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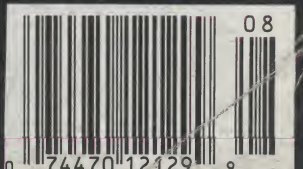
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AUGUST 1989 Volume 3 Number

CONSTANT FACTORS

- 5 *The Amiga Dimension: Managing Editor Antony Jacobson examines the role of video in the electronic revolution.*
- 6 *News: Five pages of where the Amiga world is and where it is going.*
- 61 *Amiga Answers: Confusion with your keyboard? Perplexed by your parallel port? You need Amiga Answers!*
- 70 *PD: AUI reports from the Animated Public Domain, an ever-growing source of affordable software for the impecunious Amiga artist.*
- 94 *Competition: Your chance to win a mouse holder – there are 100 of them! – and the world's smallest Amiga!*
- 97 *AUI Subscription Form: Isn't it time that you had the postman bring your Amiga its monthly treat?*

MENTOR

- 29 *MIDI: Powerful programming tips for your audio applications.*
- 53 *Intuition: Part 4 programs continued... get to grips with the Amiga's way of thinking.*

USER PORT

- 85 *Modula 2 Primer: Andy Eskelson reviews one book that just may speak your language.*
- 93 *Random Co-ordinates: A useful routine to keep you organised.*

FIELD REPORTS

- 34 *The Astonishing Vista Board: Plugging the Amiga into the graphical future.*
- 22 *Compunet: Inside info on the 'Net.*
- 42 *Star Test: Nancy Picard discovers the TV program that puts the Amiga test to the famous.*
- 48 *Video Toaster: Previewing NewTek's revolutionary video computer.*
- 52 *Video Developments: Exciting progress on the Amiga TV scene.*
- 98 *Reflections on Mirrorsoft: From dullsville to the 16 bittest of them all, a profile of the entertainment leader's climb.*

TEST DRIVE

- 12 *Spritz: The new art package that Commodore thinks worth bundling.*
- 14 *Virus Killers: Two more applicants for the anti-virus ranks.*

- 24 *Ami Alignment: Is your drive going off course?*
- 26 *Phoron Paint II: The HAM paint package evolves into an '89 version.*
- 40 *Video Generic and Wipe Master: Video FX that you can achieve – cheaply.*
- 44 *Video Animation Backgrounds: Free Spirit's ready-made backdrops for video visuals.*
- 46 *Video Page: Put your name in lights with this video titling program.*
- 86 *NAG: an assistance utility that increases your efficiency.*
- 88 *Design Database: Software Visions' extra for their award-winning Microfiche Filer.*
- 104 *Magic Robot: No, not Robbie but a maths primer to create loads of little Einsteins.*

SPECIAL OFFERS

- 23 *BAD: Speed up your disks by 500%!*
- 62 *Amiga Covers: Protection from the perils of dust, coffee, cats and more is yours with an Amiga cover.*
- 108 *Control Centre: Security for your A500.*
- 110 *The Directory: The essential Amiga buyer's guide.*

ENTERTAINMENT

- 18 *Powerdrome*
- 20 *Darkside*
- 64 *Millennium 2.2*
- 68 *Battletech*
- 76 *INDIANAJONES*
- 77 *High Steel*
- 80 *Federation of Free Traders*
- 84 *Xybots*
- 90 *Microprose Soccer*
- 102 *Charts – the Top Ten Games*
- 106 *Cosmic Pirate*

Competition WIN LOADS OF AMIGA WATCHES AND MOUSE HOLDERS!

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THE AMIGA DIMENSION

A recent study has unsurprisingly suggested that people over 40 years of age have much more difficulty programming home video recorders than VCR users under that age. Supposedly, that is because the younger we are, the closer to the "electronic revolution" which increasingly affects us all. The VCR and the Camcorder are late additions to our armory of electronic devices that have come into frequent, even everyday use. The computer is another and probably has the same age-based limitations.

While the video devices, like television, have penetrated a huge number of households, especially in western countries, they seem to have provoked, at least at the amateur level, no great impetus toward creativity. Nor has anyone announced that the still camera is dead, killed by the camcorder, as they did of painting in the 19th Century when photography first appeared. But perhaps that creative burst will begin to be seen now that computers like the Amiga have come in to link up with the video world.

As our Video Special this month shows, the Amiga is already making, at the professional level, a substantial impact with add-ons, like the dazzling Vista Board. There are also other Amiga specific developments, shortly to be announced and Newtek's exciting and relatively cheap Video Toaster that will make possible astonishing results.

Some add-ons are certainly costly and beyond the means of most non-professional users but the movement in price electronics is always down and today's professional level may soon become much more widely available.

What is also interesting is the trend that seems, as is commented on by Peter

Bilotta, MD of Mirrorsoft, whose 16-Bit success we analyse in this issue, to be moving us toward a single electronic home entertainment unit, which will probably be largely based on TV, video and the computer.

However, the "one unit" concept may well become used for more than just entertainment. In business, the workstation idea already lets users tap into much more powerful resources. Video, particularly allied to computers, has many uses which have not yet been anywhere near exploited in areas like communications, management information or training.

Mirrorsoft is a company that has succeeded in computer entertainment by putting its resources mainly on the Amiga - and seeing its bet pay off. For recent Amiga buyers, it might not appear to be much of a gamble, but for long-time Amiga followers, the memory must still be sharp of the not so distant past when the industry pundits doubted whether the Amiga had a survival future at all. But then they said that about radio, TV and other "gadgets" in their day...

At the turn of the 19th century, the Editor of the London Times was offered a new fangled device called a telephone. He is reputed to have refused it with the comment "No, thank you. We have an adequate supply of messenger boys."

Looking month after month at the developments in the Amiga Dimension, including with video, it is impossible not to be convinced that many, even those over 40, may soon be leaving behind the "messenger boy" mentality and moving quickly into an exciting new era in electronic creativity.

Antony H. Jacobson
Managing Director and
Publisher

ADVERTISERS DIRECTORY

AIX386 Bulletin Board	109
Accolade	17
Alpha Moon Records	95
Amiga Users Group	78
Applied Visions (UK)	79
Ashcom	48
Athene Consultants	Notepad
Best U.K.	65
Bytes + Pieces	63
C. Scarth	Notepad
Calco Software	78
Celos Software	Notepad
The Computer Factory	103
Computer Store	Notepad
Cotswold Computers	Notepad
D & M Software	103
Database	65
Datel Electronics	82-83
Delta Pi	78
Diamond Computer Syst	58, 59, 60
Digicom	105
Digital Integration	IBC.
The Disc Company	9
Easyprint	47
Electronic Maintenance	
Service	Notepad
Enkay	92
Entertainment International	25
Evesham Micros	21
First Micro	39
Future Place Computers	89
Frontier Software	Notepad
George Thompson	
Services/M.A.S.T.	15
Hammersoft	96
Hampshire Data International	109
Harwood Computers	66/67
Hobbyte	63
Homebased Business	Notepad
Imagery	Notepad
Magnetic Media	87
Megaland	74/75
Memory Expansion Systems	55
Micro Computer Centre	28
Newtek Inc.	IBC
Oasis Services	57
Once Bytten	109
Post Byte	95
Postronix	IFC/3
Purple PD	92
Premier Micros	109
Quadsoft	Notepad
S & T Computing	Notepad
SCC	46
Sabre 16	39
Silica Shop	45
Softville P.D. Services	96
Status Software	95
Software Express	Notepad
Sublogic	28
Tewkesbury Computer	
Centre	Notepad
Treble H	33
Trilogic	92
Turtlesoft	49
Video One	103
Wizard Software	96
Y2 Computers	65

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NEWSFILE

LET FreD DO IT!

Gramma Software's FreD is a new index and automatic telephone dialler that not only lets you store the names, telephone numbers and a brief remark on up to 1 million of your closest friends (memory permitting), it will even dial your phone for you.

FreD will work with any Commodore Amiga 500, 1000 or 2000 computer. It lets you store information in 3 separate fields: Name, Telephone Number and Comment. Each field can be up to 256 characters long. You can view your list in one of 3 different ways, including a table view that lets you have up to 60 names on one page.

Searches are a snap, thanks to a one-key search facility that brings you immediately to the section of the alphabet you select. FreD also has a wild-card search feature that lets you locate a specific grouping of names - such as all those that contain a particular word or number.

In addition, one click of the mouse on any word gives instant access to the Amiga's Notepad text editor. This lets you associate a text file with any word on FreD's phone list.

Importing phone numbers into FreD's data index is also easy because FreD accepts ASCII files from your word

processor and database programs.

FreD can work with or without a modem. If you don't own a modem, just hold your handset next to the speaker on your computer and let FreD do the rest!

FreD also supports AREXX, meaning that it can interconnect to other AREXX compatible programs, including the software for Gramma's NAG PLUS Schedule Assistant. One such arrangement would allow you to use NAG PLUS and FreD to direct unattended calling using the Amiga computer voice chips - such as telling the members of your user group when the next meeting will be.

FreD is the latest in Amiga convenience tools from Gramma Software, makers of Nag Plus 3.0 Schedule Assistant. But why did they call the product FreD? According to Mike Hugo, one of Gramma Software's founders, Fred was a nickname: "We originally called it Freedialer, but FreD caught on. We are creating Gramma's family of products, after all, so we decided to name them."

Price: \$49.95 (U.S.). Contact Gramma Software, 17730 15th Avenue N.M., Suite 223, Seattle, WA 98155. Tel: 206-363-6417.

Hello AZLAN

Specialist networking distributor ADT Limited announced today that it has changed its name and that the company will be known as Azlan Limited. The reason for the name change is that a certain amount of confusion has been caused because there were two companies using the name ADT, Azlan told us.

Azlan (formerly ADT Limited - the initials stood for Advanced Data Technology) is a British company which - since its foundation in 1979 - has established itself as one of Europe's leading computer peripheral and data-comms distributors. The company employs 85 peo-

ple, and is by far the largest Novell distributor in Europe, it claims.

"We did actually own the UK rights to the name", says Azlan Managing Director David Randall, "but, as their much larger ADT wanted exclusive worldwide use of the name, we agreed to sell it to them." No figures about the settlement have been disclosed, but Randall says the amount involved was sufficient to warrant a name change.

Azlan will continue to operate from its offices in York, but the company's Twyford (Berkshire); operation is being moved to new and larger premises in Wokingham.

InterChange Conversion Module

At the AmiEXPO show in New York, Syndesis announced two new modules for the InterChange and InterFont systems. The first module reads and writes objects from the latest version of Turbo Silver 3.0, by Impulse, Inc. With this module, users can share objects from any of the other programs supported by InterChange, such as Sculpt 3D, VideoScape 3D, Turbo Silver

2.0, and Forms In Flight.

Both Turbo Silver modules will be packaged together along with several other utility modules with special appeal for Turbo Silver owners. Existing owners of the InterChange Turbo Silver module can upgrade to get the new modules.

The second module supports the creation of clip art for Gold Disk's Professional Draw. With the InterFont Designer font editor, you can create your own multi-coloured structured fonts for use in Professional Draw and Professional Page. The InterFont Conversion Module is an easy way to organize blocks of text, and set its characteristics, such as bold, italic and justification. Unlike the fonts provided with Professional Draw, InterFonts can include up to sixteen colours.

The Professional Draw module will be included with all future InterFont packages. Existing registered InterFont owners can get the new module directly from Syndesis.

Both new modules will be available Spring 1989. Contact: Syndesis, 20 West Street, Wilmington, MA 01887 (USA). Tel: (508) 657-5585.

Driver

R & DL Productions, producers of the AProDraw(tm) professional graphics tablet for the Commodore Amiga computer announces the release of their Revision 2 upgrade for the AProDraw MM-Format tablet driver.

The driver, which is now shipping with all AProDraw graphics tablet packages, contains major enhancements. Most notably, a utility is included for scaling the tablet so that tracings may be enlarged or reduced, or so that technical drawings may be digitised to scale.

With the scaling program, a postage stamp can be traced

to the full size of the screen or an original larger than the tablet can be traced to a small area of the screen.

The current revision will carry AProDraw well into the future of the Amiga as a low cost professional graphics and video workstation. Support is included for the higher resolution monitors which are now available, for manufacturers of serial port expansion devices (multiple serial ports), and for the top of the line eighteen by twelve inch Summagraphics MM-Series tablet.

Further, a public message port and example programs have been provided for prog-

rammers who wish to write specialised programs which make direct use of tablet coordinate output.

A wholly revised, professionally produced manual describes the use of the driver and utility programs in detail, including instructions for specific tasks, such as scaling original artwork, or matching the tablet scale to the scale of a CAD display.

This new revision of the driver will be shipped free of charge to all registered AProDraw owners during the next two months.

Contact: R & DL Productions, 11-24 46th Avenue 2A, Long Island City, NY 11101. Tel: (718) 392-4090.

A Quest For The Holy Grail?

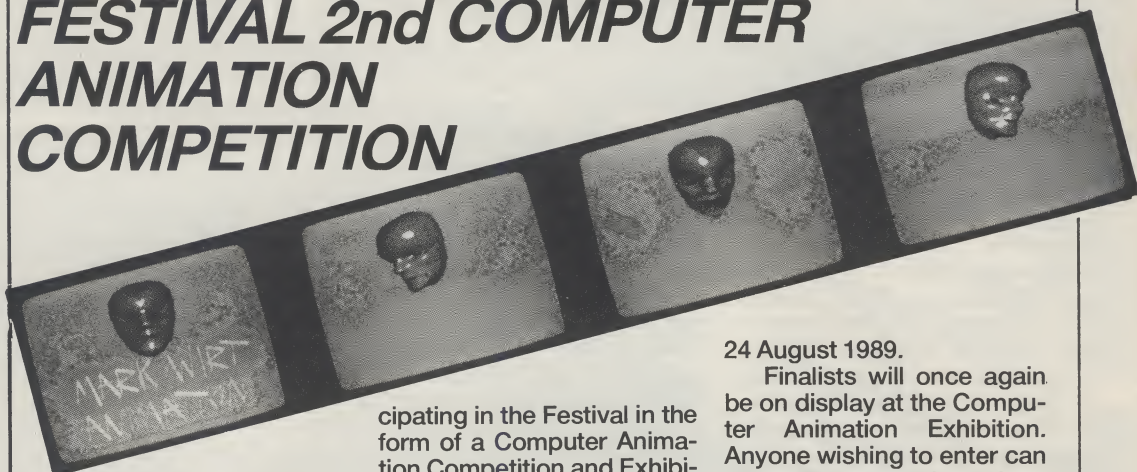
A lifetime's fascination with the legend of King Arthur has finally paid rich rewards for Nottingham computer systems engineer John Sweeney. He is now the proud owner of a £5,000 replica of the Holy Grail – first prize in a national “treasure hunt” competition devised by a leading UK entertainment software house.

Arranged to coincide with the launch of Mandarin Software's Lancelot title – an adventure game based on the Arthurian legend – the quest started in October last year. Since then, thousands of contestants have battled with increasingly difficult clues in an attempt to locate the grail, a handcrafted goblet gilded with 22 carat gold and encrusted with amethysts, garnets and opals.

Using his specialised knowledge of the legend combined with skills honed from years of solving puzzles for a hobby – he wrote a solution to the Rubik cube 12 months before it became popular – John Sweeney scooped the valuable prize.

In all, it took him 30 hours to solve the final set of mind-bending clues to come up with the hiding place – the Berne Abbas Giant etched into chalk in the Dorset hills. An employee of IBM, John lives with his wife Maggie and sons Mark and Alex in Milldale Close, Clifton Village, on the outskirts of Nottingham.

1989 EDINBURGH INTERNATIONAL FESTIVAL 2nd COMPUTER ANIMATION COMPETITION



Since its introduction, the Edinburgh International Festival has grown in reputation and now enjoys international status as one of the leading arts festivals in the world.

Following last year's success The Amiga Centre Scotland will, once again, be parti-

cipating in the Festival in the form of a Computer Animation Competition and Exhibition. Pictured is the winning entry last year from Mark Wurtz, who used an Amiga 512k with an extra drive.

Entries to the competition, which will be open to any Amiga User, can be either on disk or PAL VHS videotape. The closing date for entries is

24 August 1989.

Finalists will once again be on display at the Computer Animation Exhibition. Anyone wishing to enter can obtain further details and entry forms by contacting:

Animation Competition, The Amiga Centre Scotland, 4 Hart Street Lane, Edinburgh, EH1 3RN, Scotland, Tel: 031 557 3260. Fax: 031 557 3260, Attention: Martin Lowe.

To crack the grid reference location pinpointing where the grail was buried, John used a total of 30 reference works ranging from an early edition of Le Morte D'Arthur – containing a glossary not found in modern versions – to dusty archaeological tracts.

Software writer Pete Austin of Level 9 – the author of Lancelot and himself an expert on Arthurian legend – coded the initial clues into the adventure game itself.

Full details of the solution can be obtained by sending a stamped addressed envelope – marked “Grail Quest Solution” – to Mandarin Software, Europa House, Adlington Park, Adlington, Macclesfield, SK10 4NP.

the weather situation.

These stills are stored at half-hourly intervals and are then turned into colour animations complete with green land, fluffy white clouds and crystal blue oceans.

The animated sequences and stills are then digitally shot over to TV stations from the Weather Department (Ltd) via Dell 310 PC running Xenix. Amiga 2000s in the studios then run the still frames and animations.

Andrew Eccleston commented on the choice of Amiga 2000s: “This is the first time we've worked with Amiga 2000s. Usually we work with slightly higher resolution machines but when we came to make our choice for this project – in terms of price versus performance – there was no competition, it had to be the Amiga 2000. It's an excellent machine for this type of project and with the Rendale genlock the Amiga 2000 has all the right answers for broadcast applications”.

Barry Thurston, Commodore's National Sales Manager for Specialist Markets, commented on the Weather Department's project: “This is one of the most exciting and innovative applications of the Amiga 2000 that I've ever seen. It is a triumph for the machine and a testament to

the work we've put into promoting the Amiga 2000. There can be no doubt now that the Amiga is the most practical solution to generating computer images on television”.

The actual forecast frames that the presenters use was designed using Electronic Arts' Deluxe-Paint package on the Amiga. Again the Amiga 2000s are used to generate and broadcast these images using the new Rendale genlock – which offers professional-quality output.

Commodore's PC20s are also being used by the Weather Department to prepare and deliver scripts direct to the TV stations' mainframe computers and from there straight into the auto-cue. The PC20s along with the 17 Amigas used on this project were supplied by the Commodore distributor Central Technologies which also played a key role in the projects development.

The Weather Department's forecasting system makes full use of the Amiga 2000's multi-tasking capabilities to deal with the animations and forecast frames. The company also designed a neat remote keypad for the Amiga 2000 which allows presenters to run the stills and animations while they are in-vision.

Amiga Weather Forecasts

Commodore Business Machines' Amiga 2000 is now the star of TV weather broadcasts. The Weather Department (Ltd) has installed two Amiga 2000 forecasting systems so far: the first with Britain's biggest independent station Central TV and the other with the latest channel,

Sky TV.

Developed by The Computer Department (Ltd) the Amiga 2000s are used in three separate ways. The Amiga 2000s are connected to a satellite dish aimed at the weather satellite Meteosat. The Amiga 2000 then stores digitally enhanced pictures of

Wayne Gretzky Hockey

Active Sales have announced that they will be representing Bethesda Softworks latest release, Wayne Gretzky Hockey in all areas of marketing and distribution throughout Europe.

Wayne Gretzky Hockey promises to set new standards in sports simulation. From the hard hitting action on the ice, to coaching from the bench, Bethesda tell us they have pushed the simulation to a new level of realism in software entertainment. Gretzky and other NHL players and coaches helped create this title and the results are impressive.

Wayne Gretzky Hockey has already been voted a finalist for the American Software Publishers Association "Best Sports Simulation of the Year" award. Available for the Amiga. Price: £24.99.

Madrigal Art Libraries Focus on Designers

Madrigal Designs and Brown-Waugh Publishing has released Madrigal Architectural Libraries, Amiga art libraries for design professionals in architecture, engineering, construction and interior design. Madrigal Architectural Libraries allow you to design a house and arrange all the furniture while creating working blueprints, Brown-Waugh tell us.

The first three libraries available are Floor Plan, Interior Design, and Framing and Foundation Details. Other libraries coming soon are Exterior Elevation, Landscape Design, Interior Isometric Design, and Victorian Styles.

The libraries are available in IFF or Aegis 2D-CAD for-

Alternative Releases

Alternative Software and its sister label, Summit Software, will be launching a number of major titles on 8 bit throughout the summer, the company tell us.

Late June will see the release of Rugby Boss on the Commodore, price £1.99. This game is the sequel to one of Alternative's most successful games to date and also one of the most successful budget games ever, Soccer Boss. Rugby Boss is a Rugby

League management simulation in which the player adopts the role of the manager of a Rugby team. He is the boss for a season and during the time he must try to ensure his side wins as many matches and trophies as possible.

The two sister labels have jointly secured the rights to a number of Martech and Dinamic products as budget titles. The Dinamic releases include Game Over and Army

Loves. As both these products were marketed by Ocean in the UK, effectively the deal means that Summit will be the first budget software company to sell former Ocean full price titles at a budget price.

The Martech games include: Nigel Mansell's Grand Prix, Mega Apocalypse and Tarzan. All alternative games retail for £1.99 and Summit games for £2.99.

Amiga to VAX Connectivity

TSSnet is a software implementation of the Digital Network Architecture (DECnet) for use on the Commodore Amiga line of personal computers. With it, Amiga computers become Phase IV end nodes in a DECnet network that can consist of over 64,000 different computers running a wide var-

ety of operating systems. Syndesis TSSnet is a complete Amiga implementation of TSSnet, originally developed by Thursby Software Systems.

The initial release provided asynchronous DECnet communications (DDCMP) using the Amiga serial capabilities. This provides for multiple current sessions between Amiga tasks and tasks running on any other nodes on the DECnet network. It fully supported X11 for the Amiga from Gfx-Base, an implementation of the X Window System on the Amiga.

Included with this release is the Network Control Program (NCP), an intuitive application for complete

control of the TSSnet node, and the Network Virtual Terminal (NVT), which, provides the ability to log onto other nodes on the DECnet network. It uses the DECnet remote terminal facility to open multiple sessions, if desired, on those nodes. A VT100 terminal emulator is provided to use the Virtual Terminal facility.

Also included are Task to Task Communications, which is a programming interface at the Amiga device level provided to allow development of Amiga programs to communicate with tasks on other DECnet nodes. Contact: Syndesis, 20 West Street, Wilmington, MA 01887, U.S.A. Tel: (508) 657 5585.

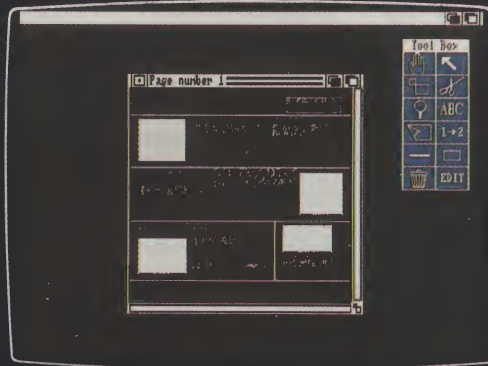
Twin-XX General Purpose I/O Board

ASDG have produced an Amiga host for the industry standard IEEE 959 expansion module interface. Also known as iSBX, the IEEE 959 interface standard has existed for many years and boasts an array of modules numbering in the hundreds. Called Twin-X, it is a full Zorro II (A2000) compatible Amiga expansion card which can host any two standard IEEE 959 modules or one double-wide IEEE

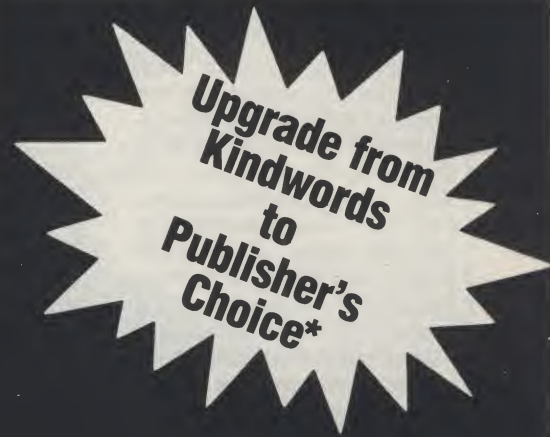
959 module. To the Amiga, the Twin-X is a completely standard fully auto-configuring expansion board. To each IEEE 959 module, the Twin-X is a completely standard IEEE 959 host.

Any of the hundreds of IEEE 959 modules already available can be used on the Twin-X and hence, on the Amiga. Contact: Amiga Centre Scotland, 4 Hart Street Lane, Edinburgh EH1 3RN. Tel: (031) 557-4242.

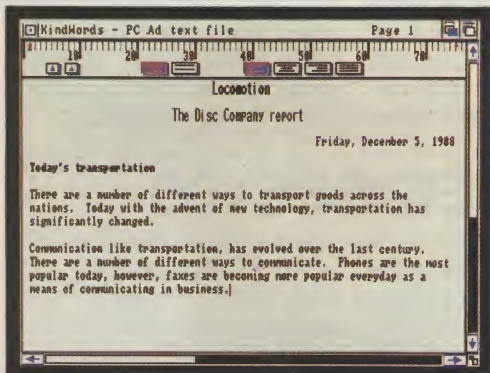
Their idea of DTP



DTP that starts with layout



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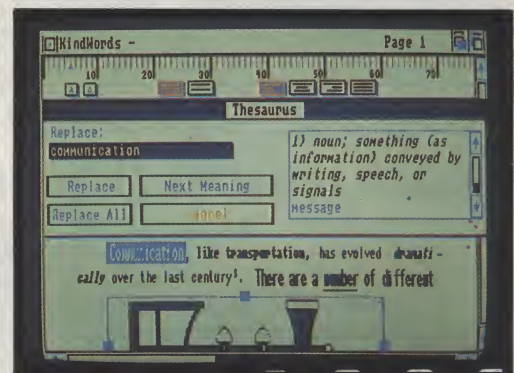
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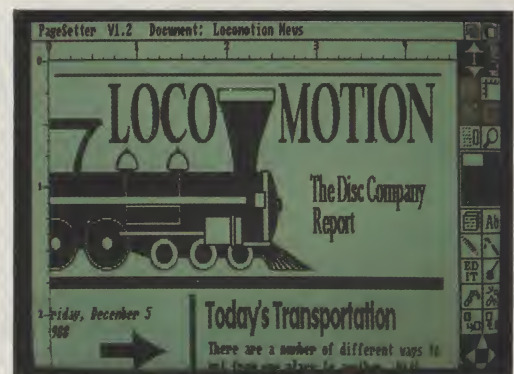
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The 'nice' boy next door may be a (gasp) HACKER!

As computer crime proliferates, sociologists and other 'people watchers' are beginning to define the criminals more carefully. For example, hackers and insider computer fraudsters are two very contrasting breeds, says Dr Robert Taylor, an Associate Professor of Criminal Justice at the University of Texas.

In a report on seminars given by Taylor, he found typical hackers to be young, male and middle-class ranging from 14 to 25 years of age. Their parents rarely suspected them as they appeared to be 'model' kids who do not race cars, chase girls, drink beer or get into trouble.

Warning signs of likely

insider computer fraud include alcohol and drug abuse, loan shark involvement and excessive gambling. (See this month's news item on Compaq).

The general consensus is that insider fraudsters may be neurotic, manic-depressive, arrogant or psychopathic while typical hackers are likely to be withdrawn loners.

In other words, former hackers should make ideal employees while Peter Pan would be a prime suspect in any hacking investigation.

It is, however, important to note: only schizophrenics are capable of both activities.

Static RAM chip production begins

Chip manufacturers will soon begin mass production of 1M-bit static random access memory (S-Ram) chips.

Produced by Hitachi, EC and Toshiba, the chips will use sub-micron technol-

ogy comparable to 4M-bit dynamic random access memory (D-Ram) chips.

Sony, another big chip manufacturer, is already producing quantities of S-Rams at its Nagasaki plant.

Just say "no"? Just say "Compaq"

The US has developed a reputation for strange applications. In this situation, the application had far-reaching results. Personal computer manufacturer Compaq helped police close down a drugs ring among its staff that used money from stolen memory chips. Reports have stated that the police charged 22 people, all employees of Compaq at one time, with theft and trafficking in drugs.

Someone within the company helped undercover police officers infiltrate the ring in which the Compaq staff paid for their drugs by stealing memory chips used in the manufacture of PCs.

The chips were then sold for cash or directly traded for drugs. Because memory chip prices reached record levels last year (due to high demand and import tariffs) business was booming.

Michael Jackson, I presume?

VPL Research has devised an input tool called Dataglove that allows users to "grab" a computerised image and move it across the screen.

The company claim it could eventually replace keyboards and mice for some applications.

How it works: Dataglove picks up the image through a series of optical sensors

which sit on each joint of the hand. The glove is connected to an external box, the size of a personal computer base, via a fibre-optic cable. This performs analogue-to-digital conversions so that the optically recorded impulses can be translated into data and transformed into images by the workstation.

Price: \$8000 (U.S.).

Portable LQ Printer

A portable letter quality printer has been launched by Toshiba Information Systems called the Express-Writer 301, it weighs less than 4lb, uses thermal technology and costs £345. The rechargeable internal batteries allow for up to an hour of uninterrupted printing; alternatively, the unit can be pow-

ered from the mains.

Resident emulations include Epson LQ and Toshiba P321SL/Qume Sprint 11, while resident fonts include Courier, Prestige Elite, Draft, Condensed and Proportional. In draft mode, the printer runs at 60 CPS, while letter quality output is at 42 CPS, according to the company.

HI-TEC EC2400

The EC2400 is a quad speed modem with features such as MNP level 4 ERROR CORRECTION which gives you very reliable Data transfer; and, a MNP level 5 DATA COMPRESSION which approaches 4800 bps nearly doubling the speed of your Data transfer.

It is housed in a black cus-

tom ABS case measuring only 46 x 163 x 200mm and weighing a mere 1050g (which includes the built in power supply).

BABT approval is forthcoming. Price: £279. Contact: Hi-Tec, 611 Lincoln Road, Peterborough, PE1 3HA. Tel: (0733) 52440.



EPSON GQ5000 Laser Printer

Epson Press Releases often announce new products the same way a proud father announces a child's birth: Loudly. But the one that just recently crossed our press desk is something to shout about.

Epson's second generation, six page-per-minute laser printer, the Epson GQ5000, has a 300dpi by 300dpi resolution and 13 built-in fonts which are scaleable from 2.16pt (0.54mm/0.03") up to 240pt (60mm/3.33") high, giving near typeset quality output without needing special software. The company claims that the GQ5000's three times magnification could conceivably raise this further to 720pt (180mm/10") high.

Available now at a price of £1699, which includes a year's free on-site maintenance on the UK mainland, the Epson GQ5000 has many

extra features over the model it replaces - the GQ3500.

Fonts and typestyles include: * 13 GQ SelecSize fonts (portrait & landscape = 26); * 15 Bitmap fonts (portrait & landscape = 30); * 3 HP Laserjet II emulation fonts (portrait & landscape = 6); * 10 FX/LQ fonts (portrait & landscape = 18); * Up to 294 fonts per page; * 43 fonts on 10 GQ ID cards (options); and * 20 fonts on 5 HP ID cards (options).

Epson's 16-column by 2-line SelecType LCD display font control enables fonts to be reproduced in everything from the smallest footnote to the blackest headline, and it also offers "bit-mapped" high definition versions of several fonts and typestyles.

The Epson GQ5000 has 512KB of memory as standard, with the option of expanding to 2MB in 0.5MB stages. There is a 1.5MB ROM.



The Epson GQ5000 is more compatible with the Epson GQ3500 than any other laser and has similar emulations including HP Laserjet II, Epson LQ2500, Epson FX800/1000 and Epson Pageprinter. There are also Diablo 630 protocols. In addition, both parallel and serial (RS232/RS422) are standard with the addition of an Epson video interface.

The Epson GQ5000 is 16.0"/406mm wide, 17.4"/443mm deep and 8.5"/215mm high. The unit weighs 17kg and as a power consumption of 600W, (50W in standby mode). Contact:

Epson (UK) Limited, Campus 100, Maylands Avenue, Hemel Hempstead, Hertfordshire HP2 7EZ. Tel:(0442) 61144.

Personalise Your Faxes

Personalised faxes can now be sent with a fax broadcasting option from Computafax. Send your documents, personally addressed, by extracting the relevant name and address information from a directory.

Fax numbers held in the directory can be assigned to up to 62 different groups. Each group of facsimiles are then transmitted at a pre-determined time set by the user, to take advantage

of cheap rate telephone charges.

According to Computafax, the service is targeted to direct mailing organisations, marketing, public relations and advertising companies.

The option for the Computafax System 3 PC-Fax card is called Faxshot and costs £149.95. The System 3 PC-Fax itself costs £399 and is used in IBM compatibles.

Tel: (0225) 777186.

Big Memory

Intel once again makes news. The company has developed an erasable, programmable read-only-memory (EPROM) chip that is capable of storing 4M-

bits of information. The device measures only three-eighths of an inch on one side. The company says that its density means that it can store the equivalent of 42 pages of an average dictionary (or a white paper from the government, perhaps?).

What's 'DAT'?

First included as part of the new Apricot 486 machine, the digital audio tape (DAT) drive is being introduced by Hewlett Packard. The HP35450A can back up the equivalent of 1,000 to 2,000 floppy disks or 60 20MB hard disk drives. It is expected to be used as an archival back-up for workstations, PCs and low-end minis.

DAT technology, which uses tape cartridges and a recording unit, looks like a video recorder. More than 1GB of data can be stored on one cassette.

Average access time is

20 seconds - due to a fast search facility that operates at up to 200 times the normal read/write speed. The transfer rate is 183K/sec.

Mean time between failures is expected to be more than 40,000 hours, thanks to a combination of a built-in head cleaner and a technique that maintains tape tension electronically rather than mechanically.

While 12 companies, including Apple and Hitachi, have lined up behind Data/DAT, only US firm Gigatrend has a product available so far.

A finalised Data/DAT is expected by the end of the year. Hewlett Packard expects volume production to begin in December this year.

Smartscan

Smartscan, an image-processing system that tackles the task on the image sensor itself, rather than by the customary technique of processing electrical signals, is in the development stage.

Technicon, an Israeli research team in Haifa, is developing a means to make

adjustments on the focal plane of the camera. The advantage is that less time and money will be spent on setting up lighting. The company claims that Smartscan offers greater sensitivity and speed for systems such as automatic inspection, robotic vision, item identification and similar tasks.

Spritz

A bundle of fun - or software out for a free ride? Peter Lee sketches out the details of Commodore's giveaway art package

New Amiga owners are in for a special treat from now on - CBM are bundling a sophisticated art package with their machines. The fact that Best UK's Spritz package was considered good enough to go out with every Amiga sold says a lot about Commodore's confidence in the program. But simply because the software is free does not mean that it can escape an *AUI* test report - after all, it is entering a crowded and professional arena. And there are those of you (who already own Amigas) who may be looking for an art package.

Spritz was written by Stephen Vermeulen, who also wrote Express Paint. The two programs are very similar in outlook, and identical in some respects, though each is touted as a separate entity in the manual. It seems to me to be just a variation on the one theme, but each has its own unique features, with Express Paint being the more advanced of the two. You could say Spritz is the younger member of the family.

Enhancements

The program is a full-feature art package, with a number of enhancements above the standard fare. It has the capacity to work in the 64-colour half-brite mode, can use coloured fonts, has an adequate range of editing tools, a superb undo feature which can work back through many operations, and an award-maker facility for creating bordered certificates. The icing on the cake is the ability for Spritz to act as an icon editor, using all the drawing tools normally available in most programs. This is handled rather badly, but is still of immense use.

The disk may be backed-up or installed on a hard drive, and requires a minimum 512K to run; unlike Express Paint there are no Virtual Pages, so your screen configurations are limited by the amount of chip RAM available. On running the program, a requester appears asking for page size and colour information. Here you can define screen or page width and height and the number of

colours needed. It works in overscan mode if required, and PAL mode as well as NTSC is supported.

Once the drawing screen has been created, you are presented with horizontal menus at the top and bottom of the display: below is the primary tool pattern, containing icons representing features such as fill, draw and cut, while at the top, the palette stretches across allowing immediate selection of foreground or background colour.

Tools and Functions

Most of the tools are straightforward, but some open up new multiple-choice areas, depending on the complexity of the function they access. These are located in the top right of the display area. In the case of the freehand draw-

held in the RAM clipboard, and batches can be saved for later re-loading. These can be used as simple painting brushes, or patterned fills. This is not as user-friendly as DeluxePaint, and there is an annoying flicker from the clips when moving them around screen, but it is a handy feature to have.

The cut tool functions in either rectangle or lasso mode, and building up a library of brushes is an attractive idea - especially when you consider they can be loaded into memory when the program is started.

There are two exaggeratedly-named 'special effects' which act on your clips, the stretch and rotate options. They are not all that special really.

Far more innovative is the Power Border feature. With this you can define a cut, then use it as a border to frame parts of the screen. Accessing the feature is achieved via the box tool (by pressing a mousebutton while the Alt key is depressed). The program works out which parts of the cut to have as the corner, and which to use as the general fill. The disk comes complete with some examples. Provided you stick to the rules on ratios laid down in the manual, you can define cuts for use as borders for yourself.

Spritz recognises ColorFonts if you need to use them, and is already capable of utilising the long-awaited enhanced chip set from Commodore (which will cut through the 512K chip memory barrier and allow more complex graphic manipulation in the



ing tool, a sub-menu can be opened up allowing the choice of rubberbanded straight line or locked horizontal and vertical rubberbanded lines. A magnifying window can be invoked at any time, which also gives exact screen co-ordinates for precise positioning.

Spritz, like Express Paint, allows the creation and saving of cuts (brushes by any other name). A bank of cuts can be

memory-hungry higher resolutions). The palette is user definable, and up to six spread ranges are available; as well as giving a good progression of hues, this also forms the basis of pseudo colour-cycling animation.

Spritz and Express Paint can transfer images between each other using the newly-developed SmartLink system. Both programs can access so-

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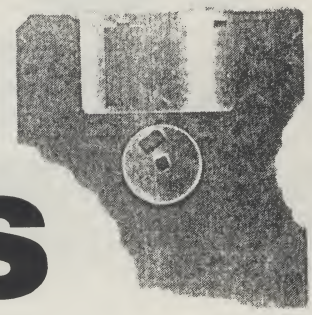
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Disk Protectors To The Rescue



Virus Killer and Anti-Virus – two new programs to keep your Amiga programs safe from harm...

A couple of years ago, if someone said to you "I have a virus", you would probably have suggested that they visit their GP. These days you would be more likely to recommend a visit to the nearest computer shop rather than a local doctor to find a cure.

Computer viruses have actually been around for many years, but with the advent of mass-produced, affordable 16-bit computers, they have started to spread at an alarming rate. Fortunately help is at hand, in the form of anti-viral programs.

To understand how these programs work, a brief description of how a virus "infects" your disks is needed. Although there are three main types of virus, the majority work by altering the boot block of your disks. When a disk is booted, the altered code is loaded and run, which effectively "installs" the virus into your machine's memory. Thereafter, each time you insert a disk into your machine the virus detects it and writes itself back onto the disk, thus spreading the infection.

The only way to get rid of a virus is to re-write the boot block. This is fine for ordinary DOS disks, where the "install" command will be sufficient. More and more companies are now writing protection routines into the boot block, so using the "install" command on these disks will prevent them from working at all.

The latest recruits in the war against viruses come from England and the United States. The American offering is "Anti-Virus" from DevWare Inc., California, whilst the aptly named "Virus Killer", on the Practical label, is produced by CRL in London.

Anti-Virus

Anti-Virus provides a suite of programs designed to let even the beginner check that his/her disk collection is free of all viruses and ensure that no future infection occurs. To deal with all normal DOS disks,

the user is able to install a special Anti-Virus boot block that, when it is booted, displays a picture. If a virus gets onto the disk, the picture will not be displayed correctly, thereby giving you visual confirmation that the boot block has been changed.

Dealing with commercial disks that may use the boot block for protection is a little more complex. Anti-Virus includes a program called vCat which, in essence, is a boot block catalogue and database, that is used to read the boot block of any disk and store a copy of it in the database. If, at a later date, the disk becomes infected with a virus, vCat can be used to re-install the previously saved, un-infected, boot block.

VCheck is a VirusX-type program that checks every disk that is inserted for a non-recognisable boot block. If the block is not standard AmigaDos or one of DevWare's own Anti-Virus blocks, a requester will open, informing you that a virus might be present. Part of the vCat program, called View, can be used to visually inspect the boot block of any suspect disk to determine if a virus is present. A CLI-activated program called vDump is also provided for this purpose.

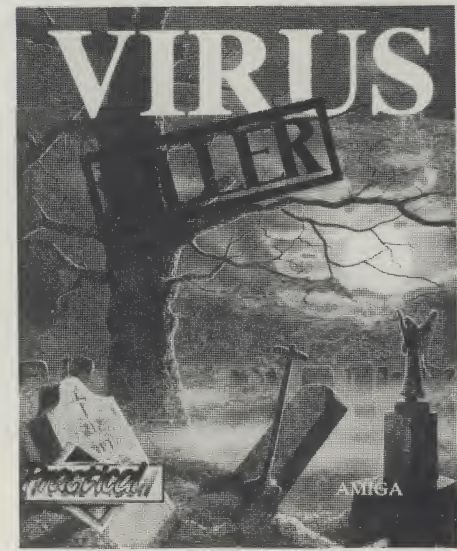
"One of the more difficult to detect types of virus is called a 'Trojan Horse', so named because they are intentionally hidden within other programs."

One of the more difficult to detect types of virus is called a "Trojan Horse", so named because they are *intentionally* hidden within other programs. When the program is run, the program will attach

itself to some other program file on the disk, usually to one of the more commonly used commands in the C directory. Every time the "infected" command is used, the virus finds another command and infects that as well. At some predetermined interval the virus will activate and destroy all the commands and data files that it can find!

To combat this kind of virus, Anti-Virus includes a program called vTrojan. Briefly, vTrojan is a database that stores important statistics on any file that you wish to protect. It relies on the user making back up copies of all uninfected files and, should vTrojan detect a miss-match with the database during a check of the protected file, it will inform you of the alteration. This file may then be replaced by the uninfected back-up.

Price: \$18.95 (shipping included). Contact: DevWare Inc., P.O. Box 215, La Jolla, CA 92038-0215 (USA).



Virus Killer

Virus Killer from CRL is centred around a single program, called "Terminator", which is designed to be added to the C directory of your disk and run from the s/startup sequence. On running, the first

continued on page 16

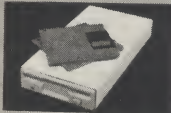
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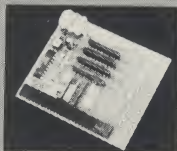
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continued from page 12

called service providers which are also on the Spritz disk. You must invoke these independently. They include a page flip, a pixelisation feature, and a palette matcher which will try and re-map one set of colours to one you specify. The process is useful if you intend combining clips from individual screens.

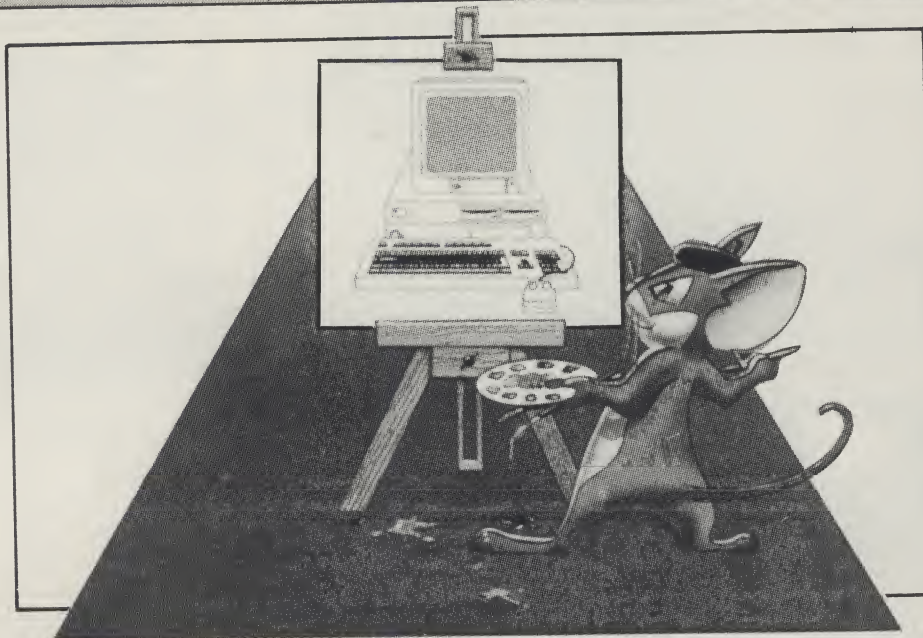
The icon editor is a big plus, even in its current clumsy form. Icons can be loaded directly into the drawing area; so consequently, they are rather small. As the program's magnify mode excludes any image of the original screen (which is filled entirely with the zoom window) it is difficult to judge precise editing.

Not only can single icons be amended, but those with alternate images (for instance, the trashcan which opens its lid when selected) can be edited side by side. Saving such duplicates is simply a matter of dragging out a rectangle around the pair, with the mid-line between each distinct icon exactly halfway along the defined box.

Interestingly enough, there is a utility on the disk which allows you to redefine the icon type (Tool, project etc), further enhancing a quite useful utility.

Conclusion

Spritz is up against some heavyweight competition, but it addresses the problem in a sound and pleasant way; it does not set out to mimic other art packages, rather it beats its own path to the same door. Some aspects are on the convo-



luted side, such as brush manipulation, and some are frustrating such as being unable to position a brush whilst the menus are removed. Others, however are extremely friendly. The auto-centering feature of the image, the removal of menus for video transfer and a layered undo feature which goes way back in the drawing process if memory allows are all added attractions.

From the excellent, hint-packed manual, it appears that this is a commercial program, but as this review has been undertaken in the context of bun-

dled (i.e. free) software, then the question of value for money is irrelevant. However Spritz is a workable and above average art package with lots going for it, and certainly not something to throw away with the packing material when you have ripped open your new Amiga's box.

P.L.

Price: £29.95 (RRP). Contact: Best (UK) Ltd., Block 3 Unit 1, Baird Avenue Struthen Hill Industrial Estate, Larkhall, Strathclyde ML9 2JP. Tel: (0698) 887 770.

Disk Protectors To The Rescue continued from page 14

thing Terminator does is to check your machine's memory for any resident virus. If it finds one it will inform you of its findings and ask if you want it removed. From then on, every disk that is inserted into your computer will be checked for a non-standard boot block.

On finding an unusual boot block, the program opens a window that tells you what it has found and asks if you wish to investigate it further, or ignore it. Selecting "Investigate!" opens up an ASCII display window, with the complete boot block displayed. This allows you visually to confirm whether a virus is present, as most virus programmers, suffering from an ego problem, normally leave some kind of message to tell you how *clever* they are. Of course, this also lets you know that your disk is infected!

If you are still unsure, Terminator, like vCat, holds a database of both known viruses and user-saveable, non-standard boot blocks. On selecting "Search" from a menu, Terminator will scan through the database, looking for a match. Should a match be found, it will tell you whether it is a known virus or boot block, or not. If the answer is the latter, another menu item will allow you to add the block to the databa-

se. Blocks saved in the database may also be restored should the original become infected.

Price: £9.95. Contact: CRL Group PLC, CRL House, 9 Kings Yard, Carpenter's Road, London E15 2H0. Tel: (01) 533 2918.

Conclusion

In use, both systems worked efficiently, identifying SCA, Byte Warrior and Byte Bandit viruses correctly. To discover whether either system interferes with normal operation of the Amiga, I wrote this review with both Terminator and vCheck running in the background (not at the same time!), without any problems.

Virus Killer is a very good, simple system for dealing with all types of virus. Although it is not as sophisticated as Anti-Virus, the database contains details of the latest viruses, in addition to those that Terminator recognises immediately.

Anti-Virus, on the other hand, is more complicated in that it does require a small degree of knowledge to be fully effective. With a larger suite of programs at your disposal, it gives you a complete set of tools that enable you to be totally secure in

the knowledge that your disks are, and will remain, virus-free. I particularly liked the use of an image during booting, for a visual OK, and the inclusion of an anti-Trojan Horse device.

An area in which Anti-Virus far exceeds Virus Killer, is the documentation. To be able to use ANY program correctly, you need to have a good set of instructions, particularly if the program has the capability to completely ruin commercial software. The 12-page booklet provided with Anti-Virus is backed up with further information in a "Readme" file on the disk, and fully explains the various programs and functions.

The "instructions" in Virus Killer, however, are supplied on, what is best described as a piece of scrap A4 paper, photocopied on both sides. The text is not only very small - in places the copy is so poor that it is illegible - but it even reads incorrectly. It had me searching both sides to see where the continuation occurred! It may be that I had a pre-production copy but I strongly advise you to make sure that you can understand the instructions, on both products, before you start using them.

N.S.

European Rush Hour.

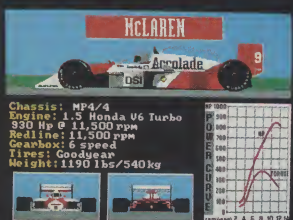
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POWERDROME

Electronic Arts



The Amiga version of Powerdrome has finally arrived. We Amiga users are becoming quite accustomed to waiting a while for conversions of games which appear, initially, on the ST. However, this particular game is not just a straight conversion, it offers an improvement in gameplay over the ST original. Details of which are given below and in the insert. However, for those of you who have not got a clue what Powerdrome is about - a quick resume.

You are a Typhoon pilot competing in the Powerdrome XXIV championships. You must race against four other pilots over a season, which consists of six races. Each pilot, including yourself, has his eyes firmly fixed upon the coveted Cyberneufe trophy, the prize awarded to the overall Championship winner. In true 'Grand Prix' style each race takes place at a different race track to test the skills of each pilot. While a 'Grand Prix' driver may have to travel to different countries to compete in each race the Powerdrome pilots have to travel to different planets!

There are a total of six tracks within five planets, Terra having a race track and a practice track. The trouble with racing in different planets is that each planet holds its own unique set of atmospheric conditions, gravity and so on. To adapt to these conditions you are able to change the characteristics of your Typhoon, in a similar way to the system in 'Ferrari-Formula One'. Thus you may select any one of five aerofoil sensitivity positions (the ST only has three), any one of three different speed brake sizes and you may alter the roll/pitch

bias which controls the sensitivity of your pitching and rolling. To adapt to each atmosphere you are offered a selection of air filters. However, a change in the weather, on some planets, may necessitate a filter change (Oxygen to Particle during a storm, for example).

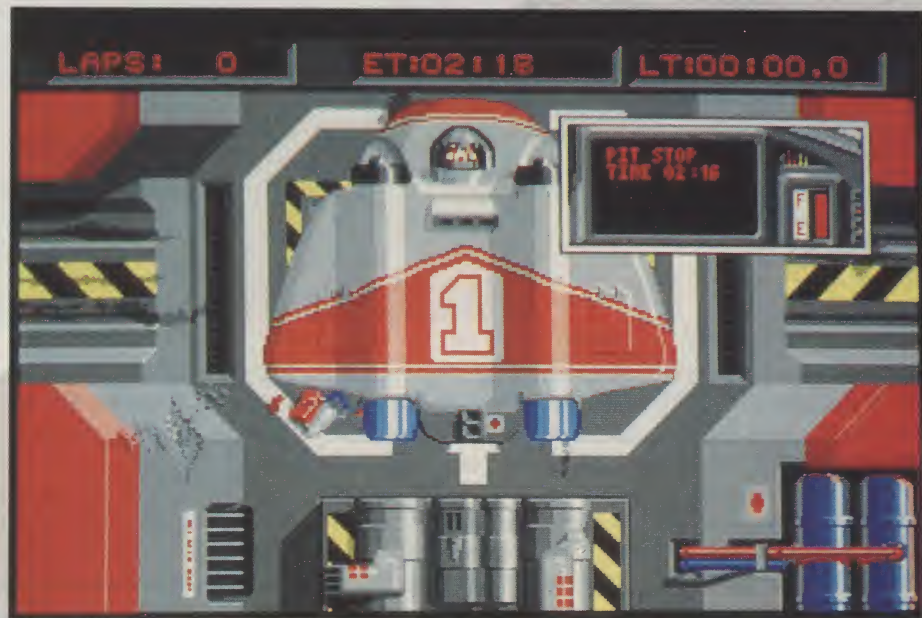
Failure to change at the correct moment can result in a blown engine. Finally, you can select any of three types of fuel. Each fuel type has its own properties. Nitro-Mono Premium, for example, will create more thrust than Economy Special but it will also burn up faster. The former is ideal for short races but for longer races you will find yourself having to make continual pit-stops, which will negate any time saved during the race. So as you can see, with the large array of configurable features, you will be a wise pilot to plan ahead.

Racing takes place in three stages. Firstly you will want to practice. This option is ideal when you are experimenting with a new configuration and testing out a new race track. The test track, at Terra, is a simple oval shape. It provides a good testing ground for the beginner because all you have to worry about is how to come to grips with the Typhoon controls. Other courses introduce complicated track patterns which will, to an inexperienced pilot, only result in failure and disappointment. Once you have become proficient with the Typhoon controls (and this will take some time as the Typhoon is a bit of a handful) you can get to know the other courses.

You could be forgiven, when looking at the 3-D representations of the five race courses in the

POWERDROME

Electronic Arts



The Centering Field ...

There are a number of differences between the ST and Amiga versions. One or two of which have been mentioned within the main body of the review. However, in addition the Amiga version has a new Centering Field which holds your craft in the centre of the track so that you do not hit the walls. The sensitivity of the field can be varied as your confidence grows. This is an excellent feature for beginners. There has, in addition, also been the introduction of a track of intermediate difficulty.

manual, for dropping the manual in the bin and taking up something more peaceful, such as Chess, instead. Why? Because they are the most convoluted structures I have ever seen. Not only do the courses travel from left to right but up and down too. Sometimes you will find yourself undertaking complicated turns, dives, climbs and so on through tunnels which sometimes drop and climb vertically. I can assure you, if you do not know these courses like the back of your hand, you will come to grief in no time at all.

The next stage, after Practice, is the Qualifying. During this period you compete with other pilots for the best 'suspensor' position on the final race grid. This area calls for pure, unadulterated speed. You should, basically, push your craft to, and beyond, the limits in an effort to gain a good grid position. The race itself lasts between 20 and 50 laps.

During a race, especially a long one, you will, inevitably, run out of fuel and you may also incur damage from collisions with the track. Your wings and the nosecone are prone to structural damage which will only denigrate your aerodynamic performance. To correct these undesirable conditions you can dive into the Robopits. This is an excellent sequence which shows a plan view of your craft. Any damaged structures, at your command, are replaced by robotic arms. This is an impressive sequence which also contains some nice sound-effects. Try, while on the track, requesting a tow from the rescue craft and you will see your Typhoon being, unceremoniously, towed in.

To sum up, Powerdrome is a graphically excellent race game. The 3-D graphics move at a terrific pace (slightly faster than the ST version) resulting in some heartstopping excitement as you see a never ending stream of tunnels and bends stretch before you. The sound compliments the action, along with some satisfying 'clunks' and so on in the Robopits. Varying the competitor's craft was a good move (it is more pleasing to the eye) and the variety of planetary courses provides enough lasting interest to have you playing for a long time to come.

P.R.

Graphics: 9
Sound: 8
Playability: 10
Value: 9
Price: £24.99

Dark Side

MicroStatus



In this game the Ketar have established a Particle Beam Transmitter (PBT) on the surface of Tricuspid and your task is to destroy the device before it destroys Evath and this may only be a matter of minutes away. The power of the PBT is produced by Energy Collection Devices (ECD) also situated on the moons surface. These consist of columns on top of which is a crystal, which is the

mons surface. The jetpack allows you to view the area in which you are standing at various heights, but be careful, when the fuel runs out you drop like a stone.

Various defence mechanisms are present on the surface and these will attack if you are sensed. Some know as Plexors are very much like tanks but maintain a set pattern of movement and unless you get in the way you should be quite safe. The shield will withstand a number of hits but they will of course cause a drain. Other teleport devices are also present on the surface and other crystal forms must be collected before these can be used. The briefing details provided describe some of these features but by no means all of them.

In this way the game plays very much like an adventure with clues and puzzles to be solved. As an additional touch, the briefing also contains a list of 40 cryptic clues, which if solved, not only help with the game but can also win the player a two week expenses paid trip to Baltimore(?). The game also has a shoot em' up aspect in the destruction of the ECD crystals. Due to this and the real time aspect of the jet pack movement it does, have more of a feel of a shoot em up, irrespective of the puzzle solving.

The screen display is of course much better than that of the C64, especially that of the current setting of your jetpack, but unfortunately it does still retain a slight jerkiness. This however is my only criticism of what is an absorbing game and one which combines two different types of game playing extremely well.

L.K.

Microstatus...

Dark Side is the latest release for the Amiga from Micro Status, a subsidiary of Microprose. The original software was produced by Incentive Software and features their 'Freescape' method of providing 3D landscapes. The program was originally produced for the C64 and this is a conversion for the Amiga. The action takes place on Tricuspid, a moon of the planet Evath, which is now the survival home of humanity. The planet was threatened more than 200 years previously by the Ketar outlaws and at that time was rescued by one of the Driller Federation; this was the subject of an earlier 'Freescape' game named Driller.

collecting device. There are 18 of these on Tricuspid and they are the key to destroying the PBT. The time in which it takes the PBT to accumulate power is increased as each of the crystals is destroyed. However, they are formed in a linked pattern and must be destroyed in a set sequence otherwise the crystal will automatically regenerate. This is much easier said than done as they are scattered all over the surface and some are even hidden behind walls and force fields.

You are equipped with a jetpack and suit which also includes mounted lasers which will easily destroy the crystals. The screen view shows all the jet pack controls and the forward view of the Tricuspid terrain. The suit is equipped with a shield and the jet pack with fuel but these need to be supplemented throughout the game by use of various tools on the

Graphics: 7
 Playability: 9
 Sound: 6
 Value: 8
 Price: £24.95

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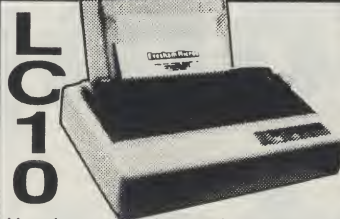
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Enter the "Compunet Contact Zone"

*Stuart Williams gives you a preview of **AUI's** new area on Compunet and the new bi-monthly Compunet Contact Zone*

AUI is pleased to announce an exciting new interactive communications service now available to readers. Modem-owning Amiga and C64/128 users will now be able to contact **AUI** via our new Contact Zone on the national Compunet communications system.

As you may know from my previous articles on communications, the system is run by Compunet Teleservices Ltd, who have kindly allowed us to set up this new service. It will be administered by myself, Stuart Williams.

Compunet

Compunet is something of a communications hybrid, inasmuch as although in principle it appears superficially similar to conventional Viewdata services such as Prestel/Micronet, under close scrutiny it is very different, capable of colourful graphics and sophisticated error correction; it is run along similar lines to a huge Bulletin Board.

Compunet is not intended to be a largely static information database like Prestel (although it does contain the international 'Newsbytes' news files and many informative sections on computing and other hobbies). It does, however, provide the ideal opportunity for Amiga and Commodore 64/128 owning computer hobbyists, students, and professionals to get together, chat, get on a soapbox, tell the world about their computing talents, or simply swap hints and tips on any aspect of computing. It also gives you the opportunity to set up your own 'Bulletin Board' area within the system, without much of the hassle and expense of running a dedicated BBS system at home.

Because there are already several extensive and thriving areas on the Compunet network dedicated to the Amiga, largely organised by enthusiastic Amiga users, **AUI** has decided to complement those Amiga areas, by setting up our own message and comment area under the keyword **AUI** (use the Compunet terminal software to GOTO **AUI** after logging on to Compunet).

The **AUI** Connection

The aim of the **AUI** Contact Zone is primarily to enable readers of **AUI**, and other Compunet users, to contact the magazine via the system, in a more interactive manner than is presently provided by writing to us by post. What better way is there in today's hi-tech world than via your Amiga and the pri-

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vate Courier electronic mail system on Compunet? As **AUI's** man on Compunet, I'll be online regularly to keep an eye on things and chat with you.

The Amiga User International Contact Zone itself consists of a main Directory under the keyword **AUI** (Compunet is set up as a system of Directories and Subdirectories in much the same way as an Amiga disk is) within which are located four message areas in the form of Subdirectories, under the headings **AMIGA DIMENSION**, **HINTS & TIPS**, **CNET/AUI TOP TEN**, and **ARTICLES**.

While all your direct letters to Amiga

User International should be sent via the Courier mail system (our Courier ID is, surprise surprise, **AUI**), the Subdirectories within our new area are the place to leave general comments, which will be available for all Compunet subscribers to read online, and may also be published in the pages of **AUI**. All queries regarding subscriptions, orders and special offers should of course be sent direct to **AUI** via the Royal Mail as usual.

If you have any news, views or comments regarding Amiga hardware or software, the activities of companies, dealers or user groups, the odd company leak, or indeed have something to say about any aspect of the world of the Amiga, then the **AMIGA DIMENSION** Subdirectory is the place to let the world know via **AUI**.

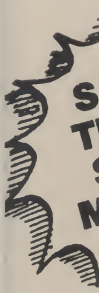
If you have a technical inclination, simply want to share your knowledge with other Amiga users at all levels, or are looking for advice or are keen to swap tips on games or serious software, hardware, etc., why not leave a message in the **HINTS & TIPS** Subdirectory?

The **CNET/AUI TOP 10** Subdirectory is the place to make your views on games or serious software known. Feel free to make comments on commercial or Public Domain software in this message area, and let us have your personal Top Ten list of games or serious software. These lists will be collated to produce a regular Compunet/**AUI** Top Ten software chart.

Finally, for all your comments on and suggestions for articles in Amiga User International, we have allocated the **ARTICLES** Subdirectory. Think of this as an electronic 'suggestion box' where you can let us know what you would like to see in the pages of **AUI**.

AUI will shortly be commencing a regular bi-monthly series entitled "Compunet Contact Zone", in which we

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AMI ALIGNMENT SYSTEM

With all the work and misuse that disk drives get, it is no small wonder that from time to time they object and refuse to work. Andy Eskelson reports on one product that can help

The drives that the Amiga uses are a precision engineered piece of mechanical engineering. You may not think very much of them but remember that you ask them to position the read/write heads over any track that the software might be on, not only that you expect that position to be maintained time after time. The average movement of the heads is about 20mm, there are 80 recorded tracks, remember that there has to be a gap between each track, say half a track wide, so each track is about 0.16 mm wide or if you prefer 6.5 thousandths of an inch wide.

You also ask the drive to keep the disk spinning at a constant rate as well. In practice the tolerances are much tighter than I have stated, because you have to take into account the backlash, and the positioning of the tracks on the disk, what the overall temperature drift will come out at... and so on, just get the idea that what the disk heads are aiming for is a very small target.

If you start to get problems with your disks you will want to test them out, so enter the AMI Alignment system from Free Spirit Software. What you get is a thin handbook, a program disk and a calibration disk.

The software can be used in several ways. The disk is autobooting which means you can just put it into the drive and reset the Amiga. The program can be run from the Workbench, and for hard disk users there is a hard disk install option. The program disk is not copy protected.

When the program is run you are presented with a control panel, that shows the test functions and the drive select controls as well as a few others. Printer support is included in the program so that

you can print out the test results.

System Functions

The system controls are very simple, **Quit**, **Print**, **Sound** and **W/B**. **Quit** and **Print** do what they say, **Sound** toggles the sound effects on or off, and the **W/B** will switch to the Workbench screen.

The drive select controls simply select drives DF0: to DF3:

The result display panel consists of a small screen to display the results of the tests and any system messages, indicators for the motor, head, the test mode and the time taken for the head movement. The manual control panel allows you to turn the motor on or off, drive the heads to a selected track, and test the track. The Function panel selects the type of test that you want to perform.

Align is a standard test that is run using the calibration disk; three tracks are tested, which are 0, 39, and 79 (this is a standard type of test and if any errors are found it will display them on the screen). There is also a high pitched bleep if the test is o.k., or a low pitched bleep if the test fails; this is very useful when you are twiddling the stepper motor and have taken your eyes off the screen.

Speed is also very simple; it checks the speed of the disk, and displays the actual speed and a smoothed average speed. You can expect some variation but not too much, the normal speed is about 300 R.P.M. **PERF** is a complete performance test, for this you will need a scratch disk, as it will write to every track on the disk. You will see that the read and write speeds are checked and when the run is complete you will get a summary of the tests the write speed is about 5000 bytes/sec and the read speed is 12000 bytes/sec. **Manu-**

al selects the manual control panel allowing the user to move the head and start the motor etc.

In actual use this program is very very easy and presents no problems at all. As with any operation of this type, it is not to be undertaken lightly. You will need to fiddle about with the settings of the stepper motors for quite a while before you get them correctly set. So if the program shows that the settings are o.k., leave them alone!

The documentation is quite clear and should present no problems to the reader. I did find one thing missing from the documentation: the program will bleep at you and say that the alignment is o.k., I would have liked to see a general specification printed in the handbook. After all, how is the user to know if 302 R.P.M. is near to the limit of the specification?

Included with the program is an unstick utility. If in case your drives ever get stuck on track zero, which can happen sometimes. These short programs will nudge the head off track zero for you. There is a version for each drive number.

There is one more thing to say about drive alignment, **WARNING!!!** Dangerous voltages can be exposed when you are working with the computers case open. Any attempt to fiddle with the drives will do one thing for sure... it will void any warranty that you have. Put a screwdriver in the wrong place and you can say goodbye to your drive and possibly to the computer as well. If you are in any doubt at all get a professional engineer to have a look at the problem for you.

Conclusion

AMI Alignment system is a very good product that will find a home with many users, it is easy to use and produces good results. The documentation is clear and easy to read. I would have no hesitation in using this package myself.

A.E.

Price: \$49.95. Contact: Free Spirit Software Inc., 905 W. Hillgrove, Suite 6 La Grange, IL 60525 (USA)

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PHOTON PAINT II

Tackling the Amiga's HAM mode has never been easy; Peter Lee reports on a new version of an old favourite which brings this graphic 'black sheep' back into the fold



Just over a year ago, *AUI* tested Microillusions' innovative HAM graphics program Photon Paint. Since then the world of Amiga art software has expanded; many video presentation packages have been released, and recently Deluxe Paint III appeared, featuring a dazzling array of graphic tools and animation effects.

In this constantly improving climate, it comes as no surprise to see a souped-up version of Photon Paint; version II offers so much in terms of graphic capabilities and animation that we make no excuses for re-appraising what was then, and still is, an outstanding package.

Of course, Photon Paint II has its detractors, especially in terms of its display mode, which one has to admit is not the most comfortable in which to work. Hold and Modify has its price in terms of some odd pixel effects and

fringing, but I never considered that grounds for dismissing the considerable flexibility and power offered by the program.

The chance to use over 4000 colours on screen at once is clearly a major attraction. However, unless you are able to draw adequately, you may as well save your money; special effects don't make artists, though they can help in the creation of stunning artwork.

Photon Paint itself was a considerable achievement, and really has no competition in the HAM field. Its sophisticated brush surface mapping and luminance features have never been equalled. Version II builds on and improves the facilities, and now includes the following enhancements: contour mapping; auto shadowing; sophisticated brush stretching; multiple alternate pages for flip-through animation; rub-through; pantograph; brush pat-

tern fills; full colourisation; some new art tools including a user-definable air-brush; gradient colour spread; and stencil.

"Perhaps the major advance has been the inclusion of animation techniques."

Perhaps the major advance has been the inclusion of animation techniques. As in DPaint III, this is simply a means of flipping through a series of frames stored in memory. But unlike its rival, Photon Paint lacks the wonderful auto brush animations which will animate a picture over a sequence of frames. Instead you have to create each screen individually - with the ability to easily copy from one frame to another; any movement you intend creating must be done manually.

Getting Started

While Photon Paint II will work on a 512K Amiga, you will need a minimum of 1meg to get any kind of animation running, and even then it will only be a short burst; the more memory you have, the better. On a 2meg machine, something like 30 frames of low-res (320 x 200) HAM screens can be stored. The animation files are stored in the standard ANIM format, and are ideal for the art package's sister program, Photon Cell Animator (reviewed in *AUI's* May 89 issue).

One of the more interesting enhancements to the package is the contour mapping function. The existing surface mapping has been retained - the ability to bend brushes around a ball, cube and ellipse - but the new addition is something else again, and is calculated by a ray-tracing algorithm.

The contour is worked out by the program with reference to the relative light intensity of groups of pixels - the brighter the pixels, the higher the peak on the contour. This map, displayed as a grid initially, can be rotated in 3 dimensions before rendering, when your brush will be draped as it were over hills and valleys; some surrealistic effects are quite quickly achieved.

The ability to rub through one pic-

ture to reveal portions of another seemed of little practical benefit. The pantograph function, however, is of more use, allowing a portion of the screen to be traced in a different area. This I did find helpful for outlining shapes which would have been hard to copy as a brushes.

And the new brush fills are a welcome improvement, giving users the ability to use a defined brush as the basis for fills in any of the mode options. Cycle draw allows you to create some psychedelic images, and finally there is a neat function which will instantly hide all displayed menus and gadgets so your screen is ready for recording onto videotape or photographing.

Photon Paint I

Users familiar with Photon Paint I can skip the following brief outline of the program's other main features, which I will quickly run through for the growing numbers of new readers who may have missed our original test report (*AUI*, May 1988; pgs 58-60).

The program works in PAL mode or NTSC, and includes the option for overscan screens. As a top of the range art package it features all the drawing tools which people take as standard these days, including shapes and a fluid freehand drawing.

Any of the Amiga's 4096 colours can be selected to be used on screen at any time, and a comprehensive palette mixer is available when needed. Brushes transferred from another screen can be forced to match the existing palette by a remap command.

Areas of screen may be magnified for fine detail work, and brushes can be clipped either as rectangles, or cut to shape using the lasso tool. These brushes can be manipulated in some unique ways, including wrapping them on spheres, tubes, cones, and on two varieties of cube face.

Brushes can be rendered in their



original colour, or can be used in conjunction with the blend tool for some incredible highlighted effects. In the case of touching up digitised pictures, the blend option allows for undetectable editing, and forms the basis for some extraordinary composite images created with cut-outs from different scenes.

Brushes, too, can be bent and twisted, or stretched and rotated, and can be resized. They may also be tilted in 3D space to give control over perspective. In addition, there is a comprehensive printer control. Your favourite fonts may be loaded in, and in a similar way to brushes can be blended and the way they are laid down controlled by your selection of options. I found text to be prone to the HAM fringe on occasion, so careful positioning on the background is important.



Conclusion

Photon Paint's use of the HAM mode has earned it a fair share of criticism; but that is like blaming a rock for being hard. The 4096 colour mode existed already, and the program came along and did more to promote it than any other piece of software. It is to HAM what DPaint is to all the other resolutions, and I think it says something for Photon Paint that even DPaint III has not dipped its toes in that particular murky stream.

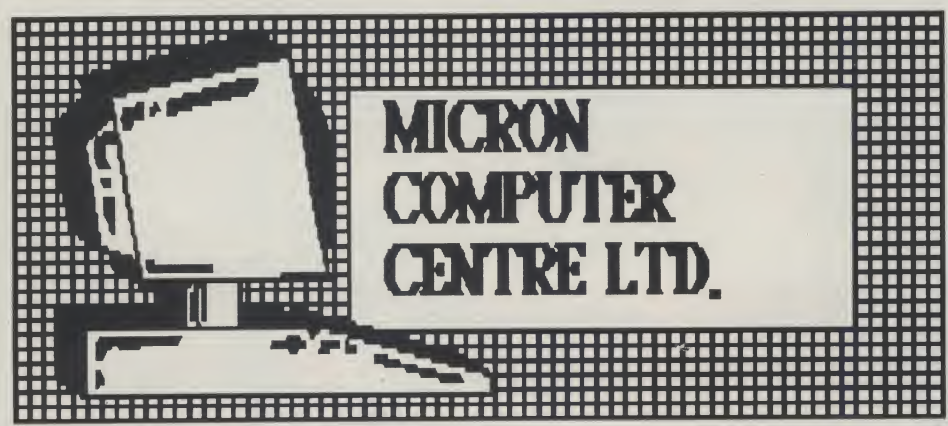
Because for all the versatility of Photon Paint, there is no escaping the fact that Hold and Modify, with its incredible multi-coloured spectrum, is the black sheep of the Amiga's graphic family. A lot of effort is needed to create the kind of image you dream of making. And I would gladly trade half the colours if the HAM mode was only half as complicated. For the construction of meaningful graphics, abstract scenes are a doddle (using shading, blending and all the other goodies). But a deal of dedication and much time is vital to create high quality art.

Without Photon Paint however, HAM would be a novelty used only by digitising software, and inaccessible to the creative impulses of Amiga artists. As it is, Microillusions have given us the means of accessing HAM, and with Photon Paint II have tamed the mode more than many people ever thought possible. The addition of new items, with animation now top of the bill, has pushed this fantastic product one stage further.

P.L.

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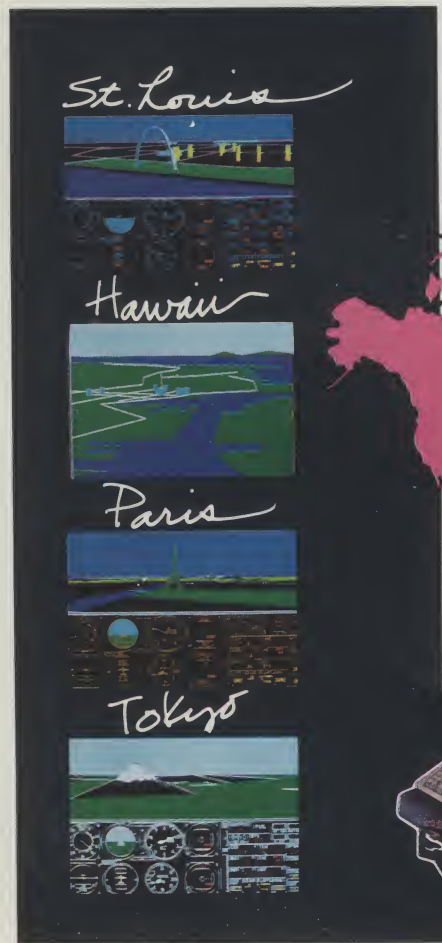


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MIDI part VII

Incorporate MIDI messages into your programs with ease...

MIDI messages come in all shapes and sizes, so a program wishing to use MIDI data usually needs to be able to distinguish between the various message classes before it can do anything useful with them. The five basic classes are usually shown like this...

- CHANNEL MESSAGES
- VOICE MESSAGES
- MODE MESSAGES
- SYSTEM MESSAGES
- SYSTEM EXCLUSIVE
- COMMON
- REAL TIME

Each of these classes are identified by the values of the status byte, i.e. the first byte of the message. Since mode messages are best regarded as a sub-set of the channel messages we can, as far as making an initial interpretation of a status byte is concerned, recognize all status bytes as belonging to one of these four numerical ranges...

- Channel Messages 0x80 - 0xEF (includes mode messages)
- System Messages 0xF0
- Common Messages 0xF1 - 0xF7
- Real Time Messages 0xF8 - 0xFF

MIDI equipment has to analyse such messages in real time, i.e. as they are received, and this poses some special software problems simply because the data needs to be analysed quickly. Much depends on exactly what you are trying to do but there is a technique based on computed addressing (hashing) that is quite useful when speed is needed - we will have a look at this approach next month. For the moment we want to consider two easier cases... firstly, analysis after you have collected the data and secondly, real time analysis when you want to perform a minimal amount of processing time on the data as it is received.

The analysis of MIDI data after it has been collected is not usually time critical, so it is a good place for starting to experiment. Quite a bit of useful information can be obtained just by reading the data on a byte-to-byte basis... it is not the most efficient approach but it is easy to do and it is also useful practice. Here are a few ideas that you can play around with - the first three examples assume that you have read N bytes of data into a buffer called mydata[] ...

Example 1) Checking for channel status bytes: What we'd need to do is read

each byte and see if it is between 0x80 and 0xEF, like this...

```
for (i=0; i<N; i++)
{
if ( (mydata[i] >= 0x80) & (mydata[i]
<= 0xEF) )
{ /* we've found the start of a channel
message */ }
```

Example 2) Finding a channel number: The channel status byte contains the channel number embedded in the lower four bits of the status byte, so all we need to do is mask out the upper four bits and anding it with 0x0F. Here's the ANDING operation in binary form...

```
Mask 0x0F
Status Byte
Result after ANDing
0 0 0 0 1 1 1 1
a b c d n n n n
0 0 0 0 n n n n
```

If we had declared a BOOL type array called Channel[] we could, for example, use the result of ANDING the MIDI byte with 0x0F as an index value. That would let us access the array element corresponding to the channel that had been detected, like this...

```
for (i=0; i<N; i++)
{
if ( (mydata[i] >= 0x80) & (mydata[i]
<= 0xEF) )
{ Channel [mydata[i] & 0x0F] = TRUE;
} }
```

By the time this loop was complete the array Channel[] would contain TRUE value for every MIDI channel that had been recognised.

Example 3) If you wanted to get a rough idea of the MIDI traffic on individual channels you could use a counter array and increment the appropriate element each time a particular channel status byte was detected...

```
for (i=0; i<N; i++)
{
if (mydata[i] >= 0x80) & (mydata[i]
<= 0xEF) )
{ ChannelCount[ mydata[i] & 0x0F ] ++
; }
for (j=0; j<16; j++) { Total + Channel-
Count[j]; }
```

At the end of the above piece of code ChannelCount[] would contain a count of the status bytes found for the i'th channel and Total would contain the number of channel status bytes found.

Example 4) Here is some more detailed

code which will put the above type of ideas into an 'Intuition based' environment. The code come from a 'MIDI channel tester' utility that was written to illustrate the ideas we've been discussing. The program reads and analyses MIDI data and then it displays the channel information by adjusting a set of 16 gadgets to the appropriate on/off states. Because only simple processing is being performed within the serial device reading routine, i.e. we are doing things that can be done quickly, we can actually get away with this straight forward byte-by-byte testing and processing in real time using the conditional test arrangements we have looked at.

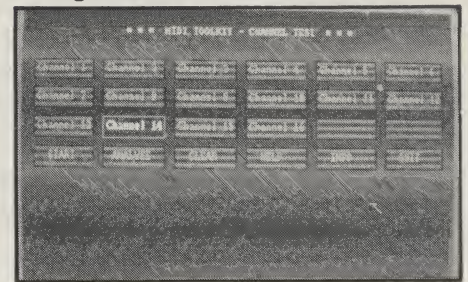


FIGURE 1: Main display of the MIDI Channel Test Utility

Figure 1 shows the screen display and you can see the menu control gadgets on the bottom row. When one of these gadgets are selected the address of the gadget gets passed to the gadgetused() routine shown in the listing. An initial switch statement identifies the gadget that has been 'hit', and this enables us to decide which operations need to be carried out - as far as the MIDI stuff goes it's the start() routine which does all the work. The start() routine, which is executed whenever the user selects the START gadget, begins by clearing the serial buffer (remember that it is the serial device's buffer NOT our data buffer that is being cleared), then setting the serial device to CMDREAD.

A standard 'do-while' loop is used to wait for IntuiMessages and the switch statement within this loop recognizes two classes of IntuiMessages: GADGETUP messages, which terminate the loop by setting the exitflag variable, and INTUITICK messages. Every time an INTUITICK message is received (and this occurs about ten time a second) the serial device() routine is called, this reads and analyses the data currently in the serial buffer. Each time a channel status byte is found we set the appropriate flag in a ChannelOn[] vector (in the same manner as per example 2).

When the 'start' routine terminates it uses the ChannelOn[] vector to adjust the SELECTED flags on the sixteen channel gadgets. As we leave the 'gadgethit()' module the gadget which was originally selected is turned off and a single call to Intuition's RefreshGadgets() routine produces the updated display.

P.A.O.

cont. on next page

continued from page 29

```
/* ----- */
/*          INTUITION BASED MIDI CHANNEL-TEST EXAMPLE PROGRAM
Note: The include file 'general.h' brings in all of the header
files for Intuition as well as my resource allocation and main
control stuff used to set up the display. The 'extern'
declarations refer to variables which are defined in these files.
This source code is the module which handles the MIDI data
reception and analysis.
*/

#include <ram:general.h>
extern BOOL          global_exit_flag;
extern LONG          global_ILCMP_mask;
extern UBYTE        mydata;
extern struct IntuiText infotext4;
extern struct IntuiText helptext10;
extern struct Window *global_window_p;
extern struct Gadget *myarray[4][16];
extern struct Gadget *Gadget[16];
extern struct Requester Requester;
extern struct MsgPort *g_reply_port_p;
extern struct IOExtSer *global_IO_req_p;
struct Message *myIO;
BOOL ChannelOn[16];

void gadget_used(struct Gadget *gadget)
{
void All_Channels_OFF(), REQ(), start();
WORD position;
position=RemoveGadget(global_window_p,gadget);

switch(gadget->GadgetID)
{
case 18: start(); break;

case 20: All_Channels_OFF(); break;

case 21: init_Requester_req();Requester.ReqText=&helptext10;
REQ(); break;

case 22: init_Requester_req();Requester.ReqText=&infotext4;
REQ(); break;

case 23: global_exit_flag=TRUE; break;

default: break;
}
gadget->Flags=gadget->Flags&(~SELECTED);
AddGadget(global_window_p,gadget,position);
RefreshGadgets(myarray[3][5],global_window_p);
}
/* ----- */

/* ----- */
void All_Channels_OFF()
{
void GadgetOFF();

UBYTE i;
/* TURN ALL SIXTEEN CHANNEL GADGETS OFF */
for(i=0;i<16;i++){GadgetOFF(Gadget[i]);}
}
/* ----- */
```

cont. on next page

continued from page 30

```
void GadgetOFF( struct Gadget *gadget_p )
{
WORD position;
/* REMOVE GADGET, TURN IT OFF, AND PUT BACK IN GADGET LIST */
position=RemoveGadget(global_window_p,gadget_p);
gadget_p->Flags=gadget_p->Flags&(~SELECTED);
AddGadget(global_window_p,gadget_p,position);
}
/* ----- */
void REQ()
{
struct IntuiMessage *message, *GetMsg();
ULONG class; APTR object;
BOOL exit_flag=FALSE;

if (Request(&Requester,global_window_p)!=FALSE)
{
do {
wait(global_IDCMP_mask); message=GetMsg(global_window_p->UserPort);
class=message->Class; object=message->IAddress;
ReplyMsg(message);

switch (class) {
case GADGETUP: exit_flag=TRUE;
break;

default: break;
}

}while(!exit_flag);

EnoRequest(&Requester,global_window_p);
}
}
/* ----- */

/* ----- */
void start()
{
BOOL exit_flag=FALSE; void ReadSerial();
struct IntuiMessage *message, *GetMsg();
ULONG class; APTR object; UBYTE i;
WORD position;

for(i=0;i<16;i++){ChannelOn[i]=FALSE;} /* INITIALIZE STATE */

global_IO_req_p->IOSer.io_Command=CMD_CLEAR; LoIO(global_IO_req_p);

/* SERIAL BUFFER IS CLEAR - SO WE'RE READY TO READ DATA */

global_IO_req_p->IOSer.io_Command=CMD_READ;

do {wait(global_IDCMP_mask);
message=GetMsg(global_window_p->UserPort);
class=message->Class; object=message->IAddress;
ReplyMsg(message);
```

continued on page 32

continued from page 31

```

switch(class){

    case INTUITICKS: ReadSerial(); break;

    case GADGETUP:   GadgetOFF(object);
                    exit_flag=TRUE;
                    break;

    default:         break;

}

}while(!exit_flag);

/* NOW ADJUST THE GADGET FLAGS OF THE 16 CHANNEL GADGETS */
for(i=0;i<16;i++){
    if(ChannelOn[i])
    {
        position=RemoveGadget(global_window_p,Gadget[i]);
        Gadget[i]->Flags=Gadget[i]->Flags|SELECTED;
        AddGadget(global_window_p,Gadget[i],position);
    }
}

}

/* ----- */

/* ----- */
void ReadSerial()
{
    BOOL exit_flag=FALSE;

    /* EVERY TIME THIS ROUTINE IS CALLED (10 TIMES A SECOND) WE
    READ DATA UNTIL WE RUN OUT OF THINGS TO READ. AT THIS
    POINT CheckIO() FALLS, SO... WE ABORT THE IO REQUEST AND
    LEAVE THE ROUTINE.
    */

do{
    SendIO(global_IO_req_p);

    myIO=(struct Message *)CheckIO(global_IO_req_p);

    if(myIO) {
        wait(1<<g_reply_port_p->nt_SigBit);
        ReplyMsg(GetMsg(g_reply_port_p));
        if ((mydata>0x7F) & (mydata<0xF0))
        {
            /* RECORD THIS CHANNEL NUMBER */
            ChannelOn[mydata & 0x0F]=TRUE;
        }
    }

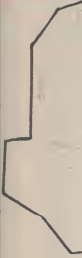
    else {AbortIO(global_IO_req_p); exit_flag=TRUE;}

}while(!exit_flag);

}

/* ----- */

```



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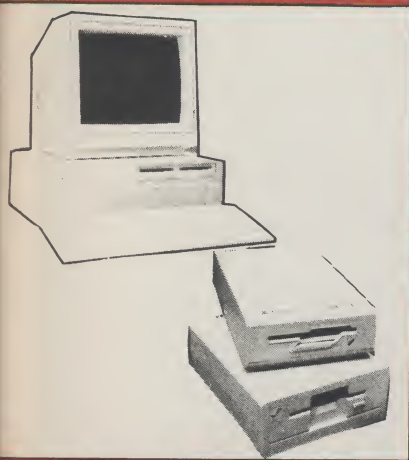
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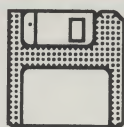
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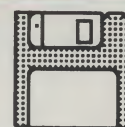
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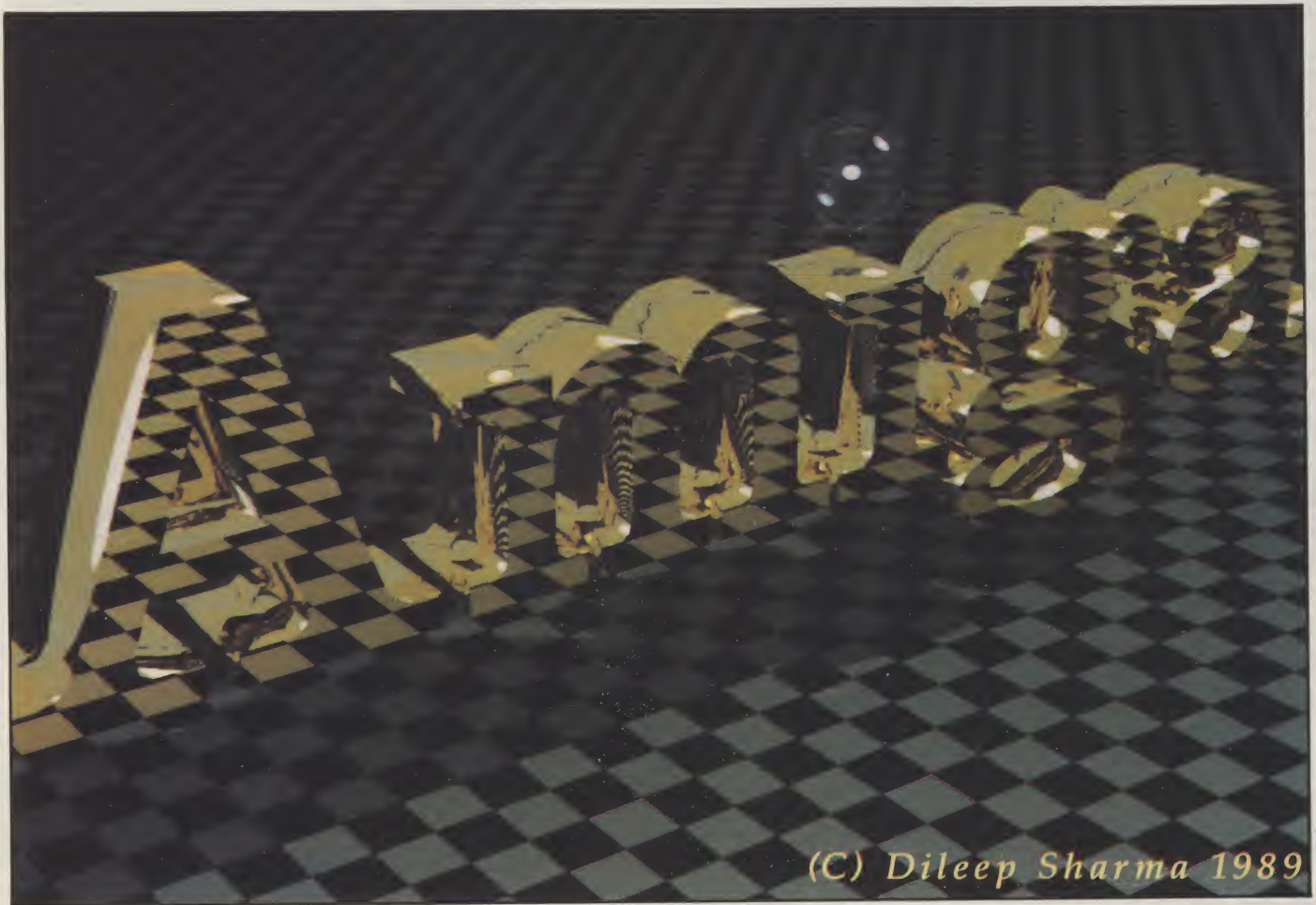
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The VISTA! You must see it to believe it!!

Nancy Picard reports on one board that could make the Amiga a well-regarded member of the professional computer graphics world...

When the Amiga appeared in the computer world in 1984, it did so in a blazing 'splash' of 4096 colours; consequently, it put other computers, especially those with more expensive price tags, to shame. 'Only the Amiga makes it pos-



(C) Dileep Sharma 1989



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sible...' became a much-repeated phrase among early enthusiasts.

Whether some saw it as a business computer or just a highly sophisticated games machine, many realized that its powerful 16 bit processor and multitasking ability made it ideal for microcomputer graphics applications. Since then, many graphics animation and video-oriented programs that achieve professional quality images have been specifically written for the Amiga.

However, because the IBM PC is the standard machine in the microcomputer market, and has been for some time, it has attracted developers of colour graphics boards. This month *AUI* reports on the TrueVista series of colour graphics boards, which run from the AT Bridgeboard on the Amiga 2000.

The VISTA

Truevision, Inc., based in the United States, produces a number of products for the microcomputer video graphics market. The TrueVista boards provide support for 8, 16 and 32 bit pixels and accommodate both NTSC and PAL cameras and monitors. There are three models of ATVista boards from which to choose (the AT denotes the type of bus platform needed): those with one, two or four megabytes of video memory (see Figure 1 for techni-

cal specifications). With a separate half-length card called the ATVMX, users can have up to 10Mb of RAM. The ATVMX also includes two RS422 serial ports to control other peripherals.

"Interestingly enough, the ATVista may not be what videophiles are looking for, especially those interested in real time animation."

Interestingly enough, the ATVista may not be what videophiles are looking for, especially those interested in real time animation. The Amiga is already capable of terrific real time animation and professional quality output (see the article on Star Test also in this month's special video section). Because of the staggering amount of memory an image with thousands or millions of colours uses to produce an animation, each frame must first be created and then recorded on a single frame recorder.

Hardware Needed

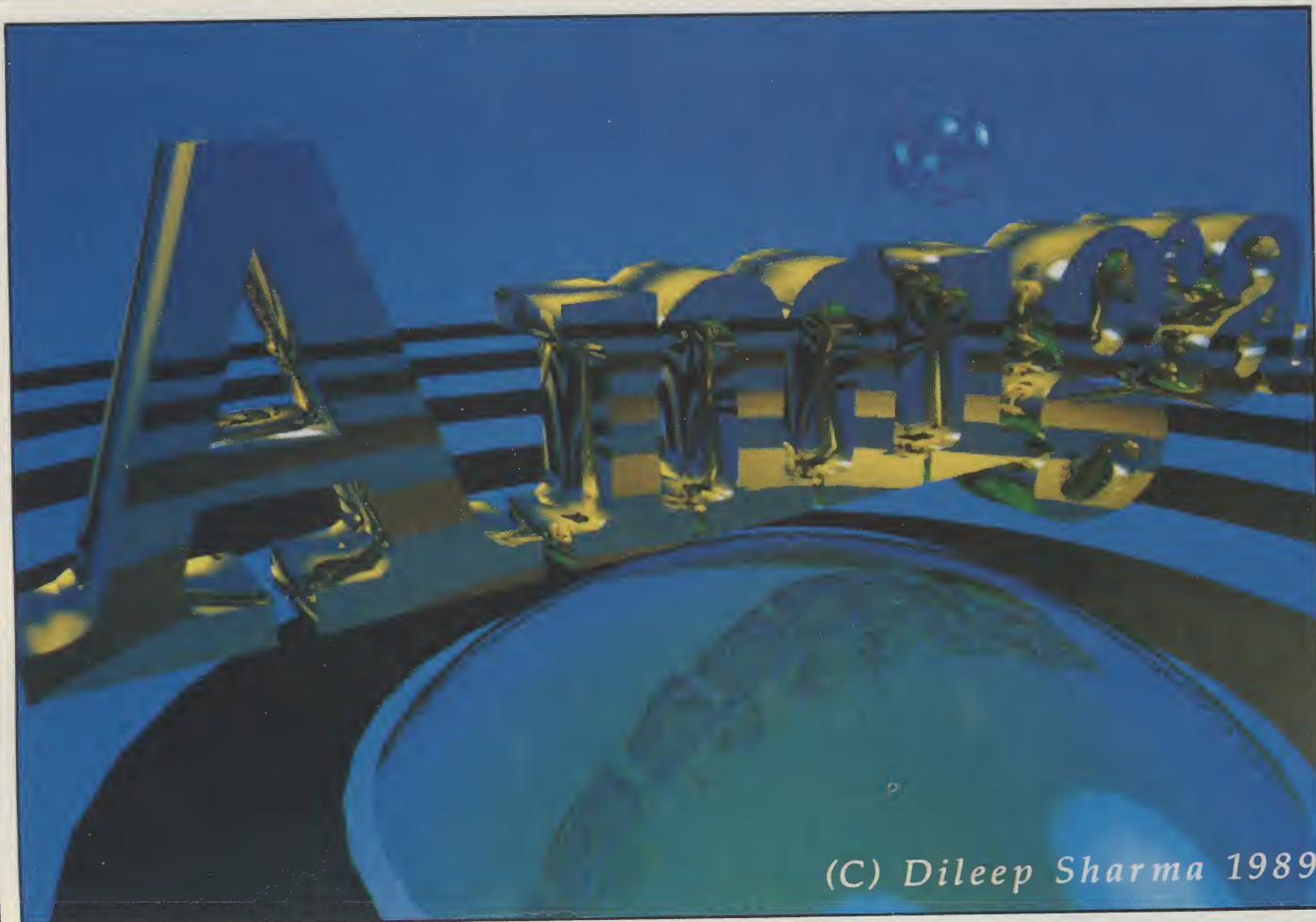
If a truly professional image is what you are after, then the next logical question is: If the graphics board is PC-AT based, why hook it up to an

Amiga? If your 512K is the looking glass through which you have visions of grandeur, the initial investment may stop you before you decide to jump right in. After all, not only will you need an Amiga 2000, and a hard disk, you will probably also want an accelerator card, and a colour printer. For video applications, you will also need a good genlock. If your old reliable genlock works just fine - take care - you may also need a broadcast quality, PAL standard converter. Already, it adds

"Before you run back to the Commodore Show in search of a cheap bargain, look at things from a professional's perspective."

up to about £5000, and that doesn't even include the software!

Before you run back to the Commodore Show in search of a cheap bargain, look at things from a professional point of view. According to Martin Lowe, of Amiga Centre Scotland, on almost all of the 'professional' graphic workstations, some of the software alone has the price tag of £10,000. The actual systems on which they run cost anywhere from £25,000



(C) Dileep Sharma 1989

and run in "many zero'ed figures". With those kind of prices, who can help but appreciate the power of multitasking on the Amiga's 16 bit processor?

Colour graphics boards range in price, as expected. The ATVista boards cost from £5000 to £7000. Therefore, an Amiga/ATVista workstation will cost approximately £10,000. At that price, the Amiga is, by far, the most inexpensive and powerful graphic 'hostess-with-the-mostess' on the block. Full-stop.

Software Support

Most of the microcomputer graphics software written for IBM, PCs and compatibles is still based on 8 bit processors; the software written for the Amiga is much more powerful. However, without enhanced chips the Amiga can only produce images that use the maximum 6 bit planes. Most professional microcomputer boards support 24 bit planes (hence the millions of colours). The number of colours supported equals 2 raised to the power of the number of bit planes. For example, 2 to the power of 4 gives you 16 colours.

So, with a 24 bit plane you get 16,777,216 colours. That number is possible using ILBM - interleaved bit-map. This means that any pixel anywhere on the screen can be any one of

those 16 million plus colours. Special tricks like the Amiga's HAM open up a whole new can of worms, where a trick is used to combine one ILBM plane consisting of four bit planes plus two ILBM bit planes and a control bit plane for the first four. The net result is you get 4,096 colours on the screen at once. The other modes available are extra half-brite (64 colours, 6 bit planes) and, of course, the standard five bit plane mode (32 colours in low resolution).

In order to take an Amiga image in, for example, Sculpt Animate 4D, which actually can output to 24 bit planes, you need a conversion program. Working with Techex, the company that distributes Truevision products in the UK, Lowe developed such a routine. "The power of products such as Sculpt Animate 4D, which costs about £320, and character generators such as Pro Video Plus, about £215, makes using the Amiga 2000 as a host more than worthwhile. Those prices are a fraction of the cost of other professional graphics packages for PC-AT machines, and they work twice as well."

But Lowe does not underplay the Amiga's graphic ability. "Even in Low resolution in HAM mode, which is 320x200 pixels, the quality of graphics is

higher than more expensive systems with greater resolution."

Availability

After looking at the pictures on these pages, now that you have decided that you cannot live without an ATVista board tucked inside your 2000, you are probably wondering where you can get one. Although there are no official dealers in the UK yet, *AUI* has tracked down the exclusive UK distributor, Techex, located in London. Techex, who distribute graphic workstations and software of all kinds throughout the EEC, including the full range of Truevision software, hope to create an Amiga market niche of would-be professionals. According to the company, working within the expanded Amiga system will allow users to produce professional level graphics and is the ideal stepping stone to eventually upgrading to a more sophisticated system.

Conclusion

So where and when will this revolution take place? Will *AUI* be reporting of the mad rush to the Techex stand at Siggraph 89, a computer graphics exhibition in the United States? Or will professionals hold back, as some believe, due to general perception in the

microcomputer graphics world that the Amiga is just a cheap games machine?

At the recent Commodore Show in London, Hi Tension Software displayed a videotape of a prototype colour graphics board the company is developing for the Amiga. From the looks of the video, which showed real time 3D animation, the board will be very impressive and could greatly change the way the Amiga and video interact. Neil told *AUI* that several companies are interested in writing the software needed to drive the board, but they are remaining tight-lipped about that subject as well as the release date.

Lowe envisages a time when off-line video editing will be a totally digital exercise, saving thousands of pounds in what is now an incredibly expensive process (£300 per hour).

A graphics board developed on the Amiga could aid in that process. There are already many colour graphics boards available but there are also enough off the shelf support chips from manufacturers for small companies to design, build and market graphic boards for the Amiga.

We must wait to see if there is sufficient interest for hardware and software developers to take the Amiga

with them into the future of the professional microcomputer graphics industry. Until then, artists will continue to find ways to use the Amiga to produce amazing images like that used on the cover of this month's issue. Only time will tell us if enough pros take

notice, and then take the plunge.

N.P.

Contacts: Techex Ltd., Meridian House, 100 Hanger Lane, London W5 1EZ. Tel:(01) 991-0121. Amiga Centre Scotland, 4 Hart Street Lane, Edinburgh, EH1 3RN. Tel:(031) 557-4242.

Figure 1

FEATURE	1Mb	2Mb	4Mb
PC HOST	MSDOS PC AT	MSDOS RC CT	MSDOS PC AT
DATA BUS WIDTH	8 or 16	8 or 16	8 or 16
MAXIMUM ADDRESSABLE RESOLUTIONS			
32 BIT	512 x 512	1024 x 512	1024 x 1024
16 BIT	1024 x 512	1024 x 1024	2048 x 1024
8 BIT	1024 x 1024	2048 x 1024	2048 x 2048
LOOK UP TABLES	3 x 2Kbytes	4 x 2Kbytes	4 x 2Kbytes
Alpha Channel	no	yes	yes
On board TI 34010	yes	yes	yes
Row Table	yes	yes	yes
Genlock	yes	yes	yes
Zoom (programmable)	ye	yes	yes
Pan	yes	yes	yes
VMX-expansion	all boards can be expanded 2-10Mb		
Video memory upgrade	no	yes	no



(C) Dileep Sharma 1989

Pixelmaster Printer

"Why didn't anyone think of this before?"



Dileep merged the two images you see pictured here in less than 30 minutes before this reporters wide-eyes. The ease and speed with which TIPS operates is truly astonishing. This is an actual printer dump from the Pixelmaster printer, manufactured by US company Howtek.

Those of you who have had a look around Workbench 1.3 may have noticed the supported printer called the Pixelmaster. 'What could this be?' you may have asked yourself, and then moved onto more important things (like reading your *AUI*, for example). Using Thermo-Jet technology, a process by which plastic inks are heated

to liquid form and placed in thousands of coloured ink dots on the printed surface (any standard office paper will do), the Pixelmaster can print an image in 262,000 different colours.

Compatible with the PostScript language and virtually all computers, it supports 35 professional fonts in all sizes using an intelligent scaling system. The merged image Dileep created in TIPS is an example of the Pixelmaster's output. It has a standard RS-232C Centronics Parallel interface, and emulates the HP LaserJet Series II (PCL emulation) and the HP Graphics Language (HPGL emulation). For more details and dealer enquiries, contact Techex directly.

The Art and the Artist

*Graphic program designer, developer, and artist Dileep Sharma created the image you see on the cover and those displayed on these pages. He first used *Sculpt Animate 4D* on the Amiga side of the 2000, after which he manipulated it using *TIPS*, the painting package, which Truevision developed specially for the Vista board (other graphics packages are available).*

*The original images on the front cover were output using a software package called *RIO* to a resolution of 8000 lines and then captured using a *Solitaire* camera.*

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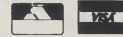
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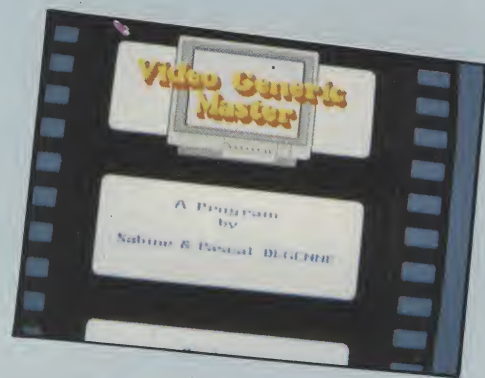
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Video Generic Master and

Video Generic Master



However good your French, two new video titling packages from Kimatek are sure to spell success. Peter Lee has a few bon mots to say on the subject

France - home of the Eiffel Tower, Bluebell girls and poor plumbing. But Amiga software? Well, yes, and as good as you could hope for.

It may sound condescending, but la belle France is hardly the first country you think of as a source of professional Amiga software. A few games perhaps, but off hand I cannot bring to mind any serious French-made Amiga applications.

Therefore, the arrival of two separate video effects packages from Tours-based company Kimatek are all the more intriguing. Both are specific to a certain job, but although their scope is narrow, it is well managed and one item at least really does fill a gap which some major United States video applications seem to have overlooked.

Both programs are designed for use with a genlock device, merging a video source and the computer image, and frankly, they will be useless for any other application.

Here's how the two packages shape up:

Video Generic Master

This is certainly the stronger of the two programs in that it offers a clear and immediate solution to a nagging problem which plagues video titling.

Many programs exist in this field, but VGM aims at the heart of the simple need to scroll text over an incoming video scene - the sort of end-credits we take for granted after each TV programme.

There are no gee-whiz transitions, no complex script to create, you are working in just four colours of a medium-resolution screen. Despite these apparent shortcomings, the program is marvellous!

VGM comes on a single disk, which can be backed-up, and boots directly into Workbench. The good news is that you have the full PAL display screen to work on, which is fundamental in a utility such as this.

Text is entered on screen in true WYSIWYG style, and the disk contains a fair selection of attractive and well-defined fonts, a maximum eight of which

can be loaded into RAM simultaneously (memory permitting). Once loaded, font styles are available in a bank, and may be mixed on screen, or switched around on existing text with instant and pleasing results. Letter-spacing (the gaps between individual characters) can also be altered. In addition, up to 300 lines of text can be entered in any of the available font styles - which is more than adequate - and you can control line spacing, left and right margins, and have the lines aligned to the left, right or centered.

Text can be edited just as if you were using a word-processor, and there is a wonderful shadow effect with an elegant and very useful control. Shadows of your chosen colour can be placed in one of eight directions, and can be used to outline the entire text. This is a vital asset which enables you to add a darker coloured outline to text to enable it to be seen over a light video picture (all the best TV subtitles share this quality). Even the depth of the shadow is user definable.

Having just four colours available - three when you consider the background will have to be transparent to the genlock - is not as restricting as you might expect, and leads to conservatism in titling - which is not a bad thing really - people are more interested in reading the text than admiring the colours available.

In any event a palette control can be used to select the shade of text you need. Control of the program is mainly through the mouse, selecting options from an easy to understand menu. The actual player section is an integral part of the program - which sadly means you cannot make a bootable self-starting sequence. Any actual video genlock work has to be undertaken while the program is running, which really does not always suit people's methods.

Only four simple transitions are available for displaying the text: scrolling, rolling, page-by-page display, and page scrolling. Control of these is straightforward, with user-definable speeds for scrolling, and either manual (via the mouse button) or automated control.

One clever twist on the presentation of your text is that instead of moving up screen it can be made to scroll from right to left in a band which you can position anywhere. The fonts, line-breaks and so on are all maintained, but like a banner it rolls smoothly along.

As a final novel twist, it is possible to incorporate a logo into text - but by the rather convoluted method of firstly drawing it as a two-colour IFF image, loading it into the font utility Calligrapher, then replacing a character with your new image. Not having this particular program I was unable to test this option, but in any event it is pretty unkind to require a user to purchase another utility to achieve what is really a simple and necessary effect.

Video Wipe Master

Falling under the sub-heading of 'Special Effects generator', this Kimatek utility is another highly specialised, single-minded program. Via a genlock device it allows a number of highly original and professional wipes to be overlaid onto video.



As a stand-alone utility for the home enthusiast, I have misgivings about the usefulness of VWM, but as a professional tool used with studio-quality equipment, it should win many friends.

As well as working with the standard single video source through the genlock, provided you have the necessary equipment, two sources may be combined to give a picture-in-picture effect - but I'm afraid this is out of most users' league.

The program's repertoire of wipes is a fine collection of transitions totalling over 20; in addition there is a series of pretty uninspired masks to overlay onto an image (and by using an art package, you can define your own stencils - shapes such as keyholes, or for the more adventurous, large text on which the video picture will be overlaid).

The program is controlled either via a control panel and the mouse, or the

keyboard, and takes very little time to master, primarily because of its narrow capabilities.

Conclusion

Although it may be limited in scope, Video Generic Master is a handy, simple to use and efficient video titling tool. With no frills - displaying un-typical Gallic reserve in both its package presentation and abysmal manual - it nevertheless is a good investment. It brings simplicity and usefulness to a growing armoury of video packages, though on the debit side it boasts just the one-shot application. On the other hand Video Wipe Master is for video-effects freaks only; ordinary genlock owners won't miss this one.

P.L.

Price: £69.95 per program
UK supplier: Digipro Ltd, Enterprise House, Howard's Grove, Shirley, Southampton, SO1 5PR (Tel 0703 703030).



Star Test!

The stars on TV change from week to week, but the Amiga helps put them to the test! Nancy Picard reports

Though not everyone goes about shouting the news, professionals ARE increasingly using the Amiga in video applications. TV's Channel 4, whose producers first used Amigas last year in a series called Network 7, now employ Amigas graphics on the hit TV programme, Star Test.

Star Test is an interview show in which the personality is asked questions by a computer. It first appeared on Channel 4 in April of this year, and has an audience of approximately 700,000+ viewers.

That means that many people, whether they realise it or not, are seeing graphics which are entirely created on an Amiga 2000.

Graphic image artists Simon Dunstan and Chris Mills design and produce the stills and real-time animations used on the show. Both Amiga veterans, who have used Amigas in several professional activities before, they consider the Amiga one of the best-kept secrets in the industry.

The Process

Using Deluxe Paint II, Newtek's Digiview, and a PD page flipper called Long Movie Video, Simon and Chris are able to produce imaginative images for the show. The output is in the standard 5 bit plane format with 32 colours. After the images are created on the Amiga, they are then merged with the interviews in the editing room using Bausch genlocks.

"In theory, you could have the entire output of the show, and then just run graphics created on the Amiga over the top, using a genlock. However, in our situation, the Amiga is treated as

another video source," Simon said.

The production process starts several weeks before the show, during which the team works on a storyboard. The storyboard details the animations and graphics which will be used. Once the producer, Annabel Peck, and the director, Phil Davey, agree on the show's format, Simon and Chris get to work.

each week, such as the title sequence, the labour is intensive. It can take up to 16 hours in the editing lab alone to create the 25 minute program.

"The person who is absolutely crucial to the process is the engineer, who knows just how the professional mixing equipment works," Simon continued. "The mixing desk is where it all happens."

"It can take up to 16 hours in the editing lab alone to create the 25 minute program"



Comedian Kenny gets interviewed ...

They work with an actual transcript of the interview to create everything on the Amiga, and then head off to the editing lab. In the lab, the production team uses what is known in the trade as rushes, sections of 'raw' film that has been off-lined onto VHS video and edited but not yet in the final version of what the viewer sees. The images Chris and Simon have created are then merged with the rushes. Because major program elements change

The Background

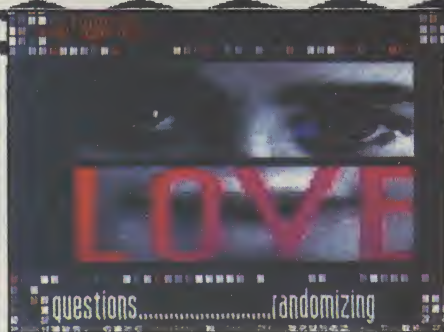
Working with the rest of the Channel 4/Star Test team, Simon and Chris had to define the look of the show, which had actually never before been produced in such a manner. With a background in animation from designing games for the Spectrum, in addition to his previous experience in the creative end of advertising, Simon was first introduced to the Amiga whilst

working with George Stone. Stone, now a well-recognised name in the field, is the creator of computer-character Max Headroom.

Having worked on the second part of the Network 7 series, Simon was an obvious choice for Executive Producer Keith Macmillan when the idea of Star Test came about. Macmillan is also executive producer of The Chart Show, another program that uses Amiga graphics, which appears several times during the week.

"Keith is a visionary," Simon told AUI. "He is a firm believer in the Amiga's ability. He also believes in using a popular computer instead of an expensive main frame – it adds an important link with the audience. They can recognise the graphics, which essentially speak the same language."

Simon had originally met Chris through Network 7, but they both wound up working at Saatchi & Saatchi, the largest advertising



agency in the world, before working for Channel 4. At Saatchi & Saatchi, both created admatics on Amigas. Admatics are computerised animations that serve as prototypes for advertisements. Courage beer actually made an award-winning TV commercial with the admatics jerkily but unusually standing in for live actors.

Chris, who has a fine arts degree from a college in Australia, worked in Computer Aided Visualisation in a market research centre. He used the Amiga to create images, or diagrams, of consumer products from the thoughts and opinions of focus

groups. From there he worked for a short time in a small computer graphics firm before joining Saatchi & Saatchi. Both men have worked at Channel 4 since February.

What will the future hold for the Amiga on Channel 4? The Star Test series ends sometime in September. With their high level of success thus far, it looks unlikely that someone will put those Amigas into a cupboard and let them collect dust. For Chris and Simon, the Amiga is the perfect machine for what they do.

"Granted, the Amiga does have some limitations," Simon told AUI "But having limitations, such as just 32 colours, actually makes you more creative. It forces you to make a decision."

If you should decide to check out what your favourite machine has been up to lately, the Star Test appears every Tuesday night at 6.30 pm on Channel 4 TV.

N.P.

Phobia

Image Works

Shoot 'em up level designs have become extremely predictable in the last couple of years. More often than not, you pilot your ship through level after level of metallic cities, carnivorous plant life and pulsating guts. Phobia's designers had the brainwave of taking the player through his own phobias, blasting away at the things he fears most. A great idea, but how have they put it into practice?

The scenario involves one Lord Phobos, who is holding ransom the Galactic President's daughter. Phobos foresaw a rescue attempt, so in preparation, has created a string of worlds to act as a buffer between the President's daughter and the good guys. Being the fearsome type, he decided to fill these worlds each with a specific human phobia, though any fears experienced as a result will be far from irrational.

From this promising beginning, the game takes a dive. The

scenario has been booked up to a standard horizontally scrolling zapper, with the current phobia supplying the theme for the aliens. Level one for example, concerns arachnophobia, so a variety of spiders are on the receiving end of your pin-like laser bolts. Further levels continue with similar sprites corresponding to the phobias. The graphics may as well have come straight off a 64, not only in their unadventurous design, but also in their unrealistic animation. Similarly the sound fails to im-

press, consisting of a few bangs and pops.

Phobia was full of potential, but the concept is wasted on such a disposable shoot 'em up. If the initial spark of inspiration had been followed through properly, Image Works could have had a stunner on their hands. It may please some, as it should, but it could have pleased more.

T.H.



Graphics: 6
Sound: 5
Playability: 5
Value: 5
Price: £19.95

Video & Animation Backgrounds 1

Tailor-made backgrounds are the latest innovation for busy video titlers. But Peter Lee wonders if they will suit everyone

Let's face it, not every Amiga owner is a born artist. No one said that just because you own the most powerful graphics home computer around, you had to be able to draw. But no-one said either that you had to sit there and be frustrated at your feeble strokes in Deluxe Paint. On the contrary, there are many programs available which stretch just an inch of willingness and application into a yard of acceptable work.

Video titling programs are an example. All you need do is enter the text, control the transitions, and you have a slick slideshow ready to go. The popular 3D modelling programs also take a lot of the artistic backache out of art screens by doing all the rendering and actual painting themselves, leaving you free to create. There are disks of clip-art, too, usually available as line drawings of general purpose objects and designs. This is taken one step further in the case of Comic Setter, which has scores of full-colour figures and scenes on disk.

But a new angle has been found by Media Line, who have just released a two-disk set of IFF interlaced lo-res scenes to use as backdrops in your work.

Distributed by Free Spirit Software Inc - possibly better known for handling the adventure 'Sex Vixens from Space' - the package comprises 30 different backgrounds. Although aimed largely as enhancement backdrops to animation programs such as The Animator, Animate 3D, Movie Setter, VideoScape 3D and DeluxePaint III, the screens can be used for any video work, whether you want simple titling or foreground movement.

Each screen is created with the standard VideoScape 32 color palette, so providing you do not alter them, slideshow dissolves and frame effects will be achieved with no garish colour transitions. The artwork was created by Danish designer and film producer Tore Bahnsen, and some of his work is striking and full of potential. But there is not a great selection of general backgrounds, and on seeing some screens it is tempting to mumble "I



could do that. Giz a job." But some are very clever and skillfully done, and will obviously earn their keep when you need to save time.

Some of the scenes will also be useful for altering to your own requirements, but the copyright notice is not specific about the use of any part of the artwork in commercial products. For instance, what if you need them on commercial video presentations? This really ought to be clarified. The last thing you want is Tore sticking you with a bill when your pop video gets to number 1.

Drawings

Each set of drawings is divided into two drawers per disk - there are Scenic and textbacks on disk 1, and Structures and High Tec on disk 2. Each disk has an IFF screen showing miniature versions of the set of artwork in each drawer. The manual - a one page job folded in half, might have been more helpful if it had printed out each scene for reference.

Using interlace mode makes sense if you are dumping to a video recorder, because that resolution gives crisper images. But using a standard monitor, you

do tend to get the jittery effect, and if all you need is a computer slideshow then you may be advised to convert the screens to non-interlaced using the Pixmate or Butcher graphic utilities. You lose out on image quality, but your eyes will thank you.

Conclusion

Even fairly adequate artists might find something of use here; off the peg graphics save time, and if the job needs finishing quickly they could be a major asset. For those who have little skill in art, they could well be the very thing to add a professional touch to your output. Either way the drawings themselves fall into three categories - the impressive, the mediocre, and the plain dull. My advice is to try and view ALL the screens on a monitor before buying, because if you only like 10 of them, it is a waste of two thirds of your cash.

P.L.

Price: \$39.95 (US). Contact: Free Spirit Software, P.O. Box 128, 58 Noble Street, Kutztown, PA 19530 (USA). Tel: (215) 683 5609.

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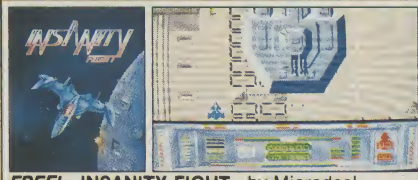
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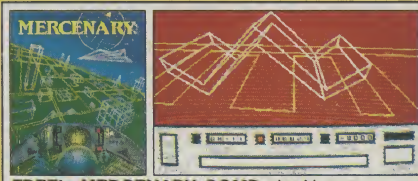
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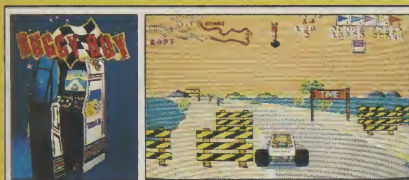
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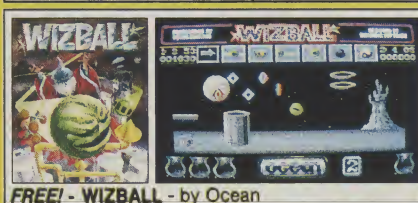
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Video Page

Is Video Page a credit to the Amiga? Peter Lee goes for a scroll around this new titling utility...

The current glut of titling packages signals a growing appreciation of the Amiga as the number one video effects computer. Month by month the list grows, and each new addition increases the power available to the video enthusiast. The latest entry into the field is a combination video titling and screen effects generator from Impulse Inc.

Labelling itself a Professional Character Generator, the program comes on an unprotected disk, and our review copy was accompanied by a four-disk set of titling fonts, one font per disk, and provisional documentation. The manual indicated that there would be just two font disks accompanying the program, so perhaps they changed their mind. To function, the program needs at least 1 Meg of memory, and an external drive, and there is a utility to allow you to install the program onto a hard disk.

In essence, the program allows you to enter text in a variety of styles, sizes and colours, and then display them according to pre-defined special effects over incoming video signals, for dumping via a genlock device onto videotape. After the program loads, the first thing you must do is to define the fonts you intend to use during the editing session. A large and elegant requestor takes over the screen, showing the marginally different styles of the font available in drive 1.

One snag that I had to overcome was when the program refused to execute if a font disk was in drive 1 at the time of booting. Due to a volume assign command in the startup-sequence, an error code was returned if DOS found a font

volume already inserted. After pinpointing the problem, and waiting for the Workbench screen to load before putting in a font disk, everything worked smoothly. The fonts come in varying sizes, and Video

through the keyboard, which hardly takes advantage of the Amiga mouse or intuition, but is a sound method when you consider all your attention is focused on the keys while inputting text.



Page can hold a bank of six separate font styles: this can be any mixture of different styles or sizes.

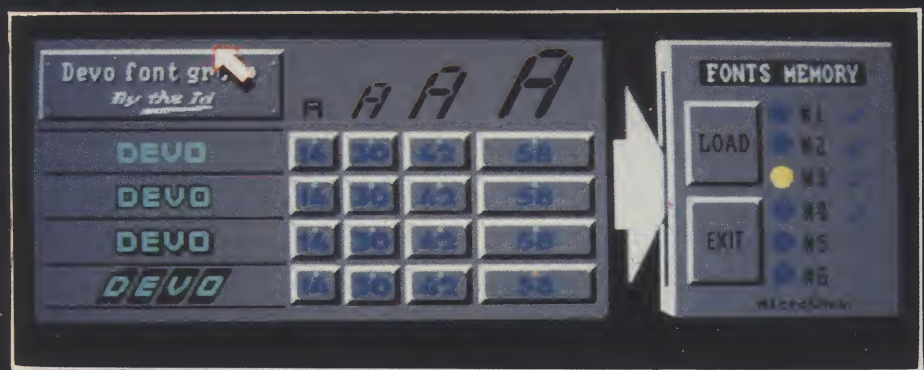
Simply by inserting a new font disk in the external drive, a new style and size requestor is displayed (which incidentally is simply an IFF brush) and once you have picked and mixed your chosen styles, the program progresses to its main function – getting text on screen. You are presented with a black screen and a small box menu along the bottom of the display – this gives important information about text colour, frame number and font number, but can be toggled off as the lower line of text is partially obscured by it. Using this toggle feature was the main way I found of redrawing the screen after editing.

Commands here are accessed

Additional VP fonts can be loaded at anytime to augment your initial choices (or replace them) and varying styles, colours and sizes can all be mixed on the same line. The actual fonts available are pretty conservative, chosen I suspect more for their lack of jagged edges than for their attractiveness. And as each is tailor-made for the program, it seems unlikely that 3rd-party fonts can be used to brighten up displays.

The styles, although restricted, are adequate as a bare minimum. Shadow highlights and outlined text are all built into the font chosen, and are not a user-definable attribute as in other similar programs. You must make do with what you are given. Actually getting text on screen is simple and logical, and is conducted in much the same way as using a word processor, with character insertion and deletion, insert and overstrike modes, and either line or full page formatting – with options for text centered, aligned left or right.

There is also a fine-tuning feature, allowing individual lines, or whole screens, to be gently moved a pixel at a time either left and right or up and down. This is an excellent option, which allows you to enhance the look of the screen and tailor it to your needs. Moving too close to an adjacent line will wipe out part of the text; I found the best way to tidy this mess



up was to toggle the mini-status box off and on.

The numeric keypad is used for pixel precision work, and although our documentation was preliminary, I would expect a keystick at the very least to accompany the program.

Once several screens of text have been entered, their transitions have to be set. This is done by entering another area of the program, which allows the display scenario to be composed very easily. Here the mouse comes into its own as you select one of the effects available, presented as a series of buttons to click over. The time taken for the screen's transition, together with the display time of the new screen of text, can be defined to fully customise the script.

Frame by frame you build up the effects, deciding how each will appear. Unfortunately there is no global com-

mand, so if you wanted each frame to appear in the same manner, you would have to define every one individually. The effects available are: Scroll, Bang, Zip, Roll, Wipe, Check, Inward, TopDown, Split, Zoom In and Zoom Out - which provide a good framework for some above-average effects to add a degree of professionalism to your video work.

The scenario has to be played through from within the program - there is no separate player program, which I always find a shame - and work can be saved in its entirety, or on an individual frame basis in IFF form.

I was lulled into believing that my selected screen would be saved in this way from memory - but after putting a couple of frames on disk and loading back into DeluxePaint, I felt like the victim of a practical joke - wherever a requestor had opened up on screen during the IFF save

procedure there was a big black chunk out of the text which was being displayed. Some work needed here I think! Although there are only eight colours available, the palette can be edited and saved separately.

Conclusion

Video Page is a good program which just fails to reach the top flight. It is above the average because of the interesting variety of screen transitions it possesses. On the plus side, it is simple, effective, and well designed. The keyboard command structure is an excellent example of user-friendliness, and all requestors are wonderfully structured (though on occasions the mouse pointer did vanish alarmingly).

My major disappointment was when I found the program worked in NTSC display only, leaving an unlovely black band of wasted space at the bottom of the screen - a major obstacle for any video package trying to make it in the UK.

Unless the display converts to PAL for UK users then the heavy competition in this field will have the edge. As something of a font lover, I found the ones on offer were adequate but bland. If all this sounds like bet-hedging, it is: I liked Video PAGE, but not enormously.

P.L.

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PREVIEW

The Video Toaster — a hot new product from NewTek

With the release of Video Toaster, NewTek are set to make low-cost broadcast quality video production a reality for the first time. NewTek claim that just a simple set-up of an Amiga, a Video Toaster and a VCR can replace banks of existing video technology.

The Video Toaster, priced at \$1595.00 (US)-, is described by NewTek as a video computer, tapping the potential of the incredibly cheap and powerful advancements made in personal computing, and applying them to the world of video. A development schedule spanning 10 man-years has gone into the Toaster, which owes its power to the four VSLI custom chips. With so few parts, it offers far greater reliability than the giants it intends to replace, claim NewTek.

Its many frame-handling features are supposedly stunning. Real time digital geometric video effects, from source A or B are possible, and are compatible with D-2 Digital format.

Broadcast quality text for titling can be entered over live video or YIQ output, and anti-aliased to the equivalent of 35ns resolution. A frame stock feature allows rapid storage and retrieval of up to 2000 frames, with a full NTSC colour range available. Its high speed digital processing of eight-field, full bandwidth RS-170A output is also D-2 compatible. The four-input production sweitcher with dissolves and wipes from any one source to another, will include a luminance keyer. Frames of full broadcast bandwidth can be grabbed with a 1/60th of a second capture time. The system will also include four BNC com-

posite video inputs and two outputs, one main output channel and another for preview purposes.

Hardware add-ons will be available for those wanting to expand on the basic set-up. NewTek liken the installation of new hardware to the common and effortless procedure of a memory

upgrade. A dual channel infinite window time base corrector (frame synchroniser) will accept input from any video source, even home VCRs. With the A-B Roll Editor, you can go beyond cuts-only control track editing, turning your toaster into a full-featured desktop A-B roll editing suite. The D-2 interface is designed for direct plug compatibility with D-2 digital VTRs. A 5x5 video wall opens up yet another option, with the ToasterNet.

Software support is also at hand. Toaster Paint gives your Toaster the ability to paint in millions of colours, and includes design tools such as airbrush and stencil. Toaster 3D, compatible with Toaster Paint, again works in millions of colours and adds the possibility of 3D animations to the Toaster system.

At present only an NTSC version is available. A PAL variety is in the pipeline, and *AUI* of course will be hot on its trail.



Price: \$1595.00 (US). Contact: NewTek Inc., 115 West Crane, Topeka, Kansas 66603. Tel: (913) 354 1146.

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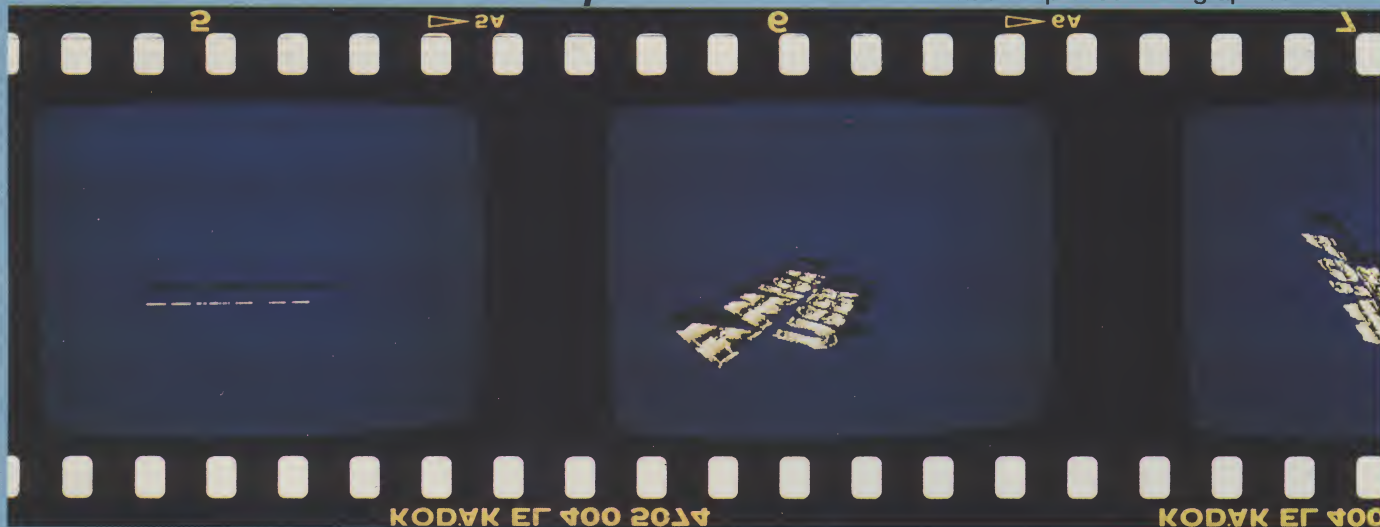
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Video production Amiga style

A look back through the pages of Amiga User International to discover how the Amiga has started a revolution in Desktop Video

unit's colour rendition is a little poor though. Later on, Digipic reappeared in better form now called SuperPic; for the same price it includes a genlock and much improved HAM graphics.



Since the Amiga was first launched it has been recognised as the machine which brought power computing to everyone - in particular, hundreds of small video production companies, suddenly had access to an affordable system they could use, if they only had the external hard and software.

Similarly, thousands of eager users awaited the day when they could take flat images from photos, transfer them in all their glory into the Amiga, and even manipulate them.

Ready?

First steps in this direction came when HB Marketing announced the arrival of the long awaited PAL version of Digi-View from Canadian company New Tek. For the first time it was possible to take images with a simple B&W CCTV camera and digitize them in an apparent 100,000 shades.

Almost in the same breath, in the

March 1988 issue of *AUI*, we reported New Tek's latest gadget The Video Toaster, which was unveiled for the first time at the Los Angeles Ami-Expo. This amazing new gadget sounded as if it may even put "Quantel Paintbox" to shame. Two years of development had been spent on the unit which incorporated a broadcast quality Genlock and a real-time frame grabber. Supporting HAM and EHB modes too, the unit provided real-time broadcast effects like pixelations, fish-eyes, turns, spheres, transpositions and so on.

Not to be outdone, the Brits had something hidden under their rain-coats. For the first time at a realistic price, JCL's Digipic brought the ability to digitize colour images from any video source in real-time. One of the Video set's Gurus Bill Harvey, wrote in the same issue, "It is well constructed, easy to use and can produce some very pleasing results..." He does point out the

Still in March, John Walker raved over The Director, a package aimed at everyone with the idea of creating their own movies - with or without a camcorder. In conclusion John states, "- the results that can be achieved with it are little short of sensational." High praise indeed, but thanks also for pointing out you need to be a programmer to use it effectively.

Then just a month later, Swedish company Edit Line AB, announced the release of the TTA500 Timed Display Automation system. It was aimed at small (local) broadcast TV stations - like the independent TV network - and provided full control of up to 64 different video sources. Even with this complexity, the manufacturer saw the system even fitting into large shops and hotels - perhaps producing automated window displays.

Set

But, just when we all thought it was safe

to go back to the animation table - Broderbund announced Fantavision. Although this new package featured very few new ideas, it did put a lot of tools in the same bag; and a very cheap bag it was too - £34.95. Now at last, Amiga video/animation productivity software was starting to look like it was going to become as affordable as the hardware.

Perhaps the most important feature of Fantavision though was, its simplicity. In reviewing the product Peter Lee writes, "But then came Fantavision, a superb and easy to use animation package where the only limit is your imagination." He went on to conclude, "...it is an excellent tool and one I can recommend to animation enthusiasts wanting to push their creativity..."

By the time the May 1988 issue hit the newsstands suppliers in the video market were really starting to get hot to trot as John Walker penned details of Aegis' Video Titler to the expectant crowds. To use this mammoth package

good though? John tells us, "It re-emphasises that, when it comes to desktop presentation, the Amiga has it made." But of course we know that already.

The Zuma group had something ready to back up TV*Text and add those much needed special effects - TV*Show. This was their answer to the needs of the professional video artist. As Peter Lee revealed in June 1988's *AUI*, TV*Show features no less than 50 special effects. These range from standard fades and dissolves through pattern effect right up to rolls and so on. Even so the program was just a slideshow and even Peter's 2.5Mb beast ran out of memory eventually.

A little later that year, in October, *AUI* got hold of Aegis' new package Lights! Camera! Action! Like their own Video Titler, LCA requires at least 1Mb RAM and 2 drives; although the more RAM you have the more scope the package affords. LCA supports all of the Amiga's display modes including EHB and HAM

and thus requires at least 1Mb of RAM to work. Somewhat surprisingly, the 1Mb afforded by the A501 expansion is not suitable because, as JDK put it, it is not proper Fast RAM.

PVPlus has a list of features much too long to reiterate here - but among them is the ability to store 2600 screens in memory and store a databank of 100 frames in less space than one standard hi-resolution IFF picture.

Peter was impressed enough to conclude, "...certainly nothing I have seen packs the power or the features contained in the program."

Go!

But he was about to be even more surprised when the next month we sent him on the trail of Video Effects 3D from Innovision Technology. Although this was another package aimed squarely at the pro - this was worth considering for everyday use. It allows everyone to create some staggering 2D or 3D animations with very little effort. Once the



Video Effects 3D...

at its best you need an Amiga expanded to 1.5Mb plus a second disk drive; a dual drive A500 would do at a pinch - but it would be like playing Tubular Bells on a monophonic biscuit tin.

By direct comparison, JDK images' Provideo CGI has excellent fonts and transitions but is much more limited in its use of colour; worse still it is not IFF compatible - even then a severe handicap to any screen oriented software. The Zuma Group's TV*Text is compatible with IFF and includes some features not covered by Video Titler. However it lacks the latter's fancy transitions and animations.

Just summing up Video Titler's range of features would take the rest of this page so here are a some brief notes: the main program is used to supply the titles. Several fonts are supplied but it is compatible with others such as Zuma fonts. You then use the second program - VideoSEG - to create the special effects like fades and dissolves. Is it any

and can play music at the same time.

There are no less than 40 transitions to choose from including some very impressive ones like collapse; the effect used by the Thames TV logo. Perhaps most impressive of all though, LCA includes software to control Digital Creations SuperGen genlock. This allows you to fine-tune the screen image without having to muck around with manual sliders. Peter Lee called it, "...a hard act to follow." Yet, all of this costs under 50.

Following on from this in March 1989 Mr Lee brought us news of a high-quality video display system intended for professional applications only. This is never stated outright but the prohibitive £250 price tag of JDK's Pro Video Plus serves as a heavy clue. PV plus was written by a video professional and exists for one reason only: displaying text (four fonts are included) and images in TV applications.

It only works in high resolution - the flicker is not apparent when broadcast -

sequence has been defined - the computer can be left to do the work.

As an example, Peter took a whole screen of text and shattered it into four pieces, each one spinning independently. The result to two and a half hours to calculate at 50 frames per second. As he points out though, "Don't begrudge it: the results are well worth it!... Unreservedly recommended for the professional."

In the same issue though, I bemoaned ZVP's VideoStudio for being badly bugged and overpriced. This was the first package to boast testing facilities like test cards as well as scrolls, overlays and so on. But, it lacks good design.

As this article has shown, the Amiga is - as was predicted - the video micro of today and will remain so for a long time to come. While it does, *AUI* will continue to keep you up to date with the latest happenings and releases on the video scene - both here and abroad. **M.S.**

INTERACTIVE VIDEO

'To laserdisk' or not 'to laserdisk'; that is the interactive question. AUI takes a look at two systems that approach IV in different ways.

Industry are moving towards automation and the reduction of manpower is perceived as a necessity. Industrial training is not immune from this trend and almost every major employer in the country is looking towards Computer Based Training/Learning (CBT) and Interactive Video (IV).

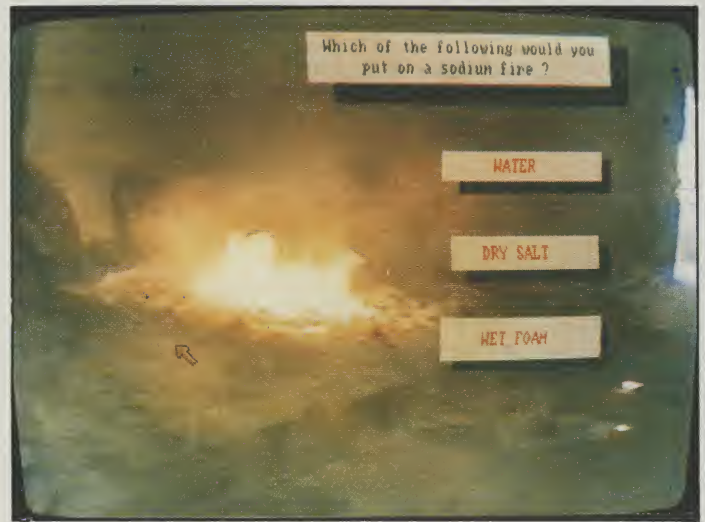
Swans Consultants of Ilkeston in Derbyshire have designed a completely new software and hardware system which allows the user to produce CBL/IV courses which are being used already for a wide variety of purposes in industry.

The heart of the system is Swans' custom written software package called CESIL (or the Creator Editor Software for Interactive Learning). This software, all

1.8Mb of it, is written to present the end user with ease and flexibility of use and most importantly for Education an Analysis of Results package.

Swans have put the Commodore Amiga to an exciting use which might be described as desk top learning. Education and in particular NAFE are faced with reducing numbers of students, new financial responsibilities and the need to become more efficient and to market their services to industry.

Computer based materials are now familiar to the end user and this gives several distinct advantages over traditional methods, not least in cost effectiveness of delivery. Research has also shown that hearing and seeing through the



medium of a computer and video, where the computer controls the video, has up to 40% more impact on retention than conventional didactic methods.

Commodore have been in the forefront of Desktop Video but the addition of Swans Video Interface Processor under CESIL'S Index Generator programme adds yet another dimension to Desk Top Video. This software and hardware can control VHS tape or laserdisc and allows the system to be used with

even hand held camcorder produced videos to quickly produce training materials.

Uses include such diverse training applications in sugar production, safety in chemical plants and quality control techniques in both food production and health services.

CESIL has a free licence which authorises any materials written in CESIL to be sold without any negotiations with Swans; it is the intellectual copyright of the producer.

VIVA Visual Interfaced Video Authoring

Optical laserdisks are being used more and more in education, entertainment, business, and military applications. Interactive information kiosks are being created for shopping malls, state parks, highway information centers etc.

Although VIVA is yet to be available in the UK, it is available in the United States. Microdeal, the publisher, promotes it as a total environment for the generation of interactive laserdisk programs. In other words, you use VIVA to create interactive multimedia presentations.

VIVA may be used to generate interactive video programs. These programs may be played in the immediate mode or saved as a compiled file or play at any time. VIVA may be used in

the immediate mode as a Video Player Remote Control.

VIVA is designed for the user; whether a non-programmer or a computer expert you will find VIVA's command structure easy to use and understand, the company tells us. Complete help messages and alerts are available throughout. Menus, Text, Graphics, Questions, in fact anything at all may be easily constructed as VIVA prompts you for the necessary information to be included or displayed, and then generates the actual program code for you.

VIVA operates in the "Desktop Metaphor" programming environment providing windows, icons; pull-down menus, and the use of either the keyboard (including function keys) or

a mouse for user interface. All of these attributes may also be incorporated in the programs created by VIVA.

VIVA promises to fill all video programming needs, from the educator using the laserdisks already on the market to the businesses who are creating their own laserdisks to suit specialised needs. It uses VPL (Video Programming Language), offering commands in English-like syntax.

VIVA also offers a DPL (Data Programming Language) and a CPL (Computer Programming Language) for a complete range of control from a high-level language to systems level and it even offers a built in incremental line compiling assembler.

VIVA is an incremental line compiling language. The commands may be

tested at the keyboard for immediate effect, like Basic or any other interpretive language. A program or block of commands written in VIVA may be stored as a compiled file to be run like any other program written in Pascal, Modula, or even C, offering the speed and compactness of this class of language. In addition, VIVA controls all major disk players: Hitachi; Phillips; Pioneer; Sony; Yamaha.

VIVA also provides storyboards for assistance in systematic program design and program generation. VIVA is currently available only in the United States for the Amiga and VIVA requires a minimum of 512K RAM. Price: £399. Contact: Microdeal Ltd., P.O. Box 68, St Austell, PL25 4YB. Tel: (0726) 68020.

Intuition Part 4

Below are programs illustrating Intuition screens and windows. In the next issue, learn the secrets behind the amazing graphics and colours on your Amiga as Mike Nelson demystifies Intuition's gadgets!

```

void doStyle (mycode)      /* The way your program actually handles "style"
*/
  USHORT mycode; {        /* Is something else, but this will start things
*/
  struct MenuItem *Item; /* off */

  while (mycode != MENUNULL) { /* Test for extended selection */
    Item = (struct MenuItem *) ItemAddress (&Menus, mycode);
    switch (ITEMNUM (mycode)) {
      case PLAIN_ITEM:
        printf ("Style = plain\n");
        break;

      case BOLD_ITEM:
        printf ("Style = bold\n");
        break;

      case UNDER_ITEM:
        printf ("Style = underline\n");
        break;

      case ITALIC_ITEM:
        printf ("Style = italic\n");

        break;

      default:
        break;
    } /* switch item num */
    mycode = Item -> NextSelect; /* Has something else been selected? */
  } /* while */
}

void doProject (mycode) /* Shows SubItem business */
  USHORT mycode; {

  switch (ITEMNUM (mycode)) {
    case NEW_ITEM:
      printf ("It's a New selection\n");
      break;
  }
}

```

cont. on next page

```

case OPEN_ITEM:
    printf ("Now do an Open\n");
    break;

case SAVE_ITEM:
    switch (SUBNUM (mycode)){
        case PROJECT_SUB:
            printf ("Save: Project has been requested\n");
            break;

            case SETTINGS_SUB:
                printf ("Save: Settings is the one\n");
                break;

        } /* End of switch SUB_NUM*/

        break;

case QUIT_ITEM: /* This actually works! */
    printf("Goodbye\n");
    CloseStuff ();
    Exit (TRUE);
    break;

default:
    break;
} /* End of switch ITEM_NUM */
} /* return */

/* Programming example: Intuition screens and windows */
/* By Mike Nelson StartDate 24-63.81 */

#include "exec/types.h" /* Everyone uses these */
#include "intuition/intuition.h" /* Contains most graphics files also */

/* Do defines for colours */
#define WHITE 0 /* This is a convenient way of representing colours */
#define RED 1 /* in programs. #defines are preferable to magic */
#define GREEN 2 /* numbers which can be very confusing when they */
#define YELLOW 3 /* appear out of nowhere in the middle of 100K of */
#define AQUA 4 /* source code. */
#define PURPLE 5 /* Later on we use the primitive LoadRGB4 () to set */
#define BLUE 6 /* up the colour registers for us because it's not */
#define BLACK 7 /* the done thing to do it ourselves. */

/* now do colourtable array */
USHORT colourtable [8] = {
    0xFFFF, /* White */
    0xFF00, /* Red */
    0x00FF, /* Green */
    0xFFFF, /* Yellow */
    0x00FF, /* Aqua */
    0xFF00, /* Purple */
    0x00FF, /* Blue */
    0x0000, /* Black */
};

```

continued on page 56

continued from page 54

```
struct Screen *Screen; /* These are POINTERS to structures which are */
struct Window *Window; /* generated by Intuition not actual structures */

/* Now do the NewScreen */

struct NewScreen NewScreen = {
    0, 0, /* start x & y of screen */
    640, 200, /* width and height */
    3, /* depth */
    0, /* DetailPen */
    1, /* BlockPen */
    HIRES, CUSTOMSCREEN, /* Thingys on end */
    NULL, /* default font */
    "This space is available for advertising",
    NULL, /* No gadgets ta */
    NULL, /* Nothing special about BitMap */
};

struct NewWindow NewWindow = {

    250, 60, 350, 40, /* LeftEdge, TopEdge, Width and Height */
    WHITE, BLACK, /* DetailPen and BlockPen */
    CLOSEWINDOW, /* IDCMP flag to quit program */
    WINDOWCLOSE : SMART_REFRESH : ACTIVATE : WINDOWSIZING :
    WINDOWDRAG : WINDOWDEPTH : NOCARE_REFRESH, /* Gadgets */
    NULL, /* No gadgets on offer today sorry */
    NULL, /* Nothing as sophisticated as a CheckMark */
    "Mike's WINDOW!", /* I'm titled you know */
    NULL, /* Pointer to Screen structure */
    NULL, /* Intuition gives us the BitMap so ignore this */
    100, 25, /* Min Width & Height */
    640, 200, /* Max Width & Height */
    CUSTOMSCREEN /* Type i.e. what sort of screen we appear in */
};

/* These are used when gaining access to the various libraries of ROM
routines */

struct IntuitionBase *IntuitionBase;
struct GfxBase *GfxBase;

/* Screen ViewPort & RastPort. Keep these global so that any part of the
program can use the Graphics Primitives for drawing etc */

struct RastPort *ScreenRP;
struct ViewPort *ScreenVP;

void main (), OpenStuff (), CloseStuff();

void main()
{
    int x,y; /* Used for drawing the pattern */

    OpenStuff ();

    /* Now try something in the window! */

    Move (Window -> RPort, 20, 20);
    Text (Window -> RPort, "And through the square window today", 35);
}
```

continued...

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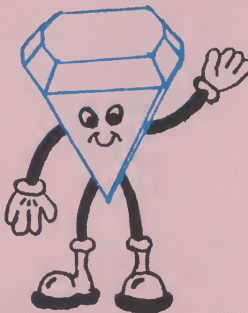
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Amiga Answers

Yuri Large tracks down the tips that keep you on top!

Dear AUI,

I've been reading your magazine since the first edition and have always enjoyed your reviews, comments etc. I haven't felt a need to write before because I've had nothing to complain about.

In the March edition you reviewed the Microbotics 'StarBoard'. I've had this board for over a year and agree totally with the review. Having 2.5MB and a hard drive has been blissful. I had previously considered purchasing the MultiFunction card (for speedy 68881 option) but believed the the 'Star-Drive' board and the 'Multi-Function' board uses the same sockets and were incompatible.

After reading your review I was very pleased to note that both could be installed simultaneously, so I immediately ordered one. While waiting for it to arrive I also bought the 68881 math chip for £115.

The board finally arrived, I then discovered that both boards fit into the same slot and cannot be used at the same time - as you can guess this is totally unworkable. I can't load 'Sculpt 3D' from hard drive, turn off the Amiga, swap boards, switch on the Amiga and then run 'Sculpt 3D'.

Could you please check your facts before you publish in future,
Yours,
Paul Lovell

Dear Paul,

We're glad you agree with our review, which was based on a standard StarBoard2 and information provided by the supplier. Not having access to any of the expansion boards meant the problem you raised was not encountered. In an effort to get news of the StarBoard2 to readers, the suppliers provided us with their very first unit, and consequently this lacked full documentation which would have indicated that the multi-function board was an 'either-or' choice with the SCSI interface. We went with the best information we had available. However we are glad your problem has been resolved.

Dear AUI,

I have had my Amiga 500 for about ten months now, and while I am only 15, I do not regard myself as an "Amiga novice" by any means. All in all, I am very pleased with my machine, but unfortunately I have experienced a few technical problems with the disk drive. Whenever I put a disk in the drive, the unit makes a clicking noise and refuses to acknowledge that the disk is there. It only does this with some disks some of the time, but it can play up for weeks before it works properly again. I have taken this chance to use the machine to type this letter before the unit breaks down again. I would be very grateful if you could suggest some causes of this problem and possibly a cure, as it is driving me insane. Another problem is its liking to destroy disks and its refusal to load programs by giving messages like "Disk has a read/write error" and "Error:- disk not validated". Your magazine is the only one on the market that has the technical knowledge to help with this problem - keep up the good work.

Yours faithfully,
Richard Davies, Mold Clwyd, Wales

Dear Richard,

The usual cause of disk drive input/output problems is either dirt on the disk drive's heads or bad alignment of the disk drive's heads. The first can be remedied by a head cleaning kit which will remove any unwanted grime. However, if after cleaning the problem persists, and especially bearing in mind that your machine is still under warranty, I would recommend that you have the machine looked at professionally by Granada Computer Services, Commodore's warranty repair company. Aligning 3.5" drives is a very tricky process and I would not recommend any home user to undertake this job. If your machine is outside the warranty period, and you feel that you may have the same problem, you can still have GCS repair your machine. Contact them on 0952-290488.

Dear AUI,

I have recently purchased a Pace Linnet Modem as part of a package from Compunet (for the Amiga A500).

I connected up the system as instructed and created a copy of the Compunet software, performed the install Cnet on a copy of WorkBench 1.2. Great, I thought, now I can connect to the wide world... I went through the set-up Menu, checking everything. Connect, here I come, only to have a red error message come on the screen saying "Local error - Modem error". I tried unsuccessfully a dozen times to connect, but to no avail.

In checking the connections on my system I was mystified at seeing that the TX LED on the front of the Pace Linnet modem was on all the time, but went out when the computer was switched off.

As I had bought my Amiga secondhand, I had it checked out by a very obliging CBM dealer. Nothing wrong!!

I telephoned Pace, who asked me to send the connection lead to them, which was duly done. Again nothing was found to be wrong. I connected up the returned lead but again the red TX LED was lit, and yet again I was unable to logon.

I then talked to Pace again, they said "Leave it with us, we will talk to Compunet to see if the connection lead has the right wires connected to the right pins for the Amiga A500".

Despite several calls I am still unable to communicate with the wide world as yet!

I am hoping you have come across this problem before and that there is a simple solution.

I remain hopeful.
Yours sincerely,
Jim Daly, New Moston, Manchester

Dear Jim,

Your problem could be down to one of three things: the lead, the computer and the modem of course. As with all hardware problems it is a case of ruling out all the possible culprits...

The lead should be a standard PC to RS232 device lead, which is available from just about any computer shop! The pin connections should be (from Amiga to Modem):

- 1 to 1, 2 to 2, 3 to 3, 4 to 4, 5 to 5, 6 to 6, 7 to 7 and 8 to 8.

Check your lead either by disassembling it and looking at it, or by using a multimeter to check the electrical connection between each set of pins. If the lead checks out properly, the next most likely component is the computer. To test this try your modem with another computer. If it works you know that your Amiga is faulty, if not then the modem is probably faulty.

If it does turn out to be the computer then I would recommend that you contact GCS, see the telephone number in the answer to the previous letter!

conf. on next page

Amiga Answers

continued from page 61

Dear AUI,

I would firstly like to thank you for the excellent mag, but now on to the problem. I keep having problems with my copy of the Workbench disk. The requestor keeps appearing to tell me that my disk is not validated. I have looked at the "L" directory but the disk-validator is still there. Also, the Workbench takes ages and ages to load - this must have something to do with the fact that the disk is not validated (or the Amiga's very slow drive!). I cannot think what could cause the Workbench disk to keep losing its validator, because the only time it occurs is when I use the disk with write protect off (although this does not happen every time).

If this is a virus, then the only way that it can be doing this is by lurking in my 1 meg expansion (it has a battery clock). If this is

so, then how can I "clear" my memory? If not, then should I try protecting my disk validator? HELP!

I would also like to ask your advice on software and literature.

I would like to get into assembly, which assembler would you recommend, the DEVPAK V2.0 or the Macro? Also, which books would you say I should not be without?

Keep up the good mag (how about an assembly language course for beginners?)

Thanks.

R. Wade, Stoke-on-Trent

Dear Mr. Wade,

The "Disk-Validator" file in the "L" directory on your Workbench disk is in fact the

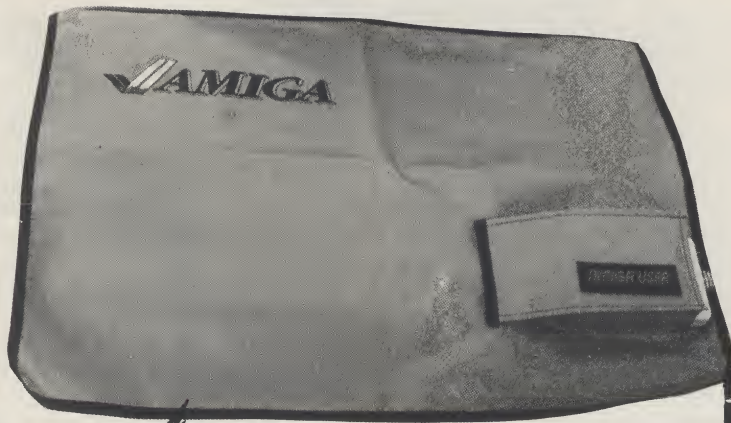
program code used by AmigaDOS to validate a disk. To validate a disk, AmigaDOS compares a checksum of the directory data with the actual directory data itself. The checksum for each disk is changed by AmigaDOS everytime the data on that disk is changed. The comparison done during the validation process uses the code in the "Disk-Validator" file.

This all sounds complicated, but what it basically means is that what your Workbench disk thinks it has recorded on it, is not quite what is actually recorded on it. Therefore, the fact that the "Disk-Validator" file is actually on the disk has no bearing on its validation status.

The usual cause for a disk not to validate is that some data has not been written properly to the disk. The solution is to use either "DiskDoctor" from the Workbench disk or "DiskSalv" (the latest version of which can be found on Fish Disk 177) or, of course, take a fresh copy of your Workbench from the original. I do not think your problem is being caused by a virus.

The Hisoft Devpac V2.0 is a very good and complete 68000 assembly language program development package. It gives you an editor, assembler, linker and debugger at a reasonable price. I would thoroughly recommend it.

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All attempts to shift the Object's course had failed. Earth braced itself for the impact. As commander of Luna Base 1, you watched in horror as the object collided with Earth, punching a hole straight through the Pacific Ocean, smashing into the Earth's crust and splitting it open, triggering off the most appalling shockwaves the Earth had ever known.

As the commander of Luna Base 1, you have access to enough resources to get going. You will need to mine the Moon's surface to obtain material to build big enough generators to provide the additional power for the enormity of the tasks you will face – to manufacture probes, space mining equipment (grazers) and various space transportation vehicles – and of course to support the increase in human numbers, both to keep Luna Base 1 going and to man your expansion into other regions of the Solar System.

The game operates on a step-by-step basis of research, manufacture and missions, all remotely carried out with mouse and icon control.

Your first task is to send out probes to establish likely mining sites on other planets, which you will have to colonise if you wish to use their resources. In the process of doing this you are almost certain to discover that you are not in fact alone – there is another colony – and it is hostile! And if you continue to probe into their space you will find yourself under attack very shortly.

Defence, fortunately, is fairly easy, particularly with a joystick, and represents the only arcade action to be found in the game. You direct the guns of one of your fighters against the incoming enemy craft, which are simple to destroy. Be quick, though, before they get the chance to inflict too much damage on your installation before you repel them. If you have no arcade bent at all, don't worry – as your resources build up you will be able to manufacture orbital lasers which operate like 'smart bombs', and you can store spare vital equipment underground in a special impregnable storage pod.

Once you have located planets with suitable resources and environments not totally incompatible with human life, you will have to build ships to transport the personnel and equipment to mine them. The problem is that the resources you need to build the ships are only found on the very planets you need to mine!

Once you have got your mining and colonising operations into full swing, the game proceeds fairly quickly. You will find eventually that you will have to conquer the hostile planet. And it's there that the key to the completion of the game lies – once again, more information on this would spoil the game.



Graphics are adequate, and the icon design is clear and simple to operate. Sound and music are O.K., (although limited). If you like strategy games, then when you begin this game you will know that it is for you. Progress is logical, with enough of a puzzle to unlock to give a touch of mystery to it, and there is *apparently* a lot of depth to it. You look forward to a long and enthralling game. Unfortunately you don't get one – for perhaps five hours of play it gives you everything you could possibly want, and then, abruptly and suddenly, it comes to a grinding halt as you discover that you have won. This wouldn't be so bad, if the major elements of the game were randomised, but they aren't. So once you have played it, there is no incentive to have another go.

S.L.

Graphics: 7
 Sound: 6
 Playability: 9
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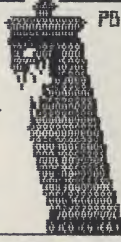
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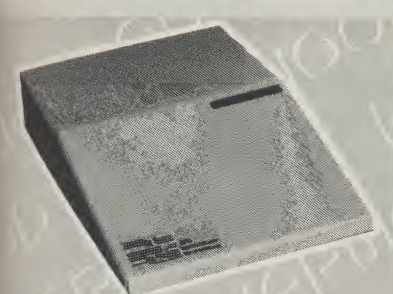
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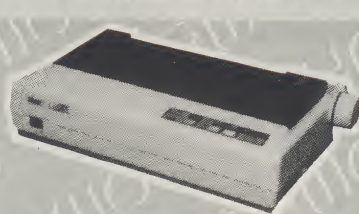
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BATTLETECH

The Crescent Hawks

Almost all of the Computerized Role Playing Games (CRPG's) being sold at present are set in a sword and sorcery based world, and most software houses would have you believe that this is the only setting in which CRPG's can be based.

However, as all ardent Role Players would tell you, this is not the case and by releasing Battletech, Infocom have opened up another doorway enabling further development of the CRPG market. Battletech is set in the 40th century and it will come as no surprise to find that personkind is still at war. In the year 3010 warfare is not just confined to earth, as it has spread way out beyond the solar system, and the reason for this is the development of the most lethal combat machine ever designed; The Battlemech.

"They can run, walk and jump over almost any terrain, including water, as well as use a frightening array of computer gadgetry for combat purposes"

A Mec, as they are affectionately known in the trade, can stand anything from between 60 - 100ft tall, weigh over 20 tons and release more fire power than a 20th century tank batallion! They can run, walk and jump over almost any terrain, including water, as well as use a frightening array of computer gadgetry for combat pruposes. And guess who has to master all this equipment? Yup, YOU!!

Monga Graphics are taken from the Japanese style comics and TV cartoon series, such as the Transformers. They are in essence similar to the cartoon characters, with over emphasized characteristics such as eyes, limbs and movement, and it is claimed that these emotive out-takes increase the realism of the game. They are very different from conventional animated figures and tend to be in a more futuristic vein.

In fact the learning process within the game is handled very well indeed. You play the part of 18 year old Jason Youngblood, who is following in his fathers footsteps by training to become a skilled Mech Warrior - ie. someone who pilots a Mech. The



game commences in a place called 'The Citadel', which houses a selection of buildings such as an armourers, a weaponers and, most importantly, The Training School.

When you enter the school you will be given a series of missions which take place in a large fenced off area. Initially the missions start off very easy indeed, and this allows you to actually learn how a Mech works at your own leisure. Once you have mastered such simple tasks as running to the South East corner of the compound and back within a specified time, it is only a matter of time before you progress to the real nitty gritty, combat!

BATTLETECH

Infocom

s Inception

Fighting using a Mech is a simple affair indeed. You can either have the computer do it for you, or do it yourself. If you choose the latter option all you have to do is master a couple of self explanatory menus, which appear when prompted, lock your weapons on anything that looks dangerous and then blast away.

Mind you, combat does not only take place between Mechs. At first you will have one of your training missions rudely interrupted by an untimely invasion of hostile forces. Unless you are very, very lucky, you will soon have your Mech blown from under you and your character then has to make it on foot to a place called the Starport, where it is rumoured that supporters loyal to your cause are working undercover.

This is where the Role Playing element of the game comes into play. The game allows you to talk, albeit in a somewhat limited fashion, to other characters and by piecing together various tidbits of information you begin to create a rebel force as well as locating the whereabouts of your now kidnapped father.

Eventually you will get your own Mech and you can go out and earn some mega bucks by taking on other Mech in combat inside or outside the city. Combat inside Starport takes place in an arena, where two Mechs slug it out in a no holds barred

contest for \$500, while combat outside takes place in many different and varied terrains. If you win any combat, you will find that, after paying for your repairs, you should have made a small profit and this can be invested in an organisation which is very similar to the stock exchange.

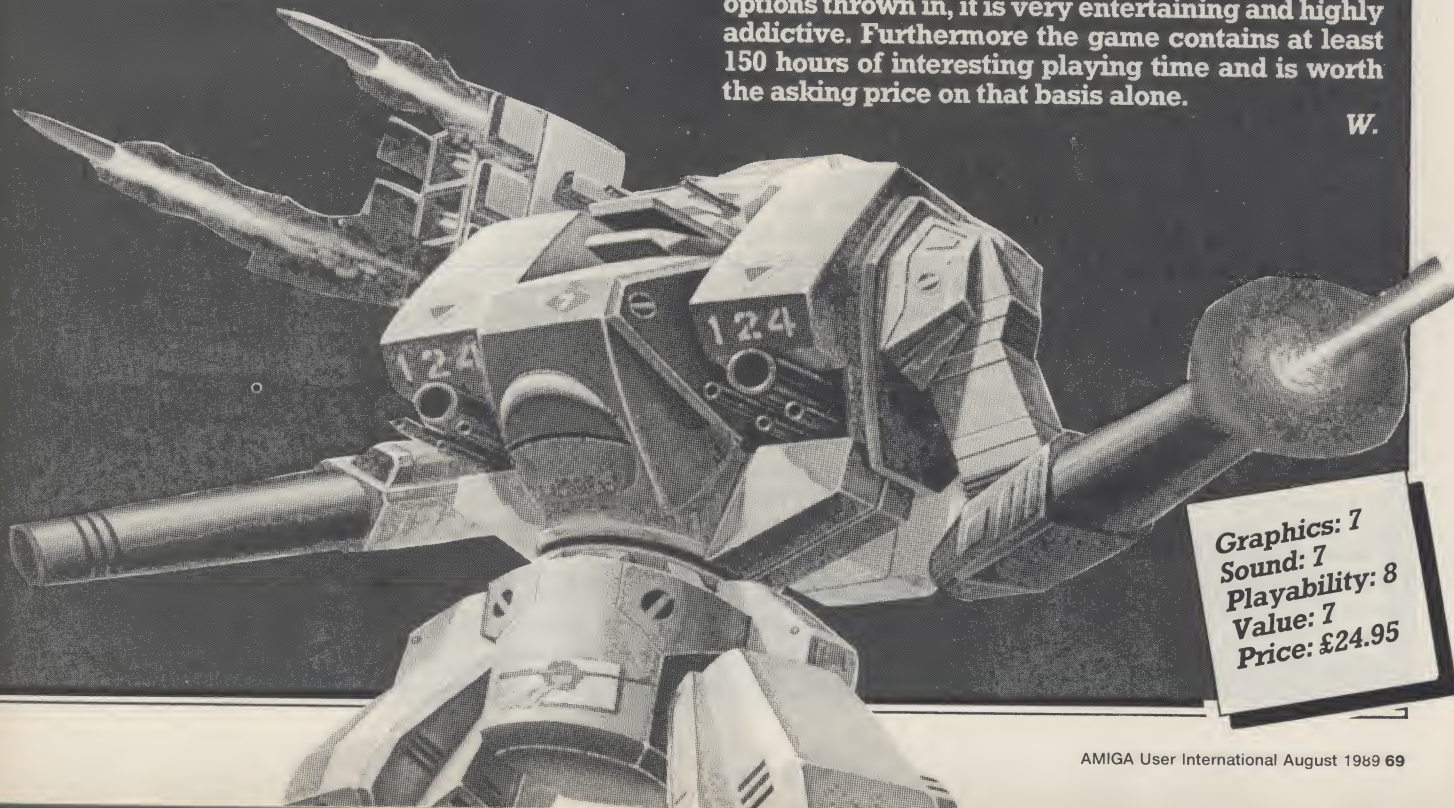
Basically you have a choice of three different companies in which to invest, and if they make money you get a certain amount of interest paid into your account. However, if the company loses money, your investments are reduced in proportion to their losses! Shrewd investments always pay off and it is worth while examining a company's prospectus before you start investing your hard earned cash seriously.

Overall the games graphics are good, if a bit small. However, the lack of size is easily made up for by the inclusion of some stunning combat scenes, which have been designed using Monga Graphics.

When you are engaged in combat and have hit an opposing Mech causing maximum damage, the top left hand menu sinks down to be replaced with a short, but enlarged, animated sequence that depicts your Mech firing it's weapon. This is followed by another sequence showing what damage you have inflicted upon your opponent and this usually comprises of watching the Mech having it's robotic limbs blasted off!

Although the Role Playing element of Battletech is a bit thin on the ground, as at times the game reminds me more of an adventure with combat options thrown in, it is very entertaining and highly addictive. Furthermore the game contains at least 150 hours of interesting playing time and is worth the asking price on that basis alone.

W.



Graphics: 7
Sound: 7
Playability: 8
Value: 7
Price: £24.95

PD Art Free, Gratis and Practically for Nothing

Tired of Fish disks? Never! Stuart Williams checks out alternative selections

This month, we look in detail at some graphics-oriented utilities from outside the world of the Fish Disk collection. Many PD libraries are now supplying alternative collections of PD software and shareware under the Amicus, FAUG, TBAG etc labels. Softville PD Services, of Waterlooville, Hants, kindly supplied me with a few samples from their range. I have chosen two programs from the Amicus disks, and one from one of the compilations exclusive to Softville.

Brushlcon

Brushlcon (sometimes listed as Brush To Icon) is a program that translates DeluxePaint (ILBM) brush format files into icons. You can use any resolution, but 640x200 gives the correct x/y aspect ratios. It is important that the brush has only 2 bitplanes (four colors) or it won't be compatible with the Workbench screen. It doesn't matter if you use more planes, but since only the first two will be used, it would be a bit of a waste of time!

To use Brushlcon you need a brushfile and an icon (.info) file. The different types of icons are:

TOOL: An executable program like Notepad, IconEd, AmigaBasic

DRAWER: A directory, which will open up a window.

DISK: A disk-icon (hard, floppy, ram)

GARBAGE: The trashcan

PROJECT: A file containing some sort of data.

All icons except PROJECT are supplied, because PROJECTs contain information about the program that created it. Use an existing icon instead and modify it afterwards.

You can only run this program from CLI, so as usual a second disk drive would be useful. The command format is as follows: **Brushlcon** **<Brush>** **<Icon>** **<Name>**. The parameters are:

Brush: A brush! (Your DPaint file)

Icon: The name of your icon (without the ".info" suffix).

Name: The name you want on the final icon.

A typical example in operation would be: **Brushlcon Graphics:Brush/Meteor TOOL Gamedisk:SuperMeteor**: to modify the standard **TOOL.info** using the brushfile **Meteor**, into the icon **SuperMeteor**.

"While Brushlcon is not a program to set the world on fire, it does open up new opportunities for customising your Workbench."

While Brushlcon is not a program to set the world on fire, it does open up new opportunities for customising your Workbench. Like many small Amiga PD programs, it soon makes itself indispensable!

Brushlcon is in the Public Domain, and was programmed by Leif Brandt of Ekeby in Sweden. The instructions were kindly translated into English by Sten Linnarsson of Stockholm. Brushlcon is on Amicus Disk 25.

Egraph

Definitely one for the mathematicians amongst you, Egraph was developed for use by students and staff of the Department of Electrical Engineering at the University of Calgary in Canada. It is apparently used extensively for both course work and research. The original UNIX based version supports many different output devices including pen plotters, graphics terminals and alphanumeric terminals. The AMIGA version supports only the AMIGA display and printer.

Egraph reads pairs of x and y values from a list of files and draws a formatted graph. The default graph mode allows multiple curves to appear on the same plot for comparison purposes. Four unique curve fonts are supported: solid curves;

dashed curves; dotted curves; and, long dashed curves. The fonts are sequenced in the above order. If more than four curves are to be drawn the above sequence is repeated as many times as required. For multiple curve plots, simply supply up to five file name arguments to egraph. The maximum number of data points is unlimited but faster response time is possible if the number of data points is less than 400.

Input data is read and graphed using file names defined as follows:

Current files: Data file name(s) previously entered either from the command line or using the "new files" menu.

New files: Using a requester, enter or modify the input file name(s).

The "save menu" item, when selected saves the current options in the file **egraph.opt** (in the current directory). The "about egraph" menu item displays information about egraph. The options menu allows all of the options described above for the command line interface to be entered using the menu.

Two screendump modes are supported for graph printout:

Autosize: The aspect ratio is retained while using the complete page width; and **One-to-one**, in which each screen pixel is mapped to a printer pixel.

The printer preferences should be set to: **Threshold 8; Negative Image; Black and White.**

Egraph works well, but is a little complex to operate. It will undoubtedly be of interest to those in education who do not have access to a suitable commercial graph drawing package.

Egraph is in the Public Domain and was written by K. Jorgensen, L.E. Turner, and M.R. Smith, Department of Electrical Engineering, The University of Calgary, Calgary, Alberta, Canada T2N 1N4. Egraph is on Amicus Disk 25.

LMV

LMV stands for Long Movie. AmigaDos 1.2 is required and expansion ram is recommended to run this program, which Jim Webster of Palo Alto, California designed for the purpose of recording com-

puter animations on his Sony SF-HL1000 Betamax VCR.

LMV reads up to 100 images off 1 or 2 disks (IFF format only) and allows you to display them rapidly in succession, producing an effect similar to animation. The pictures MUST be in 320x200, lo-res format; apparently a future version is planned to allow for different resolutions and HAM pictures as well. The pictures CAN have different color palettes and different palette sizes (2,4,8,16 or 32 colors). The pictures can also be played backwards or forwards, in any subrange of frames.

Naturally, the amount of images you can display in a single 'movie' depends directly on the amount of memory your system has, as well as the number of colours (bitplanes) you have used in your screens.

LMV requires AmigaDos 1.2, and expansion memory is a must. With a 2 megabyte expansion board, you can load about fifty 32-colour images. If you do not have expansion memory, Steve is putting together another program called MV that will be able to animate around seven 32-color images. Since these images will all be stored in CHIP ram, MV will be able to flash them much faster than this program. You may want to use MV even if you have expansion ram. If you want to be able to animate at 30 frames per second, MV will be included free with the next version of

this program.

in the current version, LMV will only run from CLI, and makes no use of windows, menus, etc. A future version will be "clickable" from the Workbench. One of the reasons Steve didn't use Intuition is to conserve memory, to allow the maximum number of images to be loaded.

To run LMV, type "LMV," followed by the names of the files you wish to use (don't forget to use pathnames!). For example, if you have files named pic1, pic2 and pic3 on the disk in your external drive, type: "LMV df1:pic1 df1:pic2 df1:pic3" and hit return. If you choose to use 2 disks, the file names on the second disk must be identical to those on the first disk, although of course the actual images on each disk can be different. After asking for one or two disks, the program reads each file and displays the filename, number of bitplanes, and the memory available after the file has been processed. If a file is unreadable or in the wrong format, you will be given the option of quitting, skipping that file, or starting animation immediately.

Next, you are asked to enter the number of the first frame and the number of the last frame. For instance, if you loaded five files and you wish to use all of them, enter 0 (not 1!) for first frame and 4 (not 5!) for last frame. To do animation in reverse, you would enter 4 for first frame and 0 for last

frame.

You are finally asked to enter the DELAY between the images. LMV is capable of displaying up to about 19 frames per second (zero delay). If you want 15 frames per second for 32-color images, enter a delay value of 1010 (this is a close approximation); for 7 1/2 frames per second, enter 6750. The fewer the number of bitplanes in an image, the less time it takes to display it, so use shorter values for other sized palettes. You may want to experiment, especially if you are recording on videotape.

One bad point: this version does not hide the Workbench pointer. For now, Steve recommends using Preferences to create your own pointer image that is very small, then hide it by moving it to a corner of the screen before starting animation. You will not need to do this with a future version. While this program will not have the commercial animators quaking in their boots, it is certainly a useful pageflipper for the video toting Amiga user with RAM to spare!

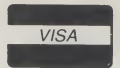
LMV is Shareware, with a recommended donation of \$10 inside the USA, \$15 outside. The program is to be found on the Softville exclusive UGA Utilities Disk 1.

S.W.

Contact: Softville PD Service, 55, Highfield Avenue, Waterlooville, Hants, PO7 7PY. Tel:(0705) 266509.



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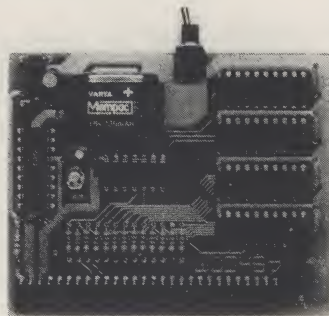
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Intuition

continued from page 56

```

/* What about the screen? */

Move (ScreenRP, 20, 20);
Text (ScreenRP, "Hello Mum!", 10);

SetAPen (ScreenRP, BLUE);
SetDpMod (ScreenRP, JAM1);

if (!Screen = (struct Screen *) OpenScreen (&NewScreen) == NULL)
    CloseLibrary (IntuitionBase);
    CloseLibrary (GfxBase);
    exit (FALSE);
}

ScreenRP = &Screen -> RastPort; /* Set a convenient pointer to the
Screen
                                RastPort structure */
ScreenVP = &Screen -> ViewPort; /* and also the ViewPort! */
LoadRGB4 (ScreenVP, colourtable, 8); /* Should load in the colours! */

NewWindow.Screen = Screen; /* Set pointer to Screen */

/* OK now Open it! */

if ((Window = (struct Window *) OpenWindow (&NewWindow)) == NULL)
    CloseScreen (Screen); /* Seriously shortage of memory! */

CloseLibrary (IntuitionBase); /* will cause this to occur or */
CloseLibrary (GfxBase); /* a dupe NewWindow structure */
exit (FALSE);
}

void CloseStuff () {
    if (Window) CloseWindow (Window);
    if (Screen) CloseScreen (Screen);
    if (IntuitionBase) CloseLibrary (IntuitionBase);
    if (GfxBase) CloseLibrary (GfxBase);
}

Move (ScreenRP, 20, 30);
Text (ScreenRP, "This text should be in blue.", 28);
SetAPen (ScreenRP, YELLOW);
Move (ScreenRP, 20, 40);
Text (ScreenRP, "And this in yellow.", 19);

```

CONTINUED NEXT MONTH...

VINDEX

Turtle Byte Software



Vindex is your name, liberating the enslaved is your game. Topping today's agenda is the great tribe of Ferran, presently being held against their will by Tranton, a representative of the of the Intergalactic Financial Plutocracy.

"Some just fly straight at you, others swirl around in a snake formation or form rotating rings."

You have to agree, those boys at Turtle Byte Software have some classy storylines up their sleeves! The game itself begins in space. Your viewpoint is from close behind your ship, with everything appearing in 3D from a central vanishing point. All the aliens attack in pre-set formations. Some just fly straight at you, others swirl around in a snake formation or form rotating rings. Barriers of fireballs are encountered nearer the first level's end. With that lot sorted out, you move onto



the checked floor pattern of the planet surface. The same skills are called for here, though the obstructions and aliens are varied from the first level.

Level one is a standard 3D shoot 'em up, much like *Afterburner* or *Galactic Warrior*. Once you get onto the planet, the graphics improve drastically,

"Once you get onto the planet, the graphics improve drastically, with far more interesting aliens and backgrounds."

with far more interesting aliens and backgrounds. From here it leans more towards the *Space Harrier* style, though the game changes very little other than its graphics. Technically, *Vindex* is impressive. The



3D is some of the smoothest I have seen in an Amiga game. It fails on its gameplay, which is too shallow, repetitive and unoriginal to hold anyone's interest for long. A shame really, as the programmers obviously have far more potential than has been tapped.

T.H.

Graphics: 6
Sound: 6
Playability: 5
Value: 5
Price: £14.95



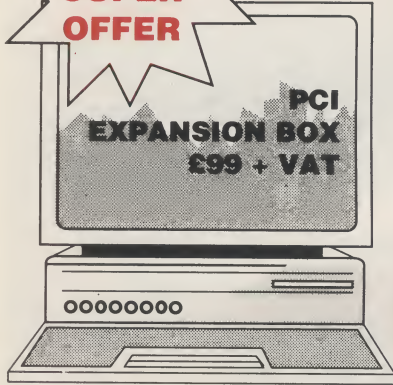
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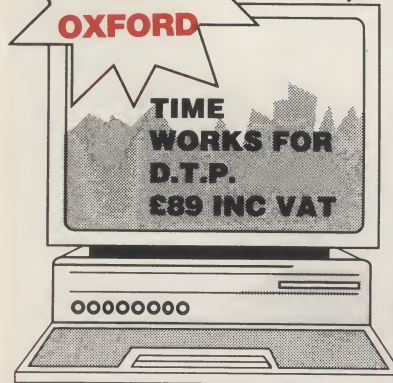


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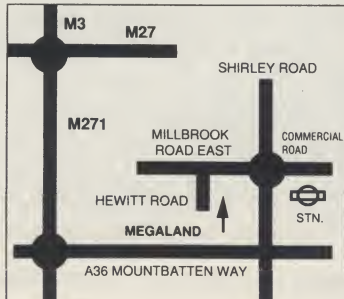
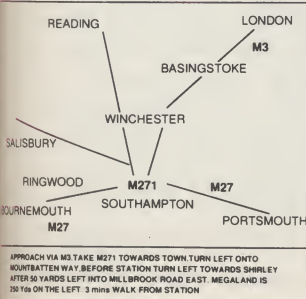
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INDIANA JONES

and the

LAST CRUSADE

U.S. Gold

Always on the lookout for big names to sign up, US Gold are about to release the results of their biggest ever movie tie-in. After their conversions of the forgettable Temple of Doom coin-op, they now have a second crack of the whip with the binary interpretation of The Last Crusade.

Steven Spielberg and George Lucas have collaborated once again with phenomenal box-office

success. In fact, The Last Crusade raked in £24 million the weekend it opened in America! That top-grossing world record has since been snatched from Steven and George by the new Batman flick, but £24 million is nonetheless a pretty sizeable sum I think you will agree. As you can imagine, acquiring the computer game rights to such an epic reel of celluloid is some feat. US Gold's links through Lucasfilm Games helped beat the track for negotiations, leaving the competitors out in the cold.

Set in 1938, the movie takes us around the world with Indy in his search for his father, and incidentally, the Holy Grail. All too late, he learns to trust no one as he is double-crossed time after time. A race to reach the Grail before the Nazis ends in a climax packed to bursting point with stunts and special effects. Starring alongside Harrison Ford, Sean Connery plays Dad, Alison Doody fills the role of the two-faced leggy blonde, and keep an eye out for a well-disguised Alexi Sayle.

US Gold have assigned the programming of the game to Tiertex, who will be responsible for the arcade-style game across the major 8 and 16-bit formats. Info is in short supply at this stage, but you can expect a multi-directionally scrolling platform game. Across the pond, Lucasfilm Games are developing their own illustrated text adventure game for the 16-bit machines. If the games are anything like the movie, you can look forward to plenty of sweaty-palmed hours of gaming coming your way soon.

T.H.



HIGH STEEL

Screen 7

As far as construction goes, you are the best in the field. So when the gremlins strike on a particularly difficult project downtown, it's obvious that the big shots call on you. The job's straightforward: build a specified number of floors (one more for each level) using at least two vertical girders and five or more bricks for each floor.

"You start out on the foundation. A crane keeps dropping off all the relevant materials and it's up to you to position them."

You start out on the foundation. A crane keeps dropping off all the relevant materials and it's up to you to position them. You can carry one object at a time and once the girders have been locked into place, you can climb them and start building the next floor. It doesn't matter if you do not build symmetrically; you can use as many girders and bricks as you like, though the quicker you finish the more of a time bonus you get.



Sounds easy? It would be if it weren't for the gremlins who make your life much more difficult by dropping down to the building site and moving across it chewing up the odd piece of brick and floor (try kicking them away first). They also drop bricks and banana skins from the scaffolding. Get hit on the head and you lose a life. Other enemies include moths which hatch from eggs, crawlers which crawl around the building, and vegetable parasites which spit acid in your face, but you can

Screen 7 origins ...

Screen 7, launched in April this year, is actually one of two labels published by a company called Software Communications. The other label the company publishes, Martech, is the force behind such winners as Nigel Mansell's Grand Prix, Slain, and Mega-Apocalypse. Martech has been 'temporarily put on hold', according to Software Communication's PR company. Look out for more Screen 7 titles, including Jaws and Steigar, coming soon.

get rid of them by hitting them with one of the spanners you just happen to have tucked into your belt.

In addition to materials, the crane delivers food supplies. Sandwiches and thermos flasks build up any energy lost through injury or contact with non-fatal gremlins.

Whichever way you look at it, this isn't really any more than a variation on a very basic platform game, and the graphics and sound bear this out. Extremely simple sprites and backdrops with a limited amount of animation do not even begin to exploit the Amiga's capabilities. In addition, the music is a repetitive and irritating dirge.

The gameplay itself isn't much to get excited about either. Positioning bricks and girders is mildly interesting for the first hour but starts to get extremely tedious after that. It's not even logical — who in their right mind would try to build a skyscraper with girders and bricks positioned any old where? As an 8-bit game, High Steel would be disappointing. On 16-bit, it pales into insignificance when you compare it with all the quality products you can get for exactly the same price. Avoid it.

K.H.

Graphics: 4
 Sound: 3
 Playability: 3
 Value: 2
 Price: £19.99

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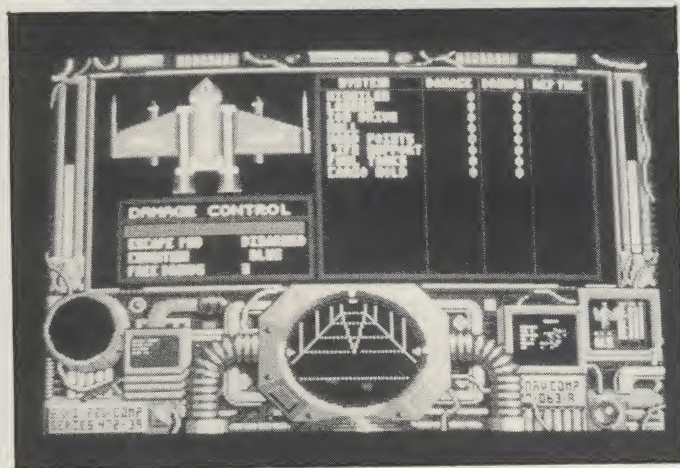
Gremlin

Gremlin, it has to be said, have taken quite a bit of criticism over their latest game — Federation Of Free Traders (FOFT); all of which subsequently occurred after the initial release of the ST version. Gremlin, to their credit, went back to the drawing board with promises that the bugs would be removed and the gameplay improved. So the Amiga version has arrived. Have all of the bugs been removed? Is the gameplay improved? Does FOFT replace Elite as the number one space trading game? Should you hand over your hard earned readies for a copy? Read on.

You start the game in a space station which has an intergalactic communications system known as Galnet. Similar to many comms systems, Galnet can be used to communicate with other ships, access information, trade and equip your vessel. In

“Prices literally change before your eyes so it is possible to remain in the space station, playing the market.”

addition, you have access to a computer language called SIMPLE, resembling BASIC, which can be used in any way you see fit. The trading area of the game is similar to *Elite* but FOFT provides a wider



range of commodities. Prices literally change before your eyes so it is possible to remain in the space station, playing the market. Other, less accessible goods can only be found in space, however, such as black market trading with other space ships.

Galnet also provides the means to receive missions from FOFT HQ. There are a variety of missions, each one increasing in difficulty as you rise in rank; they provide a good income which is needed to buy fuel and additional equipment for your spaceship. Sometimes you will need to travel quite a distance to reach your target area. The latter can be viewed by a 3-D screen-model of the galaxy that can be rotated to help plan a route during a



FEDERATION OF FREE TRADERS

long trip. On occasion, when there are no space stations orbiting a planet or when a mission dictates it, you may land on a planet (to complete a mission, for example). This involves landing your ship on a *Virus*-type landscape. Damage can be taken from hostile forces if you fly low in planets.

Examining FOFT, it is obvious that Gremlin have improved many features such as space combat. For example, previously, you were swamped with pirates during space flight. However, Gremlin have tweaked the random ship generator which results in a more manageable combat situation. This also makes moving from planet to planet easier as the jump drive/timeskip can be used more efficiently.

You can, as in *Elite*, only use the jump drive in clear areas. The original tendency for crowded space stopped all thoughts of jump driving, making the original game incredibly slow. The actual ships, in the first version, moved at an incredible pace — too fast, in fact. This has been changed so that you now have more of a fighting chance. However, enemy ships still move very fast. (Maybe I'm getting old, though.) The planetfall sequence was, initially, a very slow process. This has been improved so that less time is taken. In addition, originally, accessing Galnet had to be done by inputting a 12-digit number. This has now, thank-

Elite origins

Federation Of Free Traders (FOFT) was programmed by Paul Blythe, author of 3D Galax and self-confessed Elite-fan. This may explain the myriad of similarities between FOFT and Elite. As well as the similar features mentioned in the main text, there are one or two additions. When in Galnet, for example, you can access the General Pack/Ships which displays a variety of rotating, 3-D space ships that you will meet on your voyages. This feature aids visual identification.

have been included to enhance the realism but it plays no real part in the game. Maybe the time, effort and memory should have been used to improve the sound effects which are adequate at best.

The manual, while improved, could have been better. You have the feeling that Gremlin have given the player enough to "get by"; fuller

ERATION OF E TRADERS

fully, been reduced to four digits.

However, all is still not perfect. I managed to freeze the game twice during testing. On one occasion I landed on a planet and accessed the damage screen to see what punishment I had taken during the flight in. The damage screen began to shimmer; it did not respond to any keypress. In addition to the odd bug are the poorly implemented features, the whole process of landing on planets is grossly under-used. A great deal of effort appears to have gone into this feature and it is a shame that it was not integrated into the game to a fuller level. The inclusion of the SIMPLE language is, in my opinion, a complete waste of time. Okay, it may

explanations would have been welcome in many cases. The addition of 20 tunes, which can be accessed from disk, are also a waste of time. The quality of each piece is only fair. But, realistically, just how often are you going to play them? After one or two hearings they will either bore you or drive you mad with their poor quality. Again, the available memory could have been used to improve the gameplay and *still* provide two or three pieces of *high* quality music. This *is* the Amiga after all.

So, is FOFT an improvement over *Elite*? Yes it is. But any *Elite*-type game written especially for 16-bit machiens *should* improve upon *Elite* with little effort. That is no surprise. What is a surprise is that FOFT took over two years to develop. As the game is a great disappointment. FOFT's solid 3-D graphics are nice, the *Virus*-style planetfall is pretty – but I kept getting a sort of empty feeling. The game's good features are very good, but diminished by the bad or poorly-implemented ones. While FOFT is a fair game, I hesitated to give it an unreserved recommendation. I did play a 'pre-release' copy, so there is still hope for perfection, as always.

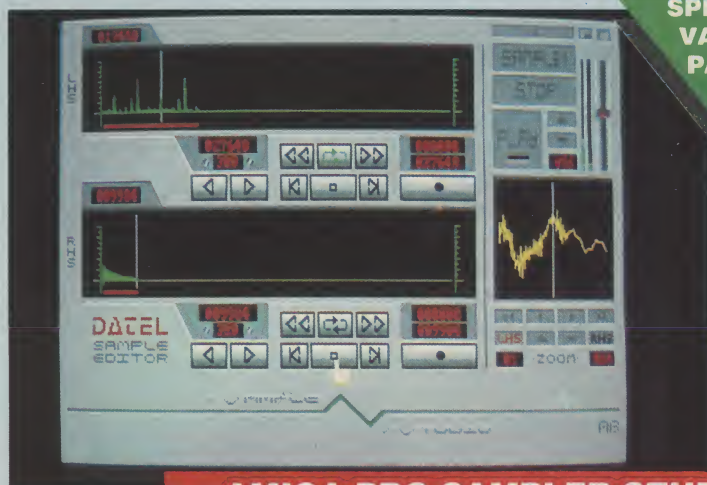
P.R.



Graphics: 8
Sound: 6
Playability: 7
Value: 7
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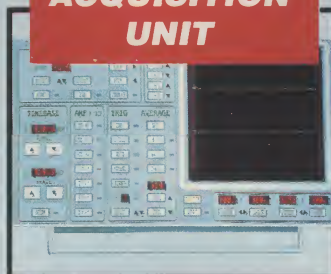
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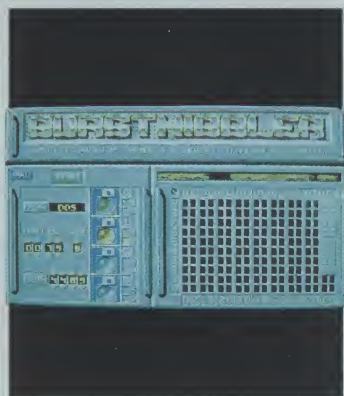
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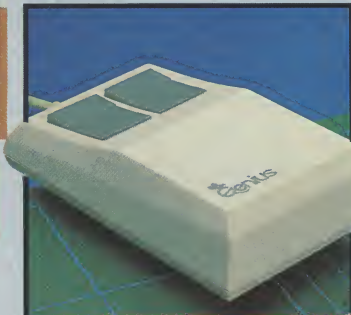
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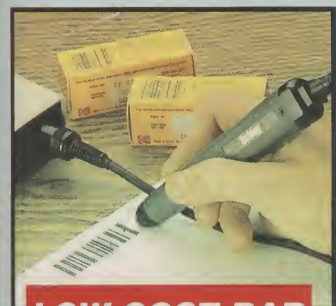


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SAVAGE

Firebird

You're cast as a big, beefy, battle-crazed hunk determined to hack his way through evil the only way he knows how — in an orgy of killing and blood. The action is divided into three separately loaded sections. Completing each part gives you password access to the next one.

Armed with nothing but his battle axe, Savage's first task is to battle his way through the damp, dark passages of an evil castle, occasionally leaping across perilously dangerous chasms. Blood-curdlingly ugly demons and ghouls attack him from all sides draining his energy on contact

"Outside the castle, the action's only just hotting up."

and sometimes shooting him. Defeated ghosts leave all sorts of bonus pickups such as treasure, more powerful weaponry and top-up energy behind.

Outside the castle, the action's only just hotting up. The second section comes in first person perspective 3D, Space Harrier style, and has Savage avoiding statues and totem poles while



attempting to destroy ghosts and skulls by positioning his target and shooting them.

It's at this point that Savage realises that in all his efforts so far he's been the dupe of a clever diversion to enable the demons to kidnap his maiden love. Enraged, he ventures back to a different castle entrance only to find that it's locked. Undaunted, he determines to send his trusty eagle instead of him. This involves the eagle flying and hovering through further castle mazes under attack from even more horrible mutants and

Savage distribution problems ...

Savage has been around in its original 64 version for some time now. A somewhat difficult game, to say the least, it met with mixed success. The 16 bit Savage was ready almost two months ago, but met with delays due to the takeover of Telecomsoft by Microprose, the current distributors. Now Savage is available not only in the UK, but in the Netherlands, France, West Germany, Italy, Sweden and Holland as well.

ghosts. The maiden herself is hidden somewhere in a castle cell.

The quality of graphics and sound varies in each of the sections. Part one comes with a very impressive soundtrack, complete with sampled sounds and extra effects but disappointingly, the average effects and unmemorable music of the other sections just don't match up to that. Graphically, the jerky 3D section (which is actually slower than it was on the 64!), is the most disappointing. Blocky sprites lumber towards you and fail to create any convincing impression of movement — all the more surprising because the scrolling of the other parts is exceptionally smooth.

Playability varies as much as the presentation. The first and last parts are the most enjoyable to play, but there are problems with the jump control; it isn't very sensitive in the former and there are inaccuracies in the collision detection of the latter. The unconvincing 3D makes the middle section the most cumbersome to play.

Savage is one of those games which might have benefited from more play-testing and development time. A little more polishing, a lot of extra attention to the 3D and some tighter collision detection would have turned what's just an average hack 'em shoot 'em up into a much more playable game.

K.H.

Graphics: 4
 Sound: 6
 Playability: 6
 Value: 5
 Price: £24.99

Modula 2 Primer

(Howard W. Samms & Co.)

Andy Eskelson reviews a book that helps you speak to your Amiga ...

There are several languages available for the Amiga, Basic, C, Forth, to name a few. A lot of the Amiga operating system was written in C (and also in the predecessor of C, BCPL) so it was to be expected that C would tend to be the dominant language used by Amiga programmers.

C is a very powerful, suited very well to writing operating systems, but it does have a big problem to the beginner, and that is that it is not the simplest of languages with which to come to grips. Other problems with C are that it is not easy to manage a large programming project with many programmers working on the project.

Another language that is very popular is Pascal, this is a basic-like language that is fairly readable by most competent Basic programmers. Pascal was never really intended as a serious programming language, as it was developed as a teaching tool. Pascal is extremely rigid to use as it demands a very structured approach to any programming project. Everything must be declared first, and in a particular order. This means that subroutines must be at the start of the program, after the variable and constant declarations. It can lead to the problem that the variables and subroutines can be separated by many pages of code from the part of the program that uses them.

Over a number of years there have been many modifications to the standard Pascal that attempt to overcome some of the problems. So we have the problem that there are now many standards, and this causes portability problems.

The creator of Pascal, Professor Niklaus Wirth, in the early 1970's developed another language to overcome the problems of Pascal and also to incorporate the feedback from Pascal users and his own work. This language was called Modula and was developed in 1975. Modula was revised and in 1980 Professor Wirth published the specifications for

Modula 2.

Modula 2 code is fairly readable, even if you have never come across it before, but it is not the sort of language that can be picked up as you go along, so some sort of tutorial is needed. The book *Modula 2 Primer* is such a tutorial. It is worth having a look at what Modula 2 offers. The M2P lists the following advantages of Modula 2 over Pascal.

- Separately compilable library modules
- Consistent syntax leading to increased legibility
- Improved control over the scoping and life time of variables
- Ability to separate definition and implementation aspects
- Ability to handle concurrent processes by means of coroutines

I do not intend this review to become a Modula 2 teach-in, the M2P does that a lot better than I can!, but in simple terms some of Modula 2's features are:

You can write 'black box' code. If you write a program (called a Module in Modula 2 — surprise surprise) that computed the orbital position of a satellite, given the time, date and orbital parameters as inputs and the azimuth and zenith as outputs. You could compile and test the program, and then use it WITHOUT recompiling in another program, by simply calling it by name and passing the correct parameters to it. This is very much akin to the way that you would use the Amiga's built in library routines. However this is not quite the whole story, your program is created with two distinct parts, called the Definition Module and the Implementation module.

The definition Module specifies the name, the input variables and the output variables. This is the only part of the module that another program needs to know about. The Implementation Module contains the actual code that performs the calculation. You as the programmer of this

module can at a later date modify it to improve the accuracy say, but providing that you do not modify the Definition Module no other program that calls your module has to be recompiled.

Modules are also useful for other things as well, but you can see from the above that this one aspect of the Modula 2 is very useful to large programming projects where each programmer can develop his part of the application and debug it without upsetting the work of any other programmers.

The M2P states somewhere that programming in Modula 2 is a matter of calling the required modules in the correct order — preferably someone elses modules! This statement is a bit tongue in cheek, but it does convey some of what Modula 2 is all about. It was written by Stan Kelly-Bootle and consists of some 450 pages with 10 chapters, 6 appendixes, and a good index.

Each chapter builds upon the previous chapters and explains very clearly what is going on. Every chapter has one or more example programs listed, and there is a detailed analysis of each program that explains exactly how it works.

No knowledge at all is assumed and the book takes you from first steps, all the way to using some of the more advanced features of the language. There is a statement that it is impossible to cover every aspect of the language, and it is fair to say that. Total familiarity with Modula 2 will only come with practice.

I can find no real fault with the book at all, except in the subject matter used in most of the examples. The examples are based on the game of Rounders (American Baseball) and some of the terms are a little strange to say the least. I would have much preferred that the examples were slightly more general, maybe along the lines of a book index or something like that.

The only other thing that could have been better is the explanation of some of the terms. Modula 2 does use some strange words to indicate what is going on. Things like Regular Procedures and some of the ARRAY functions could have been worded in a better way, however these faults are very minor and at the most require the reader to re-read a couple of paragraphs.

I would not hesitate to recommend this book to anyone wanting to convert to Modula 2 from basic or Pascal. It is not suitable for someone to come straight into without any programming experience at all. **ISBN 0-672-22560-3**

A.E.

NAG, NAG, NAG, NAG, NAG, NAG, NAG, NAG, NAG

Every so often, a program pops up that doesn't quite fit into any of the usual categories, but Nigel Streeter gives it a go with NAG PLUS v3.0

"Nag", as it is affectionately called, is described as a "Schedule Assistant" that is, as the introduction puts it, "an electronic appointment calendar for the Amiga" to keep track of all your important meetings and appointments, as well as birthdays, anniversaries or any daily action that requires a reminder.

Nag is a memory resident program that runs in the background so that other programs may also be used, whilst Nag is running. When it is time for a reminder (a nag), it will display a temporary window, without interrupting the current program. If you wish, Nag can also audibly remind you of an appointment by playing a digitised sound, reading the appointment to you, or both.

When you first run Nag, you must sort out various settings. To make things easy, an "Auto Installation" program is included that will provide Nag with standard settings. These include the colour of the Nag window, the sound and voice selections, and a host of others to make up the configuration file that Nag will use when run in the future.

When Nag is run, a small orange box with the word "NAG" appears on the screen, usually at the top left-hand corner. To enter the program, you simply click on the box and the main Nag window will open. When you first see it, it looks like a jumble of words, dates and boxes but, in fact, once you know what each item is, the screen is actually very well laid out and simple to understand.

Briefly, the screen is divided into four areas. The smallest is the top bar, which

contains today's date and the time left until the next nag is due. The largest area contains a list of forthcoming nags, starting from today and shows all the appointments scheduled for each day, along with their times. The third area contains a calendar, showing day, date, month and year. The year and month can be changed by using forwards and backwards arrows (« ») and appointments for any date can be seen by clicking on the selected date, within the calendar.

Functions

Included in the area below the calendar are six "buttons"; **Clock**, **Edit**, **Print**, **Shrink**, **Search** and **Help**. **Clock** and **Print** are self-explanatory, **Shrink** closes the main window, saves any changes and returns you to whatever you were doing before entering Nag. **Search** will display a list of all appointments that include the word or phrase that you type into an edit box and can also display a list of missed nags. The **Help** button shows a screen

providing information on using Nag. These are all fairly peripheral functions to compliment the major one; **Edit**. When selected, a second window will open and display a new set of options that will enable you to add, delete or change an entry on the schedule of appointments. The text for an appointment is typed into the edit box and can be preceded by a

"The number and frequency of nags that occur prior to the appointment can be set as can the type of nag."

title, such as Birthday, Anniversary or !Action, rather than a time. The number and frequency of nags that occur prior to the appointment can be set as can the type of nag. If you select **Sound**, a pre-recorded sound will be played. Nag comes complete with a set of sounds that includes a bellowing elephant, Hal from 2001, Robin Williams, Michael Jackson and the Three Stooges, to mention just a few!!

Voice will read the nag to you, plus any message that was entered during configuration. Both **Sound** and **Voice** can be selected at the same time. A "Test Button" is provided for you to check that everything is correct before returning to the main Nag screen. **Cancel** will ignore any changes that you have made and also return you to the main screen, without saving the changes.

Obviously there is only a limited amount of space available for Nag to use,

but there may be the occasion that needs more of a description than it will allow. To make Nag as flexible as possible, the programmers have provided the ability to link with any text editor, (Notepad etc.) where a more detailed description of the appointment is written. A note can, if you wish, be attached to every unique word on the schedule and is retrieved by clicking the right mouse button. Notes can also be attached to the calendar by the same method.

If an appointment entry includes a telephone number and you have a 300 baud, Hayes compatible modem attached to your Amiga, click on the number with the right mouse button and Nag will dial it for you!

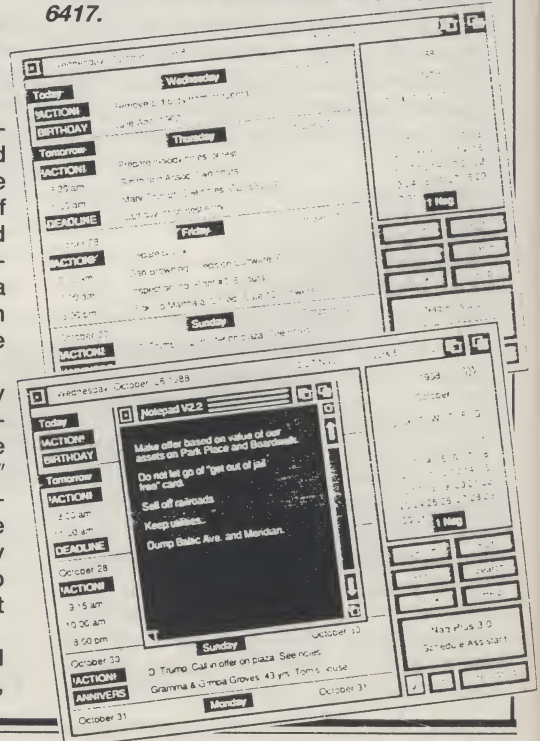
And, as if that wasn't enough, REXX and EXEC commands can also be executed from within Nag by including them on the schedule, when they will be run at the chosen date and time.

Conclusion

In the short time that I have been using Nag, it has proved to be very reliable and simple to operate. Running on an unexpanded A500, at the same time as other, memory hungry, programs has, occasionally, caused a clash that has resulted in Nag disappearing. I do not foresee that as a problem, though, with 1meg.+ machines.

The ideal method of operation is probably for those lucky enough to own a hard drive plus 1meg, where Nag can be auto-run during the startup-sequence and then retained in memory throughout the session. So, for all you busy people, where life is one long whirl of social and business appointments, throw away your files and get Nagged!! You may just like it.

Price: \$79.95. Contact: Gramma Software, 17730 15th Avenue N.W., Suite 223, Seattle, WA, 98155 (USA). Tel: (206) 363-6417.



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DESIGNER DATABASE

John Walker reports on 'designer' software for the style conscious

Software Visions' Microfiche Filer and the enhanced Microfiche Filer Plus have won a deserved reputation as elegant, useful and original database management systems for the Amiga. Their originality lies in their use of the concept of a microfiche.

The entire database is shown on screen in miniature form. By moving the mouse-pointer, you can magnify part of the fiche, quickly isolating the information you want. The databases are much more flexible than an actual microfiche, since the data they contain can be sorted and printed in many different ways.

As with all DBMS, though, you have to sit down and design the particular database you require, deciding what will go in each field of each record. With some, it is easy. A name and address file needs little thought. You simply need fields for Title, First Name, Last Name, Street, Town, Post Code and Telephone Number. You can then set up reports to print all the information or, for example, just the names and phone numbers.

But most databases are more complex and can take much more effort to set up correctly. In order to make it easier, Software Visions has launched Designer Databases, consisting of ready-made database definitions, together with lists of forms for data entry and printing, for use with Microfiche Filer and Filer Plus.

The first two Designer Databases, each contained on a single unprotected disk, cover home and business use. Each database is supplied in two versions: one for use with Filer and the other for Filer Plus. Manuals explaining how to use them are contained on the disk, and a utility is provided for printing them automatically.

Software Visions warns that some of the Filer Plus Databases will only work with version 2.2+ or later. (Users with earlier versions can obtain a free upgrade which, for British users, presumably means the inconvenience of returning their master disk to the United States.) Microfiche Filer Plus requires an additional program, the macro language ARexx, to automate its procedures. It

should be a version of ARexx later than 1.06, although a program is provided on both disks to patch earlier versions. Some macros take a lot of memory so that at least a megabyte of RAM is likely to be needed when using the Business databases.

Home 1 provides ten instant databases, covering videotapes, stamps, books, wine, home budget, CDs and records, coins, recipes, personal inventory and details of the first 162 disks in Fred Fish's collection of PD software. All, except Home Budget, which uses ARexx macros, work well with either Filer or Filer Plus, and in most cases the databases for both are identical.

Business 1 provides seven pre-defined templates, covering Billing and Inventory, Mail Merge, General Ledger, Calendar, Expense Reports and Employee Records, require the use of ARexx macros.

Home Use

The Home databases are very simple and will appeal only to the idle or those completely bemused by the thought of defining the categories for the various fields in a record. The individual databases included would each take no more than 15 minutes to set up. Those provided will probably need altering to fit your requirements.

The Videotapes database, for instance, has fields for program name, cast, director, category, copyright date, ratings, tape number, tape counter number, program length and description.

It is possible to pick holes in all the Home examples, since the beauty of any database is that it is tailored to individual needs – and those supplied reflect the taste of their makers. Compact Discs and Records, for instance, has fields for song title, track or counter number, album title, artist, category of music, and

Again, it is not a database that would satisfy me. How would you use it to catalogue an opera, which involves a dozen or more artists? You would not want to do it by song title. The only way with this system would be to have a

separate database record for each of the artists, which is cumbersome.

For similar reasons I prefer my own Microfiche Filer Plus database for recipes to the one supplied, which has fields for category, type, ingredients, directions and notes.

Business Applications

The Business databases are much better, probably because some of them, such as those for Billing and Inventory, are in daily use by Software Visions to run its business. The real power of the business databases derives from their macros, though, so you will Filer Plus and ARexx to make best use of them.

The Billing and Inventory databases are linked when used with ARexx: changes to one database are automatically made to the other. The Billing database enables you to print such items as invoices, receipts, mailing and packing labels from the data it contains.

The Mail Merge provides macros for merging information from the databases with letters created in WordPerfect, Scribble!, excellence!, KindWords or ProWrite. These require ARexx to work. It will also print name and address labels and, using a macro, dial selected phone numbers for you.

Designer Databases are an excellent idea, taking some of the sweat out of what can be the tedious business of definition. You can simply load a database and start entering your information. But the templates included in Home 1 are so simple that they will be of interest only to a complete novice.

Providing you have up-to-date versions of Microfiche Filer Plus and ARexx, then the Business databases are well worth investigating. The Billing and Inventory databases and their macros provide an excellent lesson in setting up two interlinked databases. The others, too, with a few modifications would provide a good and efficient system for a small business. They improve on what is already a very user-friendly database system.

J.W.

Price: \$39.00 (Home), \$59.00 (Business). Contact: Software Visions Inc., P.O. Box 3319, Framingham, Massachusetts 01701. Tel. (508) 875-1238.

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MICROPRO



Until recently, there were no classy football games available for the Amiga. The situation was rectified by Kick Off, which is by far Anco's finest release ever. Now Microprose Soccer is complete, and with the rock solid reputation of the original 64 version behind it, Kick Off may just have met its match.

Like Kick Off, Microprose Soccer goes for the plan view presentation. Unlike Kick Off, not only do you get the internationally popular eleven-a-side game, but also the scaled-down six-a-side version more popular in North America. The rules are different, but the gameplay basis is the same for both.

The full-size game can be played in a number of ways. A bank of 29 teams has been programmed to take part in the cup competitions. Each team is seeded from one to four; Brazil, Italy and Argentina head the top six, with the likes of Cameroon, Oman and USA down with the number four seeds. Select a World Cup tournament and two dozen of these teams are shuffled into random groups of four. Players choose to take control of any team in the competition. The idea is that playing as Brazil (or another top seed) will lead to an easier game, with the opposite applying to the lesser teams. As the tournament gets underway, the result of every game between two computer-controlled teams is displayed and the tables updated.

Control of the team is fairly straightforward. Dribbling the ball is automatic once you are in possession, and turning on the spot is no problem. The only way to tackle is to go in for a slide, but late tackles are not penalised. For shots and passes, you



ROSE SOCCER

have the choice of chips, straight balls, overhead kicks and banana shots. You also take control of a diving goalie, so there is no excuse for goal-mouth embarrassments. If conceding a goal to Oman does not destroy your will to live, the slo-mo action replay will!

The Electronic Pencil Company have pulled off a very faithful conversion of the 64 game. Gameplay is a touch below the lofty standard of the original partly due to the slightly wobbly scrolling. Less significant restrictions on sprite size has meant that sliding tackles and diving goalies are now more prominent on screen. Most of the music has been beefed up with samples, though some of the effects could be stronger.

In its move from 8 to 16-bit, I had hoped to see a few additions to the gameplay. Fouls, penalties and perhaps even 16-way shooting could have added that bit extra to make it worth the whole £24.95. As it is, it just about holds its own against the 64 version, but in the end, Kick Off gets my vote for its more varied gameplay and lower price. With so little to choose between Microprose Soccer and Kick Off, do give them both a test if at all possible.

T.H.

Graphics: 7
Sound: 6
Playability: 8
Value: 7
Price: £24.95

Will the real Football fanatics/software designers please stand...

Jon Hare, Chris Yates and Martin Galway, collectively known as Sensible Software, were the originators of Microprose Soccer. Under the working title "Sensi Soccer", it began as a simulation of the eleven-a-side game. When the publishing deal with Microprose was set up, it was decided to include an indoor six-a-side version to boost its appeal in the US.



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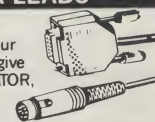
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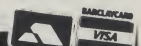


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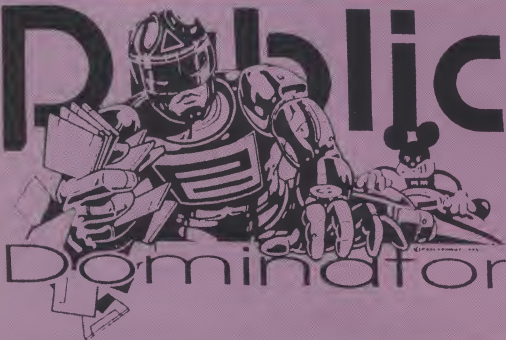
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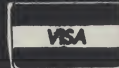
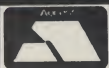
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Random Co-ordinates!

Susan Maxwell looks at a useful technique for random co-ordinate generation

It is very often useful to be able to read a set of data in a 'random' fashion. There are two problems involved.... firstly you need to be sure that every possible data item is accessible, and secondly you need to be sure that each item is selected once and once only.

As far as co-ordinate selection is concerned several techniques are available - but by far the simplest to understand

involves creating a set of (x,y) co-ordinate points and then applying a randomization technique, BASIC'S RND() function for example, to modify the way the co-ordinates are used.

This approach has many graphics applications and is regularly used for mosaic generation, fade-in and fade-out etc. To give you an idea of the type of thing that can be done I have included an example

program which builds a rectangle in a random fashion.

You will see that RND is used to build a couple of one dimensional co-ordinate indexing arrays which are then modified by further use of the RND function. At the end of the day these modified lists of co-ordinates are used to do the actual printing to the screen - it's a concise and efficient trick which is well worth learning!

S.M.

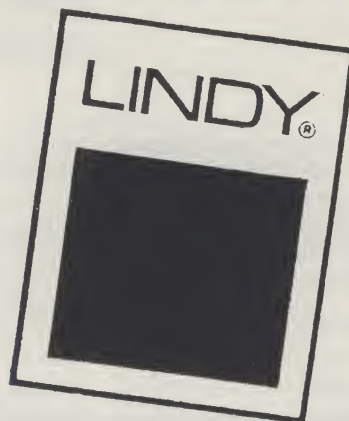
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REM EXAMPLE OF HOW TO RANDOMIZE A SET OF SCREEN CO-ORDINATES
SCREEN 1,640,200,4,2
WINDOW 15,"RANDOM CO-ORDINATE GENERATION",(20,20)-(600,180),1,1
WINDOW OUTPUT 15
DEFINT A-Z : REM USE INTEGERS FOR ALL NUMBER VARIABLES
H=20: W=20: X=50: Y=50 : REM SOME TRIAL VALUES
DIM YOFFSET(H),XOFFSET(W)
FOR N=0 TO H-1:YOFFSET(N)=N:NEXT N : REM INITIALIZE THE Y OFFSET ARRAY

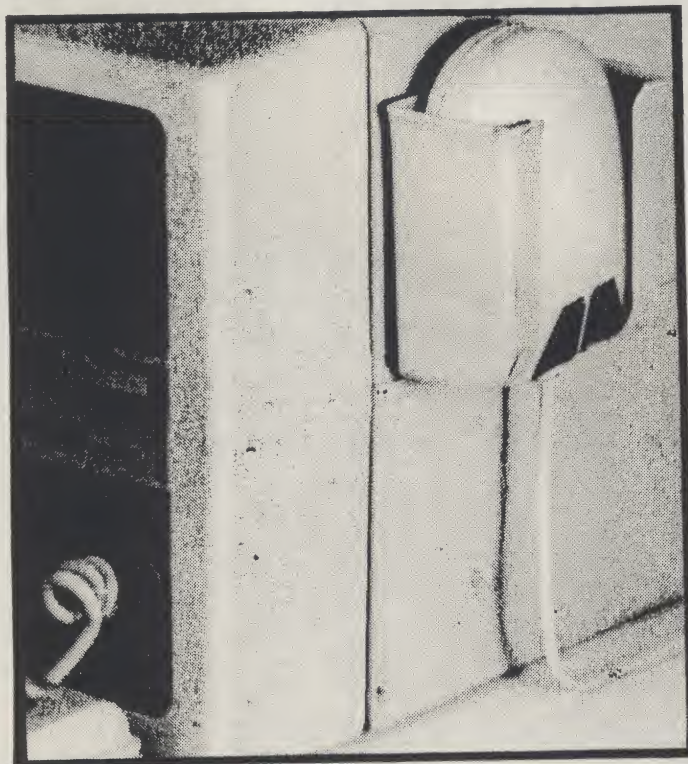
FOR N=0 TO H-1 : REM NOW RANDOMIZE IT
  R=INT(RND*H)
  SWAP YOFFSET(N),YOFFSET(R)
NEXT N
FOR N=0 TO W-1
  XOFFSET(N)=INT(RND*W) : REM RANDOMIZE THE X OFFSET
NEXT N
COLOR 10,0
REM NOW ALL WE DO IS USE THE MIXED UP CO-ORDINATES FOR PRINTING
FOR M=0 TO H-1
  FOR N=0 TO W-1
    I=X+N
    J=Y+((YOFFSET(M)+XOFFSET(N)) MOD H)
    PSET(I,J) : REM PRINT THE PIXEL
  NEXT N
NEXT M
X$=INPUT$(1) 'wait for a key-press
REM NOW CLOSE DOWN AND QUIT !
WINDOW CLOSE 15
SCREEN CLOSE 1
END
    
```

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2. Mickey Mouse recently celebrated a landmark in his life. Was it:
 - a. his 35th birthday?
 - b. his 50th birthday?
 - c. his 75th birthday?
3. To which family of animals does the mouse belong?
4. Where does a mouse appear in this month's issue?
5. The wrist-top Amiga is pretty small even by today's standards. Name the fantastic film which inspired Steven Spielberg's venture into miniaturisation, Inner Space.

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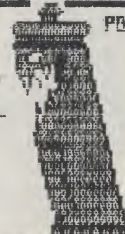
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Reflections on Mirrorsoft

Mirrorsoft did not get its name by accident. It was formed some six years ago and became a part of the Mirror Group, which owned, among other publications, the *Daily Mirror*. Robert Maxwell, the communications millionaire later stepped in and bought the whole group which included Mirrorsoft.

Mirrorsoft also acquired the rights for another educationally-influenced product or series of products: The *Mister Men* from the highly-popular children's books. Once again they won friends but not too much in the way of profits.

When Mirrorsoft moved into games, its best sellers were also out of the shoot 'em up style that was taking the big money for other publishers. They had good results with flight simulator-style products like *Spitfire 40* and probably the biggest hit for them, *Strike Force Harrier*, both interestingly not created in this country

but written in Hungary.

They began to move toward the bigger time when they got the licence for *Biggles*. But the film was not a real box office draw and in spite of Mirrorsoft's efforts, the results left them without substantial chart success.

The software house had been formed with the concept, fashionable at the time when Clive Sinclair was selling computers to parents with the idea they would help their computerised kids progress at school faster than computerless ones, that educational software could be a profitable business.

Things did not quite work out like that. Most companies who thought that "EdiSoft" was going to bring in big money have disappeared. Not even the coming of computers to the schools could make it really worthwhile. So Mirrorsoft began to move away and stretch the idea. It brought out a semi-educational product called "Games Creator" which won critical

applause, and an award from *Commodore Computing International Magazine*. It was written by a couple of precocious very teenage boys who went on to found their own successful software company You may have heard of them. They are called the Darlings of Codemaster fame.

In the eight bit world, Mirrorsoft was not a bankable name. Then out of nowhere came a title from *Mindscape*, a publisher in the educational market in the U.S. but little-known on this side of the Atlantic. It was on the Amiga, a computer that all the pundits were discounting as another Commodore no-no to follow the Plus/4 and the C16. Perhaps, as there were so few Amigas about, Mirrorsoft thought they should educate the public about it. Whatever the reason, they launched the first major successful game for the Amiga. And with *Mindscape's Defender of the Crown* took their first steps toward the 16 Bit universe which would see a very different Mirrorsoft indeed...

"Look at *Defender of the Crown*," says Peter Bilotta, Mirrorsoft's Managing Director, "You wouldn't think much of it now..."

Yet three years ago, it had a tremendous impact. In the words of the then Commodore boss, "It sold more Amiga's than anything else had done!" And with that one game, Mirrorsoft grabbed itself a start in the race for leadership of the European 16 Bit field that it has built upon even more strongly in recent months.

However, as Peter Bilotta would admit, before "D of the C", you probably could not have picked on a more unlikely candidate for champion of a technological leap forward. Mirrorsoft was just not a name to mention in connection with computer entertainment that had much credibility.

It is not too painful for Peter Bilotta to look back on Mirrorsoft's unexciting past. He was not involved. He only joined the

company some eighteen months ago from a rather more glamorous computer games house - Activision UK, of which he still speaks with fierce loyalty.

"It was the Jewel in the Crown," he claims, referring to the enduring financial problems of Mediagenic, Activision's U.S. parent company. "We never lost money!" He insists.

He should know, for his responsibilities there were mainly financial. He had little to do with the actual creation and production of games. He worked for nearly five years under the direction of two of the leisure industry's most well-known names: Geoff Heath, since then ex-Melbourne House, ex-Mastertronic and now, coincidentally, running *Mindscape U.K.* and Rod Cousens.

Bilotta says he learned considerably from both and when first approached to take up a similar financial management role at Mirrorsoft "They were bottom of my list..." He was

tempted though to leave Activision by the offer of the Managing Directorship, with the previous MD, Jim Mackonackie, moving up to Chairman.

Nevertheless, to become the boss of a company that bore Mirrorsoft's "dullsville" image was not a task that everyone would have relished. But he knew that the plans of the popular Mackonackie were to take Mirrorsoft primarily into the 16 Bit field and with that in mind took control in the Autumn of 1987.

Longer Development

For any games company, there is now a long gap between the planning of a product and its completion and sale - and collecting the profits games can bring. In the old 8 Bit days, games could be knocked together in three or four months - budgets in only a couple of weeks. Then the whole range C64, Spectrum etc would be launched out onto the market all

at once. Today, the development takes much longer - and maybe done on only one machine at a time, to make sure that it all goes right.

Even when a new boss takes over he has still to generate sufficient cash while he is changing the company to the way he sees it. He has to continue the games already in production. Peter Bilotta went on with the games then in progress, *Foxx Strikes Back*, *Fernandes Must Die* and *Bombuzal* while setting out to get into work much bigger and better production.

He was little lucky that the first game that came out under his rule was also something that could be easily-publicised: *Tetris*, which had been created in Russia and attracted a great deal of attention from the communications media outside the computer field.

He says of Foxx, Fernandes and Bombuzal, "They were a start... and Bombuzal got very good reviews." Though he

admits that its sales did not match the critical acclaim from the magazines.

Making the Image Work

Peter Bilotta also set about creating a different public perception of Mirrorsoft with a new label. Image Works was no doubt intended to give old lady Mirrorsoft a facelift with the somewhat obvious hope that the new image would work wonders. It was to be a label well away from the staid and worthy educational past. The games were to be lively, action-packed, U.K. -based creations.

The label was introduced to the European press with, for Mirrorsoft, unaccustomed pizzazz with a video reception at a luxury hotel in London's West End, which gained it substantial and unusually favourable publicity.

The videoed pizzazz was topped recently when Mirrorsoft's PR mastermind (mistress-mind?) the highly-effective and delectable Cathy Campos rounded up the computer journalists from right across Europe for a jamboree in Amsterdam that had the Mirrorsoft name emblazoned across publications from Finland to Spain. The Amsterdam affair gave Mirrorsoft the chance to show its own upcoming games and also those of the companies it represents in Europe.

These companies and their games are a fundamental part of the overall Mirrorsoft success story. Defender of the Crown was the first of the 16 bits that Mirrorsoft had released. It came out under the Mirrorsoft/Mindscape identity but it was actually created by Cinemaware, run by Bob ("I'm a friend of Andy Moss") Jacobs. Cinemaware now have a direct connection with Mirrorsoft. This has been strengthened by the success of such blockbusters as Rocket Ranger, TV Sports Football - both of which went to Number One in the Charts - and now The Lords of the Rising Sun.

"Watch out for 'It Came From The Desert'," advises Peter Bilotta, "and what they are working on now is just amazing!"

FTL - the U.S. company, not the short-lived UK games house - is another Mirrorsoft associate that also goes for the high quality "entertainment experience", as its MD describes



Mirrorsoft's games today. Known mainly for the role-playing Dungeon Master, their dedication to 'super' games has meant very few being released. But Peter Bilotta's eyes widen as he recounts how FTL are now creating "the engine" - the technical programming tools to allow them to maintain their exceptional standard yet produce substantially more games each year.

Mirrorsoft disappointed many potential Dungeon Master buyers by only putting out a 1 Meg version. "We were accused of being lazy by some people." He says with some amusement. "But it was FTL's dedication to quality... We were told that people upgraded their machines to 1 Meg to play it... We thought we'd sell about 2500 but we sold 15,000 and it's still selling!"

FTL have decided to release "an add-on" to Dungeon Master called "Chaos Strikes Back" which should reach your screen in early Fall.

14 Man Years

Another 16 Bit success story for Mirrorsoft was Falcon. Spectrum Holobyte, the creators of the flight simulator with a very strong games element, is the closest of Mirrorsoft's associates. They are also directly owned by the worldwide Robert Maxwell communications organisation.

Falcon, Peter Bilotta claims,

took 14 man years to write and sold 100,000 in Europe alone. It too, he says, is still finding buyers. Some of those Falcons sold for up to £45 on the PC/EGA standard.

"The PC market is growing fast in percentage terms." He comments. "It needs good quality software and longevity for the user. Games like that can have a shelf life of one or even two years."

These longer selling periods than the "6 weeks in and out" of the 8 Bit games accords with Peter Bilotta's view that "the industry is slowing down." And that "the breadth of the Mirrorsoft audience stretches from ten years old to forty years old."

Hypercritical

How has Mirrorsoft got itself into the leadership of the 16 Bit field? While there has been a substantial change of staff with most of the previous senior executives departing, voluntarily or involuntarily, the present MD points first to his predecessor, Jim Mackonackie.

"Jim focussed on 16 Bits. He's our eyes and ears of the future. I put it into practice... Yes, we do have some 8 Bit stuff. Blasteroids did well and we have "Passing Shot" an excellent tennis game coming. But the majority of our revenue comes from 16 Bit... You can do more.. It's really down to the memory. You've got to make

something special..."

Mirrorsoft attempts to make "something special" by taking a very hard view of games under development, especially under the Image Works label.

"Our development costs are enormous and getting bigger... Every time we are moving more and more into the possibilities... Our people are hypercritical. Our product is at the high end and we want that to go on. My main concern is that we give value for money."

He is somewhat scornful of those in the industry who think that good quality software can be made without spending sufficient or sold at cut rate. "Some companies are trying to buy their way into the market with cheap prices..." He believes that European and U.S. markets will not take that. "A major publisher cannot make money in the U.K. alone. We have to be able to pay proper royalties and exploit the product."

Nonetheless, he admits that there are dangers. "The bigger the business, the bigger the cock-ups! But the bigger the risks, the bigger the opportunities - the parameters are wider."

On the question of the software houses with whom Mirrorsoft competes, he is generous. "The competition is good competition... Ocean and Activision are experts... I'm just a new boy. We have to work real hard to match or better what we've got now but our quality control is quite strenuous. If games are not good enough, we put them back and back until they are and then we make them bigger and better..." Software companies are worried by the issue of the growth of the games consoles. He suggests that "exploitation" of the product could include porting their games over, and that they already have the technology for it. "I would not," he comments, "buy my eight year old son one. He has a 64."

One reason he does not fear the consoles is that he thinks Mirrorsoft, as companies like Cinemaware, is strong in creativity. "We pride ourselves in our original concepts. But it is not only coming up with the original concept but its implementation. Before we sign up a product we line up a script. We have to make it all work... the

Mirrorsoft - "An outstandingly strong range of games"

Across their five labels, Mirrorsoft have some fifteen releases lined up for the near future.

Image Works, the company's "home-based" label, bears the weight of the majority, while PSS, Spectrum Holobyte, Cinemaware and FTL are concentrating on doing their own thing.

DDT

It was assumed, until recently, that use of the Amiga's HAM mode was only possible with static screens. Mandarin Software hailed Pioneer Plague, written by Bill (Mindwalker) Williams, as the first game to use HAM (Hold and Modify) in a game. Now Image Works claim DDT is the first game to use this mode "throughout" a computer game. A few of those 4096 colours have been put to good use on the Dynamic Debugger sprite of the title. This balding rent-o-killer is not yet a fully fledged dynamic debugger. The final stage of his apprenticeship is a mammoth clean up operation through ten worlds. Bags of smooth

scrolling platform-pranks lie along the way as you wipe out all kinds of vermin with a range of devices. It looks as if the temptation to over-do the colour scheme was a little too much for the programmers to resist, but DDT is a stunning technical achievement all the same, and a jolly little game into the bargain.

Interphase

Although a brief glance would give the impression that Interphase is a Starglider II clone, the game is actually one of the most original pieces likely to appear this year. In Interphase's future world, dream tracks have taken over from today's methods of escapism enter-

tainment. These are situations and fantasies which can actually be experienced by anyone plugged into their dream track player. The Corporation has realised the influential capabilities of these dream tracks, and has begun inserting disguised propaganda into them. The head dreamer at The Corporation has cottoned on; his last recorded dream was encoded with an underlying message which could lure the people into slavery. He plans to steal the dream track from The Corporation's HQ with the help of a friend. While she will infiltrate the heavily guarded building, he will attempt to fool the security computer into ignoring her presence.

In the game you have the job of switching out the various computer-controlled security mechanisms. In a kind of "living" hacking expedition, you enter the mainframe, manipulating its insides. Virus killers and other access-security checks are your enemies as you glide around the stunningly smooth and speedy 3D environment, given a further degree of realism by clever lighting effects. Blueprints of the multi-storey building's floors allow you to guide your assistant through the corridors and offices. Interphase, a brilliant all-rounder by the looks of things, especially for those who like their games big.



It Came From The Desert

Xenon II - Megablast

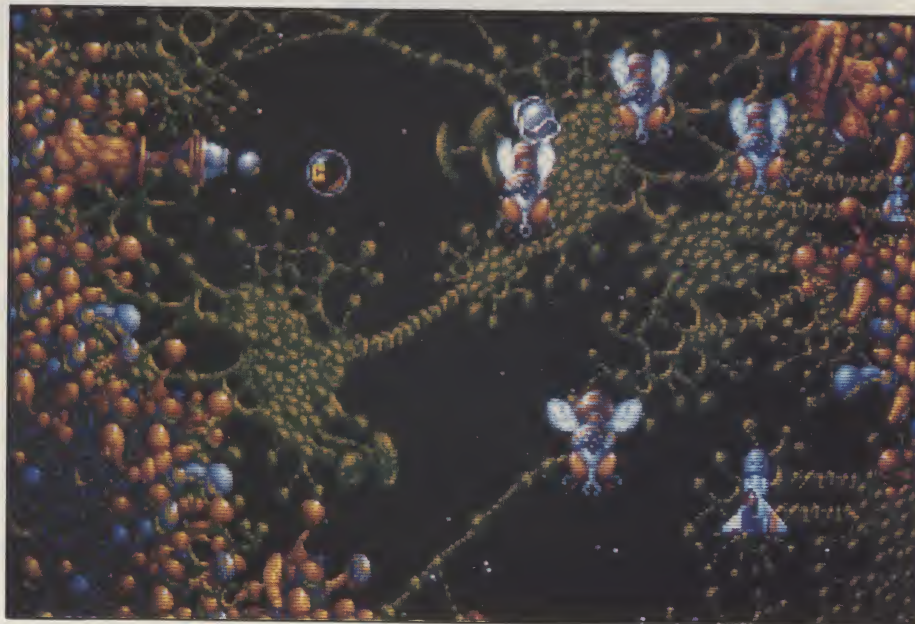
Xenon and Speedball, two very different games from those hyper-hyped Bitmap Brothers, are about to be followed-up by Xenon II - Megablast. A four level shoot 'em up is generally regarded as too small today, so Xenon II will have six. As before, the game follows the vertically scrolling alien-filled route, with weapon upgrades rewarding zippy zappers. Together with the extra couple of levels, the game gives you two full planes of overlaid parallax scrolling, with a third in the form of a starfield. Some superb graphical details and a soundtrack by Bomb The Bass are to be included to entice you further still.

Bloodwych

Although Mirrorsoft are not keen to push it as such, Bloodwych is a simultaneous two player version of Dungeon Master. The split screen gives first person perspectives for both players as they role-play their way around an underground city. All the usual features will be included, with plenty of characters to meet, pages of spells to cast, and stats galore. Ever fancied playing Gauntlet in 3D? This could be just the ticket.

It Came From The Desert

After the slightly disappointing Lords of the Rising Sun, Cinemaware's next computer-movie takes us back to the so-called horror movies of the fifties. Soon after a meteor lands in the desert outside a sleepy Arizona town, strange things start to happen. Of course, no-one believes the crumbly prospector when he warns the townsfolk of "giant insects in them thar hills!". Soon enough, they find out the truth for themselves as the overgrown ants hit town. You, the curious young scientist, are determined to get to the bottom of it and send those bugs packing. Cinemaware's expert artists, musicians and programmers mean all the visual and sonic



appeal of interactive movies gone-by will be there, plus the welcome return of the subtle humour last found in Rocket Ranger.

Still More?

On the Image Works label, Palladin, Lord of the Dancing Blades, makes extensive use of silhouetted graphics to enhance the game's spooky atmosphere. Over a framework similar to the early Gargoyle games Tir Na Nog and Marsport, all the foreground graphics scroll perfectly smoothly across a misty skyscape. Incredibly detailed graphics presented in a unique style make this one to keep an eye out for.

Rainbird's UMS was highly praised for finally upgrading the visually unadventurous format of computer wargaming. Compared to Waterloo from PSS, UMS looks stale. Waterloo recreates the great battle in the most realistic 3D graphics ever seen in a war game. The battlefield can be viewed from any angle, and for a change,

the display is actually believable!

A whole new scenario will soon be available for pilots of Spectrum Holobyte's Falcon. The first mission disk not only extends the game's lengthy list of sorties, but creates an entire new battle in another part of the world.

Also from Spectrum Holobyte, Vette (as in Corvette) will bring the advanced techniques of solid vectors as seen in Falcon, across to the driving simulation. Vette will take you for a hard drive around the streets of San Francisco, with a choice of helicopter, front and side views. Do not expect to find it on the shelves this weekend; a winter release date has been set. But it will probably be worth waiting for...

Allied to the labels with which it is associated, Mirrorsoft will over the coming months present an outstandingly strong range of games that is likely to give it a string of tremendously popular 16-bit hits.

T.H.

sound, the graphics, the editing. They are like mini-movies! The design takes a long time but we don't know if it really works until the end... I always look for special effects. The finishing touches...

We give products "The Spanish Inquisition"... We have people like Tom Watson and Sean Brennan who have worked together before. I really enjoy working with people who know what they are doing..."

One question that is obvious to ask is whether being part of the Maxwell communications mega-empire makes things easy. Robert Maxwell just bought a U.S. publishing company for some 3 Billion dollars -

about £2 billion. So there is plenty of cash around in the organisation.

But Peter Bilotta maintains he has to run a business that is "substantially self-financing. I don't go back to Mr Maxwell every five minutes for money..." He also carries on independently, he says, of Microdealer, one of Europe's largest entertainment software distribution companies which is also owned by Maxwell.

He claims, somewhat ruefully, that Mirrorsoft is the only Maxwell company that does not have a five year plan. "Because with future technology, the parameters are always changing. Whatever happens it is going to

be something that is completely interactive... a complete entertainment system in the home. The technology is already there... We have to follow the changes and exploit them... We have to be fluid enough to move with it."

The Fastest Growing Industry

Big changes have come in the last eighteen months for the Maxwell company. Mirrorsoft has become, in its MD's words, "One of the most successful software companies in Europe". With awards beginning to flow in for its games, its achievements have already made it regarded by many in the industry and-

perhaps more important to Peter Bilotta - by the games buyers, as a strong contender for the software house of the year by virtue of the sheer quality of its products.

With the huge resources of the Maxwell Group to back it and an ambitious MD - "I'd like to be responsible for more than just a software house... We are in the biggest, fastest growing industry in the world - entertainment." Mirrorsoft stands a better chance than most of keeping ahead of the field in the fastest growing sector of this industry, 16 Bit games. One thing is for sure. The glamorous new Mirrorsoft has come a long way from the Mister Men...

U.K. GAMES CHART

Game	Company	Last Month	Price
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2. Forgotten Worlds	U.S.Gold	(-)	£19.95
3. Blood Money	Psygnosis	(2)	£24.95
4. Kick Off	Anco	(-)	£19.99
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THE MAGIC ROBOT

Nigel Streeter puts a new educational software package to the test

As the popularity of the Amiga continues to grow, and the discounts offered to educational establishments become more attractive, software companies are, at last, starting to produce "Educational Programs". The past few months have seen the release of a number of titles, such as Robot Readers and Fun School 2, aimed at helping children learn in an enjoyable, fun environment.

Celos Software is a Company of which I've not heard of before. They have just released a program called "The Magic Robot", designed to test and improve a child's mathematical ability.

OFF". This utilises the Amiga robot voice to tell you how you are doing. All the options are chosen by clicking on the relevant box, which will turn from yellow to red to indicate that it has been selected. When the load has finished, you are presented with the first sum to be answered and the timer is running!

Go!

The screen is divided into three main areas. The top left quadrant displays the timer and the number of points gained by player and computer, (a point is awarded to the player for every correct answer

tions marks will be displayed but only one will be pink, this shows the digit currently being entered. The current digit is changed by clicking on the relevant question mark.

Entering numbers and true or false is done in the bottom half of the screen. A panel marked 1 - 9, T, F and ENTER is used to select the required digit, or true/false, to form your answer, then clicking on ENTER will confirm your choice. If you chose the SPEECH ON option, the computer will speak your selections and tell you whether you are right or wrong.

For every five correct answers, bonus points are awarded, according to the difficulty level and speed of answering. These points are added to your total score and the highest score is recorded.

Conclusion

At the simplest level, the maths involved are probably suitable for very young children, being of the "1+1=2" variety. At the highest and fastest level you have really got to have your wits about you to beat the computer! My children are seven and eight and are both quite bright when it comes to maths, so I let them be the ultimate judges of The Magic Robot. My youngest, who is more interested in roller skating, did not keep at it for long, preferring to be out playing with her friends. The elder, being more studious than active, played with the program for about ten minutes before remarking that "it doesn't do much" and promptly disappeared after her sister!!

My conclusion is that while the screen is very colourful and the layout quite nice, the novelty of the voice soon wears off and there is not enough left to hold a child's attention for very long. Children seem to be a lot more sophisticated these days and unless their actions make something "happen", the interest level soon drops to almost boredom. In my opinion, Celos Software have lost sight of exactly who would be using The Magic Robot and have not made it interesting enough for children, to maintain their concentration and keep their attention. For what it puports to do, that is teach maths, the program works fine. But you may just have to 'bribe' your child (with a gift of the latest copy of AUI perhaps?) to stay with it.

Price: £9.99. Contact: Celos Software, Valletta, 25 Quassy Road, Ryde, Isle of Wight, PO33 2tz. Tel:(0983) 68866.



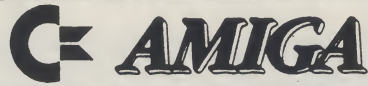
As the program loads, the first screen to appear has been "put together" using one of the many "Demo Creators" that are available on public domain. The result is a "scrolly message with music in the background-type" screen that really looks rather cheap and cheerful.

An option screen allows you to choose which of the maths functions will be used, the difficulty level and the speed of the answer timer. The program lets you choose addition, subtraction and multiplication, or a combination of the three. Division is catered for as part of the multiplication questions. The speed varies from several seconds, to less time than it took you to read this sentence.

A final option selects "Speech ON/

given but goes to the computer for an incorrect one). The top right of the screen is where the sums are displayed, along with your current score. There are three different types of sum involved; normal, missing number and true or false. With normal sums, you will be given two numbers, one above the other, and you have to work out the answer. Missing number will give you the top number and the answer, you must enter the other. If multiplication has been selected, this will require the use of division to ascertain the correct answer. The third type simply requires you to decide whether the given sum is true or false.

In all of the sums, any missing number is indicated by a pink question mark. If the number is more than one digit, two ques-



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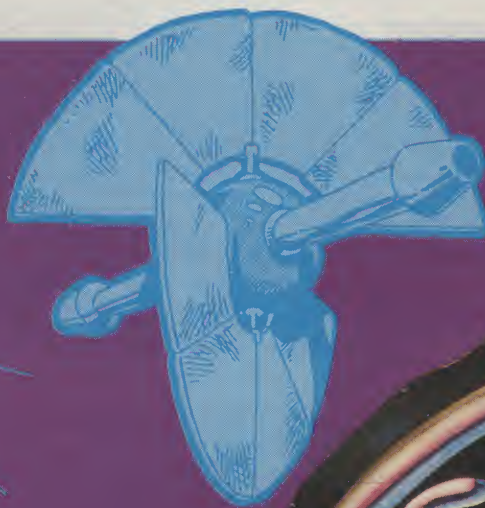
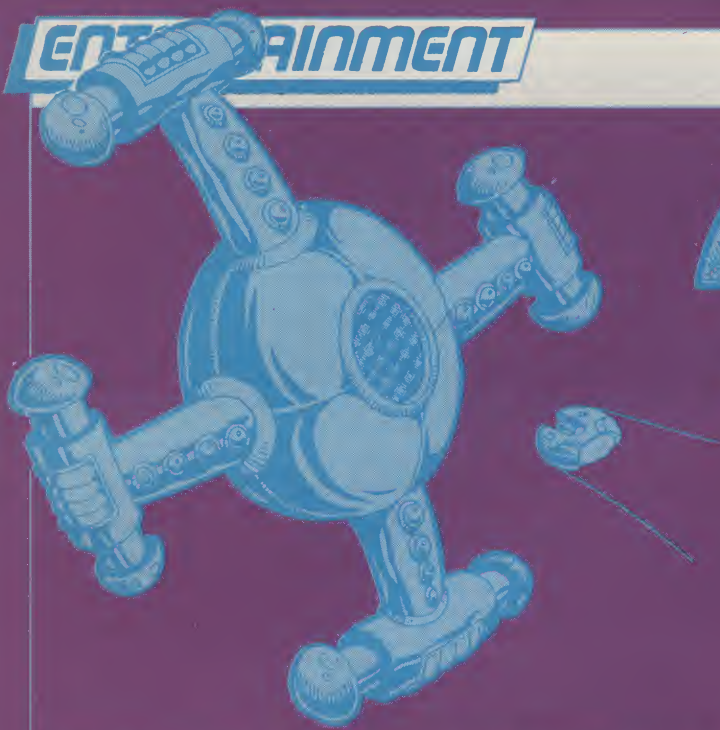
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Sentenced to death for a crime he would rather pretend he did not commit, Guy Manly decided to take his chances out in the bandit-filled expanses of the universe. There was no choice really; it was that or let the authorities terminate him, so in typical Manly style he made good his escape in a nippy little spaceship into which he just happened to break his way.

Now Manly had always fancied himself as a pirate of the spaceways, but getting into this dodgy line of business is not that simple. All piracy is controlled by a vast criminal organisation known as The Council. The Council offer training facilities, information on the whereabouts of your targets (the spacetrucks) and a home base called Nest 51. Anyone attempting to go it alone is swiftly dealt with by The Council.

Before newcomers are allowed out on missions, they have to prove themselves on the simulators. There are seven in all, each simulating a different part of a mission. Combat One, Two and Three come free of charge and simulate various kinds of alien attacks. Unlike the real world, simulator graphics are drawn in fast moving psuedo-vectors against a grid backdrop. The space simulator follows similar lines but includes hyperspace beacons and most of



the features found in the proper game. The spacetruck and planet simulators further your experience; while the remaining game, Disateroids (an Asteroids clone), seems to have no relevance to the missions but still boosts your piracy statistics.

When you finally get a crack at a mission, you will find it consists of a number of sections. After the hyperspace jump from The Nest to your chosen galaxy, your first job is to find the beacon, from which you can jump to an adjacent sector of the galaxy. Access to the beacon is restricted by a toll of variable size. To pay the toll you need to amass an equal amount of points from shooting the ever-present aliens, scooping up bonus tokens from des-



troyed ships. Once you score enough to pay the toll, you can pass through the beacon and onto the galaxy map.

Colour coded squares on the map's grid indicate the level of alien activity and the corresponding tolls. A fish icon is placed in the sector that contains the spacetruck. If you feel greedy you could go out of



your way to visit a planet. These are usually in the unfortunate position of being ruled by some evil dictator, and will pay enormous sums to anyone who succeeds in freeing them.

After a long search you should come across the spacetruck. Rather than plunder the craft there and then, the best plan is to blow up all of its moving parts, before docking at the front of the disabled truck. Early missions send you out to pick up fairly small trucks, about half the size of the screen. With a bit of experience you will soon find yourself zapping away at spacetrucks four times the size of the screen and larger still! Docking with a truck puts you under control as you tow it back at high speed to The Nest,

Cosmic Pirate's programmers Zippo Games have thought the whole thing out very thoroughly. Having a scenario so strongly tied to the game is unusual for a shoot 'em up, but it gives your cause some kind of meaning. The progressive difficulty and size of the spacetrucks is well graded, and the continuing log book on the disk averts the situation of having to start from square one each time you load.

zapping aliens all the way.

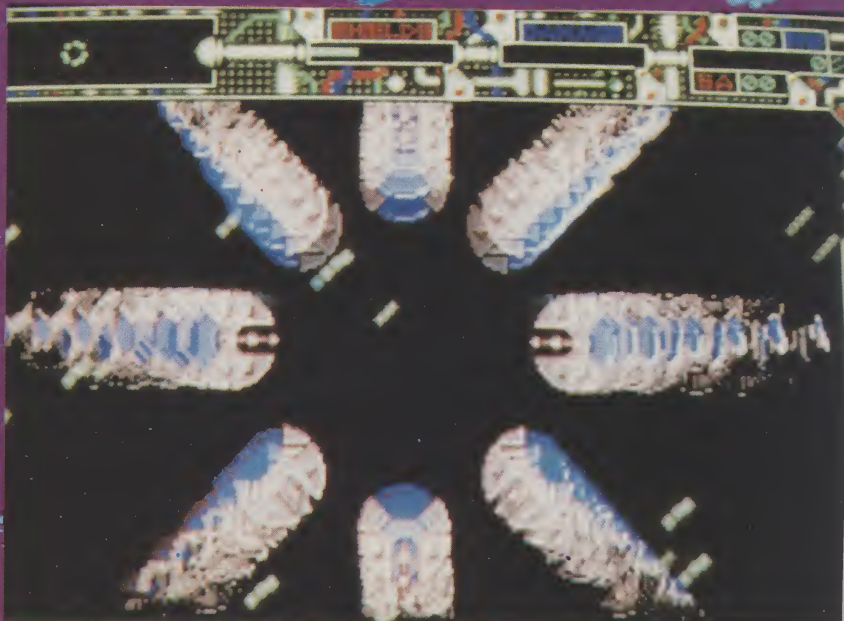
Back at base, The Council take their cut of the profits (ranging from 90-98%) and your piracy statistics are updated, qualifying you for more difficult missions. With the money earned from the previous missions, you can choose to upgrade your ships weapons, engines and shields. A breakdown of your time at Nest 51 is available, revealing the number of kills made so far, missions completed, missions failed, and most importantly your piracy rating. Each time you return to The Nest your record is updated on the disk, so the game can be played not just as an occasional shoot 'em up, but as an ongoing saga.

The game is full of clever graphics tricks, such as the glowing green vectors of the simulators, parallax scrolling, hyperspace and explosion effects, the options screen and the intro. On top of that, everything is perfectly smooth. David Whittaker's music sounds like so many of his past pieces, but the diversity of the sound effects makes up for it.

While success hinges entirely on the player's zapping skills, the game's structure will appeal more to those looking for a longer lasting blaster. That, along with the game's sense of humour and superb graphics make it the best original shoot 'em up available for the Amiga.

T.H.

Graphics: 9
Sound: 8
Playability: 8
Value: 8
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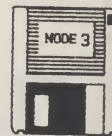
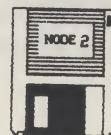
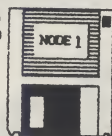
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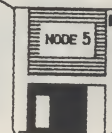
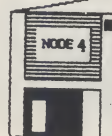
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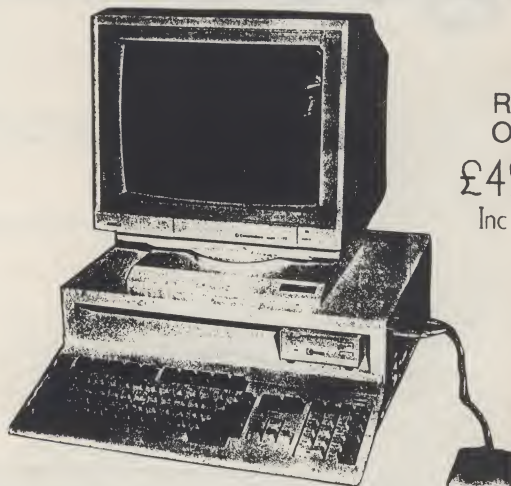
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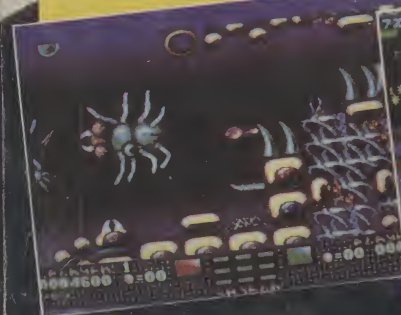
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