C64/128, Amiga and IBM computers. See interview with the SysOp later on in this article. This BBS is very good for new callers, you get very good access as soon as you register.

ADAM BBS (08)370-5775

This one of the biggest BBS in Australia too. Like TeleInfo, ADAM runs on TBBS. There are 32 lines and 2.1 Gigabytes storing 20,000 files. There are files for the Amiga, C64/128, IBM, Macintosh, Atari and others. Members are encouraged strongly to pay membership by many options unavailable.

All Amiga BBS (02)876-8965 ** NEW **

This BBS has 100 Megabytes of storage, one line and approx 500+ files.

It is run by an Amiga 2000 using Paragon BBS. There are heaps of online games and role playing games. Decent access given to first callers and Guests (including downloads first call!).

Continued on p38

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You can also rely on the correct date and time at any moment in Amiga and MS DOS mode (with the aid of a battery).

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DEALER ENQUIRIES WELCOME

Sysop Interview: Ross Delaforce

TeleInfo Systems Australia (02)975-1099

As mentioned above Ross owns one of the biggest BBS's in Australia. I met Ross for a personal interview and found it very interesting to see a BBS on such a large scale as TeleInfo.

TeleInfo currently has 20 lines. It also has 2 gigabytes of drive storage containing 14,000 files available for downloading for the C64/128, Amiga and IBM. TeleInfo Australia runs the multi-line MS-DOS Bulletin Board software TBBS (*The Bread Board System*), from eSoft Pty Ltd in Colorado, USA.

Software: TBBS 2.1M[32], with - TMail v1.20 by Larry Lewis
- TDBS 1.1[32] - SysOM 1.0
32 lines possible (20 being used at present)
Unlimited number of Menus possible.
Max. 63 Mailboards used
Max. 30,000 message base (approx. 18,500 set currently)

Hardware: Micronics 80486 motherboard in a 'tower' case
5MHz clock, with 64k Cache. 8192KB RAM
1 x 1.2MB 5.25" floppy drive
1 x 1.44M/720K 3.5" floppy drive
3 x 760MB Maxtor XT-8760S SCSI hard drives
1 x 150MB Wangtek tape backup drive
2 x 16 Port DigiBoard PC/16 multi-serial-port cards
20 x Maestro 2400ZXR modems

Value: $85,000 (approx)

The BBS averages around 275 callers per day. The userlog consists of 1,700 users (350 of which have paid membership).

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Ross Delaforce says: "I started out playing around with a piece of software called KBBS, and was shown the ropes of BBS'ing by a guy by the name of Warren Hillsdon. Warren ran Commodore Pursuit, off a C64, an IEEE interface, and a couple of D9090 hard drives - a massive 5 megs per drive. After seeing, and being amused with the whole idea of other people ringing in and using your system, I decided to play around with BBS software myself.

Eventually, I upgraded to a C128, and played around with EBBS, then finally bought myself an Amiga 1000, and used BBS-pc! on a 20 Megabyte hard drive. Eventually, due to limitations of storage space at the time, I went to an IBM (AT-10Meg), and bought ConCurrent-DOS, and the IBM version of BBS-pc!. This gave me around 140 Mbytes of storage, and two lines multitasking the same program.

This was early 1988, and the BBS at that time was called AmigaLink BBS. I started taking 'memberships', and used it to expand my software base and save up for a faster machine to run more lines. In late 1988, I was shown TBBS remotely, and was impressed. I even drive 290kms to see it running locally. Needless to say, I was hooked.

I had to move from the location in Neutral Bay where AmigaLink was running, and to where I am located now in Belrose. I was unhappy to find that there was already an AmigaLink BBS running in Melbourne slightly longer than me. It was here I decided to come back at the new location, with a new name, and new software. February 1989 saw the birth of TeleInfo - 'Information from afar'. The system was running around 300Megs worth of drive space, and was basically an Amiga/C64-128 orientated BBS. It was running on 2 lines, and this was increased to 4 lines to cope with the traffic.

At this stage the system was averaging around 40-60 callers per day, and slowly growing. Hence, the time to look seriously at expanding both lines and hardware came. I guess the rest is fairly self explanatory. From the 4 lines, TeleInfo went to 6, then 8, then 12, then 14, then 16, then the split of 16 and 2, to now - 18 and 2. Also, TeleInfo's main motherboard was upgraded from a 20Meg 80386, to a 33Meg, then to the present 486/25 meg machine. Also, online drive capacity grew from 300 Megs to 2 Gigabytes. Of course, as the system grew, so did the demand of getting in help.

Fellow workmates at ABC-TV, Mark Avis and Peter Hanrahan, joined the team. Shortly after came Glenn Percival. Then appeared Stephen Harrington (Mr IBM), and Stephen Jannese. Without the help of these guys, I guess I would have lost most of my enthusiasm for expanding TeleInfo, and been around $30,000 richer (thanks a lot guys!). The system now averages 275 callers per day, and around 1700 people in the userlog.

What's in the future? Putting on more lines - a few 008 numbers to make it more attractive to STD Members, maybe the new version of TBBS (v2.2) due out Winter 1991."

Ross runs his BBS as a hobby and doesn't force New Users/Guests to pay membership fees as he is not totally in it for the money. Ross puts just about all membership fees into a new line - it costs about $600 by the time he gets the line installed and the modem. A recommended BBS to visit!

Letters and questions

If you have any questions or comments I can be contacted at: PO Box 162, Epping NSW 2121. Call my BBS: ALL AMIGA BBS! (02)876-8965.

Next month - a look at Public Domain BBS programs, more BBS reviews, more SysOp interviews and much much more! Until next month, happy BBSing! ❑

AMIGA SYNCRO EXPRESS

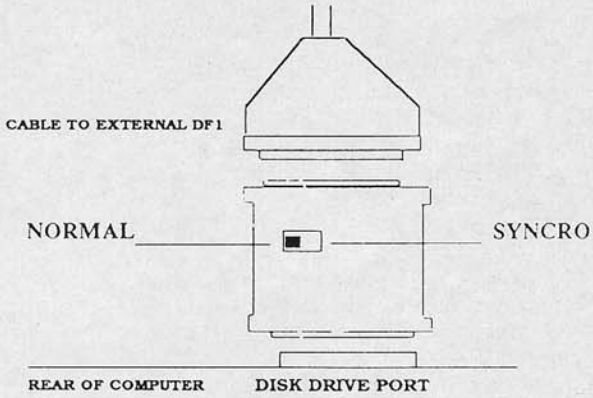
Syncro Express is a high speed floppy disk backup system for the Amiga computer. Data is transferred directly from source to target using the Syncro Express Interface producing a copy in as little as 50 seconds!

The system requires an external 3.5" disk drive which is connected via the Syncro Express interface provided. The switch on the interface should be in the ON position while making high speed data transfers and should be in the OFF position for normal computer use. The special switching hardware in the interface will be fine for the majority disk drives but if you encounter problems when using your drive in normal mode (switch in OFF position) then it is advised that you only install the Syncro hardware when actually making backups.

NOTE. By popular demand we have included the ability to copy up to 90 tracks! It should be noted however that no one will put data above track 81 since it cannot be read reliably by all drives. It is recommended that you only copy upto the default setting ie. track 81 since some drives are not capable of going any higher without damage .... YOU HAVE BEEN WARNED!

AMIGA 1000: Operation for Amiga 1000 is exactly the same as for the A500

AMIGA 2000: If you have two drives in your 2000, then the second drive is DF1. Since Syncro Express cannot be connected to this internal drive, you must select DF2 (and DF3 if you have two external drives) by pushing the right hand mouse button. You cannot copy to DF1 with your 2000 in the normal way.



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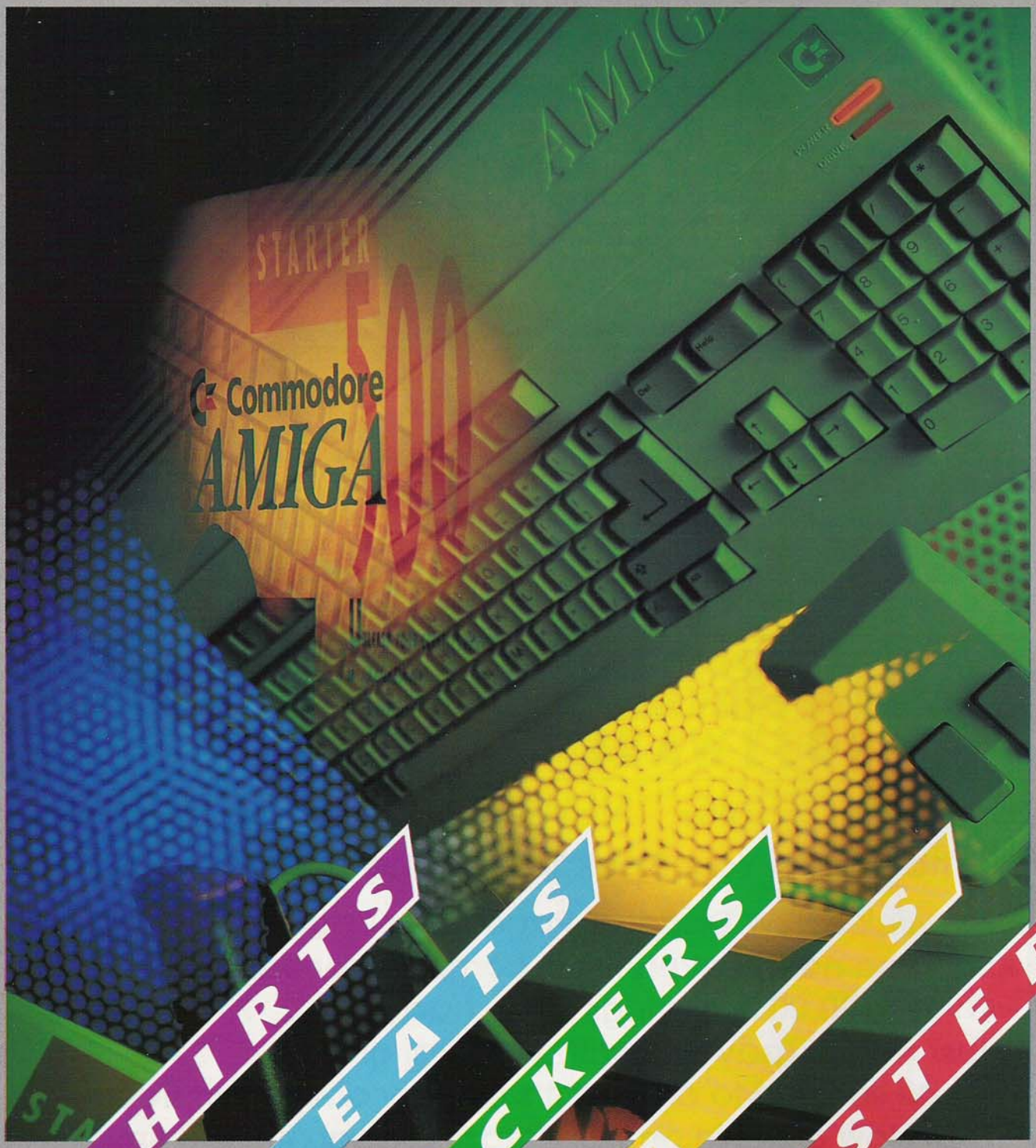

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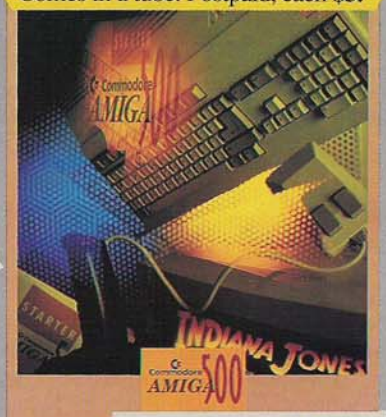

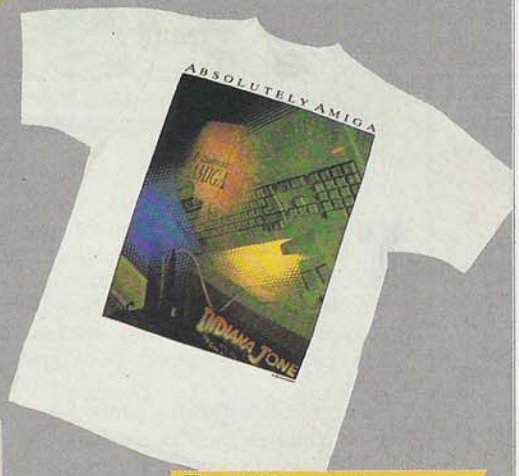

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WW 2359 M

The C64 Column

by Owen James

There's been a number of new releases in the States recently. Most of these are games (groan). However, Arlington Software, a New Jersey software crew, has recently released the Code Shadow Symbolic Debugger for the 64.

I'm told it is feature packed, providing capabilities such as disassembly, assembly, step execution mode etc. Symbol tables can be imported into the debugger, or if preferred it can generate its own. The good news is that it will function more than happily with REUs and the like, so it won't interfere with memory if you have extra RAM attached.

The debugger ships in the U.S for $19.95, and Arlington Software can be contacted through this postal address:

P.O Box 916,
North Arlington,
New Jersey 07032 USA

What could have been

A bit more news from the "What could have been" department concerning the supposed "C65" - a modern-day reincarnation of our friend the C64. Various sources claim it had a built-in 1581 drive that could read MS-DOS disks, and some claim compatibility with AmigaDos disks (of course it wouldn't have been an Amiga emulator).

Anyway, the word is that 512K would have come as standard with memory upgrade cards available for those power hungry users. Sound unbelievable? Wait: There's more! The C65 was supposedly capable of 8-bitplane graphic screens (in simple terms - 256 colours on-screen). Even the Amiga can't do that!

Is this the same computer that was rumoured around three years ago but was totally rejected by software developers as being yet another nuisance format to cater for?

To add more fuel to this very persistent rumour came Harry Copperman's speech at the Chicago World of Amiga. He claimed that Commodore not only intends to continue selling the C64, but also intends to enhance it. Would the enhancements come in the form of 512Ks, built in 1581s, and 8 bitplanes? Well, he wasn't letting on too much. Hmm, very intriguing.

I think Commodore have already tried and failed to create an 8-bit platform to fill the gap between the C64 and the Amiga with the 128. Maybe if they got themselves some decent marketing plans they could revive the 128. But as for the C65? Only time can tell.

Magazines

Some readers may have noticed that *Compute!'s Gazette* disappeared some time ago. The good news is that it's back in a new format, and one that appeals hugely to people like me. *Compute!* has been taken over, had all of its publications pulled under one masthead, and has dropped its pretentious exclamation mark!

Instead of me now buying *Gazette* and *Amiga Resource*, I get both publications, plus a PC, Mac and the original Compute! magazine all in one very thick compilation. Each section gets the identical coverage it used to because basically all that has changed is that the publications have just been stuck together as separate magazines.

Info magazine is now '.info' and has officially dropped all C64 coverage. Even though editors Mark and Benn appear to have betrayed us, they have certainly provided a remarkable service to 64 users in the past, and they say it was not without serious thought and careful consideration that the C64 side of the magazine was dropped. *Info* can claim to be the first magazine to use only Commodore computers in its production - right from the start when the 64 was Commodore's only baby and Desktop Publishing was unheard of.

Also on the magazine front is a brand new magazine - *Commodore Format*. I read and enjoy the Amiga version (*Amiga Format*) and it will be interesting to see if a new C64 publication can survive in these days when so many others have died. *Commodore Format* is not without gimmick, though. Like the Amiga version, it comes with a monthly cover disk (cassette, to be more precise).

In these times of dwindling support from the computer media it is nice to see there are still publications willing to support the 64. Closer to home, I'm here to provide support for the Australian C64 market and will be for a long time to come.

Commodore sales

While on the subject of "dwindling support", the news isn't as bad as is often made out from the point of view of C64 sales. World-wide Commodore sales figures are out and they show that in 1990 the C64 still held 18 percent of Commodore sales. While this may seem a far cry from the 39 percent of Commodore sales that the 64 held in 1988, you must keep in mind that, according to the December edition of *Jumpdisk*, this adds up to more than 700,000 units. Compare that to the sales of other types of computers and you'll see just how much life the C64's got left in it yet!

User Group

Penrith Commodore User Group has sent me some information about themselves, and I must say that the group sounds great. Just looking through their monthly newsletter, Commodore Capers, it is obvious they have heaps to offer Commodore 64/128 users.

Membership fees are extremely reasonable and membership would, in fact, pay for itself if you use the vouchers included in their newsletters which offer discounts from companies such as ComputerSpot and the Games Wizard. They even offer a six month ACAR subscription for only $15 for members. The group also maintains a library of magazines, books and public domain software, all of which are available to members.

User groups are a fabulous source of information and help, and provide an ideal environment for meeting other users with similar interests to yourself. The postal address for the PCUG is 42 Alpine Circuit, St Clair NSW 2759. Phone them on either 670 3207 or 623 4258.

Music

After reading the December column on music, Andrew Smith, from Bayswater, Victoria, purchased the Music Expansion System from The Gamesmen. He says he is entirely happy with it, but is unable to locate the Composer/Editor

software to work with it. Surely somebody out there knows something about getting the software for it. If you can help, please contact me and I'll pass the info on.

Marc Walters, from Edgeworth NSW, recommends users that are interested in music should look at the efforts of "hacker-styled" programmers. The music editor I use on the Amiga, *MED*, is of this type and of exceptional quality. One that Marc recommends is UBIK's Music from Firebird. If you can locate it, give it a try.

Marc also writes to ask how it is that ACAR knows that there are more Amiga owners than C64 owners that read the ACAR. A good question. Yes, it's very possible that C64 users outnumber Amigarians in reader numbers. Marc writes on:

"About a year ago in an editorial, Andrew Farrell mentioned that there was a questionnaire inside the issue. There wasn't. Will ACAR *ever* have a readers poll to find out what the balance of Amiga and C64 owning readers is?

Actually, I'd often wondered what had happened to that questionnaire myself. Anyway, I should point out that officially the number of C64s in existence far outnumbers the amount of Amigas and I think it will be a good number of years until the Amiga looks like catching up. But as for actual readers? Judging by the mail I receive there are still heaps of users with as much enthusiasm for the C64 as ever. Write to me, dear 64 users, and make your presence felt.

Help needed

Danny Collins, of Davistown NSW, has some questions that someone might like to help with. Firstly, "With wordprocessors such as *Speedscript* where screen/text colour change is possible, what should be set to be best for the eyes?" Try shades of contrasting greys or white on black or vice versa.

"I'd had about six separate chip replacements over two years. My friend's computers seem to be more reliable than this so I replaced the power supply but I'm still having problems. Does the "Ram Rumbles" article on spike protection give the answer to my problems, or are they only useful for the more sensitive Amigas?"

Spike protectors are useful for protecting equipment from power surges and the like. How unstable is the power flow at your place? You could try a spike protector. What chips blow? It could indicate a more serious problem with your 64. Best bet would be to get it checked over by an authorised Commodore repair centre. In the meantime, don't even think about performing "paperclip resets" as this would be likely to aggravate the problem. Any users with similar problems?

"I'm beginning to play the guitar but do not have a tuner. Could I program the 64 with the A/D/S/R [Attack, Decay, Sustain, Release.] characteristics of a guitar, at the note I wish to tune to and then play the guitar string at the same time the noise is being produced? ...What are the A/D/S/R characteristics of a note anyway?"

Nice idea, Danny. In fact you wouldn't need the A/D/S/R values. You could program the 64 to act like a piano, but just playing the notes E, A, D, G, B, E (the guitar strings). You could then just tune the guitar the same way you would if you used a piano for the reference notes. Any guitarists out there who've used a similar technique?

Suggestions

Danny has also included some "humble suggestions", as he put it. Here they are:

"Run a competition for best programmer. Set a task that the program must complete and the winner is the one who uses least bytes or is most efficient." Sounds good. Any companies out there want to sponsor us with a prize?

"Have a programmer's help column (like *Compute's Gazette*) where people can send in their programming problems. You could answer them or invite readers to answer them." Again, a great idea. I fully welcome programming questions in the column. I can't guarantee an answer to every one, but I'm sure someone out there could help.

"Do a monthly project for making your 64 spectacular - the one that comes to mind is adding a speech recognition IC (Tandy #276-1308) or speech chip (better than using poor old SID). ...How about a numeric keypad for those occasions that I type in pages of numerical data statements?"

I like the idea. Projects like that are beyond the scope of this column, but if technically minded users out there want to send in their plans etc then I'd be more than happy to take care of giving them out to users who request them. Alternatively, users could send articles detailing projects to the editor to be evaluated for inclusion in the magazine.

Many readers have sent in submissions for the user software disk that I've been raving about for a while now. Thanks to everyone who's responded to my call. Already we have disk utilities, menu makers, demonstrations, file compressors and much, much more. But I still want YOUR contribution. Send me your original home grown programs on disk, tape, or printed listing (disks and tapes preferred!).

Tips and Tricks

Michael Rideout, from Nambucca Heads NSW, has sent me some short utility programs which are extremely useful.

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The first is a machine language subroutine that protects the top two lines from being scrolled off the screen. You can still print text in these lines and erase them by clearing the screen.

```
3000 FOR I=828 TO 875 : READ D : POKE I,D: NEXT : SYS 828
3010 POKE 59639, I : POKE 64982,53 : POKE I,53
3020 RETURN
3030 DATA 160, 0, 132, 38, 169, 224, 133, 39, 177, 38, 145, 38, 200, 208, 249, 230, 39, 165
3040 DATA 39, 201, 0, 208, 241, 160, 0, 132, 38, 169, 160, 133, 39, 177, 38, 145, 38, 200, 208
3050 DATA 249, 230, 39, 165, 39, 201, 192, 208, 241, 96, 0
```

To use it, simply GOSUB 3000 whenever you want the top two lines protected. This subroutine needs to be executed only once.

Thanks Michael! One use for this routine would be a real-time clock that always sits in the upper left-hand corner of the screen. A clock routine wouldn't take too long to program, so I put out the challenge for a reader to take advantage of the above routine and write a short clock utility to match. Let's see what we can come up with. We'll have another short utility like this one from Michael next month.

Preston Guise, from Parkes NSW, has sent me a number of tips. The first will increase or decrease the speed of the cursor. Simply type POKE 56325, N where N is a number between 1 and 255. The lower the number, the faster the cursor is. You can restore the cursor by pressing RUNSTOP/RESTORE.

Preston also has some tips for Final Cartridge III owners:

DOS"F: - This will fast format a disk from BASIC.

DOS"D: - This will change the header of a disk from BASIC allowing up to 5 characters for a header.

Danny Collins also provided some tips and tricks for us. The first is an un-new routine. Try this:

```
POKE 2050,8
POKE 45,PEEK(174)
POKE 46,PEEK(175)
POKE 47,PEEK(174)
POKE 48,PEEK(175)
POKE 49,PEEK(174)
POKE 50,PEEK(175)
```

Danny recommends that when typing the last six pokes, simply type the first two them move up the cursor to change the fifth and sixth character.

And now some pokes etc:

POKE 22,35 Lists without line numbers (admittedly useless, but fun.)
POKE 774,0 List line numbers only
POKE 657,0 Sets keyboard buffer to 0 - Effectively disables keyboard.
SYS 64738 Reset
SYS 64739 Freeze, invert screen
SYS 2020 Freeze

Thanks to Danny for those.

Remember this section can only survive with your support, so get your tips and tricks sent in to me NOW! The address to send your tips, tricks, questions, or general chit-chat (chip-chat?) is: The ACAR, P.O Box 288, Gladesville, 2111. ❑

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AmigaDOS device names

Confused by device and volume names? Not sure what they refer to? Here's a guide to when to use which one and where, by *Tim Strachan*.

There are several types of names that may be used to refer to physical devices, disks, or directories.

PHYSICAL DEVICE NAME - This usually refers to a piece of hardware, like DF0: for the internal disk drive or RAM: for the RAM disk.

LOGICAL DEVICE NAME - These names are ASSIGNed to both physical devices and to disk directories. Logical names are used to give special meaning, like C: for the directory which contains the default DOS commands.

VOLUME NAME - This is the name given to a disk when it is formatted. The name may be changed later using RELABEL (or RENAME in the Workbench). NOTE: All device names must end with a : (colon) character.

Devices and handlers in Workbench 1.3

While these, like a couple of those mentioned above, are actually software handlers, they are treated like DEVICES by AmigaDos, and so a colon is used after the name, just a physical device.

NEWCON: This must be MOUNTed, like a hard disk, and has an entry in the MOUNTLIST. For details, see "1.3_Shell" in the 1.3_INFO drawer. Basically an improvement on the old CON: handler, and works with the SHELL.

PIPE: Creates an "interprocess communication channel", essentially a buffer of 4 kbytes, which other programs can take as input immediately. So you can copy a large file to PIPE:name for example, and have that read by the displayer MORE as if it were a normal file. Useful for very large files.

SPEAK: Improves the voice capabilities of the Amiga - must be MOUNTed before use and acts rather like PRT:. You can have any file read to you by simply COPYing the file to SPEAK: and there are many options to change the sound attributes.

Standard DOS device names:

DF0: Internal 3.5" Disk Drive
DF1: DF2:, ..External 3.5" or 5.25" Disk Drives (up to 3)
DH0: DH1:, ...External Hard Disk Drives
SER: PAR: Amiga Serial and Parallel Ports
NIL: The 'Nothing' or Null Device
PRT: the current Printer Device
CON: Normal Line-Buffered Console Device
RAW: Untranslated Key-by-Key Input Console Device
RAM: Special Memory-based, Variable - Sized memory - acts as a disk drive

Requires the NARRATOR.DEVICE and the TRANSLATOR.LIBRARY in the DEVS: and LIBS: directories respectively.

SHELL-SEG: Not really a device, it controls the new SHELL by being invoked by the RESIDENT command under the name CLI.

AUX: Makes it possible to link up another terminal to your serial port, by mounting AUX: and issuing a NEWCLI AUX: command. Almost makes the Amiga a Multi-user machine, but will be of little use to the average Amiga user. To open a Console Window, use the device CON:, with parameters as follows: "CON:X/Y/Width/Height/Window Name", where X,Y is the top left corner NOTE: To use RAM:, DOS must find the run-time library {Ram-Handler} in the logical device L: (usually the l/ directory).

Standard DOS logical device names:

SYS System Disk Root Directory

C DOS Commands Directory, where DOS looks for commands given on the command line of a CLI.

S Sequence Directory, where the DOS {startup-sequence} is located. (see the EXECUTE command for more on sequences)

L Specialized DOS run-time libraries, such as the Disk-Validator, or the Ram-Handler.

LIBS Code Libraries which are not already RAM-resident.

DEVS DOS Device Handlers, needed to use such devices as the parallel or serial ports!

FONTS Loadable fonts for programs such as the *Deluxe Paint* or *Notepad*.

continued on page 50

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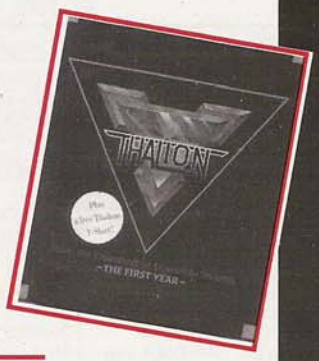

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Device and volume name usage: File/filename/pathname

Very important terms for anyone using the Amiga. A FILE refers to any collection of data with its own name, so a file is any document you type on your WordProcessor, a graphics image, a song you compose, or any program that allows you to create these things.

A FILENAME, as it implies is any legal name you give to a file, and in the CLI for example, can consist of up to thirty characters except slash (/) and colon (:) which mean a lot to AmigaDOS. To keep life simple, it's a good idea to avoid spaces in filenames (though it can be done by enclosing the full pathname/filename in double-quotes), and to make filenames sufficiently informative so that you can recognise what they mean at a later time. Filename extensions or suffixes, such as .ltr (for a letter), or .hr (for a DPaint hi-res image), are useful, and in certain programs they are essential, such as .doc (for a document in *Scribble*). You can put as many full stops as you like in a filename.

PATHNAMES tell AmigaDos exactly where your file is, so if you're in a directory of the CLI, and you want to operate on a file in another directory (type, or copy, or whatever) then you have to include the PATH to the file so that the system knows where to go. So if you are in Workbench:system and you want to delete the note Novel.notes that is sitting in the directory Workbench:utilities, you'd have to enter: 1> delete df0:utilities/novel.notes

Here the FILENAME is "novel.notes", and the PATHNAME is df0:utilities/novel.notes which could have been /utilities/novel.notes since the "/" character tells the system to move up the directory tree one level, then down to the "utilities" directory to the "novel.notes" file.

Using logical device names instead of pathnames

If you ever have to copy something to, say, your C directory, or mention it in any way in a CLI command, rather than refer to it as df0:c or sys:c you can simply refer to it as c:, because the C directory of your boot disk is a "logical device", recognised as such by AmigaDOS, just as your external disk drive is recognised as a "physical device", DF1:. The same comment goes for any of the other logical devices - DEVS:, LIBS:, etc. To see what are the logical and physical devices recognised by the system, simply type > assign in the CLI. And of course you can ASSIGN whatever you like, so if you often refer to, say, the directory MYLETTERS:LOVELETTERS/ANNA, you could simply type this:

> assign A: myletters:loveletters/anna

and in future just type a: when you would normally have typed the whole thing.

In fact, if you have a regular pattern in this way, you could set up an ASSIGN_TABLE in your favourite text editor of all the ASSIGNS you want to make each session, and then insert in your startup-sequence the command EXECUTE ASSIGN_TABLE. For more information along these lines (ie, CLI-related, system-related) get the MEGADOS manual on disk for the Amiga from MegaDisc - it's full of information on how to get more out of your Amiga. ❑

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Build an Amiga MIDI Interface

by Wayne Conner

There's some great MIDI sequencing software available for the Amiga, with more arriving all the time, including a new version of *Bars and Pipes* just about to appear. Bridging the gap between computer and instrument requires yet another peripheral - But this is one *YOU CAN BUILD!*

There are many commercially available MIDI interfaces, and a number of designs have been published in various magazines, however I haven't been able to find one that actually works. Well the good news is this one does, and with a small amount of effort you can build it.

The interface can be built for around $30 to $35, which is quite cheap, as a commercial one can cost $100 to $150, and have only a MIDI IN and OUT. I have tried to make the article simple for some of our not so technically minded readers. I will describe a little bit about what the interface has to do, and then how it does it, and finally how to build it.

MIDI stands for Musical Instrument Digital Interface, and as the name suggests, is a standard by which we can hook up digital electronic instruments in a way that they can send information to each other. These instruments may be keyboards, synthesisers, drum machines, MIDI sound modules or other devices. MIDI allows a keyboard or computer to access and play sounds from an instrument, as well as the instrument to play sounds from the computer.

The information sent between the two MIDI devices may be a simple note-on note-off signal, or a number of control signals such as note velocity, pitchbend information, sequence start/stop, note duration, modulation speed, or patch change signals (allowing changes in the instrument being played mid-song).

A MIDI interface allows a computer, such as the Amiga, to record, edit and play back sequences (of notes, hence the name sequencer), to up to 16 different MIDI devices. This is very handy for the musician, as it allows him/her to build up a library of songs on disk, which can be later played back live or onto tape, not to mention how easy it makes songwriting. Programs such as *Bars and Pipes* allow songwriting features such as harmonising, arpeggio playing of chords, transposing etc. The Reels, and more recently, the B52's both use an Amiga as a sequencer to record their drums and keyboard sequences.

The MIDI interface has a socket which plugs into the serial port of your Amiga, and four MIDI sockets which can be plugged into MIDI devices. MIDI information is only sent one way down a cable, so to send and receive two cables are needed. This MIDI interface has one MIDI in, to receive information, and three MIDI outs, to send. The third MIDI out doubles as a MIDI thru which duplicates any information coming in the MIDI in port, to allow daisy-chaining. The MIDI interfaces must convert the Amiga's serial signal into a MIDI signal, and vica-versa, while taking into account the various standards set out for a MIDI interface.

Firstly, the speed at which the MIDI device communicates is 31250 baud. This conveniently happens to be the Amiga serial port's highest speed (this can be seen by going to the change serial option in preferences). Hence the Amiga is well suited to MIDI, and it remains relatively simple to convert the Amiga serial port into a MIDI interface. Designing a MIDI interface for a C64, or even a Macintosh, on the other hand is a little more complicated. The C64 serial port is unable to handle the high speed, hence a C64 MIDI interface needs to connect to the parallel port, and convert the parallel signal to a serial one. With the Macintosh, the internal clock cannot handle the 31250 baud rate, so the Mac interface needs an on-board clock to generate the required speed. Commodore, it seems, did something right when they decided on the high baud rate.

The Amiga uses a standard RS232 Port, that is a signal of +12V to -12V represents a signal of 0 or 1 respectively. Now the standard MIDI signal however uses 5V for 0 and 0V for 1. Therefore to convert the MIDI signal to one that the Amiga can recognise, the voltage must be stepped up or down, depending on whether we are going from the Amiga to a MIDI device, or from a MIDI device to the Amiga.

As well as the above, we must keep in line with the MIDI standard. This is available in any MIDI handbook. The standard states what the MIDI IN/OUT sockets must look like from the device's point of view, and regulations to keep to when designing an interface. One of these regulations is that the two devices that are to be hooked together must be electrically isolated from each other. This may seem strange. How can we send information from our Amiga to our MIDI keyboard if they are not allowed to be directly joined by wires ? The answer is to use a device called an opto-coupler or opto isolater. This is a chip which houses a small LED (light emitting diode) and a light dependent transistor. The signal is sent through the LED, which flashes, emitting light onto the transistor. The transistor is used to detect changes in the

intensity of the light, and convert these back to an electrical signal, as the resistance across it changes. The opto-isolator is the 6N138 chip that can be seen in the circuit diagram.

You may also notice that the Ground cable only connects to the MIDI OUT socket. This is also to create an electrical isolation between the devices. The reason for this isolation is to prevent Ground Loop Hum, a low frequency hum which may arise from two devices at different potentials being connected.

Well, that's about all the theory there is behind the interface, let's see how it actually works...

MIDI OUT

I will start by explaining how the MIDI OUT works as it is by far the simplest. As can be seen in the circuit diagram, the MIDI signal comes out pin 2 of the Amiga, the TXD or Transmit Data pin. The 2Kohm resistor simply limits the current drawn from the Amiga when Diode 1 is conducting. Diode 1 only conducts when the signal is negative and is used to clip the negative half of the signal (ie it now swings between 0 and +12V instead of -12 and +12).

The signal is then fed into pin 3 of the Hex-Inverter. As the name suggests this is a chip containing six inverters, which each invert the signal applied to them. The inverter also brings the voltage down from 12 volts to 5V, as required by the MIDI device. The inverted signal is fed via a 220 ohm resistor into pin 5 of the MIDI out socket. Pin 4 is connected to +5V via a 180 ohm resistor, and pin 3, which connects to the shielding in the cable, is grounded. That's all there is to the MIDI out, if two or more are needed then the signal is simply taken from after D1 again and the rest of the circuit repeated.

As you will soon see when reading about the MIDI in, the MIDI out port drives an opto-isolator. This is the reason for the +5V on pin 4 of the MIDI out socket. When the output from the inverter is low (0V), the opto-isolator on the connected MIDI device will have a 5V potential across it, and will conduct. When the output of the inverter is high (5V), there will be no potential difference across pins 4 and 5, and hence the LED in the isolater will be off. This is also why the signal needs to be inverted, as the opto-isolater is driven when the output is low, not high.

Continued on p57

Parts list

Resistors

R1, R2	10Kohm
R3	2Kohm
R4, R9	220ohm
R10, R12	180ohm

SEMICONDUCTORS

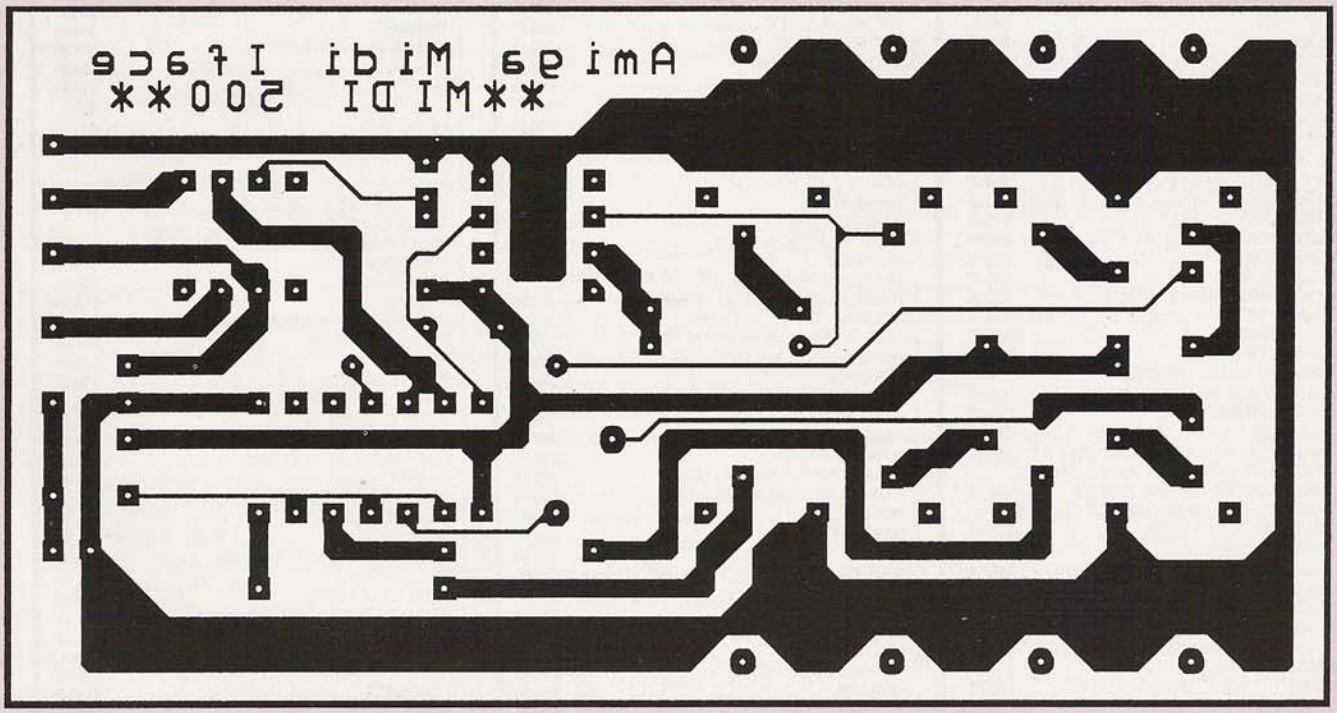
D1, D2		1N4001
IC1	(5V regulator)	LM7805
IC2	(Hex inverter)	74LS04
IC3	(op-amp)	TL071
IC4	(opto-coupler)	6NI38

MISCELLANEOUS

Four 5 Pin Din plug right angle PCB Mount Sockets
Jaycar cat PS-0350

25-Pin D-connector to suit Amiga serial port
Jaycar cat PS-0844
PC Board
Ribbon cable

Approx cost all up - $30-$40



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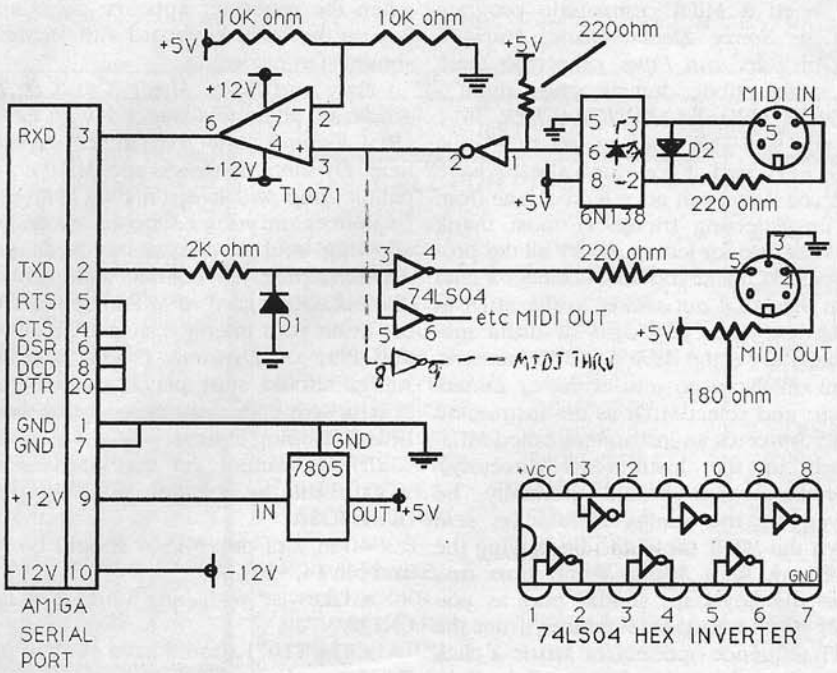

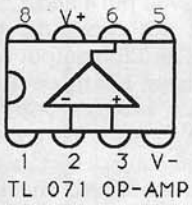

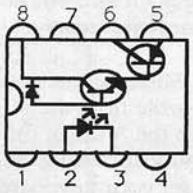

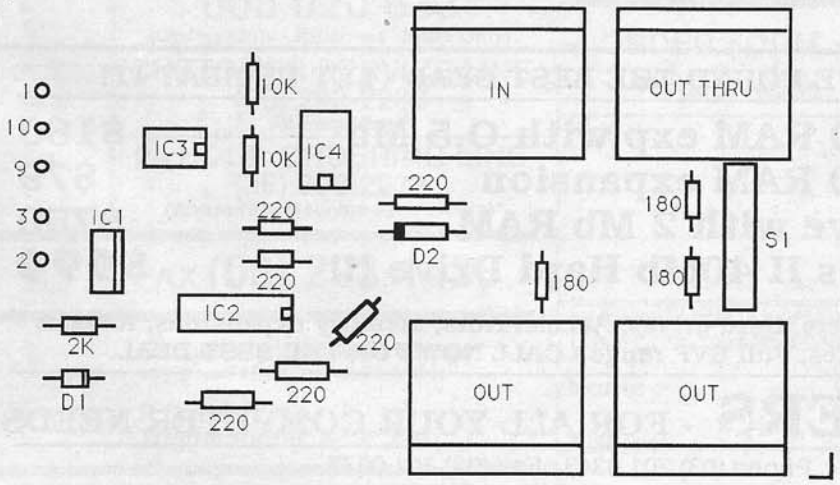

ROUGH GUIDE TO COMPONENT OVERLAY

MIDI IN

The MIDI in port is slightly more complicated due to the necessity of the opto-coupler and the op-amp, but nevertheless it is still in the scope for beginners to build. The signal comes into the interface through pins 4 and 5. Diode 2 is just there to make sure there is no stray negative signal which could harm the opto-isolator. As stated before, when pin 5 is at 0V the LED in the 6N138 illuminates, and light falls on the transistor which is across pins 5,6 and 8. Pins 6 and 5 form the base-emitter junction of the transistor, and when the transistor turns on, they conduct, bringing pin 6 down to the 0V on pin 5. When the LED (and hence the transistor) are off, pin 6 is held at 5V by the 220 ohm resistor.

We now have a signal identical to the input signal, yet totally isolated from it by the LED/transistor pair. This signal is inverted by another inverter in the Hex-Inverter, and then fed into the op-amp. Remember that the Amiga needs a signal swinging between -12V and 12, not 0 and 5V. This is the job of the op amp. The op amp is set up as a VOLTAGE COMPARATOR. This means that it compares the voltages on its two inputs. One input is pin 3, the incoming signal. The other is pin 2, which is held at a constant 2.5V by the two 10K resistors (2.5 Volts is halfway between the 0 and 5 volts of the MIDI signal). When comparing the two signals, if the voltage at pin 3 is higher than that at pin 2 (a 5V signal) then the output will swing to the positive supply voltage, +12V. If pin 3 is lower than pin 2, then the output will swing to the negative voltage, -12V. Hence the op amp compares the input signal with 2.5 volts, and changes its output voltage from -12 to +12V accordingly, exactly what we wanted. This signal is fed straight into pin 3 of the Amiga, the RXD or Receive data.

MIDI THRU

If a midi through socket is required, then the signal is taken between the inverter and the op-amp, and then treated exactly like a MIDI out. The switch in the midi interface switches the 3rd MIDI out to a MIDI thru if required.

Construction

Construction of the interface is relatively easy. All the parts can be obtained cheaply from most electronics stores, the dearest component being the 6N138 opto-coupler which costs approx $8-$9.

This could not be avoided however as the cheaper 4N28 opto-isolater cannot handle the fast MIDI speed. I have included the circuit diagram for those who wish to construct it on a breadboard or veroboard, however I would suggest using the Printed Circuit Board, as this makes construction a lot simpler. The pattern is printed for those who wish to make their own, otherwise the boards can be ordered from the address given.

Before you start soldering check the board to make sure there are no faults in the tracks. You may need to drill out the holes for the MIDI sockets to make them slightly larger, probably a 1.2mm bit should do. I suggest that you solder the resistors on first, then the diodes ,the IC's and lastly the sockets and switch. Be careful not to overheat the IC's during soldering It may be easier to first solder in IC sockets, and then place the IC's in these if you are not very experienced at soldering. Don't forget to join pins 5&4, 6,8&20 and 1&7 on the socket to the computer. Just follow the overlay as to where the components fit on the board.

TESTING

Before you plug the interface in carefully check your soldering, and the placement of the components. Make sure there are no bridged tracks, especially around the IC's, and that there are no dry joints. Make certain that you turn your Amiga off when you plug the interface in. If you get your Workbench screen when you power back up that's a good sign. You will need a MIDI compatible program such as *Sonix, Deluxe-Music, Music-X, DrT* or *Bars and Pipes*, otherwise there are some public domain ones about - *MIDILIB, MED*,and *NOISETRACKER*.

You will also need to get hold of a MIDI keyboard, if you don't already have one, see if you can get a lend of one from an unsuspecting friend. (I must thank Paul Ceccato for letting me try all the prototypes on his keyboard!) Connect a lead from the MIDI out socket to the MIDI in socket on your keyboard or drum machine, and set the device to MIDI receive, omni on. Now go into *Sonix* or *Deluxe Music*, and select MIDI as the instrument (with *Sonix* it's an instrument called MIDIPatch in the Instruments directory). Everything that would normally be played by the Amiga should be sent down the MIDI cable and be playing the keyboard. With *Music X* and *Bars and Pipes* the keyboard should play as you enter notes into the sequencer, from the EDIT sequence option. (for *Music X* click on EDIT on the main screen). All the Public Domain ones are relatively easy to work out.

To test the MIDI in you need to connect the MIDI cable from the MIDI out of the keyboard to the MIDI in on the interface. Now if you load *Deluxe Music* , turn MIDI on, and set your keyboard to MIDI send, the notes you play on the keyboard should appear on the score of *Deluxe Music*, and also show on the keypad on the screen. *Sonix* does not support MIDI in. To test the MIDI in with *Music X* from the main screen select record, and then when the requester appears, press any key on the MIDI keyboard and *Music X* should start recording.

Bars and Pipes, Music-X and *Dr.T's Studio* are all more advanced with many MIDI features, which I cannot explain here. *Dynamic Drums* is also MIDI compatible, and will keep in time with the sequencer on your keyboard via MIDI, allowing your Amiga to be used as a drum machine. Just connect a cable from the out socket of your MIDI keyboard to the in on your interface, select 'MIDI on' and 'Play' on *Dynamic Drums*, and the Amiga should start playing when you start a sequence from your MIDI keyboard, keeping in time.

If you cannot get the interface to work check the voltages on all the pins of the IC's:

- Pin 7 of the 74LS04 should be 0V and pin 14, +5V.
- Likewise with pins 5 and 8 of the 6N138.
- The TL071 should have +12V at pin 7, -12V at pin 4 and 2.5V at pin 2.

If not check the orientation of the chips and the output of the 7805 voltage regulator. For those that are new at electronics, I suggest you find someone who knows a little more to fault find for you if you cannot get it to work. For the more advanced, check that the op-amp is actually stepping up the voltage by applying 0 and 5V to pin 3 and checking the output at pin 6. Also, check that the voltage at pin 6 of the 6N138 varies with the input voltage across pins 2 and 3.

Good luck. ❑

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C64 Sound & Graphics

by Greg Perry

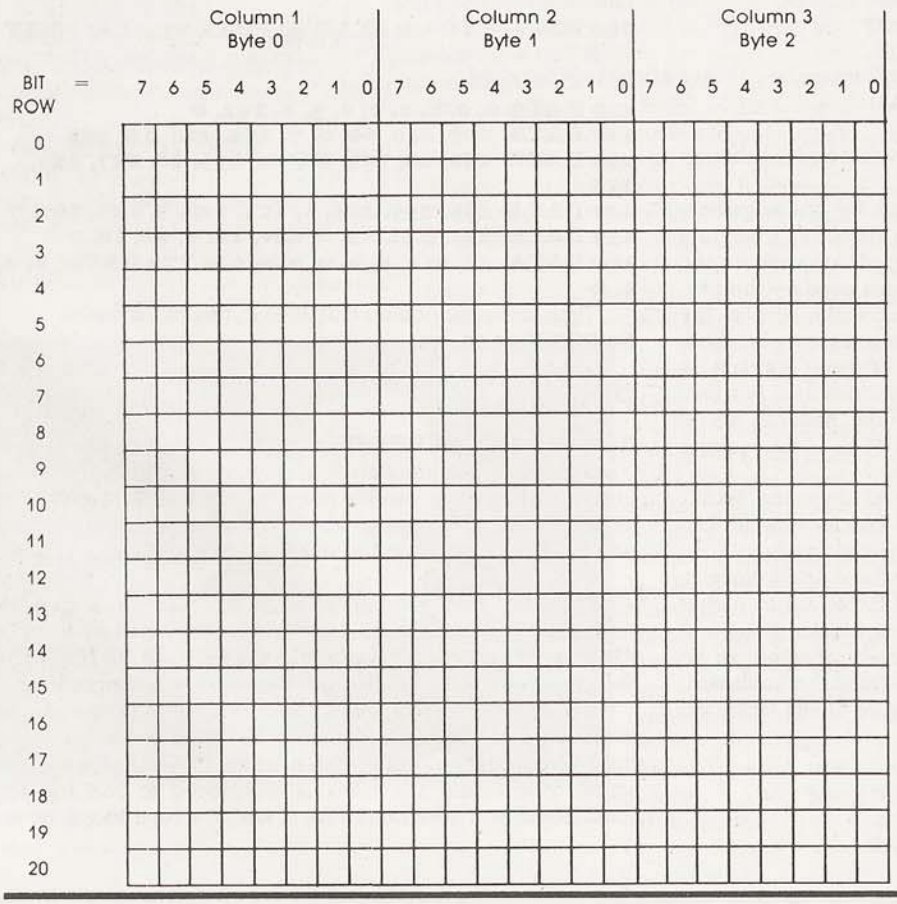
This month we continue to examine sprites, creating a few of our own and getting them on screen

Sprites are constructed in a 24 x 21 grid of dots. Each of these dots corresponds to a bit in the RAM memory, giving 504 bits. Since eight bits equals one byte, our sprite pattern can be considered as three columns times 21 rows of bytes or 63 bytes.

The sprite pattern is created in a similar manner to that used in creating a user defined character, only on a larger scale. The required pattern of dots for the desired sprite image can be drawn out on a 24 X 21 grid. This then has to be converted into the 3 X 21 numbers to be POKEd into successive bytes in the RAM.

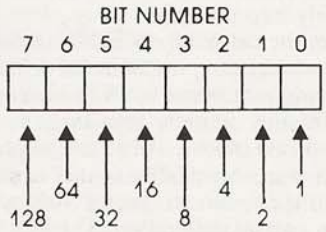
A dot in the sprite pattern will light a pixel on the screen and corresponds to turning "on" (setting to 1) that particular bit. A space in the diagram means that the bit is set to 0 and the pixel will be "off". The combined values of the bits in each byte must be calculated.

Figure 5-1



As we have seen before, the correct decimal number for each byte is calculated by adding across the grid to find the combined values of whichever of the eight bits are turned on. This process is continued for the three bytes in each row and for the 21 rows to give the 63 numbers to define the sprite. Remember that in the binary system each bit from 0 to 7 represents the corresponding power of two as

Figure 5-2



The bit value equals 2 to the power of the Bit Number (BN) or 2^BN. The value of the bit 4 for example is 2^4 or 16.

Exercise No. 1

1. On the above grid, draw a pattern of an image you would like to use for a sprite, for example, a face, a car, a plane, or something more simple, a cross, a box, etc.

2. Calculate the corresponding byte values for all the 63 bytes as explained above so that you can use your sprite pattern in one of the following exercises. This process is rather tedious. However, you should work your way through the whole procedure at least once so you understand how the process works. Once you have got the idea, a better method in future is to use a program for the hard work of calculating the numbers, as we will do below. Better still, use a "Sprite Editor" for the whole exercise. (All the sprites used in this chapter were created very easily using the Commodore Public Domain Sprite Editor.)

3. Work through the following exercises to build up a program that will display your newly created sprite on the screen.

Storing sprite patterns in RAM

The 63 numbers you have calculated for your pattern must now be placed somewhere in RAM so that the C64 can

display the sprite on the screen. The computer must also be told where each sprite image is stored by setting the appropriate sprite pointer.

Herein lies the first problem - what memory locations can be used to store the sprite image?

Just as we have seen for the other advanced graphics, the VIC II chip controls the operation of the sprites. As we know, the VIC II chip can only access a defined area of 16K at any one time. (See Appendix 1.) Initially, when the computer is turned on, this 16K area is from memory locations 0 to 16383 (BANK number 0). All the sprite data must be placed in this area.

We have seen that only 63 bytes are required to define the actual sprite image. However, the number 63 does not divide evenly into the 16384 bytes of RAM available in a BANK. To make the calculations easier, an extra byte is added at the end of each set of sprite data (as a "handle" if you like), bringing the total number of bytes in each sprite data block to 64. Within the 16K memory area there are 16384/64 or 256 possible sprite data blocks. These are numbered 0-255. Block 0 is locations 0-63, block 2 is 64-127 and so on. (Commodore calls these sprite blocks "pages", but normally with microcomputers a page is defined as 256 bytes. To avoid confusion we will use the term "block" instead).

The C64 uses certain areas of this RAM for itself and not all of the area will be available to us to store sprite patterns. In the RAM area 0-16383 (memory BANK 0), the possible blocks are:

Block#	Location	Availability
0 - 12	0 - 831	no - operating system
13 - 15	832 - 1023	yes - cassette buffer
16 - 31	1024 - 2047	no - screen memory
32 - 63	2048 - 4095	no(?) - BASIC RAM
64 -127	4096 - 8191	no - ROM character image
128 -255	8192 -16383	yes(?) - BASIC RAM

(Blocks 64-127 are never available in BANKs 0 and 2 although they are in BANKs 1 or 3.)

A user generated sprite pattern cannot be put anywhere below location 828, since this is used by the C64's operating system. Memory locations from 1024 upwards are used for the screen RAM and above that is the RAM area used by the program. There is a small area of space below the start of the screen RAM and, provided only three images are to be used, this is the most common area for storage of the sprite data, in blocks 13-15 with locations 832-1023. Since this area is a buffer allocated for the cassette operation, any patterns stored here will be erased if the cassette is used. (This is not a major problem).

Blocks 32-64 cannot normally be used since the BASIC program resides in this space. However, blocks 128-255 can be used with small programs (less than approximately 8K).

Note: If you wish to store more than three sprite images, the safest method is to move the start of BASIC up to higher memory, above this 16K area. Then all of blocks 32-63 and 128-255 can be safely used. If you wish to do this it must be done before you enter a program either from the keyboard, tape, or disk. The start of BASIC is moved to 16384 in the direct mode.

POKE 43,1: POKE 44,64
and
POKE 64*256,0: NEW

The 63 numbers for the sprite pattern are normally POKEd into the correct location as shown in the exercise below.

Setting sprite pointers

Once you have decided on where to put the sprite data, the sprite pointer is set to whichever of these blocks contains the required image.

Sprite Data Pointers

Location	2040	2041	2042	2043	2044	2045	2046	2047
Sprite No	0	1	2	3	4	5	6	7

For example, if we decide to use sprite number 0 and put the sprite data in block 13 at 832-895, then sprite pointer 0 (2040) is set to 13. The value placed in the sprite pointer can be readily calculated from the start location of the sprite data block divided by 64, that is

832/64 = 13

Exercise No. 2

Take the 63 numbers which you calculated in the exercise above and put them sprite data block 13 (832-859) with a formula such as:

for 63 locations **POKE 832+ROW*3+BYTE, Byte NUMBER**
(Rows 0-20 Bytes 0-2).

The usual method is to put the numbers consecutively in DATA statements and READ and POKE the values in a loop. Enter the following line:

100 FOR I=0 TO 62: READ A: POKE 832+I,A: NEXT

If you were too lazy (!) to calculate your own pattern, use the following data statements:

110 DATA 0, 0, 0, 0, 0, 0, 3, 0, 192, 0
120 DATA 195, 0, 0, 60, 0, 7, 255, 224, 15, 255
130 DATA 240, 28, 153, 56, 60, 153, 28, 127, 255, 254
140 DATA 255, 255, 255, 1, 153, 128, 3, 153, 192, 7
150 DATA 255, 224, 15, 0, 240, 12, 0, 48, 12, 0
160 DATA 48, 0, 0, 0, 0, 0, 0, 0, 0, 0 170 DATA 0, 0, 0, 0

Then set sprite pointer 0 at 2040 to this block with1

80 POKE 2040, 13

Placing the sprite on screen

Now that the sprite data is in memory and the sprite pointer has been set, the various pointers in the VIC II must be set to display our sprite on the screen. As mentioned above, these will all be referenced to the starting address of the VIC II at V = 53248.

For a non-expanded sprite to be fully on the screen, the horizontal (X) screen position must be within the range of 24-320 and the vertical (Y) position in the range of 50-229. This is the position of the top left-hand corner of the sprite block.

It does not matter whether the actual sprite image extends to the edge of the block (for example, if the sprite consists of only one dot in the centre, like a "mine" in a battle game), the screen positioning still remains referenced to this top left-hand position. These ranges for X and Y screen locations will

appear somewhat strange at first and we will see later how they arise. But for the present, let us assume we wish to put the sprite at coordinates 100, 100.

Sprite position registers

Once you have decided on the X and Y coordinates they must be POKEd into the two position registers allocated to that sprite number (SN) (and a third if the X position is greater than 255). The X and Y position registers come in pairs starting at V (location 53248).

The X and Y coordinates are set by

Register	To Use
Sprite X pos	**POKE V+SN*2, X**
Sprite Y pos	**POKE V+SN*2+1, Y**

where SN is the sprite number from 0-7 and X and Y are in the range 0-255.

Situations where the X position is greater than 255 are discussed in greater detail below.

Exercise No. 3

First, set V equal to the start of the VIC II, then set the screen position of the sprite created above to X=100 and Y=100 by

```
190 V=53248
200 POKE V,100: POKE V+1,100
```

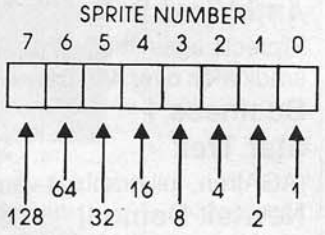
Making sprites appear

Once the other registers are set, it only remains to set the VIC II to actually display the sprite. The appearance or non-appearance of each sprite is controlled by setting the appropriate bits 7-0 corresponding to the sprite number in the sprite enable register. A general formula for all cases, especially where more than one sprites is in use is as follows:

Turn sprite on
POKE V+21, PEEK (V+21) OR **(2^SN)**
(set bit to 1)
Turn sprite off
POKE V+21, PEEK (V+21) AND **(255-2^SN)** (
set bit to 0)

For simple cases, use the direct bit values. Just add the bit values from

Figure 5-3.



For example, to enable sprite 3 ONLY use 2^3 or 8
POKE V+21, 8
to enable both sprites 3 and 5 use 2^3 plus 2^5
POKE V+21 ,40
to turn off sprite 5 but leave sprite 3 on
POKE V+21, 8
or, more correctly,
POKE V+21, PEEK (V+21) AND 223.

With practice, the calculation of the bit number is quickly mastered.

Exercise No. 4

1. Turn on our sprite 0 with
210 POKE V+21,1
(To turn off sprite 0 you would use **POKE V+21,0**)

Now RUN the program and your sprite should appear on the screen. If it does not, you should check the program lines again.

2. change the X and Y coordinates in line 200 or directly with POKE V, X and POKE V, Y.

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ADDRESS

POST CODE

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Amiga-Live Issue Six

$24.95 (3 disk set)

FEATURE Game

Drip: A full blown arcade game that's very out of the ordinary. It's up to you, as the 'Drip', to rust your way up 15 floors and get the juices flowing again. Avoid running or dripping into the acid, plasma and icecubes shooting out of pipes. You can get a little help from party balloons and bubbles that float by. Drip requires 512k of memory.

Entertainment

BoingDemo: Despite the name, this is not a demo as such - it's one of those try before you buy versions of a commercial game, only this one is very playable. The Boing part is a salute to the original Amiga Boing Demo! In this level and ladders game, you travel about on poles, ladders, teleport points and at all costs avoid the Boncing Amiga Ball!

RollOn: The play is a little like Boulderdash or Emerald Mine. Eight levels are included. To win you need to plan ahead and organise your moves carefully - sort of a joystick strategy. Includes a level editor to design your own games.

SlotCars: A complete working game of SlotCars...just one of four games in the commercial package known as: 4 IN ONE - EASY BUT FUN! The game concepts are simple but addictive. A combination of strategy and dexterity is needed to beat this one.

MoonBase: Adventure/Arcade - guide the shuttle ship to and from the mother ship with the valuable cargo. A multi-level lunar lander.

Strategy

Turn: A strategy game - the aim of which is to produce a given pattern of stones on the board. In order to complicate the game a little bit, all stones around the selected stone will turn either from black to white or from white to black. There are 18 levels available. There's also a pattern editor to design your own games.

China Challenge: Similar to the well known game Shanghai or Mahjong, the target of China Challenge is, to remove all parts of the pile, the so called Dragon, step by step. This dragon is composed out of 120 different pieces. A challenging past time, fun for two players too!

MarbleSlide: You've got to be quick to get this one. This is the fullest extent to which we've ever seen the old magic square theme taken - and one of the best. Slide the sliders to guide the marble home. But your time is VERY limited!

AmiGo: Strategy Board game for one, two or no players!

Workbench

SimGen: How would you like Saturn on your Workbench? SimGen makes your screen look like it is Genlocked. A number of example imagaes are included. Much better than DropCloth or any other of these Workbench background programs. Doesn't slow your Amiga down either!

Flip:This screen gag will drive you nuts. Try it out!

Rocket: Yet another in the great line of Workbench gags. This little number releases a guided rocket which heads straight for your mouse pointer. If you don't move in time, on impact the whole lot explodes. Stick it on a friends Workbench for fun!

Business

'Liner: Our serious program for the month. If you develop outlines for speech, writing, essays or reports, this program will help you organise and edit your material in point form - the best way to develop an outline. A fast solid program.

WO: A short and quick utility, which helps you to bring order in your addresses and codes them and saves them (password-encoded) on disk.

Graphics

MandAnim: If you enjoy madlebrots, you'll love MandAnim. Using a simple tweening process, you can select multiple key areas of a mandlebrot. MandAnim will generate as many steps as you specifiy between each frame creating an expanded animation file which you can load and animate in Deluxe Paint III. Some impressive graphics can be achieved.

Hennon: You can create some fabulous looking images using this program which lets you explore Hennon mapping. The program produces patterns like the one below using the formula x = x * cos (a) - (y - x * x) * sin (a) and y = x * sin (a) + (y - x * x) * cos (a). Several exmaple images are included. Full 640 x 400 hires is supported.

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Atari Emulator $5.50

Despite the German menu titles, it is possible to put this Atari emulator which runs in low, medium or hires to some use. Will run some applications and can be used to view Atari graphics. Assorted other utilities are included on the disk.

C64 Emulator $5.50

A very full-blown C64 emulator. Lots of utilities, more menu control and transfer options than previous commercial programs. If you like what you see you'll need to purchase the seriel interface direct from the U.S.A. - full details included with the disk. Full documention on disk.

MandelBrot & Julia Collection

SIX DISK SET $24.95

Brownian: A demo based on both fractal theory and brownian motion.

Cloud: A program that generates and displays fractal surfaces that look remarkably like clouds.

CPM: A program to compute mandelbrots via the Continous Potential Method, as described in the book "The Science of Fractal Images" by H. O. Pietgen and D. Saupe. It is used to make 3-dimensional pictures of the mandelbrot set. This is a batch mode type program so several images can be generated, one after the other, without any human interaction.

DEM: A program to compute mandelbrots via the Distance Estimator Method, as described in the book "The Science of Fractal Images" by H. O. Pietgen and D. Saupe. It is used to make high resolution black-and-white images. This is a batch mode type program so several images can be generated, one after the other, without any human interaction.

FractalLab: Investigate the realm of fractals and allow your imagination to run wild. Virtually an unlimited number of these self-similar curves can be created with FractalLab. Includes samples.

Fractals: A Fractal generator that generates many different types of fractals based on the iteration of complex-valued formulas. The program can generate the Mandelbrot and Julia sets, as well as the sets of more unusual formulas such as lambda*COS(Z) and Newton-R.

IceFrac: A fractal generator using the Diffusion Limited Aggregation algorithm, as described in the book "The Beauty of Fractal Images".

Ifs: An Iterated Function System viewer which graphically displays iterated function systems and allows the user to interactively create the affine functions that define such systems. An IFS can represent complex pictures very compactly. Simple IFSs can describe an infinite number of different and interesting fractal displays. Includes a number of displays that the author and others have discovered.

MandAnim: A Mandelbrot Animation program that allows you to easily generate series of lo-res/16-color pictures. Features full mouse and/or keyboard operation, zooms, auto-save, high (cheat) speed, iconization, etc. The generated pictures all remember their positions and settings so they can be re-loaded.

MandelBlitz: Very fast Mandelbrot plotter with lots of handy functions such as color cycling, zoom, special palette control, file requestors and more.

MandelMountains: A program that renders three-dimensional images of blowups of the Mandelbrot set. Includes several example images.

TurboMandel: A fast mandelbrot program, written in a mix of C and assembly language. You can select between using floating point or integer calculation. Other features include a full intuition interface, cycling capabilities, extensive color control, a user definable iteration depth, fully implemented zoom, a 3-D display mode, support for extra halfbrite as well as interlace and hires, IFF load and save, accuracy selections, and more.

Mandelbrot: A fast Mandelbrot rendering program that uses some of the mathematical properties of the Mandelbrot set to greatly reduce the drawing time. Demonstrates graphics programming, assembly language, menus and IFF file I/O.

Mandel: Another mandelbrot generator program. New features and improvements include an ARexx interface, coordinates in sight, more state info saved with a picture, batch files, programmable functions, and more plotting options.

MandelVroom: A Mandelbrot/Julia-curve generating program that features five numerical generators (integer, ffp, ieee, 020, and 020/881) in hand-crafted assembly for maximum speed, online mouse selectable help for all functions, generation of multiple pictures simultaneously, a sophisticated user interface with shaded gadgets, etc. Some of the other features include zoom, magnify, color-cycling, contouring, auto-contouring, histogram, statistics, presets, extra-halfbrite support, overscan, orbits, pan mode, and more. Requires 1Mb or more of memory.

Mandel: Another mandelbrot generator program, with bits and pieces of code from C. Heath and R.J. Mical.

Plasma: A plasma cloud generator program that uses the extra halfbrite mode. Plasma clouds are a special form of fractal which show very smooth color gradations.

PolySys: An extended version of the 0L-system described in The Science of Fractal Images. The basic algorithm has been expanded and modified extensively, and looping commands similiar to those found in other Turtle graphics systems (Logo, etc) have been added. Support for three-dimensional drawing, with perspective, is also included.

Slicer: Slicer computes and displays images of the Mandelbrot and Julia sets. Unlike many Mandelbrot programs that generate pictures directly, Slicer computes and stores an array of raw data which it may then render into pictures in a number of ways.

ZPlot: Graphs formulas based on 4-D complex number planes. ZPlot currently supports the Mandelbrot set, Julia sets, and Phoenix curves, with over 500 mapping variations. The math functions supported include sin(z), sinh(z), z^z, e^z, z^n, sqrt(z), cos(z), cosh(z), tan(z), tanh(z), log(z), ln(z) and n^z.

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by Owen Webster

VIRUS ALERT

This month there has been quite an outbreak of both bootblock and file viruses - so many in fact that they will be carried on next month!

Special thanks to Max and Ian who supplied me with viruses to examine both this month and last month. Below is a description of the new viruses this month:

MTA bootblock

MTA bootblock virus with no text of who created it. This one sometimes takes a few minutes (up to thirty) before deciding to start infecting disks. It was named after the first person in Australia to discover it.

Amiga Freak

Amiga Freak is very similar to the original Byte Bandit strain. The only basic difference is the text in the bootblock.

OPAPA

Whoever wrote this one actually has a (slight) sense of humour. After a few disks have been infected, the virus displays a screen with a black background and yellow text which reads:

I'M THE OPAPA VIRUS! READY STEADY FORMAT!

When the word "FORMAT" appears the disk drive head starts stepping, making a noise as if the disk is actually being formatted. Fortunately, it doesn't do it.

Pentagon Circle Virus 2

As if there wasn't enough sequels already, along comes *Pentagon 2*. Like the first one, this one will detect and inform you of a few of the older viruses, but it writes itself to the bootblock of any write-enabled disk, meaning it is actually a virus.

Butonic bootblock

Both a bootblock and a file virus version exist for this one. The bootblock one as usual infects all write-enabled disks inserted, and it also displays a message with a blue background with pink writing which says:

"BUTONIC'S VIRUS 1.1 GREETINGS TO HACKMACK".

BGS9/TTV1

This virus, and the following two are all file viruses. The BGS9 virus examines the startup-sequence file, finds the first command filename and copies that command to the devs directory of the disk with an invisible filename. It then writes itself to the disk as the filename it found before, making sure it will be executed every time the disk is booted. When it is executed it also executes the command it copied into the DEVS directory, making it hard to detect. Although after it is in memory and there have been about three reboots, it pops up a message which says:

A COMPUTER VIRUS IS A DISEASE, TERRORISM IS A TRANSGRESSION, SOFTWARE PIRACY IS A CRIME, THIS IS THE CURE.

Disaster Master

This one is quite nasty. When it infects a disk it will name itself "cls" and edit the startup-sequence to execute itself. It does clear the CLI screen like cls should, but then it becomes active. It can change the border of the AmigaDOS screen to the cursor colour. After it has been around for a random period of time it displays the following alerts in order:

Software Failure.
Press Left Mouse Button to Continue
Guru Meditation #00000002.06001989
Incoming Special Message, Your Amiga is infected by DISASTER-MASTER V2 !!! probably the best virus ever created by mankind....

Left = continue
Right = self-destruction

If the "self-destruction" option is chosen, the screen flashes random colours and it is not to possible to reset the machine.

Butonic file virus

The nastiest file virus to date. It does many different things, which include changing the title bar of the CLI window, producing an alert, deleting the directory structure of an infected disk, and destroying the boot block! After a certain time in memory it spreads to other disks as an invisible filename.

Don't forget, if you think you have found a new virus, or have any queries or problems concerning them, don't hesitate to write to:

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Phil Campbell's MEGA Entertainment

All the latest news and views from the world of entertainment...

The Iceman melteth

Keen C-64 readers will be disappointed to know that the Iceman has apparently melted. You may recall that we got off to a promising start in the January issue with a brand new C-64 tips section and increased C-64 coverage - all thanks to the mysteriously code-named Iceman.

But where is he now? After pestering the editor for months about running the section, good ol' Iceman has now run simply off. Which means if anyone else wants to have a crack, send a sample disk with C-64 hints and two 300 word reviews of current games to: **Phil Campbell, PO Box 23 Maclean NSW 2463.**

Software companies feel the pinch

The recession is starting to bite, and software companies are starting to notice. So are we - Questor, for example, is now enclosing return courier bags so we can send back software samples after we've reviewed them! A nasty business indeed. Other companies report shrinking orders from large retailers, so things are starting to look a little grim.

What it means is this. If you want your favourite pastime to survive, then support your Aussie software companies. That means no more piracy! If you want to play a game, then go out and buy a copy. Otherwise, it will be back to the dark ages!

Midwinter II soon

Rainbird have announced the release of their sequel to the remarkable game *Midwinter*, in which you had to coordinate the liberation of a frozen island community. The new game is huge - much bigger than the already impressive *Midwinter*. There are now 22 modes of transport, including aircraft and mini submarines. I just hope they're easier to control than the hang-glider in the original - I never could get it into the air!

Drive harder

First there was *Hard Drivin'*, the speedcar simulator that was just too hard to play! Looked great though, didn't it. The sequel is even faster, with an improved frame rate and a "nitro-injection" feature that will knock your socks off. There's also a Track Editor option and a data-link that lets you race head to head with a friend playing on an Amiga, Atari ST or IBM compatible through an RS-232 cable. At a recommended price of $59.95, *Hard Drivin' II* sounds like a winner.

MINDSCAPE COMPETITION

Ultimate Ride

Before you read any further, turn over to our review of THE ULTIMATE RIDE. This game is hot! One of the best bike simulators of all time! And you can win your very own copy from Mindscape. What do you have to do? It's easy, especially if you've ever played Boggle. Below, you'll see a grid full of letters. The rules are simple. Make words by joining any letters that are touching, either horizontally, vertically or diagonally. Each letter can only be use once in a particular word. For example, starting at the top left corner with the letter "M", you can go down to "I", right to "N" and diagonally down to "D" making the word "MIND."

Five copies of the game will go to the entries with the most words.

M	P	O	E	R	S	P	R	T
I	N	W	A	P	E	O	K	Y
N	R	S	C	O	S	E	L	R
G	D	E	U	L	R	D	X	Y
B	I	E	T	I	M	E	F	W
I	K	M	O	O	A	T	U	N
P	E	L	R	F	A	S	E	R

Exploring space on your C-64

Local programmer Gary McCleary has just released *The Space Explorer*, a new adventure game for the C-64 and C-128. You'll get to visit all the planets in a second-hand spaceship as you search for your missing wife. You can trade, bargain and fight to your heart's content - there are all sorts of aliens to deal with, and they're all displayed in glorious technicolor. Well, Commodore color, anyway.

For further information, contact Gary McCleary Software, PO Box 24, Emu Plains NSW, 2750, ph 047 353932. *The Space Explorer* retails for $39.95.

January Mindscape winners

Once again a great response to our Mindscape word hunt! The effort some people put in to the competition was phenomenal, with entries spanning pages and pages! The five prizewinners were outstanding, and all will receive a brand spanking new *Celica GT4*. Well, a pretend one, anyway. The winners are:

- **Mark Hesse**, Townsville Qld, with a tally of 1069 words
- **Gordon Keir**, of Booval, Qld, with 1023 words
- **Chris Wootton**, of Mornington, Tas, with 945 words.

Keen eyed readers may recognise Mr Wooton's name as this is the second time he's won a Mindscape competition. What can I say? He deserves it!

Choosing winners in the "best sentence" category was not quite so easy - there were plenty of sentences with piles of adjectives and very little meaning, so I decided to pick winners who went for quality over quantity. So here they are ...

Chris Hutchinson, of Sherlock, SA came up with the following timely message. "To get our oil fee low, I fail to want the filth of "fight." Nice one Chris!

Finally, **Yvonne Chandler** of Griffith NSW says "We await with awe to win at final flag the new hot wheel wagon fleeing along a lane."

Congratulations to all those readers - hope you enjoy your prizes! ❑

Entertainment Letters

Send your entertaining entertainment letters to Phil Campbell, PO Box 23, Maclean NSW 2463, or fax them in on 066 452060. Keep your letters brief and to the point, and if possible entertaining! And remember, entertainment only ... letters about technical stuff go to the other end of the mag!

Dangerous situation

Dear Phil, Can anyone help me with *Rick Dangerous I?* I can't get past the Egyptian level where you have to shoot the rock to make the stone fall down for you to climb on and get down to the next section where the spears come out of the wall. I've tried everything possible!

Mark Peterson,
Grafton NSW

Ed: *One thing's for sure, you haven't tried EVERYTHING possible - there is a way, and maybe another reader can help. Stay tuned - we'll print any replies in a future issue.*

Cracked McKracken?

Dear Phil, I'm wondering if you might have the documentation to *Zak McKracken and the Alien Mindbenders*, a game which I have recently become addicted to. Mainly, I'd like to know the exit visa codes required at the ticket machines in the airports, but anyth ...

Ed: *Hold it there a minute, buddy. What exactly are you after? If you want DOCUMENTATION for the game, as in the manual that came with it, does that mean you're playing a PIRATED COPY? Surely not! If, on the other hand, you mean you're looking for a hint sheet, then why didn't you say so? Hint sheets can only be obtained by sending a stamped, self addressed envelope to ADVENTURERS' REALM, at the address at the front of that section. Next please ...*

Ultima VI - where, when and how much?

Dear Phil, I'm writing to ask if you can get *Ultima VI* on Amiga, and if so, how much does it cost? Also, I want to say your entertainment section is tops!.

Martyn Cole,
Randwick NSW

Ed: Ultima 5 *has just been released in Australia priced at $79.95* - Ultima 6, *however, is still quite a long way off. Even though some English mags are reviewing pre-release versions already, that doesn't mean you can buy it! Dataflow are the Australian distributors - you can phone them on (02) 331 6153 for the latest information, or speak to Mal at the Hard Disk Cafe on 979 5833 - they'll have the game in stock as soon as it's released.*

Special hints disk offer

Dear Phil, I think the magazine is great, the only real Australian Amiga magazine. I do have a suggestion - I'd like to see a special issue, or separate one-off publication, containing all the hints and tips you've ever had over the years. I bought my Amiga fairly recently, and missed out on many of the hints and tips for games which I now have. I suspect many other people are in this position, judging by recent sales figures.

David Banks,
Newtown NSW

Ed: *It's not likely that we'll have the time or resources to produce a special hints issue, but how about this for an idea? We'll put together a hints disk in Amiga format text files, which includes all the hints and tips from the past year, and a few more as well. If you'd like a copy, send me a blank disk, a stamped, self addressed envelope and a cheque for $5.00 at PO Box 23, Maclean NSW 2463.*

Calling all ports

Dear Phil, I wonder if you or anyone else out there can help me in an Amiga game called *Ports of Call?* It's a shipping business where you try and make money by buying and running ships. One of the problems running this business is that you encounter life rafts that have to be picked up. I can never pick them up as I

usually end up ramming them. Any ideas would be welcome.

Steven McKinlay

Ed: *There's bound to be someone out there who can help. If you can, write now, and don't delay! Steve sounds like a desperate guy.*

Price wars - who are the real pirates?

Dear Phil, I've been buying *Commodore and Amiga Review* for about a year now, and look forward to it every month. You seem to have struck the right mix of articles for just about all tastes.

The main reason I'm writing is to give one person's view on piracy. I don't think kids giving copies to friends will ever be stamped out, and personally, I don't really believe it makes that much difference to the profit software companies receive for a given program.

However, with my Amiga, I only ever buy legal software, which is where my next point comes in. To be quite blunt, I think software buyers are being ripped off by the importers. If not, why is it that I can buy *Wings* by mail order from the UK for only $58.50 including postage and bank charges? The Australian prices quoted in your magazine vary from $79.95 to $89.95. How can this be? If companies priced their software reasonably, they would probably sell a lot more and cut out a lot of piracy.

M C Adams,
George Town, Tas

Ed: *The points you raise are certainly not new. Everyone knows that cheaper prices make it easier to buy a product - the local software distributors know it better than anyone. They analyse the market carefully, and price products at the optimum level. All the things you mention are certainly taken into account.*

The fact is, especially in these tough economic times, many local software companies are feeling the pinch, and if we want to keep top quality software flowing into the Australian market then we need to keep supporting them. Especially now. Readers need to keep that in mind, because without the support of our Aussie software companies, ACAR wouldn't be here either! By the way, thanks for your comments about the magazine. It's good to know we're hitting the right spot.

Hall of Fame

NO CHEAT MODES ALLOWED!

AMIGA

ARKANOID	976,548	Kamikaze Andy
AMAZED	130,500	Chris Turnadge
BATTLE SQUADRON	99,999,999(c)	A Burbidge
BEYOND ICE PAL.	67,626(c)	Chris Turnadge
BLOCKOUT	85,281	Stephen Lark
BOMBJACK	200,680	D Thompson
BUBBLE BOBBLE	1,200,460	V. v d Heyden
BUGGY BOY	103,350	D Thompson
CHASE HQ	4,851,590	Juris Graney
CONT. CIRCUS	4,529,690	A Burbidge
CRAZY CARS	86,064,640	K Wehner
CRAZY CARS CHALL	2,627,935,660!!	N Mercure
CRYSTAL HAMMER	43,847	David Thompson
CYBERBALL	475,000	David Marsh
DENARIS	53,900	Peter Evans
DRAGON NINJA	246,400	Rod Matthews
DOUBLE DRAGON	124,630	James Knight
ELIMINATOR	246,570	Greg Munro
FLOOD	6,455	Embah Beaton
GEE BEE AIR RALLY	307,466	Kamikaze Andy
HYBRIS	1,826,075	Embah Beaton
IK+	114,400	Scott Southurst
IMPOSSIBLE MISSION	66,380	Diane Unwin
INDIANA JONES L.C.	completed	Phillip Nicoll
SS	1,420,450	A G Smyth
KARATE KID II	52,000	Robert Dunn
LEATHERNECK	84,700	Rod Matthews
LIVE AND LET DIE	96,520	Merekee Beaton
MAJOR MOTION	50,658	Owen Webster
MENACE	996,481	Kamikaze Andy
MINDWALKER	306,214	P Schumacher
MOUSETRAP	71,977	David Rich
N. Z. STORY	546,695	Embah Beaton
OPERATION WOLF	344,800	John Boyle
OUTRUN	26,331,122(c)	Ben Moen
OFFSHORE WARRIOR	626,345	Jacob Booth
PACMANIA	3,250,140(c)	A Burbidge
PINBALL MAGIC	332,390	Tracey Chilcott
PINBALL WIZARD	171,150	Aaron Sanderson
PIONEER PLAGUE	35,412	Keir Sooby
PLUTOS	129,450	David Rich
POPULOUS	208,600	Mal Cockburn
POW	612,865	D Thompson
RAINBOW ISLANDS	781,370	Jurrun Beaton
RAMPAGE	111,600	Kamikaze Andy
ROBOCOP	352,780	Rob Matthews
ROTOX	183,050(c)	Faye Doherty
SIDEWINDER	811,250(c)	Amos Burbidge
SILKWORM	(Heli) 1,186,000	A Augostis
SILKWORM	(Jeep) 515,100	A Barker
SKWEEK	1,525,740	E. Beaton
SPACE ACE	22,140	Neville Clarke
SPEEDBALL	17,650	Amos Burbidge
STARWARS	5,722,822	C. Mingo
STRIDER	113,950	Kamikaze Andy
SUPER CARS	13 races	David Marsh
SUPER HANG-ON	25,042,850	D Worthy
SWORD OF SODAN	364,750	Kamikaze Andy
TEEN.M.N.TURTLES	546,600(c)	James Leeken
TEST DRIVE	112,915	Wayne Haesler
TEST DRIVE 2	521,918	David Banks
TETRIS	10,101	Cheryl Marsh
TETRIX	Level 232	Stephen Lark
THUNDERBLADE	336,520	Rod Matthews
THUNDERCATS	522,300	Scott Southurst
TOWER OF BABEL	25,934(c)	Stephen Lark
TURBO OUTRUN	100,260,819	Matt Mantle
TURRICAN	1,302,650(c)	Stephen Lark
TV-SPORTS F.BALL	189-0	David McKinney
TWINWORLD	24,640	Carol Love
TYPHOON	54,255	Owen Webster
VIRUS	14,576	Amos Burbidge
WHIRLIGIG	28,210	Nathan Allen
XENON II	1,007,830	Kami Andy
ZOOM	58,903	Sally Pollock

COMMODORE 64

BATMAN	473,230	John Nunes
BANGKOK KNIGHTS	36,800	N Van Heeswyk
BOMB JACK	344,560	J Jacobs
BUBBLE BOBBLE	4,409,030(c)	John Nunes
BUGGY BOY	119,510	John Nunes
CHASE HQ	9,220,121(c)	ICEMAN
DOUBLE DRAGON	22,840	Joshua Smith
DOUBLE DRAGON II	255,190	N Heeswyk
FAST BREAK	136 to 9	Chris Byrne
GIANA SISTERS	105,200(c)	Russell O'Neill
GRYZOR	203,900	Paul Millward
H. MARADONA	Level M	N. Heeswyk
HAWKEYE	59,000	N Heeswyk
IKARI WARRIORS	267,800(c)	Iceman
INT. KARATE	139,300	Paul Millward
LAST NINJA II	34.2 sec(c)	Nick
OPERATION WOLF	168,789	Kishore Ludbey
OUTRUN	6,438,787	K Ludbey
PAPERBOY	103,100(c)	John Nunes
QUE-DEX	639	Chris Byrne
R-TYPE	684,200	N Heeswyk
RAINBOW ISLANDS	265,840	M Worboys
ROBOCOP	82,250	Tim Lockwood
ROLLING THUNDER	222,740	Iceman
SALAMANDER	235,300	Paul Millward
STREET FIGHTER	127,050	C. Byrne
SUPER CYCLE	212,210	Iceman
TEST DRIVE	36,144(c)	John Nunes
TEST DRIVE II	215,100	Steven McKinlay
THUNDERBLADE	1,734,040	T Morrison
THUNDERCATS	57,500	Chris Byrne
TARGET RENEGADE	330,450	C. Byrne
UNTOUCHABLES	70,230	Simon Watford
WONDER BOY	402,680	John Nunes

Scores followed by (c) indicate that the game has been completed.

ENTERTAINMENT HINTS & TIPS

Keep those hints and tips rolling in - this page won't be here if you don't! Send them to Phil Campbell, PO Box 23, Maclean NSW 2463, or fax 066-452060. Please submit them on disk!

Amiga

Peter Cain of Warnambool congratulates us on our "top class mag" and passes on the following tips for some top Amiga games:

Shadow of the Beast II

Say "ten pints" to the first spear chucker for unlimited strength.

F-18 Interceptor

Type this program into Amiga BASIC, run it and put your log disk in when prompted. When you play the game next, put your log disk in and all the missions should be available.

```
print "Insert Interceptor Log
Disk in DFo:"
print "then press any key"
while a$=""
a$=inkey$
wend
print: print "please Wait"
open "R", #1, "dfo:Config",1
field #1,1 a$ b$
lset b$=chr$(1)
put #1,2
for n=22 to 27
put #1,n
next n
close #1
print: print "Finished"
```

Flood

Here are some handy level codes for *Flood* players:

1. Frog	2. Year
3. Quif	4. long
5. word	6. fred
7. wine	8. grip
9. trap	10. thud
11. frak	12. vine
13. jump	14. nill
15. four	16. grit
17. zing	18. jing
19. lido	20. pool.

Fighter Bomber

When on the Pilot selection screen, press space to enter a new pilot and then enter BUCKAROO, with a SPACE after the word - this makes all missions available.

Super Cars

When asked to enter your name, try these variations: RICH - for $500,000 in your bank account. ODIE - to go straight to level 2. BIGC - to go straight to level 3.

Hard Drivin'

Make sure you've got manual gears, then accelerate to full speed, and at top speed change into neutral. You should now be impervious to collisions.

AMIGANET

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Sick of people kicking sand in your face at the beach? Tired of being treated like a wimp? Then here's the game for you. Now's your chance for a taste of raw power, as PHIL CAMPBELL checks out ....

POWERMONGER

ACAR STAR

Ratings:
Graphics 92%
Sound 89%
Gameplay 93%
Overall: 92%

If power corrupts, and absolute power corrupts absolutely, then here's a game to steer clear of. Unless, of course, you want to be corrupted. *Powermonger* gives you more power than you can poke a stick at - potentially at least. But first you've got to earn it.

The game is set in an imaginary land made up of 195 rich and fertile territories. You may find this hard to believe, but this seemingly pleasant place is populated by tribes led by petty warlords and captains whose only desire is dominion. Then again, you're not much better - your only desire is dominion too.

As Philippos III, former King of Miremer, I am in an invidious position. An earthquake has destroyed my formerly prosperous kingdom, and I am left with just a band of 30 loyal followers. Nothing else. As the old saying goes, there's nothing quite so "ex" as an ex-King, and I am more "ex" than most. Clearly, I have no other option - the only way to salvage my self-respect is to set out on the path of conquest.

Conquest is an art rather than a science. I can use my powers of persuasion, or I can kill people - after all, isn't that what leadership is all about? In the meantime, I'll need to feed and equip my troops, provide for my loyal subjects, and avoid stronger armies as they prowl around my prospective territory.

So far, *Powermonger* sounds like any number of strategy-cum-wargames. But it's not. This game is unique, and it's already turning heads. The magic is difficult to describe, but in essence you're playing with a simulated "slice-of-life." You're manipulating a tiny world, in which every tiny character has a name, a home, and a place in society.

The game screen is a work of art. The main feature is a contour map of a small part of the continent. As you adjust the "zoom" control houses will come into view on the hillside. Then you'll notice trees, clusters of tiny people, and even sheep grazing in the longer grass. In front of the map are the icons for controlling the game - command symbols that let you get food, trade, invent and attack. Behind the map stands a large, ugly looking warrior. That's you. This is your Strategic Command Centre, though in this case the Strategy map is alive - plan and execution blend into a single action.

I begin carefully. My troops stand in an idle cluster. With my pointer I indicate a nearby tree, then click on the "Attack" icon. There is a flurry of activity as they set to work - and in moments, the tree is definitely dead. Victory! Suddenly, I hear a plaintive "baaa" as a hapless sheep wanders onto the screen. Click goes the mouse button - and it's roast lamb for dinner.

Settlements are not quite so easy to overcome, and in my next campaign I make the fatal mistake of biting off more than I can chew. My rag-tag group is simply not up to the task of taking on a well equipped township, and we are soundly defeated. Maybe I should have tried a little more diplomacy? Or even trade sanctions?

Powermonger runs on all Amiga computers, and it's a game that really makes the machine strut its stuff. Graphics are both beautiful and finely detailed, and the sound effects add real atmosphere - you'll hear the birds whistling in springtime, the wind howling in winter, and happy workers humming as they hoe. And, no doubt, hoeing as they hum.

The overall effect is an absolute treat, guaranteeing *Powermonger* a place in computer gaming history. Add a hugely complex and satisfying scenario, and you've got all the ingredients of a top class game. Even if it will turn you into the sort of person your mother wouldn't be proud of. ❑

Distributed by:
ECP/Electronic Arts
075 963 488
RRP Amiga $49.95

SUPREMACY

If Saddam Hussein had an Amiga, this would have been his favourite game. And you can probably say the same for George Bush. What's it all about? KEN SIMPSON discovers the thrills.

We are seeing the most obvious outworking of our need to dominate each other in the Persian Gulf at the moment. You can also see it in the computer games that are released over and over again. From the first space invaders to the latest version of some flight simulators, it is all about winning. With a name like *Supremacy*, you can hardly think that it will be any different.

The overwhelming thought I had as I booted the game was one of class. From the opening sequence the graphics were outstanding and the music was just marvellous. In fact I spent a couple of hours one day just running the opening sequence again and again.

Of course the object of the game is to win supremacy over the star system that you choose. You can choose any of four systems, Hitotsu, Futatsu, Mittsu and Yottsu, or in actuality, one of four opponents. As you are introduced to the game you are asked for the almost obligatory password from the manual. You are also introduced to your opponents with such wonderful names as Wotok, Smine, Krart, and Rorn. To defeat Wotok you are informed that you only need 3% neural capacity, but to defeat Rorn? Well the comment is "We pity you".

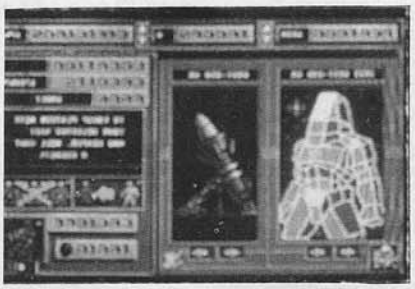
After this impressive introduction, you're dumped into the main screen. Again the graphics are beautifully crafted and the interface is all gadget driven. From the main screen you can then go to any of ten subsidiary screens from which you can view the political and economic status of your planets, do business and buy ships and stations, 'format' planets - terraforming them - making them livable to humans, recruit, train, equip and deploy your army, as well as saving the game.

Defeating Wotok was actually relatively easy and took me all of about one hour - though on the way I did have to starve one of my planets. At times the decisions you have to make come so quickly that it overwhelms you a bit, it was not for nothing they added a pause feature. I'm sure the next battle won't be so easy.

The manual is a well written 90 pages with plenty of description and pictures. It is well organised and indexed with a quick start tutorial to get you into the game though they recommend that you read the whole manual first - and so do I! The game really does have a large scope as you juggle the needs of colonisation and conquest. You can't spend too long developing home, because you need the resources and growth that come from colonies - but if you don't develop Starbase enough then you run out of funds too early and you can't equip. Always a problem being an absolute ruler I suppose.

My main gripe with playing the game, other than my inability to react quickly enough to the changing situation, was that you are restricted as to the number of vessels you can have at any one time. It may sound plenty to have spaces for thirty-two ships but I found that toward the end of the game, I had so many farming and mining plants going to feed and fuel everything that I couldn't transport my troops adequately, and support them properly.

Again, my overall impression of the game is very favourable. It is one of the few games of this type that has actually kept me interested to the end. I will be playing this one again and again, even if it is only to hear that opening music and see the graphic sequences. Just as a teaser, the final sequence is clever, if a bit horrible, but definitely worth seeing. My other major problem is: All this was almost exclusively on one of the two disks. What's in store on the other!?



Ratings:

Graphics:	92%
Sound:	95%
GamePlay	90%
Overall	**93%**

Distributed by:
Mindscape
02 899 2277
RRP Amiga $69.95

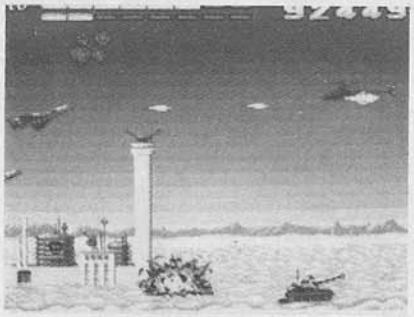
FIRE!

Believe it or not, ANDREW PHANG wrote this review before everyone got stuck into a real live war for the sake of a "new world order." Uncanny, cause as you read on, you'll see that this game could well have been written by ol' George himself. So get ready, aim, and ...

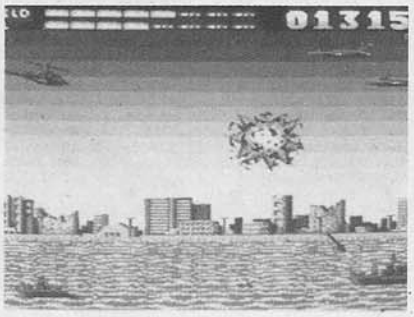
Before you play *Fire!*, please read the manual. It is simply an excellent example of how French instructions are translated into English. Let the designers of the game tell you about this latest release in their own words...

"We hear every minute about bad news coming from the five continents: wars, criminal attempts, massacres and scourge are always at the front page of the most important daily papers. Under the pression of media, political, ecological or pacific organizations, governments of the so-called civilized nations agree to solve the most urgent problems. You are appointed to pilot FIRE, the super fight helicopter and you go on board of the aircraft carrier USS *New Deal*."

You have to hand it to the French. We trash them at Rugby League, and in revenge they omit Terra Australis from the map (yep, the "five continents" don't include us or penguin-land). So, as the plot spells out (insert laughs here), the "pression" has finally forced world governments into joining forces. As the pilot of FIRE, it is your mission to destroy evil in the world. You have five assignments to complete, and your first is to destroy the drug lords of Latin America. Other missions include wiping out SCORPION, an evil group (of Eskimos?) based in the North Pole, and "to help out boat people and to eliminate the launching ramps of nuclear missils located in the Asiatic jungle of South East." After all, those "missils" are a threat to all humanity.



After a zippy loading time and an impressive looking title screen, some snappy music booms from my Amiga. "FIRE!", roars a digitized voice. A click of the joystick button launches my helicopter from the carrier deck. The jungle of the Americas envelops my fighting machine. To complete this section, I will have to "attack the coca plantations and the refineries which will transform the coca into coke." I guess if you can't beat the feeling, you'll have to destroy it.



Keeping the fire button pressed down, I move the joystick to the left. Boom! Up goes one plantation! Your helicopter can fire downwards or straight ahead, so you can easily dispose of enemy gunships that stand in your way. With all the bad guys trying to get you, thank goodness for your unlimited supply of bullets. However, you do have a restricted amount of fuel and shielding. So, if you get hit one time too many, it's "boom!" for you too. Complete a mission, and you will return to the USS *New Deal* for more supplies.

I must admit that the graphics are quite good. Horizontal scrolling is smooth and fast, just like the action. The colours used make it easy to distinguish the plantations from the rest of the ground. And I just love those explosions! This is a game of pure violence all right. You have to shoot everything in sight, and once you pick up a "double shot" icon, tracer bullets fly all over the place. The manual states that you should NOT try to kill "the local populations hidden in their poor dwelling houses", but even if you do, nothing bad happens to you. I know, out of common decency you SHOULD NOT do these things. But it DOES get awfully hard to tell a poor dwelling house from a refinery. I mean, they don't actually have big signs saying "REFINERY! SHOOT HERE!"

Although I only got to the second mission before writing this, the game's entertaining manual intrigued me with its descriptions of your other jobs. I can't wait until the fourth mission into the "South East", possibly the greatest assignment of all. I quote, "you will have to flight to the China See in order to save the populations which are on board of ships in distress." I sea.

Fire! is basically a cross between *Defender* and a horizontal blastfest, using a helicopter instead of a spaceship. It will turn off those who detest violence, but if you're into ridding the world of evil by means of force, then you should have a look at this.

Ratings:
Graphics: 81%
Sound: 83%
Gameplay: 73%
Overall: 78%

Distributed by:
Pactronics
02 748 4700
RRP Amiga $49.95

Quick Shots

A quick look at what's new in the world of games

BOTICS

The year is 2085, and the Satellite TV Companies rule the world. Each home has 952 channels to choose from - one plays constant re-runs of Neighbours. The demand for Sports coverage is insatiable, and there's a growth market in Robotic games. The main event, known as Botic, is a sort of mechanised soccer. The metallic opponents face one another from opposite ends of the field - an enclosed area, with elongated gaps behind each player.

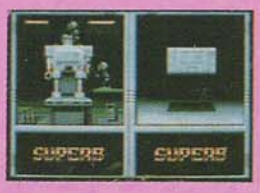
They're the goals, and the aim of the game is to bounce an android ball past your android opponent into the goal mouth. Succeed, and you move on to the next playfield, the area beyond the window you've shot through. Got that? It's sort of wandering soccer, moving from pitch to pitch as goals are scored. Keep scoring, and you keep driving your opponent back. After four failures, the game is over.

Botics is essentially a simple little game, and it's quite enjoyable to play. It's a bit like *Arkanoid* - or even *Pong*, the first ever computer game - because all you've got to do is move your bat back and forth to meet the ball. This time it's in three dimensions, so you need to be at the right height as well.

Simple or not, it's beautifully presented. The game scenario is developed nicely, with robotic sportscasters announcing the games and even robotic cheer squads. Sounds are nice, with good use of speech and other effects. All in all, very smooth, but not much depth.

Ratings:
Graphics: 85%
Sound: 79%
Gameplay: 68%
Overall: 71%

Distributed by:
Pactronics
02 748 4700
RRP Amiga $42.00



LOTUS ESPRIT TURBO CHALLENGE

Vrooom. I was wondering why people kept saying *Lotus Turbo Espirit* knocked the socks off *Indianapolis 500*. Now I know. The latest Mindscape roadster is hot indeed - and very nicely detailed, as well.

Title screens strut their stuff nicely, with neat touches like a track selector that looks like a fancy car stereo system - press a button and the music changes, and so do the track details. Neat, with the side benefit that you drive each circuit to the beat of a different soundtrack. And they're all good.

You start out in position 20 on the grid, and your task is to overtake as many cars as you can. There's a two player option, so you can play head to head with a friend.

Graphics are crisp and sharp, control is positive and firm, and the overall feel is one of speed and precision. Nothing has been sacrificed in what's clearly one of the best race games to date.

Ratings:
Graphics: 88%
Sound: 85%
Gameplay: 84%
Overall: 87%

Distributed by:
Mindscape
02 899 2277
RRP Amiga $69.95

Screen Shots From Amiga Format

MONTY PYTHON'S FLYING CIRCUS

Put on your best British BBC accent, because ... it's ... Monty Python's ... Flying Circus. Da Dum de diddle e dum de de trala trala trala. Yes folks, it's here are last. You've seen the TV show. You've read the books. You've heard the records. You've memorised the dead parrot sketch. And now, after all these years, you can finally play the computer game.

And it's great. Well, not great maybe, but darn good. Although it is a little bit silly. But that's beside the point, because obviously it's meant to be silly. Well, a bit silly, anyway. And it is.

For a start, in the first ten seconds your head gets pulled off and stuck onto a big fish. Then you have to swim round a nasty maze throwing smaller fish at everything that moves and picking up goodies in the quest for the four missing parts of your brain. To get your bit of brain back in level one you've got to find sixteen tins of Spam, which isn't easy.

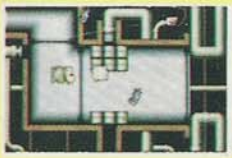
And it gets worse. Between levels there are bonus screens where you can earn points by having arguments, or bouncing your head around on a boot. Silly, I know.

Seriously now, folks, *Monty Python's Flying Circus* is a game that almost does justice to the classic TV series. The sound effects and the music are all there - in the Amiga version at least - and the graphics capture the style of Terry Gilliam's famous animations almost perfectly. If you liked the show, you'll like the game.

Ratings:

Graphics	81%
Sound	76%
Gameplay	75%
Overall	**79%**

Distributed by:
Mindscape
02 899 2277
RRP Amiga $59.95
C64 disk $39.95
cass:$29.95



MYSTICAL

The first thing that will impress you about *Mystical* is the shiny gold box. I'm going to keep mine and use it for something special. Don't know what, but I'll find something. But is there anything inside the box that's equally impressive? Let's see.

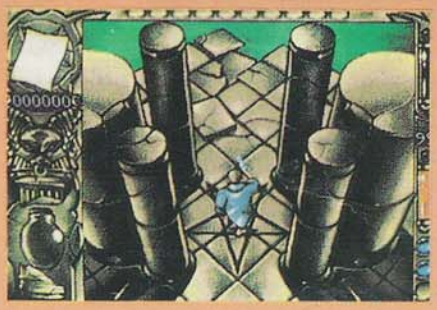
The title screens are beaut, with a rollicking sound-track and very nice graphics. The game begins, and it looks just as good. Your aim is to control a cute little magician, who must collect as many phials and scrolls as he can while he walks up a vertically scrolling landscape, all the while dodging other characters walking down the screen towards him. Nothing fancy, maybe, but very nicely done and potentially rather addictive.

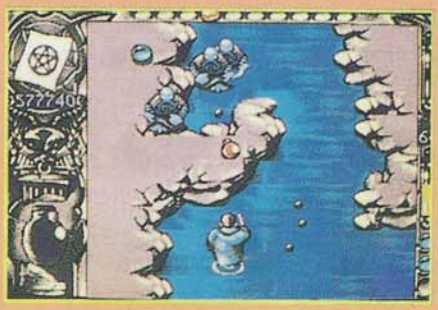
Mystical won't run on my Amiga 2500, even in standard 2000 mode, so be careful - it does however work fine on a standard A500. All in all a nice smooth game from Infogrames - look out for a full review soon.

Ratings:

Graphics:	78%
Sound :	79%
Gameplay:	76%
Overall:	**78%**

Distributed by:
Questor
02 662 7944
RRP Amiga $69.95

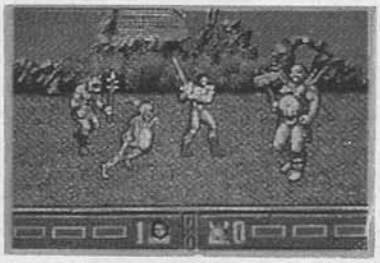




GOLDEN AXE

Arcade ace ANDY PHANG couldn't wait to get his hands on this one - the beat-'em-up to beat-'em all

When it was released in the arcades, Sega's *Golden Axe* was immediately hailed as a classic beat-em-up. Just like many other coin-op games, the license for converting *Golden Axe* was quickly snapped up, this time by Richard Branson's Virgin/Mastertronic software label. After a year and a half of coding, the Amiga version is finally upon us. Is it as good as the arcade game?



Yes it is! The gameplay is all there. The controls move smoothly, and executing an overhead chop (probably the most difficult move in the game) is no problem at all. Control is via the joystick, though the keyboard must be used if one is to cast magic spells. All the major features found in the arcade game, from the running villagers to the great endgame sequence, have been included. The flashing "GO" sign, the campfire sequences where you can get extra magic potions and health drumsticks, the tattered map with the animated quill - none have been left out.

Most importantly, the fun of bashing monsters (in *Double Dragon* style) is still there. Many arcade conversions fail to bring the "fun" of playing the original onto the home computer, but *Golden Axe* conveys this feeling superbly.

So what is the plot? Basically, just slay and slaughter every evil creature that roams the land. The land in question is Yuria, now under the clutches of the evil Death Adder. It is up to you, brave warrior (or warriors, for your friend can also join in the monster bashing with a joystick plugged into the mouse port) to free the land of this tyranny. When you kill the tyrant, you will also recover the precious *Golden Axe*, symbol of the good and strong that will return to Yuria following Death Adder's demise.

You can choose from three valiant knights: Ax Battler (a Conan lookalike with a huge sword), Tyris Flare (a female Conan with huge, uh, muscles?), and finally Gilius Thunderhead (a dwarf with nothing really huge at all). All three have their personal reasons for slaying Death Adder.

Each character has a wide variety of combat manoeuvres, as well as a special skill. Ax and Tyris possess a great overhead swing which spins the warriors 180 degrees and kills the monster trying to sneak up behind them, while Gilius has the ability to roll on the ground to avoid attacks and strike at the enemy's underbelly (and it hurts, too!). Then there's magic. After collecting the magic potions left behind by blue thieves, our brave heroes are able to call upon this ancient art.

The graphics of *Golden Axe* are up to Amiga standard, with good usage of colours (especially in the background), shading, and some great detail in the depiction of enemies. The animation, however, is not as good as it could have been. Movement of characters would be more realistic if more frames had been used. Not that the screen is jerky -it's just that the animation is lacking in comparison with other Amiga beat-em-ups.

Musically, the tune is great but the sound effects are pretty ordinary (I especially missed the meaty "Arrgghhh" when your warrior died. On the Amiga, it's just a whimper of defeat).

Overall, *Golden Axe* is a good game (it got some great reviews in UK mags) on its own, and a fairly accurate arcade conversion. Understandably, the programmers of the computer versions chose to concentrate more on the gameplay of the arcade machine rather than just converting (the brilliant) Sega MegaDrive version, and therefore some parts of the MegaDrive version (like the extra two levels and most unfortunately, the one-on-one combat section) will not appear. However, the programmers have made the right choice, and Amiga *Golden Axe* is (after the arcade machine) arguably the best of the lot.

Ratings:

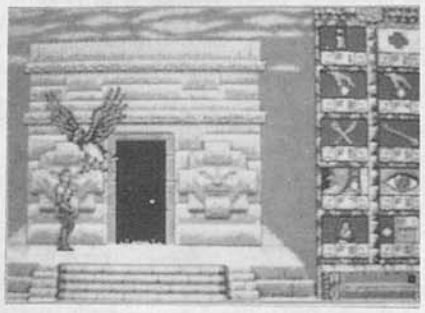
Graphics:	88%
Sound/Music:	85%
Gameplay:	91%
Overall:	**87%**

Distributed by:
Mindscape
02 899 2277
RRP Amiga $59.95

MAYA

DAVID SANNA bravely follows in the footsteps of Indiana Jones as he takes on the dark forces of the jungle.

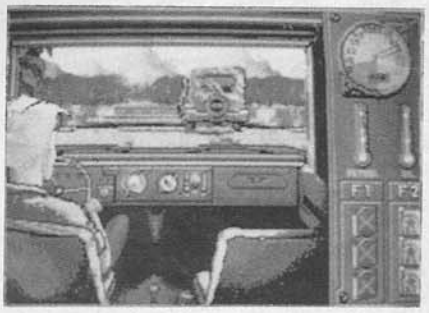
From deep within the humid and thriving Yucatan Jungle, you, as Michael Fairbanks, the faithful student of the recently departed Professor Edward Halifax, must endure the tropical climate with its animal and human inhabitants to recommence your deceased pro-



fessor's work. The aging archeologist disappeared more than three years ago with an old parchment believed to have belonged to the Mayans.

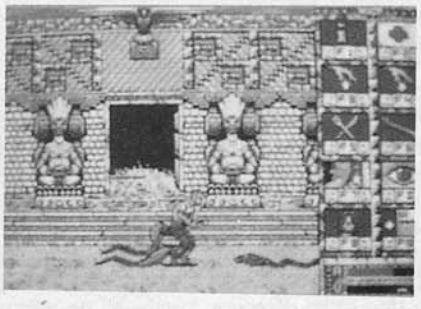
After hearing about your teacher's tragic death, you booked on the first available flight to Mexico to continue his important work. However when you arrive at the "COMERCIO" supply store you unfortunately learn of the presence of your rival scientist Orlik Karloff who is also searching for the mysterious fetish which the Mayans praise.

After purchasing your supplies you are rudely met by your rival Orlik and a punch up begins. You must defeat him without being hit too many times as this will deplete your energy bar. Once inside your jeep you will have a choice of which village you can go to. One of the



most exciting parts of this game is driving the jeep through the densely thick jungle, looking out for bridges so that you can cross ravines safely. In some cases, there is no bridge and you have to brake in time or you'll fall down the wide rift and die. Soon after the bridges, ravines, dead ends, giant boulders and traps you will arrive to your destination and will be given the choice to either carry on down the ever winding jungle track or leave your jeep and inspect the place.

Usually you'll find that there are temples guarded by venomous snakes or poison-dart blowing natives that you'll have to dodge before you can enter. Inside the stone buildings you will find a number of things ranging from food to treasures to huge spiked metal booby traps. In one temple there are special stones which you must step on to get to the end of the room but as you make



your way across them, you will probably be crunched over the head by a giant mace-like object.

In another temple there are many steps for you to climb and a great eagle to watch out for as it tries to hamper your feeble efforts to access the great silver door to the Mayans' culture.

In your travels you will come across many different items - you must decide whether to keep them or to barter with the more civilised Indians. Fortunately, there's a game save command, so all is not lost when you bite the dust. However, you can only use this function once, so pick your time carefully.

The graphical background consisting of scenery, natives and animal animation together with the "real life" sound effects, have a certain air about them that makes this adventuresome game addictive. So exert all of your archeological knowledge and remember the wise King Tuscar's last words "There is only one who can reconstruct the broken fetish by himself and he alone will inherit the fabulous riches of the Mayans."

Maybe it's you. ❑

Distributed by:
Mindscape
02 899 2277
RRP Amiga $29.95

OVER *the* NET

Beach boy ANDREW BAARTZ slips, slops and slaps on the sun protection as he leaps into a game of beach volleyball in...

Some of the most challenging computer games I've played let you take on a human opponent as well. This particular action game can have up to four players, and the challenge develops proportionally. But more on that later!

Over the Net is about a beach volleyball match. It's just like the game Maverick (Tom Cruise) and Goose played in the movie "Top Gun" against Iceman and his buddy. Four sweaty sun tanned guys in nothing but boardies and a pair of sunnies, battling over the net, before a growing crowd of bikini clad beach honeys. So far I'm not sure what happens if you win the match. But even if you lose, defeat has its compensations (I'll let you discover this for yourselves).

This is one very professional game. The sound and graphics are perfect, right down to the crowd responses and the fluttering of the flags in the background. The program runs in a special graphics mode called 'Overscan', so the game uses the entire width of the monitor and it smoothly pans to follow the play. It has a number of options, on a simple to use mouse driven menu. This allows for variations in the match rules and the nature of the competition.

Players one and two connect their joysticks to joystick ports two and one, respectively. The third and fourth players use a special interface that uses the parallel port, providing two leads for connection to their joysticks. (This special interface wouldn't work on the Amiga 1000).

It takes a while to master the controls. There are two basic types of shot: with or without a jump. But the permutations are endless.

When serving, the fire button begins the serve and the joystick determines the nature of the shot, from gentle serve to jump shot to volley. The volley requires a little more practice since this apparently simple move hides a mechanism which permits hundreds of different volleys. In fact, the direction of the volley depends not only on the position of the joystick but also on the point upon which the ball is struck and the force of the blow. The strength of the blow appears to be proportional to the number of times the fire button is pressed in the interval of time between the launching of the ball and when it is hit.

During the game, all you have to do to volley the ball is move to a position close to where it is falling. Press the fire button when the ball is over the man (it is advisable to move a fraction earlier) and the appropriate type of movement automatically takes place. The relative positions of the ball and man cause a bagger pass, a toss or, in extreme cases, a dive. The direction seems to be calculated by the computer according to the position of the other team player (human or computer) and the difficulty of the shot.

After a bit of experience you'll be blocking volleys at the net and smashing returns like the best of them.

There are eight teams that the human players can join, from the 'Golden Boys' to the 'Freaks', from the 'Surf Men' to the 'Spiders'. Each pair seems to have its own subtle strengths and weaknesses. understanding these could give you an advantage in the 'Sea Cup'.

The 'Sea Cup' is what Beach Volleyball is all about. It's a competition that takes three of the eight teams to tournaments in the Seychelles, Miami, Rimini, Ibiza and Fiji, to face the various local teams. The teams all play one another and the one that comes last doesn't continue on to the next seaside resort tournament. The team that wins the fifth tournament wins the 'Sea Cup'.

Between games the scoreboard displays the results of the various games, the provisional placings and a series of statistics concerning the games. The statistics take into account the points won and lost for each team. For each player it reveals the points gained, the shots blocked, the saves in extreme situations, and the errors made (missed balls, bad passes, etc). This ends any disputes about who was the best human player (or whose fault it was if you were eliminated). In the end, the only dispute we had was over who was going to play next. It's a great game!

Ratings:

Graphics:	82%
Sound:	79%
Gameplay:	84%
Overall:	**82%**

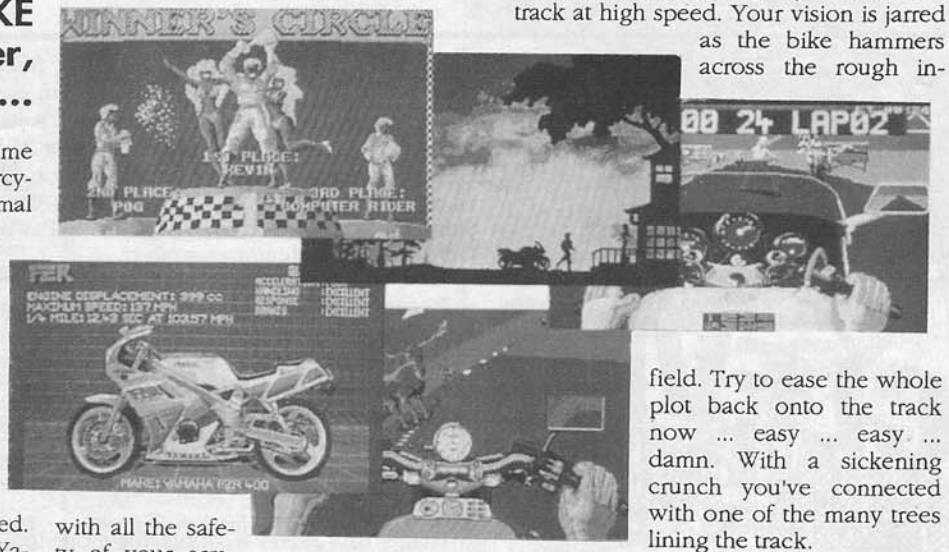
Distributed by:
Pactronics
02 748 4700
RRP Amiga $49.95

THE ULTIMATE Ride

Plenty of games call themselves *the ultimate* - but here's one that deserves the title. We asked MIKE FISCHER, a keen biker, to check out ....

I have to confess, there's a part of me that just hungers after big, fast motorcycles. Bikes that snarl like a caged animal as you tweak the throttle. Bikes with loads of tyre-shredding power. Bikes with such razor-sharp handling that you can feel every stone on that bitumen passing under your wheels. I long for truly obscene angles of lean, to sense the rubber beginning to slide and shudder across the road. I long to feel those foot-pegs scraping, to hear the fairing whining through the air.

My hunger is only partly satisfied. I've got an overworked 10-year-old Yamaha for getting around on. It's not a monster by any means, but it gives me enough to prompt dreams of bigger and better bikes. Bikes that really handle, bikes that pull your arms out of their sockets when you yank the throttle. I crave the ultimate ride. Enter the computer game to make any rev-head's palms sweat. *The Ultimate Ride*, from Mindscape International, puts you in the cockpits of the world's fastest production motorcycles with all the safety of your armchair.



Load the disks (there are two, a Master Disk and a Scenery Disk), and grip the petrol tank between your knees for a great motorcycle simulation. Each player (one or two) begins by selecting their bike for the ride. There are six absolute rocketships to choose from. There's the Suzuki GSX-R 1100 and the Kawasaki ZX-10, just to name a couple. But to top off a good selection of weapons, you can also ride Yamaha's awesome V-MAX, a bitumen-eating, stump-pulling mutha of a street-bike. The game is chocka-block with choice: you can either ride on Grand Prix tracks (actual GP layouts like Laguna Seca, Suzuka, etc.) or some pretty wild street circuits (I liked the Californian Death Run myself).

But with my hunger for power and speed, I went straight for the racetrack. You start on the grid. You're sitting in the cockpit of your selected motorcycle. Looking across the top of the instruments and fairing, you rev the engine (pushing the joystick forward to increase revs, pulling it back to decrease revs), and the tachometer needle rises and falls. The countdown reaches zero, and you drop the clutch (right 'fire' button). The horizon dips as you pull a whopper of a wheelie off the line. The engine screams - time to shift into second. (Gear changes are done by a combination of joystick and 'clutch' movements.) Push the joystick to the left, and the whole horizon tilts as you find yourself tearing around a sweeping left-hander.

The barriers and field-marshals are whizzing past at blinding speed. Then the inevitable happens - you leave the track at high speed. Your vision is jarred as the bike hammers across the rough infield. Try to ease the whole plot back onto the track now ... easy ... easy ... damn. With a sickening crunch you've connected with one of the many trees lining the track.

But not to worry - the computer puts you back on the track exactly where you left it. Once you've passed the qualifying laps, you get to be in the Grand Prix race at your chosen circuit. If you win, you end up on the winner's rostrum with a couple of busty girls sleazing over you while you're being sprayed with champagne. Yep, it's just like the real thing.

I walked away from this one with a REAL sweat ... the whole package is smart and realistic. It's sure to please even veteran bikers with its accurate graphics and motorcycling feel. The ultimate ride? Well, it has to be as close to the real thing as a computer can get.

ACAR STAR

Ratings:
Graphics 91%
Sound 88%
Gameplay 94%
Overall: 92%

Distributed by:
Mindscape
02 899 2277
RRP Amiga $59.95

Adventurer's Realm

by Michael Spiteri

Welcome once again to the world of the Realm, the only section in Australia dedicated to helping adventurers, roleplayers, and wargamers in completing their mission. If you are stuck in any adventure or wargame, or if you can give any help to those who are stuck, then write to the following address:

Adventurers Realm PO Box 351 Pakenham Vic 3810

Kamikaze Andy is in his Dungeon just waiting for problems to pour in from players stuck in role-playing-games. You can write to him (but don't ask for hint sheets) at:

The Dungeon PO Box 315 Maddington WA 6109

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Free Hint Sheets

The following hint sheets are available, free of charge, thanks to many kind and considerate Realmers. On the back of an envelope, select up to four hint sheets, and send it to the following address with a stamped addressed envelope.

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CLEVER CONTACTS

Yet another Clever Contact to join our team of merry crusaders: **Stuart George**, 66 Sharon Road, Springvale Vic 3171.

Stuart can offer help in *Pool of Radiance, Zak McKracken, Bards Tale II, III, Wonderland, Fish* and *King Solomons Mines.*

Official Realm Bulletin Board

Island BBS in Werribee has a super Adventurers Realm section where you can chat and exchange problems with other adventurers, as well as download hint and tips.

Island BBS offers a whole lot more too, including online games, many chat boards, and many files to download! Take a peek at the 24hr BBS on (03) 742 3993.

Help, Help & more Help or the Smart Adventurers Dept.

Hints and tips for troubled adventurers have been rolling in, so a very big thank you to those who participated in the helpful handover! If your problem appeared a few months back, then there is a good chance it listed below - with a solution!

Game: Mystery Fun House
For: Peter Nuzum
From: Scott Pitcher
Help: First map the Winding Maze. There are only four locations, so drop an object in each one and then start mapping!

Game: Swiss Family Robinson
For: Lisa Granstoun
From: Scott Pitcher
Help: To make a candle, get the wax berries on the Island and boil them in the pot. Then put your piece of string in the pot.

Game: Leather Goddesses of Phobos
For: Graeme Evans
From: Noel McAskill (Revesby, NSW)
Help: At My Kinda Dock, let the barge go whilst standing on the dock. After waiting for sufficient time for the barge to drift past the ion beam, go down the well in the garden and you will then be transported into the barge.

Game: Shadowgate
For: Richard Vaughan
From: David Marjanovic (Revesby, NSW) and Yvonne (? ?)
Help: With the wand, go back to the mirror room, go down the rope and back to the two bridges. Drop all your inventory except for the wand and a torch, then cross the wooden bridge. Operate the wand on the snake. Take the staff and drop the wand. Go back across the bridge and pick up your inventory again. To open the top left door in the Banquet hall, the key is in the globe in the study. Simply operate the terra terrakk scroll on the globe. When back at the vault, operate the talisman on the sword panel, blow the horn, and then operate the golden thorn and the silver orb on the staff. Ignore the door in the well room and the hobgoblins.

Continued on p80

The Official Adventurers Realm Hint Book

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Game: Deja Vu II
For: Dave G. and Ian Myers
From: David Marjanovic
Help for Dave: To get into the laundry you need to hide in the laundry dumpster. You will eventually be taken into the laundry and tied up by the mob. To untie yourself, operate the rope on the crate.
Help for Ian: Ignore the safety deposit key and the Mercedes key - they are useless. In respect to a data disk, simply format a disk, name it anything, and when saving games, simply specify the drive the data disk is in.

Game: Zak McKracken
For: Andrew Corbin
From: David Marjanovic & Stuart George & Zaun Bhana
Help: On the Sphinx leg you must draw the symbol as noted in the first maze on Mars. In the Mexican temple, the markings on the huge statue in the Great Chamber must be drawn. The whiskey can be obtained at Miami Airport (give the bum the book). The scroll is in the left eye on the bird feeder. Just operate the blue crystal on the bird.

Game: Last Ninja II
For: Ainsley Travers
From: Robin Hood
Help: When you enter the room with the fan, pick up the grate and go out onto the ledge. Go along the ledge and go up the ladder. As the helicopter pulls away, flip onto the landing skids.

Realm Chit Chat

• **Adam Read** of Morphette Vale would really like to know where in South Australia he could buy *Hitchhikers Guide To The Galaxy,* or even the Scott Adams Adventure Packs.

• **Allan Mills** of Cootamundra writes with some handy cheat tips for *Pool of Radiance* or *Curse of Azure Bond:*

"Whenever a character finds an extremely useful item, go to the nearest adventurers guild and remove the character who has the object so a saved copy of him/her is made. Now reinstate the character (who should still have the object). Leave the guild and make camp somewhere, strip the character of all their valuables and remove him/her from the party.

Now return to the guild and add the character back to the party, and the party should now have two of every item the character possessed. Also, in the game *Shard of Spring,* alter lines 1042 and 1050 in the file Aftermath (side two of disk) to increase gold and experience points. This cheat does appear fairly limited as the game locks up when you get too much experience, namely around level 25.

• Finally, how can I buy the Official hint book? It has been mentioned in your section but not details on cost or where to write to. Why are most hint books for adventurers close to the cost of the game itself? I know their use is discouraged, but their cost is beyond belief."

The *Adventurers Realm Hint Book* contains hints for over forty adventure games, and will be released, this month. See advertisement on p79. Specialised hint books usually go into great depth about the game concerned, and only a small number of copies are printed (the more copies printed, the cheaper the book is). Generalised hints books that cover many games are available at cheaper or around the same price as specialised hint books.

The *Official Realm Hint Book* is one, and another is *Corish's Book of Hints & Tips.* Both books are produced in Australia.

• **Scott Pitcher** of Reservoir writes:

"In the January issue Chit Chat, **Michael Walsh** mentions a bug in Scott Adams adventure number 10, *Savage Island Pt 1.* I bought the adventure pack compilation and mine has the same problem. This only happens in the first few locations - on the beach and on the volcanic plateau.

To get around this, to each location and enter QUIT. Before asked to hit **y** to end, you should get a description of the location. Be careful, if you dig on the beach at the start you should find a bottle of rum in the hole - something you might miss." Thanks Scott!

• Finally, a special thanks goes to newest adventure extraordinaire **Stuart George** of Springvale (VIC) for the very

Problems, problems & more problems or the Troubled Adventurers Dept.

Many adventurers this month are stuck in one place or another. If you can offer help, please do! A.S.A.P!!

• What is Murielle's occupation? That is the question that has **Ben Falcone** baffled in *Mortville Manor.* Also, Ben is trying hard to put the gold ring on Madonna's orb, but ol' Max keeps advising him to be more discreet! (Try closing doors, Ben!).

• It's been a while since we had an *Aztec Tomb Adventure Pt1* problem, but a letter from an unsigned adventurer tells of difficulty when passing a bull. Removing a possibly useful cloak is also causing a dilemma. While on oldies, the same adventurer is stuck trying to enter Bastow Manor. Any takers?

• **Michael Fitzgerald** of Burnie is stuck in the game *Keef the Thief.* Where is the Artefact of Mem located?

• **Scott Pitcher** requires help in a few games. Firstly, in *Asylum,* how does he stop the exterminator from fogging the pestilence? Then in *Wizard and the Princess,* how does one get past the Gnome without him stealing something? Finally, in *Valkyrie 17,* how does Scott start the aeroplane?

• **Adam Reed** (Morphette Vale, SA) is being troubled by a sloth-like creature called Omarod in the game *Magic.* Also, in *Shard of Inovar,* he would like to know how to get the Amulet of Fire from the temple.

• **Martin McLaren** of Rosanna (Vic) asks the following questions about *Pool of Radiance.* How does he stop the pollution of Stojanow river? Is there anyway of stopping yourself being attacked in Zhentil keep? Where is the Pool? Is the maze in Valjevo castle any use? Finally, where is Tyranthraxus?

• **Zaun Bhana** of Palmerston (NT) is stuck in *Deja Vu II.* He wants to know how to find the Mayor or the Police Chief, as well as getting past the drunk. Any takers?

• *It Came From The Desert* is really troubling **Jamie Gallagher** of Chester Hill (NSW). He knows where the ants nest is, but that's about it! Can anyone suggest how he progresses further?

• **Stuart George** needs help in a couple of adventures. In *Gold Rush,* what should he say to the man in the Green Pastures hotel, and what is to be done with the branded mule. Then, in *Colonel's Bequest,* Stuart has finished the game, but did not come across the location of most of the bodies. Finally, in *Police Quest I,* what does he actually type in to get sweet cheeks Marie out of jail? ❑

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