

The Australian COMMODORE and AMIGA REVIEW

Disney Studio
Walt Disney meets
the Amiga

What to buy
for beginners

CLI Tutorial
C64 & GEOS columns

Web of Terror
Starblade
Breach 2

**Sound-
tracker
& M.E.D.**

VIDI
fun with
frame grabbing



THE BEST ST HOME FINANCE PROGRAM
NOW AVAILABLE FOR THE AMIGA



AMIGA VERSION

- * FULL MULTI TASKING
- * OVER 100 BUDGETS SELECTABLE
(10 ANALYSABLE)

Personal Finance Manager

-The World's Most Sophisticated Personal Finance Program-

If you run a personal bank account and have a Commodore Amiga then you need "PERSONAL FINANCE MANAGER".

AS EASY TO USE AS A CALCULATOR

PFM makes full use of Amiga's Workbench interface, if you need to amend or update an entry or Standing order simply click on it. Your screen looks just like a bank statement!

STANDING ORDERS & DIRECT DEBITS EATEN ALIVE

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BUDGET WITH EASE, AT A CLICK OF A MOUSE.

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BALANCING WITH YOUR BANK ACCOUNT IS NO LONGER A JUGGLING ACT

When you get your bank account statement or a balance from an autobank machine you can confirm it with PFM quickly and easily. Simply select PFM's unique "Auto Balance" option and type in the balance as given by the bank and PFM will attempt to balance and highlight entries that have not yet been processed through the bank.



Home Finance Program By Peter Veale.

Here's what the critics say:

Amiga Version by Dan Lennard.

"PFM is one of those rare programs with which it is easy to feel comfortable from the first time you run it."

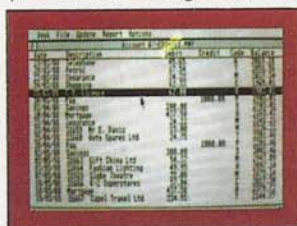
Ron Massey, ST USER

"Personal Finance Manager is a sophisticated home financial package, it will probably help you save money."

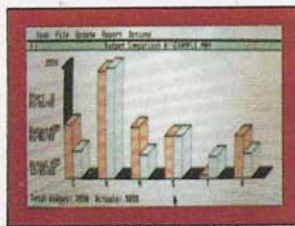
ST UPDATE.

"PFM is just the ticket if your expenditure is as disorganised as mine."

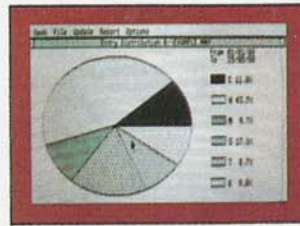
POPULAR COMPUTING WEEKLY.



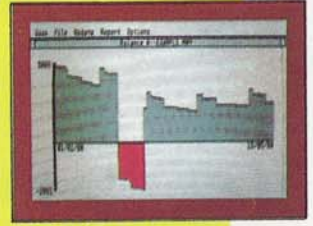
MAIN ACCOUNT SCREEN



BUDGET COMPARISON BAR-GRAPH SHOWING BUDGETS & ACTUAL EXPENDITURE OR INCOME



PIE CHART SHOWING SELECTED ENTRIES OVER CHOSEN DATES



BALANCE DISPLAY SHOWING HIGHS & LOWS OVER SELECTED DATES

OTHER FEATURES

- * The number of entries is limited only by memory size
- * You define the file size
- * Old entries are automatically deleted
- * Automatically places entries in date order
- * European or U.S.A. date formats
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- * Moveable and re-sizeable windows
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- * Facility to check off items against statements
- * Locates cheques written months ago in seconds
- * Selective print features for dates/statements/standing orders and budgets.

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GVP A500 45MG Quantum	\$1295.00
GVP A2000 HC8/40MB	\$1199.00
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GVP A2000 HC8/120MB	\$1699.00
Amiga A590 20MG	\$599.00

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Editorial

Commodore Review has been going for seven years now - and in that time we've doubled and tripled just about every figure associated with our magazine - except the price! More people are reading what we have to say in more pages. Of course, opposition to this locally produced publication is still rife. There are colourful overseas magazines (which often cost several times the price), and there's even one local publication (rumoured to be owned by a software distributor) all of which have kept us on our toes.



Faced with competing interests within the magazine, we've had to alter the ratio of games, Commodore 64 and Amiga coverage as our readers interests have altered. Sometimes these are tough decisions to make. Somehow, we've managed to keep most of the people happy most of the time. Next year we will continue to run several columns devoted to the Commodore 64. The C64 Sound and Graphics series will continue, along with C64er and the Geos columns. The occasional technical article and product reviews will also be included.

In the entertainment section, Phil Campbell will be keeping a closer eye on new releases, and posting a new top 10 list of big sellers for each month. Don't forget to keep those reader tips flowing in. Adventurer's Realm will also continue - it is probably the longest running column we've ever had. In the Amiga area, we'll be concentrating on helping beginners get started, and keeping you up to date with the latest in creative and productivity packages. Watch out for more tutorials on specific products along with in-depth comparisons of similar packages. Notepad will continue to post news on new products and Ram Rumbles will look at different themes throughout the year with emphasis on real applications and uses of Commodore computers.

Overall, *Commodore and Amiga Review* will look more at educational uses of the Amiga and C64. Our new education columnist, Anne Glover, will continue with us along with reviews from her and others of new education products. Next year is bound to be another action packed time for the Amiga, which has now survived well despite threats from other game console manufacturers and would-be home computer companies. It would be great to see Commodore fill the gap around \$500. It would also be nice to have a little more emphasis on the serious side of the Amiga.

Don't forget you can read more about the Amiga as a professional machine in our other magazine, *Professional Amiga User*, which is published bi-monthly. The next issue will be December/January.

Have a safe, enjoyable break over the coming month, drive safely, and watch out for those low-frequency electro-magnetic waves seeping out the back of your monitor. See you next year!

Andrew Farrell

Beauty and Functionality Redefined

THE NEW IMPACT **SERIES II™ A500-HD+**

The Next Generation in Amiga® 500 Add-On Peripherals

IMPACT

Series II

Turn your A500® into a Serious and More Fun Computing Tool Today!

GVP's New **SERIES II A500-HD+** is The Ultimate in Hard Drive, Memory and Expandability for your Amiga 500. Major features include:

Leading Edge

Same high-tech custom VLSI and **FAAASTROM™** features as GVP's new Series II A2000 SCSI-RAM Products.

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Unique new "Mini-Slot"™ brings out all the A500 expansion bus signals, allowing for exciting future expansion options – the only intelligent alternative to risky "Pass-Through" functionality.

Reliability

Includes internal fan to keep you cool and robust power supply ensuring your A500 power supply will not be overloaded. GVP will not compromise on quality and reliability!

Memory Expansion

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Custom injection-molded styling perfectly matches your A500 for unequaled beauty and elegance, setting a new standard for A500 peripherals.

State-of-the-Art

New 1"-high internal hard disk drive; available from 40MB through 100MB.

Performance

Provides no-compromise hard disk performance which until now has never been seen on the A500.

Seeing is Believing

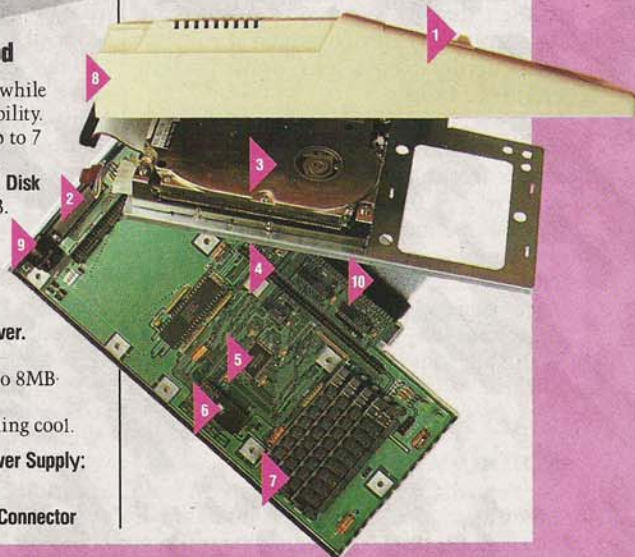
Take one for a Test "Drive" at your nearest GVP Dealer today!

Call for Special End-User Trade-Up Details!



Take a Look under the Hood

- 1 Game Switch: Enables RAM while enabling full game compatibility.
- 2 External SCSI Port: Allows up to 7 SCSI devices to be attached.
- 3 1"-High Factory-installed Hard Disk Drive: 40MB through 100MB.
- 4 "Mini-Slot": For future expansion options.
- 5 GVP's Custom VLSI Chip.
- 6 GVP's **FAAASTROM** SCSI Driver.
- 7 Internal RAM Expansion: Up to 8MB.
- 8 Internal Fan: Keeps you running cool.
- 9 Dedicated Universal Input Power Supply: Included.
- 10 Reinforced 86-PIN Card Edge Connector



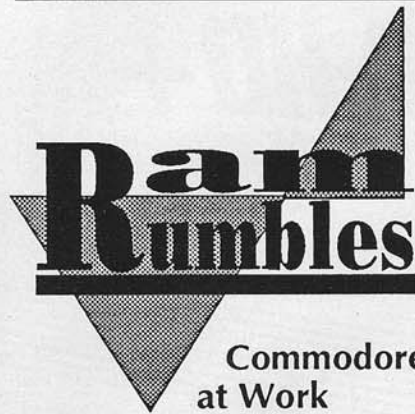
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Educational pricing program now available.
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Commodores at Work

This month we get cracking on the new theme of Ram Rumbles: Commodores at Work. People are already sending in interesting uses of Amigas around Australia, with a number coming from Commodore. Thank you to all who contributed.

Teleprompting: Channel 10

Eric Holroyd, one of our many writers, is a working musician doing a variety of freelance work. He had a one-off job recently in the Channel 10 studio where the morning program 'Till Ten' is made and the first thing he saw on going into the studio was a Commodore 64 complete with disk drive and monitor. Intrigued by its presence amidst all the high tech TV production gear, he investigated as to what its function was, and learned that it's used as the 'auto cue' (teleprompter) device which scrolls the script up the camera lens for the presenter to read from.

It's an ingenious system and quite invisible to the viewer at home, yet the words are clearly visible from six or eight feet as the font used is quite large. The 64 operator told Eric that it's basically a simple word processor in which she types in the necessary program scripts. It's extremely functional too, in this very important job. Just goes to show, the 64 is still alive and well.

CAD : Kids design wildflower garden

Petersham Public School, in Sydney's inner west, had something many inner-city schools don't - space. As part of their environmental studies, children in Year 6 were given a section of the grounds to transform into a native garden. But it's not just any garden, thrown together at will: the children themselves designed the wildflower garden, including landscaping, drainage; paths and even the

choice of plants on Amiga computers loaned to the school by Commodore.

Under the watchful eye of teacher Michaela Moate, a gardening day was set aside to prepare the area for planting. Parents were invited to contribute their expertise and help.

Using the popular *Deluxe Paint III* program on the Amiga, the children have been able to draw plans of the gardens, show soil used, drainage, distance between the plants, and so on: a very professional method indeed.

They've also used the Amigas for writing their own reports of what they've done for other schools to follow, entitled "Schools should plant more Native Gardens". Incorporated into the reports are drawings showing not just the garden itself, but all the plants, including leaf shape, tree shape and flower. They have even gone to the extent of creating an animation, to show the different stages of the flower's development from bud to seed.

When all the individual reports are completed, the Amigas will again be used to create a slideshow documentary. Their teacher then plans to have them write and record a script for the slideshow, which they will record on cassette.

Medical: Stereology

Counting cells in tissues may not be everyone's choice, but when it comes to research into disease and clinical analysis, cell counting is a vital tool. Unfortunately, cell counting methods to date have had their problems. Results were very often biased, giving the researcher or analyser at best unreliable data to work from, and in the worst case complete incorrect conclusions were made.

Professor Hans-Jorgen Gundersen, from the Stereological Research Laboratory at the University of Aarhus, Denmark, is the world's leading authority on stereological methods for counting cells. Professor Gundersen has developed a new, reliable method for stereological cell counting, using a computer program written especially for the purpose which runs on a Commodore Amiga.

At the Symposium of the Image Analysis Society of Australia, held at Melbourne University recently, Professor Gundersen delivered the keynote address on his new techniques, and also conducted a workshop/demonstration on the use of the Amiga and his software to members of the Association. The choice of the Amiga for this serious research work adds even further credibility

to its acceptance in tertiary institutions.

Simultaneously in Melbourne, an event unrelated to the Stereology conference, but also demonstrating the power of the Amiga in tertiary applications, was the Unix User Group conference, where the new UNIX Amiga was launched. Using the latest UNIX 5.4, the Amiga is expected to become the machine of choice in universities and colleges, offering a highly cost-effective UNIX workstation - and a powerful personal computer into the bargain. For further information contact The Others.

Video : W.A. students turn to Amiga video

Morley Senior High School in Perth has a graphics setup that would put many commercial studios to shame! Their design studio is equipped with Amiga 500 and 2000 computers, VCR's, a genlock, a PostScript laser printer, and a wide range of applications software.

Using the Amiga and various applications software, students, working individually or in teams, take a project from original concept through all stages of production to completion in either printed or video tape format. Just some of the skills students learn involve test entry, page layout, computer drawing and graphics manipulation, animation, photography, video processing and printing, all highly desirable in today's marketplace. Such is the expertise and professionalism shown by the students at Morley Senior High that this year the school will have its own display at the Perth Royal Show.

This is the first time a school and a commercial supplier (Bruining & Hedlam, who supplied the Amiga computers) have worked in partnership in full public view. With hundreds of thousands of visitors expected at the Perth Show, interest in the Morley Senior High "working display" is expected to be very high.

A very professional four colour brochure promoting Morley's Visual Arts Technology courses has been prepared by Morley students ready for distribution at the show. It details the four subject choices available within the VAT program: Art, Graphics Technology, Media Studies and Photography. Computer technology plays a very important part in the Morley program, with students virtually at the forefront of new technology as it only now begins to find acceptance in the industry.

continued on p6

GVP Announces a Technological Breakthrough...

SERIES II™ THE NEXT GENERATION

in SCSI and RAM Controllers for the A2000*

IMPACT

Series II

GVP's New SERIES II A2000 SCSI and RAM Expansion Controllers provide the ultimate hard disk and RAM expansion solution for the A2000. Choose from two new models:

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

- **State-of-the-Art integration** packs a high performance SCSI controller, 8MB FAST RAM Expansion and a 3.5" hard disk drive INTO A SINGLE A2000 EXPANSION SLOT!! Saves BOTH a valuable expansion slot and a peripheral bay!
- **Incredible SCSI hard disk performance** achieved through GVP's innovative new custom chip design, which provides DMA performance and unique direct dual port memory access to FAST RAM, eliminating typical DMA side effects under heavy graphics load.
- **Easy-to-install SIMM memory modules** allow flexible memory configurations from ZERO through 8MB. Supports 6MB FAST RAM configuration for BridgeBoard users.
- **NEW FAAASTROM™ SCSI Driver** offers optimum performance and includes such features as:
 - ✓ Supports virtually any SCSI device including, CD-ROMs, Tape Drives, IOMEGA Bernoulli drives, etc.
 - ✓ Fully implements SCSI Disconnect/Reconnect protocol, allowing overlapping SCSI commands to be executed.

- ✓ Fully implements Commodore's Rigid Disk Block (RDB) standard as well as the new DIRECT SCSI interface standard.
- ✓ 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"

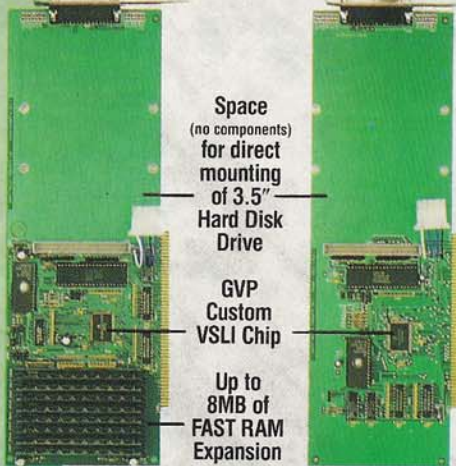
- Same as above but without the 8MB FAST RAM capability.
- Specially designed for those users who don't need memory expansion but still need maximum hard disk performance at a budget price.
- **UNBEATABLE VALUE.** See \$199 trade-up offer!

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.

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Hard-Disk-Card



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Custom
VLSI Chip

Up to
8MB of
FAST RAM
Expansion



SCSI TIMES

The ULTIMATE Trade-Up Offer???

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.

"Let's Standardize"

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USER Groups; do you know?

Don't let your club, charity, or other non-profit organisation lose interest on its savings accounts and investments because you aren't aware of the new tax rules, is the message from the Tax Office. From 1 July, 1990 new tax rules for savings accounts and investments were introduced. Among the groups specifically exempted from the new rules were non-profit organisations, clubs, associations and charities. For your organisation to qualify under this exemption the new rules state: "Your organisation must be one that is not required to lodge a tax return and doesn't presently have a tax file number."

The rules seem easy but how do you know whether or not your organisation should be lodging a tax return? A few simple tests can be applied. Groups which promote the arts, music or sport may also be exempt from income tax. They must be non-profit organisations and any yearly surplus or profits must remain with the organisation; not be distributed to members.

"Your organisation must be one that is not required to lodge a tax return and doesn't presently have a tax file number."

If the organisation is dissolved, any accumulated funds must go to another, or similar organisation. One example of such a body provided by the tax office was a sporting club which was not conducted for the financial benefit of members and which did not conduct a social club. If you are still not sure of the status of your club, association or charity you should seek advice from your local Australian Taxation Office.

Once the status of your organisation is worked out the new rules for savings accounts and investments are straightforward. Someone eligible to represent your organisation should fill out a tax file number notification/exemption form to claim the exemption from having to give a tax file number. Eligible people include the treasurer, secretary, chairperson or any recognised public officer of the organisation.

Spike, Surge and Noise Filters

All businesses with any sense use regulated power for their computer networks, and most have battery backups to keep on going during a blackout. A backed-up supply for a PC will set you back at least \$1000, which is not the kind of money most of us have. Protecting your computer from the lesser vagaries of the grid, however, is much cheaper.

Here is a brief diversion into what is actually happening to the power you let into the delicate circuits of your computer. The first thing to realise is that our supposed 240 volts can actually wander up around the 270 mark and flop down to around 220, as a matter of course, and our appliances are built to handle this. Much further, and bad things start happening.

There are two main ways power can go further - surges, which are prolonged increases in power which would be harmless if they lasted less than a second, but can go on for several and hence burn out the most delicate (read: expensive) parts of your beloved Amiga, and spikes, which are, thank God, very brief, but can kick power up to 500 volts or more in isolated instances.

These huge ones, which are usually caused by nearby lightning strikes (one to the pole right outside your house can send millions of volts howling through your wires for the tiny fraction of a second it takes for them to vaporise), probably won't be stopped by anything costing less than a thousand bucks, but anything up to about 450 volts will. Surges and spikes aren't stopped as such - they're converted to heat and dissipated as fast as possible.

One other thing that can happen, but doesn't affect computers a lot, is noise. This is random garbage that gets into the power flow, perturbing the usual 50Hz alternation and jiggling voltage a bit. This affects high-end hi-fi gear badly, but the transformers powering computers screen it pretty well.

Now for the gadget I actually use. It's a Dick Smith 6-outlet power board, with a lighted on/off switch and a circuit breaker for overloads. It'll clamp down on a spike in less than 10 nanoseconds, can stand a 4500 amp surge, blocks noise from 1000Hz to 100MHz with 20 to 40dB attenuation, and is rated for normal power supply at a 10 amp, 2400 Watt maximum. It cost \$59.95, and every home should have one.

Daniel Rutter

Update

We would like to take this opportunity to wish all our wonderful Pactronics customers a very, very Merry Christmas and an extremely Happy New Year. In order to help our wishes to you come true, I am very pleased to tell you that we have released for the Yuletide season a tremendous range of our new games, most of which are listed on our "WICKED" advertisement and our Merry Christmas advertisement in this issue.

However there are some others which I would bring to your attention:

1. WILDLIFE - The life of a famous wildlife photographer isn't all that easy. Your equipment is scattered over five continents, and you have to recover it to shoot some of the world's rarest creatures.

2. PANZA KICK BOXING - The smoothest animation you'll ever see, in one of the most demanding sports ever devised. Hours of intensive training in the gym is just the first step on the long road to the World Championship.

3. SUMMER OLYMPIAD - Sprints, hurdles, javelin, shot putt; your joystick never had it this hard. SUMMER OLYMPIAD is the complete sports simulation at an unbeatable price.

4. FORMULA 1 GRAND PRIX - Choose your car, choose your track, but are you fast enough, skilled enough, to go up against the best?

5. OVER THE NET - The latest summer sports sensation from the States is here - Beach Volleyball. Brilliant animation and great graphics and atmosphere.

6. AMIGA CRICKET - IT'S GOING TO BE A LONG, HOT SUMMER - BUT NOW YOU CAN PLAY CRICKET ALL YEAR ROUND. A FABULOUS 100% AUSTRALIAN DEVELOPED PROGRAM, WITH ALL THE ANIMATED ACTION A CRICKET FAN CAN STAND!! THE WORLD'S FIRST AMOS WRITTEN COMMERCIAL RELEASE!!!

We are now the official exclusive distributor for a brilliant new product called Vidi Amiga. This is a device for grabbing pictures from video recorders or video cameras and you can then utilise these pictures in your programmes. We bundle Vidi Chrome with this product so that you can have colour from your camera shots and we also can supply an RGB Splitter which gives you split second full colour when using your camera or video. (Compatible with Digiview).

If you need any further information on any of the above please feel free to call us in Sydney on 748-4700 or our hot line 008 227465. Once again Compliments of the Season to all our customers and readers of this column.

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Notepad

Australian Graphic Atlas

Local software developer, HC Software, has released *Australian Graphic Atlas*. The package provides a complete atlas of Australian maps including relief, national parks, minerals, climate and wildlife. It was created using AmigaVision - Commodore's new multimedia program. AGA is available for all Amigas with 1MB memory and 2 drives. The user interface makes use of AmigaVisions simple to define hit-points for intelligent mouse driven operation. Two index screens provide a starting place from which all the action takes place. Simply click on the map you wish to see and it appears on the screen, you may also cycle through related maps or watch a slide show. Population statistical graphs are provided along with maps of capital cities.

All maps are IFF compatible, allowing their use in paint programs or desktop publishing for students to create their own newsletters or illustrations for assignments. AGA can be installed on a hard drive. The AmigaVision instructions may be modified that new presentations or a subset of the presentation may be made. The population statistics are also provided for input into any spreadsheet that accepts ASCII input so that students can manipulate the data. The *Australian Graphic Atlas* is available from all good computer stores or direct from HC Software for \$69.95 (08) 344 6897.

HCS have released a number of other products including; Record Manager: Information Base - a simple to use database manager and is now available for only \$49.95.

Record Manager Information Base can be used with all Amigas with 512K. Features includes 17 user definable fields, 66 characters per field, and number of records only limited by disk space.

NapGap v1.0

Napoleonics miniature war-game rules; NapGap simplifies the playing of the war-game letting you concentrate on the playing rather than the rules. A printed log is made so that you can refer to past moves and relate what is going on in the present. Menu and mouse driven, it easily displays all the data that is needed to play miniature games. NapGap is \$49.94 for all Amigas with at least 1MB.

Amiga Journal Index

The *Amiga Journal Index* is an index to all the major journals, each article is indexed with details of the title, author, date, journal and a short abstract. All is available in SuperBase file, ASCII file and also for MS-DOS. The major journals indexed are: AmigaWorld, Amazing Computing, Computes Amiga Resource, Amiga Plus, Byte, Amiga User International and AmigaMail. Updates are available 3, 6 or 12 monthly and each update is only \$12.00. Initial cost is only \$39.95 and a printed edition is also available. For more information on any of the above products:

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Sterling service BBS

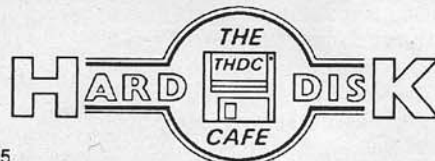


Free Spirit Software has released *Sterling Service BBS*, a bulletin board system for all Amiga computers. The program, with a suggested retail price of \$149.95 (U.S.), utilises a graphic user interface and touts considerable conversion capability. *Sterling Service BBS*, boasting features such as six clubs with up to eight sections for each, ANSI and ANSI extended colour graphics for on-line menus and help text, Sysop remote CLI access, and an option on-line screen editor, is easy to set up and use. It offers the ability for forward and attach files to E-Mail and view the contents of an archived file before downloading.

Sysops can convert users and downloads from BBS-PC using conversion programs from the "Tools and Utilities" disk included with the program. Also included are a user list database program, as well as utilities for calculating the Top Ten downloaded files, and the Top Ten uploaders, callers and writers.

Sterling Service BBS is available now through dealer and mail order outlets at a suggested retail price of \$149.95 (U.S.). It will run on all Amiga computers with at least one Mb, even beginners can set up a computerised bulletin board system (BBS). *Sterling Service* uses Amiga graphics, logical pull down menus, and intelligent requesters to create an elegant interface that makes setting up and operating your BBS a breeze.

Features include up to six independent BBS clubs (SIGs) with up to eight sections per



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It's simple - No screwdriver, no soldering iron and no technical knowledge required. Just turn your Amiga over, open the cover, slide the Power PC Board into the connector, close the cover and your Amiga PC/XT is ready. (In other words, no loss of guarantee)

You are now ready to use a wealth of professional MS DOS software at speeds faster than a PC/XT (ind. review), **and in colour**, with compatibility thanks to Phoenix-Bios.

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).

- ★ Video support: monochrome, Hercules and Colour Graphics Adaptor (CGA) (4 and 8 colours)
- ★ Disk support: internal 3.5" external 3.5" external 5 1/4" drive. (Software-upgrade to H/D A590 in pipeline)
- ★ Including MS DOS 4.01, MS DOS shell and GW Basic (market value approx £130.00)
- ★ Including English Microsoft books + KCS manual + FREE software

- ★ Available memory: 704KB + 64KB EMS in MS DOS mode, 1 megabyte + 512KB RAM (disk) buffer in Amiga mode
- ★ No extra power supply necessary thanks to the most modern CMOS and ASIC technology
- ★ OK with TV. No special monitor required

Compatibility is excellent, but no-one can guarantee every single program available therefore if your purchase depends on a particular program, please ask us first or send in a copy of the program. (With suitable S.A.E. if to be returned). Price subject to change without notice.

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DEALER ENQUIRIES WELCOME

club for files and messages. Since all board maintenance can be performed on-line, you'll have more time to create your own messages. As the System Operator, you can even include "hidden" commands to display a variety of system and user statistics.

Sterling Service is designed to be easy on users too. For example, file downloading includes a view contents of an archived file option. Your BBS users will enjoy the feature that lets them attach files to, and even forward, E-Mail.

Sterling Service offers you three BBS sizes to make certain that it will work well on your system configuration, no matter what else you use your Amiga for. A handy conversion utility is included for switching from BBS-PC to *Sterling Service*. *Sterling Service* BBS requires at least 1MB of RAM. A hard drive is recommended.

"Hyper-text" online help

INOVAtronic's has released *HyperHelpers*, a trio of convenient help-programs for Amiga users. *DOSHelp* online help system for AmigaDOS version 2.0 marks the debut of the first serious hyper-text application on the Amiga.

Running in a small window, *DOSHelp* provides a list of available topics including C: commands and Preferences. Click on "C:commands" for example, and a list of the C:commands is displayed. Click on the one you want info on (like "info"), and expertly written, fully cross referenced help appears in the window, including command syntax and a list of related terms and topics for further study. *DOSHelp* the first online reference guide for DOS 2.0 can also provide help for version 1.3 DOS dependent on which version it is

running under.

Also included in the package are two utilities: *Run-N-Play* and *Launch Pad*. *Run-N-Play* is an ingenious program that looks like a standard file requester but performs a number of functions. If you select a file in *Run-N-Play*'s requester, and the file is a IFF pic, it is displayed; if it's sound *Run-N-Play* plays it; if it's a text file, it is loaded into an editor; if it's an executable, *RNP* launches it (and if it happens to be a *Can-Do* deck, *RNP*, runs it). All these abilities reside in this one little program.

Launch Pad is a small window on *Workbench* which contains a single menu. This menu is user configurable to contain the names of the user's most frequently used software. When an item from this menu is selected, the program is executed, run time parameters and all, thus eliminating the need to sort through various drawers on *Workbench* to find and run

your favourite software.

The package retails for \$89.95 and is available locally through *Computermate*.

Quartet Digital Music Machine

A new music package from *Microdeal* provides a music synthesiser and four track sequencer. With *Quartet* your Amiga becomes a four voice polyphonic synthesiser and four track recorder. You can play back of up to four instruments simultaneously, thus turning your Amiga into a real musical *Quartet*. It runs on a standard Amiga 500 and does not require any special hardware.

Quartet's format makes four channel composition so easy, it takes away the monopoly previously enjoyed by professional musicians and programmers, allowing easy production of commercial quality music. With

Macro68 - Assembler

**The powerful new assembler for the entire Amiga range.
Compare some of the features:**

As well as being faster than any other multi-pass assembler, *Macro68* offers support for the entire Motorola M68000 family, including the MC68040, MC68882 FPU, and MC68851 MMU, as well as the Amiga Copper

Macro68 boasts macro power unparalleled in products of this class. There are many new and innovative assembler directives to make programming easier. A user-accessible file provides the ability to customize directive names and run-time messages from the assembler.

An AREXX(tm) interface provides "real time" communication with the editor of your choice. A number of directives enable *Macro68* to communicate with *AmigaDOS*(tm).

Possibly the most unique feature of *Macro68* is the use of a shared library, which allows resident preassembled include files for incredibly fast assemblies.

No artificial constraints are applied, most features being limited only by available memory.

Macro68 is compatible with the directives used by most popular assemblers. Output file formats include executable object linkable object, binary image, Motorola S record and Amiga 'nibble' mode.

Payment is accepted by:
Bankcard, MasterCard, Visa
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Min. 1 meg of memory recommended.

DigiSoft

12 Dinmore Street
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Ph.(07) 277-3255



\$195.00

Notepad

Quartet you can compose music on the four scrolling staves by either input from the mouse or by recording a live performance played on the Amiga keyboard or MIDI instrument, connected to your Amiga via a MIDI interface to the serial data port. You can also choose your instrument from a choice of 100 musical instruments and sounds included with *Quartet*, or import your own sounds from a sampler such as Microdeal's own A.M.A.S. cartridge.

Up to 16 instruments can be held in memory at one time. You can easily compose drum and rhythm tracks, and then play synth melodies on the remaining channels. Alternatively you can orchestrate classical pieces by using such samples as Oboe, Harp, Double Bass and Violin. From DeBussy to Depeche Mode, *Quartet* will play them all. You can plan any sample polyphonically

over three octaves from the Amiga keyboard or MIDI instrument. Imagine being able to play synth, guitar or harpsichord chords from your Amiga keyboard. If you have a keyboard or instrument with a MIDI OUT socket and a MIDI interface plugged into the serial port of your Amiga, then music can be input into any of the Amiga's channels by selecting the RECORD mode. As you record, *Quartet* plays back the other three channels from the audio out sockets on the Amiga, providing you haven't switched the channels off. You can free up any sound channel so that as music is being played you can accompany it in your chosen sample, either from a MIDI instrument or the Amiga keyboard.

Quartet from Microdeal is available in Australia through Computermate.

More Gold Disk CG-Fonts

Amiga artists, designers, video producers and desktop publishers can now create with a little more flourish using Gold Disk's new selection of outline fonts. This series of fonts, called Gold Disk Type, consists of four separate custom packs of three specially selected fonts designed to suit a specific application or style. You can choose from the fonts available in the Publisher Pack, the Designer Pack, the Decorative Pack or the Video Pack and give your documents, artwork or video productions the impact they deserve.

Based on AGFA Computer graphic fonts, all the type faces used are stored as objects, rather than bitmapped typefaces. This means that they can be scaled to any point size and then output without the jaggies - those ragged edges that often occur when resizing regular pixel-oriented fonts. Gold Disk Type also comes with a special utility that lets you scale and convert any of the fonts to bitmapped fonts for use with any software product that supports native Amiga fonts. This makes Gold Disk Type useful in a variety of applications including video titling, graphics, animations and computer art.

For desktop publishers, this means that you can create top quality output without PostScript (using Professional Page 1.3) and have the capability to create Amiga fonts for any application. You can incorporate these typefaces into any document or graphic capable printer - including 9 and 24 pin dot matrix, Inkjets, Laserjets and Deskjets. It's a great alternative to expensive PostScript printers without having to compromise quality.

Each Gold Disk Type pack will retail for \$79.95 (Dataflow) and will work with any Commodore Amiga 1000, 2000, 2500 or 3000 with at least 1 MB of RAM.

GVP Impact Series II A500-HD+

GVP's new Series II A500 HD+ is now available locally - billed as the ultimate in hard drives, memory and expandability for your A500. Major features include the same high-tech custom VLSI and FAAASTROM features as GVP's new Series II A2000 SCSI-RAM products. The drive includes a unique new "mini-Slot" which brings out all the A500 expansion bus signals, allowing for exciting future expansion options - the only intelligent alternative to risky "Pass-Through" functionality. There's also an internal fan to keep you cool and robust power supply ensuring your A500 power supply will not be overloaded. Internal RAM expansion up to 8MB using easy to install SIMM memory modules. A new sleek styling perfectly matches your A500. State-of-the-art - new 1" high internal hard disk drives are used, available from 40MB through 100MB. There's also a game switch to disable extra RAM.



Amiga 500

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 United Computers, Qld (072) 82 6232

Casino Computers, NSW (066) 62 5220
 Stephens Music Centre, NSW (047) 51 6196
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I own a: Phone:

Ho Ho Ho

Can't decide what to buy yourself, or someone else? Here's a wacky guide to what some of Australia's industry identities are saving up for:

What I would really like ...

"I would love a Canon Ion Camera. I'd take photos of the family as I'm away most of the time (of late). I could flick through the latest shots on my hotel television.

"I also want the software and cables so I can download and upload out of my Sharp Electronic Organiser (IQ-7200) into my Amiga."

Michael Lynch
Multicoin Australia

"What I'd like is a video disc player - one that I can interface to my Amiga down the track. Also a computerised satellite navigation system in the car which would tell me where the traffic isn't ... plus a holiday and most of all some time off (Computer Spot is open throughout December and on into the new year!)."

Tom Quealy
Computer Spot



"Just give me a CDTV. I want to investigate Mega-Random Access."

Tim Strachan
Publisher/Editor Megadisc

(Truth is Strachan originally said he thought he had it all and wanted nothing. When we mentioned CDTV to him he said something cynical about the fact there might be some good games on the Amiga when it fi-



nally arrives. Don't any of the chaps over at Megadisc play games?)

"An Amiga 3000 - to play with graphics, especially with Amiga-Vision ... messing around with Unix too. Plus I want to try the latest Amiga flight simulators."

Mary-Louise Taylor
National Sales Manager
C B M

(Mary-Louise is a pilot often seen carving up the skies in her Saratoga, a six seater Cherokee).

"I would like to see more emphasis on the professional Amiga end from Commodore, more emphasis on support for local developers and a proper professionally run developers' support service."

Greg Perry
Amiga Developer
GP-Software

"I want an Amiga 4000. I need more colours for desktop publishing - 16.7 million would probably do. More room for scans would be handy, not to mention a bit more speed for manipulating graphics. Say, a 68040 processor with about

32 Megabytes of RAM. A video disk of clip art would also be handy. Hey ... just six years ago I would have been happy with a C64 and a 1541 disk drive."

Andrew Farrell
Editor

"I would really like a colour laser printer - so I can make withdrawals when I'm doing my home banking ..."

Vic Davies
Sydney Radio Station
2MMM Club Veg

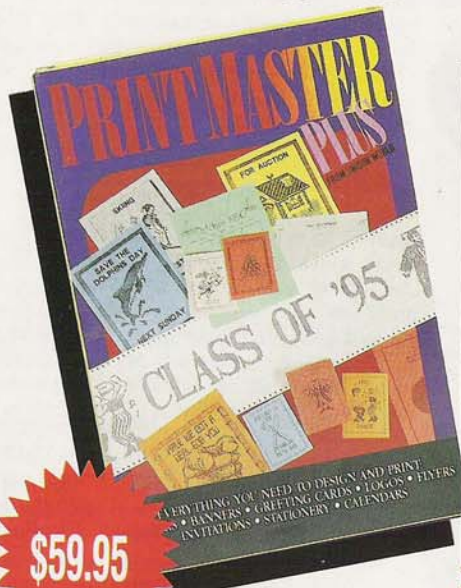


"A stereo 16 bit direct to hard drive audio record and edit system for the Amiga. Trouble is it doesn't exist yet ... although I hear that someone in Australia is seriously looking at developing it right now - can you hear me, guys?"

Phil Rigger
Fineline Music



SENSATIONAL SOFTWARE



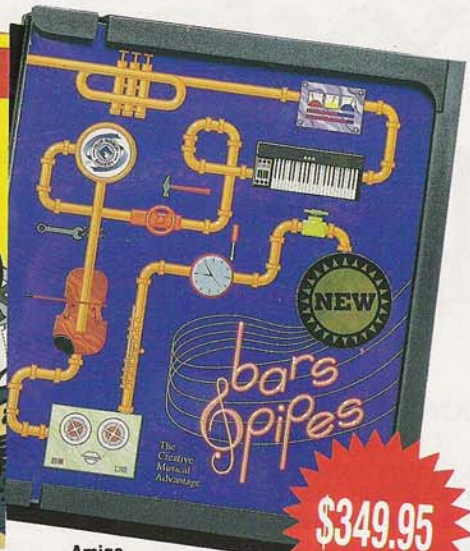
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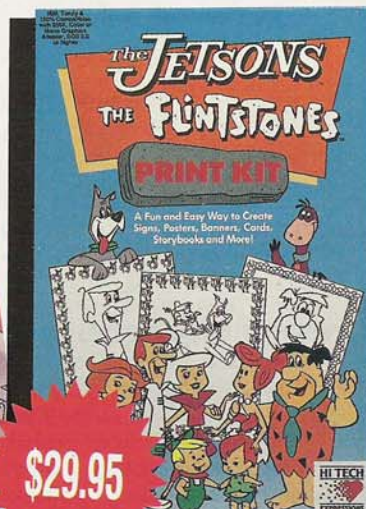
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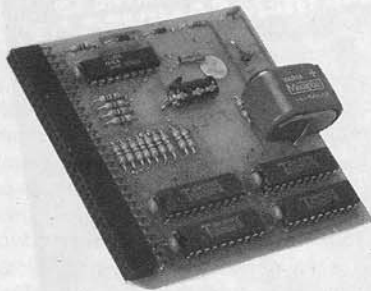
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which Hardware?

Extra memory

If you're still joysticking along on a stock-standard Amiga 500 with a mere 512K of RAM, the first option on your silicon shopping list should be some extra memory.



An additional 512K will set you back between \$140 and \$180 depending on where you get it, the brand, and options such as a disable switch and battery backed clock calendar. The switch is handy if you have any games which don't work with extra memory, however it is generally only useful if it is on some form of extension cable.

Installing the board is fairly simple. Just slide open the base of your Amiga 500, and slot it in firmly. Check your FREE MEMORY figure on the Workbench screen jumps up to around 700-800K. If the board appears faulty, try it in another Amiga before returning. Some Amigas have a problem connecting extra RAM due to a faulty chip which looks after the expansion port.

With the extra memory, you can run more games, create more complex col-

What should you get first? Which hardware add-ons offer the benefits you're after now?

Andrew Farrell examines the options.

ourful graphics, longer animations, digitise more sound or frame grab more frames. You can also multi-task more programs. Extra memory can also help you overcome the limitations of having one drive by allowing you to copy often used C commands into a RAM: drive.

External disk drive

Endless disk swapping can be one of the greatest frustrations of the Amiga's operating system. Of course, if you rarely use Workbench, you've probably not encountered this problem. However, on a single drive system, housekeeping functions, using many fonts or system based functions can invoke tiresome disk swaps. This is especially true when using application software. A second drive is ideal to make you more productive, and greatly ease the strain on keeping needed backup copies of software and data.

You'll be paying between \$189 and \$299, depending on

quality and options. The latest units offer an LED counter to show what track the drive is writing to. This is a fairly useless gimmick unless you're a programmer, hacker or have a fixation for flashing lights.

Most models offer an on/off switch - which some entertainment titles will require you to use, and a pass-through port so that you can add in a daisy-chain fashion additional external drives. Of course, for the Amiga 500, you're best to limit this to two, as some power supplies cannot handle the extra drain.

Hard disk

When the number of applications you use grows to the point where keeping them all within arm's reach becomes a major filing problem, it could be time to get yourself a hard disk.

A number of widely differing alternatives are available. In general, the more you spend, the faster the drive, the more the expansion unit can be added to and the faster it all operates. Drives are normally classed by the way they connect to



On the subject of gifts for the Festive Season, check out this article - or leave it around, suitably marked, as a hint for your loved ones . . .

the computer. Most Amiga 500 drive interfaces use SCSI drives. These are normally pretty fast. Commodore's A590 uses an AT drive, which is slower and less used within the Amiga industry.

Some manufacturers offer external units which connect to the parallel port. Whilst a little slower than some, these drives offer the flexibility of being easily moved between machines. They are also relatively inexpensive.

The Rolls Royce in hard drives are the GVP range, with the new series II offering room for large SCSI drives, and up to eight megabytes of RAM. Somewhere in between is Commodore's own unit, with two megabytes of RAM expansion room. A number of overseas units, not well supported locally, are also available. Be sure you can get the needed support.

A hard drive will usually need more care and file housekeeping than you previously gave your floppy collection. Get yourself a good hard disk backup program and a file utility such as SID or Diskmaster. These are essential in protecting your investment and keeping it organised. If you run into a problem with drive errors or lost data, don't panic, leave the computer as is and ring someone knowledgeable. Guesses at what to do can render your entire drive lost. You will then have to reformat - losing all data, and wasting valuable time.

For home use, a hard disk around 20-40 Megabytes size is ample. If you do a lot of work with graphics or digitising of any kind, a larger 80 Megabyte unit would be better. At the office, we have a 136 Megabyte Fujitsu drive which handles scanning, and keeps a lot of information on file. Our day to day Amiga 500's have Commodore A590 units on them, which we have found work well most of the time.

If ever a drive fails to boot, try switching off, wait a moment, and then try again. Sometimes AmigaDOS can work itself out of problems!

Modem

Telecomputing, or using your computer over the telephone, opens up a whole new world of users, software and information. A modem allows you to connect to any of the different information services and bulletin boards around the place at a nominal charge or even for free.

These systems are operated and maintained for the love of it all by mad keen Amiga users. They offer messaging

systems, free software, graphics, music and much more. Modems offer you the chance to get access to the core of the Amiga world, cheaply and easily. Although there's a lot of jargon to encounter, it is actually fairly simple to get started.

Along with the modem, you will need a terminal program. Several excellent offerings are available in the public domain through different user groups and PD houses. Commercial packages for around \$100 such as *GP-Term* or *Atalk-III* offer lots of documentation, help and features to make life easy. You will also need the phone numbers of a few good bulletin board systems.

Modems cost around \$350-\$900 depending on speed and brand. You can pay dearly for the name on the box - and often cheaper models work just as well. Try to get a unit that works at 2400 baud (that's the speed it sends and receives information), as this is the current standard most people work at.



Optical mouse

Commodore have not won any prizes for the dodgy mouse which comes with the Amiga. In fact, you could say they get the golden brickbat award for worst mouse of the year. It tends to

break within about three months, the buttons stop working, and before long you're on the market for a real mouse. That is of course unless you were fortunate enough to get one of the few models with proper micro-switches rather than the silly little plastic membranes imbedded in most units and pretending to be switches.

So, when you shop, get one with these proper switches. They work much longer and feel better under your finger. An optical mouse is one of the more expensive but better options for mice investors. These work on the principle of reflected light rather than a roller on a dirty table. Be sure to check one out - but avoid the new cordless mouse, as we've found these a little lacking in their accuracy and a bit difficult to master the feel of.

Printer

Creating hard copy is practical - you can present your work as a school assignment, report, essay, newsletter or brochure, design your own letterheads, business cards, stationery or invoices and print out graphics - all on a dot matrix printer costing around \$500.

Today's printers are relatively easy to set-up. Even a nine-pin model will produce reasonably good results. For truly professional looking output, a 24-pin is preferable (around \$800-900). Each pin adds to the detail of each character printed.

If you're producing a lot of output, speed is important. At least 200 characters per second (CPS) is a reasonably fast speed. For under \$1000 you can often make it as high as 320 CPS. For home use, many survived in the past on 80 CPS, although most printers now hit at least 120 and as high as 180 CPS.

Colour models are much more expensive. In practice colour is very slow, and rarely practical. You're normally better spending the difference on a faster, better quality black and white model. Some printers can be upgraded to colour

later on by buying a multi-colour ribbon. OKI offer several models like this. Watch out for the MCS-820 and OKI-20 as the head life on these thermal printers is very low. Ribbons and paper are normally available through stationers and computer equipment suppliers.

Sound digitiser

With the Amiga's full stereo sound output, you can have a tonne of fun with a sound digitiser. These little gadgets connect to your parallel port and allow you to record digitally a sound source input by an RCA jack. Better units offer a wider recording band width, and stereo input.

The samples can be used in music software (such as the two editors reviewed in this issue), or tinkered with for fun. You can alter the pitch, speed and length of the sample. You can also add special effects, or flip the sample and play it backwards. Sound sampling is fun and has some serious uses. Samplers start from under \$100 and go up to \$399 for Audio Engineer, the best currently available - and locally made at that.

Video digitiser

Graphics is the Amiga's forte. What better way to generate material than to grab it from the real world? Video digitising allows you to input a signal from a common video camera or

high quality still video device (such as the Canon Ion Camera) and to capture the image into the Amiga's memory.

From there you can manipulate and edit the digitised graphics and combine them with other computer generated items. This has uses in desktop video, publishing, animation and just for fun. What better way to spend a lazy summer afternoon than by digitising a family friend's mug-shot and cut-and-pasting the head on the body of another person. Such fiendish activities are often the favourite pastimes of video digitising buffs.

Conclusions

There are plenty of ways to spend your hard-earned money. In this article we've managed to pass on a few tips and glance at just a few of those many ways. If you enjoyed this article and want to know more, you need our AMIGA ANNUAL, which will be available "real soon now". Inside you'll find fuller explanations of all the above areas and much more, not to mention lists of software, user groups, computer dealers, bulletin boards, ways to annoy a Mac owner, magazines and people in the Amiga industry. There's also product guides, explanations and comparisons of major product groups. Be sure to get yourself a copy from your newsagent or local computer store.

THE POWER BREAKS THROUGH...



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SAVE PICTURES AND MUSIC TO DISK
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Now you can slow down the action to your own pace. Easily adjustable from full speed to 20% speed. Ideal to help you through the tricky parts.

RESTART THE PROGRAM
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PLUS THE MOST POWERFUL MACHINE CODE FREEZER/MONITOR

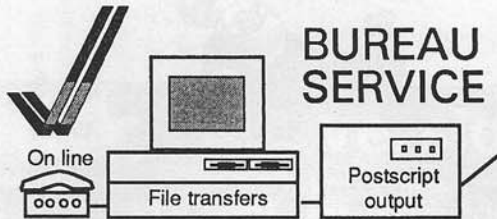
MORE FEATURES THAN YOU COULD EVER NEED. HERE ARE JUST SOME:

● Full M68000 Assembler/Disassembler ● Full screen editor ● Load/Save block ● Write string to Memory ● Jump to specific address ● Show Ram as text ● Show Frozen picture ● Play resident sample ● Show and edit all CPU registers and flags ● Calculator ● Help command ● Full search feature ● Unique Custom Chip Editor allows you to see and modify all chip registers - even write only registers ● Notepad ● Disk handling - show actual track. ● Disk Sync pattern etc. ● Dynamic breakpoint handling ● Show memory as HEX, ASCII, Assembler, Decimal Copper Assemble/Disassemble.

REMEMBER AT ALL TIMES YOU ARE INTERROGATING THE PROGRAM IN ITS "FROZEN" STATE WITH ALL MEMORY AND REGISTERS INTACT - INVALUABLE FOR THE DE-BUGGER OR JUST THE INQUISITIVE!

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- Baud rates up to 9600
- Electronic messaging system
- Upload files ⇒ colour / laser printing or conversion
- Articles on Amiga publishing
- Utilities and general information
- Software support for distributed products
- Registers S7=40 (min.), S9=25 may be needed (S7 is dialout time; S9 is time to wait for carrier)
- ANSI graphics.

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- | | | |
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| | DeluxePaint III | DigiPaint/Digiview |
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| | Professional Draw# | Professional Page# |
| | Scribble | Sculpt 4D |
| | Superbase | TextCraft & TC+ |
| | Turbo Silver | WordPerfect# etc... |

- IBMs/clones:** ASCII, Lotus Freelance Plus, PostScript, Word#, WordPerfect 4.2#, WP Conversions

- MAC:** ASCII, Excel#, PostScript, Word#, Works#

- ATARI ST:** ASCII, Postscript, WordPerfect#

- C-64:** Seq / ASCII

Has PostScript support; use outline fonts eg Times/CGTimes/PTimes.

SCANNING SERVICE (Amiga / Scanlab):

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What to BUY your C64

If this were a perfect world we would all be rich and famous. And we would all have top of the line Amigas. That is not the way the world is. One answer is to have a Commodore 64. Yes, it is not as powerful as the Amiga and, yes, the number of programs being introduced in Australia is not what it was, but there is life in the old battle horse still.

In Europe the C64 has been totally relaunched as a games machine with ultra-smart joystick and a bundle of new and old games. Here the C64 is still the biggest selling machine in the history of Australia and it is still the most affordable home computer around. Here are a few of the more worthwhile add-ons.

Disk drive

Once you step up to disk, you'll never look back ... (are there really any cassette users out there still?). Disk drives offer much faster storage. The standard load speed from disk can be sped up with the addition of a cartridge. Furthermore, programs can be randomly accessed. There's no searching, just instant access. A disk drive also opens up the possibility of more serious productivity software - packages such as Geos - which require a disk drive to operate due to their immense size.

Disk drives are available from third party suppliers. Some of these are not fully compatible with the Commodore 1541, meaning some games and application programs will not LOAD and RUN. If possible, buy the real thing!

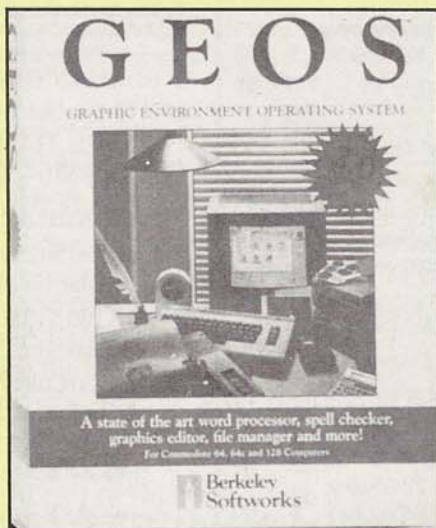
Speed up cartridge

There are a number of speed up cartridges which provide faster disk loading facilities. We've done full comparisons of these in past issues. Generally speaking, you get what you pay for. These best three are the Final Cartridge, Action Replay and Super Snapshot. You can look forward to excellent backup capabilities, enhanced BASIC commands, extra DOS commands and a machine code monitor in most units. Some also provide a reset switch which saves a lot of wear and tear by removing programs from memory and returning your C64 to power up condition at the push of a button. Without the usual power surge associated with

flicking your C64 off and on, you'll probably find the machine lasts a whole lot longer.

GEOS

Many new users find the C64's bare operating environment rather cold compared to the graphics interface provided by newer computers. The answer to the need for an easy to use more powerful operating system was provided by



Berkeley Software in the form of GEOS. Geos 2.0 offers a one hit solution to most of the productivity requirements your average home computer would ever get involved with, from wordprocessing to painting. Some Geos titles are now unavailable.

GeoRAM or RAMLink

The next best thing to add to your C64 after Geos is GeoRAM. This nifty device gives you 128K-512K of RAM which acts just like a disk drive but is as fast as computer memory - which is very fast. The result of all this extra storage is that Geos runs much faster. Many Geos function use virtual drive storage, where

the disk drive acts like extra RAM. This is slow, but enables very large files to be handled.

GeoRAM, the official Commodore release was never made available by Commodore. However, the C128 version works fine with most C64s (some

may need a stronger power supply). Several third party versions also exist. Berkeley offer their own version, and a new alternative is now available through a local company, HPD.

RAMDrive offers 512K, one or two megabytes of extra RAM. The memory is battery backed and is full Geos compatible. A reset switch is built in too, along with a disable switch which stops the computer from upsetting the RAM during a reset.

The DOS which makes the RAM work like a drive is some 20 times faster than RAMDOS supplied with the Commodore 1750 version thanks to the inclusion of JiffyDOS kernal routines. RAMDrive also works with normal Commodore DOS commands, including block read and writes. So you can also use it with *Superbase*, a very useful database program. Once setup, the RAMDrive is transparent to other program operation. There are no memory registers which can be overwritten or vectors to worry about that might change.

A deluxe model is also offered called RAMLink. It includes all the above features, activates without any bootup software and with a RAMCard can be expanded even further. RAMLink can hold REU's - up to 16 in all! Now you can have a 16 Megabyte C64! The unit includes a pass-through port and parallel port for use with CMD Hard Drives. The ultimate expansion device for C64er's. For more information call HPD on (080) 349 8486. Watch for full reviews of these products soon.

Graphics tablets

If you can get hold of an old Koala Pad or the newer Animation Station, both these items offer lots of value for drawing using a stylus and pressure sensitive tablet. You can create designs, print them out, trace drawings or just doodle directly on the screen.

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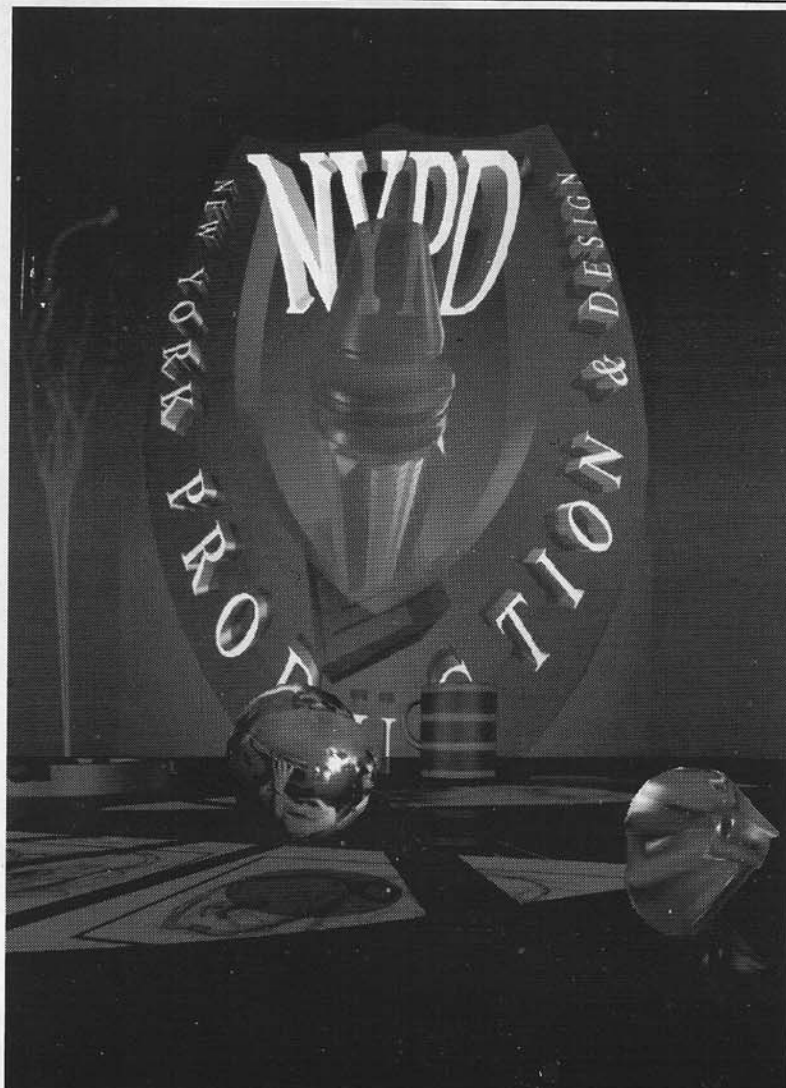
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 CALL OF DUTY IN SOME CASES.

THANKS ALSO TO BRENDA, AND THE
 CREW AT A.C.A.R. WHO MANAGE TO
 MAKE US LOOK BETTER IN PRINT
 THAN WHAT WE SEND THEM.

G'DAY TO BASIL IN ARMIDALE.

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V I D I FrameGrabber

by Andrew Farrell

Imagine capturing images or entire scenes from your favourite movie or television show, and then adding your own personal touch using a paint program or animation editor.

VIDI, a low-cost framegrabber for the Amiga, allows you to do just that. It can also digitise images much faster than traditional slow scan devices such as *Digiview*.

Just as music can be stored digitally on a compact disc, so too images may be captured by translating each point of light into a number representing the intensity or brightness. Add a second number to specify the colour and you have a full colour digitised picture. Unlike *Digiview*, which requires a stable composite video signal, VIDI can grab an image on the fly from a video source which is constantly changing. The maximum rate at which these images can be captured is limited by the speed of the parallel port which is used to transfer the data into the Amiga - about three frames per second. With enough memory, you can grab enough frames to make a short-running animation. The results are impressive enough, (320 x 256 resolution) especially when you use a program such as *Deluxe Paint* to add a little unexpected flavour.

Getting started

VIDI connects snugly to the parallel port and operates without any problem on a stock-standard 68000 based Amiga. However, add a faster processor and it refuses to work. Amiga 2000 owners will also find the unit has a problem with overhang. VIDI effectively blocks any possibility of connecting an RGB moni-

tor. This means you must use the mono video port, or as on our test machine, a Flicker Fixer card. The unit works without a hitch on the Amiga 500. A short cable connects to the second joyport for control purposes.



VIDI has a single RCA composite video connector. Two potentiometers control the brightness and contrast of the signal. Connecting up and getting a reasonable picture is fairly straight forward. You will find yourself adjusting both brightness and contrast as you change video sources or switch from frame grabbing to digitising, so make sure these two adjusters remain accessible. The software includes a long READ.ME file which has information about a large number of new commands.

Running the VidiGrab

PAL software will display the menu bar and a few moments later a status information and a group of gadgets on a panel at the bottom of the screen. You're now ready to digitise - unless of course you get the message "Video Signal Not Present". VIDI will respond this way when run on an accelerated machine, however it usually indicates a bad connection somewhere.

Operation

For instant gratification, hit the "G" key to start grabbing frames. Once you're convinced you've hit the limits of available RAM, press the space bar and then "A" to animate the frames stored thus far. The resulting animation can be played back at various speeds, in different colour palettes, or you can build additional sequences on top of this initial recording by defining a window area. From the Project menu you can LOAD and SAVE either still frames or sequences of frames. These are IFF compatible and may be loaded into a paint program with ease. The sequence SAVE asks for a range of frames, or will save all frames, each with the same file name followed by a numeric suffix. This format is also accepted by *Deluxe Paint*.

A sequence may be reloaded into VIDI or LOADED into *Deluxe Paint* by setting the number of frames to LOAD from the usual file requestor. The resulting .anim file will be uncompressed and therefore exceedingly large. Some care should be taken when SAVING all frames to ensure the ANIM starts and ends at the correct point. VIDI normally begins from the current frame which may be smack in the middle of a sequence.

The next menu is OPTIONS, which functions depending on how you adjusted the SETTINGS menu. These three menus provide all the necessary functions - most of which have equivalent keyboard short-cuts. A couple can also be used from the gadgets at the bottom of the screen. Although named OPTIONS, it is in this menu that you will find all of VIDI's functions.

Grab starts capturing frames, normally this is a continual process, however you can optionally capture single frames one at a time. VIDI will capture frames until it fills up all available memory, at which point it will restart from the first

available frame. Unfortunately there is no indication when this point has been reached.

Frames captured can be protected or HELD in a carousel. These frames will not be overwritten by the grab option. When saving a sequence, if the first frame is HELD only HELD frames will be saved, conversely, if the first frame is FREE only FREE frames will be saved. Using this feature you can easily grab sequences, mark a frame as HELD, grab more frames and continue to build until you have a library of frames ready to save.

VIDI provides full cut and paste facilities between frames, either entire frames or part thereof. You can build frame-grabbed sequences on top of existing sequences by defining a window. Additional sequences can be made to sit either inside or outside the window.

Using the frame selection option, sixteen frames are displayed at one time. You can page through the available frames and quickly select a frame, or set options such as



HELD or FREE. This is a very handy feature for editing too. Colour images are grabbed in sixteen grey shades by default. A special Fast-Grab option works in only four grey shades allowing for speedier grabbing. When you have the right frame, the re-read option will fetch the full 16 grey scale version. Images or sequences can be made shades of a colour such as blue or red using the palette gadget on the panel. These makes for some unusual effects. Using Quantise you can reduce the number of shades of a frame from 16 to eight or four. Carefully used in conjunction with the window option, this can help give the appearance of sev-

eral colour palettes.

Using the optional VIDI-Chrome module you can capture interlace HAM images in 4096 colours using a video camera and colour filters. With the RGB-Splitter you can do away with the filters and capture full colour images from any still video source. Frame grabbing is not possible using VIDI-Chrome. (Watch for a full review of VIDI-Chrome in our digitising comparison coming early in the new year.)

Conclusions

VIDI is a fun gadget which although demanding much RAM is an ideal device for having fun on a machine with around two Megabytes. Professional applications would be limited as the resolution is not really acceptable. VIDI is also great for generating images for dot-matrix based desktop publishing. It is far easier than digitising equipment to use, requires no special lighting, and offers the power to grab from existing commercial footage. Of course, copyright limitations mean there would be limited use to which you could put such material. Nevertheless, a fun, functional device. Good value for money, easy to use, and great for charging the imagination of kids looking for some holiday fun.

Combined with *Deluxe Paint*, VIDI could provide endless hours of activity. Lots of RAM recommended. □

RRP \$399.00
Distributed by **Pactronics** (02) 748 4700.

Also available:
Vidi-Chrome,
VIDI-RGB Colour Splitter

NB: For programmers, VIDI includes a library and documentation to enable VIDI to be accessed from your own BASIC or C programs.

For a full sample disk of VIDI-frame grabs used in this article, send \$5.50 to:

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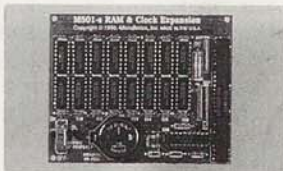
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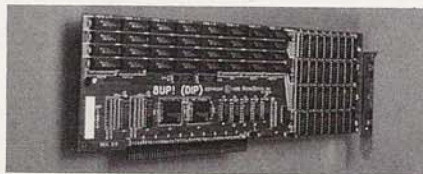


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Disney Animation Studio

by Dennis Nicholson

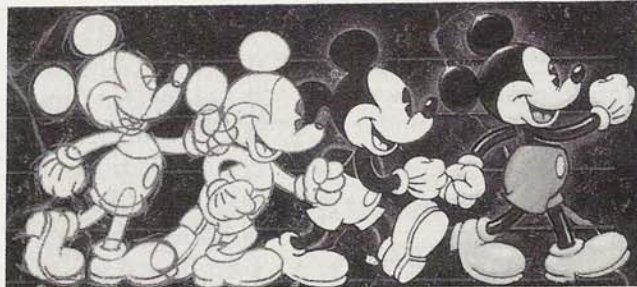
It's no secret that Walt Disney Studios have been keen Amiga users for some time. Now they're spilling the beans on how they do it with the release of their own animation package. Is it the real thing or just a cheap substitute?

Talk about Goofy! Will those Americans never learn that they are the minority and we are the majority! They may have invented our beloved computer, but they still cannot get it through their heads that their television system (NTSC) is the worst in the world! (Unless of course you happen to live in the upper regions of outer Mongolia, where you have to peddle a bike at over 20 kilometres per hour to obtain a steady image on your two inch, cardboard, television.)

NTSC was designed by Mickey Mouse, and advertised by Uncle Scrooge! Why, why, why do we still get Amiga software that is not PAL compatible? Commodore claim that almost

three-quarters of Amigas sold are PAL based machines (Europe, and Aussie of course). Their latest operating system, Workbench 2.0, is fully equipped for PAL users, and as this has been in development for quite some time it seems most peculiar to me that some software developers have not taken this into account.

Actually on reflection, it's not that strange when I come to think of it, let me relate an incident that happened to me when I was in America some while back. I was seated quite happily in a res-



taurant in Memphis when the waitress noticed my unusual accent. "...and where are you from sir?" she said. "Australia", I answered. "Oh, my goodness, Austria, how nice!" "No, no, AUSTRALIA, A.U.S.T.R.A.L.I.A.!" "Oh, Australia. My, what language do they speak there?"

If software developers woke up they

would realise that they are missing a very large PAL market, but trying to wake them is like trying to wake Sleeping Beauty after she took a 'byte' at the apple. I'm Grumpy, and Disney is Dopey for not realising what they are missing. (I already have a feeling that my software rating is not looking good for *The Animation Studio*, but let us move on).

Getting started

After double-clicking on the TAS (*The Animation Studio*) icon you are presented with a 'word-security' window which you must complete before the program will load. Now, if Disney was serious about protecting their valuable software they would not have put such a ridiculous system into TAS. Even Steamboat Willie can crack this one! Let me quote a few lines from Leo Schwab, the software's programmer, after he was asked the following question...

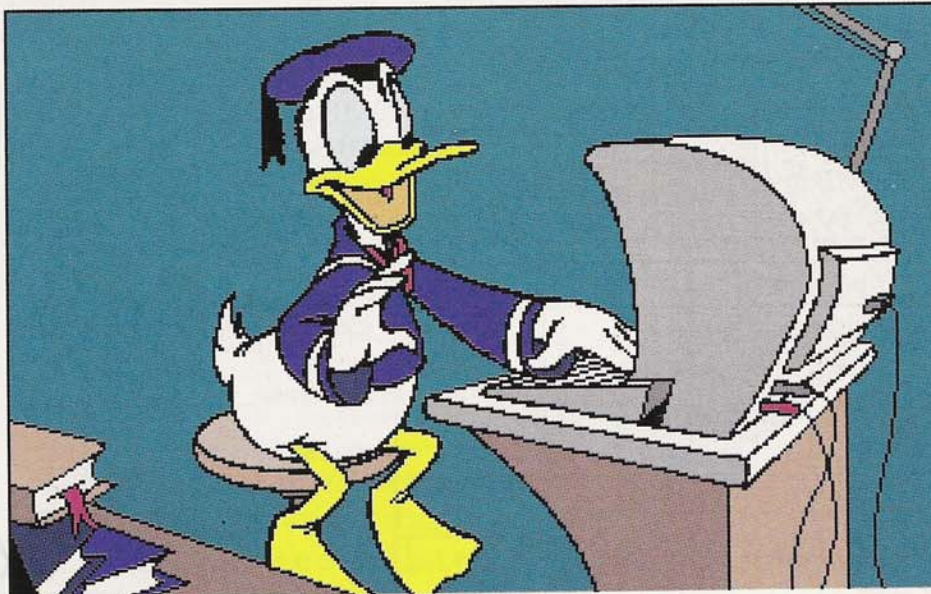
Q: "I know there are problems with piracy, but why is a professional package like Disney's *The Animation Studio* copy protected?"

A: "Because Disney absolutely positively demanded it be there."

"We tried to convince them this was Not A Good Idea, but to no avail. We did our best to make it as inoffensive as possible. If you know the keyboard commands to DPaint, you have an excellent chance of getting past the requester."

And so, there it is, the security system that is not secure! The Walt Disney organisation is paranoid about breaches of copyright, and that is why there are two full pages in the TAS manual detailing their copyrights to the World and the Universe. Don't misunderstand me, I hate pirating as much as most folks, but all the security systems in the world will not stop a burglar if he really wants to get in! (*But as they say, locks keep honest people honest - Ed*)

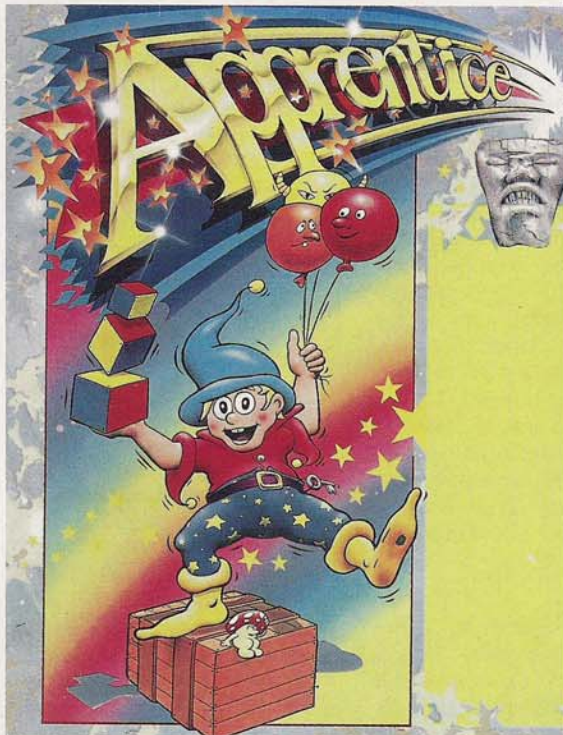
All the sample animations that are supplied with TAS (on disks two and three) are plastered with copyright notices. If you run one you are pre-



continued on p28

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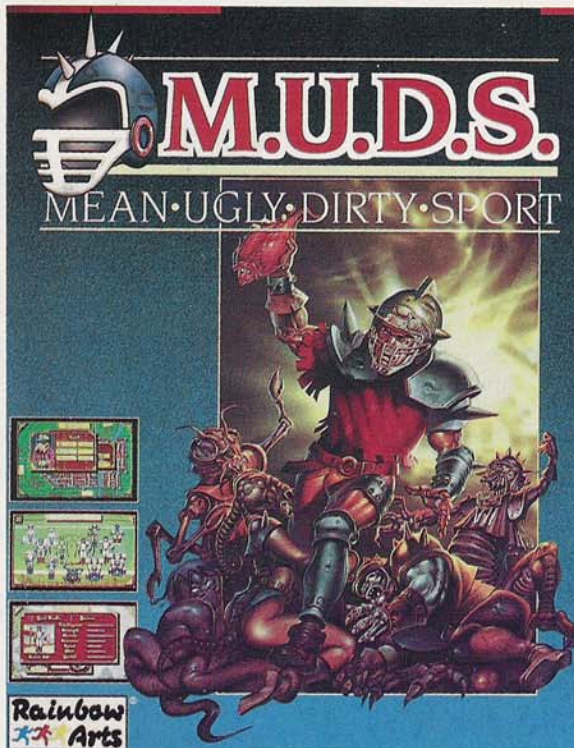
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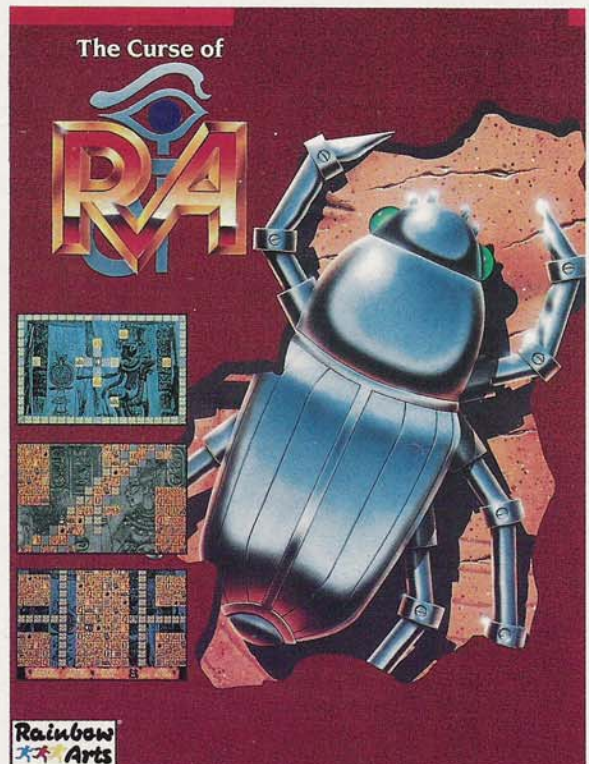
Victory celebrations for the success of the mission X-OUT which annihilated the satellite of the planet Alpha Centauri ended abruptly as the long-range scanners showed intense activity on the planet itself - an **ATTACK** from the planet is **IMMINENT**.

Rainbow Arts

Z-OUT - the mission to destroy the planet Alpha Centauri, the H.Q. of the Federation now needs a heavy blast to pilot the space craft. What lies ahead is unknown except that the defenses of the H.Q. are every good.



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sented with the following: *This animation is intended for your study and enjoyment. Each frame, and the character depicted on it, is copyrighted by the Walt Disney Company and may not be copied, altered or distributed in any way. Violators will be prosecuted to the fullest extent of the law.* The animation will then run, but the first frame has another copyright notice on it. I think I've just infringed their copyright by copying their copyright notice.

Operation

Moving right along, we finally get into the inner workings of TAS, and it is not unlike *Deluxe Paint* in screen layout. At least they had the foresight to use a well-respected interface. The first work screen to be presented is the PENCIL-TEST area. This is where you design your characters, and their actions. This provides all the tools an artist requires to begin drawing a black and white version of the proposed animation.

The main work area is described as a CEL (being short for Celluloid, a sheet of clear acetate on which drawings are done). As each drawing in TAS is completed you can move to a new Cel to then continue additional drawing, (very similar to page-flipping with *Deluxe Paint III*). The TAS advantage is that you can 'see' up to four previous Cels to aid in the drawing of the current Cel. This is called OVERLAYING, also known as the ONION SKIN EFFECT (onion skins being somewhat transparent, but TAS doesn't make you cry...well, not as much as peeling onions!)

Being able to view earlier Cels under the current is a valuable aid to character/action placement within the Cel. The Pencil-Test area allows four grey colours (that can be varied) to best utilise overlays.

The TAS packaging claims that the Onion-skin effect is an exclusive TAS effect - Not true! MicroIllusions has the same option built-in to its Cel Animator software.

One particular pull-down menu within Pencil-Testing has me baffled. The TOOLS menu is a copy of all the tools available in the tool box situated on the right side of the work area. My only guess as to why they have been repeated as a pull-down menu is to access the tools when the tool box is removed from the screen (F10 - same as *DPaint*), but it seems to me slower to get the pull-down menu via the mouse than to just hit the F10 key to return the tool box - Dumbo

Designs Incorporated!

Once you are happy with a completed Pencil-Test you can access an EXPOSURE SHEET. This allows visual information concerning the number and placement of previously created Cels. It also lists additional events, such as timing, sound and music effects. The sheet can be printed out, and used to load, save and/or append animations.

TAS allows for sound to be added to animations, and comes supplied with many sound samples in the Sonix format. The exposure sheet uses script-language commands to operate animations. For example, if you wish to place a sound effect at frame number 52, you would click the mouse next to frame 52 and type in the relevant sound/music command, such as 'SFX' for a sound effect, or SCORE for music. There are other commands for volume and tempo etc.

Ink and paint

The next module built-in to TAS is the INK AND PAINT section. This is where the animations created within Pencil-Testing are coloured, and backgrounds are added. This area is similar in layout to the previous, but with the addition of colour palette options. Although TAS is limited to 32-colours, there is an option to DIITHER colours to increase the visible range. Another option called a FRISKET allows the user to mask specific areas of a Cel. In this case a Frisket is more commonly recognised as STENCILLING to *Deluxe Paint* users, it protects (locks) colours selected in the frisket palette.

The main Ink and Paint colour palette offers six cycling options, as does *DPaint III*, but they will only cycle RIGHT to LEFT and vice-versa, not up and down. An AUTOMAP function allows for remapping the colour palette of incoming backgrounds if its palette does not match that of the animation.

Incidentally the Ink and Paint pull-down menus also contains a duplicated TOOL section for no apparent reason.

As well as allowing for import and export of IFF and ANIM files TAS can also create its own specific format called CFAST. The only mention in the TAS manual of just exactly what CFAST does is "...a file format used in *The Animation Studio*." That really clears that one up!!! My guess (after much loading/saving, is that it allows for fast loading/saving, in other words, it loads a file without showing each frame (Anim-style). Just another function to confuse the Amiga world.

Isn't the whole idea behind Amiga software to be able to interact with as many related programs as possible, e.g; Anim files can be loaded into all number of graphics-related packages. CFAST seems destined for the "...it was a good idea at the time" pile!

Conclusions

A word about the TAS manuals ... Great! Pity about the software! These are the best thing about TAS, the two books have been thoughtfully written, with lots of information relating to the history, theory and practicalities of cel animation. They are spiral bound and professionally presented (the box is nice too!)

So there you go, TAS for the PAL user is useless, MicroIllusions *Cel Animator* does what TAS does, but in PAL, and not just in 32-colours with fake dithering, but HAM if required. The Disney Studio's first big animated blockbuster was 'Snow White and the Seven Dwarfs' released in 1937, and to quote the manual ... "The entire project was a huge gamble for Disney, with every step presenting new challenges, but today, over 50 years later 'Snow White' continues to delight and amaze audiences, and has earned a place in film and animation history". I am willing to bet that their *Animation Studio* software will NOT have the same success, I just hope it doesn't take them 50 years to come up with a better package! □

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INFOFILE

flat-file database

by Eric Holroyd

I've long been a fan of this particular program and have used it in all of its previous guises. It initially appeared in the very early days of the Amiga as *MiAmiga File*, and was followed by several issues of *SoftWood File*, the latter versions of which were very similar to this new one. It comes from the same stable as *Pen Pal* too, which is a pretty strong recommendation in itself.

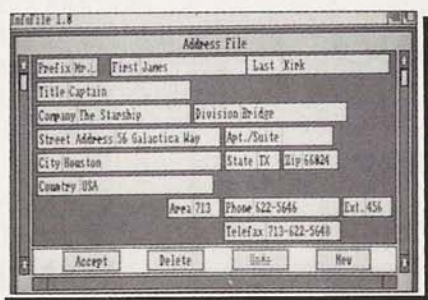
Basically, it's a very easy-to-use database program where you set up various named columns (up to 32 columns are allowed) of various types - Text, Amount, Date, Time, Yes/No etc. Your data is entered into these columns prior to being first stored to disk, then sorted in a variety of ways and sent to the printer for a hard copy.

A two screen display system is used with the 'List' screen being where your entered data is shown in 'listed' style whilst the 'Form' screen is the blank where you enter the data. Printouts are available from either screen, with that from the List screen being a straight out listing whilst in the Form screen you can reorganise and change around the way the Form is displayed and get a printout accordingly. It's here that you can do special reports and labels for many different purposes.

Graphics and sound files too

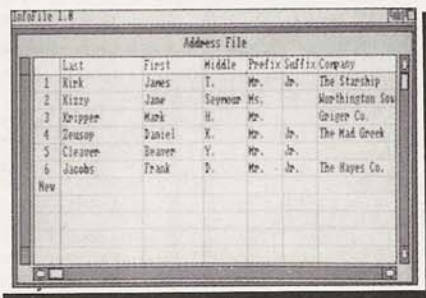
InfoFile is a versatile program, capable of some quite sophisticated sort and calculation features, and has a couple of features I've not seen in other programs in that it works with IFF files too. It will show graphics as a Slide Show, play digitised sounds as a Sound Show and even combine the two to perform a Movie Show for you.

The graphics and sounds are simply stored in their respective directories on



disk and their names entered just the same as you enter any other type of data in your database. Simply define a column as Picture and enter the names of your stored graphics. Then, when you want a Slide Show, select that option from the drop down menus and it'll all happen automatically. Alternatively, you can show each picture in turn with a mouse click for a manual show.

Sound and Movie Shows work similarly, and if this all strikes you as a bit 'gimmicky' at first then consider the possibilities if you're a real estate salesman setting up a database listing the features of the various properties you're handling (number of bedrooms, swimming pool, double garage, etc) which you can then narrow down to your client's needs by doing a Sort (needs two bedrooms, garage and no pool for example) which will give you a short list of suitable properties to show him/her.



Now for the good bit: With another mouse click selection from the Options menu you can run a Slide Show depicting the various properties which in all probability will clinch the sale right there and then! Of course, you've previously digitised all the photos you've taken of the properties and have stored them on the data disk to use in this way, but then all good salesmen do this kind of groundwork, don't they?

InfoFile comes on a single bootable Workbench disk and the first thing to do (after making a working copy from the non copy-protected original) is to run Preferences and set up your printer and the type of paper you'll be using. There's a swag of printer drivers to choose from (I use the EpsonQ driver to work with my excellent Star LC24-10) and I deleted the rest of the drivers from my working copy in the interests of disk space and faster loading.

Templates

There's a second disk provided which has a number of very useful 'Templates' of actual database operations. As these come with sample files to familiarise you with the program's working methods it's a great help. There are ten of these Templates, the titles of which mostly speak for themselves: Address File, Cheques, Church, Country Club, Expense Report, Inventory, Library, Real Estate, Staff File, and Work Out.

Personally, I'd never have thought to use a database to keep track of physical workouts but on checking it out I have to admit that it's a good idea to keep track of miles jogged, push-ups done, weight lost, laps swum, pounds lifted etc. This is all described in the manual as a 'personal point of reference that shows progress clearly'.

Staff File is a database designed to keep employee records of a small business and is worth mentioning here as it uses the Calc feature to work out wages due. The formula for this is very easily set up and simply multiplies the contents of the 'Rate' field with that of the 'Hours Worked' field. This is then added (automatically) to the result of the 'Over Rate' field multiplied by the 'Overtime' field and the total wages due magically appear in the 'Total' column. The manual takes you through the steps and even I (and I'm hopeless at figures!) understood it right off.

Three different database Templates and sample files are included in the 'Library' and they cover Books, Music, and

continued on p 36

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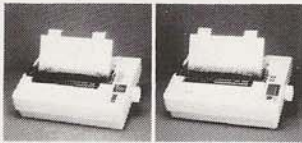
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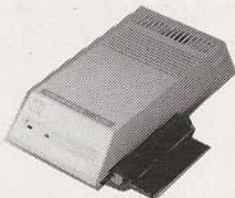


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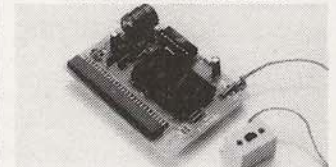
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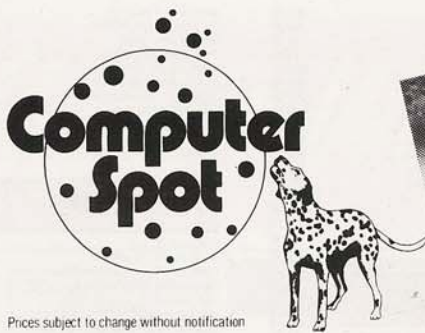
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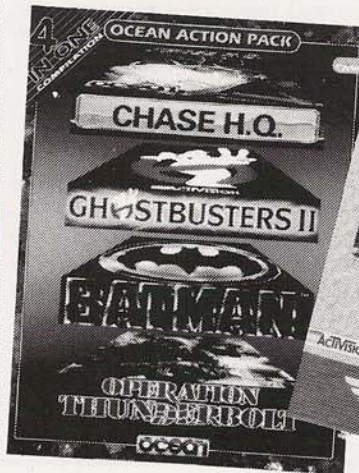
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Videos. The 'Music' one has full Slide and Sound Shows set up to show how easy it is to do as well as a 'Movie' - which is really a series of Slides along with digitised snippets of recordings of each performer. For instance there's a piccy of Pink Floyd and 'Dark Side of the Moon' which is accompanied by the relevant music. All this is followed automatically by a Madonna snippet, then a James Brown one and several others. Very well done and a very interesting way to show favorites from your own music collection.

In the 'Book Library' there's a field called 'Cover' where you may nominate a digitised picture of favourite jackets. When you use the Slide Show option to display your data you really do get to judge a book by its cover...The 'Video Library' template has been designed to give you a reference for your complete video cassette library and provides a complete listing along with the ability to search it for favourite stars if you wish. There's a field called 'Rating' which lets you see at a glance how much you like a particular video.

Views

A system of 'Views' is used which lets you see the same file of data in different ways simply by setting up different Views. In a View you determine things like column width and display order, report and Form definitions, sort sequences etc and the Video & Music Library templates outlined above use special Views to print out audio and video cassette labels to suit your library of cassettes which I felt was a great feature! As well as saving a lot of extra typing if you want to enter that same data into a label making program it saves you the cost of buying the program anyway!

I've been using *SoftWood File IIsg* (the suffix denotes sound and graphics capabilities) for a long time now to keep track of my own software library. I update the file periodically and do a printout which then goes into a ring binder on my shelf. As all my disks are numbered (U15 is Utilities 15, M05 is Music Disk 5 etc) it lets me pinpoint any program on any disk very quickly. The database is sorted alphabetically twice before saving and printing it, once normally on the Type field (which sorts the categories into Art, Games, Music, Utilities etc) then 'Progressively' on the Program Name field. This retains the category groupings and alphabetises all the program names in each field. Wonderful!

I also started databases of the contents of Megadisc and the T-Bag collection as I like the easy way in which *InfoFile/SoftWood File* lets you do all this. Unfortunately, due to so many demands on my time (*Questor's Pipe Mania* being one of the most pressing at the time of writing!) I'm a little behind with both of these. That's my fault however, and not the program - which I heartily endorse and recommend.

If you have a need to organise any type of data for: user groups; school etc; collections of stamps, books, videos, records etc; or any of a thousand and one other applications then have a look at. You'll probably find one of the Templates will suit what you want to do with very little modification. □

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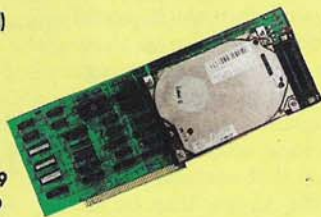
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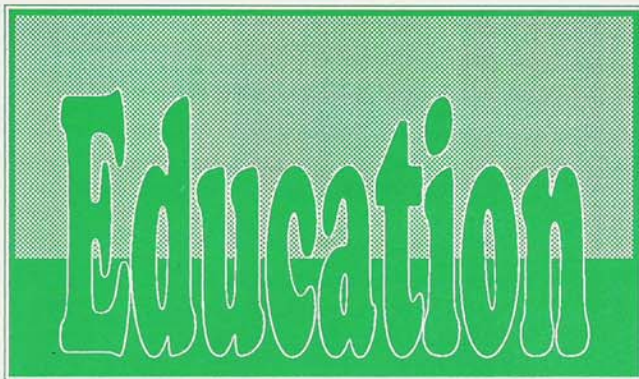
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Using AMOS for educators

by Anne Glover

We often hear that AMOS can be used for educational purposes. Let's examine that statement in a way that won't have you referring to glossaries of computer terms!

AMOS is a programming language that allows you to truly exploit the capabilities of your Amiga instead of simply using commercial software. In comparison to other programming languages, AMOS is easier to get into and faster to produce results. These results are most impressive! There is no doubt that AMOS has enormous potential. For a complete review of AMOS's amazing powers, refer back to Andrew Farrell's article in the August edition of ACAR.

AMOS comes with an extensive manual (User Guide) which will provide the budding programmer with a wealth of detail. The Guide also includes a short tutorial that walks you through an introduction to AMOS. Along with your AMOS package, you will receive an invitation to join the AMOS Users Club (there is no cost involved). The Club provides newsletters with regular updates and contact with the local "Mr. AMOS", Neil Miller from Pactronics. So there is plenty of "hand holding" available for beginners.

From an educational perspective AMOS has some potential in two main areas.

- The first of these is to allow students of whatever age to be introduced to the world of programming.

- The second area is to allow teachers and parents to develop educational programs across the curriculum for their students or children.

Now, to look at each of these areas in detail:

1. Introducing students to programming

If you are the intending student (and the teacher) hoping to introduce yourself to programming, the AMOS package may be a good way to start. It will most certainly be much easier than teaching yourself BASIC and is much grander than BASIC. With the support provided by the User Guide and the Club you may one day find yourself producing commercial programs!

In the school situation AMOS could provide a useful demonstration to show students how the power of the Amiga can be harnessed. Illustrating to the students that a programmer can actually talk to their machine and issue commands. Commands that are more likely to be obeyed by the Amiga, than by the students these days!

AMOS could be used to excite and extent students who have already sampled a wide range of software. AMOS could provide a more satisfactory way of teaching programming. It will provide faster results with a shorter lead time, so students will be rewarded more quickly and be motivated to continue. However, AMOS will not replace the other computer languages in the workplace and therefore cannot replace them in the schools. The more established languages with a wider application will continue to be used in high schools teaching Computer Education.

AMOS may however find its own niche as an introduction or demonstration piece. AMOS may for instance play an important and impressive role in the more flexible Computer Awareness courses currently taught widely in schools.

2. Developing education programs

AMOS is a great tool for teachers who are computer fanatics. Such a teacher could develop appropriate programs for any child or group of children in his or her class, if time permitted. If a school is fortunate enough to have such a teacher, it would be worthwhile allowing him or her the extra time to develop and/or adjust programs for the benefit of all the children, not just those in one class. This may of course take a number of years to complete and the adjustments would be an ongoing process.

The extent of the possibilities with AMOS is enormous. The high achievers in a class could have a program to develop their research skills. The lower achievers could use a program to motivate and stimulate. Individual children with specific needs could be catered for. Children from non-English speaking backgrounds could have their language needs and their other more specific needs met at the same time. All of the students could benefit enormously if their teacher is "AMOS literate", and had all the time in the world.

In comparison to other programming languages, AMOS is easier to get into and faster to produce results.

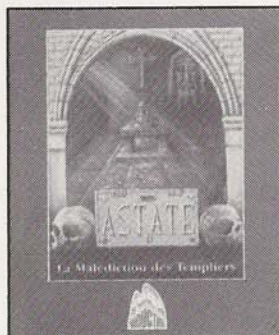
AMOS also provides parents with a simplified way of producing educational programs, or games for their children. Those parents who are already into programming, or wish to be, will probably find AMOS an exciting and powerful tool.

However, the bottom line on AMOS is, that if you are already into programming or have been itching to get into programming, AMOS may provide you with the perfect facility and opportunity. If, however you are a parent and/or a teacher who has grand ideas about buying AMOS today and producing fantastic programs tomorrow, you may be disappointed. Be prepared to spend a lot of time becoming "AMOS literate" if you are

continued on p40

Great New Games for a MERRY CHRISTMAS

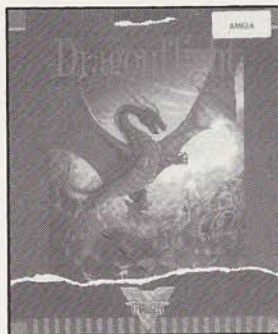
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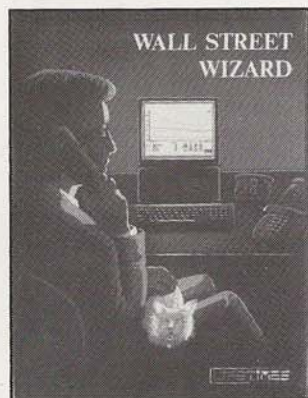


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of ten "Man Years" of technical development and is truly state of art with 10 dungeons — 14 levels — 12 cities and more than 150 useable items. Beautifully illustrated with movie-like animated sequences, this is the game of the year and you must not miss it.



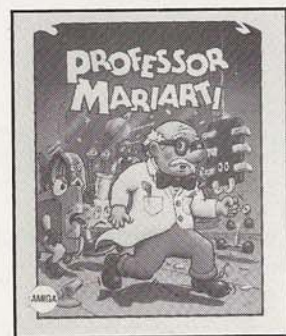
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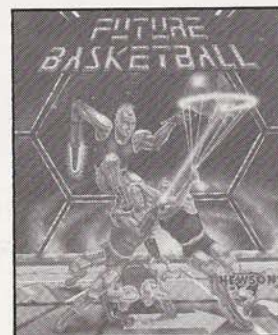
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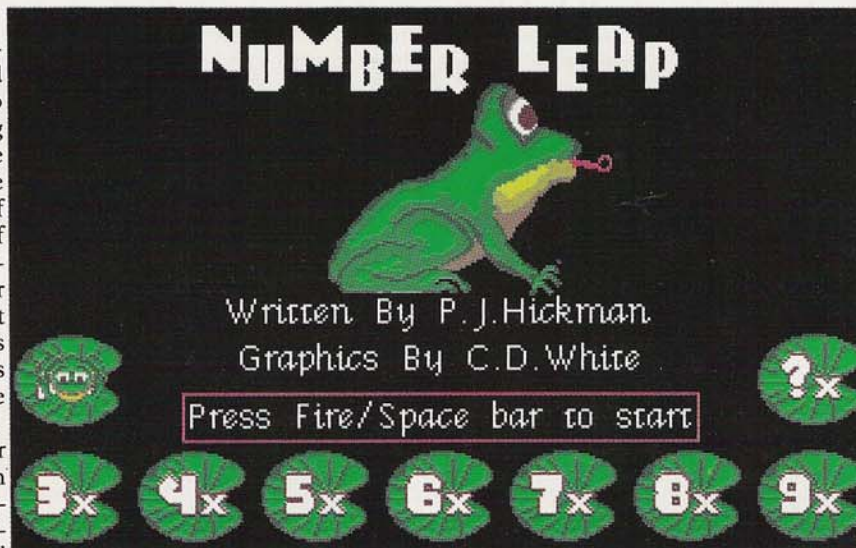
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Education

not already a programmer. Long nights and weekends will need to be spent swotting over the User Guide and the Amiga before you will be capable of producing anything of a professional standard. So kids, if your teacher arrives at school with his eyes hanging out of his head, ask him if he has been "AMOS-ing".

For the teacher or parent who has been relying on commercially produced software and has no real interest in becoming a programmer, it will not be realistic to expect them to devote their weekends and holidays to becoming "AMOS literate". Those in the profession know of the huge load already on teachers. It would be more appropriate for most teachers to rely on the commercial producers to provide AMOS products that they can adapt to their student's needs.

AMOS is currently being used by some commercial software manufacturers. Satchel (the South Australian Department of Education and producers of Picture Book and Kadimakara) and Database Software, the producers of *Fun school 3*, are using AMOS to develop educational programs. *Fun school 3* appears to be the first of many commercial Amiga programs produced in this way.



The potential to adapt AMOS produced software to the individual needs of children (or older students) will be huge in the future.

As the use of AMOS expands, as it appears certain to do, those teachers and parents who are AMOS literate will produce programs and distribute them through the public domain or through their contacts in the profession. Semi-computer literate teachers or parents could then adapt this freely available software to their needs and in the process become more "AMOS-literate". Eventually, this second line of AMOS users will develop their literacy to the point where they may also be creating programs. This will happen some time in the future, but it represents the tremen-

time required to become conversant with AMOS, it is not applicable to students, teachers or parents who are not in the above groups.

AMOS will hopefully provide a dramatic increase in the number of Amiga programs, especially in the Public Domain. AMOS software released into the public domain will be ideal for teachers and parents who wish to adjust the code to closer match the requirements of their students' or childrens' needs. □

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FUN SCHOOL 3

by Anne Glover

The new *Fun School* series has hit the shelves, bringing with it plenty of great new activities for chil-

aging, but the programmers have not made any mistakes - the contents are excellent.

the required information. An essential skill for tomorrow's adults. Some of the other skills that will develop as the child works through the series include: number recognition, basic maths, direction and mapping skills, letter identification, word skills, counting, reading, sentence construction, telling the time, handling money, programming and basic computer literacy.

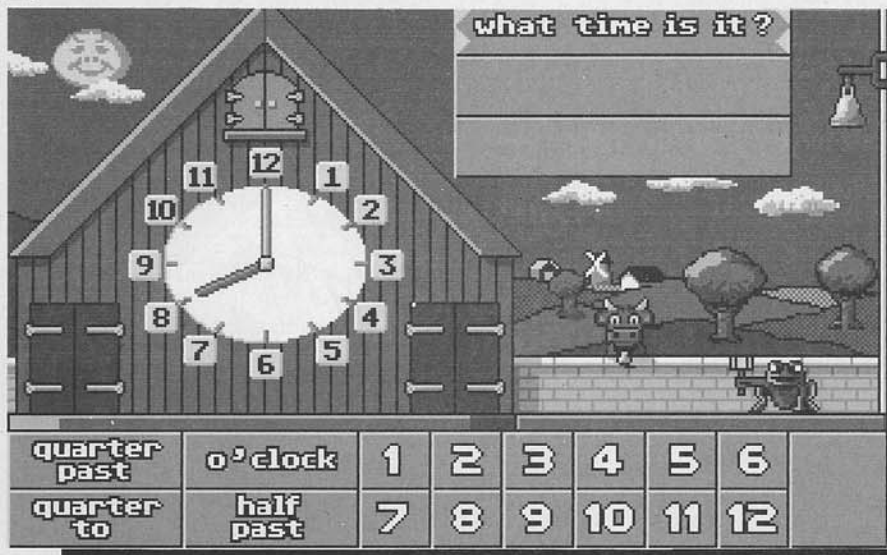
The packages are presented for set age groups. However, as each disk has 6 activities and each game has a variety of levels (up to 6) there is plenty of scope for children outside the age or ability range indicated. If, for example, you have more than one child using the computer a child as young as four and as old as 10 could obtain some benefit from the 5-7 age package. As some of the activities allow you to add your own information at your own level, the activities could be adapted to suit the range of your children's needs.

Fun School 3 is produced in Great Britain. All of the activities translate well for use by Australian children. *Toyshop* in the 5-7 age range, asks the children to buy a selection of toys, using English pounds. This should not be a problem for Australian children, as the concepts of dealing with money and developing the appropriate mathematical skills remain intact. It is in fact advantageous that young children become aware of other nations and their currencies. This game in itself may stimulate an additional interest in foreign currencies and the countries of our world.

We are told that *Fun School 3* conforms to the National Curriculum for the children of Great Britain. This may explain the inclusion of the Electricity program in the 5-7 age range. Otherwise it does seem strangely out of place.

Fun School 3 is a bit more sophisticated than *Fun School 2*. The series has a greater emphasis on using the computer as a tool rather than just developing keyboard skills and basic computer literacy. The 5-7 age package has a data file with a range of information to which extra files can be added. Animals, transport, dinosaurs and the weather are already on file. The child must learn to retrieve the required information.

The over 7's has an activity called *Robot Draw*. This activity is a version of the programming language called "Logo". This allows the child to tell the computer to produce accurate diagrams to their own specifications, at the same time the child is learning how to program. The



dren aged between 3 and 11 years of age. The *Fun School 3* series consists of three packages, all sold separately; for the under 5's, for 5-7 year olds and for the over 7's. Like me, you may have overlooked *Fun School 3* in the store as the packaging is almost the same as the *Fun School 2* series. I passed by them initially, thinking - we already have the *Fun School* series. The marketing people may have made a mistake with the pack-

Activities

The activities are generally presented as games, to attract and retain the child's interest. However, the benefits of playing these games are extensive. *Fun School 3* for 5-7 year olds for example, has an activity that develops research skills (amongst other things). The child searches through their computer files for



over 7's also has a database program; this allows the child to store information, sort it, search for it and then test themselves if they wish. It can be used for a wide range of activities from setting up an address book to designing a practice test for a coming exam. All the while the child is learning about computers, how they can be used and how they operate.

The booklets that are included in the packages are helpful. They also provide some additional ideas for extending the activities provided.

We know that children will learn more readily when the learning activities are fun, are child directed and child centred. This is certainly the case with *Fun School 3*. The child is easily able to select their activity, progress as they like and escape when they wish to do so. The negative sound effects for incorrect responses is the only concern I would have about some of the activities. Some sensitive young children may find them off-putting.

Learning through games

Most of the programs would appear to the child to be games. Matching letters so teddy will receive an ice-cream, searching for jewels using the compass, or asking teddy to dance, skip or jump as they wish.

Fun School 3 is an ideal series for young children. As the booklet tells us, they will "delight, entertain and most of all educate your child in a wide range of skills". The graphics are delightful and the music is entertaining. *Fun School 3* is a perfect starting point if you are planning to introduce a young child to the PC in the near future. As a supplement to your current software library they are certainly worth considering.

Below is a list of the activities on each package:

Under 5's:

1. Matching - shapes and colours.
2. Counting - objects up to nine.
3. Letters - select the correct letter.
4. Reading - match words to pictures.
5. Action - make teddy jump, hop, etc.
6. Painting - a very simple paint program.

5-7 year olds

1. Toyshop - buy the correct toy (reading and maths).
2. Time - learn to tell the time.
3. Funtext - a database.
4. Electricity - linking circuits.
5. Journey - using maps and directions.
6. Collect - creating sums.

Over 7's

1. Treasure Search - directions and measurement.
2. Word Search - find the word.
3. Robot Draw - a logo program.
4. Planetary Maths - simple sums.
5. Sentences - correct spelling, punctuation and grammar.
6. Database - store, sort, search and test.

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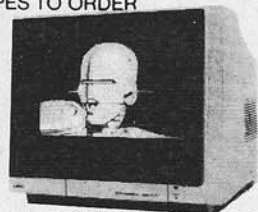
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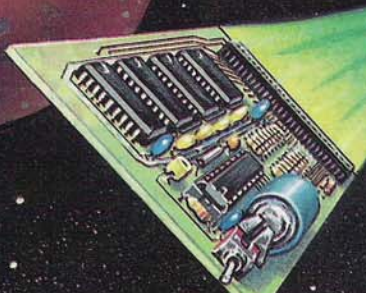
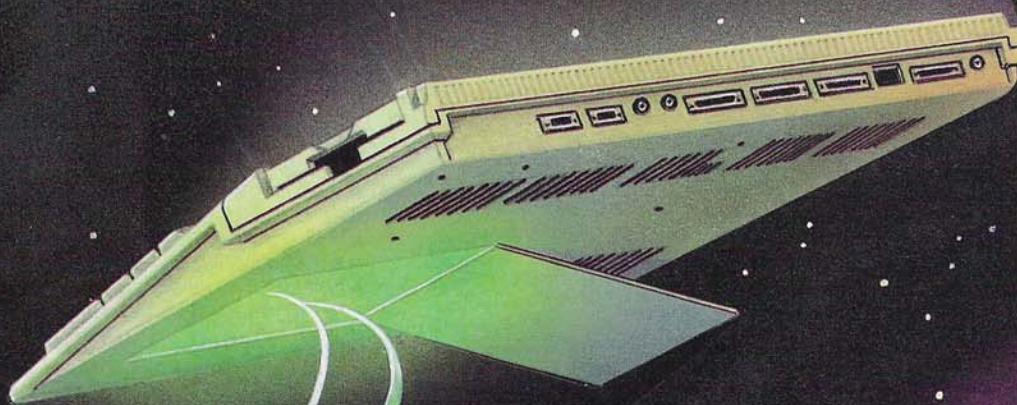
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High Resolution Demonstration

We will use the following program to demonstrate the standard bit-mapping in two colours by drawing the graph of a cosine function on a 320 X 160 grid. It takes some time to perform this in BASIC, so be patient! (The bit-map has been located at 8192 up.) The background is set to a yellow (colour value 7) and the dots are set to red (colour value 2). This is done in line 230 by poking the screen RAM with 2^{16+7} .

Program: COSINE CURVE10 REM (C) GREG PERRY, BRISBANE, 1984

```
100 REM COSINE CURVE
110 CP=53272: REM SCREEN/CHAR REGISTER
120 BM=53265: REM BIT MAP REGISTER
130 CB=8: REM CHARACTER POINTER
140 BB=CB*1024: REM BIT MAP RAM BASE
150 SC=1024: REM SCREEN RAM LOCATION
160 REM SET CHARACTER POINTER TO RAM
170 POKE CP, PEEK (CP) OR CB
180 REM ENABLE BIT MAP MODE
190 POKE BM,59
200 REM CLEAR BIT MAPPED RAM
210 FOR I=BB TO BB+7999: POKE I,0: NEXT
220 REM SET SCREEN TO RED/YELLOW
230 FOR I=SC TO SC+999: POKE I,2*16+7: NEXT
240 REM CALCULATE X,Y AND PLOT
250 FOR X=0 TO 319 STEP .5
260 Y=INT (90+80* COS (X/10))
270 CH=INT (X/8)
280 RO=INT (Y/8)
290 LN=Y AND 7
300 BY=BB+RO*320+8*CH+LN
310 BI=7-(X AND 7)
320 POKE BY, PEEK (BY) OR (2^BI)
330 GET A$: IF A$<>" " THEN 360
340 NEXT X:V.350 GET A$: IF A$="" THEN
350
360 REM RESET EVERYTHING TO NORMAL
370 POKE CP,21: POKE BM,27
380 PRINT "[CLR]"
```

RUN the program. Once the yellow screen appears, press the space bar if you wish to stop the program and return to normal character mode. (Otherwise use RUN/STOP RESTORE.)

Notice what happens when you run the program. Follow each step of the listing. It goes through the following steps:

1. The bit-map is enabled and character pointer set, meaning that the screen displays the disorganised patterns in the bit-map RAM and the random colours from the "old" screen RAM.
2. The bit RAM slowly clears - takes a while to poke 8K in BASIC!
3. The selected colours are poked to the screen RAM giving a yellow background colour.
4. Finally the cosine curve is drawn in red. The whole program is quite boring since it takes so long. Machine code would make it usable. However, the program demonstrates the technique, and allows you to play around with the it.

Exercise 1

Change the colours in Line 230.2. Change Line 230 into two lines to split the screen into two areas of opposite colours. (You can use any colours you prefer.)

```
230 FOR I=SC TO SC+480: POKE I,2*16+7: NEXT
```

```
235 FOR I=SC+481 TO SC+999: POKE I,7*16+2: NEXT3.
```

Plot some other function. Draw a circle, a triangle, a house etc. Change the equation in Line 260. $\cdot V$ High Resolution in Programs Because the bit-map RAM is at 8196-16384 (in BANK 0), it will not be too long before your BASIC program, or more likely its variables, begin to overwrite the bit-map RAM. The solutions to this problem are discussed in Chapter 3 and Appendix 1. You either move the BASIC RAM or move the bit-map.

Because bit-mapping requires such large areas of memory, the common solu-

tion is to switch the VIC II to use another BANK and select all the video information from a totally different area of memory which will not be used by BASIC.

Warning: Read the section on BANK selection in Appendix 1 before making any changes to the following program. With the above program, let's change BANKS to BANK 1, using the RAM16384-32767. To protect this RAM area from our BASIC program, set the end of BASIC RAM memory pointers by POKE 55,0: POKE 56,64: CLRA check of available memory (PRINT FRE(0) reveals almost 14K left for the program space. In the following program, the BANK (1) starting location will now be 16384, and the screen RAM offset pointer is set to 1 (the normal BANK Offset). Therefore screen RAM will be located at 17408 to 18407 (ScreenPage = 68), and the bit-map offset is still 8, from the previous program, putting bit-map RAM at 16384+8192 or location 24576 upwards.

Add or change the following lines in the COSINE program above:

```
Program: COSINE BANKED
5 POKE 55,0:POKE 56,64:CLR
10 REM BANK/SCREEN/BIT BASE CHANGES
20 BN=1:REM BANK NUMBER
30 BK=56576:REM BANK SELECT REGISTER
40 SB=1*16:REM SCREEN BASE FROM TABLE
50 SP=SB/4+BN*64:REM SET SCREEN PAGE..
140 BB=CB*1024+BN*16384
150 SC=SP*256
170 POKE 648,SP: POKE BK,151-BN: POKE CP,SB+CB
370 POKE CP,21: POKE BM,27: POKE 648,4: POKE BK,151
Delete Line 340 if BANK number is not 0: there is no need to clear thenormal
screen RAM if it is moved in the high resolution display.
```

Note: Do not press the "STOP" key while the program is running. If you wish to stop the program before it has completed initializing the screen and bit-map RAM areas, add the following lines:

```
210 FOR I=BB TO BB+7999: POKE I,0: GOSUB 400: NEXT
230 FOR I=SC TO SC+999: POKE I,0: GOSUB 400: NEXT
390 END
400 GET A$: IF A$="" THEN RETURN
410 GOTO 370
```

Now, to experiment with changing RAM locations, you may change the bank selection in Line 20, the screen location in Line 40, and the bit-map RAM base in Line 140. The screen page is calculated in Line 50 and all these are set in Line 370 and reset in line 370.

4.3 Multicolour mode

The basic difference between Multicolour and standard bit-mapped mode is that in order to allow the use of four colours, the horizontal resolution is halved to 160. This still leaves a total grid of 160 by 200 points on which to draw the picture, which will be quite adequate for most uses. Most high resolution graphics you will see will be in multicolour mode, and, as we will see below, the loss in resolution (if you notice it!) is more than made up for by the extra colours. The resolution is lost because it is not possible to represent the information for four colours in only one bit. Two bits are used to code each dot on the screen but each screen dot is now two pixels wide. We have seen in previous chapters that in two bits there are four possible combinations. Each combination encodes a particular combination of the four colours:

Colour Number	Bits left	Bits right	Colour Register
0	0	0	Background #0 as screen colour in 53281
1	0	1	Screen RAM bits 7-4
2	1	0	Screen RAM bits 3-0
3	1	1	Colour RAM (55296-56295)

The screen RAM is used as in the standard bit mode to store two of the colours, with the background colour register #0 (the one normally used for the overall screen colour) and the Colour RAM (55296+) storing the other two colours. For multicolour mode, the byte locations corresponding to the X (0-159) and Y (0-199) coordinates are calculated in a similar manner, however the respective bits must now be set in pairs so that the correct colour appears in the corresponding screen pixel pair. If you've struggled through this chapter this far, it's time to make life a little easier by using machine code routines to speed things up and allow us to concentrate on using the graphics and not simply $\cdot V$ playing with them. The following

program loads a machine code graphics routine into the area of RAM from 49152 to 49838 (\$C000-C2AE). Great care has been taken in ensuring that all the DATA statements are correct. Double check the DATA lines 100-130. These provide a vital check of your typing. Enter the program then RUN it. After each 50 bytes has been read, a checksum (the sum of all 50 bytes) is calculated and if it does not match the correct value, the program will tell you which block of data contains the error. You then only have to carefully check through these 50 bytes to find your mistake. If you make less than 10 typing errors the first time you should make a good living in computers! It is worth the effort. (The companion disk for this book contains both this program and one called "GRAPHICS.BIN", a binary version which may be loaded directly into the correct location at 49152 upwards by the command LOAD "GRAPHICS.BIN",8,1).

Program: Graphics Data

10 REM (C) GREG PERRY, BRISBANE,
1984

```

100 REM MULTIColour
HIGH RES GRAPHICS
110 DATA 2086,3905,5938,6334
120 DATA 5966,4960,7637,6354,6921
130 DATA 7036,5382,6572,5603,3774
140 DIM CH(14)
150 FOR I=1 TO 14: READ CH(I): NEXT
160 SA=49152
170 FOR J=1 TO 100:CH=0: FOR I=1 TO
50
180 READ N: IF N<0 THEN 210
190 POKE SA,N:SA=SA+1:CH=CH+N
200 NEXT
210 PRINT "BLOCK[SPACE]
NUMBER[SPACE]J;"CH="CH;
220 IF CH=CH(J) THEN
PRINT "OK": GOTO 240
230 PRINT "CHECKSUM
[SPACE]ERROR"
240 IF N<0 THEN 260
250 NEXT
260 IF SA<>49839 THEN
PRINT "INCORRECT[SPACE]END
[SPACE]ADDRESS"
270 PRINT "THE[SPACE]END": STOP
280 REM DATA BLOCK 1
290 DATA 96,76,254,192,76
300 DATA 53,194,76,95,193
310 DATA 76,104,192,76,141
320 DATA 192,0,0,0,0
330 DATA 0,0,0,0,0
340 DATA 0,0,0,0,0
350 DATA 0,0,0,0,0
360 DATA 0,0,0,0,0
370 DATA 0,0,0,0,0
380 DATA 0,0,0,0,0
390 REM DATA BLOCK 2
400 DATA 0,0,0,0,0
410 DATA 0,0,0,0,0
420 DATA 0,0,0,0,0
430 DATA 0,0,0,0,0
440 DATA 0,0,165,251,133
450 DATA 25,165,252,133,26
460 DATA 169,0,162,32,160
470 DATA 0,145,25,136,208
480 DATA 251,230,26,202,208
490 DATA 246,96,32,253,174
500 REM DATA BLOCK 3
510 DATA 32,158,183,96,173

```

```

520 DATA 17,208,41,223,141
530 DATA 17,208,173,22,208
540 DATA 41,239,141,22,208
550 DATA 169,20,141,24,208
560 DATA 169,6,141,33,208
570 DATA 169,151,141,0,221
580 DATA 169,4,141,136,2
590 DATA 96,32,147,192,76
600 DATA 4,193,173,0,221
610 REM DATA BLOCK 4
620 DATA 106,106,106,73,255
630 DATA 41,192,133,252,169
640 DATA 0,133,251,133,253
650 DATA 173,24,208,74,74
660 DATA 41,60,24,101,252
670 DATA 133,254,141,136,2
680 DATA 173,24,208,10,10
690 DATA 41,56,24,101,252
700 DATA 133,252,165,251,133
710 DATA 25,165,252,133,26
720 REM DATA BLOCK 5
730 DATA 165,253,133,27,165
740 DATA 254,133,28,160,0
750 DATA 165,25,153,16,192
760 DATA 165,26,153,17,192
770 DATA 24,200,200,165,25
780 DATA 105,64,133,25,153
790 DATA 16,192,165,26,105
800 DATA 1,133,26,153,17
810 DATA 192,192,54,208,231
820 DATA 165,251,133,25,165
830 REM DATA BLOCK 6
840 DATA 252,133,26,96,32
850 DATA 147,192,32,72,192
860 DATA 173,22,208,9,16
870 DATA 141,22,208,173,17
880 DATA 208,9,32,141,17
890 DATA 208,32,97,192,142
900 DATA 33,208,32,97,192
910 DATA 138,10,10,10,10
920 DATA 133,163,32,97,192
930 DATA 138,41,15,5,163
940 REM DATA BLOCK 7
950 DATA 133,163,32,97,192
960 DATA 134,164,165,253,133
970 DATA 27,169,0,133,243
980 DATA 24,165,254,105,3
990 DATA 133,28,169,219,133
1000 DATA 244,160,231,162,4
1010 DATA 165,163,145,27,165
1020 DATA 164,145,243,136,192
1030 DATA 255,208,243,198,244
1040 DATA 198,28,202,208,236
1050 REM DATA BLOCK 8
1060 DATA 96,169,0,133,171
1070 DATA 133,174,32,97,192
1080 DATA 134,166,32,97,192
1090 DATA 134,168,32,97,192
1100 DATA 138,56,229,166,176
1110 DATA 6,73,255,105,11120
1120 DATA 198,174,133,173,32
1130 DATA 97,192,138,56,229
1140 DATA 168,176,6,73,255
1150 DATA 105,1,198,171,133
1160 REM DATA BLOCK 9
1170 DATA 170,32,97,192,134
1180 DATA 176,165,173,197,170
1190 DATA 176,2,165,170,133
1200 DATA 175,169,0,133,163
1210 DATA 165,170,133,164,32
1220 DATA 25,194,165,163,133
1230

```

```

DATA 169,165,164,133,170
1240 DATA 169,0,133,163,165
1250 DATA 173,133,164,32,25
1260 DATA 194,165,163,133,172
1270 REM DATA BLOCK 10
1280 DATA 165,164,133,173,169
1290 DATA 128,133,167,133,165
1300 DATA 162,169,32,3,194
1310 DATA 162,172,32,3,194
1320 DATA 166,175,165,168,133
1330 DATA 159,165,166,133,158
1340 DATA 165,176,32,67,194
1350 DATA 165,167,24,101,169
1360 DATA 133,167,165,168,101
1370 DATA 170,133,168,165,165
1380 REM DATA BLOCK 11
1390 DATA 24,101,172,133,165
1400 DATA 165,166,101,173,133
1410 DATA 166,202,208,214,96
1420 DATA 181,2,16,17,56
1430 DATA 181,0,73,255,105
1440 DATA 0,149,0,181,114
1450 DATA 73,255,105,0,149
1460 DATA 1,96,162,16,169
1470 DATA 0,6,164,42,176
1480 DATA 14,197,175,144,214
1490 REM DATA BLOCK 12
1500 DATA 229,175,38,163,38
1510 DATA 164,202,208,240,96
1520 DATA 229,175,56,176,243
1530 DATA 32,97,192,134,158
1540 DATA 32,97,192,134,159
1550 DATA 32,97,192,138,133
1560 DATA 164,152,72,32,123
1570 DATA 194,165,158,41,31
1580 DATA 168,185,119,194,72
1590 DATA 165,158,74,8,74
1600 REM DATA BLOCK 13
1610 DATA 165,164,176,4,10
1620 DATA 10,10,10,40,176
1630 DATA 2,10,10,133,164
1640 DATA 104,160,0,49,25
1650 DATA 5,164,145,25,133
1660 DATA 163,104,168,165,163
1670 DATA 96,63,207,243,252
1680 DATA 165,251,133,25,165
1690 DATA 252,133,26,165,159
1700 DATA 74,74,41,254,168
1710 REM DATA BLOCK 14
1720 DATA 185,16,192,133,25
1730 DATA 185,17,192,133,26
1740 DATA 165,159,41,7,133
1750 DATA 163,165,158,41,252
1760 DATA 10,144,2,230,26
1770 DATA 24,5,163,101,25
1780 DATA 133,25,144,2,230
1790 DATA 26,96
1800 DATA -999

```

Once the program is correct you can move on to using it to plot some interesting graphics.

To use these routines in your own programs, LOAD and RUN the above program first to enter the code into memory. A better alternative is to save the machine code directly to disk and then load it from within your own programs when required. Once you have got GRAPHICS DATA to run correctly, ENTER and RUN the following program which saves the machine code to disk.

Sound Sequencing for Hackers

You've probably spent time taking in the brilliant synthesised soundtracks on some of today's greatest entertainment titles or hackers demos, wondering just how they do it. How do they make such fantastic music? Well, they don't use *Sonix*, *Deluxe Music* or any of the *Dr. T's* series. No, these guys have time to write their very own music programs which allow all the low-level control to make an average sounding Paula chip get up and rock!

The great part is, two of these programs have made their way into the public domain distribution channels. One of these is the well known *Soundtracker*, which according to one recent U.K. publication, is now up to version 4.0. It's the name to know if you're serious about your sequencing. More recently a lesser known title has joined the synth-parade. It's called *M.E.D.* and offers the addition of MIDI support.

Sequencing: the Soundtracker way

Creating music using *Soundtracker* was originally for programmers. The program was designed by Karsten Obarski some years ago - since then, the great *Soundtracker* has undergone a constant evolution, with many different versions and spinoffs resulting.

Both *Soundtracker* and *M.E.D.* use a non-standard music notation. Sound daunting? Don't worry, all that this means is that you won't see a stave on screen to arrange your notes on. There's none of the niceties of other programs such as *Sonix*, *Deluxe Music* or *Tiger Cub*. This package is strictly low-level - plenty of power without any high-level user interface to inhibit operation. That is not to say it lacks the sort of features Amiga users have grown fond of. There are still plenty of screen gadgets, and the whole interface is designed in a logical functional fashion.

Soundtracker-based programs use a

by: Daniel Creighton & Andrew Farrell

kind of generic timing, with tunes being made up from patterns of up to 64 lines. Put them together and you've got your piece. This system, whilst frustrating and difficult to use at first, becomes like second nature once you get to grips with the program. Persevere, it's well worth it.

There are both advantages and disadvantages to this system. A disadvantage is that you can't write notes that anybody could play. An advantage is that this system allows for faster and more powerful editing and the ability to manipulate the sound better.

Advantages

The basic advantage of producing a song at such a relatively low level is that it allows your old buddy, the 68000 to directly interpret your songs. This saves a lot of memory, so if you're operating on an unexpanded 512k, this sort of editing provides much more scope.

If you're writing a demo or a game, then it is simplicity itself to import your

Soundtracker modules onto the program, with full instructions on when to play the song. *Soundtracker* and *M.E.D.* have full documentation on how to do this - the results sound brilliant. Most music in commercial games is written using a hybrid version of *Soundtracker*.

In action

Getting started is relatively easy. The best way to do this is to listen to all the assorted tunes, play with the preset editor, and generally toy with the various options. When you tire of this, and want to go a bit deeper, try entering a piece of music that has been written in conventional form. It's not as hard as it looks, provided you don't get too ambitious. A general rule of thumb is that each note length in *Soundtracker* is equal to a semi-quaver in conventional music notation. For example, a minim in conventional form (two beats) will work out to be eight note spaces.

Writing your music

A typical note in nonstandard form will look something like this:

C-2 3 C 23

Whilst this may look complicated, it's really quite simple. The note being played in the example is middle C. *Soundtracker* and *M.E.D.* both have 3 octave ranges and so the two indicates the middle octave - hence middle C.

How about those numbers? The purpose of the numbers is really quite simple, and not at all confusing. What they do is tell the Amiga what special commands will be performed during that note. If these are all zero, then no special functions will be performed. In this case the command is command number three (vibrato) and the numbers that follow contain additional information about the command.

Effects like vibrato are fairly simple to perform and sound very effective once you get the hang of them. With

MED2.00 by T. Kinnunen 1989, 1990

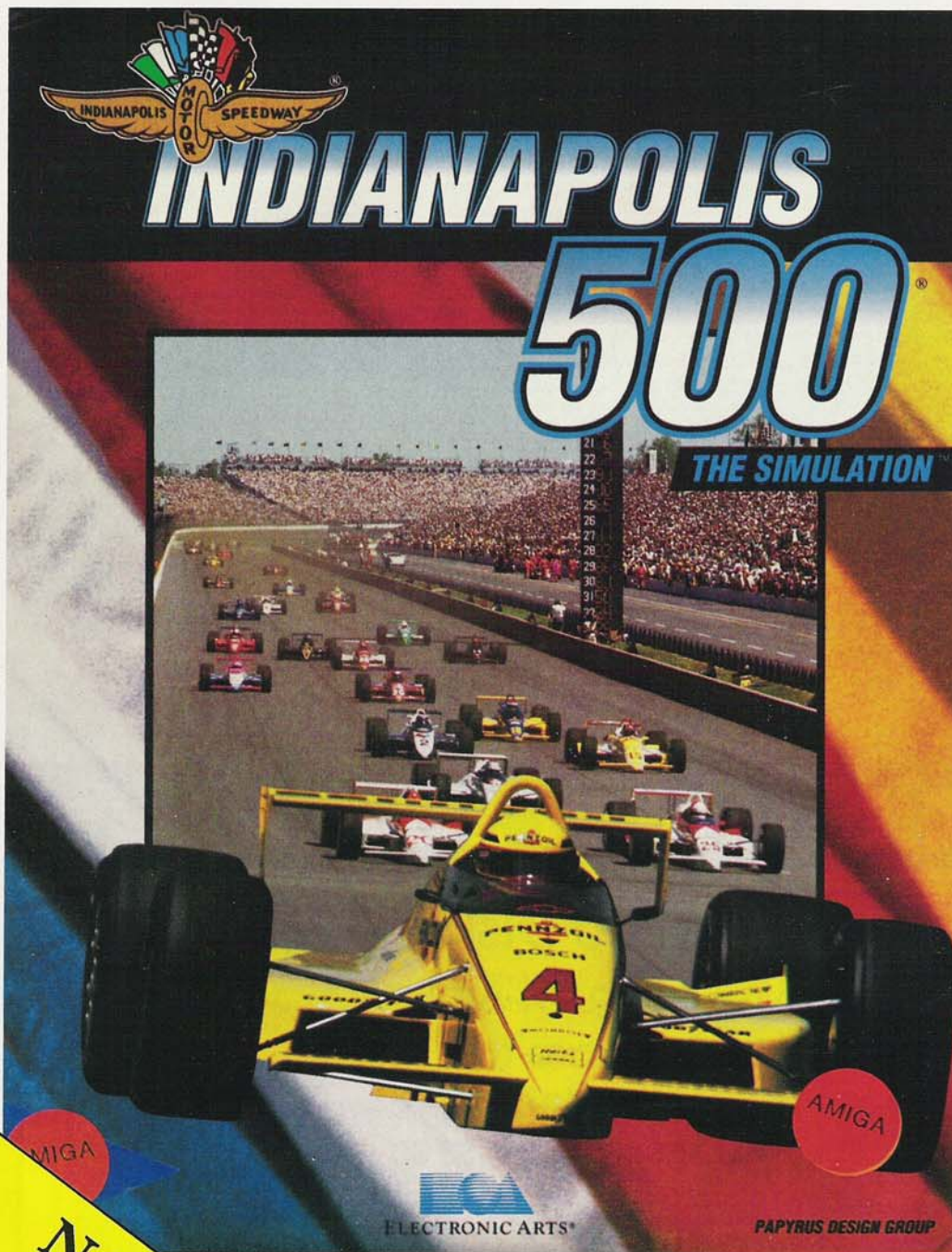
PLAY SONG	FILTER	SLIDING: 5	FILES	MISC.
PLAY BLOCK	SO1 EDR	1	PLAYING	
STOP PLAYING	TEMPO = 020	INS DEL INS	SAMPLES	MIDI
CONTINUE SONG			BLOCK	TRANPOSE
CONTINUE BLOCK			EDIT	

N: 02/10 B: 01/09 S: 1 D: 1/1 I+2 E 8x C: NightMare

00	H-1	5F14	H-2	7000	---	0000	E-3	3000
01	---	0000	---	0000	---	0000	---	0000
02	C#2	5000	C#3	7000	---	0000	---	0000
03	---	0000	---	0000	---	0000	---	0000
04	F-2	5000	E-3	7000	---	0000	---	0000
05	---	0000	---	0000	---	0000	---	0000
06	G#2	5000	G#3	7000	C#2	6000	---	0000
07	---	0000	---	0000	---	0000	---	0000
08	---	0000	---	0000	---	0000	---	0000
09	---	0000	---	0000	---	0000	---	0000
10	---	0000	---	0000	C#2	6000	---	0000
11	---	0000	---	0000	---	0000	---	0000
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these commands you can slide the pitch and volume up and down over as many notes as you like, use portamento, wobble notes and achieve most of the effects available in real music. It is very easy to add samples such as voices and so on, from the substantial list in *Soundtracker's* preset editor.

These commands are pretty much standardised between *M.E.D.* and *Soundtracker*, so you should encounter little difficulty there. On the downside, there are fewer instruments on *M.E.D.* than on *Soundtracker*. To be fair, *M.E.D.* is only contained on one disk to *Soundtracker's* seven. There are few major differences between *M.E.D.* and *Soundtracker*, save that *Soundtracker's* layout is more organised.

M.E.D. and MIDI

Why use *M.E.D.* if *Soundtracker* is better, or you already have *Soundtracker*? Apart from the fact that *Soundtracker* is disputed as a public domain offering, there is also the fact that *M.E.D.* contains an option that will have even die-hard *Soundtracker* fans drooling - something *Soundtracker* in all its incarnations did not provide - full MIDI support. Using the MIDI instruments is quite similar to using Amiga samples. You can allocate

some instruments in your song to be MIDI instruments. Then *M.E.D.* will feed the notes played with these instruments to the MIDI device, once you have allocated which channel they go through. You can also define the preset number of the MIDI instruments. MIDI instruments are used in the same way that you use Amiga sounds, except that you can use them in all tracks.

It is possible to enter notes (including Amiga samples) with an external MIDI device. *M.E.D.* also includes *M.E.D.* player, a program very similar, dare I say exactly the same, to *Songplayer* on *Soundtracker*. With this program you can play *M.E.D.* songs without *M.E.D.*, using Workbench or the Cli. You can even transfer your old *Soundtracker* songs and modules onto *M.E.D.*, provided they were written on *Soundtracker* 2.3 or 2.4, and then add MIDI instruments. My one complaint about *M.E.D.*, and this applies to *Soundtracker* as well, is that the keyboard is arranged like a piano keyboard. It takes a while to get used to, and is very cumbersome.

Modules vs Songs

Songs can be saved in two formats, song files or modules. Files contain the backbone of the music, but to hear the

music you have to load all the instruments in the song from the separate instrument disks. Modules on the other hand contain the song and the instruments - they are fully self contained and easy to distribute.

Before a song can be put on a demo it has to be in module format. The downside of this is that modules are very memory hungry.

Instruments

Soundtracker has about 400 instruments, depending on which version you track down. You can also sample your own, if you have a sampler. There are limitations to what you can sample, depending on your machine's memory constraints. Samples can also be taken from sounds stored in IFF format. And no, you can't do that to *Xenon 2*. The great beauty of *Soundtracker* and *M.E.D.* is their low level access, which means that your only limitation is yourself.

Stand alone playback

To mind, the only stand alone playback utility available is a program called *Intuitracker*.

Intuitracker is a multi-tasking program that plays *Soundtracker* modules. I am not aware of compatibility with

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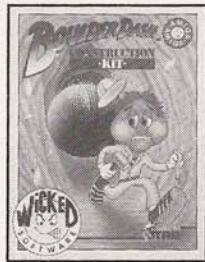
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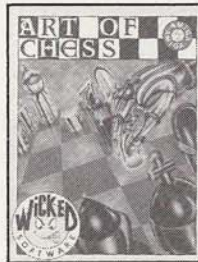
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M.E.D. modules, so you'll have to try it and see. Doubtless, there are other stand alone programs for *Soundtracker*.

Conclusions

Both of these music editors are worth adding to your collection. They look complicated, but once you get to grips with the program you can produce some stunning results. I think that every Amiga owner should have a copy of *Soundtracker*, if only to listen to the songs. Overall, M.E.D. is a good music editor, more a complement to *Soundtracker* than an editor in its own right. M.E.D. has one major point in its favour - it's genuinely public domain.

M.E.D, *Soundtracker* and *Intuitracker* are available in various public domain collections and bulletin boards or directly from Prime Artifax - (02) 879 7455.

Addendum:

Soundtracker, the copyright issue: It has been rumoured by some that *Soundtracker* originated as a commercial program. The latest version of *Soundtracker* enjoys top place in United Kingdom Public Domain charts and is part of many public domain collections. It appears that if *SoundTracker* ever was commercial, the author has since resolved himself to the fact it is now distributed as Public Domain and left it at that. □



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The Geos Column

by Bruce Lyon

Letters, Letters, Letters

This month I was planning on covering ... oh well, never mind. You have been sending in so much mail recently it cannot be ignored. ACAR has received and sent on a great many letters for me to cover, all related to GEOS, and I will spend this month's column answering some of the questions raised. Not all letters can be included due to space limitations, and some letters cover very similar issues. For those of you who have included stamped return envelopes, I have replied individually.

One other quick comment, Andrew Farrell commented on the loss of some GEOS product lines, mirroring the general downturn of new software offerings for the C64 in his October editorial. Whilst this is true, how many times must a new word processor be developed if the existing one is fine - paint program or whatever. The GEOS suite of offerings is very extensive and well targetted. Thus the need for new applications diminishes with time.

At this point, user developed programs should be coming to the fore, as the users of GEOS find gaps in its functionality, and perhaps develop utilities to plug those gaps. Again I say, if we have sufficient response, we may be able to produce a release disk with user written utilities, clip art, and other items to benefit everyone.

GEOS Text Processing Speed

John O'Hara from Pittsworth Queensland writes ... 'I have for some time been using version 1.3 and apart from the appalling speed I have found it reasonably satisfactory until now. Using the text scrap manager, in the time it takes to make one document from many smaller ones, I could take out the document manually. Does GEOS V2.0 improve im-

porting text faster, or do I have to get another word processing program?'

In short John, V2.0 is no quicker. In fact, the word processor itself is marginally slower, due to the great many features added since V1.3. The reason using the text manager is slow, is that the word processor is temporarily swapped out of memory, to a disk swap file, whilst the text scrap manager is invoked as a desk accessory (DA). This is the same with any DA. When you have cut or pasted the appropriate text, the word processor is then reloaded from disk. Even with disk Turbo, on the 1541 this still takes time.

As mentioned in the last issue, if you use GEOS in a routine and serious fashion, consider a RAM disk. I assure you will have no complaints about speed. The cost of a RAM disk is less than a second disk drive, which you would need to use the C64 for serious WP applications anyway. Secondly, I'm not aware of many other word processing programs offering text scrap management facilities. Finally, if you are a fast typist, GEOS is not the data entry environment for you. A non-GEOS based word processor or editor may be for you. After basic data entry, convert the document over to GEOS via Text Grabber very painlessly, and use the many and varied GEOS facilities to enhance the printed output.

GEOS Keying

Jeffrey Mikkelsen of Carisbrook Victoria writes... 'when installing GEOS V2, a dialog box asks if you wish to 'key' the boot disk to a previously installed application. Is it possible to key the boot disk to another GEOS V2 boot disk that may be used at another location? If two GEOS boot disks are not keyed to each other, can a work disk containing GEOS and its files be opened from another unrelated boot disk system? What is the correct printer driver for the MPS1250?'

Well Jeffrey, I have briefly mentioned GEOS protection before, but you raise a

good question so I will explain in some more detail. Each GEOS boot disk (contains loader, kernal and other system files) comes with a unique two byte serial number. When a new application is first installed, it looks up this ID in memory, which will be from the system you booted off. The ID is then written away in the bowels of the application code so that when it boots it will expect to find the same ID each time. If it doesn't, it will not boot. The assumption is that you have pirated the copy of the application without paying for it, and hence you pay the price for your supposed sins!

The reason V2 attempts to key into the existing application is that you may already have V1.3, in which case you don't want to invalidate some of those applications eg *geoFile*, *geoChart* etc. So finally, yes you can key to an existing system, even if it is another GEOS V2 system. If two systems are not keyed together, you cannot run one application on another system.

You can certainly transport your DATA files across to another system, as these are NOT keyed. There is a library function in *geoProgrammer* that lets you access the ID. If you have a disk sector editor, patience, and a bit of nouse you have find exactly where the keyed information is stored and do your own manual keying, but be wary. One false move...

As to the correct printer driver, I refer you to page 17 through 21 of the GEOS V2 user manual. Have you tried the MPS1200 driver? I don't actually have access to a MPS1250.

Printer hassles

Wayne Buxton of Randwick writes ... 'I am having trouble getting a line feed with a MPS1200/50, but the screen shows "printer inaccessible" when trying certain DIP settings.'

Again Wayne, I have no MPS1200 printer, but refer you to the relevant printer pages in the manual. Do you have the recommended printer interface? Are all the connections correct? Try transparent mode on your interface, and use various combinations of the line-feed.

DIP switches

Kenton Clyde of Gosnells WA writes ... 'I am having trouble with *geoWrite* documents on my Star NX-1000C printer. The problem occurs at the end of the line. It will not print the last few characters properly.'

Kenton, there is a specific driver list-

continued on p60

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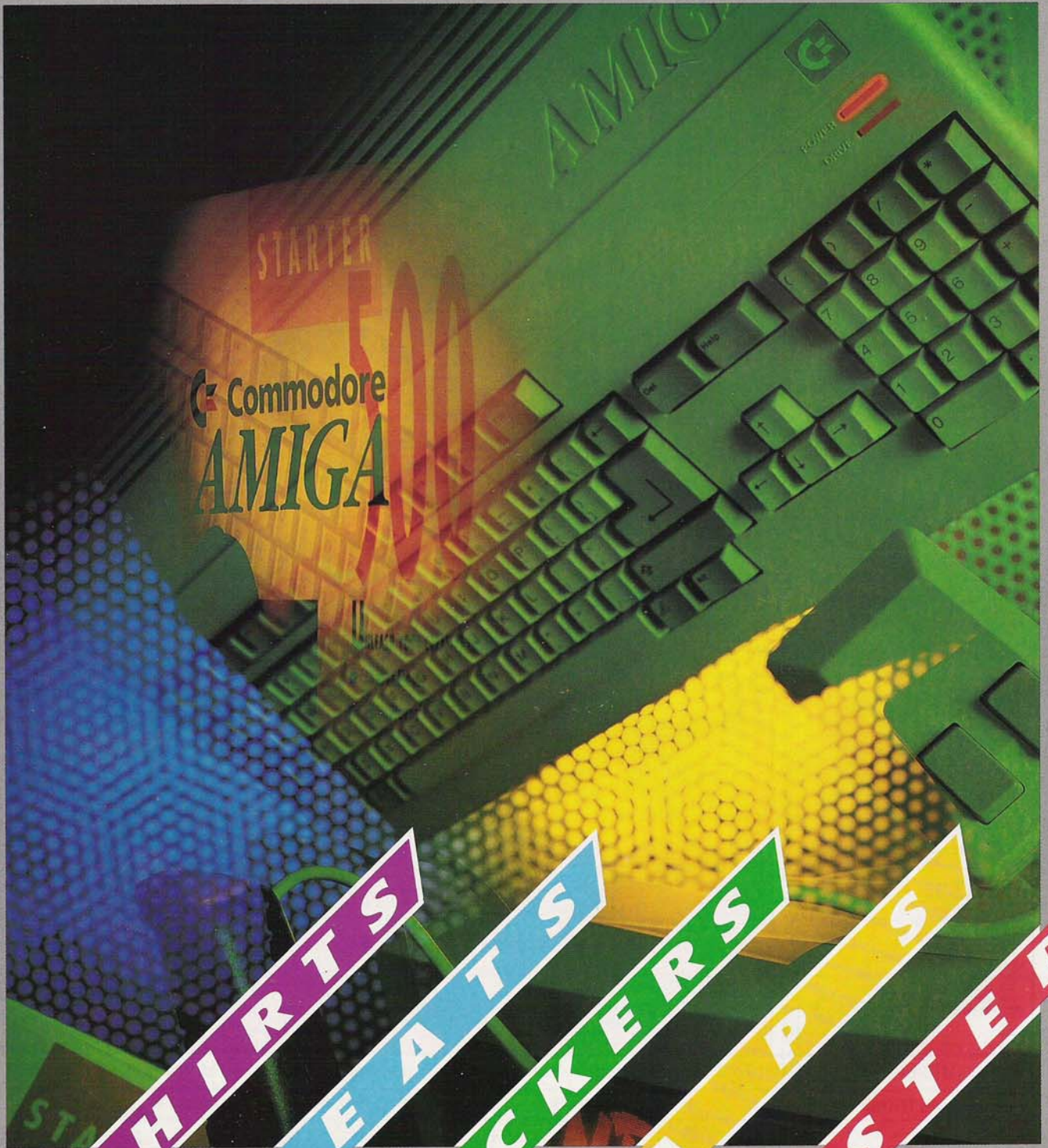


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ed for your printer, and I can only refer you to your printer manual and the GEOS user manual pages.

Geos Graphics Service

Stuart Elfett writes on many and varied issues ... 'I've been doodling away in *geoPaint* since the June Issue and have nearly one page - 27K. The trouble is, drawing clip-art in GEOS is like re-inventing the wheel. If a routine similar to picture printing is used, hires graphics can be converted to GEOS. I am willing to convert existing graphics to GEOS for \$5 per full disk. ... Did you know that Run's GEOS Power Pack converts GEOS to ASCII already? ... GEOS will often stumble over the first line of a document, resulting in the top of letters becoming distorted. The easy solution is to start your letters with a top blank line ... By the way, *geoRAM* IS quite incredible, and I'd thoroughly recommend it to anyone with GEOS.'

Stuart's address is MSF 550 Toogoolawah Queensland 4313. Good on you Stuart on the graphics front. If you have access to Graphics Grabber, a GEOS deskpak goody, you can import graphics from *Doodle*, *Newsroom*, and any other applications, but it sounds as if you have done your own routine. Stuart included some samples of his graphics grabs - and they certainly are of a very high quality.

One point, you are not correct about the Power Pack ASCII converter utility. That does not translate GEOS text files to stripped pure text flat files. It is called Convert, and simply collapses the VLIR files to a flat form for transmission of GEOS data files across a modem. You must re-Convert them back to VLIR form on the other end. The file internals are not stripped pure ASCII. Hence the need for GeoASCII.

NLQ mode

Mrs A Taylor of Leeton NSW writes ... 'I own GEOS V2, C64, 1541-II disk, and a Citizen 5200 printer. I am finding it impossible to type in NLQ mode with GEOS ... Without NLQ mode, I might as well use my old typewriter.'

Mrs Taylor, try using the MPS1200 driver. As you don't mention a print interface, I assume the printer plugs into the daisy chain at the back of the disk drive. Your printer is not shown in the list of supported printers in the GEOS manual. If you have no luck, try contacting ComputerMate Products, PO Box C64 Mt Kuringai 2080.

Custom printer driver?

Mr Arthur Sawilejskij of Port Macquarie writes ... 'I have a Star LC-1011 printer and use the NX-10 with good results. However I cannot use the printer to its full potential. In particular the printer has an ability to print 240dpi, but the printer driver simply prints at 60dpi. I was wondering if it would be an easy matter to substitute quadruple density code over single density inside the driver?'

Arthur my boy, in short, no. For several reasons. In quadruple mode you must send four times as many dot patterns as single (ie more code). Secondly GEOS has an internal resolution limit of 80 dpi. It fundamentally cannot handle 240dpi. Having said this, you could fake 240 dpi by writing your own driver and simply repeating the 60dpi info 4 times. This would definitely improve the blackness of the printed image. In fact an Epson driver was printed in the American magazine *Commodore Gazette* some years ago, doing this exact thing. I typed it out and use it occasionally. But, it is very slow. For fun, if you have *geoProgrammer*, you can start from the beginning and write your own printer driver - all the tools are there.

Serial bus

John Buckingham of Murray Bridge SA writes ... 'The GEOS manual says that the interface suitable for an MCS820 (Okimate 20), is the Commodore Serial Bus. What exactly is this interface? Should I buy one of the popular ones such as the Xetec?'

John, the Okimate 20 comes with a Commodore bus port fitted. This is the 'daisy chain' system that connects the C64 to the disk drive(s), and printer. All you need is the normal serial bus lead. If you need one, these are available by mail order from various distributors advertising in *ACAR*.

GeoPublish woes

Bill Tattersall of Palm Beach Queensland writes ... 'I was given *GeoPublish* and *Graphics Grabber* by a friend. Neither loads with my GEOS. I bought GEOS V2 thinking these would work with V2 but found the same problem. I then bought *GeoProgrammer* to look into the bowels of GEOS. This package recommended I buy the C64 Programmers Reference Guide ... Then I wrote to this bloke in the USA called Mystic Jim for a disk he calls *Hack'n'GEOS*, but re-

ceived no reply. That was 6 months ago. I guess I've done my money cold.'

Bill, when I read your tale of woe I felt much sympathy, but also a touch of humour. At least you now have V2 GEOS, and a healthy respect for accepting gifts. When you buy *GeoPublish*, you have the opportunity to once off key into your boot system. Basically, this has been bypassed. Arguably legitimately, but nevertheless an abnormal chain of getting hold of software. Without detailing what to do byte by byte, you must find where in *GeoPublish* the system ID 3 byte string is located, and direct disk edit this to the ID of your current system. You can find out the ID by using the *GetSerialNumber* routine from *GeoProgrammer*.

Well that's it from the mail room, till next issue ... be productive! □

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Tutorials

Coming to grips with the Amiga's CLI A tutorial for beginners

Part 6

by Andrew Leniart

that may have missed last issue, here it is again.

Write to: **Andrew Leniart**
P.O. Box 1335
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Having twisted Andrew Farrell's arm into going with this idea I'm now sitting back and looking forward to getting the first of your mail with your queries etc, so let em rip and I'll try to answer as many as possible in future issues.

Free software for prize letters!!

I've also decided to add a little bonus for one lucky reader each month. If your letter / query is judged by me to be the most interesting one received for that month, you will receive for your input *One Free Hss* public domain disk. That's right! Each month, I will choose one letter and send the writer a HCS Public Domain compiled disk chocka-block filled with free and interesting software. So what are you waiting for? Give the 'ol Amiga a boot and get cracking...

Redirecting commands

All those that have been following this tutorial from the start should be well on their way to being able to manipulate the Amiga in the Cli. So let's take a little break from looking at commands for the moment and have a bit of a squiz at a powerful little feature available to us in Amiga DOS called redirection. Redirection in the Cli is achieved by these two symbols < & > But what exactly is meant by redirection?

Okay, we should all know by now that to get a full directory of any given disk, we would type **Dir opt a** in the Cli. But what if we wanted to get a hardcopy (or printout) of this on our printer:

Dir > prt: opt a

This would effectively send **Dir opt a** to the printer rather than the screen which would be the norm when issuing this command in the Cli. Likewise:

Type: **> prt: df0:startup-sequence**

would effectively give you a printout of the internal drives startup-sequence.

But how does it work? The > symbol tells the Amiga to send any output from the command issued to a device (or elsewhere specified) rather than the screen. Let's look at another example:

Endcli > Nil:

Normally used in startup-sequences, the above redirection sends any screen output a command might have to the **Nil:** device rather than to the screen on your monitor. **Nil:** is just a pseudo device designed specifically for this purpose. More interestingly though, you can use this technique to send data to a program which requires user input when starting up. Let's say we have a text editor which requires input from the user when in the process of starting up. In this case, it would be possible to create a script file for this purpose and send that information to the editor like so:

Editor-Name < Startup-File

You can also use redirection to create a text file for yourself of things like directory listings. Here is an example of what I mean. Assuming we have two drives, we could "CD" to df1: and enter the following:

Dir > ram:DiskName

This would effectively create a text file called "DiskName" in Ram: which contained the directory listing of the disk in Df1. Naturally, we could also do the same with the internal drive on the Amiga simply by making Df0: the current directory. Try the above example and then see the result by typing:

Type Ram:DiskName

in the Cli.

Having fun with prompts

A lot of people do not know that the Amiga Dos **1>** prompt which they get when working in the Cli is user configurable. Try this in a Cli or Shell:

Prompt "Well, what will it be bud?">..>

See what I mean? Note that if the text you choose contains spaces as in the example above, then it is most important to include the text in quotation marks! The same rule applies when renaming files or directories in the Cli.

Welcome back to our tutorial on the Cli. First off, I'd like to thank those of you that have written in with your comments on this tutorial and asked for more.

Last issue, I gave readers an address where you may now write in and ask any specific questions you may have on using your Amiga and have them answered via this column. Those of you

Coloured prompts

Now this feature on its own can be good fun, but we can go even further with Prompt. We can have colours! Try the following example in the Cli to see what I'm on about:

```
Prompt "e[3;33;41m Yo Dude..!
*e[0m"
```

What you should have ended up with is a red italic Yo Dude..! as a prompt on top of a white background. Naturally you could substitute Yo Dude! for any type of text you wanted. If the example didn't work for you, make sure you typed it exactly as shown. I.e: You MUST finish with a lower case "m" as an upper case M will not work and check to see you included the quotation marks.

If you don't like the red on white effect, change it around to something that is more to your own taste. Listed below are the numbers for the different styles and effects you can create:

Text Style

- 0 = Plain
- 1 = Bold Face
- 2 = Italic
- 4 = Underlined
- 7 = Inverse

Foreground Colour

- 30 = Default
- 31 = White
- 32 = Black
- 33 = Red

Background Colour

- 40 = Default
- 41 = White
- 42 = Black
- 43 = Red

Note that all the colour values given are assuming you use a standard and relatively unmodified Workbench screen. If you have changed the colour of your Workbench screen via the preferences program, then the colours may appear a little different to what is shown above. The formula for creating different styles and colours on your prompt in the Cli is Style/Foreground/Colour. You must separate each of these with a semicolon ";" It is not necessary to include ALL values. For example:

```
Prompt "e[33;42m Yo Dude..! *e[0m"
```

would work fine also if you were not fussed about having Italic text but just wanted red writing on a black background. Experiment with all the options and see what you can come up with. If

you make one that you really like, include it in your disk's "shell-startup" or "Cli-startup" file in the "s" directory. Finally, to get the normal DOS prompt back at any time, simply enter:

```
Prompt %n>
and you will have it.
```

Some tips to save time

All this typing in the Cli can make you work up a bit of sweat (Especially for two finger typists like me!). Here's a couple of tips which might help to make life a little easier.

There is nothing magic about the names of Amiga Dos commands. So why not rename the ones you use often so as to speed up the time it takes to type them? Typing D is a lot quicker than having to type DIR, DD craps all over having to bash DiskDoctor out on the keyboard and FT is a breeze when compared to Format.

The only problem is remembering what you have renamed commands. What I did some time ago was renamed most of the commands I used and then made up a little cheat card. This sat neatly on top of my Amiga 500 to jolt my memory when it failed me. Now while this worked well, it was not too long before I found myself getting sick of constantly looking at the cheat card. Then came *Alias!*

***Alias is an excellent way
to be able to call
commands by other
names ... it is also a
potential time saver***

Making aliases

Strictly speaking, *Alias* is not an Amiga Dos command. It is actually a feature which has come out with the Workbench 1.3 Shell. The writers of ARP also included it in the Amiga Dos Replacement Project (see last issue for more info on ARP) and probably thought of it in the first place. *Alias* is an excellent way to be able to call commands by other names. But there is more to it than that, as it is also a potential time saver. For example, it is quite possible to rename Format to FT as I said a little earlier to make it quicker to type. But you still need to type in the rest of the details. With the

Alias function, it is possible to shorten the whole process to just two letters. The following example will illustrate what I am on about:

```
Alias FT Format Drive Df0: Name
Spare No icons
```

Note that this will only work with the 1.3 version Shell, so if you have not yet upgraded your software, here is one good reason to do so. Now with the above example, to format a disk in drive Df0: all that is necessary is to type FT. Try it yourself. Likewise, it is just as easy to make aliases for any of the commands in the c directory that you often use. So we could then go ahead and do the following:

```
Alias D Dir
Alias D0 Dir Df0:
Alias D1 Dir Df1:
Alias Execute X
Alias DiskDoctor DDR
```

and so on. If you happen to forget what the aliases are that you made, it is a simple process of typing: *Alias ?* in a shell and it will list them all for you. Alternatively, you still have the option of just using the normal command name or process to achieve the result you are looking for. Now all this is fine and well, but if we had to type in all the Aliases each time we opened up a Shell, we would soon begin to lose interest. For that reason, the Shell is designed to look for a file in the "S" directory called "Shell-Startup". Your 1.3 Workbench system disk already has this file and there are already some aliases which have been made up for you. To check out this file, let's invoke "ED", the resident workbench text editor. Type this in a Cli or Shell:

```
Ed s/shell-startup
```

On an unmodified 1.3 Workbench disk, you should get something that looks like the following:

```
Prompt "%N.%S> "
alias xcopy copy [] clone
alias endshell end cli
alias pro execute s:spat protect []
alias sdate execute s:spat setdate []
alias ren execute s:dpat rename []
alias clear echo "E[0;0H*E[J"
alias reverse echo "E[0;0H*E[41;30m*E[J"
alias normal echo "E[0;0H*E[40;31m*E[J"
```

Now the last three aliases listed above which were supplied by Commodore look a little confusing as to what they do. Well, they are really quite neat and do the following things:

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Clear

Clear will effectively clear the Shell window and send the cursor to the top left hand corner. The clearing effect can actually be achieved in a much simpler manner by just typing ECHO "ec" instead of the way Commodore have done it.

Reverse

Reverse actually reverses the colour of your Shell window so that you are writing with blue on white as opposed to white on blue as is the norm on an unmodified copy of a workbench shell window.

Normal

does what the name suggests and sets everything back to normal if you have used the Reverse option. As usual, best way to see exactly what I am saying is to try it! As you are already in Ed, change the aliases now to what suits you and add any that might be helpful to you. For example, if you have found a prompt that you particularly like from the exercise at the start of this article, replace the prompt "%N,%S>" with your own creation and you will get that

prompt each time you open up a shell. If like me, you find that you have discovered several different types of prompts that you'd like to use for different occasions, then use the Alias command to make them "all" available at the touch of a couple of keys.

For example:

Alias P1 Prompt "e{3;32m*e

[43mYeh.. WHAT?e{0m"

Alias P2 Prompt "e{7m*e{4m Yup..*e

[0m"

Alias P3 Prompt "%Command

Me*n*s*n- "

and so on. Try the ones I've given you to see what happens and then experiment a bit further yourself. Getting back to time saving Aliases, I've listed a few that I've used below to give you some ideas and help get you started to forming your own:

Alias DCopy sys:system/diskcopy
from Df0: to Df1:

Alias FT1 Format Drive Df0: Name
Spare-Disk noicons

Alias FT2 Format Drive Df1: Name
Spare-Disk noicons

Alias Dr Dir Ram:

Alias D1 Dir Df1:

Alias D0 Dir Df0:

Alias Execute X

Alias Copy C

Before I go on to something else, I'd like to pass on a tip I learned from a fellow writer's article in a Megadisc once that suggested an excellent way of reminding oneself of recent aliases that have been made. The chaps name was Dave Baxter. Thanks Dave!

David suggested putting new Alias additions in the Shell title bar so that they would be there to see at a glance each time a shell was opened. Here's how it's done: Close all Shells that you might have open and click once on the Shell icon on your Workbench screen. Having done this, select "Info" from the Workbench pull down menu bar. An Info screen appears which contains a Tool Types section. Click once on the add gadget and the result will be a cursor appearing in the leftside of the ADD gadget. Here is where we enter out little cheat sheet for our aliases. Firstly, to get a full sized Shell window each time you double click this icon, you would enter:

WINDOW=NEWCON:0/0/640/256/
Aliases

It is at the point where I've written "Aliases" that we enter all the "new" aliases that we have made. For example:
WINDOW=NEWCON:0/0/640/256/
Execute=X Dir Df0:=D0 Dir Ram:=Dr
Copy=c etc.

Having completed entering all the aliases you wish to be reminded of, simply click on the SAVE gadget and all the information entered will be stored in the icons default values. Now double click on the Shell icon again to bring up a shell and see the results.

Script file commands

I thought we might take a look at some of the commands specifically designed to be used with script files. Echo is one such command.

Echo

This command can be compared to the "PRINT" statement in AmigaBASIC as it does virtually the same thing, except that it does it in the Cli rather than in Basic. Try this in a Cli or shell:

Echo "Hello there.."

At first glance, it would appear that there may not be a terrible lot of use for this command in the Cli. However, it can be very useful when used in script files to send messages to the screen. This can be handy if your script files are failing and you want to track down exactly where the problem is. Frequently used in startup-sequences, Echo can be used to put some colour into the Amiga's startup screen as well as create some interesting effects. Try combining Echo with some of the colour combinations listed for prompts above and then add any interesting effects you find in your disk's startup-sequence.

Ask

A particularly handy command when working with script files is the "ask" command. I say it's handy because it gives you an option to get user input at any point during the script file. Here is its command template:

Ask PROMPT/A

Now the ask command can be used without any arguments, but it is confusing to use it that way. Usually, one would put in some descriptive text asking the user to respond with a Y or N to a question. Here is a short example using ask in a startup-sequence:

failat 5

Ask "Shall I load Workbench? (Y=yes N=No)"

Echo " Ok, loading Workbench and Closing the Cli:

LoadWb

EndCli

In the above example, a Y response would result in the script executing fur-

ther and loading Workbench. If an N was entered, the script would have stopped and passed system control back to the Cli. This is achieved with the "failat 5" command. More on "failat" shortly.

The above example is but a crude and simple one. We have other commands at our disposal to make things a bit more elegant and interesting.

if / else / endif

Among other things, these three commands are available to us to help in creating useful script files that can branch to do one of a few things. They are designed to be used together and will not work on their own. Else and Endif are only useful if used with If and using If without including at least Endif simply will not work. So back to our example above, here is another way to have achieved the same result while supplying another couple of options for the user to boot:

ask "Shall I load WorkBench? (Y-Yes N-No)"

if warn

echo "Loading Workbench Please wait..."

LoadWb

else

echo "Ok, it's a Cli session then.."quit

endif

ask "Would you like a small Cli open as well? (Y=yes N-No)"

if warn

NewCli "con:0/0/200/50/Newcli"

else

EndCli >Nil:

endif

Try the above script as a startup-sequence on a copy of your own workbench disk to see how it works, then try to configure it to suit yourself.

Skip / Lab

Another excellent pair of commands available to help manipulate our script files. Skip can be compared to the AmigaBASIC "GOTO" command while LAB defines a label name within a script file. Here's how they're used:

ask "Want to go to Part2 ? (y / n)

"if warn

skip Part2

end if

echo "Okay, we wont then.."

quit

Lab Part2

echo "Okay then, here we are at Part2!"

quit

That should give you the general idea, but you should keep in mind to restrict using "skip/lab" to when there is no other way to achieve the result you're looking for. Use an if/else/endif construction in your scripts if at all possible. While the above example is functional, it is also crude and sloppy as it forces the script to exit an if/endif construction. This should be avoided whenever possible.

Quit

I've used this command a couple of times in the above examples and as you can see from them, using "quit" is simplicity itself. Quit forces any script file to stop executing at any given point, providing a handy and simple solution to stopping script files from within themselves.

Failat

While not as neat or elegant as some of the other ways, "failat" also gives us another way to stop a script file. Specifying an error number of less than 10 will usually halt any process in a script file. Alternatively, you can specify a higher number like 30 to force a script to continue when you are certain that nothing is wrong.

Wait

Wait gives us a method to pause a script file for any number of reasons. A good example would be if we were loading two programs on the same disk from the startup-sequence. In that type of situation, it is usually a good idea to "wait" for one program to finish loading before starting the next one to avoid disk grinding.

The time needed to wait is specified when using the command. It can be seconds, minutes or even a specified system time. Here is its command syntax:

wait SEC=SECS/S,MIN=MINS/S,UNTIL/K So, "wait 10 sec"

would pause the script file for ten seconds. Likewise "wait 2 min" would wait two minutes while "wait until 15:00" would pause the script file until 3:00pm. Naturally you would first need to ensure your system time was set before you could use "until" option.

Execute

Finally, to be able to use script files successfully, we need to use the "execute" command. Usage is simply:

Execute name-of-script

With the arrival of the 1.3 Workbench, we now have the capability to start script files just by typing their names in the Cli. To achieve this, we first need to set the "s" (Script) flag with the help of the Protect command. Check out Part 2 of this tutorial in the July issue of AC&AR for more info on protection bits.

In conclusion

And so endeth another tour through the mysteries and complexities of the Amiga's Command Line Interface. Next issue, I am hoping to answer a few of your letters as well as perhaps touch on a couple of other interesting subjects. We'll play it by ear for now till we see what sort of reader response we get in regards to questions. Are you going to be the first to receive a *free PD disk*?

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The C64 Column

by Owen James

GEOS News

Australia's GEOS distributor informs us that many consumers have complained regarding incompatibility problems with non-standard 1541 disk drives. It appears that many of these drives contain ROMs which cause GEOS to fail to load. So, if you want to be really sure GOES will load, use a standard Commodore drive, or test GEOS on the drive you plan to purchase first. A few of the early third party 1541 work-a-likes do have exact replicas of the Commodore ROMs. These units will probably only be available second hand.

Answers to user questions

First up come some help pleas from users. If you can help by adding to my response, or answering questions we couldn't, I'm sure it would be greatly appreciated by all.

Beatle Quest?

Bob Howe is looking for an old quiz game called *Beatle Quest*. Evidently it's based on the songs of The Beatles. Anyone that can help out with info or even have a copy they might be willing to part with can write to Bob at 309/3 Florence Ave, EastLakes, N.S.W. 2018.

Epson LQ-500

Geoff Madden of Daisy Hill would like some information on driving an Epson LQ 500 from a C64. Well, Geoff, there are a couple of things you can try.

If you're a GEOS fan then the GeoPrint cable would certainly be of some benefit. I picked one of these cables up from Penrith Computer Spot for only ten dollars during one of their sales, so it shouldn't be too expensive. The GeoPrint cable plugs into the 64's user port and allows REAL parallel communication between the printer and the 64 (much faster than using a printer connected through the serial port). This method will only work when using GEOS with the special supplied drivers. I've been using this cable to print from my MCS 820 printer with 'better than serial' results.

If you have no luck with a cable then talk to your dealer about an interface unit that would be compatible. If any readers have had success in using the LQ 500 then let me know and I'll pass the info on.

Copy files to RAM

Arthur Sawilejskij wants to know if there is a quicker way of copying files to the 1764 RAM expansion unit than using

the supplied copier. Can anyone out there help? Also, if any of our Port Macquarie readers are interested in resurrecting the Commodore user group could they write to him at 8 Mitchell Circuit, Port Macquarie 2444.

BASIC from machine language

Scott Pitcher from Reservoir, Melbourne would like to know the best way to execute part or all of a BASIC program from an ML routine. The easiest way is to run the machine code from BASIC using a SYS command, then when your machine hits an RTS statement, the rest of the BASIC code will be executed. Alternatively you could place the RUN {line-number} command in the keyboard buffer, and set the number of characters in the buffer at location 198. When you exit from machine code (RTS), the command will execute. Another way is to print the BASIC to the screen, and have it execute by exiting your machine code with the cursor position over the basic text and the necessary number of carriage return codes in the keyboard buffer to execute each line.

All the above will work so long as all the Basic pointers are intact. If you have changed jump vectors, or messed up the memory map too much, you will have to do much more work. This will involve calling the necessary Kernal routines to set-up BASIC. Check your Programmers Reference Guide or the C64 Developers Kit for information on these.

C64 not dead yet!

Many readers wrote to me recently to comment about the September column. As I suspected, there are a number of users who are satisfied with their 64s but are under pressure to upgrade from Commodore and their local retailers. I would like to make one thing clear: C64 users are NOT a dying breed. Sure sales are slowing but at worst this makes the 64 sales comparable to most other computers. If you're happy with the 64 then stick with it.

A few bytes on music

'More information about music on the 64' was a popular request amongst the mail. I find it quite astounding that such a music-capable machine is virtually never publicised as such. When the 64 was released back all those years ago the on board SID (Sound Interface Device) was remarkably ahead of its time. Even by today's standards it's advanced for an eight-bit machine. So what exactly is available to utilise this hardware?

To begin with there is the quite unimpressive *Music Maker*. It comprises of a keyboard overlay and the program itself. The overlay is a nice idea and I've even managed to get it to work with other music software with minimal effort. The program might be alright for a beginner but I wouldn't recommend it to anyone wanting to get serious about music. It provides a simple step-time sequencer (in other words you couldn't play a tune into it and have it played back using the same note timing that you entered it with). A couple of 'cute' drum rhythms are provided, but nothing to get really excited about.

The one aspect of *Music Maker* that I did like was the instrument editing features. Just like an expensive synthesiser you can control the attack, decay, sustain and release as well as numerous other sound parameters such as high and low-pass filters. *Music Maker* is a good introductory package, but don't expect fireworks.

A good place to look for really professional software is among the *Dr. T* range. I haven't had a great deal of first hand experience with the whole range, but what I have seen and used I've been very impressed with. Check out *Dr. T's KCS (Keyboard Control Sequencer)*.

For printing of musical scores you should take a look at *Music Writer*. It allows you to compose and print music with relative ease. It may take a while for some users to get used to the 'wordprocessing' approach to writing music, but it certainly is worth the effort.

That's just a few pieces of music software. Music on the 64 doesn't just stop there, though. There are a fair few hardware products that really enhance your music capabilities.

Ever wanted a Yamaha DX7? Can't afford the hefty price tag (without giving up luxuries such as food)? Try the Music Expansion System. Give your 64 that unbeatable FM synthesis sound quality, and have eight sound channels available AT ONCE! Never be limited again by the normal three channel output of the 64. Provided in the pack is also a full size 49 note plug in keyboard. Heaps of sounds are available, and there's even the option of having two different sounds assigned to different areas of the keyboard. An impressive array of rhythms are yours at the touch of a button.

The only problem is getting hold of one of these 'music workstations'. The Gamesmen (Telephone (02) 580 9888) had them in stock earlier this year for a reasonably low \$199 (well, comparatively low anyway. Who needs food?). If interested give 'em a call and see if they can get you one. Of course there's much more than the small above-mentioned list. Stereo SID cartridges (giving the 64 six voice output configured as two stereo channels) are available, as well as MIDI interfaces. Perhaps we'll have a more in-depth look at what else is available at some later stage.

Tips and Tricks:

Bill Woolford of Narara NSW has more tips for us this month. First up he recommends you should catalogue your software. Bill writes: "I have numbered all my disks, tapes and cartridges, and written them down in an exercise book, one page for each number, then listed the names of each programme and any special information needed. I have since used Superbase for the same purpose, but when starting off, this was a cheap way of finding things."

Bill also recommends you make up a utilities disk of all the utilities often needed (eg a disk copier, DOS utilities etc). It is much easier this way than to go hunting through all your collection for the routine required.

Copiers and multi-loads

Bill says that some multi-loads will not copy properly using a freeze copy cartridge. "If the protection is in the first section this is what I do. I load the original (first section) then freeze it, and save it on to the original disk under another title. I then load the game via this copy (no head bump because protection method is stripped from copy) and the rest of the program is auto loaded from the unbroken copy. This saves disk heads from banging and needing realignment."

Pokes

Kenton Clyde of Gosnells, Western Australia, has sent me an extremely long list of pokes that he has collected over the years. Here's just some of them:

POKE	EFFECT
19,65	Inputs without question mark
19,0	Restores question mark
22,35	Lists only line numbers
22,25	Restores above
120,0	Locks out keyboard
198,0	Clears keyboard buffer
211,X	Cursor to row X
214,,Y:PRINT	Cursor to column Y
212,0	Disables quote mark
646,X	Changes cursor colour (X=0 to 15)
649,0	Disables keyboard
649,10	Enables keyboard
650,0	Normal keys repeat (ie. Space, Del and CRSR)
650,64	No keys repeat
650,128	All keys repeat

There's just a few of the ones Kenton sent. We'll be hearing more of his pokes next month, including pokes for program protection, a poke to make the 64 run faster (by turning off the screen), and various interesting ROM routines. Stay tuned!

Chris Nilsson of Babinda, Queensland, has sent me some pokes for program protection routines. Here's some of them:

LOCATION	ON	OFF	DESCRIPTION
818	32	237	Disables SAVE
792	226	71	Disables the restore key
793	252	254	and causes a system reset when pressed. Both pokes are needed.
774	183	26	Disables LIST. Both pokes are
775	163	167	needed.

More of the pokes from Chris next month. Chris also sent me a beaut little proggy that hides a disk directory from prying eyes. This will be appearing on the C64 User Software disk that I mentioned last month. If you, like Chris, have written a program, utility, or whatever and would like everyone to know about it then send me a disk with it on or a printed listing care of the address below.

Scott Pitcher of Reservoir, Melbourne, wrote to me with an alternative to my write-protect switch detect routine that appeared some months ago. Here's his routine:

```

; CHECK WRITE PROTECT
START LDA $1C00 ; PORT B, CONTROL PORT
      AND #%00010000 ; ISOLATE WPS
      BEQ WPSSET ; BRANCH IF SET

WPSSET ; WPS ON!
    
```

Scott writes: "The DOS actually uses the write protect switch to detect a disk change. When you withdraw a disk from the drive, the side of the disk changes the state of this line, as it passes between the sensors. The FDC picks this up and flags the disk change at address \$1C (decimal 28)."

Keep your tips, tricks, comments, and suggestions rolling in to me at this address:

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Christmas again

Welcome to our bumper Christmas issue, packed full of goodies. This month there are more Quickshots than ever, there's more info on new releases, and there's more helpful info in Adventurer's Realm ... all designed to help you have a fun filled Christmas.

There's great news about the new budget priced software range from Packtronics, and there are full reviews of hot new games like *Gremlins II* that would make the perfect gift. Speaking of perfect gifts, why not give someone in your family a subscription to A.C. A.R.? They'd love you forever - and besides, you'd get to read it too!

Best rpg ever?

Dragon Flight has taken more than four years to develop, and it shows. Features include an easy icon based user interface, 10 dungeons with up to 14 levels in first person perspective, and a huge world map with 12 cities and villages to visit. Fight scenes are completely animated - you'll see it all on the screen, just like a movie.

Weapons, spells, and scrolls - an extensive magic system (similar to *Dungeon Master*) in which you must mix your own potions, all add up to a huge and detailed game. There are 2.5 megabytes of information packed on two disks, with a unique ram drive system making the sys-

tem fast and smooth to play.

Distributed by Packtronics, the recommended retail price of *Dragon Flight* is \$59.95.

Wings record?

Neil "Tex" Miller is now flying mission 201 in *Wings*, and has shot down 250 enemy planes. Where will it all end? How far can he go? Can anyone get further? Let us know.

New releases in brief

Watch out for the following titles soon - *Panza Kickboxing*, a smooth looking kick-em-up from Packtronics, *The Immortal*, a lush looking 3-D walkabout adventure game from Electronic Arts, and *The Magic Fly*, a filled vector 3-D space odyssey again from Electronic Arts.

Debut, from Mindscape, puts you in charge of the ecology of a whole planet - proving that keeping things in balance ain't so easy. *Corporation*, also from Mindscape, gives you a first-person perspective on the headquarters of a 21st century corporation. This mega-corp has been up to mischief, and it's up to you to stop them. You'll fight off androids and monster guards with your laser gun as you go - all good fun, and a very detailed game.

MINDSCAPE "DAYS OF THUNDER" WINNERS

What an amazing response! All I can say is well done to everyone who had a crack at the *Days of Thunder* letter jumble. There sure are some hot-shots out there! Heaps of people found words like ANHYDROUS and DUODENARY!

Only the real scholars like **Laetone Gravolin of Maclean NSW** found any ten letter words - try DORYANTHES, the biological name of the Gynea Lily.

Joshua Rue, of Loftus Drive Barrack Heights NSW also found a ten letter word - HYDRONAUTS. Bryan Searle of Loganhome, Qld, came up with FOURHANDED. This is a problem, 'cause there was only going to be one prize for the biggest word! But of course, our good friends at MINDSCAPE have come good with two extra copies of *Days of Thunder*. That's it for quality words, what about quantity?

Winner by a country mile was **JAMES LEEKEN of Milperra NSW**, whose entry of 1582 words only just made it before closing time! A close second were the trio of **Peter, Robert and Greg Billing of Yinnar**

There are a number of speed up cartridges which provide faster disk loading facilities. We've done full comparisons of these in past issues. Generally speaking, you get what you pay for. These best three are the Final Cartridge, Action Replay and Super Snapshot. You can look forward to excellent backup capabilities, enhanced BASIC commands, extra DOS commands and a machine code monitor in most units. Some also provide a reset switch which saves a lot of wear and tear by removing programs from memory and returning your C64 to power up condition at the push of a button. Without the usual power surge associated with

Geos 2.0 offers a 'one hit' solution to most of the productivity requirements your average home computer would ever get involved with, from wordprocessing to painting. Some Geos titles are now unavailable.

GeoRAM or RAMLink

The next best thing to add to your C64 after Geos is GeoRAM. This nifty device gives you 128K-512K of RAM which acts just like a disk drive but is as fast as computer memory - which is very fast. The result of all this extra storage is that Geos runs much faster. Many Geos function use virtual drive storage, where

expansion device for C64e's. For more information call HPD on (080) 349 8486. Watch for full reviews of these products soon.

Graphics tablets

If you can get hold of an old Koala Pad or the newer Animation Station, both these items offer lots of value for drawing using a stylus and pressure sensitive tablet. You can create designs, print them out, trace drawings or just doodle directly on the screen.

Pay around \$100-\$129.



Questor have announced the release of *Badlands*, a dirty-tricks style car racing game based on the Tengen coin-op - in this one, your missile counter is just as important as your fuel gauge. *Xiphos* is yet another space encounter, which apparently features a revolutionary new style of 3-D vector graphics promising incredible surface detail. If the new system makes the grade, this game should be hot.

Pactronics release budget line up

What can you buy for \$16.95? Not much - until now. Pactronics have just release the new WICKED SOFTWARE range, a budget label specialising in the re-release of golden oldies like the *Spy-vs-spy* series based on the characters from MAD Magazine. There's also *Boulder Dash* and *The Art Of Chess*, a classic chess game reviewed in this months Quickshots. You'll also find Luke Tattersall's review of *Dragonscape* in this issue, a brand new title released in the budget range. You'll recognise the Wicked range in the shops - they're packaged in distinctive little bright yellow boxes.

ENTERTAINMENT LETTERS

Address your Entertainment letters to PHIL CAMPBELL, PO BOX 23 MACLEAN NSW 2463, or fax them on (066) 452 060. Keep your letters brief and to the point, and make sure they're for the entertainment section. Letters about boring stuff should be sent to the other end of the magazine. (I heard that!! - Ed) Sorry to others who wrote this month - we've had so many letters that we can't fit them all in. Keep watching - maybe next time!

More tips and pokes?

Dear Phil,

I'm writing to say what a great mag you have. I have one point for improvement - can you put some more tips and pokes in every issue? One question, what is a good book for programming graphics and sprites and where could I get it? This is a great mag you have so keep up the good work.

Bye for now

Michael Fox, Airds, NSW.

Ed: Thanks for the compliment, Michael. More tips and pokes will be coming your way soon, including a special C-64 page! I can't really recommend a good programming book - maybe you should write to the editor of the other section of the magazine! Here's a hint though - the Abacus series from Pactronics should be helpful.

Swap shop

Dear Phil,

I'm a recent reader of ACAR and have not missed an issue since January this year, so thanks to all who help produce it.

I do have a couple of complaints. What has happened to the Amiga and C64 logos at the top of games reviews? Sec-

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only, why do you only put the RRP for the Amiga version? This leads you to believe that the game is unavailable in the C64 version yet advertisements in the same issues say otherwise.

Now a couple of questions. What do people do with an adventure game once they have solved it? Would it be possible to have a game swapping/exchange section in the magazine or would this breach copyright conditions?

*Keep up the good work,
Dave Upton, Isabella Plains, ACT.*

Ed: Your comments on the C-64 and Amiga logos have been noted for future reference. Usually we're only sent a review copy of one version of a game, and sometimes the wires get crossed when we check on the availability of other versions. As to your question about Adventure games, I can't say. I've never finished one yet - except for a very simple one on the VIC 20 many moons ago! Seriously though, maybe a swap-shop would be a good idea. We'll talk to Adventurers Realm and see what happens.

Too much violence?

Dear Phil,

I'm writing in relation to violence in computer games. After speaking with several of my colleagues the general feeling was that if someone goes out and buys an Acme Machine Gun and personal rocket launcher after spending forty pounds(!) trying to beat level 3 of *Heavy Barrel* then goes on a mass rampage down the centre of Hindley Street during rush hour the participant should be in an institution already!

Entertainment

During six years of game playing not once have I even been in the least moved by a game to even consider a machine-gun rampage! Sure I've hit the desk a couple of times but this is due to frustration, not some evil influence that the game has had on me.

It is hard to imagine games without violence. Think of all the so-called cute games. Even in these, things are killed, even if they are only a bunch of pixels with no representation of the creatures appendages spurting forth blood upon their death. Sure, puzzle games and card simulators don't usually involve violence but there will always be people who wish to bash ninjas and shoot enemy commandos and apart from a small percentage of these they should be allowed to play on.

*Yours,
David Sampson, Strathalbyn, SA.*

Ed: Well, yeah. You've made some interesting points there David. Like any form of "drama" computer games need an element of conflict. That's life. But like a lot of game reviewers, I tend to draw the line at games that teach kids that inflicting gratuitous violence on other people is OK. The more realistic it gets, the less I like it.

Old favourites

Dear Phil,

Just a few queries and gripes. Why don't the software houses release some of the old time favourites as some of the early games (eg *Karateka*, *Moon Aliens*, *Frogger* plus many others) are the best around? These early games were addictive and had a lot of atmosphere. Graphics and sound could be improved but otherwise the themes and style could remain.

Further to this many of today's games are boring. Fabulous backdrops and massive characters do not make a great program. Although older games are not as slick, simpler programs can be quite fascinating. The lack of clutter actually makes the game more enjoyable as it is easier to concentrate on the action.

*Jason Panosh
Delacombe, Vic*

*Ed: I entirely agree. I still reckon some of my old VIC 20 games are the best I've ever played - like *Serpentine* and *Jelly Monsters*, for example. And more recently, the principle you're talking about is very obvious in games like *Tetris* - very simple, but very, very addictive. Huge graphics and sounds don't make a game a hit, and it's about time software developers realised the fact! In the meantime, check out a couple of the compilations from *Pactronics* - they've got a couple of classic collections that could be exactly what you're after.*

Hall OF FAME

AMIGA

ARKANOID	976,548	Kamikaze Andy
BATTLE SQUADRON	99,999,999	Amos Burbidge
BLOCKOUT	85,281	Stephen Lark
BOMB JACK	200,680	David Thompson
BUBBLE BOBBLE	1,200,460	V. v. d. Heyden
BUGGY BOY	103,350	David Thompson
CHASE HQ	4,851,590	Juris Graney
CONT. CIRCUS	4,529,690	Amos Burbidge
CRAZY CARS	86,064,640	Kristian Wehner
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
GEE BEE AIR RALLY	307,466	Kamikaze Andy
HYBRIS	1,618,452	Matthew Mantle
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
MAJOR MOTION	50,658	Owen Webster
MENACE	996,481	Kamikaze Andy
MINDWALKER	306,214	P Schumacher
MOUSETRAP	71,977	David Rich
OPERATION WOLF	344,800	John Boyle
OUTRUN	17,242,354	Rod Matthews
OFFSH. WARRIOR	626,345	Jacob Booth
PACMANIA	3,250,140(c)	Amos Burbidge
PINBALL MAGIC	332,390	Tracey Chilcott
PINBALL WIZARD	171,150	Aaron Sanderson
PIONEER PLACUE	35,412	Keir Sooby
PLUTOS	129,450	David Rich
POPULOUS	201,600	Nathan Allen
POW	612,865	David Thompson
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	Angelo Augustis
SILKWORM (Jeep)	515,100	Andrew Barker
SKWEEK	1,525,740	Embah Beaton
SPEEDBALL	17,650	Amos Burbidge
STARWARS	5,722,822	Chris Mingos
STRIDER	113,950	Kamikaze Andy
SUPER CARS	13 races	David Marsh
SUPER HANG-ON	25,042,850	David Worthy
SWORD OF SODAN	364,750	Kamikaze Andy
T.M.N.TURILES	546,600(c)	James Leeken

TEST DRIVE	112,915	Wayne Haesler
TEST DRIVE 2	307,910	Amos Burbidge
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 FOOT	189-0	David McKinney
TYPHOON	54,255	Owen Webster
VIRUS	14,576	Amos Burbidge
WHIRLIGIG	28,210	Nathan Allen
XENON II	1,007,830	Kamikaze Andy
ZOOM	58,903	Sally Pollock

COMMODORE 64

BATMAN	330,920	Simon Watford
BANGKOK KN.	36,800	Nick Van Heeswyk
BOMB JACK	344,560	J Jacobs
BUBBLE BOBBLE	1,009,857	Kishore Ludbey
BUGGY BOY	118,750	Paul Millward
CHASE HQ	9,220,121(c)	Iceman
DOUBLE DRAGON	22,840	Joshua Smith
DOUBLE DRAGON II	255,190	Nick van Heeswyk
FAST BREAK	136 to 9	Chris Byrne
GIANA SISTERS	89,907(c)	Debbie Bain
GRYZOR	203,900	Paul Millward
HANDBALL MARA.	Level M	N. Van Heeswyk
HAWKEYE	59,000	Nick van Heeswyk
IKARI WARRIORS	267,800(c)	Iceman/NT.
KARATE	139,300	Paul Millward
LAST NINJA II	34.2 sec N.	Van Heeswyk
OPERATION WOLF	168,789	Kishore Ludbey
OUTRUN	6,438,787	Kishore Ludbey
PAPERBOY	19,750	Royston Diaz
QUE-DEX	639	Chris Byrne
R-TYPE	684,200	Nick van Heeswyk
ROBOCOP	82,250	Tim Lockwood
ROLLING THUNDER	222,740	Iceman
SALAMANDER	235,300	Paul Millward
STREET FIGHTER	127,050	Chris Byrne
SUPER CYCLE	212,210	Iceman
TEST DRIVE	24,790	Jason Denham
THUNDERBLADE	1,734,040	Troy Morrison
THUNDERCATS	57,500	Chris Byrne
TARGET RENEGADE	330,450	Chris Byrne
UNTOUCHABLES	70,230	Simon Watford
WONDER BOY	237,650	Kishore Ludbey

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

C64 HINTS AND TIPS

This month there's some good news and some bad news for C-64 users. First the good news. You've been complaining that we don't love you, that we don't look after you, that we don't run enough C-64 tips and reviews. All that is about to change. As of next month we're starting a brand new C-64 tips segment, and we'll guarantee more up to date C-64 news and reviews too! That means a new address for C-64 tipsters.

Send your C-64 hints and tips to:
Stuart Elflett

MSF 550 Toogoolawah Qld 4313
Which brings us to the bad news! Sorry - no tips this month. But we'll make it up to you next time, I promise.
Amiga tips should be sent to:
Phil Campbell
PO Box 23 Maclean NSW 2463

HELP WANTED!

◆ Mr A.P. - that's the only bit of the signature I could read - is desperate for some help with *Shadow of the Beast*. How do you get the key from the tree house? If

you can help, let us know.

◆ Tony Cunningham is looking for help with *Continental Circus* and *Turbo Outrun* - how do you get infinite time? He'd also like infinite lives tips for *Bubble Bobble* and *Xenon 2*. If you can help, drop him a line at: 4 Stanley St, Sandy Bay Tasmania.

X-OUT

Two readers - Glen Levett of Petersham NSW and Daniel McMahon from Cowra NSW - have sent tips for *X-Out*. First, Glen says you should buy the least expensive ship, the one that looks like an insect. Then get the cheapest laser, place it over the face of the beastie in the corner and click. You'll now have 500,000 credits to play with. Daniel says you should select any ship, get the shield then ask for a refund. You'll find you get back \$500 extra - and you can repeat it as many times as you like. Daniel also advises that 3 drones arranged in a row in front of your ship make a good shield.

SIM CITY

By now, everyone knows that typing *FUND* while playing *Sim City* gives you

bonus funds. The problem is, it also brings on earthquakes. Nick Eggleston, of Baulkham Hills NSW offers this fix. Make sure the game is paused when you type *FUND*. Then save it. After saving, resume the game and play it until the earthquake occurs. When this happens, go back and get the saved game - you'll find it's quake-proof.

WINGS

Here's one from me. The problem with *Wings* is that if you get shot down, your pilot's log is wiped from the disk, and you're officially dead. In other words, back to mission 1.

Here's the solution. First, make a copy of your master disks, or install on your hard disk. After you've successfully flown a few missions, choose the "quit and save" option. Using your CLI, copy the file REEL 2:pilot.dat to another disk, or simply to a backup file on the same disk. In other words, > COPY pilot.dat to pilot.bak. You've now got an erase proof backup in case of disaster. Do this every time you make any significant progress. When you finally get wiped out, simply COPY pilot.bak to pilot.dat and restore

the mission information you last saved. There's another way - but it's much less scientific. That's to simply reboot your computer immediately after you crash, before the pilot data file is changed. Even so, it's still worth backing up pilot.dat every now and then, just in case.

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C O M P I L A T I O N**

Fix Disk

If *Disk Doctor* and *Disk Salv* can't recover your disk then *Fix Disk* probably can. The best disk repair available.

Fast Disk

Reduce head movement, boot-up, validation and loading times by 50%. A very handy utility!

File System

This program list all the information about the device available to AmigaDOS, that is, the disk drives. It displays the various characteristics about the drive such as its geometry and the memory it is currently using.

Where Is?

Searches through your entire drive and locates the specified file name.

TrackSalve

CLI control over various aspects of your disk drives.

- A software NO CLICK feature
- Read Only simulation - just as if you had made the diskette write-protected.
- Track Salvage - allows reading of those tracks which AmigaDOS would have given up on long ago.
- Constant validation facility.
- Other low level controls of your floppy drives.

Pop Info

An iconified INFO screen available from the *WorkBench*.

MyMenu

Add your own menu options to the *WorkBench* pull-down menu.

DU5

Makes the CLI almost obsolete, a file utility program that will make you wonder how you ever did without it.

Zippy

A quick easy to use file copying system.

MSH

A MS-DOS disk reader and formatter. Why buy Cross-DOS when you can have this utility for a fraction of the price? Transfer files to and from MS-DOS disks. Probably the best PD program we have seen in a while.

MRBackup

Backup and restoration utility for your hard disk, supports multiple levels of compression, you should not be without this one if you have any important information on your harddrive.

SysInfo

A benchmark and general information screen that rates your computer versus the various Amiga models with and without VGP accelerator boards.

Disk Talk

A cute little hack that plays an IFF sound sample when a diskette is inserted or ejected. Comes with samples.

Dos Error

A Database of the various AmigaDOS error codes so now you can actually know what error 223 means!

FileMaster

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ANDY PHANG is stranded deep in the jungle, and he's trying to figure out what to do next. Maybe you can help? Read on as Andy explores ...

BREACH 2

The world is full of sequels. Visit your local cinema, and it's a choice of either *Robocop II*, *Terminator II*, or *Exorcist III*. Visit your local software store and you'll notice the same thing. Lots of sequels. However, there's one very important distinction between movie sequels and computer game sequels: the majority of the former are awful, while the majority of the latter are excellent. It is with this positive frame of mind, then, that I approach *Breach 2*.

Breach was a hit for Omnitrend Software, especially on the Amiga, as this space-based strategy game combined colourful graphics with complex gameplay. Many strategy fans were taken in by the flexibility of the game, with its wide range of different tactics to adopt. *Breach 2* is an extension of *Breach*: though the gameplay basically remains the same, the graphics and sound have been slightly upgraded (and the game now requires 1 Meg of memory), and a few more features, such as a Scenario Designer, have been included.

After waiting quite a while for the game to load, I pick a name for my on-screen persona and send him off on one of the easier scenarios. My mission: to destroy, annihilate, and totally wipe out 50% of the enemy forces that lie south of the river. I'm the squadron leader of a group of trained space marines, each armed to the teeth with laser rifles, grenades, and rocket launchers, and it's up to me to make the first move.

Using the mouse, I "trace" an on-screen path for my character to follow.



As he follows my instructions, his all important number of movement points begin to reduce. Each character has a set number of movement points, and every action takes up a set amount. Throwing a grenade, for example, costs five movement points, while using a medikit to heal your wounds costs nine points. Furthermore, certain types of terrain will expend more points. It takes more movement points to walk through a jungle than it does through flat ground. After all the movement points for each of your platoon members have been used up, click on the "next round" icon and it is the enemy's turn to make their moves.

By this time I'm deep in the jungle with my troops, when a group of hos-



tiles ("marine talk" for bad guys) suddenly spring an ambush. At the end of the battle round, I'm the only survivor... oops, not any more. I knew I should have used that medikit. Ah well, time to restart.

The graphics in *Breach 2* are good. Each character is represented onscreen by a smart looking figure, in an angled overhead 3D perspective. It is quite easy to identify the good guys from the bad guys because each side has a different coloured uniform, but it becomes difficult to distinguish between members of your own platoon for the same reason! Animation is sparse, apart from laser fire and the detonation of explosives. The title music is all there is (unless you complete a mission), though the digitised sound effects are excellent. Apparently Omnitrend,

though wanting to smarten up the graphics and sound departments, has decided to concentrate its improvements in the gameplay area.

And there's lots of gameplay. There are ten built-in missions, ranging from easy to impossible in difficulty. Control of the game is handled via icons (though there is a keyboard option). There are a wide variety of enemies to combat, from aliens to dinosaurs to robots, and each must be dealt with using different tactics. And the missions themselves are suitably unusual enough to make you want to succeed in your mission.

Breach 2 is a game for dedicated tactical strategy gamers. Omnitrend has maintained the excellence found in *Breach*, and the Scenario Builder is a big plus. However, I do have some reservations about some aspects of the game, such as its level of difficulty, and perhaps the need for an overall storyline or plot that ties all of the missions together in some form. But overall it's a very good strategy effort, both as a sequel to *Breach* and as a game in its own right.

Ratings:
 Graphics: 75%
 Sound/Music: 80%
 Gameplay: 86%
 Value: 80%
Overall: 81%

Distributed by:
 Pactronics
 (02) 748 4700
RRP: Amiga \$15.95



by Andrew Baartz
and Derek Mall

Web OF TERROR

A space passenger ship has crashed into a web of giant space spiders. The spiders have broken in - the passengers have no choice but to run for it!

You are ROCK BIMHEAD, SPACE RANGER.

Fortunately, you are in the area.

Fortunately,

you're equipped to search and rescue.

Unfortunately, you're afraid of spiders !!!

In some ways *Web of Terror* is like *Aliens*, the movie. Just like the aliens, these Spiders hunt down humans, then they cocoon their prey and come back later to dine. This increases your problems - not to mention the problems of the passengers. The cocooned passengers

don't show up on the radar screen, that you use to detect their position.

Things could be worse! At least your spacecraft has offensive capabilities, in the form of the missiles. Different missiles work on different spiders. So blast away as you duck and dive around the web and reek havoc upon the arachnid menace! However, if you get too excited (as I did) then the tables might just turn and the hunter becomes the hunted.

You see, you need fuel pods to keep

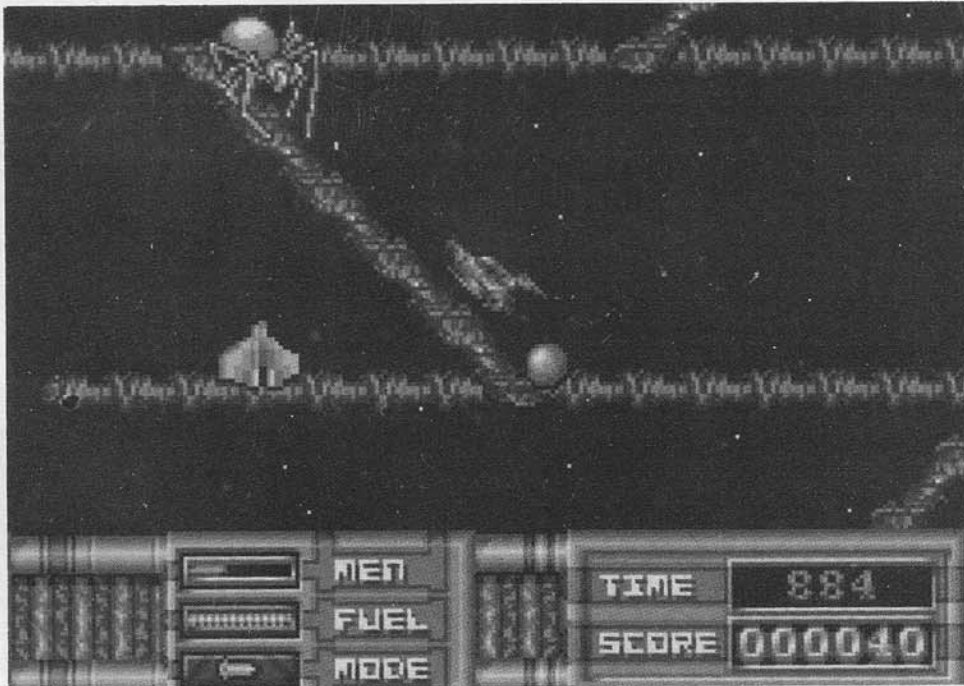
your batteries charged and missiles loaded. If you fail to monitor your instruments, destruction will quickly follow, because you'll be unable to move your craft to safety and unable to destroy the approaching spiders. A number of times I stretched myself past the limit, having exhausted supplies, too far from refuelling pods, just sitting there, watching your assailant slowly approach, until it ends what otherwise could have been a brilliant career as a space ranger (and all round hero-type)!

down the careless space ranger can find himself trapped.

To make matters worse, there are two sorts of missiles, gold and silver. Any given spiders will be damaged by one but not the other. So I have been surrounded by spiders, feeling pretty confident with a full supply of fuel, only to find that the particular spiders that are attacking happen to be invulnerable to my sort of missiles. The moral to that story is: Never be too confident - and play it safe. Rescuing humanity from its various

problems always seems to cost more than you bargained.

I found it helpful to have a friend 'talk me thru' the web, as he read the instruments and radar - especially as the game got faster. You have the choice of one or two player modes. (It's hard enough competing with the spiders) As you get further into the *Web of Terror*, the action really increases. As I said, it's more like a high speed puzzle



You have to be careful as you proceed through the 125 layers of the web. The spiders become more resistant to your shots, and your path becomes more tangled. Things become confused, but you must keep your head (or a big, ugly spider will bite it off for you). I found the joystick controls a little awkward when I was under pressure. Movement is limited, as your search path merely takes you along the various strands of the web. It sound so simple, but when the chips are

than just a game. One improvement could be more variety in the monsters, to spice things up a bit. Nevertheless, it's not bad value.

Distributed by:
Pactronics
(02) 748 4700
RRP: Amiga \$39.95

QUICKSHOTS

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

The Art OF CHESS

Somebody should invent a chess game that always loses. I'd be first in line to buy a copy. I've just been thrashed again - in 12 moves. The program responsible for my humiliation is called *The art of Chess*, and I made sure I adjusted all the settings to the super-moron level before I started. It didn't make the slightest bit of difference.

The Art of Chess is a fully featured chess program, with 3-D views, reconfigurable board designs - even the option to re-shape your own chess pieces with a standard drawing program. There's a comprehensive opening library, with selectable mid-game and end-game styles that will satisfy even the most serious chess player, as well as a help options that I should have used a lot more often.

The game is fully mouse controlled, and a voice option gives a running commentary of the game. For a while I

thought the only thing it could say was "You are in check." I was wrong. It can also say "Amiga wins." Maybe I'd be happier playing with the voice option switched off. I've never heard a speech synthesiser sounding so smug.

Amazingly, *The Art of Chess* has a retail price of just \$16.95 - the ideal Christmas present for the thinker in your family. It's well presented, it's smarter than me, and at that price it's probably fair to say it's the bargain of the year.

Distributed by:
Pactronics
(02) 748 4700
RRP: Amiga \$16.95

RATING:	
Graphics	75%
Sound	60%
Gameplay	80%
Value	95%
Overall	86%



Shock Wave

You guessed it folks. Just when you thought you could relax and go on holidays, you've gotta defend the planet. Yes, again.

This time, though, it's different. This time it's personal. After all, you're the guy personally responsible for sending more than a thousand crims into exile on the moon. Now they're back. They've built themselves a fleet of battle cruisers, and they're going to take over the world. Starting with you.

Luckily, you've got time to plan your defence and equip your ship. All this is done in the slickest game front-end I've yet seen. The screen displays the interior of the earth base, a grey metallic building with a high-tech atmosphere. There are three doors, one to the control room, one to the armoury, and finally one to the docking bay where your ship is parked. You'll need to visit all three. Move your cursor to the Control room and the lights go on - after a quick disk access you're face to face with a bewildering control panel showing a map of the area under attack. You need to make some strategic decisions here. First, it's sort

of like a Wall Street Stock-brokers terminal, because from it you can buy and sell commodities, like oil, uranium, and armies.

In due course, you'll see a number of red blips appear on the map. Chose the sector you wish to defend, pay a quick call to the armoury, then it's off and at 'em.

Everything rushes towards you at an alarming speed - the graphics are a little blocky, but you won't have time to notice. In fact, you'll be so busy darting between oil rigs and dodging enemy missiles that you'll hardly have time to draw breath.

Shockwave is hot stuff! Programmed by Digital Magic Software in the UK, it's one of the best looking programs I've seen all year. Try it.

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

Ratings:	
Graphics	88%
Sound	81%
Gameplay	75%
Overall	82%



M1 TANK PLATOON™

M1 Tank Platoon is the latest in a long line of Amiga Tank Simulations. But this one is different - it's by Microprose. That means it's complex. Microprose rarely miss an opportunity when it comes to adding details. Besides, as the name implies, you're controlling a whole platoon of tanks - four vehicles, each with three control points. You can play the game from any of 12 perspectives, switching between them at will.

The game disk was buried under a pile of literature. First, a keyboard overlay covered with cryptic commands. Then a technical supplement. And then the manual. All 193 pages of it.

The game opens with a map display, which gives you an overview of the battleground. From here, you can command your whole platoon, advancing toward the enemy position - or, more likely in my case, beating a fast retreat.

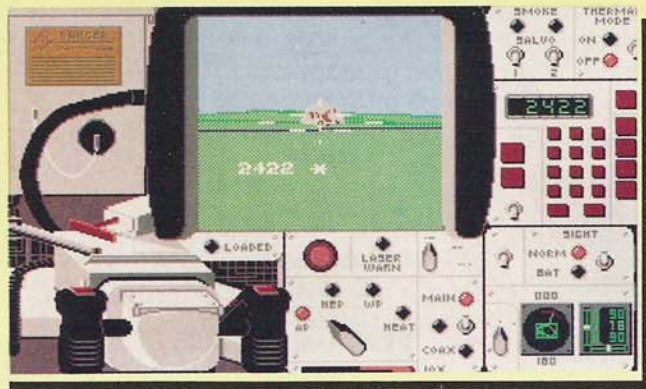
Press the F4 key and you find yourself in the driver's seat of the leading tank in your platoon. Both joystick

and keyboard controls are provided. The screen display is detailed - an array of dials and switches surrounds the main forward viewport. Outside scenery is shown in 3-D vector style.

Tank Platoon is a game with a very steep learning curve, but if you are prepared to study it carefully you will be amply rewarded. In typical Microprose style, every detail has been thoroughly researched. Well crafted graphics and comprehensive sound effects add the finishing touches to make this a game with genuine depth. Distributed by Questor (ph 02 662 7944), *Tank Platoon* has a recommended retail price of \$89.95.

Distributed by:
Questor
(02) 662 7944
RRP: Amiga \$89.95

Ratings:
Graphics 76%
Sound 76%
Gameplay 84%
Overall 79%



Turrican

reviewed by Kendall Lister

'Welcome to Turrican', boomed the voice, followed by a rather pretty picture, and some of the best music I have heard in a game for a long time. Pressing fire brought up some interlude music while the first level loaded.

Turrican is very quick between levels, most of the levels don't even require disk access. Upon starting you will find that you can scroll the screen in all eight directions. You start with a gun that is about as useful as a Peashooter Mk IV. However, by holding down the fire button you unleash a mega beam of energy that can be rotated around you. This can be lengthened by collecting special tokens which are found in special rocks, revealed by shooting where you think there is one, and it subsequently appears. Other tokens can give you three- and then five-way fire, super-gun, extra mines (used by pushing down and fire), extra wave bombs (press space), more smart-bombs (activated by pressing <alt>), and replenished energy.

The end of level baddy is a huge robotic fist determined to smash you into the ground. However there is

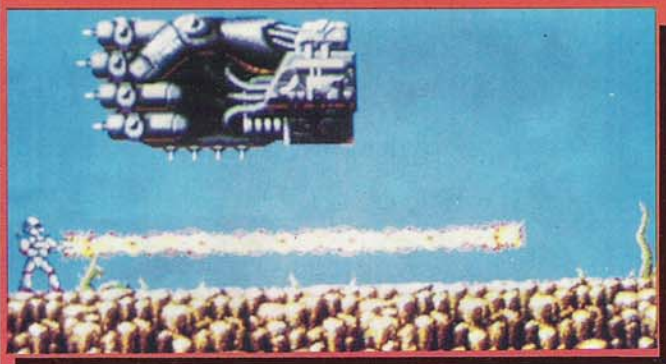
one safe spot on the screen where he cannot touch you, but I will let you find that for yourself.

As you continue, you will come across many other enemies. One of the levels involves you donning a jet-pack and flying up, (and later down), for quite a way. The other end of level foes include a giant fish, accompanied by suitable 'Jaws' music, a flying machine that fires big bullets, a machine that relentlessly pushes you up against a wall and spikes you, and that is as far as I have seen.

Overall, the graphics are top-notch, the sound and music excellent, and the gameplay addictive. This is well worth your hard-earned cash.

Distributed by:
Ozisoft
(02) 313 6444
RRP: Amiga \$59.95
C64 cass. \$26.95
C64 disk \$35.95

Ratings:
Graphics: 89%
Sound : 93%
Gameplay: 91%
Value : 86%
Overall : 90%



JURIS GRANEY has seen them at the movies, he has even found them in his fridge ... now he plays the computer game. Yes, folks, straight from the local cinema to you comes ...

GREMLINS 2

Billy Peltzer is an average guy - it's just that he's got some unusual friends. Like Gizmo, a small, furry Mogwai. Problem is, when a Mogwai eats after midnight, strange things happen. In fact, a simple midnight snack will turn a friendly Mogwai into a ferocious Gremlin. Not only that, if they get wet they multiply - so midnight snacks in the rain are a deadly combination.

That's the storyline of *Gremlins II*, one of the hottest movies of the year. And now's your chance to join in the action.

Good ol' Gizmo is trapped in a five story building - not only that, he got hungry and he got wet. By morning - after the fire sprinklers go off - there are hundreds of Gremlins to contend with. It's up to you to wipe them out.

There are five levels to complete. The System Control room is first - the objective is to find Gizmo's box. Before you get there, though, you'll have to get your hands dirty and kill a few Gremlins.

All the Gremlins are different. There's Daffy, who rolls into a ball and will try to bowl you over. Then there's Mohawk, who's as cuddly as a cockroach. He'll pop up anywhere and anytime. Electric is a zillion watts of Gremlin power and is lightning fast, and Lenny has the IQ of a fence post but will throw anything at you. The list goes on and on.

You control Billy and watch the



screen from side on. There is a time limit for each stage. You have seven minutes to complete each stage which is more than enough time. You have seven lives and you can pick up credits along the way which help you to buy default weapons in a shop. The shop is not available in the Amiga version. You pick up the credits by shooting the Gremlins. When shot the Gremlins sometimes give off bubbles. These are the credits. Also there are bonus icons. You can pick up extra lives, points, time and Rambo Gizmo. Rambo Gizmo helps you a lot when you are in trouble. He will come down the side of the screen and shoot arrows at the Gremlins.

You are armed with a torch and along the way you can pick up some useful weapons. There are genetically grown tomatoes, telephones, a two way torch, a frisbee, and a boomerang.

Graphics are great. The Gremlin sprites look just like the real thing, the screen scrolls smoothly and the sound effects are excellent. When you die the Gremlins laugh and say stuff like

"Bye Bye Billy", but when you hit them they disintegrate into thin air. The music can easily be

turned off which is good because it starts getting on your nerves.

You can control the game with either joystick or keyboard, though the joystick makes the game much easier to play.

All actions are fast and smooth, making *Gremlins II* lots of fun. I thoroughly enjoyed it, and I'd recommend it to anyone.

I'm stuck in Level 2, and I can see myself playing for a long time yet.

★ ★ ★ ★ ★

Ratings:

Graphics	89%
Sound	85%
Gameplay	83%
Overall	87%

★ ★ ★ ★ ★

Distributed by:

Questor
(02) 662 7944
RRP: Amiga \$59.95



War is in the air - at least it is for KEN SIMPSON. Read on as he sneaks up on some bad guys in ...



For quite a long time, *Silent Service* reigned supreme as my favourite Amiga game. There was nothing quite like being called the "World's Greatest Submarine Commander" to boost your ego. Now MicroProse has turned their hand to a real flight simulator (you really can't count *GunShip*) and produced a beauty. *F-19 Stealth Fighter* is a program they can be proud of.



As usual, the guys at Microprose have done their homework. The 192 page manual was a bit daunting at first, but it's well worth a read. Interestingly, the original IBM version of the game was written before details of the real Stealth Fighter were available. The main aircraft in the simulation - the F19 "Frisbee" - never made it to production. Instead the F117A has been the fighter to win the colours for the USAF. This has been acknowledged in the Technical Reference Manual, and now there's even an option that lets you fly the F117A.

On booting the program, I was presented with a choice of different missions to fly - from safe and easy training missions to the real thing where "you takes your chances, bub". After selecting your mission, there's a briefing. Everything from SAM sites, radar and airfield locations to troop concentrations. The

primary and secondary objectives are discussed and the flight plan is explained.

Then I had a choice of 25 weapons. This meant looking at the manual again for mode of delivery, use and strengths. After all it's not much use trying to destroy a runway with a HARM anti-radiation missile is it?

Finally, I was strapped into my ejection seat to get started. Thanks to the keyboard overlay I was soon heading off into the wild blue thingummy, looking for my first target. Having learnt from other Flight Sims, I engaged autopilot and went exploring the cockpit and gauges. The options were bewildering, so I hit the pause button then hit the manual. How do you fire a missile? The joystick button only fires the cannon!

Taking off from USS America in the Med, I headed for the Libyan coast - there are four options:



- ◆ the Gulf (pre August 2)
- ◆ North Cape
- ◆ Central Europe
- ◆ Libya

I was not long disappointed. "Mig 29 taking off from Idris" was relayed to my HUD. Turning on my TrackCam I saw a

beautiful picture of a Mig 29 taking off and circling toward me - a stealth aircraft must not use active radar, must it! Very soon I had radar lock and off went an AIM 120 AMRAAM, quick switch to Missile Eye view and then back to the cockpit and the beautiful sight of a MIG 29 being hit by an AAM and going down. Not quite as graphic as *Falcon*, but a bit easier because they didn't even see me coming.

Of course doing this drew a lot of attention from the ground so I turned tail and headed for my primary mission objective, the SAM radar at Tripoli. A quick AGM 65 Maverick and it was gone and on to the secondary target, a missile boat off Idris which fell victim to my Penguin ASM. A little later I was home at Sigonella in Sicily. All this and they hadn't detected me once. I felt quite proud as I received the Airman's Medal for bravery.

I soon found out that not all missions were as easy as this. The opposition got much stiffer as my proficiency increased, and dropping a "dumb bomb" was much harder than in *Falcon*. Also you don't have the speed or the manoeuvrability of the F16. However, air combat is not about being nice, but about ambushing and killing, preferably before they know you are even there, and at this the F19 is supreme.

MicroProse have really put together a great simulation. Much more than a game, it has innumerable missions, because it generates them internally, and a concept that is great. I didn't think anything could take me away from *Falcon* long, but I think this may just do it - at least for a while.

<u>Ratings:</u>	
Graphics	85%
Sound	75%
Gameplay	90%
Overall	85%

Distributed by:
 Questor
 (02) 662 7944
 RRP: Amiga \$60.00
 C64 \$49.95

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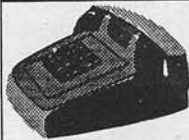
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LUKE TATTERSALL takes you on a flight of fancy as he play-tests one of the best bargains of the year:

Dragonscape

Until a few days ago I'd never flown a dragon. In fact I had never even entertained the thought of flying a dragon - and especially not a dragon called Garvan. But NOW things are different. Not only have I flown a dragon but I think I'm pretty darn good at it. It's not quite like riding a horse, but you soon catch on.

In *Dragonscape*, a new game from Pactronics, you are called upon by the elders of Tuvania to fight against the evil King of Kaos. But you are not alone - you have Garvan to help you (though you might say at first that Garvan is more of a hindrance than a help.)

The game involves two different skills. You need instinct and cunning to handle the "shoot-em-up" element of the game as well as some lateral thinking for the problem solving side of things - a bit of "Clint Eastwood" and a touch of "Ernst Rubic". It doesn't hurt to have a little patience as well - you need to keep remembering that there's no hurry.

Your task is to match up eight pairs of artifacts. Once this is done you move on to the next of the four levels. Matching up the objects is no easy task. It is a real matter of trial and error. Once you have picked up an object you can't put it down until you find the right position on the playfield.

As I mentioned, you move around the playfield onboard a dragon named Garvan, and the way the game is designed you really have the sensation of flight. You have to time your turns and stops carefully as Garvan floats around the place. At first it is a little frustrating but you'll get used to it quickly.

With most games the play area is restricted to left and right movement. *Dragonscape* has a play area which allows you to move freely in any direction. The play area covers the full screen using the Amiga's overscan mode, and scrolls smoothly.

As you fly around the planet you also encounter aliens. None of them actually fire at you but they tend to run over you and bump into you until all your life force is gone. By pushing the fire button you can get Garvan to give them a good fiery breath and normally one breath from Garvan is enough to wipe them out (though there are some that take a good roasting before they're gone).

Rather than having a number of lives to complete the game you have one life which is displayed on the side. The display is in the shape of a dragon and each time you touch any of the aliens or bump into things the dragon

loses more of his body and his skeleton appears. You are left in no doubt as to how much life is left.

If you are running low on life it is possible to restore your life-force by making contact with a little "P" capsule that flies near-by. Once you get the hang of that it makes life a lot easier. Make sure you don't SHOOT the "P". You need it toward the end of each level.

Dragonscape is a game that looks very good - very clear and sharp graphics that are easy to watch and follow. I also found the game far more enjoyable if you turn the sound OFF - the background music is designed to drive you crazy. All in all though, this is a darn good game. And I've left the best news until last. The price is just \$16.95. Unbelievable! This is one game that's definitely worth buying.

Ratings:

Graphics	73%
Sound	68%
Playability	82%
Addictiveness	87%
Value	99%
Overall	93%

Distributed by:

Pactronics
(02) 748 4700
RRP: Amiga \$16.95



Space Cadet SCOTT CAMPBELL unsheaths his trusty light sabre to take on the evil empire in the latest space trading epic ...

STARBLADE

Julius Gordan assassinated by the Galactic Bureau of Investigation! It's enough to make a rebel space cadet saddle up his rocket sled and mosey on down to Galacticus to have it out man to man, or in this case, man to mum, with the Blessed Mother Genolyn and her Generous Cephalhydras. (What? You don't know what the Generous Cephalhydras is? Boy, everyone knows that, or at least the guys who wrote the manual assumed so, because it's the last they mention of it).



Your name happens to be Stormwalker. The name implies that you can walk on storms, or at least through storm drains, so obviously you're the boy with the weight of the free Universe on his shoulders. Your ship happens to be the latest Centaurian model, the Starblade (but then you'd hardly expect anything else would you? There must be a lot of other people out there zooming around in crummy old second-hand ships).

Stormwalker's main weapon is a light-sabre. Hmm, Stormwalker, light-sabre, oppressive empire, rebels, confrontation with main baddie - something rings a bell, and it sure isn't R2D2. Yes, you got it, *Starblade* has more than a few passing nods at *Star Wars*. However, it's by no means a *Star Wars* game, though the scenario is similar to such space-opera/space-western type works.

The way the game is played is yet another variation on *Elite*, with a few extra elements. Basically, there are three parts to the game.

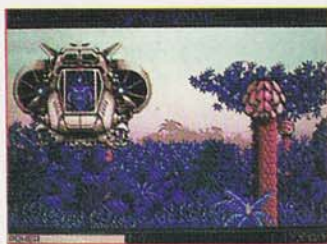
The first stage is interesting - walking around your ship checking the condition of your equipment. You'll need to map as you go.

The realism is somewhat overdone - there are so many rooms and corridors that you can spend all day just walking around. What's next? Games where you have to go to the toilet every now and then? Or sleep for eight hours every so often? This sort of thing seems pointless to me, and detracts from the gameplay.

The second stage sees you hopping into your reconnaissance ship, the *Alta*, and nipping off to the local planet to buy supplies, to trade, and to buy replacement circuit parts, if available. There's not really the range of products, or the excitement in trading that you get in other games of this sort, though.

On the way you may find magnetic cards left by Julius Gordon. These contain messages to help you locate and make a mess of Genolyn. You've also got some nasties to get past with your light sabre as well.

The third stage involves the obligatory journey to other planets, and engaging in 'non-negotiable hostilities' with fighter space-ships. After all, nobody said the trip was going to be easy. This is



the most important part of any such game, and in *Starblade* it's the weakest area. The ships you fight look like ships, but they're drawn in 2D, move in uninspiring set patterns, and shooting them seems overly difficult. You never feel like you're really fighting another ship.

Meteorites are more fun - you can dodge and shoot as they come flying at you.

Overall, *Starblade* is a bit of a disappointment. The programmers have spent too much time and effort on the first section, and not enough on the rest. *Elite* can rest easy - when it comes to space trading adventures, it's still top of the pile.

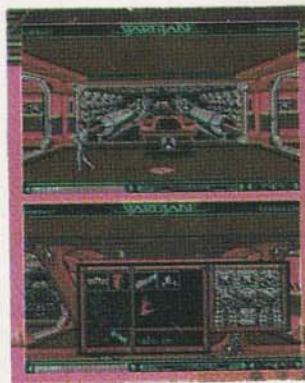


Ratings:

Graphics (inside ship):	75%
Graphics (rest of game):	55%
Gameplay (ship and planet):	65%
Gameplay (space-flight):	55%
Addictiveness:	55%
Overall:	60%

Distributed by:

Mindscape
(02) 899 2277
RRP: Amiga \$59.95



Adventurers Realm

by Michael Spiteri

Merry Christmas to all adventurers, roleplayers and wargamers around Australia. Welcome to another monthly dosage of *Adventurers Realm*, the only adventure column in Australia dedicated to helping and informing adventurers, role players, and wargamers.

If you are stuck in any adventure game, you can....

- 1) Ask for a free hint sheet, if one is available, or
 - 2) Send in your problem to the address below, or
 - 3) Write to one of the many clever contacts (full list here)
- If you send in your problem to me and I cannot help, it will be displayed among these pages for everyone to ponder.

The address to write to is:

Adventurers Realm P.O.Box 351 Pakenham Vic 3810
Meanwhile, if role playing games (*Bards Tale*, *Ultima*, *Pool of Radiance*, etc) are your cup of tea, send your problems to:
The Dungeon P.O.Box 315 Maddington WA 6109

ALWAYS ENCLOSE A STAMPED ADDRESSED ENVELOPE

Free Hint Sheets

As promised, I have added a new selection of hint sheets to the current list available. The new hint sheets this month are....

- ◆ *Guild of Thieves*
- ◆ *Jinxter*
- ◆ *Maniac Mansion*
- ◆ *Uninvited*

These are available, along with:

Bard Tale I, Bards Tale II, Bards Tale III, Hitchhiker's Guide, Faery Tale, Castle of Terror, The Pawn, Borrowed Time, Never Ending Story, ZZZZZZ, Zork 1, Zork 2, Zork 3, Deja Vu, Dracula, Fish.

Choose up to four hint sheets free! The address to write to is:

**Free Hint Sheets
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(remember to enclose a stamped, self-addressed envelope!)

Clever Contacts

Complete Listing

The response to our Clever Contacts plea has been outstanding, and there are now clever contacts for most games spread all around the country. I must stress, that you MUST enclose a stamped addressed envelope. The clever contact service is fully voluntary, and they should not be lashing out cash for stamps and envelopes. Finally, a big thanks to all those who have joined this great army of helpers.

Below is a state by state list of all our clever contacts.

New South Wales

- ◆ **Juris Graney** of 41 Cameron St, Maclean NSW 2463
Help Offered: Various games for Amiga & C64.
- ◆ **Robert McGechen** of 51 Exmouth Road, Dapto 2530
Help Offered: Sierra games, Maniac Mansion, Zak, Future Wars, Gold Rush, Operation Stealth, Colonels Bequest.
- ◆ **Nathan Allan** of 11 Maple Avenue, Pennant Hills, 2120
Help Offered: Larry 1&2, Space Quest 2, Kings Quest 1&2, Police Quest I, Faery Tale.

- ◆ **Andrew Bell** of 67 Byamee Street, Dapto, 2530
Help Offered: Sierra games, Hillsfar, Bards Tale I, Millennium 2.2, Warhead, maybe Battletech, Iron Lord, Champions of Krynn, Codename Iceman, Heroes Quest.
- ◆ **Suzanne Parkes** of 1 Ida Place, Blacktown, 2148
Help Offered: Asylum, Adventureland, Find Daryl, Giants Gold, Hitchhikers, Irish Adv, Jinxter, King Solomons Mines, Lucifers Realm, Magicians Ball, Pilgrim, Perseus and Andromeda, Pirate Adv, Subsunk, Secret Mission, Pawn, Boggit, Voodoo Castle, Lost City, Winnie the Pooh, Zork 1,2,3.

Adventurer's Realm

Problems, problems & more problems

I am not sure if there is a worse way to spend Christmas than being stuck behind a computer with a problem so frustrating yet compelling that you could never leave it. Yet, I have this funny feeling that the people mentioned below are going to have a very troubled end of year, so the sooner you put them out of their misery, the better:

Jade Cross wants to know where he can find the tool box in *Maniac Mansion* (have you tried the car, Jade?).

Sue Ducksbury of Goulburn in NSW is stuck in three games. Firstly, in *Dragon's Lair II*, how do you get out of the maze? Then in *Ooze*, how do you get light into the cellar? In *Legend of the Sword*, how do you get past the giant worm, how do you open the gate inside the cave, what proof of the quest is needed by the sphere, and how do you get the treasure from inside the castle?

Peter Nuzum would like to know how to get out of the furnace room in the *Temple Curse*. Then in *Mystery Fun House*, how do you get back to the mirror after you get the specs.

Mrs Sylvia Symonds of Toowoomba in Qld wants to know how to talk to the animal in *Wishbringer*, and to pass the invisible wall in *Eric the Viking*, as well as find the coins in *Ring of Power*.

Grant, Angeliqne and **Bodie Malcolm** have just about finished *Dungeon Master*, but need help killing Chaos, as well as finding the key for the door at the bottom of the stairs. They also wonder if anyone has played *Dungeons of Daggorath* on the Tandy CoCo II? They have killed the wizard and collected his ring, but cannot guess the right word of power to use it!

David Marjanovic of Revesby NSW, helper of many a troubled adventurer,

can not seem to find any relief for his previously published problems in *Manhunter in New York*. He wants to know how to get into the museum, and what to do in the church.

Mark Healy of Esk in Queensland would like to know where the two shrines are in the water level of the game *Moebius*.

Lisa Granstoun of Woy Woy Bay in NSW is stuck in the *Swiss Family Robinson* game. She seems to be having problems making the candles so the family can have light for the cave.

Dave G of Chester Hill in NSW is stuck in *Deja Vu II*. He wants to know how to get into the laundry without getting killed by the thugs. Can anyone help?

Andrew Bell of Dapto in NSW is having problems in *Black Cauldron*. He just wants to know if he should do anything when the pig follows him around?

Indy is troubling **B. Toyne** of Brisbane. He is stuck in the catacombs of Venice. He can get past the door near the three changeable statues, but he cannot figure out where to go from there.

Jim Waller of Ferny Grove has made headway in the three pro-pack adventure games, but is still stuck. He can only seem to cover 30% of the game - and get home safely, in *Temples Curse*. He thinks that a lamp is what he is missing. Then in *Lost Planet*, how does he get past the slimy green man, as well as how to dance through the force field. Then in *Island of Spies*, he is stuck in a hole in the mining ground.

Finally, **Troy Quin** of North Bayswater in Victoria is stuck in *Leisure Suit Larry III*. He cannot get past the two secret agents at the beach on the island without them capturing him. (Check out the hints below).

◆ **Andrew Hansen** of 4 Stevens Street, Pennant Hills, 2120

Help Offered: Bards series, Ultima I, III, IV, Zork 1 & 2.

◆ **Ryan Tan** of 21 Albion St, Concord, NSW 2127

Help Offered: Most games!

◆ **Y. Chan**, of 4/91 Drumalbyn Road, Bellevue Hill, 2023

Help Offered: Bloodwych

Victoria

◆ **Dorothy Millard** of 12 Venetian Court, Croydon, 3136

Help Offered: Almost all adventure

games for the C64.

◆ **Scott Pitcher** of 13/176 Rathcoun Road, Reservoir, 3073.

Help Offered: All Scott Adams adventure games.

◆ **Stefan Lamont** of 209 Landsborough St, Ballarat North, 3350

Help Offered: Kings Quest I, II, III, Leisure Suit Larry I.

◆ **Michael Jones** c/o Vision BBS, BBS=(03)569 4442 VOICE=(03)563 5125

◆ **Martin McLaren** of 39 James Crescent, Rosanna, 3084

Help Offered: Pool of Radiancance, and Bards Tale III.

South Australia

◆ **David Lear** of 7 Glenalvon Drive, Flagstaff Hill, 5159

Help Offered: Boggit, NeverEndingStory, Dracula, Eureka Prehistoric, Subunk, Mindshadow, Wizard of Oz, and Zork II.

Queensland

◆ **Derek R.Monz** of 12 Noonan Street, Heatley, 4814.

Help Offered: Larry III, Elite, and Millennium 2.2.

◆ **Brendan Burns** of 8 Nelson Street, Ormiston, 4160

Help Offered: Lord of Rings, Hobbit, Zork 2,3 Wishbringer, Kings Quest III, Deja Vu, Dracula, and Hitchikers Guide.

◆ **Brad Roberts** of 43 Olearia St, Everton Park, 4053

Help Offered: Bards Tale III, Chrono Quest, Hulk, Zorks, Infidel, Deadline, Starcross, Rigels Revenge, Asylum, Dallas Quest, Mindshadow, and Uninvited.

ACT

◆ **A. Stivala** of 6 Schey Place, Spence, 2615

Help Offered: Trinity, Hitchikers Guide, Hobbit, Castle of Terror, Maniac Mansion, Lord of Time, King Solomons Mines.

◆ **K. Kupresak** of 44 Noarlunga Crescent, Bonython, 2905.

Help Offered: Ultima III, IV Bards Tale I, II, Times of Lore, Leisure Suit Larry, Zak McCracken, Leather Goddesses, Wishbringer, Legend of the Sword, Kings Quest I.

Western Australia

◆ **Mitchell Rashbrook** of 34 Conidae Drive, Heathridge, 6027

Help Offered: Many Amiga & C64 disk adventures.

◆ **Andrew Phang** P.O.Box 315 Maddington, 6109

Help Offered: Most adventure and role-playing games.

◆ **Jozsef Toth** of 11/8 Garnett Place, Balga 6061

Help Offered: It Came From the Desert, and Lords of Time.

◆ **Turrican** of 20 Braden Way, Marmien, 6020

Help Offered: Police Quest, Indy, Treasure Island Dizzy.

All we need now are some clever contacts from Tassie and the Northern Territory!

The Dungeon by Kamikaze Andy

Every year, Christmas time can be a real pain to those who must decide on presents. Of course, the best present you could possibly give is a subscription of

Realm Chit - Chat

Jim Waller of Ferny Grove has thrown some light onto the origins of the famous pro-pack adventures. These were originally known as on the Sinclair Spectrum years ago as:

- Inca Curse (Temple Curse)
- Planet of Death (Lost Planet)
- Espionage Island (Island of Spies)

So that's why the C64 versions look so Spectrumish.

Nanette Perry of Blacktown in NSW suggests the Realm starts up a Granny Club for all the Grannies who ponder in the realm of adventuring. Good idea Nanette, but what about the Gramps?

Regular realmers Michael Walsh and Suzanne Parkes are both adventure hungry at the moment for fresh releases. Michael is desperately trying to get hold of some Infocom adventures, but it seems nobody sells them anymore, while Suzanne is after some new text/graphic adventures (similar to *The Pawn* and *Jinxter* series). Suzanne writes....

"It seems all I look at are menu or icon driven. No typing in or thinking like the *Zorks* and *Pawn* etc." Maybe some software distributors can shine some light on the topic.

Finally, many thanks to Juris Graney of Maclean in NSW and Robin Hood of Old Noarlunga in SA for the many hint sheets they sent in.

this magazine. However, some of you will decide to give one (or maybe more) computer game(s) to your youngster or maybe even as a treat to yourself. In order to get you into the festive mood, the Dungeon has come up with a list of games that have met with the Kaz Andy Seal of Approval (MS: Yegadds!!). So, spin that Elvis Sings Christmas CD and start taking notes.....

Of the batch of new games available for the Amiga, *Ultima V* by Origin is most certainly the best bet. This is the best rpg ever released on the Amiga. Even *Dungeon Master*, another great RPG classic, pales in comparison in terms of playability atmosphere. As *Ultima V* will take some time to finish (try 60 hours), it is also great value for money. On the subject of *Dungeon Master*, check out the new data disk *Chaos Strikes Back*. There are ten new levels and lots of monsters, as well as many more diabolical mazes to map.

Might And Magic II is now a hot Amiga classic (as well as C64), and it offers lots of mazes, monsters and mayhem. A fairly new release on the Amiga RPG market is *Neuromancer. The Fools Errand* is the game that poses a series of puzzles in your quest to save the kingdom. This Amiga release is not strictly a role-player, but more of a mind puzzle game which is very suitable for the entire family.

Besides RPGs, there are a host of new graphic adventure games available. *Les Manley in Search for the King* has fantastic graphics and is similar to those popular Sierra titles. In *Les Manley* you play a lowly paid reporter on the lookout for the King Of Rock'n'Roll.

Altered Destiny is another adventure from the same company that made *Les Manley*, *Accolade*, and this time you play a hero who is pulled through the TV into another world. Both titles are Amiga only, and will surely satisfy the hungry adventurer. Sierra's new 1 meg batch of games include *Conquests Of Camelot*, *Code-name: Iceman*, and *Colonel's Bequest*. Delphine latest, *Operation Stealth* is the start of a series of games featuring 007 like hero John Glames. With an interface similar to *Future Wars*, *Operation Stealth* has detailed graphics and great sound, as well as some absorbing puzzles.

Origin's *Space Rogue*, *Windwalker* and *Times of Lore* should also be considered for pressies. Then there is MicroProse's great *Pirates*, a hybrid adventure/simulation game. Also the AD&D series of games from SSI are also a good choice. Make sure you get RPGs like *Pool of Radiance* or *Curse of the Azure Bonds* or *Champions of Krynn* rather than the more arcade style RPGs in the series like *Heroes of the Lance* and *Dragons of Flame*. All these titles are for both the C64 and Amiga.

Where can you get these games? Well, most of the new releases will be available from your local software shop. Some of the classic older games can easily be obtained from reliable mail order services. (Check out the ads in this magazine, especially Interlink from Canberra, which stocks many adventures and RPGs for the Amiga (mostly because the owner is an adventure nut! Right, Jeremy?)

However, if you're really feeling generous, you might to decide to get the new AMIGA-CDTV machine for your loved one. I've certainly been a good boy this year, and hopefully Santa will reward me with one. With 1 meg ram, cd-rom drive, optional mouse/keyboard/diskdrive, remote control, as well as the promise of CD titles on the Amiga, the asking price of just under \$2000 might not seem unreasonable..

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Adventurer's Realm

Help, help & more help

Many thanks to everyone who went to the effort of replying to the cries of the troubled adventurers. Your help has been much appreciated.

Game: Island of Spies

For: Anthony Jones **From:** Peter Nuzum

Help: Get the branch at the fuselage, then drop it at the crevice.

Game: Deja Vu II

For: Darren Bourke **From:** Dave G

Help: It helps if you have played *Deja Vu I*. The strange key from the telephone opens one of the machines in the casino in Joe's Bar. Tjis should supply you with Sugar Shack's address. There you will find a policeman's uniform that must be worn to gain access to the morgue. The key to the Mercedes was left over from *Deja Vu I* - not important.

Game: Leisure Suit Larry I

For: Unreadable Signature

From: Grant, Angelique & Bodie Malcolm, and David Marjanovic.

Help: Once you have Fawn upstairs in the hotel room, listen to the radio - the ads are very helpful. Then you'll need to find a phone that works. After the phone call, a quick trip back to the hotel room ... well, it's bound to be an interesting experience.

Game: Legacy of the Ancients

For: Colleen Betts **From:** Stuart Elflett

Help: The magic ice is at the bottom of the Pirate's Dungeon. In the dungeon, examine every 4-5 moves or when you

round a corner, to discover all of the traps.

Game: Leisure Suit Larry III

For: Anyone **From:** James Gordon, Singleton NSW

Help: Where you start off, read the plaque and look through the binoculars. Leave there and go and get Kalalau to divorce you. Leave your house, and get the Grandilla wood from under the tree. After that, go to your former house and open the mailbox. Then get the envelope. Go to the casino stairs and walk just past them. Go to the left side of the outhouse and get the drink and soap. Exit that area and get fired from your job and go to the beach. Look at Tawni, then look her in the eyes. Give her the credit card when it shows a picture of her eyes.

Game: The Temple Curse

For: Mudness L Bauld **From:** Peter Nuzum

Help: To get the ring, chisel ring. Make sure you have the chisel first. Once you have the ring and the blue stone, you can enter the porthole in the sand dungeon.

Game: Space Quest I

For: Gerald Boots **From:** Robert Mcgechen & David Marjanovic

Help: To kill Orat, make the spider follow you into the cave and hide behind the rocks.

Game: Space Quest II

For: Susan Dawson **From:** Robert Mcgechen

Help: Go to the top of the screen and go

left. When on the next screen, go right and untie the man.

Game: The Pawn

For: Adam Holyoak and Wilma Ledema

From: David Marjanovic

Help: To move the boulder, tie the rake and the hoe together with your shirt and lever the boulder with this.

Game: Leather Goddesses of Phobos

For: Graeme Evans **From:** David Marjanovic

Help: Go into the house and go upstairs. Take the sheet and tear it into strips. Tie the strips together to make a rope. Tie this to the bed and throw it out of the window, then look out of the window.

Game: Dungeon Master

For: John Fardy **From:** David Marjanovic

Help: Face the teleporter lever (make sure the teleporter is on). Quickly click the lever OFF, and quickly move backwards! This will have you in the alcove in the nick of time, just before the teleporter disappears. Press the gem to get rid of the pit, and now walk to the open gate without the teleporter blocking your way, and without having to go over the platforms.

Game: Black Tiger

For: Anyone **From:** Joshua Smith

Help: If you don't want to try your luck against some of the minor villains that you will encounter, then just climb up the nearest escape until they are out of the screen. Then climb back down and they should have disappeared. This will also happen if an old man decides to sell you something.

- Christmas Ideas - - New Products -

Well, it's finally available, The Official Adventurers Realm Hint Book is a compilation of hints, tips, super hard problems, and maze maps for many of the most popular adventure games, compiled from all the hints sent in to me over the past four years. Get your copy now!

Questor are due to release hundreds of entertainment titles before and after Christmas. Some worth noting in this column include....

◆*Dragon Lord*, Cinemaware's latest graphic spectacular. Unfortunately my

demo disk had a read error, but the opening sequence looks dazzling!

◆*Team Yankee* is just what wargamers and strategists have been waiting for. Control a team of tanks and armoured vehicles across a variety of different terrain into various battles. The demo looked good, more information when we get some.

◆*Gremlins 2 - The New Batch*. Elite software are soon to release this top sequel hot on the trails of the movie. Again, more information shortly.

◆*Wrath of the Demon* is an animated spectacular graphic adventure. Your tasks include ridding the kingdom of an evil Demon, rescuing the princess and

restoring honour to the king. The game features over 100 different monsters, 550 screens of action, hi-fi music, over 100 colours per screen, colourful maps, sword fighting scenes, multi-level parallax scrolling, and graphics that will blow your mind. Produced by Readysoft, the people who brought us *Dragon's Lair* and *Space Ace*.

Finally, now available from Questor is a three game adventure/strategy package containing many of the Marvel Comics superheros. The three games are: *SpiderMan & Captain America in Dr Doom's Revenge*, *X-Men: Madness in Murderworld*, and *The Amazing Spiderman*.

A Graphic Demonstration



Deluxe Paint III
has 32 colours* and costs \$199.00



Digi-Paint 3
gives you 4096 colours and costs \$119.00

Get the picture?

*In some modes an additional 32 half-intensity shades are available.

Digi-Paint 3 is a trademark of NewTek, Inc. CRAYOLA, chevron and serpentine designs are registered trademarks of Binney & Smith Inc., used with permission. DeluxePaint III is a trademark of Electronic Arts.

Which one of the artistic tools pictured here would a child choose? The answer is obvious, the more colors the better. The choice is just as easy when it comes to Amiga paint programs. Digi-Paint 3 works in the Amiga's powerful Hold-And-Modify (HAM) mode which allows you to paint using all 4096 colors simultaneously. By comparison, Deluxe Paint III (by Electronic Arts) operates in less sophisticated modes, restricting you to a maximum of only 32 colors*. What does this mean to your Amiga art? Simply put, the program with more colors makes the better pictures. But that's just one of the reasons Digi-Paint 3 is the ultimate paint program.

Other advanced features found in Digi-Paint 3:

- 14 drawing modes including colorizing, range painting, and texture mapping

- Powerful tools including: magnify, rotate, cut-and-paste, and variable transparency
- Anti-aliased fonts give sharp edges and a crisp television look
- Paint on canvases up to 1024 x 1024 with auto-scrolling
- Supports *all* Amiga display modes and resolutions
- Compatible with the Amiga 3000 and WorkBench 2.0

AmigaWorld magazine recently compared the leading paint programs in a head-to-head showdown. A clear winner emerged: "**Digi-Paint 3 is the one to beat for speed, versatility and professional applications.**" After six pages of detailed evaluations they concluded with, "**If you are really serious about owning only one paint program, we would have to recommend Digi-Paint 3.**"



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