

# AMIGA

ISSUE 8 / MARCH 1990 / £2.95

**FORMAT**

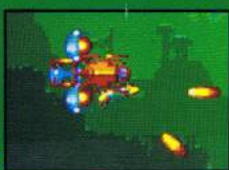
## *Fast Forward Into Video*

*Take part  
in the next  
Amiga  
revolution*

COVERDISK

8

### X-OUT



THE PLAYABLE DEMO OF  
RAINBOW ART'S MANIC SHOOT-EM-UP

NO AMIGA COVERDISK?  
DEMAND ONE FROM YOUR NEWSAGENT NOW!

**UNMISSABLE GAMES REVIEWS**

PLUS REVIEWS OF PAGESETTER 2, CROSSDOS, ULTRACARD,  
MASTER SOUND, GFA BASIC COMPILER, HISOFT EXTEND



# TAKE THE LAW OWN

## THE FASTEST, MOST THRILLING 3D DRIVING GAME YET!

VOTED  
ARCADE GAME  
OF THE  
YEAR

Take the wheel of your turbo-charged Porsche as you and your partner go in pursuit of dangerous criminals all driving an evil array of souped-up roadsters.

TITO

### TURBO BOOST!

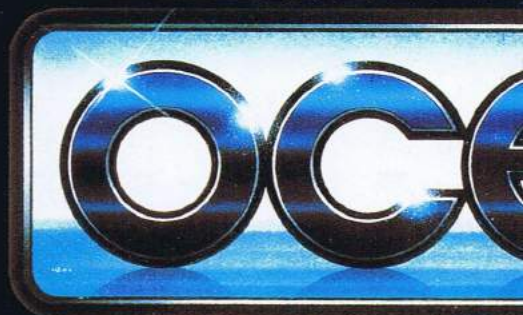
Need to catch up in a hurry? Well, just one press of your Turbo Button will leave your eyes in the back of your head!

**BARRELLING THROUGH  
THE CITY STREETS**, along the roughest of dirt tracks and through busy tunnels – if you can hold the line! The low life can run, but they can't hide ...

## WITH THE MATCHLESS VIGILANTES



ALL AVAILABLE FOR ATARI ST · AMIGA



Ocean Software Limited · 6 Cer  
Telephone: 061 832 6633 · Telex: 66

# NOW INTO YOUR HANDS



## SIX INSPIRED

action sequences put you in control of Elliot Ness's elite squad of crime-busters.

### ALLEYWAY SHOOTOUTS, THE BORDER RAID,

The Railway Station confrontation and Warehouse bust culminating in the thrilling denouement of a

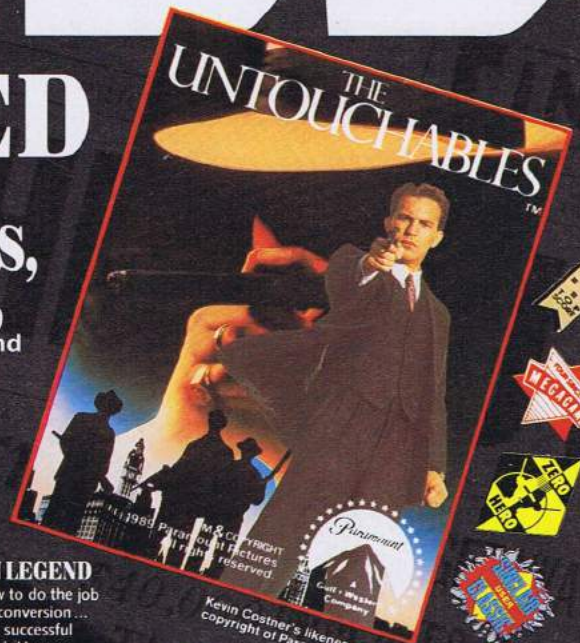
### ROOFTOP DUEL

as you re-live the knife edge existence of Ness in his struggle against the retribution of Capone!

**THE UNTOUCHABLES - LIVE AN AMERICAN LEGEND**

"an absolute corker of a game... as smooth and polished as you can get, animation is top notch... a brilliant film conversion" Games Machine

"a fine example of how to do the job properly... a cracking conversion... easily one of the most successful licences to date" Sinclair User



Kevin Costner's likeness is the copyright of Paramount Pictures

### BLOCKBUSTER FOLLOW-UP TO LAST CHRISTMAS'S No. 1 HIT... OPERATION WOLF...

NOW WITH TWICE THE ACTION, TWICE THE FUN, TWICE THE CHALLENGE

### ROY ADAM IS BACK!

The Hi-jack report came from a DC10 leaving Paris for Boston - Arab guerillas were in control of flight 102 and had turned the aircraft towards Africa... The plane lands in hostile territory and the terrorists begin their demands...

### USE THE LASERSIGHT

or the bulletproof vest, but watch out for

### AIR-TO-GROUND MISSILES

Operation Thunderbolt the incredible Taito coin-op conversion brought NOW to your home computer.



TAITO

FROM...



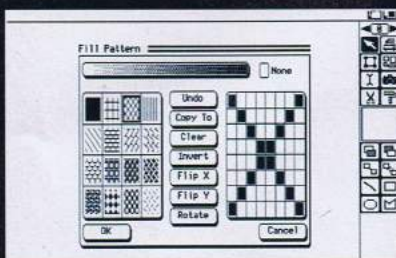
AMSTRAD · COMMODORE · SPECTRUM



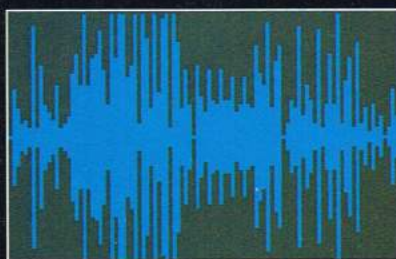
**ART CRITIC** 23



**GAMES PROGRAMMING** 63



**PAGESETTER 2** 83



**MASTER SOUND** 95



**ULTRACARD** 102

**SPECIALS**

**CHANGE YOUR WORLD** .....15  
**GAMES PROGRAMMING WITH DAVE JONES** .....63

**REGULARS**

**NEWS** .....7  
**PREVIEWS**.....12  
**GRAPHICS**.....23

**SCREEN PLAY** .....31  
**PD UPDATE** .....89  
**MUSIC** .....95  
**WORKBENCH** .....121  
**GAME BUSTERS**.....109  
**LETTERS** .....133  
**GURU** .....138

**COMPETITION**

**HOUND OF SHADOW**.....57



**AMIGA FORMAT ISSUE 8 MARCH 1990**

PUBLISHED BY FUTURE PUBLISHING LTD Beauford Court, 30 Monmouth Street, Bath, BA1 2AP. ☎ 0225 442244. FAX us on 0225 446019  
© FUTURE PUBLISHING 1990 No part of this magazine may be reproduced without our permission. But you can hum the listing on Page 67.

**EDITOR** Bob Wade **PRODUCTION EDITOR** Damien Noonan **REVIEWS EDITOR** Andy Smith **STAFF WRITER** Maff Evans **TECHNICAL EDITOR** Jason Holborn **ART EDITOR** Trevor Gilham **DESIGN ASSISTANT** Martin Parfitt **DISK EDITOR** Richard Monteiro **CONTRIBUTING EDITORS** Jon Bates (Music), Brian Larkman (Graphics) **CONTRIBUTORS** Andy Storer, Dave Jones **ADVERTISING MANAGER** Jennie Evans **AD SALES EXECUTIVE** Paul Steer **AD PRODUCTION** Fiona Milne **AD SERVICES** James Leach **PUBLISHER** Greg Ingham. **SUBS/MAIL ORDER** The Old Barn, Somerton, Somerset TA11 7PY Tel: 0458 74011

**PHOTOGRAPHY** Ashton James, Bradford-upon-Avon **COLOUR ORIGINATORS** Swift Graphics Ltd, Southampton **PRINTERS** Chase Web Offset, Gillingham **DISTRIBUTORS** SM Distribution, 6 Leigham Court Road, Streatham, London SW16.

**GAMES**

**FORMAT GOLD**  
**AUSTERLITZ** .....53

**REVIEWED**  
**THE UNTOUCHABLES** .....32  
**SUPER CARS**.....35  
**P-47** .....36  
**PINBALL MAGIC**.....36  
**OUTLANDS**.....36

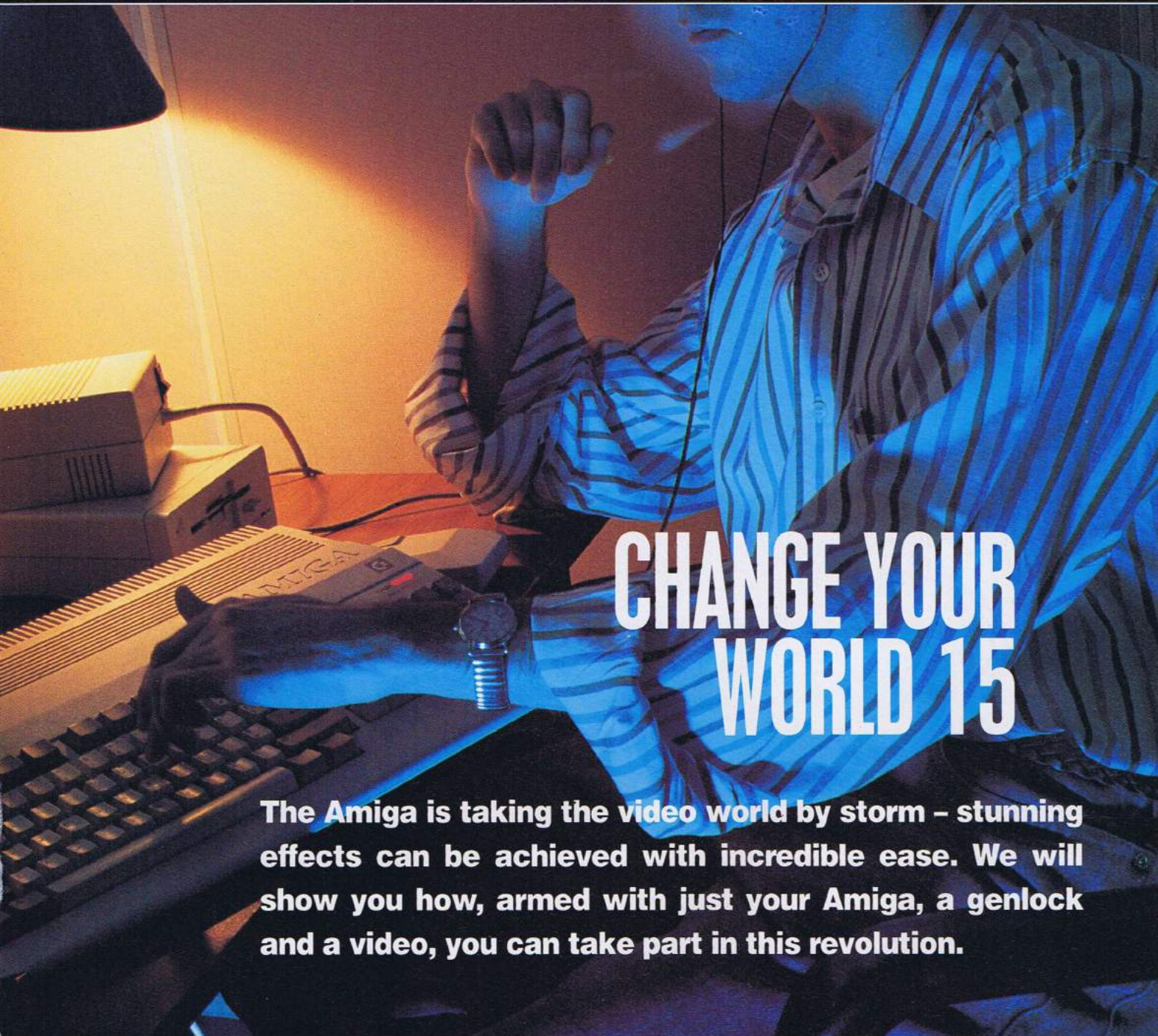
**DISK EXTRA**

# X-OUT

Rainbow Arts get your trigger finger going with a playable demo of a wild and hectic shoot-em-up.

**MENACE CODE** and **DEMO**: First-level scrolling from Dave Jones' hard-hitting series ■ **PICPUZ**: Highly amusing puzzle games ■ **ULTRAPAINT**: Fully-featured paint utility with multiple screen use ■ **XOPER**: Display and control system activity ■ **WB HACKS**: More WB japes!

**73**



## CHANGE YOUR WORLD 15

The Amiga is taking the video world by storm – stunning effects can be achieved with incredible ease. We will show you how, armed with just your Amiga, a genlock and a video, you can take part in this revolution.



In Screen Play: Austerlitz rewrites history.

7 GATES OF JAMBALA .....	38
K D SOCCER MATCH.....	38
SPACE ACE .....	41
SUPER PUFFY'S SAGA .....	42
FULL METAL PLANET .....	46
BAD COMPANY .....	46
5TH GEAR .....	46
SUPER WONDERBOY .....	49
PURSUIT TO EARTH .....	49
DRAKKHEN.....	50

DRAGONS OF FLAME.....	54
-----------------------	----

### REVIEWS

CROSSDOS.....	69
PAGESETTER 2.....	83
MASTER SOUND .....	95
ULTRACARD.....	102
HISOFT EXTEND .....	127
GFA BASIC COMPILER.....	127

# INFESTATION



## INFESTATION

Are you ready for a new level of realism in computer games? Are you prepared for an atmospheric experience you will never forget? Can you cope with super-fast solid 3D vector graphics? Will you venture into the unknown, alone, and armed only with a single pulse rifle? Can you overcome the INFESTATION?

**INFESTATION** takes computer games to a new level of realism. It creates a complete environment stunningly rendered in super-fast solid 3D vector graphics. You are completely free to move within the game world, examining and manipulating objects just as you would in a real world. And, as in reality, you are not alone. Only, unlike those on Earth, the other occupants of Infestation's world are not very friendly at all . . .

Your task as Kal Solar, Agent of the Interplanetary Federation, is to travel to Alpha II, investigate and end the alien threat. Your mission will not be an easy one. As well as the mother alien and its eggs, you will have to deal with hostile droids and computer systems, radioactive areas, and things unknown.

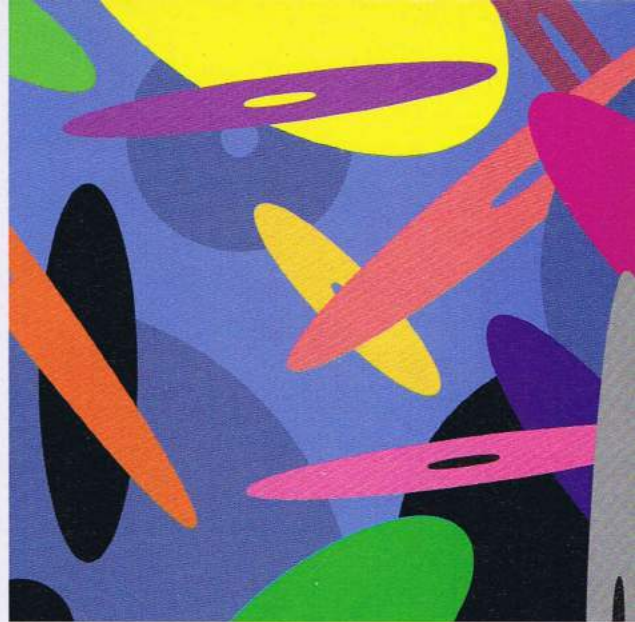
**INFESTATION** is a truly atmospheric experience. Don't play this game when you're alone . . . it may well be your last!

Screen Shots from the Atari ST version AMIGA/ATARI ST £24.95

PSYGNOSIS - GAMES PEOPLE PLAY

PSYGNOSIS  
FREEPOST  
LIVERPOOL L3 3AB  
UNITED KINGDOM  
Tel: 051-709 5755





## XENON TECHNOLOGY GO UNDER

Xenon Technology, the mail-order company run by a 17-year-old youth has gone bust, owing substantial amounts of money. If you ordered goods from Xenon that have not come through then this is what to do.

■ If you sent a cheque after December 24, Xenon says it will not cash it, but due to accountancy problems it will not be sent back. You are advised to contact your bank and cancel the cheque anyway.

■ Postal orders and cash sent after December 24 will be returned. Contact Xenon if you're still waiting.

■ If you sent cash, cheque or postal order before December 24 and you have not received your goods, contact Xenon at the address below. You will probably receive an explanatory letter. Don't be overly hopeful of reimbursement.

■ Do not order anything from Xenon.

■ The address is Xenon Technology, 71 Wadham Road, Northend, Portsmouth PO2 9ED.

Commodore are developing a games console based on the Amiga and using Compact Disk technology. That's the startling news that emerged from the recent Consumer Electronics Show in Las Vegas.

The machine was apparently shown to a select few, all of whom had to sign non-disclosure agreements. However, a spokesman for Commodore in the UK said that such a machine was "not within our immediate plans, but there will be an announcement of radical plans for the Amiga in a few weeks."

The console has been dubbed the Amiga Compact Disk Console - the AC-DC - and apart from its use of CDs other details are sketchy. A console would be a major departure for Commodore, because they have never produced one before - computers like the Vic 20 and C64 have very much been classed as games machines, but a keyboard-less Amiga would be a whole new area for them.

# STUNNING NEWS OF CD-AMIGA CONSOLE

It's also an area where there is intense competition already and more on the way, most of it originating in Japan. The Sega Megadrive, NEC's Super Graphx, Nintendo's Famicom and even the Konix Multi-System would provide stiff opposition in what already looks like a crowded marketplace. The main problem is that a basic Amiga with a CD incorporated would not be a cheap proposition, even with the cost of CD technology falling.

The, as yet, sketchy details and Commodore's denial of any immediate plans, could mean the console will never see the light of day, but even if it doesn't there are significant potential spin-off effects for the Amiga marketplace. For any console to be successful it has to have a good software base at the launch and be well supported with a steady release of titles. If games are being developed on what is basically an Amiga with a CD attached, then by adding a

CD unit to the A500 or 2000 those same games should be easily adaptable to all existing Amigas.

If the CD technology becomes cheap enough and widely available, then the games market may be the starting place but it will have knock-on effects for serious and creative software as well. Interactive video, other forms of multi-media and other areas where large amounts of data need to be supplied, would all be revolutionised by such developments.

Could a CD drive for the Amiga range be Commodore's 'radical plans' for the Amiga, or are they going to spring some other surprise? Whatever is in store it can only do the Amiga market good and take the range further ahead of the competition. We would love to see both the console and the separate CD drive because the former will improve both the quality and quantity of Amiga software, while the latter will open up whole new vistas for more creative software. ■

## AMOS UPDATE

It's almost here, really... we're not joking.... you can expect it in two weeks... er, maybe three.... ok, perhaps a bit longer than that. Yes folks, the program that you've all been waiting for, AMOS, isn't (as such) ready, well, it isn't actually going to be ready until, er, May.

It seems that Mandarin have discovered a torture treatment that even the ancient Chinese would have been proud of - water torture is nothing on this! Not content with making us wait an extra two months from the initial launch date (Mandarin originally promised AMOS for January), Mandarin have postponed the launch of AMOS until at least May. According to Mandarin, the main reason for the

delay is the amount of time it is taking to write the manual. "We could just knock together a manual in a week or so, but we want AMOS to be as near to perfection as is possible" said Chris Payne of Mandarin.

The main workhorse of AMOS, AMOS BASIC, is finished and all that remains to be written is the

Sprite designer and Music editor. According to Mandarin, these modules will take little more than a few weeks to write, and all that remains to be done is to finalise the manual.

Mandarin are completely devoted to making AMOS a success. For starters, all their programmers and beta testers who have been working on STOS (the ST version of AMOS) have been prised away from the STs to produce demos and full games that

will be bundled with AMOS and even distributed within the public domain as soon as AMOS is complete. "As soon as people buy AMOS, they will instantly have access to a range of demo programs that we will be placing in the public domain". To back this up, Mandarin hope to produce several books devoted to AMOS.

Also planned from Mandarin are AMOS versions of their STOS add-ons, Sprites 600 and Games Galore. Although Mandarin have no plans to produce an AMOS version of their STOS sound sampler, *Maestro*, they are considering rebadging an existing sampler and then rewriting the sampling software using STOS. Already plans are afoot to produce an AMOS version of Rombo's Amiga video digitiser, *Vidi*, which will be called (not surprisingly) AMOS *Vidi*. ■



AMOS, the game programming utility, has been delayed again



# MERLIN

**BATMAN AND MERLIN...A DYNAMIC DUO**

**ZAP!, KAPOW!, ZOWEE!, KARUNCH, SMAK!,...**

That's right, straight from Gotham City (or the Commodore warehouse) comes the incredible, the **AMAZING, NEW AMIGA BATMAN PACK...**

Now you can laugh as much as Joker and cash in with some **GREAT QUALITY GAMES.**

The Batman Pack includes **ALL OF THE FOLLOWING...**

Amiga A500 with Modulator  
1 Meg Internal Disk Drive  
Mouse  
512K RAM  
Kickstart 1.3  
All Connecting Leads  
Two Operation Manuals  
Workbench 1.3 System Disk

**A REAL 'BAT-BARGAIN' AT ONLY...**

# £369

Inclusive of VAT and Postage!

**PLUS...**  
**BATMAN THE MOVIE**  
**F 18 INTERCEPTOR**  
**NEW ZEALAND STORY**  
**DELUXE PAINT II**

**A PACK TO KEEP YOU SPELLBOUND THIS CHRISTMAS!**

## THE SORCEROR'S PACK

If you don't think you've got enough to keep you going with the Batman Pack, consider this **EXTRA SPECIAL PACK...**

Let Merlin wave his wand and as well as the Batman Pack above you'll get Ten Great Games worth a staggering £229.50!

The Sorcerer's Pack consists of...

The Batman Pack as listed above, Amegas, Art of Chess, Barbarian the Ultimate Warrior, Buggy Boy, Ikari Warriors, Insanity Fight, Wizball, Thundercats, Mercenary Compendium and Terrorpods!

**ALL OF THIS FOR JUST... £389**

## JUST A SELECTION OF SOME OTHER WIZARD DEALS!

### PRINTERS

STAR LC10 Mono.....£169  
STAR LC10 Colour.....£209  
STAR LC 24 10.....£249  
NEW STAR LC10 MKII..£189

### MONITORS

PHILIPS CM 8833..CALL FOR  
CBM 1084.....PRICES!!  
CBM 1084S.....£259

(Due to availability of monitors, prices may vary. Please phone for latest information)

### DISK DRIVES

A 590 20Mb Hard Disk.....£379  
VORTEX 40Mb Hard Disk...£499  
CUMANA...  
CAX354, 3.5" Floppy.....£89  
CAX 1000 5.25" Floppy.....£125

### ACCESSORIES

A501 RAMPACK.....£139  
A host of accessories are available from Merlin Express at competitive prices. Just phone to obtain a quote for whatever you need.

**ALL OUR PRICES INCLUDE V.A.T. AND POSTAGE FOR ADVERTISED PRODUCTS, SUBJECT TO AVAILABILITY, E&OE.**

**ORDERING:** Just phone our order line using your Access/Visa card, OR, send a cheque/postal order with requirement details. (Cheques need clearance prior to despatch)

**DELIVERY:** You choose either, by post at no extra cost, or simply add £5 per large item for next day courier service.

**WARRANTY:** Goods that prove faulty within 30 days will be exchanged for NEW. After 30 days, but within 12 months, faults will be repaired at our expense.

# MERLIN

**EXPRESS LIMITED**

DEPARTMENTAMF/M1, 5 REDWOOD COURT  
SALISBURY STREET, NOTTINGHAM NG7 2BQ  
Telephone:0602 424444 (24 Hour Order Line)

**GREAT VALUE, THAT'S THE MAGIC OF MERLIN**

**24 HOUR**  
**0602 42-44-44**  
**HOTLINE**



# A500 TO GET PC EMULATOR

For along time, A500 owners have looked on in envy while 2000 users enjoyed the best of both PC and Amiga worlds with the Bridgeboard PC Emulator card. However, all that will change with the announcement of the KCS Power PC board from Bitcon Devices.

The KCS Power PC Board is a hardware-based emulator that provides the Amiga 500 with complete PC compatibility. The board is based around the NEC V30 processor, running at 8 Mhz. For those among you who know about such things, the board uses the most popular version of the MS-DOS BIOS, Phoenix BIOS. For graphics freaks, the board provides MGA, Hercules and CGA video support.

Although the vast majority of the task of PC emulation is handled by the KCS hardware, the Amiga is employed to handle the tricky business of looking after the screen, port and disk drives. Most PC Emulators usually fall over when programs start to bypass the MS-DOS operating system and start hitting the screen hardware, but the Power PC board is more than ready for anything that they can throw at it. According to the Dutch producers, KCS, the Power board can handle any amount of jiggery-pokery that PC programmers may use.

Even on a standard A500, the Power PC Board allows a full 768k to be used by PC applications. How is this achieved? Well, not only is the board a PC emulator, but it is also a 1 Mb RAM (that's an extra megabyte!), taking your A500 upto 1.5 Mbs in total! expansion and battery-backed clock.

If this hasn't sufficiently whetted your appetite, then give Bitcon a call on 091 490 1975 or write to them at 88 Bewick Rd, Gateshead, Tyne + Wear, NE8 1RS. Meanwhile, look out for a full review in a future issue of Amiga Format. ■

## VIRGIN GIVE BIRTH

Virgin's French arm, Virgin Loisirs, have just formed a new label, Cryo, which they say will "open the way to the next generation of software designers, artists, programmers and so on" who will "create expanding horizons for our imagination in tomorrow's fascinating technology world" - whatever that means. The idea behind the label is to promote products developed in France for the world market and notable names like Didier Bouchon (*Captain Blood, Purple Saturn Day*), Patrick Dublanchet (*Kult*) and Michel Rho (*Macadam Bumper, Get Dexter*) will be working closely with the label. ■

### GET TRAINED

Checkmate Systems are offering an installation and training service to anyone buying Amiga computers from them within the M25 area. They will deliver the system at a prearranged date and time, and spend an hour installing the system and training the family in the basic use of it. If extra hardware is bought or extra money paid when ordering, the training time can be extended. You can also buy training time separately from equipment. If it proves popular enough Checkmate will extend the service outside the M25 area. Contact Checkmate Systems on 01 923 0658 or at 80 Mildmay Park, London N1 4PR. ■

## MIRRORSOFT'S NEW REPEATS

Sequels are the order of the day in the Mirrorsoft camp at present. Cinemaware are to release *Ant Heads*, the follow up to *It Came From The Desert* (reviewed issue 7 - 80%), the game based on all those great big bug movies of the '50s. *Ant Heads* will retail for £14.99 and you'll need *ICFTD* to be able to run it.

Coming on the Image Works label will be *Speedball 2*, due sometime in the Autumn. Pop star

**The Bitmap Brothers are back starring in PR photographs and with a sequel to *Speedball***

The recipients of the first Commodore Enterprise with Vision (ENVI) award at last year's industry dinner were Electronic Arts for their *Deluxe Paint III* package, which in Commodore's eyes was the best designed software product to take advantage of the Amiga's facilities. As well as the award Commodore also donated £1,000 to the Royal Variety Club charity, the beneficiary of the dinner, and another £1,000 to Electronic Arts who also donated

## ELECTRONIC ARTS FLUSH WITH ENVI

the money to the charity.

EA had double cause to celebrate on the night as the Bullfrog programming team picked up two awards: Programmers of the Year and Best Original Game for *Populous*. ■

## FRANKLIN SLAMS TV SHOW

Commodore UK boss Steve Franklin has delivered a critical broadside at the BBC documentary on computer addiction, calling it "biased" and "alarmist".

The programme was part of the QED series and investigated the problem of computer addiction and its effects on social behaviour - highlighting the case of a 13-year-old boy who was addicted to his Nintendo console. Franklin criticised the show because it "focused a great deal on the more violent type of games being played on arcade machines rather than personal computers, although the implication throughout was that the programme was all about computers."

Franklin went on to lambast the coverage of computers in education, saying it was "badly stated" and that "the role of the computer as an aid to teaching the new National Curriculum subjects was completely ignored - the emphasis was largely on experience in the US which is not entirely relevant to the UK."

He also highlighted the fact that Commodore had sold nearly 250,000 computers over the Christmas season, all of which were sold with software of an educational nature and some without any games at all.



**Steve Franklin: slams BBC documentary for being "biased" and "alarmist"**

"Parents need to appreciate that computers can also help their children learn more easily and express themselves more fully. Without doubt, computers will be an important everyday feature in the lives of today's younger generation and the QED programme will have given their parents a very biased and alarmist picture."

We couldn't agree more about the appalling manner in which the media generally portray computer users. We are all written off as 'overpaid whizz-kids', 'mindless addicts with no social lives' or 'boring boffins'. There has never been a TV show that adequately satisfied the vast majority of computer users - or even got close. The industry has never had its own voice, it has always been well-meaning (or in the case of QED ill-meaning) personalities presenting largely irrelevant and poorly thought out programmes. Roll-on the day when we have our own programme, not some pseudo-intellectual drivel or sensationalist claptrap. ■



# WHO THE HELL DO THE ASSEMBLY LINE THINK THEY ARE?

Adrian Stephens, Andy Beveridge, Martin Day and John Dale, who make up programming team The Assembly Line, may not be household names — but you've certainly seen, or at least heard of, their work before. Not convinced? How about *Killer Gorilla*, *Powerplay*, *Xenon II* or *Interphase*?

This gang of four, who have only been together as TAL since last November, have been responsible for all of the above titles, but they go back a lot further.

Adrian Stephens first got into programming back in '82 when the BBC was booming. After a short while and a string of Beeb hits like *Killer Gorilla*, *Mr EE* and *Donkey Kong Jnr* under his belt, he then turned

his attentions to bigger machines and worked with Arcana on their excellent trivia/strategy game *Powerplay*. He teamed up with Andy Beveridge on a Rainbird project called *EPT* which never saw the light of day despite many long months of development — "the whole thing just got too big" reflects Adrian. His last venture was Mirrorsoft's *Interphase* (reviewed in issue four — 88%).

Andy Beveridge first got into computers back in '79 when he owned an Apple. He spent a while developing hardware and software for the Apple, before spending a brief time in London — ending up working for Metacomco in Bristol in their Technical Support department. Andy was wowed by the Atari ST when they first appeared and bought one for over £1,000, which was a

bargain at the time. Then Andy met a guy called Tony Rainbird at an Atari show and showed him his spec for a game with the working title of *EPT*. The next year or so was spent working with Adrian on the title before going off to Realtime to finish off the project. After a great couple of years with Realtime "who really helped me, I learnt a lot" Andy left to join TAL.

Martin Day also goes back to the days of PETs and TSR 80s and may be better known as Spiny Norman to the gamesplaying public, after writing the Audiogenic classics *Impact* and *Helter Skelter* and Mirrorsoft's *Fernandez Must Die*. One of his latest projects is a cross development system called *SNASM* which companies like *Psygnosis*, *Realtime*, *The Bitmap Brothers* and *Vektor Grafix* use as an upgrade to the now long in the tooth *PDS* system. Martin also worked closely with pop star programmers *The Bitmap Brothers* on Mirrorsoft's excellent shoot-em-up *Xenon II* (reviewed issue 3 — 93%).

Coordinating the team and designing a lot of the games is John Dale. Although John's the only non program-

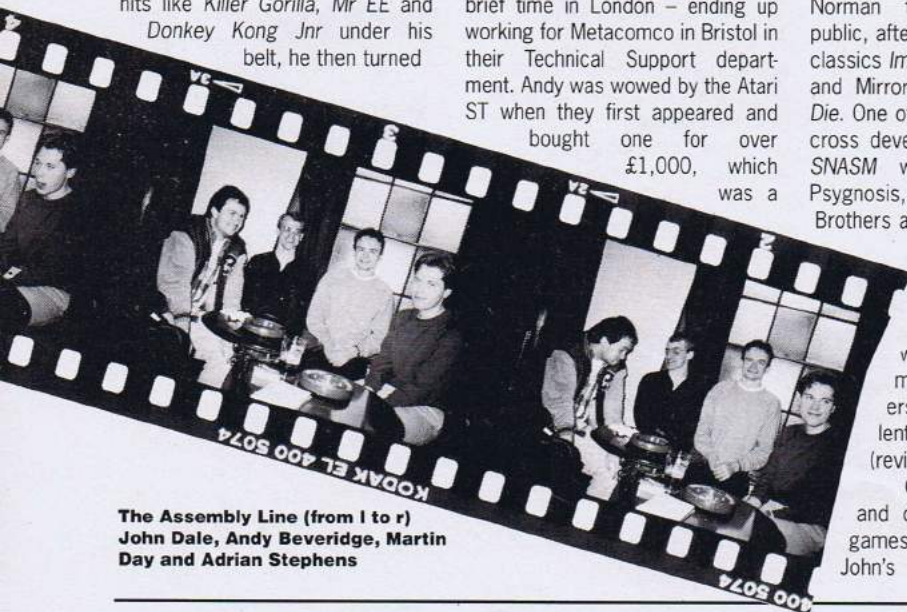
mer of the group he's been involved with the others for many years and goes back to the days of *Impact* with Martin. John gave up the glamorous life of a full time auditor to join the team back in Sept '89 and now splits his time between designing games, dealing with companies and racing the office *Scalextric* cars.

The team aren't tied to any one publisher and future releases should include the highly addictive *Pipemania* from Empire (a demo of which will be on next month's cover disk) and *E-Motion* from US Gold. As a team they have a lot of

respect for their peers, including David Braben, although Adrian reckons "Zarch was a cop-out" in programming terms. High praise from Andy goes to Realtime for all their 3D work, although The Assemblies, and especially the vociferous Adrian, reckon 3D games (when coded by someone who knows what they're doing) are going about as fast as possible and more thought should go into using 3D in more creative and varied ways.

The Assemblies would like to get into console work in the future because it's rumoured there are large amounts of money to be made for people of their talent, "we do everything marginally better than anyone else" pipes Adrian, while Andy keeps his feet on the ground and admits that "if we had loads of money we'd start loads of projects and not finish any of them".

We're selfishly hoping they never make too much money because it would be a sad loss to the games world if they had to stop working for a living. ■



The Assembly Line (from l to r) John Dale, Andy Beveridge, Martin Day and Adrian Stephens

## AMIGA BRAIN CONTROL

A system of controlling the Amiga purely by thought is now being developed by Bernd Von den Brincken and Mike Weber in West Germany. The prototype model demonstrated at the sixth annual Chaos Computer Club Communication Congress is called 'Cyberspace'. The name is taken from the science fiction stories of William Gibson where hackers jack into the vast data networks by placing electrodes on their heads, moving from computer to computer purely by thought.

The early stage of development was on display and being test driven during the three day convention. The user is positioned in front of the the Amiga screen and has four electrodes taped to his forehead to read in his brain waves to a PC. The clone would then process the information and send the data to the Amiga for display in real time. The user then controls the graphic screen display and his brainwaves through various forms of concentration.

The unit on show was designed for the testing and the collection of data for use in the final product. "The first step is to get a feedback over from the brainwaves through the computer and display it on the screen, you see the pattern and the pattern you see changes and so you have feedback. And you can learn to steer you're brainwaves directly", explains Bernd Von Brincken.

His partner, Mike Weber has been working with the idea of brain control for the last four years. "I started using the Amiga because I designed light shows, and I would take photo's from the screen for disco's etc. For the brain screening system I wanted to use a system that did fast animation. In the first place I wanted to use a video synthesizer because it was fast, but then I found software that was good enough on the Amiga, *The Director*, which is a basic script language for graphics and also *GFA Basic* which is really good for programming.

"We have an IBM compatible to analyse the

brainwaves but we haven't finished the software for that, we need a faster way to do that and we need some statistical functions to do it to. From there we take the parameters out of the brain waves that have to do with certain areas of the brain and connect them to colour and brightness parameters to create a direct physiological feedback.

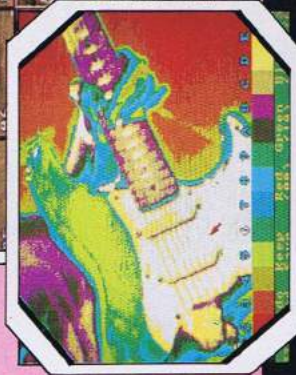
"Ideally we would like to have the software on the Amiga analyse the signal and also display the graphics and allow the user to connect online to other computers."

The system is still in it's infancy and the end product won't be on the store shelves for a few years, so don't throw away your mouse yet. "The next step is to connect many people who have had practice with steering brainwaves, in a realtime mailbox system. Then people can communicate over a graphic elements, intuitive system so they won't be forced to put their ideas into text and type it out on a keyboard and this is the idea of Cyberspace." ■

## VIDI ENABLES YOU TO...

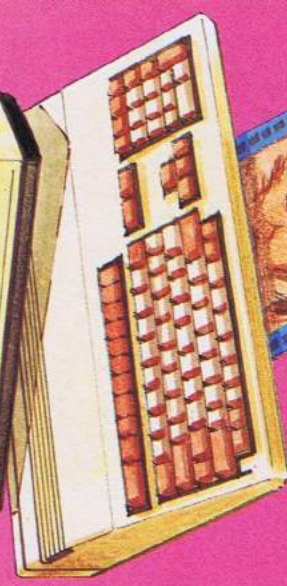
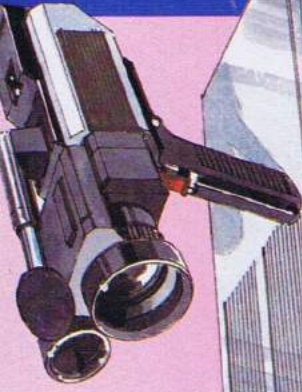
- Have perfect freeze frame from any video.
- Incorporate real life objects into your favourite design.
- Grab real time 3-D images from TV.
- Enhance your graphics creativity.
- Capture and store action sequences.
- Desk top video.
- D.T.P. (Desk Top Publishing).

VIDI Amiga Image



Available from all good computer shops.

# VIDEO FRAMER GRABBER



## VIDI-ST/AMIGA

### VIDI FEATURES...

- Take snapshots in 16 shades live from video.
- Multiple frame store (will utilise all available memory).
- Dynamic cut and paste.
- Full palette control.
- Hardware and software control of brightness and contrast.
- Compatible with all video standards (colour, black and white, VHS, Beta, PAL, NTSC etc.)
- Upgradable to full colour with additional 'VIDICHROME' pack.

AVAILABLE FROM ONLY

# £99-95

PAL VERSION £114.95 inc VAT



£19.95 inc VAT

DESK FILE OPTIONS SETTINGS



GRAB WAIT BRI MIN INT PAL SCRN RPLY STAT CPU  
Vid 0 20 040 off 020 5



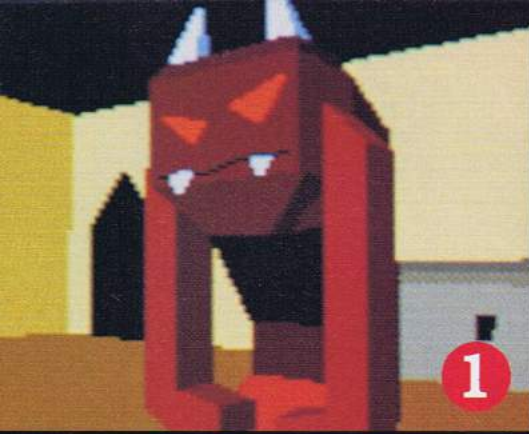
VIDI-ST Image

ROMBO

Limited

Rombo Ltd., 6 Fairbairn Road, 0506 414631

Kirkton North, Livingston, Scotland EH54 6TS.



1



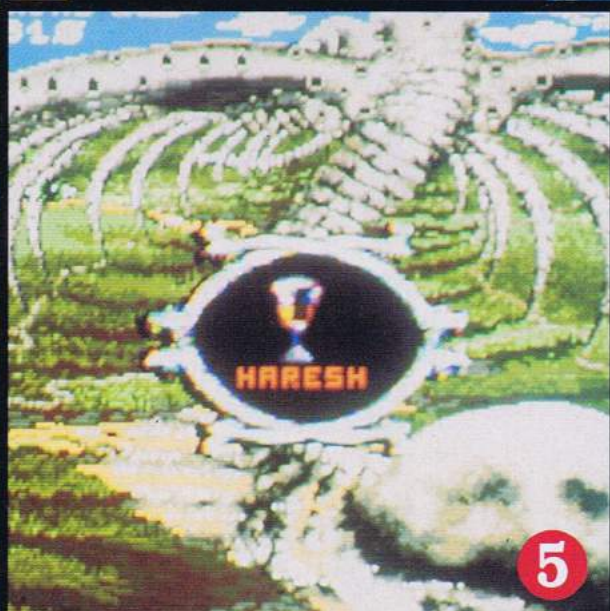
2



3



4



5



6

## DOMARK

**1** *Castle Master* is a solid 3D arcade adventure set in 16th Century England in which the player has to rescue a prince (or princess) from one of the four castle towers, which is not easy when you consider that each tower is made up of several rooms and floors and your progress is hindered by evil spirits who infest the place. Your sub-quest is to flush out all these nasties and make the place habitable again. The game uses an enhanced form of Incentive's Freespace system (familiar from *Total Eclipse*, *Driller* and *Dark Side*) so expect plenty of puzzles to ponder over and, hopefully, to solve.

## ACTIVISION

**2** If you're interested in driving games, *Hot Rod* will be here 'real soon' to tempt your purse. The action is viewed from above in a game which has been converted from the Sega coin-op and allows up to four players to compete at once. There are some 30 tracks to race round, and natural hazards like snow, rain and sand to deal with. Still, enhancements

can be bought in the parts shop at the beginning of each race and the amount of money you have to spend depends on how well placed you were in the previous race. This will be zooming onto a shop shelf near you any day now.

## AUDIOGENIC

**3** *Emlyn Hughes Arcade Quiz* is a new and innovative development in computer quiz games loosely based on the format of the pop-

ular pub style trivia machines, yet combining the strategy of a traditional board game.

It's not all about sport, though: you'll have to answer questions on rock and pop, arts and literature, people and places and so on as you make your way across the board on one of the 10 levels fraught with twisty routes and dead ends. There are even special feature blocks to aid you including blasters, which blow up multiple ques-

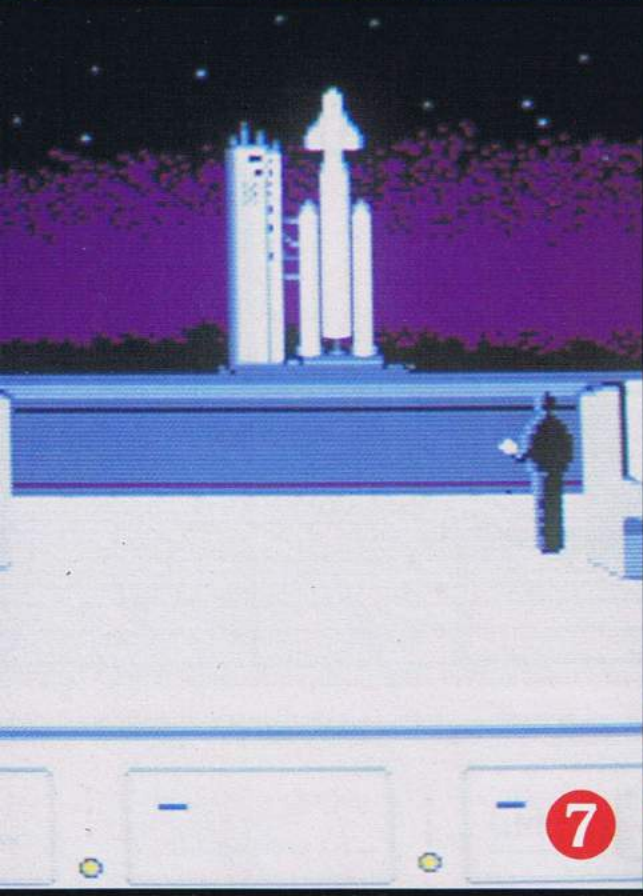
tion blocks, and clockstoppers which freeze the scrolling track.

## US GOLD

**4** AD&D fans are in for a treat with *Champions of Krynn* which has been programmed by Norm Kogel, the chap behind the Format Gold-rated strategy wargame *Red Lightning*. This promises to be the first full-blown RPG game in the AD&D series; in this first instalment the player

# COMING ATTRACTIONS

What games are you going to be saving your pocket money up for in the next couple of months? Here's a sneak preview of games the software houses will be tempting you with.



guides his party of characters (the party is composed of six player characters and two non-player characters) through a web of intrigue and combat to defeat a plot by the forces of evil to establish the dark queen Takhisia as undisputed Ruler of Krynn.

Player characters include Kenders and the Knights of Solamnia in addition to the races and character classes found in Pools of Radiance (it's coming!) and Curse of the Azure Bonds. Players will also have the opportunity to meet and work with characters from the Dragonlance novels – Tanis, Tasselhoff and Caramon – in the struggle to overcome evil.

**5** Keeping with the mysterious theme, but deviating a bit is *The Knights of Crystallion*. Billed as a whole culture rather than a game, this one promises to really drag you in to its world. The idea is for the player to gain prestige, power and respect by first managing the household funds and then later by undergoing four tests (plus a few puzzles). The graphics and sound are both amazing, so watch out for the definitive review in next month's Screen Play.

## ELECTRONIC ARTS

**6** The latest SSG game is *Gold of the Americas* which allows up to four players to step back in time and struggle for possession of the New World. Buy trading and warships to earn some money through trade, hire pirates to rob other ships, then pay armies and colonists to claim this brave new world.

Keeping with the strategy theme, *Imperium* is due to be released soon. This UK-developed title is a complex strategy game set in the years following 2020. The player seeks to become the last surviving emperor of the galaxy by manipulating economic, diplomatic, military and political factors. Budding galaxy rulers, keep your eyes peeled.

## COKTEL VISION

**7** Out soon on the Tomahawk label will be *European Space Simulator*, which allows you to get behind the controls of the infamous space shuttle as you head for the stratosphere in order to set up some satellites.

Before getting there, though, you'll have to kit out the shuttle, choose your

crew and load up with whatever needs dropping into low orbit. Manage to do all that and it's solid 3D time as you attempt the delicate task of actually launching the satellites.

## GRANDSLAM

**8** Coming soon from German programmers Thalion will be *The Chambers of Shaolin*, a one or two player beat-em-up with an oriental theme. Before taking the ultimate challenge you'll have to bone up on skills in the various training chambers where you can learn to handle yourself against a variety of armed, unarmed and inanimate assailants. All together now... HI-YA!

## MICROILLUSIONS

**9** Winner of the game with the tackiest name award this year will go to Microillusion's *Dr Plummet's House Of Flux*, an *Oids* cum *Thrustfish* blast that gives the player 28 screens spread over four increasingly difficult missions inside Dr Plummet's alien infested fortress. Nimble fingers and precise control will be the order of the day when this one arrives.

## VIRGIN

**10** Those who like their adventures tough will be pleased to hear that *Demon's Tomb* boasts 'some of the toughest problems you'll ever have to tackle'. Set in rural England you have to unravel the mystery of why an Egyptologist has died while working on an archaic tomb. The game features a customisable screen interface, command line or menu entry system and a coded help line. Ooooo! Spooky Mister Egypt head!

## MINDSCAPE

**11** Following on from *Moebius* of a couple of years ago comes *Windwalker*. Once more you can get a taste of the Orient in this action role playing game. Train with the masters in all aspects of the martial arts before setting off into a world full of hundreds of characters to interact with including monks, merchants, alchemists and dragons. There are over 100 locations to explore and find adventure in, so you shouldn't be stuck for something to do. Oh, and an interest in the I Ching and other eastern philosophies may be an advantage.

# AT MICRONET WE'RE REALLY TALKING!

**FREE MODEM**  
with annual subscription

With Micronet you can turn your computer into a communications terminal that will download free software, access up-to-the minute computing information, play exciting multi-user games, talk to other people (and computers) and a lot more.

And if you pay for a year's subscription in advance we'll even give you a modem free when you join.



## FREE SOFTWARE

On Micronet you can browse through an extensive software library of free programs, select one and then download it.

We now have software for all popular machines, from the Spectrum to PC compatibles, including the Atari ST and the Amiga.



## INFORMATION

Micronet is also a computer magazine. Our computer news area is updated every day, so there's no better way to stay up-to-date, and our software reviews and features for all popular micros mean Micronet members are

always better informed.

Add to this Prestel's massive database and you'll have all the facts at your fingertips.



## ENTERTAINMENT

But Micronet is not just informative, it's also a lot of fun! As a member you'll have access to a range of games, including the UK's most popular multi-user game, Shades, where the action is live and so are your opponents!



## COMMUNICATIONS

And with Micronet you can use your computer to communicate with thousands of other users. From electronic mail, telex and fax to chatlines and teleconferencing, Micronet lets you do the talking.

## Low Cost

A Micronet subscription, which includes Prestel, costs just £23 a quarter, and using Micronet starts at only 55p an hour including telephone charges! Wherever you are,

Micronet is just a local phone call away.

Just phone our Sales Desk free on 0800 200 700 or clip the coupon today for a free brochure and details of how you can get a free modem.

**Join Micronet, and get talking!**

**FREE DEMONSTRATION**  
If you have access to a modem (1200/75 baud) and viewdata communications software you can see a free demonstration of Micronet. Just Dial 0272 250000 and use the ID 4444444444 and password 4444.  
You can look up a local telephone number once on-line.

Return to: Micronet, Units 8/10,  
Oxgate Centre, Oxgate Lane, London NW2 7JA

Name: \_\_\_\_\_

Address: \_\_\_\_\_

Tel. No.: \_\_\_\_\_ Age: \_\_\_\_\_

Machine Type: \_\_\_\_\_



AMF6

MICRONET



**P**icture this – a fully-digital special effects suite at your fingertips with infra-red drivers linking your computer to videorecorders so that all deck controls including freeze frame, single frame step and visible high speed search can be controlled from your desktop. Video editing features include adjustable pre-rolls for frame accurate insert and assembly edits, an edit preview mode and an automatic edit decision list generator. Integrated digital effects comprise graphic and title overlays, picture-in picture facilities, wipes, fades and dis-

solves. You would have in your hands a system that only five years ago would have cost you over £100,000. You can have it today for less than one per cent of that price. What's more you already own half the kit involved – you only need a genlock and some state-of-the-art software and the picture's all yours. Yep, it's an Amiga desktop video system.

Aside from all the other hi-tech-specs heralding the Amiga's launch was one simple little feature that may have been lost among the 4000 multitasking colours, but in hindsight proves

that Commodore's development engineers were a very forward thinking bunch of boffins indeed. They thoughtfully included external sync pulse in the Amiga's CPU right from the start. As such, your machine can rightly claim to be the only reliable low-cost means of producing videotape material from the desktop in existence.

For although video production systems exist for other machines, notably the Macintosh and Archimedes, the Amiga has a greater selection of cheaper hardware and software in this rapidly growing field. For the demand for

low-cost video effects, editing, titling and animation is as enormous as the market from which it derives – the massive arena of domestic videorecorders and camcorders.

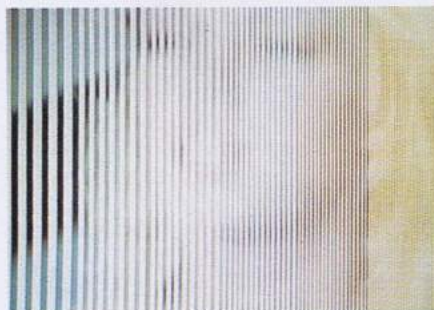
Video processing on the Amiga is the most cost-effective alternative to both home and professional video editing suites and has been made possible by that one little addition. That external sync pulse capability made Amiga genlock devices possible – and you only need to look to the ST to see what a difference it's made. That machine has only just got its first genlock and there's no software out yet to utilise it. With the Amiga, developers have had five years to get their acts into gear so genlock hardware and video effects software abound.

ASAP's *MaxiGen T8000* is the latest device available and its RGB output capability makes it an ideal replacement for domestic and semi-professional applications for which you would have to pay video facilities houses an arm and a leg.

**You don't need to be a mechanic...**

The T8000 genlock allows you to superimpose computer and video displays on a single screen by synchronising the output from the Amiga's video chip with that of a live or recorded video source. It works by synchronising and locking together the line and frame generators of each display's refresh rate, hence the name ▶

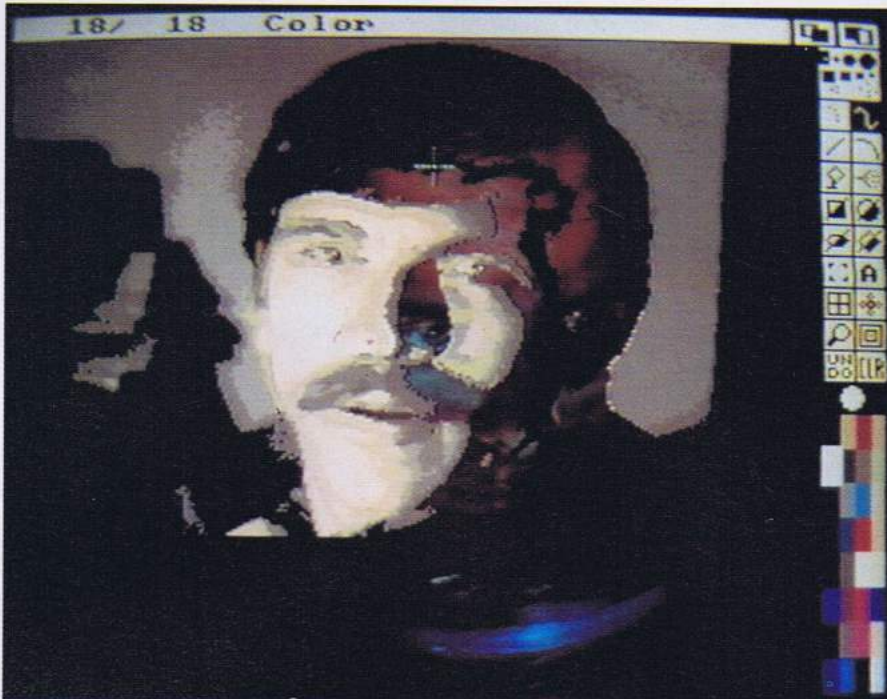
# CHANGE YOUR WORLD



Even the test functions in VideoStudio can be incorporated into genlocked productions

**So underground he's unknown, sometime film maker ANDY STORER guides you through the means of making your Amiga the**

**ultimate low-cost desktop video editor.**



For more abstract productions, digitised animations produced using *Photon Cel Animator* can be remixed with the original pre-digitised material to produce multi-layered images.



Logos can be designed in an art package like *DPaint III* and overlaid onto video sequences for rerecording.



*VideoStudio's* built-in caption editor allows a good range of text fonts and sizes to be manipulated, positioned and coloured with ease.

▶ 'genlock'. After providing both horizontal and vertical scan synchronisation it presents you with rock solid superimpositions. This is achieved by combining the three separate RGB signals from the Amiga into a composite video or PAL signal which is in turn combined with the composite video output from a videodeck.

An on-board video chip allows you to control the horizontal position and phase of the signal on your screen through the genlock's front panel. The resultant signal is a mix; a superimposition of the video signal on a specific colour you've made 'transparent' in your computer image – usually blue. Alternatively, the video image can be behind the computer image where the chosen 'transparent' colour is the only one visible – the choice is referred to as foreground or background 'keying' or 'masking'. So for instance, displaying titles over a video image, like the subtitled in foreign feature films, is foreground keying while for any applications where the computer screen borders are active – in wipes and fades – background keying is used. You can flick between the two modes from switches on the *MaxiGen's* control panel – or you can choose to just view the original computer or video displays.

But remember, just because you have a video mix on screen doesn't mean you can save moving video images to disk. The genlock is merely superimposing one image over the other – the signals themselves remain entirely independent. However it is possible to direct the mixed output to

videotape, since the signal reaching your monitor in mix mode for all intents and purposes appears as a single signal.

#### To drive a car...

So what ends can you put all this to? Firstly you may wish to record some Amiga productions to videotape instead of disk. It might be a lengthy animation sequence you've designed which you may wish to superimpose over a recorded video sequence.

The kind of material here might involve overlaying foreground material such as animated characters over a landscape background. With a little care you could 'borrow' a sequence from a TV programme or film, note its duration and lay it down to tape before sequencing your animation to fit.

Or you may want to send out demos of games or sprite routines to software houses on videotape instead of sending hot source code. Here all you would need to do would be to record the demo over black videotape. Perhaps you might want to combine code with digitised backdrop as a possible scenario for some future game based on CD-ROM format when its Amiga incarnation arrives. You needn't in fact do anything more than say, watch TV on your monitor as a background task while you're waiting for a complex ray-tracing operation to take effect.

The *MaxiGen* is particularly well-equipped in the area of 'printing' to videotape as it allows you to output a mixed signal in the form of RGB – a picture quality far superior to that of composite

video. As such, the composite video display you've been manipulating on your Amiga monitor is only like an off-line work area because the eventual output is converted back to RGB. So when it comes to animation you're away – you can output high resolution animations as long as a four hour videotape, no longer being constrained by RAM or hard disk capacity. Or, if you use an Amiga for heavy duty database management then videotape could act as a useful backup medium.

But it's probably in the area of overlays that a genlock like *MaxiGen* can be most effectively used. Simple operations, such as adding titles to a videotape are achieved by opening up a window on your Amiga desktop and setting its background to a 'transparent' colour, booting up an Art or DTP package and overlaying the text. Alternatively you can use a dedicated paint or video package like *DPaint III*, *DVideo III*, *Deluxe Productions* or *Video Studio* to produce a range of animated, scrolling credits or 4096 colour logos to overlay. This is probably the easiest way of producing superimposed material – the custom routines take out the torment of do-it-yourself trial and errors.

In this way you could annotate photographic albums you've previously digitised as well as add titles to home video productions. It might be something as useful, yet profitable, as producing a looping window display for your company that shows your product line along with details of special features and products.

At the end of the day your Amiga video hardware and software exists as an enhancing tool to the already secure and installed medium of video. What next? Demos for broadcast TV? Offers of promos for your local bands? The only limit on the extent of use is the limit of your imagination.

#### Desktop Video Editing

It's not too difficult to see how we can enter the realms of desktop video editing on our Amigas without too much trouble. After all, if you have the means of combining live and/or recorded video with computer images, all that's needed is some means of sequencing the results to videotape.

But it's here that things can get a little tricky because results are entirely dependent on the quality of the videotape recorder you're using. In 'assembly' editing, where you're merely pausing your recorder while the next section of programme is being selected and added after it, the recording machine must make sure that the sync pulses recorded on the control track of the videotape line up with the previous passage. If this isn't done, there will be a disturbance caused by loss of sync between the assembled passages of recording. Unfortunately the majority of domestic VHS decks have been designed without this simple facility.

To check whether your machine has it, look for the machine backspacing along the tape for a second or two prior to it resuming recording in pause mode. This delayed response



# THE COMPLETE AMIGA VIDEO SYSTEM

This diagram shows the basic set-up you need to use an Amiga in video. It also has some extras thrown in that are not essential like the mixer and additional input devices.

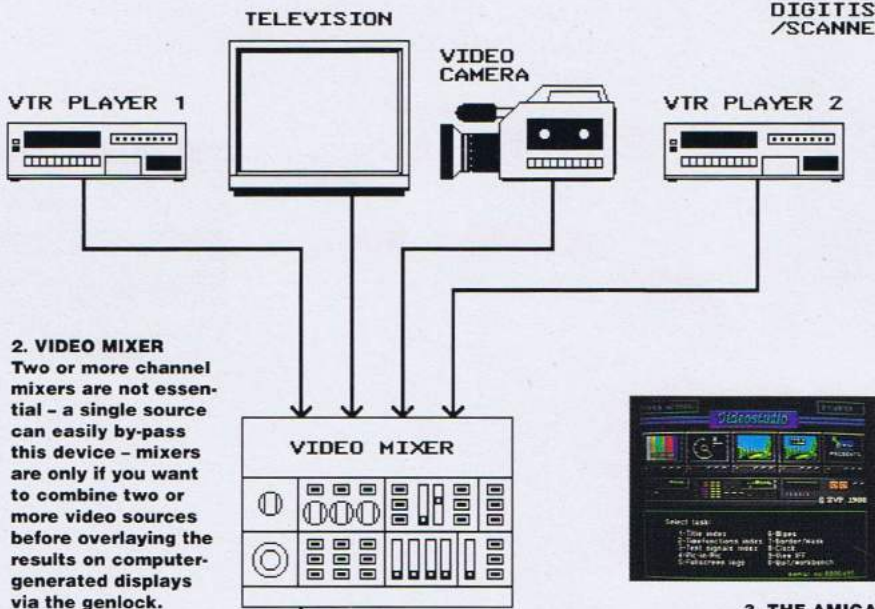


## 1. THE SOURCES

Any video source - be it a videotape deck, camera or live TV capable of outputting composite video or RGB signal can be directed to the genlock. Likewise, digitised or scanned images can be imported into the Amiga in the normal manner, processed and sent to the genlock for mixing with the other video source signal.

VIDEO/  
PHOTOGRAPHIC/  
TEXT MATERIAL

DIGITISER  
/SCANNER



## 2. VIDEO MIXER

Two or more channel mixers are not essential - a single source can easily by-pass this device - mixers are only if you want to combine two or more video sources before overlaying the results on computer-generated displays via the genlock.



## 3 THE AMIGA

Although a straight A500 will suffice, as with all serious applications a RAM upgrade will allow you much more scope in productions. The displays of video effects and paint package/animation software are sent to the genlock via the RGB output to be mixed.

## 4. THE GENLOCK

The incoming video signals are synchronised and can be redisplayed on the Amiga's monitor either as foreground or background 'masks' i.e either the Amiga display is overlaid on top of the video signal or vice versa.

RGB IN

AMIGA

RGB OUT

COMPOSITE  
VIDEO OR  
RGB OUT

## 5. THE OUTPUT

depending on the genlock either a composite video or RGB signal can be sent to a video deck in recording mode. But some VTRs are more suitable than others - they must be capable of frame accurate edits otherwise all your edit points will be full of glitches and roll-bars while sync is reestablished.

VTR  
RECORDER



allows sync to be reestablished before any new recording is added. The result is a 'clean' cut without roll bars or glitches. Another problem is that of machines which lose tape position because they unroll or unlace the tape when in Stop mode. Beta or Video 8 machines are preferable to VHS as they both have these crucial features.

Also essential are machines that have search modes based on the control pulse track so that individual frames of the assembled recording can be located. It is best if this reads hours-min-secs so that it's compatible with the time code readouts found in some of the best art, music and video effects packages. Good video editing requires accuracy down to 1/50th of a second as each frame is composed of two scans. VHS recorders that unlace tape as they pause or stop cannot use the control track for a counter, making them useless for the essential facility of 'insert' editing.

Editing of this kind is mostly used to tidy up assembly edited sequences, although it can be used to edit material in any order you wish rather than having to start at the beginning and finish at the end. Again Video 8 and some of the later Beta machines are the only decks where you'll be assured of this facility. As insert editing is used to drop in new sequences over old it's obviously essential that your machine must have a control-track time readout to enable frame accurate inserts.

But most professional video editors use insert editing all the while - it's much more convenient than assembly editing. It's a little like the process involved in using a music sequencing package, but instead of laying down a drum track as your reference beat you lay down a digital time code readout - an 8 figure number that appears overlaid on the black background to be recorded onto. In this way you always have a guide to the start and end points of the blank tape you wish to record a clip onto. Working from paper beforehand, you can build up a track guide that illustrates the sequential running order of your production. Insert editing in this way is more convenient because if you are operating from a number of different source tapes you don't need to keep swapping them ad nauseum. But it remains a shame that in the face of personal computers and hard/software designed to bring professional video editing to your home it's the common or garden VHS deck that lets down the side. The alternative is to use

# BIG 3 FROM



## FAST LANE



The group C Motor racing simulation based on Spice Engineering's SE89C car. Can you become World Champion?

"This game is to motor racing what falcon is to flight simulators" 9/10 ATARI ST USER

"Many superior features which will appeal to racing enthusiasts" ACE

\* 9 different circuits including Le Mans

\* Day/Night driving, with variable weather conditions

\* Automatic or manual gearbox

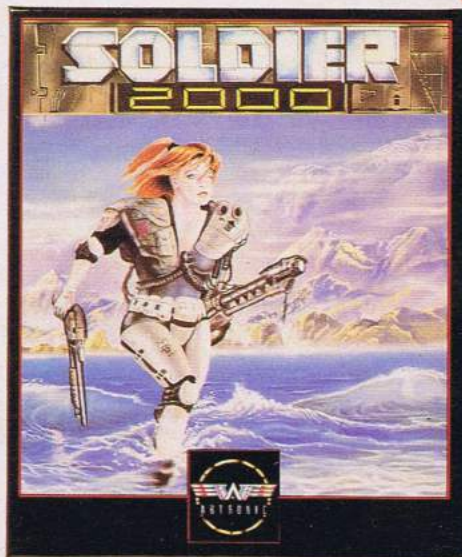
Plus many more options

ATARI ST / AMIGA

£19.99



## SOLDIER 2000



The Futuristic Infantry Combat Simulator with a difference!

You're in the Army now ready to fight any time, any place, any war! Plan your strategy, select your weapons and begin the toughest assignments of your career.

\* Multi level parallax scrolling with amazing graphics

\* "Withering" Firepower

Non-stop action all the way.

ATARI ST / AMIGA

£19.99



## TAKE-EM-OUT



Can you achieve the highest levels of skill and performance and reach the Elite SAS standard?

Multi weapons selection including Shotgun, Bazooka, M-16 or Granades use them carefully to take out the bad guys only!

Realistic animated graphics - timed to perfection, you will believe you are in a war zone.

ATARI ST / AMIGA

£19.99



▶ video 8 or hire in some professional U-Matic gear.

### Producing Amiga Promos

So if you have a 'compatible' videorecorder connected to the Maxi-Gen's RGB output it's always essential to start by doing pre-edit rolls of your video material to determine the exact timing of the machinery. Just how long exactly does that videorecorder pre-roll before it 'bites' on an edit? How long at a frame accurate level of 1/50th second does it take for your finger pushing a key to translate to a title appearing on-screen? When you have it down to a tee, just hit Record on your recording VTR and you have an edit.

Better still, you can use a package like ZVP's *Video Studio* which provides you with all the low-level video production tools you're likely to require. You can easily use it to produce animated text and you soon have rolling credits to lay down to tape. But instead of laying titles onto video, why not lay video onto music or speech? You could go so far as to use digitised video material from either a live camera or recorded video source, after maybe looping the results with a package like *Video*, and lay down the sequences onto videotape already containing a music track.

Of course, you have to make sure you have a deck which will allow you record picture over existing sound – there's some which will fill the audio track with white noise if you try it – but if your machinery is okay it's quite easy to combine animated, off-air and live material with trendy full screen captions and create your own DefCon II style promos.

If you want to take this a stage further you can load up *Music X* or *MasterTracks Pro* and follow the



**Promo videos can now be produced from the desktop. Using Music X's built-in time code functions it's possible to use a genlock to build up video sequences synchronised to music tracks. After the start and end points of particular clips have been synced to the required durations they can be assembly edit onto videotape. If you're using multiple video sources, these can be combined using a mixer to provide even greater stylistic control over your music's visuals.**

time code readouts to get perfect accuracy for your video sequence durations. All you have to do then is superimpose your sequencer software over the video material which you wish to use, obtain the likely durations of your inserted edits and record them to videotape. With a little practice, it's not too difficult to make that smash of the cymbals coincide exactly with a stunning jump-cut.

If however, you're lucky enough to have three videorecorders and a videomixer available you can push the technology to the max. Using two as source

decks switchable through the mixer, you can push them through the Amiga where they can be treated to realtime digitising, colourising, and superimposition before the results are recorded onto the third.

Once you've experimented with Amiga home video editing and reckon you can pull the tightest cuts in the west you may wish to hire in some additional gear to make your efforts even more professional. Time Base Correctors are one piece of kit you might like to get in as these allow realtime sampling of video signals so that

digital drop-out can be compensated for. TBCs maintain picture quality through continuous processing which negates 'glitches' in video images. Here we're talking custom hardware however, as sampling rates are typically four frames a second so we're looking at prices of £100 a day to hire. This may be worth the price if you're doing a promo for a band – the results are instantly impressive. But if you want to submit work to video or TV companies for CV submission or possible broadcast then you should really be mastering your material on 3/4 inch U-Matic videotape or Beta-Cam SNP. Again it's best to hire the gear in – for around £50 a day per deck – as you can always pre-master everything on video 8 or VHS beforehand and use the original control code readouts as a guide for the master edit.

### Helping Hands

All this may sound a little daunting but of course there's a range of excellent Amiga software to help you out. Before utilising any of it though you might be advised to buy some extra RAM and second drive as you're going to be dealing with memory and disk intensive operations. A digitiser or realtime frame grabber will also be worth considering buying as it provides a good basis for importing images, which can be used as guides to emulate as 'hand-drawn' images material.

Also, before embarking on any video production it's worth getting into the habit of storyboarding your Amiga movies. This saves valuable time and colour clashes when keying left, right and centre. So what are the essential supporting software and hardware you'll need to become an Amiga video producer?

## WHAT YOU NEED AND WHERE TO GET IT

### FOR OVERALL VIDEO PRODUCTION (and out on its own...)

*Deluxe Video III* from Electronic Arts on 0753 49442 for £99.99 is the best all round package for combining computer and video images via a genlock. Although it offers none of the useful utilities present in *Video Studio* from ZVP, its impressive range of features include super smooth animation, borderless overscan mode for graphics on videotape, dozens of transition for sophisticated screen effects and frame accurate timing right down to 1/60th second. In addition it offers automatic scrolling backgrounds, colour cycling animation, and an object-

orientated *HyperCard* style interactivity which allows you to build multi-level branching. This last point shows the way to the future, as it enables true interactive video where your Amiga can be used as the controlling component in a system that drives videorecorders in realtime. As such training, presentation and promotional films take on new meaning – the user has control over the narrative he or she is experiencing by defining the pathway to be explored. Live video overlay and fades are also in there along with full support for all Amiga graphics and sound modes.

**FOR IMAGE PRODUCTION**  
The Amiga has an excellent range

of art packages at its disposal for working into video productions. Worthy of note are *Deluxe Paint III* (£80) from Electronic Arts on 0753 49442. This excellent package produces hi-resolution keying areas for genlocked superimpositions, and can be used for producing background pictures and retouching digitised images. It can also quickly produce animated sequences. For a further £25 you can get your hands on *Real Things* from RGB Studios on 082 581 2666. This little beauty is an add-on which allows you to construct detailed choreographies of animated sequences with ease. Also worth a look are *Photon Paint 2* at £89 from

Microillusions on 0703 703030, which is good for manipulating HAM images and *DigiPaint 3* from NewTek (available from HB Marketing on 0895 444433) at £70 which offers good text manipulation for titling effects. *Fantavision* from Domark on 01 780 2222 for £40 is also great for creating foreground animations that can be superimposed on video-generated backgrounds, but since the created objects are silhouettes it might be best to use the excellent 'tweening' facility to export the objects to a package like *Sculpt 4D* from ACS on 031 557 4242 for £368 which is an excellent 68020 compatible animated ray-tracing ▶



VideoStudio's cueing functions are indispensable for achieving accurate timings - fades, wipes and dissolves can all be timed to a tee

◆ suite allowing animation productions complete with shadows and reflections.

But for the ultimate...

#### FRAME BUFFER AMIGA CENTRE

SCOTLAND 031 557 4242

A sub-£1000 24 bits per pixel frame buffer allowing 16.7 million colours at 900x600 resolution on a standard Amiga. Combine this mother with a genlock and you'll be pushing the boundaries only just recently extended by six-figure systems like Quantel's *Paintbox* and *Harry*. Digital Pictures beware. With 3 megs of onboard RAM all images can be fully double buffered and used in conjunction with NewTek's latest 21-bit *Digi-View* digitiser producing the current state of the art Amiga-wise.

#### FOR TITLING

Although *DPaint III* can be used effectively to generate titles, custom software like *Aegis Videotitler* from HB Marketing for £96 can do the job a lot more easily. It uses Amiga fonts in any resolution to produce a range of captioning effects to create animated titles. There's also a variety of wipe transitions on hand. But the best of the bunch is *Video Studio* which also comes along with an impressive range of transition effects.

#### FOR VIDEO EFFECTS

*Video Studio* from ZVP (available from Maze Technology on 01 520 9753) for £99 is the state of the art for dedicated video effects as it incorporates 12 of the most commonly used video production utilities in one package. 20 broadcast qual-

## GENLOCKS GRABBED

Most genlocks support the range of Amiga models, though, of course, it's worth checking this out before hand - even better is to ask suppliers to forward you a manual before hand as these babies don't come cheap! However the ideal solution is to visit a show and see one at first hand.

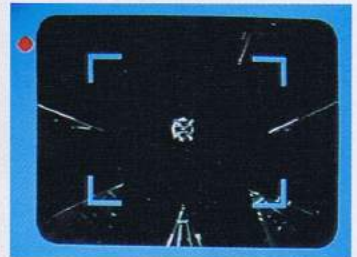
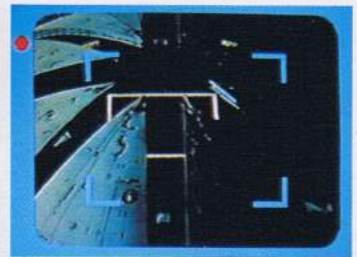
Commodore itself has badged two devices - the *A1300* and *2300*. Prices are a bit sketchy on the former but it is intended solely for use with A1000s and isn't reported as providing a particularly good signal mix, whilst the *2300*, at £250, provides a better output but still not one suitable for broadcast standards. As it uses the Amiga's video slot it can't be used in conjunction with *Flicker-Fixer* and is only able to provide background keying.

For a cheaper no frills affair, *Minigen* from Applied Systems and Peripherals at £114 is probably your best bet as it knocks out a good stable signal and uses the RGB port. Rendale's *A8802* genlock is a good quality PAL device supplying both foreground and background keying for £287 and which provides near broadcast

quality, though its older brother the *8806* at £800 provides broadcast quality output. It fits on an internal card and uses the video port but has selectable colour keying, composite video and RGB mode mixing.

The *G2 Videocentre* at £595 is another professional performance genlock with video mixer and PAL encoder allowing fade and mix controls through software and supporting Super VHS machines but *SuperPic* at £574 from Precision Software might be a better bet as it combines a digitiser with frame store along with genlock. It can grab 50 frames a second to the framebuffer before displaying them as a sequence on screen mixed with external video.

Triangle's *T8000* at £914 is pitching in there at quite a high price but it boasts full broadcast quality and is probably unique in that it features a sub-carrier phase adjustment making it ideal for use with professional video mixers. However the *Neriki Image Master* at £1000 is the top of the range price-wise but doesn't have a particularly good range of features or performances despite this.



A genlock can also be used as an enabling device for software production. Why not plan action sequences for a game on the basis of existing film footage? - It's not too dissimilar from the way in which licenced software conversions from movies find their way to the small screen.

ity fonts are on hand with nine wipe patterns and a comprehensive suite of broadcast test signal patterns. Fades up and down are included as are logo and copyright screens you can customise yourself. You may also utilise broadcast style VTR control code time readouts. For budget productions you might also consider *TV Show* from Brown-Wagh for £61, which is a low-cost effects package concentrating on wipe effects produced by using an editable script file to create synchronised sequences. But something like *Videoon* from Power Computing on 0234 273000 for £250 might be better since it allows you to map 4096 colour digitised images onto the surface of any objects generated in an art package. Ideal for sexy superimpositions!

#### ADDITIONAL ILLUSIONS

*Cel Animator* from Microillusions on 0480 496497 for £100 is a useful component of the *Photon Video* suite which allows you to convert colour drawing to rendering and video tape production. Both digitised and 'hand-drawn' images can be synchronised to sound tracks and played at varying speeds. Automatic loops and slow motion can also be employed. Microillusions' *Edit Decision List Processor* at £299.95 is also well worth a look since it allows you to keep track of all edit points and offers duration times as well. The company's *Transport Controller* at £200 enables infra-red control of videotape recorders thus disabling the human error of nerves - hitting a Record button right on cue while leaning over enough wires to make a bolognese is something to be avoided. ■

# New Products

## HiSoft BASIC

### A host of new features in Version 1.05

HiSoft BASIC on the Amiga has already proved its worth for thousands of people because of its speed, its compatibility with AmigaBASIC and QuickBASIC on the PC and its ease of use. Now we've added features that make HiSoft BASIC irresistible. Version 1.05 gives you:

- Even more compatibility with AmigaBASIC making it simplicity itself to compile all your existing programs into super-fast, stand-alone machine code.
- Linking with assembler and C programs. Now you can use external functions and sub-programs from either assembly-language or C programs, giving BASIC a power you will find hard to believe.
- Extended editor for 1M users with automatic upper-casing of BASIC reserved words as you type them in, making for clear, easy-to-understand program listings.

Remember that HiSoft BASIC is not just an incredibly fast compiler producing compact, very fast machine code but it is a complete programming environment - you create and edit your programs just like you do with an interpreter but then, when you run your program, it is *automatically* compiled to give the best of all worlds. **One package, one price.** HiSoft BASIC 1.05 still costs only £79.95 inclusive. Upgrades are available to existing registered users at £5.

## Extend

### Invaluable libraries for HiSoft BASIC

The Extend package is available at last! The Amiga is a difficult computer to program and AmigaBASIC offers little help in using the gadgets, menus and requesters that the operating system supports. Extend gives you an extensive library of sub-programs and functions that is available from both AmigaBASIC and HiSoft BASIC that fills these gaps.

Extend allows full control over the system gadgets, menus and sub-menus, requesters, windows, IFF-format files and much more. It comes complete with over 50 pages of documentation packed with clear examples of the usage of the library and, of course, the library itself with examples) on disk. All for £19.95 inclusive.

Now you can extend the power of your BASIC on the Amiga with this brand-new, value-for-money package.

## Both Shipping Now!

Also available for the Amiga are: HiSoft Devpac version 2 (£59.95), the most complete and reliable system for assembly language programming on the Amiga and it works on all Amigas (unlike some other assemblers we could **argue** about!); Lattice C 5.04 (£229), the ultimate C package - very fast with everything you need including a global optimiser and extensive, 2-volume documentation.

All software should be available from your local dealer. In case of difficulty, you can order directly from HiSoft by phone, using your Access or Visa card or by mail, using Access, Visa, a cheque or postal orders. Our prices include VAT and shipping within the UK.

HiSoft, The Old School, Greenfield, Bedford MK45 5DE.  
Tel: (0525) 718181, Fax: (0525) 713716

**HiSoft**  
High Quality Software

# HiSoft

# Special Reserve

Can you afford not to join?

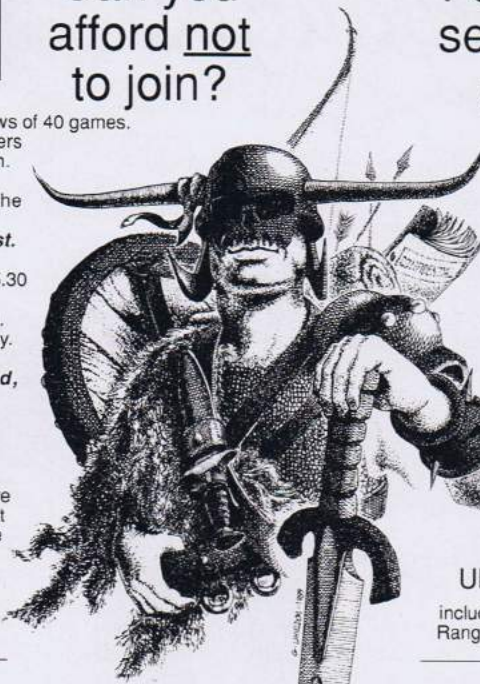
For the serious gamer!

# Official Secrets

- Bi-monthly **Buyer's Guides**, each with reviews of 40 games.
- **Release Schedules**, issued with each Buyers Guide, with up-to-the-minute release information.
- **Catalogue, Membership Card and Folder**
- **Fast despatch** of stock items, normally the day after receipt of order. Most lines in stock.
- Games sent **individually by 1st class post**. Most fit through your letter-box.
- **7-day hotline**, until 8pm weekdays, 10 to 5.30 Saturdays, 11 to 5 Sundays.
- **Written confirmation of order** (with receipt).
- **Instant refunds** on request, if there is a delay.
- **No commitment, no obligation to buy.**
- **The best games, carefully selected, available at extraordinary prices.**

All for just **£5.00**

Annual membership. We're miles cheaper than elsewhere. Below are a selection of offers at prices you might not believe. You can buy games at the same time as joining - or join now and select from our full catalogue. All items advertised are only for sale to members and are subject to availability. Note: Upgrade to Official Secrets is offered to members of Special Reserve



Members of Official Secrets get all the benefits of Special Reserve plus:

- **Confidential.** Our 32 page bi-monthly magazine is essential reading for those interested in adventures or role playing games. Written by experts, *Confidential* has covered everything from How to Host a Murder to Which F16 Flight Simulator? Our agents, led by the Master Spy known as "The Boss Upstairs", seek out the secrets of RPGs, FRPs, MUG's, PBM's, Leisure Suit Larry, The Russians, Elvira..... and more.
- **Myth.** Written by Magnetic Scrolls, authors of The Pawn, exclusively for members of Official Secrets. Myth is a small adventure set in Ancient Greece. In it you'll meet The Ferryman, cheat Death and face the nine-headed Hydra. Myth includes the famous Magnetic Scrolls parser and graphics and is included in the price of membership.
- **Help-Line.** Manned weekdays until 8pm and Sundays. The Help-Line can help you solve most problems on most adventures.
- **Gnome Ranger.** Level 9's brilliant 3-part adventure or a **Surprise Alternative.**

UK Annual Membership **£22.00**

including six issues of Confidential, Myth, the Help-Line, Gnome Ranger or alternative **and** membership of Special Reserve.

## Amiga Software

3D POOL	15.49	FUTURE WARS	16.49	OMNI-PLAY HORSE RACING	15.49
A.P.B.	12.99	GALDREGON'S DOMAIN	12.49	ONSLAUGHT	15.49
ALTERED BEAST	15.99	GAUNTLET 2	16.49	OOZE	15.99
ARTHUR (INFOCOM)	19.99	GEMINI WING	12.99	OPERATION THUNDERBOLT	15.99
BAD COMPANY	15.99	GETTYSBURG (SSI)	19.99	OUTLANDS	12.49
BALANCE OF POWER 1990	15.49	GHOSTBUSTERS 2	15.99	P47 THUNDERBOLT	16.49
BALLYHOO (INFOCOM)	16.49	GHOULS 'N' GHOSTS	16.49	PAPERBOY	12.99
BARBARIAN 2 (PALAGE)	12.99	GNOME RANGER (LEVEL 9)	3.99	PAWNI (MSCROLLS)	13.99
BARDS TALE 1	7.99	GOLD RUSH (SIERRA)	16.49	PERSONAL NIGHTMARE	18.99
BARDS TALE 2	16.49	GRAND PRIX CIRCUIT	16.49	PHANTASIE 3 (SSI)	17.49
BATMAN THE MOVIE	15.99	GREG NORMAN'S GOLF	16.99	PHOBIA	12.49
BATTLE OF ALUSTERLITZ	16.49	GRIDIRON (U.S. FOOTBALL)	15.49	PHOTON PAINT 2.0 (1 MEG)	54.99
BATTLE SQUADRON	15.99	GUILD OF THIEVES	13.99	PLANET FALL	15.49
BATTLE VALLEY	12.99	GUNSHIP	15.99	PLAYER MANAGER	12.99
BATTLECHESS	16.49	HARD DRIVIN'	12.99	POLICE QUEST 1 (SIERRA)	15.99
BATTLETECH (INFOCOM)	16.49	HARLEY DAVIDSON	15.49	POPULOUS	16.49
BEACH VOLLEY	15.99	HEWSON PREMIER VOL1	17.99	POPULOUS PROMISED LANDS	7.99
BLADE WARRIOR	15.49	HEWSON PREMIER VOL2	17.99	POWER DRIFT	15.99
BLOOD MONEY	14.49	HILLSFAR (SSI)	17.49	POWERDRONE	16.49
BLOODWYCH	15.49	HOLLYWOOD HIJINX	19.99	PRO TENNIS TOUR	16.49
BLOODWYCH DATA DISK	9.99	HONDA RVF 750	15.49	PROTEXT WORD PROCESSOR	64.99
BOOMER	18.49	HOUSE OF SHADOW	16.99	PUBLISHERS CHOICE (1 MEG)	59.99
BRIDGE PLAYER 2000	14.49	INDIANA JONES ACTION	11.99	QUESTRON 2 (SSI)	17.49
C-LIGHT (3-D ANIMATION)	31.49	INDIANA JONES ADV	16.99	RALLY CROSS CHALLENGE	12.99
CABAL	15.49	INFIDEL (INFOCOM)	17.49	RED LIGHTNING (SSI)	19.99
CHAMBERS OF SHAOLIN	14.99	INTERPHASE	15.99	RED STORM RISING	16.49
CHASE 'N' CHASE	15.49	IRON LORD	16.49	RICK DANGEROUS	15.49
CHESSMASTER 2000	15.49	IT CAME FROM THE DESERT (1 MEG)	18.49	RISK	12.49
COLLOSUS CHESS X	15.49	IT CAME FROM THE DESERT (1 MEG)	18.49	ROBOCOP	15.49
CONFINED CIRCUS	12.99	JACK NICKLE AND THE GOBLIN DATA DISK	10.49	ROCK 'N' ROLL	12.99
CORRUPTION (MSCROLLS)	16.49	JACK NICKLAU'S GOLF	16.49	SCAPEGOAT (LEVEL 9)	13.99
CUTTHROATS	16.49	JINXTER (MSCROLLS)	13.99	SCRAMBLE DE LUXE	12.99
CYBERBALL	12.99	JOURNEY (INFOCOM)	19.99	SEASTALKER (INFOCOM)	19.99
DAMOCLES	15.49	KAMPEGRUPE (SSI)	19.99	SHADOW OF THE BEAST	19.99
DATA STORM	12.49	KEEP THE THIEF	11.99	SINCE	12.99
DAY OF THE VIPER	18.49	KICK OFF	12.99	SHOOT 'EM-UP CONSTR KIT	18.49
DELUXE MUSIC CONST SET	46.47	KICK OFF EXPANSION DISK	7.49	SILKWORM	12.99
DELUXE PAINT III	51.49	KIND WORDS 2.0 W/P	29.99	SPACE ACE	27.49
DEMONS TOMB (SSI)	12.99	KINGS QUEST 1, 2 & 3	21.49	SPACE QUEST 1 (SIERRA)	16.49
DEMONS WINT (SSI)	17.49	KNIGHTFORCE	14.99	SPACE QUEST 3 (SIERRA)	21.49
DOUBLE DRAGON 2	13.49	LANCASTER	13.49	SPELL BOOK (4-6 YEARS)	13.49
DR. DOOM'S REVENGE	16.49	LANCELOT (LEVEL 9)	13.49	STARBUCKS (INFOCOM)	19.99
DRAGON SPIRIT	12.99	LASER SQUAD	12.99	STAR COMMAND (SSI)	19.99
DRAGON'S LAIR (1 MEG)	28.49	LEADERBOARD BIRDIE	15.49	STAR WARS TRILOGY	15.99
DRAGONS OF FLAME (SSI)	17.49	LEISURE SUIT LARRY	18.99	STAR WARS (INFOCOM)	19.99
DRAKHEN	16.99	LEISURE SUIT LARRY 2	21.49	STARFLIGHT	16.99
DRAIVING FORCE	16.49	LIFE AND DEATH (R-TYPE, VOYAGER, BIO-CHALLENGE, IK*)	15.49	STATIONFALL (INFOCOM)	19.99
DUNGEON MASTER (1 MEG)	15.49	LIVERPOOL	11.99	STEVE DAVIS SNOOKER	12.49
DUNGEON MASTER EDITOR	7.49	LOMBARD RAC RALLY	14.99	STORMLORD	15.49
DYNAMIC DEBUGGER	16.49	LURKING HORROR	19.99	STRIDER	16.99
DYNAMIC DUX	15.99	MAGNUM 4 (COMPILATION)	18.99	STRYX	12.49
ELITE	15.49	MANHUNTER NEW YORK	19.49	STUNT CAR RACER	15.99
ELVIRA	19.49	MANIAC MANSION	16.99	SUPER LEAGUE SOCCER	15.49
ENCHANTER (INFOCOM)	19.99	MATRIX MARAUDERS	12.49	SUPER WONDERBOY	15.99
EYE OF HORUS	15.99	MAVIS BEACON TYPING	17.99	SWITCHBLADE	16.99
F16 COMBAT PILOT	15.99	MICROPROSE SOCCER	15.49	SWORDS OF TWILIGHT	16.49
F16 FALCON	18.49	MOONMIST (INFOCOM)	18.99	TALESPIN (1 MEG)	18.99
F29 RETALIATOR	15.99	MOONWALKER	16.99	THE LOST PATROL	16.49
FANTASION	25.49	NEUROMANCER	16.99		
FED OF FREE TRADERS	19.49	NEVER MIND	12.49		
FERRARI FORMULA 1	16.49	NINJA WARRIORS	16.49		
FIENDISH FRED'S BIG TOP	17.49	OLIG IMPERIUM	16.49		
FIFTH GEAR	15.99	OMEGA	17.49		
FISH! (MSCROLLS)	13.99	OMI-PLAY BASKETBALL	15.49		
FLIGHT SIMULATOR 2	25.49				
FUN SCHOOL 2 (2-6)	12.49				
FUN SCHOOL 2 (6-8)	12.49				
FUN SCHOOL 2 (8+)	12.49				

**SONY 3.5" DS/DD DISK 69p**

TIME	18.99
TIME & MAGIK (LEVEL 9)	13.49
TINTIN ON THE MOON	12.99
TOWER OF BABEL	16.49
TRIAD VOL1	14.99
TRIVIAL PURSUIT	12.99
TURBO	12.99
TURBO OUTFIT	16.49
TV SPORTS BASKETBALL	18.49
UNIVERSAL MIL SIMULATOR	14.99
UMS CIVIL WAR DISK	9.49
UMS VIETNAM DISK	9.49
UNINVITED	13.49
UNTOLD TALES	15.99
VETTE (CORVETTE)	18.49
VIRUS	12.49
WAR IN MIDDLE EARTH	15.49
WATERLOO	15.99
WAYNE GRETZKY HOCKEY	15.99
WEIRD DREAMS	15.49
WISHBINDER (INFOCOM)	19.99
WITNESS (INFOCOM)	13.49
WORKBENCH 1.3	15.49
XENON II MEGABLAST	15.49
ZORK ZERO (INFOCOM)	15.99

### Solution Books

BARDS TALE 1	3.99
CORRUPTION	2.50
DUNGEON MASTER	2.50
FISH! SOLUTION	2.50
GOLDRUSH	6.99
GUILD OF THIEVES	2.50
HILLSFAR	7.99
HITCHHIKERS GUIDE	7.99
JINXTER	2.50
KINGS QUEST 1, 2, 3 & 4	10.99
LEISURE SUIT LARRY 1	6.99
LEISURE SUIT LARRY 2	6.99
MANHUNTER NEW YORK	6.99
PAWN	2.50
POLICE QUEST 1	6.99
POLICE QUEST 2	6.99
SHADOWGATE	2.50
SPACE QUEST 1	5.99
SPACE QUEST 2	6.99
SPACE QUEST 3	6.99

### Myth Quotes

"An excellent adventure... witty, cunning and just plain good fun! If you liked Fish! you'll probably like this, because they're very similar in style: you may even prefer Myth, it's that good!"

Amiga Format

Crash Magazine

### Myth Reviews

Crash Smash 91%, CU 90%, Amiga Format 87%, TGM 85%

## Amiga Specials

AFTERBURNER	7.49	LORDS OF THE RISING SUN	9.99
BAAL	6.99	MENACE	6.99
BALLISTIX	6.99	MILLENNIUM 2.2	6.99
BEYOND DARK CASTLE	9.99	MIND FOREVER VOYAGING	19.99
CAPTAIN BLOOD	8.49	NIGEL MANSELL'S G.P.	4.99
CARRIER COMMAND	7.99	NORTH AND SOUTH	10.49
CHAMP (USA) FOOTBALL	4.99	PAALAND	7.49
CHAMP BASEBALL	7.99	PASSING SHOT (TENNIS)	6.49
CHAMP BASKETBALL	5.99	PHOTON PAINT	8.99
CHRONO QUEST	9.49	PURPLE SATURN DAY	7.49
DEFENDER OF THE CROWN	8.49	REAL GHOSTBUSTERS	7.49
DEJA VU	12.49	ROCKET RANGER	9.99
DRAGON NINJA	9.49	RUNNING MAN	8.49
EDDIE EDWARDS SKI	6.49	SHADOWGATE	10.49
ELIMINATOR (1.2 ONLY)	5.49	SHOGUN (INFOCOM)	14.99
F16 FALCON MISSION DISK	9.99	SIM CITY	11.99
FM2 EXPANSION KIT	6.99	SKYCHASE	5.99
FOOTBALL MANAGER 2	8.49	SPACE QUEST 2 (SIERRA)	12.49
HELLFIRE ATTACK	3.49	SPEEDBALL	8.99
HIT DISKS VOLUME 2 (LEATHERNECKS, MAJOR MOTION, TIME BANDIT, TANGLEWOOD)	9.49	STARGLIDER	6.49
HOSTAGES	7.49	STARGLIDER 2	6.99
HYBRIS	7.49	STRIKE FORCE HARRIER	5.49
HYPERFORCE & ARTIFICIAL DREAMS	7.99	SWORD OF SODAN	8.49
INGRID'S BACK (LEVEL 9)	7.99	TEENAGE QUEEN	8.49
KARTING GRAND PRIX	4.49	TETRIS	4.49
KING OF CHICAGO	8.49	THREE STOOGES	6.99
KINGS QUEST 1 (SIERRA)	8.49	THUNDERBIRDS	8.49
KINGS QUEST 2 (SIERRA)	6.99	TRIAID VOL1 (DEFENDER OF THE CROWN, STARGLIDER, BARBARIAN)	9.49
KINGS QUEST 3 (SIERRA)	7.49	TURBO CUP	6.49
KRISTAL	9.99	TV SPORTS FOOTBALL	11.99
KULT	7.99	VIXEN	4.49
LEATHERNECKS	5.99	VOYAGER	9.49
		WHO FRAMED ROGER RABBIT (1 MEG)	8.49

**SWORD OF SODAN 8.49**

SALES LINES 0279 600204. PLEASE NOTE THAT THERE IS A SURCHARGE OF 50P PER GAME FOR ORDERS PLACED BY TELEPHONE. INNEVITABLY, SOME OF THE ABOVE GAMES MAY NOT YET BE RELEASED. ALL GAMES ARE DESPATCHED AS SOON AS POSSIBLE.

### Order Form

Non-members please add the membership fee

Name \_\_\_\_\_  
 Address \_\_\_\_\_  
 Post Code \_\_\_\_\_ Phone No. \_\_\_\_\_  
 Computer \_\_\_\_\_ \*5.25"/3.5"/3.0"/TAPE  
 Payable to: Special Reserve or Official Secrets  
 P.O. Box 847, Harlow, CM21 9PH

Existing members please write your number in this box \_\_\_\_\_  
 Special Reserve membership £5 UK, £6 EEC, £7 World or  
 Official Secrets membership £22 UK, £25 EEC or £30 World  
 with Gnome Ranger and Myth  or with Surprise Alternative and Myth   
 Item \_\_\_\_\_ AMFORM £ \_\_\_\_\_  
 Item \_\_\_\_\_ TOTAL £ \_\_\_\_\_

Credit card expiry date \_\_\_\_\_  
 \*CHEQUE/POSTAL ORDER/ACCESS/VISA Overseas orders must be paid by credit card  
 (Including Connect, Mastercard, Eurocard, Switch etc) Prices include UK Postage and Packing  
 \*Delete where applicable EEC orders please add 70p per item  
 World orders please add £1.50 per item

Special Reserve and Official Secrets are trading names of Inter-Mediates Ltd.  
 Reg. Office: 2 South Block, The Matings, Sawbridgeworth, Herts CM21 9PG.  
 Registered in England Number 2054713. VAT reg. no. 424 8532 51

In the life of every art student the day of reckoning eventually dawns when all of their recent work must be displayed for public criticism in "The Crit". **BRIAN LARKMAN** takes the role of Art Tutor.

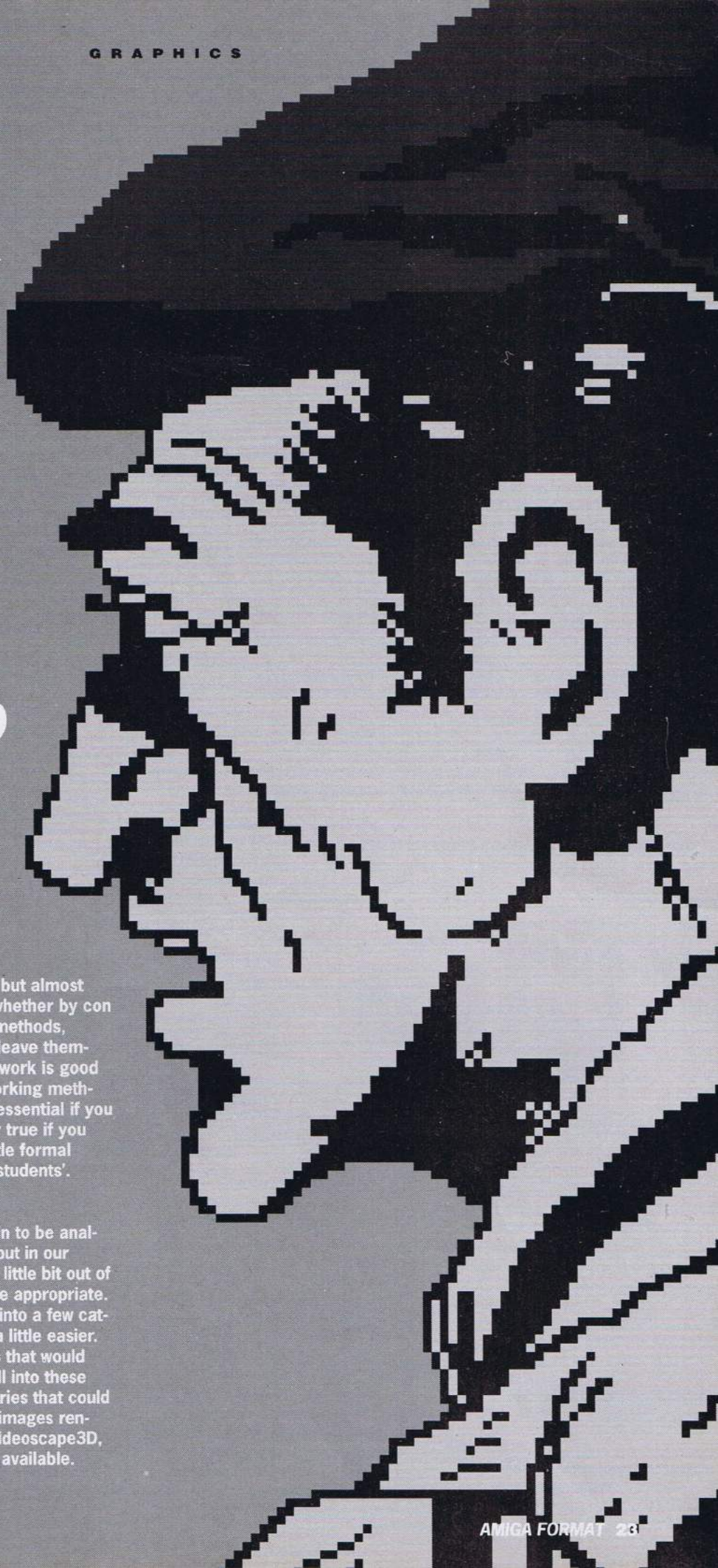
# "THE CRIT"

**C**riticism is a hard thing to take, but almost everyone producing artwork, whether by conventional or by computerised methods, intends it to be seen and so inevitably leave themselves open for criticism. Whether the work is good or bad an informed analysis of your working methods, techniques and subject matter is essential if you want to progress. And this is especially true if you are an isolated computer artist with little formal training and no interaction with other 'students'.

## Where's the Rays?

None of the work shown here was sent in to be analysed - it was just meant to be shown - but in our efforts to give our readers something a little bit out of the ordinary, a gentle 'crit' seemed quite appropriate. The most suitable images fall naturally into a few categories and this makes the discussion a little easier.

There were dozens of other pictures that would have been equally suitable but didn't fall into these categories, and dozens of other categories that could have been used. Surprisingly, very few images rendered with a 3D package - Sculpt3D, Videoscape3D, Turbo Silver, Design 3D, C-Light - were available. Where are they all? ▶



## WILDLIFE



**Black Panther**  
by MARK OTWAY

Strangely, considering all the possible animals that could have been chosen as a subject to immortalize with pixels, by far the most popular are cats, big and small. Of the three featured, the best illustration is "Black Panther", painted with PhotonPaint and almost certainly copied and adapted from a photograph.

The realistic folds of the animal's face and the sharp, wet quality of the mouth capture much of the ferociousness of the original. Good HAM packages such as *Photon Paint* and *DigiPaint* are especially good at this sort of relief drawing, because the wide range of tones available helps portray rounded, 3D objects accurately.

The weakest part of the picture is the cat's whiskers which have a severe case of the jaggies and so do not 'sit' well with the smooth 'photo-realism' of this type of illustration. A little anti-aliasing would have helped here, though *Photon Paint* makes this difficult because it does not provide true anti-aliasing, one of its few omissions. A bit of a trivial point really, but it wouldn't have taken long to soften the stepping by hand in 'Magnify' mode.



**Tiger**  
by NATHAN GAYDHANI



**BWL Tiger**  
modified by BRIAN LARKMAN

Slightly less effective is "Tiger", painted in *Deluxe Paint* using a rather gaudy palette reminiscent of some murals or the 'TakeAway school' of Middle Eastern paintings.

The Tiger itself is drawn strongly, but is let down by the background which was obviously painted on later around the beast. One of the great advantages of computer painting is the ability to produce the foreground and background separately and paste them together later. This ensures that the foreground objects stand out against the background rather than being surrounded by a 'caution zone' halo, as in this case.

Usually a very effective background can be produced, with even just a few colours, in *Deluxe Paint* by using the Shade, Blend and Smear modes with a couple of leaf-shaped brushes. I hope that the artist will forgive the slightly modified version of his pictured included for comparison, with a new background and sub-

dued colours. The changes took less than five minutes but definitely improve what was in any case a good wildlife drawing.



**Lion**  
by PETE GOODSON

Pixellation effects are much less of a problem for "Lion", executed in a freer, more painterly style. Again the face has all the fierceness of a wild lion and the mane is especially well drawn but the overall effect is less photo-realistic and more flat because only about 16 colours have been used.

A subdued background in the warm but washed-out colours of the 'bush' might have given more sense of depth overall, and slightly stronger colours and better definition around the mouth would have emphasised this focal point. A powerful image nonetheless, that shows clearly the strength of free, impressionistic drawing, even on a computer.

## LANDSCAPE

*Drawing a convincing landscape can be one of the most difficult tasks. Blending together the subtle cues of light and shade, rough and smooth texture, vegetation, rock, water and weather takes years of practice by conventional means and just as long using a computer if you start from scratch. But computer painting allows the use of several shortcuts, as you can see from the examples here.*



**Lady In Red**  
by EDWARD SEYMORE

The wide range of tools for blending, dithering, colour gradation and transparent effects provided by *DigiPaint3* and *Photon Paint2* mean that a high degree of subtlety can be used to draw freehand landscapes, providing you understand the tools and follow some basic rules. "Lady in Red" appears to have been drawn this way using *PhotonPaint*.

The background vegetation and rocks, and even the folds of her dress for that matter, have all been drawn with the highlight set in the same position. This means that light and dark have an overall continuity in the picture, emphasising the direction of the light source, and hence modelling the objects realistically in 3D.



**The Eye**  
by NATHAN GAYDHANI

"The Eye" is constructed mostly from digitised photographs, pasted carefully together using *Photon Paint*. Provided the edges are always properly blended in – as in this picture – any number of pieces can be pasted together to form a composite landscape.

Most HAM painting systems provide a 'Blend' mode that makes the edges of a brush transparent to some degree so that they 'feather in' with the main picture when they are pasted down. Where "The Eye" falls down is in the hand-drawn parts, the river, the waterfall, and the signpost. If you draw freehand over digitised images it is essential to also use the Blend mode here so that your lines 'wash in' with the background at a similar resolution: so that they are equally blurry.



**All Defences Broken and...**



**...Warcoach by MARTIN EVANS**

"Alldefencesbroken" and "Warcoach" also use digitised pictures but employ 'false colour' techniques to give the image a surreal, abstract quality that is quite striking, especially considering they were drawn with the restricted palette of *Deluxe Paint*. The trick is to use a range of colours with a similar 'Value' – the 'V' slider of 'HSV' on the palette – so as to maintain a tonal continuity across the picture. This is one of the techniques that will be described in a later tutorial on the use of colour in *Deluxe Paint*.



**Lone Hornet**  
by L J ASTON

At the opposite extreme, software tools can be used to draw the whole landscape for you



using fractals. "Lone Hornet" cleverly uses a fractal landscape rendered using the scenery creator from ST/Amiga Format Coverdisk 8. The subtle cues of light and shadow, terrain and vegetation mentioned above are all accurately blended into a realistic landscape. The exact geography is left up to the program, so you have little control, but the result is very convincing. Over this landscape, the artist has pasted rather flat drawings of aircraft that stand out rather too much, at least partly because of the clearly-defined dark outline around them. This gives a cartoon-like quality that is discussed below.

## CARTOON AND FANTASY

By far the majority of images sent to Amiga Format have been cartoons, fantasy paintings or copies of record sleeves, so these categories could not be left out. Most of the cartoons are direct copies from comics or newspapers – especially Garfield for some reason – and these are deliberately left out. The cartoon included seems to be original: correct me if I'm wrong.



**Football**  
by B M FAHY

"Football" uses single-pixel lines in a very subtle way. The figures are drawn using pale lines, except around their outlines, and the overall feeling of the illustration is of a unified pale palette that gives a flat cartoon-like quality to the figures, even though they are in fact shaded. In places the background is a little ill-defined and confused but the outline around the figures makes them stand out. This outline, the flat palette colours and the obvious caricatures are what make this a strong cartoon.



**Hysteria**  
by DAN OSBORNE

A very different use of line and flat colour is shown in "Hysteria", presumably copied from a Def Leppard album cover. Here the lines have a neon light quality that could have been achieved 'automatically' using Smoothing in

Deluxe Paint but appears to have been created by hand, so the aliasing is still quite apparent.

This may be deliberate because the lack of smoothing or anti-aliasing gives the whole picture a hard-edged quality that might otherwise have been lost. Overall, the image looks quite chaotic but in fact there is a strong diagonal structure at work throughout. This is almost certainly thanks to the original illustrator, probably working in a conventional medium, rather than the computer artist who submitted it to Format. No matter, the principle is the same. If the picture is to work visually it should have some sort of structure, even when the subject is apparently chaotic.

## PORTRAIT

At its best, portraiture should do more than just show a likeness of the subject: it should portray something of their character and spirit as well. Depending on the skill of the artist, this spirit can be extracted just by the subtle way that features are drawn, by the way the subject is positioned – lighting, background, juxtaposed symbols – or by the actual painting style used. All these methods are employed to a lesser or greater degree in the four examples shown here.



**Lady**  
by WILLIAM NEARY

"Lady In Red" was painted with *Photon Paint* and so the look of the figure is determined to some extent by the characteristics of that program. The final effect is really rather bland. Little true character seems to show through. The woman is drawn well enough – the facial features and the folds of the clothing are very well executed – but the technique employed somehow prevents the real person from showing.

It may be that the figure is drawn from imagination and represents a sort of 'idealised woman' excluding personal character. Sadly this is often the case with computer art, for the medium itself can exclude the psychological involvement that is necessary for character interpretation to take place. Pen and ink or brush and paint are somehow more immediate than mouse and pixels!

(Left) **Lady in Red**  
by EDWARD SEYMORE

Compared to "Lady", however, "Lady In Red" is full of character: but this doesn't matter, since "Lady" is a very different sort of painting. In this case the image is a very stylised picture of a woman's face and it is the style that really matters: it is a pure illustration rather than a portrait. This is the sort of picture often used in adverts for hair, fashion, make-up or jewelry where lifestyle is all important and the character of the

model seemingly counterproductive. The gestural quality of the lines and the almost careless application of colour are verging on the abstract. A computer is very good for working in this style because it is easy to apply colour underneath the lines, either by placing the drawing over the colour as a brush, or by using 'Stencil'.



**Man**  
by WILLIAM NEARY

It may say something about computer artists in general that the pictures of women shown here seem to lack character but those of men are both full of it. "Man" has been drawn in just three shades of grey and the use of these tones and the hard edges give a bleak look to the image that works well with the lined, careworn face.

Flat colour and solid dark outlines are usually the characteristics of cartoons, but in this case the picture goes beyond that sort of blandness and seems to model the figure quite successfully. By drawing an apparently arbitrary line between light and dark, the artist has actually defined the 3D form very well. This is quite a difficult job but at least using a computer you have the chance to make lots of modifications until you get the effect right.



**Amvk231**  
by PIERRE JOLIVET

"Amvk" uses a number of techniques to instill a feeling of bleakness and menace into the viewer. To start with, the face itself is totally haunting. The artist has managed to overcome the limitations of mouse and pixels to produce a series of marks just like those made by a paintbrush wielded with force.

Perhaps he worked from a digitised painting or drawing. This can be a very useful first step when producing a picture, introducing a much freer, 'painterly' element.

The sense of menace is doubled by repeating the face twice. Your eyes are drawn inevitably to one pair of eyes in the picture and yet you always have that feeling of being stared at by the other pair. A very effective device that is made far easier to set up on a computer.

Less important is the use of cabalistic symbolism, yet this also sets the scene. Its use has been handled with admirable restraint, so that the background only becomes apparent after several views of the picture. A powerful image. ■

# DELUXE VIDEO 3

**BRIAN** takes a brief look at the latest version of Electronic Arts' graphics control program.

**A**lmost from day one of its existence the Amiga has been seen as an excellent graphical presentation system – lots of colours, good sound, fast animation – all these had to be used for more than just games. One of the first programs available in Britain to make this power an easy-to-use reality was *Deluxe Video* from Electronic Arts.

The 16-colour limitation of the dual-playfield system that it uses mean that it has been overtaken by other packages, such as *The Director*, that utilise all of the Amiga's modes. Now *Deluxe Video* returns as Version 3, completely rewritten and set to become the most powerful and comprehensive presentation system ever for the Amiga. This mini-review is just a taster for the full working review complete with tutorials, tips and shortcuts in our usual thorough style, that will appear in *Amiga Format* very soon indeed.

### Power Control

The real power of *Deluxe Video* has always been its interface. It allows pictures, moving brushes, sounds and music to be mixed together to form 'scenes' and complete 'videos', on a straightforward and accurately-timed graphical display. The interface is the one thing that has survived to Version 3 from the original, so seasoned users will soon feel completely at home.

Also quite familiar is the wide range of cuts, wipes and fades available to provide professional-looking transitions from one scene to the next, though the range has been very much broadened. Overall the program has been greatly expanded in its versatility yet simplified in its operation – mainly by standardising the requestors.

### First Impressions

Anyone who has a range of graphics and animation software will have at some time wished that

several pieces of animation could be joined together with some sort of special effect or wipe, or that some extra element could be added later without remaking the whole anim. *The Director* from The Right Answers Group provides a lot of this sort of control but it is a Basic-like script language that many find too daunting. *AniMagic* from Aegis allows Anims to be pasted together and provides some amazing special effects, but has no sound and is difficult to learn. *Lights, Camera, Action*, also from Aegis, is even more difficult.

*Deluxe Video* seems, at first sight, to have it all: but let's wait for the full review, shall we? For now the only slight fault is the lack of forward skip on the control panel: to get to the end of a scene you have to sit through the whole thing. A trivial gripe perhaps, but it is very annoying when you are trying to tune the transition from one scene to another! ■

## FEATURE PACKED

Listing just the new and improved features in detail would take up more space than this mini-review will allow, so a list of the most important new features is all you can have for now!

Supports Anims and *DPaintIII* AnimBrushes.

Any standard Anim files in any resolution can be used as a scene or background over which brushes, *Deluxe Paint III* AnimBrushes, and special effects can be operated.

Works in all Amiga modes including HAM, EHB and Overscan.

No longer restricted to 16 colours in low and interlace modes, *DVideo* will now mix together on one video parts created in any mode, and in some cases play them together.

Uses Super Bitmaps for larger than screen-size scrolling effects.

Animations can be scrolled over background images that are larger than the screen and panning effects can be created.

Supports 8SVX sound files, SMUS music files and has MIDI output.

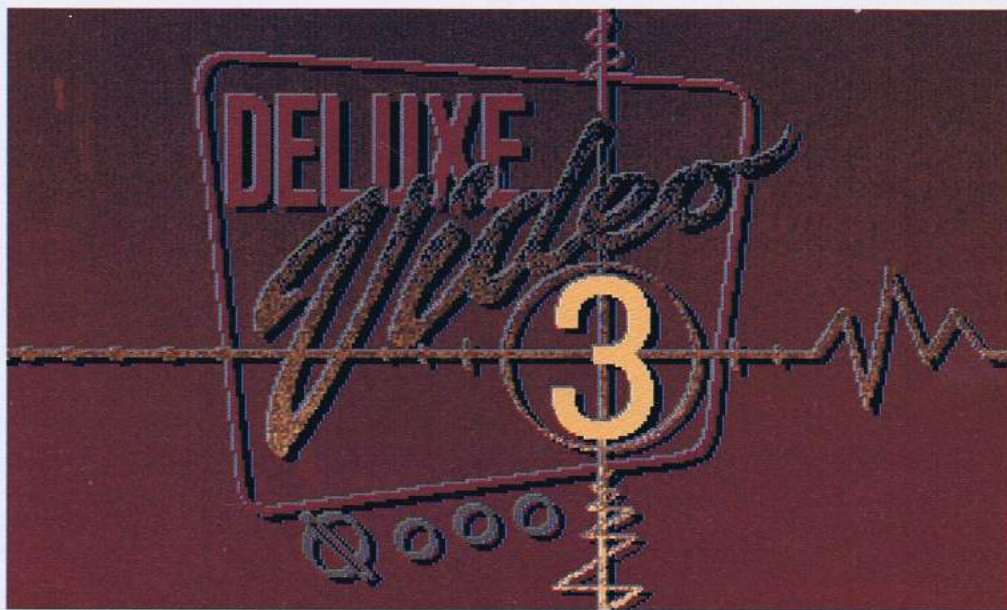
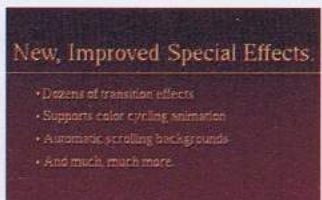
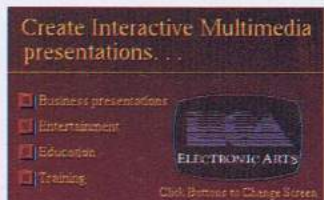
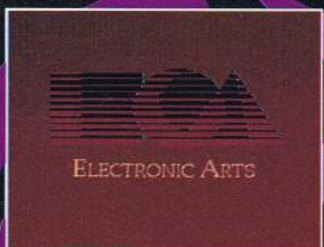
Controls SuperGen genlock for software control of fades etc.

Support for ARexx messages to external devices or program drivers means that, for example, SuperGen can be made to fade one video source to another using an example script file which is provided on disk.

Define Brush and AnimBrush movement with editable path. The movement of objects on screen is defined by dragging them along the required path. Fine tuning can be added because the path is vector graphic and so therefore its points can be edited.

Attach one moving, animated brush to another for relative motion. Objects created at different times can be made to move in unison by attaching them to each other. For instance, dolphins could follow a ship or planets orbit a sun.

Interactive Video: using a Control Track and Wait, GoTo and Label effects a video can be made to branch dependent on mouse clicks or joystick selections.



These are pictures that come with the program, exhibiting the sort of titling and animation it can do.

£50.00 SOFTWARE VOUCHER

**FREE HYPERDRAW/**

**"JANUARY SUPER BUY"**  
FREE Pocket Calculator with every AMIGA

**A M I G A**

**A500 BAT-PACK**

INCLUDES:

- Batman The Movie • New Zealand Story • F18 Interceptor • "D" Paint II
- Workbench 1.3 • Kickstart 1.3
- Amiga Basic • Desktop Utilities
- New Tutorial Pack • TV Modulator

**£357.00**

WITH TENSTAR PACK  
£385.00

WITH EVERY ST & FREE

HYPERPAINT/  
FIRST WP

**FREE!** 16 DAY HOLIDAY FOR TWO WITH EVERY AMIGA  
FROM A CHOICE OF 300 HOTELS OR ANY COMBINATION OF

**CLASS**  
of the 90's

FREE  
F18  
INTERCEPTOR  
worth  
£24.95

**EDUCATION  
PACK**

**PACK BREAKDOWN**

**HARDWARE**

	£	INC VAT
Amiga A500 Computer.....	399.99	
Midi Master Interface .....	34.99	
TV Modulator .....	24.99	

**SOFTWARE**

Tutorial Pack .....	
Deluxe Paint II.....	49.95
Publishers Choice .....	99.95
Maxiplan 500.....	99.95
Superbase Personal .....	59.95
Dr. T's Recording Studio .....	49.95
Workbench 1.3.....	
Kickstart 1.3.....	
Desktop Utilities .....	14.99
BBC Software Emulator.....	49.95
Amiga Basic Language .....	
Amiga Logo Language.....	82.00

**ACCESSORIES**

Mouse Mat .....	4.39
10 Blank 3.5" Diskettes.....	9.99
Disk Wallet .....	12.95
1 yr. Sub to Amiga User.....	23.00
Education support file (after 1 yr sub to Amiga User)	

**TOTAL RRP = 1016.99**

**PACK DISCOUNT = 437.00**

**PROMOTION PRICE = 579.99**

**OUR PRICE = £509.00**

**BUSINESS, SCIENTIFIC, EDUCATION  
AND VIDEO GRAPHIC SOFTWARE**

ST PC Speed .....	£255.00
(IBM PC Emulator)	
ST Mega Co-processor .....	£125.00
ST Macintosh Emulator .....	£229.00
(Runs 20% faster than a Mac Computer)	
Amiga Macintosh Emulator .....	£229.00
Cameron A4 Scanner (AM/ST)	£459.00
Amiga Flicker Master.....	£12.00
Amiga DOS to DOS.....	£39.95
(MS DOS File Converter)	
LC10 Mono ribbons .....	£3.50
LC10 Colour ribbons .....	£6.00
LC24-10 Mono ribbons.....	£4.50
FR/XB Mono ribbons .....	£12.00
Atari 1029 Mono ribbons .....	£4.95
100 x 3.5" disc box .....	£7.95
10 x 3.5" DS/DD discs.....	£7.35
60 gsm x 2000 sheet paper.....	£16.95
85 gsm x 1000 sheet paper.....	£12.95

**520 STE  
EXPLORER PACK  
£279.00**

**520 STE  
POWER PACK PLUS  
£365.00**

**1040 STE  
HYPER PACK  
£459.00**

**MEGA 1 ST  
HYPER PACK  
£489.00**

**PORTFOLIO PORTABLE PC  
£235**

**STAR**

STAR APPROVED CORPORATE DEALERS

HOME AND BUSINESS SERIES

LC-10 9 PIN MONO .....	£153.00	INC VAT
COMMENT: EXCELLENT NEAR LETTER QUALITY EVEN IN ITALICS MODE		
LC-10 II MONO.....	£175.00	
COMMENT: 25% FASTER, VERY ACCURATE LINEFEED FOR GRAPHICS		
LC-10 COLOUR.....	£197.00	
COMMENT: LC-10 SPECS., COLOUR FEATURES NOW WELL SUPPORTED		
LC-15 9 PIN MONO .....	£306.00	
COMMENT: IDEAL FOR LONG PRINT RUNS AND LABEL PRINTING		
LC24-10 24 PIN LQ .....	£229.00	
COMMENT: LETTER QUALITY, EXTENSIVE FONT RANGE INCLUDING SCRIPT		
LC24-15 24 PIN LQ .....	£383.00	

**SOFTWARE**

	ST	AMIGA
Chambers of Shaolin .....	£12.50	£12.50
Soldier 2000.....	£12.50	£12.50
Fast Lane.....	£12.50	£12.50
Take 'em Out .....	£12.50	£12.50
Borodino .....	£10.00	£10.00
Hard Drivin' .....	£12.50	£12.50
Rick Dangerous .....	£16.95	£16.95
Onslaught .....	£17.95	£17.95
Ghostbusters II .....	£17.95	£17.95
Chase HQ.....	£16.95	£17.95
Cluedo .....	£17.95	£17.95
Untouchables.....	£12.50	£12.50

Many other titles in stock.  
All titles are tried and tested for gameplay.

**MONITORS**

SONY

KV14 Monitor TV.....	£199
KV14 Monitor/TV with remote .....	£229
KV14 Monitor/TV/Teletext with remote .....	£269

AMIGA/PHILIPS

1084P 14" Monitor .....	£229
8833 Stereo Monitor .....	£249

(U.K. version 1 year on site maintenance)

**AMIGA  
STARTER KIT** £59.95

Includes  
**KINDWORDS WORD-PROCESSOR**  
with 100,000 online Spell Checker, 470,000 Word  
Thesaurus, Colour Graphics and Professional Typefaces  
supports LC10 Colour Printer

**FUSION PAINT**  
An advanced feature packed Art Package  
**CRAZY CARS/MINIATURE GOLF/SUPER SKI**  
Three top quality arcade games  
\*\* All packed in one presentation box \*\*

**AMIGA ADDITIONS**

**A500 3 1/2" 1 Meg Drive  
£75.00**

1/2 Meg A500 RAM Upgrade  
with switch & clock.....**£84.00**  
without clock.....**£69.95**

**FREE!!** Utilities and tools pack with every ST purchase. Software Blitter, ST Diagnostics, Disk Editor/Custom Formatter, Disk Boot Construction Set, Alarm Clock, Quick Formatter, Calculator, Custom Format Disk Duplicator, Printer Customiser Tool, Desktop Games, ARC Construction Set, System Selector, 50/60 HZ Switcher and Synchronizer, Snapshot Dumper, RAM/Print Spooler, Word-processor **AND MUCH MUCH MORE!!**

**COMPUTERHOUSE UK**

TEL: (01) - 731 - 1276

14, ROMILY COURT, LANDRIDGE ROAD, FULHAM, LONDON SW6 4LL

All prices include VAT



# HARWOODS

YOUR FIRST CHOICE FOR AMIGA

POWERPLAY  
Part

## AMIGA POWERPLAY PACKS

Gordon Harwood Computers live up to their reputation for giving legendary offers with their great value Powerplay Packs, including mega releases such as BATMAN THE MOVIE, NEW ZEALAND STORY etc. etc.

When you look at the list of over 20 extra items ITS GOT TO BE THE BEST DEAL DEALIN' DIEGO, YOUR AMIGA AMIGO, HAS EVER COME UP WITH! REMEMBER, ALL OUR PACKS CONTAIN AMIGA'S WITH THE FOLLOWING STANDARD FEATURES

- 512K RAM
- 1Mb Disk Drive
- 4096 Colours
- Multi-Tasking
- Built-in Speech Synthesis
- Mouse
- 3 Operation Manuals
- Workbench 1.3
- System Disks
- Kickstart 1.3 Built-in
- All Connecting Cables

ALL OUR PRICES INCLUDE VAT AND STANDARD DELIVERY SERVICE

DEALIN' DIEGO YOUR AMIGA AMIGO HAS A SOMBRERO FULL OF SOFTWARE!

IT'S FIESTA TIME AT HARWOODS!



### THIS MONTH'S SPECIAL OFFER!

Genuine A501 Ram Pack  
Strictly Limited Offer  
to First 200 Customers! **£99.95**

## Amiga POWERPLAY

### THE COMPLETE AMIGA GAMES PACK RIGHT NOW!

The NEW AMIGA POWERPLAY PACK now comes with OVER TWENTY ITEMS ABSOLUTELY FREE! This adds up to MORE THAN £400 SAVING!

PACK 1  
PACK 1  
PACK 1  
PACK 1  
PACK 1  
PACK 1  
PACK 1

Amiga A500 Computer (See std. features list)  
BATMAN THE MOVIE  
NEW ZEALAND STORY  
F18 INTERCEPTOR  
Buggy Boy  
Ikari Warriors  
Barbarian  
Thundercats  
Terrapods  
Art of Chess  
Wizball

Mercenary Compendium  
Insanity Fight  
Amegas  
Deluxe Paint II  
Microswitched Joystick  
10 Blank 3.5" Disks  
Disk Library Case  
Mouse Mat  
Tailored Amiga Cover  
Tutorial Disk  
TV Modulator  
(PACK 1 ONLY)

SEE WHAT WE MEAN ABOUT COMPLETE!  
You won't need to buy anything else for ages, and with our excellent back-up you'll have no worries either!

**£399**

\* OR SPREAD THE COST WITH OUR CREDIT FACILITIES

## Amiga POWERPLAY

### PACK 2

Containing the Super Powerplay Pack 1, *Only...*  
AND a Philips Stereo CM 8833 Monitor  
PLUS a Free Tailored Monitor Dust Cover...

**£615**

## Amiga POWERPLAY

PACK 3  
PACK 3  
PACK 3  
PACK 3  
PACK 3

NEW AMIGA AND COLOUR PRINTER PACK  
Take our Powerplay Pack 2 and add Star's fantastic LC10 COLOUR PRINTER, to give you the ultimate colour home entertainment computer system!!!  
Or, if you prefer an alternative printer from within our range, just deduct £209.95 and add the price of the printer you require.  
(Any printer can be chosen)

*Superb Value...*  
**£799**

PACK 4  
PACK 4  
PACK 4  
PACK 4  
PACK 4

NEW POWERPRO PACK 4 CONSISTS OF...  
Amiga A500 Computer  
Philips CM 8833 Colour Monitor  
Star LC10 Colour Printer  
The Works' Integrated Business Software Package  
Ten 3.5" Blank Disks & Library Case  
Computer & Monitor Dust Covers  
Mouse Mat

*We Mean Business! For Only...*  
**£799**

HARWOODS THE NAME YOU CAN TRUST



24 HOUR

### FINANCE FACILITIES

Gordon Harwood Computers are licensed credit brokers and facilities to pay using our Budget Account Scheme are offered on most items. APR 36.8% (Variable)  
12-36 Month credit sale terms are available to most adults, simply phone or write and we will send written details along with an application form.

(NB. Applications are required in advance and are available to full time UK mainland residents only.)

\* Credit terms with or without a deposit, can be tailored to suit your needs.

### ORDERING MADE EASY - COMPARE OUR SERVICE



ORDER BY PHONE: Phone our 24hr Order Hotline using your Access, Visa or Lombard Charge Cards quoting number & expiry date.



ORDER BY POST: Make cheques, bankers-building society drafts or postal orders payable to GORDON HARWOOD COMPUTERS.  
(NB. Personal or business cheques require 7 days clearance from date of receipt before goods can be despatched)  
Please send Name, Address, and Daytime Telephone Number along with your order requirements.



FREE POSTAL DELIVERY: Goods in UK Mainland (5-7 day delivery).  
OR COURIER SERVICE...Add £5 per major item for next working day delivery, UK Mainland. (Orders normally despatched on day of receipt of payment or cheque clearance).



If you wish to pay by Credit Giro Transfer at your own bank this can be arranged, simply phone us for details.

Remember after you've purchased from Harwoods we'll still be here...



12 MONTH WARRANTY: If goods prove to be faulty within 30 days of purchase they will be replaced with a NEW UNIT. For the remainder of the guarantee period, all warranty repairs will be made FREE OF CHARGE!

COLLECTION FACILITY: Any faulty computer or monitor can be collected from your home FREE OF CHARGE during guarantee period (UK Mainland only)

FULL TESTING PROCEDURE: All computers are tested prior to despatch, all items are supplied with mains plug where required.

# ERPLAY tfolio

## MONITORS

### PHILIPS CM 8833 STEREO

Full 14" Stereo High Resolution Colour Monitor

- SCART Euro-connector fitted as standard
- RGB/Al, TTL, Comp. Video & stereo audio inputs
- Can also be used as a TV with tuner or VCR
- Features fold down tilt-stand □ Twin Speakers
- FREE lead for computer of your choice
- ONLY FROM HARWOODS...12 Month replacement warranty for major faults

All this and a Free Tailored Dust Cover... **£249**

### NEW COMMODORE 1084 D

Full 14" High Resolution Colour MONITOR

- RGB/Al, TTL Composite Video & Audio Inputs
- Supplied with cables for A500, CGA PC, C16-64-128
- New Super VHS Video Input
- Designed for use with the Amiga
- Mounts on Amiga and conceals cable runs, fully supported on retractable legs

With Free Dust Cover... **£239**

## GRAPHICS HARDWARE

DIGIVIEW GOLD 4.0

NEW VERSION 4.0

enhanced software

Digitises static images in FULL COLOUR and all resolutions supported (memory permitting). Creates IFF and HAM files. Uses B&W or colour with B&W mode video camera. **£139.95**

VIDEO TO RGB SPLITTER

Takes standard video signal, separates red green and blue. Includes standard video recorder or colour camera to digitise in colour with Digiview Gold (requires clear picture phone with recorder). **£109.95**

RENDALE GENLOCKS

8802 SSM PROFESSIONAL **£189.95**

▲ NEW LOW PRICE ▲

8806 PROFESSIONAL **£749.00**

SUPER PIC

Real time frame grabber and Genlock. Instant colour frame grabber from moving video. Capture superb digitised video images in a range of resolutions from standard composite video sources such as domestic video recorder or video camera in 50% of a second. Includes Genlock to overlay Amiga graphics onto moving video. Super Price... **£539.95**

COLOUR PIC

Same as the SUPER PIC programme but without the Genlock. Great Value... **£439.95**

MINIGEN GENLOCK

Entry level Genlock for mixing moving video picture with computer graphics. Ideal for titling, no monitor required. **£113.85**

HITACHI VIDEO CAMERA

Mono, 650 scan lines. **£249.95**

## PRINTERS

All printers in our range are Dot-Matrix and include the following features...

Standard Centronics parallel port for direct connection to Amiga, PC's, ST etc. and come with... FREE CONNECTOR CABLES!

**N** Free Tailored Dust Cover With Every Star Printer Bought!

CITIZEN 120D

FULL 2 YEAR WARRANTY

Very reliable low cost printer, interchangeable interfaces available for Centronics RS 232 or Serial Type for CBM 64 etc. **£149.95**

STAR LC10

Our most popular Mono Dot-Matrix printer and at a super low price **£169.95**

STAR LC10 MkII

Brand new superfast MkII version of the ever popular LC10 printer.

- Multiple font options from front panel
- Excellent paper handling
- Simultaneous, continuous and single sheet stationary **£184.95**

STAR LC10 COLOUR

Colour version of the LC10...

- Allows full colour dumps from Amiga
- Superb text quality
- Can use black LC10 ribbons
- Our most popular colour printer! **£209.95**

STAR LC 24 10

24 Pin version of the Star LC Series with exceptional letter print quality **£209.95**

All our Star printers are genuine UK spec, which are specifically manufactured for sale in the UK only. Please be aware that European spec. versions are being unofficially imported against the wishes of Star Micros UK. These printers DO NOT carry a Star UK warranty, and WILL NOT BE SERVICED BY THEM should the need arise. UK specification printers may be recognised by their 3-Pin UK type plug which is MOULDED to the mains cable!

## STORAGE DEVICES

HARD DRIVES

COMMODORE A590 20Mb HARD DISK DRIVE FOR AMIGA A500, WITH FREE 0.5 Mb MEMORY

Commodore's own hard drive for the A500

- Autoboot with Kickstart 1.3
- Sockets for up to 2Mb RAM expansion
- Can be expanded in 512K blocks
- DMA access
- External SCSI port
- SUPPLIED WITH FREE 0.5Mb MEMORY EXPANSION (As detailed below "Hard Disk Upgrade")

**SUPER LOW PRICE ONLY...£399.00**

A590 HARD DISK WITH 2Mb MEMORY

- Expansion fitted and Ready To Go!

**GREAT OFFER AT ONLY...£549.00**

### HARWOODS

ALWAYS DRIVING THE PRICES DOWN TO GIVE YOU EXTRA SAVINGS!

A590 HARD DISK 512K UPGRADE

- Onboard, fit up to 4, in stages, giving 2Mb total
- Up to 3Mb when fitted with A501

**GREAT OFFER AT ONLY...£59.95**

40Mb VORTEX HARD DRIVE FOR BOTH AMIGA A500 AND AMIGA A1000

- For both A500 and A1000 as supplied
- Autoboots on ANY Amiga

**GREAT VALUE AT ONLY...£499.00**

FLOPPY DRIVES

EXTERNAL FLOPPY DISK DRIVES

The drives listed below have the following features...

- Enable/Disable switch
- Throughport
- LED Access light, super quiet
- Suitable for A500, A1000, A2000

CUMANA CAX 354 3.5" SECOND DRIVE

- 25mm Super slimline 3.5" drive

**A REAL BARGAIN AT ONLY...£89.95**

CUMANA CAX 1000S 5.25" SECOND DRIVE

- Amiga DOS and MS DOS compatible

**SAVE MORE THAN EVER...£129.95**

HARWOODS SUPERSLIM 3.5" SECOND DRIVE

- Extra storage and great value too!

**'SUPERLIM PRICE' ONLY...£69.95**

## ACCESSORIES

COMMODORE

A501 RAM PACK *See "Dingo's Special"* **£119.95**  
GENUINE CBM ram pack with real time battery backed clock. This add-on DOES NOT invalidate Commodore's warranty.

A500 POWER SUPPLY **£49.95**

GENUINE CBM power supply, also fits 128

A520 TV MODULATOR **£19.95**

Supplied with all the necessary cables

QUALITY ACCESSORIES

REPLACEMENT MOUSE Great Feel Only...**£29.95**

Microswitched mouse buttons, high resolution mechanism

FLOPPY DISKETTES

GENUINE COMMODORE DISKS **£14.95**

Ten 3.5" Commodore Quality at Only,

QUALITY CERTIFIED 3.5" BULK DISKS (supplied with labels)

Ten, with library case **£9.49**

Ten, uncased **£8.49**

Eighty, uncased **£49.95**

Hundred, uncased **£59.95**

Eighty with LOCKABLE storage case **£54.95**

JOYSTICKS

ZIPSTICK SUPERPRO Professional, perfect feel **£15.95**

PHONE FOR LARGER QUANTITY DISCOUNTS!

## Amiga SOFTWARE

THE WORKS Integrated word processor with spelling checker, spreadsheet with graphics and database **£79.95**

X-CAD DESIGNER Perfect choice in Computer Aided Design (1 Mb required) **£99.95**

PUBLISHERS CHOICE Complete solution for DTP needs contains: Kink Words V2 WP Package, Pagesetter Y1.2 with Artists Choice clip art and Headliner font Pack **£89.95**

AMAS Advanced Midi Amiga Sampler, High Quality Sound Sampler & Midi Interface including all necessary Software **£89.95**

AEGIS Graphics Starter Kit inc. Aegis Draw, Animate, Images, Clip-Art and Artzack's Tomb (adventure game) **£49.95**

ORDER HOTLINE - 0773 836781

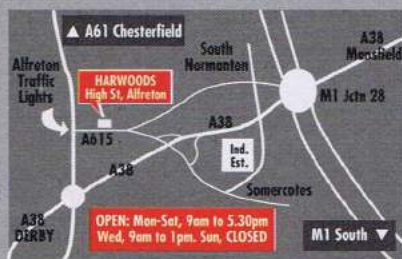


## VISIT OUR SHOWROOM

Please call to see us where our full range of advertised products, AND MORE, is on sale. Come and see for yourself the amazing Amiga and a whole host of peripherals, software and accessories.

REMEMBER, WE ARE NOT JUST ANOTHER MAIL ORDER COMPANY.

All listed prices are what YOU PAY, and there are NO HIDDEN EXTRAS! VAT and postage are included and prices are correct at time of going to press. E & O E. Offers subject to availability and are currently advertised prices.



OPEN: Mon-Sat, 9am to 5.30pm  
Wed, 9am to 1pm. Sun, CLOSED

## GORDON HARWOOD HARWOOD HARWOOD Computers

GORDON HARWOOD COMPUTERS  
DEPT. AMF/B3, 69-71 HIGH STREET  
ALFRETON, DERBYSHIRE, DE5 7DP  
TEL:0773 836781 FAX:0773 831040

# OVERLANDER

## The road game that blasts the way



**mis'sion** (mish'n) *n.* sending or being sent on some service.  
**miss'ile** (-il, -il) *n.* that which may be thrown or shot to do damage.  
**car** *n.* a wheeled vehicle; motor-car.  
**en'e'my** *n.* hostile person; opponent; armed foe; hostile force.  
**scum** *n.* froth or other floating matter a liquid; waste part of anything; vile person or thing; riff-raff.  
**rock'et** *n.* firework or stick that can be shot up in the air by igniting it's contents; automatically fired aid controlled weapon, armed and remote object.  
**fu'el** *n.* (fü-) *n.* material for burning.  
**mer'cenary** (-s-) *a.* hired; working simply for reward. - *n.* hired soldier.  
**arm'our**, (us arm'or) *n.* defensive covering or dress; plating of warships, task forces.  
**choose** *v.t.* pickout, select; take preference.  
**weap'on** (wep'n) *n.* implement to fight with.  
**carg'o** *n.* vehicle's load, it's freight.  
**reward'** *v.t.* pay, make return, for service, conduct etc.  
**Élite** (-a-l-et') *n.* choice or select body; purveyor of video games; video games that will get better and better as time passes.  
**OVERLANDER** *n.* wicked 21st century video game where mercenary completes mission by delivering cargo in a car for reward and uses reward from successful missions to choose fuel or armour and weapons including rockets and missiles to improve his car so that he can defeat scum in further more treacherous missions.



**NOW ! AVAILABLE  
FOR...  
COMMODORE  
AMIGA £19.99**

# elite



# TAKE ON THE MOB

After the success of *Batman The Movie*, can *The Untouchables* continue Ocean's current run of success?



Can Gremlin follow up the success of *Switchblade* with *Super Cars*? p35

Turn the page to find the answer. You'll also find in the next 14 jam-packed pages that this month's Screenplay has less than the usual amount of coin-op conversions and film tie-ins.



Infogrames' RPG extravaganza *Drakkhen* arrives - can it pinch *Dungeon Master's* crown? p50

Original games are fighting back, it seems, and let us hope

this trend continues. Tune in next month to see if the coin-op army make a counter-attack.

## THE RATINGS EXPLAINED

### GRAPHICS

Good graphics are an important part of any game: if the power is there, it should be used to the full. Both static and moving graphics come under scrutiny in this rating, but remember, graphic wonders alone do not a great game make...

### SOUND

With stereo capabilities the last thing you want to hear are Spectrumsque beeps, right? Title tunes and effects all add to the atmosphere of a game and good sound can greatly increase your enjoyment.

### INTELLECT

How much real thought do you have to put in to play the game? Just because a game is mindless doesn't necessarily mean it's bad, but a game with a high intellect rating says immediately that you'll need to think to gain maximum enjoyment.

### ADDICTION

How easy is a game to pick up and play? How much sheer fun will you get from it? Will

you keep coming back? Important questions, all answered by a quick look at the Addiction rating.

### OVERALL

A percentage mark that takes into account all the ratings, plus extras like lasting interest, documentation and packaging.

### THE TEAM

There are two main *Amiga Format* reviewers: Andy Smith is an ex *Spectrum* owner who's been playing computer games for many years now and writing about them for almost as long, cutting his teeth on ACE before moving onto *Amiga Format*. Andy likes any type of game, from shoot-em-up to strategy game, from adventure to arcade conversion.

Maff Evans joined AF after doing sterling service for *Zzap! 64*, and he splits his time between playing games and writing reviews for us and our sister magazine *ST Format*. He's another solid all-rounder who's not averse to giving Andy the odd high score contest on the month's best games.

# THE UNTO

OCEAN £24.99



Ness



Malone

## GRAPHICS AND SOUND

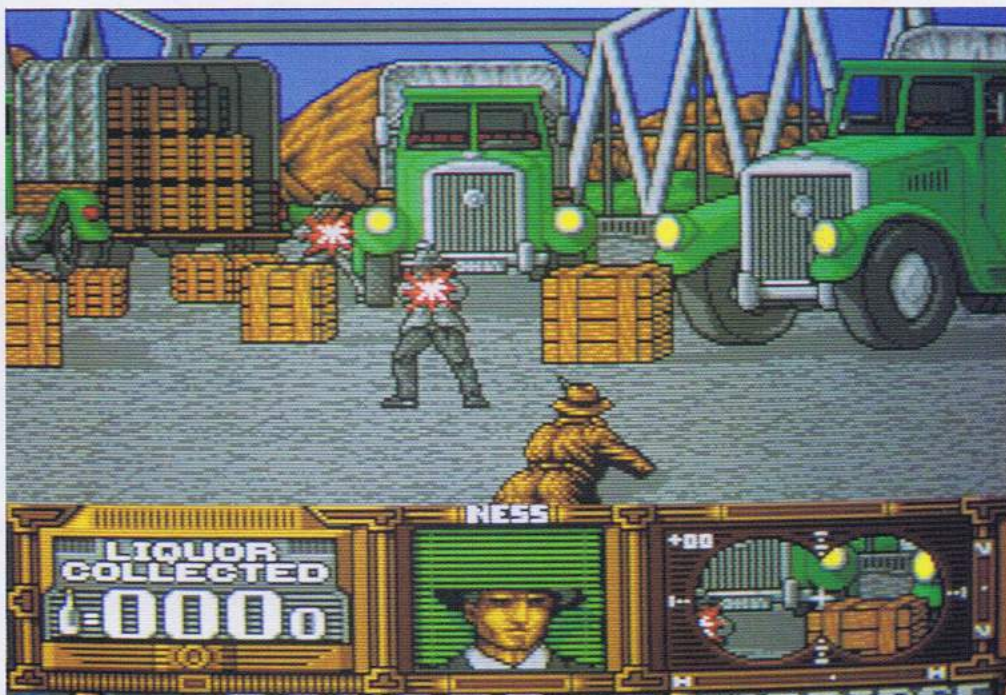
Every stage and every section has been well designed and drawn and overall the game looks terrific. The different views for the different sections is a plus too and all the sprites are smoothly animated. The sound effects are also good, as is the in-game music, and you can toggle between the two at the press of a button.

## LASTING INTEREST

This is a toughie – making it through each stage is a triumph in itself and it'll take ages to complete the game. It's also very frustrating at times but that just makes it more addictive. The six sections work



well together and although they wouldn't stand up as games in their own right they help to make the overall package very satisfying.



Level Two. Use the binocular sights currently located at the bottom of the screen to aim your shots at the baddies and at the bottles of booze.

Chicago during the roaring '20s was one hell of a city. Alcohol was banned, the Mob had their fingers in just about every illegal pie in town and the police department were finding it hard to cope. Action was called for and the FBI's answer was to create a bunch of crime-busters who had a free hand to use whatever methods they deemed fit to bring the situation under control. This bunch of characters was lead by Eliot Ness and were later to be known as The Untouchables.

As Eliot, it's down to you to lead the gang and go after the biggest fish of all: Al Capone. There are six stages to the game, the first of which is set in a warehouse where Al's hoods are busy bootlegging liquor. In this section of the game you control Ness in a sideways-scrolling shoot-em-up in which you have to blast away at not only the gangsters, but also Capone's bookkeepers. The aim of this section is to kill the bookkeepers and grab the pieces of evidence they drop.

You didn't think it was going to be that easy, though, did you? Absolutely not, because the place is crawling with baddies all of whom are armed with machine guns and all of whom shoot to kill

– every hit you take reduces your health meter displayed at the base of the screen. To slow down this process you can pick up the violin cases dropped by the baddies when they're shot. As well as extra energy these cases can also contain extra ammunition and a time-based rapid fire benefit. Collect the 10 pieces of evidence and then you're into the next stage.

Here you're trying to prevent a liquor run that's taking place at the

American/Canadian border. Again it's more like *Operation Wolf* as the baddies appear from behind cases and trucks in front of you. Shoot the baddies and the bottles of booze lying around and try not to take too many hits, then when you've scored enough points you'll go through to the next stage.

In an alleyway you now have four Untouchables to switch between and a set number of men

## IN THE AVENUES AND ALLEYWAYS...



In the first alleyway on Level Three. With five more baddies to kill and only 10 seconds to do it in, things are looking tough.



# UNCHABLES

Joystick or Keyboard



Wallace



Stone



Shoot the guy with the brown coat on and he'll drop some evidence.



And there it is. Simply walk over to it to pick it up.



At the top of the pile of crates, collect the violin cases that the baddies drop to gain extra energy, ammunition and so on.

to kill in a very short space of time, using only a shotgun. Should you manage the required number the next stage is just the same except from the other side of the alley (there are eight alleys in all, four from each side).

Next comes a viewed-from-above section of the game which is set in a train station where Ness not only has to shoot baddies, but also must guide a baby's pram through the station by nudging it gently past obstacles.

The penultimate scene has you trying to kill the last henchman who's taken a hostage before the poor innocent gets his brains blown out. Then you're into the final scene as you chase a baddie across the rooftops of the court where Capone is standing trial. ■

GRAPHICS	8
SOUND	7
INTELLECT	3
ADDICTION	8
OVERALL	87%

## JUDGEMENT

The only minor quibble is the fact that there's an awful lot of shooting to be done. None of the levels are brilliant games in themselves, but put together they do work well and the overall effect is a brilliant translation of the film. It's not quite worth the Format Gold award simply because of a lack of variety on some levels. Still a goodie, and even if you didn't get to see the film, but you like a challenge, you'll enjoy this.

Reviewer Andy Smith



Left: The second alleyway on the third level and this time you're firing from the other side.

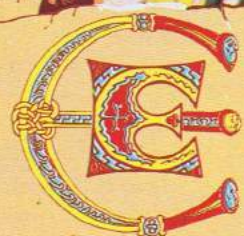


After every second shot your character is forced to duck behind the wall in order to reload his gun. Could cause problems...



# THE MIGHTY LEGEND

## Ivanhoe



Enter a mediaeval era in a mystical world where Ivanhoe, our chivalrous hero, pursues a perilous quest... a quest from which most mortals would run... an adventure which most men would fear! Strap on your armour, take up your sword and brace yourself to face the magical powers of the most evil of wizards, the plunderous pirates, the most awesome of dragons and a host of hideous 'beings' in this land of legends.

Superb animation, by the cartoonist whose brush gave us the Asterix movie, and beautifully executed graphics create a visual impact as yet unseen in the media of interactive entertainment. *Ivanhoe* - Fight for your life... and legend!

ATARI ST  
£19.99



AMIGA  
£24.99



In the Parsec trying to get past a disabled car you blew up on an earlier lap.

**GREMLIN £19.99 ■ Joystick**

# SUPERCARS

**F**errari Testarossas, Porsche 944s, Jensen Interceptors, pah! They're all chicken feed compared to the cars in Gremlin's latest. Retron Parsecs, Vaug Interceptors, Taraco Neoroders and variants rule the roost here.

It's a single-player racing game, viewed from above, that gives you nine tracks to race on at three different levels making a total of 27 races. It's not solo stuff though: there are between three and seven computer-controlled cars to compete against for each race. You start against three and more cars join in as you move up the levels.

Before setting your wheels on the first track, though, you'll have to check out your equipment. You're given the basic Neoroder car to start with and new tyres, engine, body and a full tank of fuel. But as the season goes on all of these things become damaged - by bashing into the other cars, by skidding too much and so on - so before each race the gauges at the base of the screen have to be checked to see if you'll be able to survive the next race.

A race lasts a set number of laps, the number increasing as you step up the levels. If the race is long, your damage is high and things look dodgy, then pop into

the garage and buy some new equipment. Note that improvements and repairs cost money and the only way to make money (and continue driving) is to complete each race in the top three and get some prize money. Coming first, obviously, gives you more prize money than coming third.



The Retron Parsec, top-of-the-range technology.

Win a couple of races and the coffers swell allowing you the luxury of buying some handy extras like a turbocharger for faster acceleration, power steering for a smaller turning circle and spin assist which points your car in the right direction after hitting an oil patch. Yes, oil, water and mud patches can all be found on tracks and all of them have detrimental effects on the speed or handling of your car. Then again, you could go for some down-right dirty tricks

like front and rear missiles which, if aimed correctly, can knock a rival car right out of the race.

Start winning some serious money and it may be time to start thinking about a new car. A visit to the showroom before a race gives you the opportunity to select either the same type of car, but with a bigger engine, or a completely new model. There's even a chance to haggle with the dealer and try to knock the price down, but upset him and he'll throw you out of the showroom and not allow you back in until you've won another race.

Keep going until you fail to finish in the top three or until you manage to either blow the engine, tyres, or run out of fuel - easy to do if you don't watch your gauges closely and repair them between races. Then there's a full results service at the end of the game where two commentators give all the stats of who performed best on which tracks. ■

## JUDGEMENT

It may not be an original idea but it's one of the best of its kind. Gremlin seem to be keeping up their new-found form of quality products, like Switchblade, which is pleasing to see.

## GRAPHICS AND SOUND

The tune which plays throughout is fine, as are the skidding and bumping sound effects: they're not brilliant but they're certainly adequate. The graphics are much better: not only is the animation very smooth, but there's a high level of detail with things like shadows from bridges and trees included.



In the garage and buying a front missile should ensure a better placing in the next race.

## LASTING INTEREST

It's not easy and the difficulty tuning has been set just right, making it highly addictive. The gameplay is great and it's fun to see things like loosing off a missile at one car, say on a bend, the car becoming a write-off and all the other computer-controlled cars bashing into it. With 27 races to win it's going to last you some time.

## LET'S GO SHOPPING



Your nice shiny red Vaug Interceptor won't stay nice and shiny for long.



Into the showroom and it's time to start haggling for a new car.

<b>GRAPHICS</b>	<b>8</b>
<b>SOUND</b>	<b>6</b>
<b>INTELLECT</b>	<b>4</b>
<b>ADDICTION</b>	<b>8</b>
<b>OVERALL</b>	<b>86%</b>

Reviewer Andy Smith

**GRAPHICS AND SOUND**

The ball movement is what it's all about, Brian, and fortunately the ball movement is spot on, being both smoothly animated and very realistic. The rest of the graphics are somewhat basic, but at least they're colourful. The clunks and pings and other spot effects are fine, but a bit of background music wouldn't have gone amiss.



The third table and now you have to light each letter individually (before, landing in an 'A' hole lit all the As - not any more).

**LASTING INTEREST**

If you don't like pinball simulations you won't be playing anyway, but if you do you'll find it's superbly addictive and with 12 tables to get through it'll take quite a while. Shame the high score table isn't saved to disk.

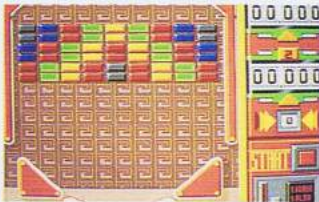


Table Four and the first of the Breakout games.

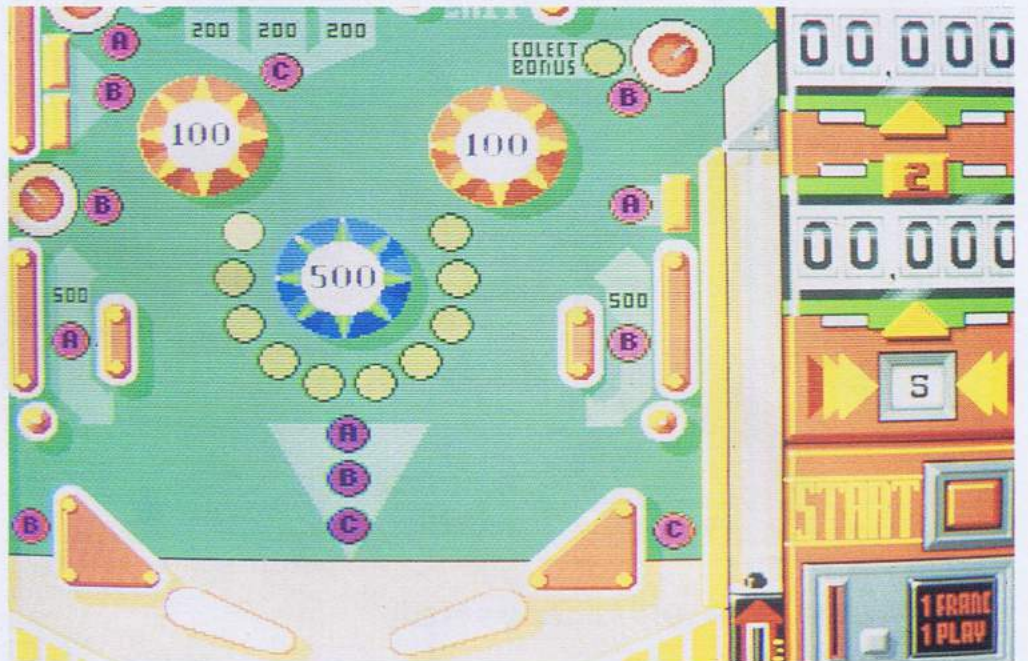


Notice the one-armed bandit reels in the bottom right? Just you try scoring a jackpot!

Reviewer Andy Smith

# PINBALL MAGIC

LORICIELS/US GOLD £24.95 ■ Keyboard



**C**urious things, pinball tables: you either love them or you hate them and if you love them, well, they're impossible to resist. Pin tables have not changed radically since the '50s when they first became popular: the electronics revolution had its effect, but the basics remain the same.

This latest offering from Frenchies Loriciel is a computer version of the popular arcade pastime. There are 12 tables in all, and the game is a mix between realistic tables, complete with

bumpers and blocks to knock down, and abstract tables with breakout elements.

Starting with five balls each - two players can play each taking alternate turns - the idea is to work your way through the tables by lighting a series of lights (the exact number varying for each table) and then getting the ball through the exit at the top of each table. Fortunately, should one player manage to do this then both players will continue playing on the new table.

Of course, lose a ball between the flippers and it's gone for good, but there are ways to gain extra balls. One easy way is to work your way onto a new table, where you'll become the proud owner of five shiny new ones, or by getting the ball that's in play into a bonus hole or by knocking down a set number of bricks on certain tables. There are several other bonuses, but most are points based. ■

**JUDGEMENT**

Almost everything you could wish for in a real pin table has been included and the realistic ball movement and high lasting interest factor help to make this the best pin sim to have appeared to date.

GRAPHICS	7
SOUND	6
INTELLECT	2
ADDICTION	8
OVERALL	75%

**PANDORA £19.99 ■ Joystick or Keyboard**

# OUTLANDS

Just for a change, here's a vertically scrolling shoot-em-up for one or two players.

After all but wiping out humanity, the aliens are planning on coming back and destroying those few survivors who managed to escape to Mars. Attack is the only solution, so it's into your viewed-from-above space ship and the start of four levels of blasting.

As you might expect there is wave after wave of aliens to destroy, but your job is made easier if you can pick up some of the extra weapons amongst which are included twin fire and drones that shoot.

The graphics are fine, if a little basic, and though it scrolls slowly, the ships move well enough and everything is smoothly animated. Unfortunately, the gameplay is not

The wave on the left has come up from the bottom and the thing on the right has come down from the top - sound familiar?



so hot. When you're playing, it's hard to be gripped by that sense of urgency and you're just left feeling 'so what'. It's not very addictive even though the difficulty tuning has been set about right, and after a short time you'll be bored of it.

There's nothing glaringly wrong with this game: it's just that there are several others around that have much more to offer. ■

GRAPHICS	6
SOUND	5
INTELLECT	1
ADDICTION	4
OVERALL	51%

Reviewer Andy Smith

The P47 Thunderbolt was one of the American Air Force's best fighters during World War II. From 1943 onwards, P47s were based in Britain and were principally used for short-range sorties over northern France.

In this one or two player shoot-em-up, converted from the Jaleco coin-op of the same name, the player gets the chance to climb in the cockpit of one such plane and work his way through eight stages of mayhem.

It's a side-viewed horizontal scroller which moves slowly from left to right, where the player has to destroy not only ground targets, such as gun turrets and tanks, but also enemy planes which attack from all parts of the screen and usually come in waves.

You're armed with a front-firing gun initially but extra weapons can be collected by shooting the small helicopters that appear occasionally and collecting the symbols which they leave behind.

The power-ups that are available include bombs that fall from your plane every time you press the fire button – whilst still firing forwards as well – and spray missiles which fire from the front of your plane and then spread out in a fan formation killing anything they touch (very handy!).

Unlike most games of this ilk, the strength of your power-up is governed by the strength of the plane. Every time you collect a power-up your energy level increases, starting at one and rising to a maximum of four.

Your energy level determines the number of extra weapons that each power-up releases: for example if you collect a bomb power-up, one bomb is released for each level of energy, so you will find that you can have four bombs dropping out each and every time you press the fire button.

Note though, that once you've collected a power-up, collecting another will discard the first because you can not have more than one at once. The nice thing is that you don't lose the extra weapon when you lose a life, it just steps down a strength level.

Work your way through the stages (avoiding the scenery on some levels) and before progressing to the next level you have to destroy the end-of-level guardian which could be either a train, a battleship, a plane or a tank. Should you make it through all eight stages you can then go back and do the whole thing again at a higher difficulty level (of which there are four), which is where the simultaneous two player option comes in extremely useful. ■

### GRAPHICS AND SOUND

The parallax scrolling on each level is good and the background graphics in general are excellent. The sprites are all well drawn and well animated and the game has ended up looking very much like its coin-op parent. The sound is limited to either 'on' when you get the standard coin-op tunes plus spot effects (explosions and the like) or 'off' when you get nothing at all.



That's you on the far left of the screen, in the middle of a heavy attack headed up by that large Heinkel-like plane.

# P47

**FIREBIRD £24.99 ■ Joystick or Keyboard**

### LASTING INTEREST

Like all shoot-em-ups, it has a limited life span. It's a goodie though, so if you really fancy a new challenge this is as good as anything that's around at the moment (and a lot better than some others).

## DEATH FROM THE SKIES



Bombing away at the first end-of-level guardian...



...and there he goes! Phew!

There's no rest for the wicked, though, as you're straight into the next level.



Collect the 'M' symbol to gain some extra missiles.



Another game and here you're equipped with bombs.



Later in the game you also have missiles to bomb and dodge: it's so annoying when you miss a power-up, like the 'T' bottom left.

### JUDGEMENT

A nice example of the genre. It doesn't offer much new, but blast fans won't be disappointed and the two player option, as ever, makes for a lot of fun.

GRAPHICS	8
SOUND	6
INTELLECT	1
ADDICTION	8
OVERALL	80%

Reviewer Andy Smith



# SEVEN GATES OF JAMBALA

GRANDSLAM £24.99 ■ Joystick

Everyone must know the story of the Sorcerer's Apprentice, of how the young student always caused trouble with his meddling. Dravion is a student similar to the one in the story. All he's ever wanted to be is a fully-fledged wizard, but he always manages to do something wrong and get into a terrible scrape. It's not really his fault – after all he can't really help being clumsy. But in the world of

magic, innocent accidents can have serious consequences.

For too long Dravion ruined the Old Master's spells, making the wrong thing appear or creating spells of his own which caused no end of confusion. The Old Master told him that the next time he makes a mistake he'll be sent to the realm of Jambala. Dravion knows exactly how serious the Old Master is when he says this. He

## JUDGEMENT

*Seven Gates of Jambala* continues the tradition – not to quite as good effect as USG but admirably enough – and manages to hold its own against the current glut of coin-op conversions. If you like a bit of wizardry and fancy a change from 3D racing or alien blasting then give *Jambala* a try.

has often heard tales about the mysterious Jambala – of how even strong wizards enter the realm, never to return.

During the casting of his last spell, the Old Master was just at the climax of his incantation when Dravion accidentally leant on a lever which caused the spell to be ruined and the room to be plunged into total darkness. The last thing he remembers is the Master's voice muttering darkly and then blackness. Next thing he awoke in the realm of Jambala!

You must guide Dravion through the seven levels of this magical world searching for the one way that he can escape – the Great Wand. The seven pieces of the wand have been scattered throughout the passages of Jambala, waiting for a wizard to reconstruct them. Dravion must find these pieces and collect clues from creatures behind certain doors in the passages to help him rebuild the wand and escape.

The passages are guarded by a variety of strange creatures, all intent on keeping intruders like Dravion away. All the young wizard has to help him is a bag of magic spell dust to throw at his adversaries, but he can pick up extra weapons along the way. Also en route secret treasure is to be found – useful for bribing information holders or buying weapons. Dravion can find this by inspecting the ground with a hammer stolen from a dead wasp or fly. Yes, it is weird, but that's magic for you! ■

GRAPHICS	7
SOUND	6
INTELLECT	4
ADDICTION	7
OVERALL	79%

## LASTING INTEREST

Even though the platform-based arcade adventure isn't a new idea, there are few enough on the Amiga to make them interesting. *Grandslam's* release manages to keep the style alive by presenting us with a good looking and playable game in a long-trusted format. It would have been very easy to ruin the idea by producing a simple run-to-the-right time after time banal game, but as *US Gold* proved with *Ghouls'N'Ghosts*, as long as it's done properly, platform games can be fun.

## GRAPHICS AND SOUND

For such a young company, *Thalion* have done themselves proud by programming a slick and well polished game with small but well-defined sprites,



Your last chance to get hold of a power jump at last year's price.

haunting soundtracks and impressive presentation screens. The game's atmosphere veers wildly, due to the contrasting tunes and graphic styles – from the cute "Wizard of Oz" town scenes, through wondrous gold treasure caverns to murky underground passages filled with horrible monsters. Some of the dungeon creatures offering bargains are a little quirky, but fit into the general appearance of the game nicely nonetheless. A good start for these young designers!

# KENNY DALGLISH SOCCER MATCH

IMPRESSIONS £19.99 ■ Joystick

Here's the second in the planned trilogy of *Kenny* games – the first was a management game and the third is based on the struggles a young man faces as he works his way up in his soccer career.

It's a pure arcade game for one or two players, though four people can also play making up a league, that follows the standard format: the player controls one footballer at a time, the current player highlighted with an arrow.

Passes and shots are made by holding the fire button down while moving the joystick to one of nine positions once you've got possession. The pre-match options are limited and allow you to do little more than decide the length of each half and name the teams.

What really lets the game down, though, is the appalling gameplay. Knowing when you've got possession is difficult enough but trying to execute a pass or a

shot is frustratingly awkward. The game has two speeds: normal and fast, and only at the fast speed does it come anywhere near the acceptable speed for this type of game. In normal mode the players all move as if they're wading through three feet of water.

The graphics are basic, the sound effects are awful and the gameplay is sorely lacking – so yet another win for Anco's *Kick Off* in the best footie game league.

GRAPHICS	4
SOUND	3
INTELLECT	2
ADDICTION	4
OVERALL	31%

There's still everything to play for... let's see if this young striker can put the ball in the... err... back of the net.



Available soon  
on ST and  
Amiga

# G R A V I T Y



In 2320, interstellar travel has become as commonplace as Intercity, and man's mission to colonise the universe is well underway. But then the Outies appeared. No-one knew where they came from, but it was obvious what they were after... energy — and they'd stop at nothing to get it. They favour charged Black Holes. And they just turned your latest colony into one. But this galaxy's not big enough for the both of you.

Consult your 3D HoloTank (TM) before entering the scrolling isometric view of Einstein-Minkowski Four Space. **EXPLORE. TERRAFORM. COLONISE. ERRADICATE. CONSTRUCT. BUT ABOVE ALL: SURVIVE!**

© 1990 Mirrorsoft Limited

Gravity designed and programmed by Ross Goodley. Visuals by Pete Lyon.

Not for distribution to the Republic of South Africa.

Image Works, Irwin House,  
118 Southwark Street, London SE1 0SW.  
Telephone 01-928 1454, Fax 01-583 3494

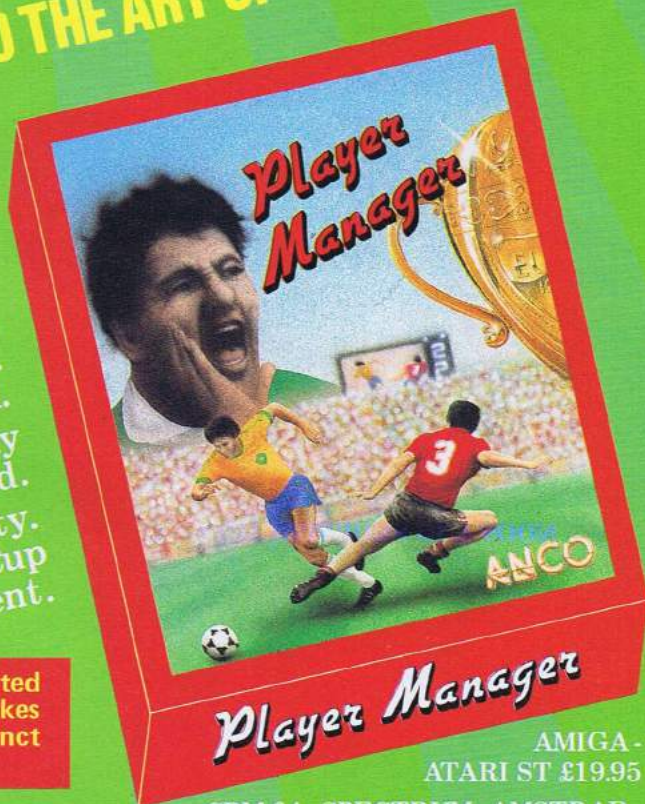


# Player Manager

BY DINO DINI

BRINGS THE QUALITY OF 'KICK OFF' TO THE ART OF MANAGEMENT

- \* Play the BEST soccer simulation. Blistering Pace - Pixel Perfect Passing.
- \* Unique facility to design your own TACTICS.
- \* Over 1000 individual players each with a unique combination of attributes.
- \* A lively transfer market. Hagggle for the best deal.
- \* Focus camera on the ball or any player on the field.
- \* Load and Save game facility. League and Cup tournament.



Player Manager

AMIGA -  
ATARI ST £19.95

CBM 64 - SPECTRUM - AMSTRAD -  
ATARI 800 £9.95 (Cassette) £14.95 (Disc)  
8 BIT VERSIONS OUT SOON

Bring Back The Glory Days, the brief of the newly appointed **PLAYER MANAGER**, an International class player, as he takes charge of a third division club. His success depends on four distinct aspects of the game.

## PLAYING SKILLS OF THE MANAGER

This part of the game is a refined version of the KICK OFF, retaining it's pace, flavour and the universally acclaimed game play. Play in your position or control the nearest player. The first option combined with a tailor made tactics can play havoc in the opposition goal mouth.

## MANAGERIAL SKILLS

Devising winning tactics, acquiring players with right skills from the Transfer market and selecting a well balanced team is the test of his Managerial skills. When to hang his boots up is the toughest decision he has to make.

## TACTICS

Four well proven tactics are provided to suit most situations but you can design your own tactics. See the tactics in action using the Ray Trace facility.

## THE PLAYERS

Over a thousand players in the four division league. Each player with a unique combination of the following attributes: SHOOTING ACCURACY, PASSING ACCURACY, PACE, STAMINA, APPLICATION, AGGRESSION, HEIGHT and TACKLING SKILL.

These attributes are influenced by the player's Age, Mental and Physical Dexterity, Quality of Experience, Weight, Temperament and Morale. There are several other factors such as injury, disciplinary points, unsuitable playing position which influence a player's performance.

Hosts of other factors like referees, injuries, disciplinary problems, team morale etc. can lay to waste the best laid plans of a manager. The **PLAYER MANAGER** brings everyday realities of a Manager's life, his talents as a manager and a player into a sharp **FOCUS. THE FOCUS IS ON YOU.**



Player Information			
Name	Z. Barnes		
Position	Midfield		
Age	21	Skills	Passing 111
Height	188 cm		Shooting 41
Weight	81 Kg		Tackling 68
Pace	181		Keeping 23
			Morale 188
Dexterity	106	History	
Stamina	128	This M. Last M.	
Resilience	149	Injuries	2 1
Temperament	143	Goals	0 1
Work rate	84	Goals	2 4
		Matches	10 18
		Int 1st 2nd 3rd 4th	
		0 0 0 1	1 1

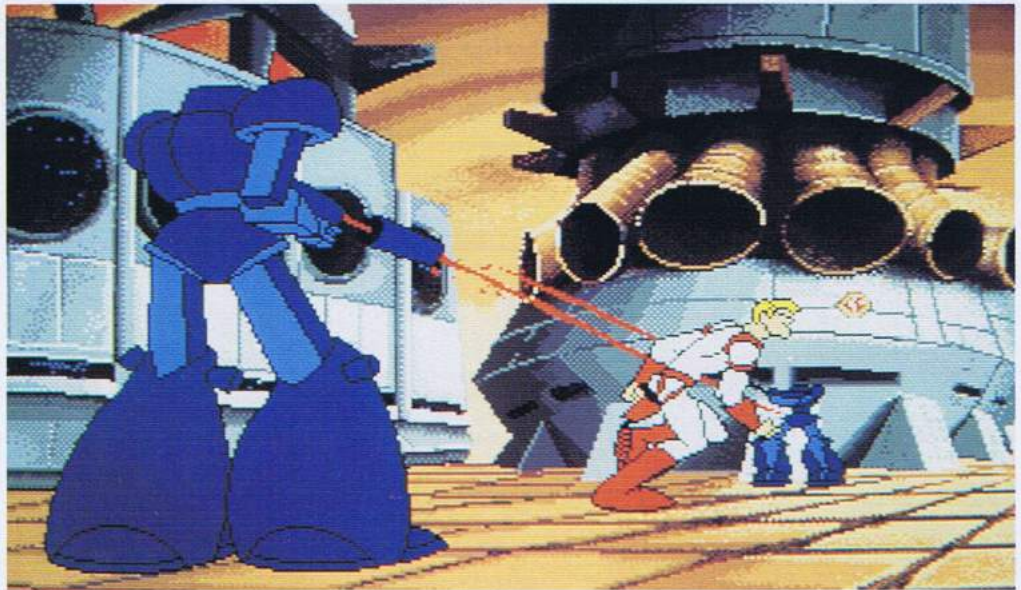
ANCO

ANCO SOFTWARE LTD., UNIT 10, BURNHAM TRADING ESTATE, LAWSON ROAD, DARTFORD, KENT. Mail Order by Cheque, Postal Order, ACCESS or VISA. Telephone No.: 0322 92513/92518. FAX No.: 0322 93422.



**GRAPHICS AND SOUND**

Space Ace's audio-visual delights are without doubt some of the best to be seen on the Amiga. The pictures look to have been taken directly from the original artwork, giving an appearance more akin to a Disney cartoon than a computer game. Every screen has been exceptionally well drawn and smoothly animated with cinema quality music and spot effects to back the frantic action. Occasionally, you forget to carry out a move just because you get carried away watching the cartoon! The only way an Amiga game can improve on Space Ace's graphics is to use full colour digitised photographs to portray the action throughout and we all know how that gobbles up the memory - we're talking ten disk games here!



Caught between two laser welding robots, ulp!

# SPACE ACE

READYSOFT £44.95 ■ Joystick



The start of the game and timing the jump behind that rock on the right is crucial...



...well, you survived that, so onwards you may go.

**JUDGEMENT**

Don Bluth has improved the format since the first game, making the game run much more smoothly and giving the player much more to do. Despite the fact that Space Ace is superbly presented and the gameplay has been improved, the amount of interaction between the cartoon and the player is minimal. The fact that the game can be completed too easily means that all you're left with after three or four days is an expensive four disk animation demo.

A few years ago a strange coin-op machine hit the arcades. Instead of the usual blocky aliens and ping-beep sound effects it featured state-of-the-art, Disney-style animation and hi-fi sound effects. Hordes of people came forth with their 50p pieces to be totally confused and die on the first screen. Soon enough, the game was written off as a gimmick and only crops up when players say "Do you remember Dragon's Lair?"

More recently, Don Bluth - the man responsible for Dragon's Lair - came up with Space Ace. Although in a similar vein to the medieval original, the futuristic romp had a good deal more playability than it's predecessor. Now thanks to Readysoft, even those without the requisite number of coins, but with plenty of notes, can play in their homes.

The plot is a little on the strange side, but isn't that the point of cartoons? Borf, a nasty alien tyrant, has concocted an ingenious plan to take over the Earth - he's going to zap every human being with his Infanto Ray, which turns adults into children.

Only two people can save the Earth, Space Ace and his beautiful friend Kimberly. Unfortunately, just as they approach Borf's ship, they get hit by the Infanto Ray, turning them into children before they can

**LASTING INTEREST**

Even though Dragon's Lair had superb animation and sound, the gameplay was so disjointed that players soon lost interest. Pressing a button every third screen or so wasn't exactly entertaining. Most screens only have one or two moves to be carried out, so they aren't too difficult to learn. The inclusion of a Save Game feature means that reaching the end of the game is a little on the easy side.

Don Bluth's 'interactive cartoons' the gameplay consists of making decisions on the main character's actions by moving the joystick at the appropriate time. Play begins on the cliff overlooking Borf's ship, where Dexter must dodge Borf's laser blasts, and continues



Yet another disaster avoided - a second later and you'd have plummeted to your death.

through the rocky sections of the planet, past stomping robots and tentacled pit creatures into Borf's ship itself. The ship contains all manner of alien hazards, such as guard dogs, guard robots and automatic defence systems.

Eventually, Dexter returns to his powerful adult form and confronts Borf in a deadly hand-to-hand battle with laser staffs. Ace must defeat Borf before escaping with Kimberly. ■

overpower the foul oppressor. As if that wasn't enough, he's also kidnapped Kimberly! Now Ace is back to his youth as Dexter, he must summon up all his mettle to go and rescue Kimberly and defeat the evil Borf.

For anyone not familiar with

Reviewer Maff Evans

**BATTLE WITH BORF**



Battling with Borf. That stick he's got is not as innocent as it seems...

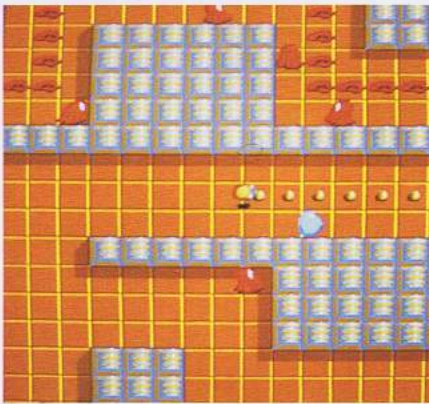


...as you can see!

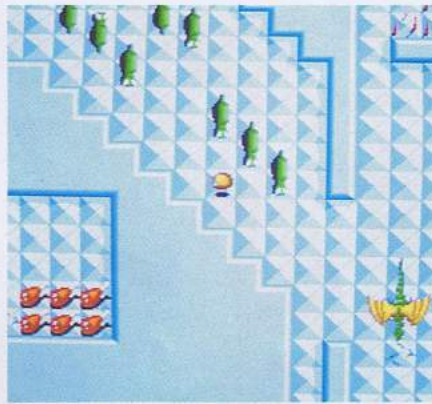


A well timed jump at the vine gets you clear of him.

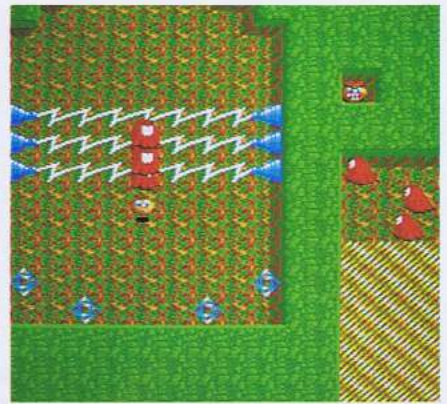
GRAPHICS	9
SOUND	8
INTELLECT	3
ADDICTION	2
OVERALL	62%



Collect all the pills and you will be able to go to the next level.



Just how are you going to get to those hams in the bottom left?



Bouncing across those power lines sure sends your health points plummeting!

UBI SOFT £24.99 ■ Joystick

# SUPER PUFFY'S SAGA



Keep out of the dragon's breath and collect that key at the bottom of the screen to get into all those health giving hams!



Eek! More fire to avoid, and this time ghosts complicate the situation.

## JUDGEMENT

Perhaps the programmers have tried to detract from the lack of game content by going overboard on the peripheral presentation. Well I'm sorry guys, but it doesn't really work! There's a lot of levels to play and they won't be easily beaten but this sort of game looks decidedly dated now.

Reviewer Maff Evans

Right, let's get the bad jokes out of the way..."This game is about a load of old balls! Haw haw!" Well that's where you're wrong, because Puffy and Puffyn are young balls.

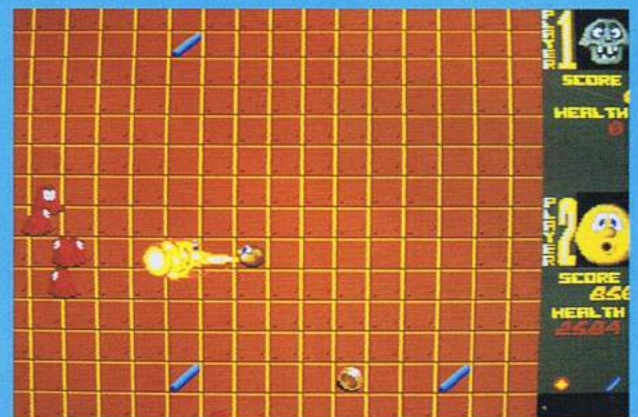
One day, while on an excursion, an evil wizard lured them to his castle, turning them from careless young lovers into small bouncing balls. As if that wasn't enough, he's also trapped them at the bottom of a series of labyrinthian dungeons. Ooh, the rotter. You must guide the young hero or heroine (depending on your choice) through these dungeons so they can crack the spell and return to their natural shape.

This isn't as easy as it sounds, since there are many hazards to watch out for, including spiked floors, electric guns and sticky floors. There are also all manner of strange creatures wandering around the dungeons who have been warped by the wizard's evil mind and are on the hunt for any strangers in their world. Creatures such as snakes just crawl up and down the corridors and are easy to avoid, but other beasts like fire-breathing dragons and ghosts that follow your every move, cause many more problems.

You are not totally defenceless on your quest though, as the spell has also given you the ability to fire a puff of deadly gas from your lungs. This can be made more powerful by picking up power

## GRAPHICS AND SOUND

The overall feel of Super Puffy is very similar to the classic maze game Time Bandit. Many of Bandit's elements have been included, such as weird landscapes and comical creatures, with a liberal dash of the old Gauntlet backgrounds. In fact the whole thing looks somewhat dated, being similar in looks and sound to arcade adventures seen on the Amiga two or three years ago. In that case, why does it work for this kind of game? Mostly because the smaller sprites give the player a feeling of space in the dungeon, leaving the larger and more impressively animated creatures to give a greater impact later in the game. Unfortunately, the sound doesn't match up to the standard set by the graphics, consisting of the odd sampled effect in the midst of a whole batch of weak "plip-plip" effects and annoying phrases, particularly the unhelpful "Puffy, you will die!" I KNOW.



Revenge! Now it's your turn to get the ghosts.

tokens or spells to give you fiery dragon-breath (time for a squirt of mouth freshener).

To finish a dungeon and travel to the next level, Puffy and Puffyn must collect enough 'Goms' to

open a portal. These can either be found lying around on the floor or in chests opened by gold keys. Chests can give spells such as invisibility, speed, immunity or viewing the dungeon using ESP. ■

GRAPHICS	7
SOUND	5
INTELLECT	4
ADDICTION	4
OVERALL	57%

## LASTING INTEREST

Wandering around the mazes is great fun to start with and the fact that the first couple of levels are easy to solve instils a certain confidence, but the gameplay gets too hard too quickly. After the "obvious route" solutions of the first three levels, the game becomes incredibly hard, throwing things at you from all directions so that you can't even make it around the next corner, never mind the end of the level. Soon enough, the feeling of frustration takes over the compulsion to see higher levels, especially when you have to sit through the ever-so-slow outro and intro sections - all seven sections of it!



# POWER

# COMPUTING



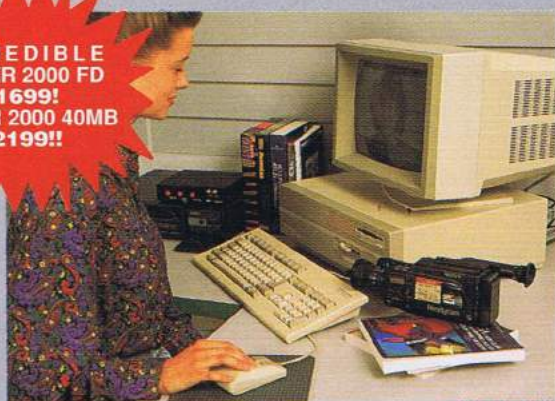
## THE AMIGA 2000 SPECIALISTS

### THE POWER

### 2 0 0 0

### 6 8 0 3 0

**INCREDIBLE  
POWER 2000 FD  
£1699!  
POWER 2000 40MB  
£2199!!**



Power Computing and GVP, leaders in Amiga technology bring you the state-of-the-art Power 2000 for a similar price to other supplier's basic 2000 models. The Power 2000 features B2000 with 1MB Chip Ram (latest revision), a 16Mhz Impact 68030 processor board with optional 68882 co-processor socket, a super fast AT hard disk interface (Access 11ms average, DT 706K/second!) and up to 8MB of 32 bit 0 wait state dram! The package also includes the highly respected (68882 compatible) Hisoft Basic, Phillips CM8833 Stereo Colour Monitor, 2nd internal 3.5" drive, mouse, keyboard, 2000 system manual (English!) hi-tech mouse mat, all cables and 30 DS diskettes in a box. Price includes full 12 month warranty! Price now includes XT Bridgeboard.

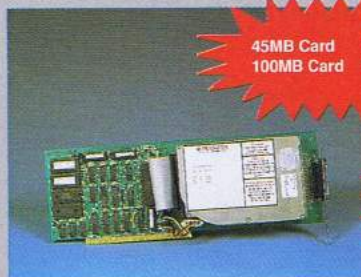
**Impact 68030 Technology - Available NOW!**

68030 Card 16 Mhz...£699 68882 .....£199 4MB 32 bit dram..£1199  
68030 Card 25 Mhz...£899 68882 .....£299 4MB 32 bit dram..£1199  
Quantum AT 40MB HD .£449 Quantum AT 80MB HD .....£899

\* Special deals for complete 68030 cards \* Further details available

**Other Amiga  
2000 Systems  
available at  
incredible  
prices.  
Please call!**

**45MB Card £599  
100MB Card £999**



**GVP Hard  
Cards now  
with 2Mb  
Fast RAM**

**SCSI Card £349  
SCSI Card 2MB £449**



**Syquest 44 OK £899  
Syquest 44 2M £1098**



### GVP HARDCARD

These GVP autobooting\* hardcards are the easiest way to add a fast (FFS, DMA) SCSI hard disk to your Amiga 2000. Each card comes with super easy installation software, a Mac pinout compatible SCSI port, internal SCSI bus and 12 months warranty from Power. GVP hardcards are one of the best selling hard disk units in the US and have an excellent pedigree of trouble free service. They are available in a range of sizes.

### GVP SCSI CARD

Using the same technology as the GVP hardcard this SCSI board has sockets for an optional 8MB of fast dram to expand your Amiga's memory. Specifications are the same as for the hard card but the hard disk must be fitted in one of the 2000's peripheral bays. Full instructions, installation software and cables are provided. See hard disk and memory prices below.

### GVP SYQUEST 44MB Removable Hard disk

This state-of-the-art 44MB 25ms removable cartridge based hard disk unit and GVP SCSI controller fits in the 5.25 bay and comes complete with 1 cartridge. Additional cartridges cost only £99 each, giving an impressive £2.25 per megabyte of storage! The controller has space for an additional 2MB of fast ram and features a special autoboot feature that allows cartridge swaps. Ideal for secure or shared environments.

### GVP TAPESTORE 150MB Tape Streamer

This SCSI 150MB tape streamer will work in conjunction with all GVP controllers and hardcards. It features advanced backup and restore software and has an impressive data transfer rate of 5-7MB per minute. The software features wildcards and selective backups as well as future support for unix environments. The unit is also available as a boxed unit with PSU for bridgeboard users. The streamer uses standard DC6150 tapes and comes supplied with one tape.

**TAPESTORE  
£799**

### MEMORY & ACCESSORIES SCSI 3.5" Hard Disks

Microway Flicker Fixer .....£299  
Seagate ST125N 20MB 28ms .....£249  
Seagate ST157N 46MB 28ms .....£329  
Seagate ST1096N 90MB 28ms.....call  
Quantum Prodrive 40S 11ms 40MB .....£429  
Quantum Prodrive 105S 11ms 100MB ...£799  
Memory (each)  
dram 1mbit 256\*4 80ns.....£9.95  
dram 1mbit 1MB\*1 80ns .....£9.95  
1mb Simm for GVP cards .....£75.00  
16Mhz 68000 processor card .....£129  
2 \*RS232 port card .....call  
8MB Memory card OK installed .....£149

**SCSI HARD  
DISKS  
FROM  
£249!**

### JUST IN & HOT!!

**SCANLOCK  
£899**

### Vidtech Scanlock Broadcast PAL/S-VHS Genlock A500/2000

This broadcast specification PAL & S-VHS genlock is aggressively priced for the video market. Attractively housed in a unit that sits under the monitor it features separate fade controls for both reference and Amiga videos, one touch select keys, remote operation and key out for video mixing decks. A must for the serious amateur and S-VHS professional

**WE ALSO STOCK BOTH XT £199! AND AT £799! BRIDGEBOARDS**

**Power Computing Ltd - 44A Stanley Street - Bedford - MK41 7RW. Tel: 0234 273000. Orders only 0800-581-742.**

**Fax: 0234 270133. Technical Support: 0234 273248 Mon-Fri 3-5pm**

Showroom & Telephone Sales open Mon-Sat 9.30am - 6.00pm and to 8pm Thursday & Fridays

**ALL PRICES INCLUDE VAT & DELIVERY. PLEASE USE THE COUPON ON THE NEXT PAGE.**

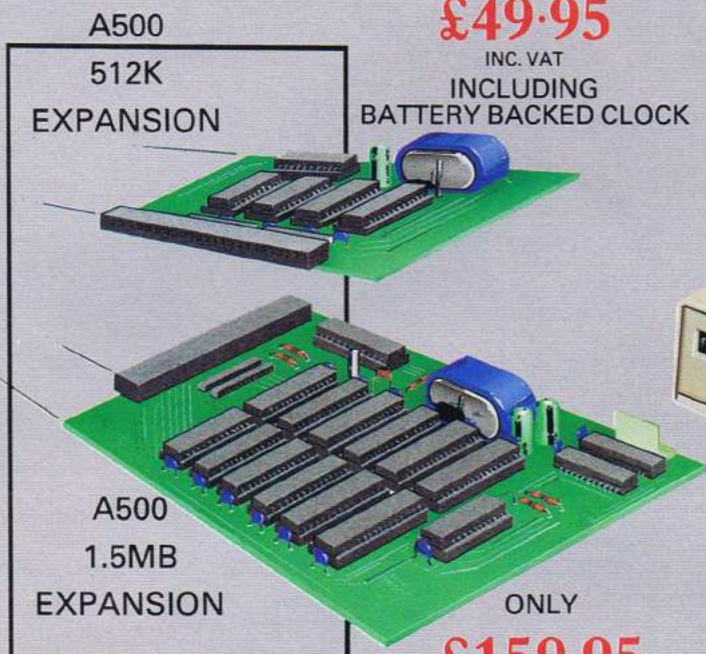
# PC

ALL PRICES  
ON THESE PAGES  
INCLUDE  
VAT AND DELIVERY

# POWER CO

A selection of special deals only available

**NOW ANTI CLICK!**



ONLY  
**£49.95**  
INC. VAT  
INCLUDING  
BATTERY BACKED CLOCK

A500 Internal Drive Kit  
**£59.00**



ONLY  
**£69.95**  
INC. VAT  
Power Drive PC880

- Now with anti-click that stops that annoying drive click when no disk are present!
- Fully compatible with A500, 880K formatted
- Isolating on-off switch
- Through port for daisy chaining
- Colour matched and styled to Amiga
- Free utility diskette
- 12 month warranty

ONLY  
**£159.95**  
INC. VAT  
INCLUDING  
BATTERY BACKED CLOCK

A500 Expansion ram PC501/PC502

- A500 Expansion Ram using low power 1 Mb chips
- Two Models available 512K/1.5MB
- Complete with clock and lithium battery
- Fits in A500 expansion underneath computer
- Comes complete with extra ram switch off software
- 1.5MB model **only** requires simple cable to be fitted inside Amiga
- 12 month warranty

40 Disks\* and lockable  
storage box

**£29.95**

INC. VAT



15 Disks\* and  
Storage Box

**£9.95**

INC. VAT

Verbatim media - fully certified and guaranteed for life!

## GVP

GVP IMPACT  
A500 Hard drive

Now using SIMMS for a massive 4MB extra ram!



- SCSI 3.5" Hard Disk
- DMA direct to onboard 16KB buffer controller
- Snap on edge connector for reliability
- Autoformatting: FFS
- Up to 4MB of fast ram can be added internally
- External SCSI connector
- Dedicated power supply unit
- 12 month warranty

	OK	2MB	4MB
45MB	£599.00	£749.00	£899.00
80MB	£849.00	£999.00	£1149.00
100MB	£999.00	£1149.00	£1299.00

**BUY YOUR A500 SYSTEM FROM POWER  
AND GET A GREAT DEAL MORE!**



- All packs include:
- A500 + mouse + PSU
- Batman, New Zealand Story and Interceptor Games
- Ten Star Game pack
- Deluxe Keyboard
- Konix Speed King Joystick
- Mouse Mat
- 5 diskettes

BASIC PACK	as above	£399
SUPER PACK	with PC880 drive	£459
ULTRA PACK	with PC880 + 512K	£499
MEGA PACK	with PC880 + 1.5MB	£599
HYPER PACK	as Mega with A590 Hard Dr.	£949

Class of the 90's and other packs available  
Commodore A590 20MB Hard Disk £379

# COMPUTING

Available from Power House DIRECT!

## GO COLOUR AMIGO!

Includes

- LC10 Colour UK Model
- Parallel Cable
- 200 sheets microperf paper
- 200 address labels
- LC10 colour WB driver
- PHOTON PAINT V2!!
- Delivery and vat

Power Computing the Star Specialist has great deals on colour printers!

Star LC10 Colour £229  
 Star XB10-24 Colour £499  
 HP Paintjet Colour £799  
 HP Paintjet XL A3 Colour £2500



Star LC10 Colour Complete Kit

£229.00

INC. VAT

Call us for special prices on Mono, 24 pin printers and printer supplies!

## Video

Video is a state of the art PAL video digitiser for A500 and B2000 systems\*  
 Video digitises directly in colour from any still PAL source including cam corders and most modern VCR's

- Digitises in any Amiga resolution
- No filter wheels required
- Save at any point as IFF snapshot
- Extensive image processing
- Now with new version 3 software for enhanced performance

Full details available



ONLY

£249.00

INC. VAT



## The One Stop Software Shop! Callers Welcome!



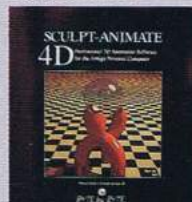
Power Computing are the productivity software specialists. Scores of new titles every week! The following is a selection from our large range. We also stock most of the published Amiga books and magazines.

### RED HOT PRICES

#### ART & GRAPHICS

Typically 30-40% off rrp

- Animagic £69
- Amiga Clipart £29
- Comic Setter £35
- Deluxe Paint 3 £59
- Deluxe Photolab £48
- Deluxe Video 3 £call
- Digipaint 3 £49
- Digiview Gold 4 £99



- Elan Performer £39
- Express Paint 3 £69

- Fantavision £28
- Interchange £49
- Interfont £79
- Intro Cad £39
- Kara Screen Fonts 1 £49
- Kara Screen Fonts 2 £49
- Movie Setter £48
- Photon Paint 2 £69
- Pixmate £35



- Pro Video Plus PAL £169
- Sculpt 3D XL £99
- Sculpt 4D Junior £149
- Sculpt 4D £329
- Turbo Silver £99
- Video Magic £79
- Video Page £99
- XCAD Designer £79
- XCAD Pro £325
- Dozens of professional Clipart disks now in!

### WORD PROCESSING, DTP & BUSINESS

- Digicalc £29
- Excellence £129
- Home Accounts £20
- Kind Words £39
- Maxiplan + £99
- Maxiplan 500 £79
- Pagestream £120
- Pro Draw £100
- Pro Draw Clip art £39
- Pro Page 1.3 £179
- Pro Page Templates £39
- Pro Text £72
- Pen Pal £99
- Superbase 2 £62
- Superbase Pro £160
- Superplan £62
- The Works Platinum £149
- Word Perfect £164

### LANGUAGES ETC

- Devpac £38
- Hisoft Basic £55
- Lattice C v5 £160
- Lattice C++ £250
- Manx C Dev £163
- Manx Debugger £49
- Power Windows 2.5 £48

### UTILITIES

- Arexx £39

- BAD £35
- BBC Emulator £39
- CLimate £20
- Dos 2 Dos £29
- Cross Dos £29
- Fine Print £39
- Quarterback £34
- RubyCom £69
- Transformer £29
- WB 1.3 £15



### MUSIC

- Midi Interface £25
- C64 Music Keyboard Interface £49
- MM5000 Keyboard £79
- Dr T's Drums £25
- Dr T's Midi Studio £49
- KCS level 2 £229
- Music X £189
- Pro Sound Gold £59
- Amiga Music System £149
- Sonix £45

Need Help?

Power Technical Helpline Mon-Fri 3pm-5pm 0234-273248 Customers only!  
 For sales information call our sales lines! All prices are subject to change  
 Availability on most items is excellent due to large stocks. Please call first to avoid disappointment.

**POWER**  
**HOUSE DIRECT**  
**H GVP**  
 NATIONAL DISTRIBUTOR

Power House, the direct sales arm of Power Computing Ltd — Leaders in peripherals & software — is the natural choice for the Amiga enthusiast. Highly competitive prices, a wide choice, fast computerised service and the backing of a £2M+ 5 year old company are just some of the reasons for tele-shopping at Power. Large stocks, friendly reception and "if it don't work we give you a new one" are a few more!



"The Extensive Power House Bedford Showroom" open Monday to Saturday 9.30am - 6.00pm  
 Thursday & Friday 7.00pm

Power Computing Ltd,  
 Power House, 44A Stanley Street,  
 Bedford MK41 7RW

Orders Only 0800 581742 Free Call  
 General Enquiries & Orders  
 0234 273000 (5 lines)

Order by Mail receive bonus gift of 2 free diskettes — Posted orders over £30 only

Name

Address

Postcode

Telephone

System owned

Credit Card no.

Expiry date

Signature

I would like to order

Make cheques payable to  
 Power Computing Ltd

I enclose a cheque / PO for  
 £

Please send me the  
 Power House Catalogue

**GRAPHICS AND SOUND**

Everything is smoothly animated and fast, but the sprites are not particularly well drawn: they look a lot better when they explode. The backgrounds and the floor are fine, but a little dull. Sound is OK as far as it goes: you get a couple of jaunty tunes and some nice spot effects.

**LASTING INTEREST**

Pure blasting fun – best in two player mode. It doesn't have the impulsiveness of *Operation Thunderbolt* and it lacks variety too. It's quite tough, though, so it will certainly take you quite a while to complete.



# BAD COMPANY

**LOGOTRON £24.99 ■ Joystick**



Top: Running along blasting away at the insectoid nasties. Switch weapons by hitting the space bar. Above: You've taken a hit and your energy has suffered as a result.

Reviewer Andy Smith

The Bad Company in question are a bunch of eight soldiers born and bred just to blast baddies. The baddies that need destroying this time are a load of insectoids who are inhabiting four worlds – four worlds that we want to inhabit, so they have to go, and the Bad Company have been called in to 'persuade' them.

It's a one or two player shoot-em-up with its roots firmly based in *Space Harrier* (that is, your character is at the front of the display and all the baddies run from the back of the screen towards him). Before starting out, you first have to decide which of the eight you'd like to be, as each character has abilities that are peculiar to

him: so some can carry heavy weapons but are none too agile whereas others can move around swiftly, but aren't strong enough to lug the big weapons about.

Once you've decided on the character, you can then choose which of the four planets you want to start on and you're beamed down. From here on in it's just a case of running along, blasting absolutely anything that comes towards you and trying not to take

too many hits because each one leaves a chunk missing from your health meter. Once the meter reaches bottom you lose one of your four lives. Fortunately, your health will repair itself gradually, but the way things go you're often unable to sit around waiting for it to recover before you're thrown into the fray again.

You guessed it, there are tougher-than-average baddies to be encountered along the way and the best way to deal with these is to pick up the extra weapons that are dropped down from the orbit-



Simply shoot the spheres!

ing mother ship – you start the game with two weapons, which can be switched between at the touch of a button. Clear the planet of aliens and you can then move onto a tougher one, with a bigger points bonus should you manage to survive it. ■

<b>GRAPHICS</b>	<b>7</b>
<b>SOUND</b>	<b>6</b>
<b>INTELLECT</b>	<b>1</b>
<b>ADDICTION</b>	<b>7</b>
<b>OVERALL</b>	<b>71%</b>

**JUDGEMENT**

Simple blasting fare that's fun for a while but soon becomes tedious. It is addictive at first, however, and although it's not as much fun as something like *Operation Thunderbolt* or *Space Harrier*, it will nonetheless keep you entertained and playing for a reasonable while.

More car-driving antics, this time in a viewed-from-above job from Hewson. You're taking part in a series of illegal races during which you have to race up the screen, avoiding the boulders and ditches that crop up as you drive along, in order to reach a sign that says 'Turn Here'. Then you have to turn

around and drive back along the course – all within a time limit.

There are also enemy cars to avoid or destroy with your front firing gun. For every kill and race completed you earn yourself money which you can spend in the shops found along the way, on such goodies as missiles, turbo

boosts and even helium tyres that will allow you to jump further.

Graphics are basic, sound is awful and gameplay is not much better. It's not difficult to play but control is frustrating and the task is dull, so you'll have to be dedicated to play to the end. *5TH Gear?* It just gets out of neutral...

# 5TH GEAR

**HEWSON £19.99 ■ Joystick**

On the first race, pull into the station to get some more fuel, but remember the clock!



<b>GRAPHICS</b>	<b>5</b>
<b>SOUND</b>	<b>3</b>
<b>INTELLECT</b>	<b>1</b>
<b>ADDICTION</b>	<b>4</b>
<b>OVERALL</b>	<b>42%</b>

Reviewer Andy Smith



The strategic map which shows the whole planet and which can be called up at any time.

**LASTING INTEREST**

With four players (any combination of human and computer), this game can get to be very enjoyable. Even in solo mode it's fun, but after a few games the seasoned strategist will find it too limited to hold the attention. The single-planet scenario does tend to limit the lasting interest too: it's simply not big enough to provide variety.

**INFOGRAMS £24.99 ■**  
**Mouse and Keyboard**



Deploying your forces. That's the Hen about to be dropped.

**GRAPHICS AND SOUND**

The planet is viewed from above and the graphics are fine: they could not be called outstanding, but they are functional for this sort of game. Forget about the sound: there simply isn't any.

# FULL METAL PLANET

Below: The set-up screen. Here, there is one human player to take on three computer ones.



The Hen has now collected a lump of precious ore...

...and instantly makes the metal into a handy tank.

Apparently the board game of which this is the computer version, was in existence long before Stanley Kubrick made the film with the 'Full Metal' prefix.

It's a one to four player strategy game set in the future, where up to four spaceships have landed on a planet containing a plentiful supply of a precious metal ore. Every player wants the ore, so it's time to fight. The overall objective in the game is to blast off at the end of 25 turns with as much ore on board as possible.

The game is played in turns, and the first couple of turns are dedicated to deciding first where to land your spaceship and then where to deploy your forces, which include five tanks, two ships and two curious pieces of hardware. The first of these curios is called The Crab and this is the machine that collects the lumps of ore that are found on the surface of the planet and returns them to the mother ship. The second piece is known as The Hen and this can

not only collect and transport ore, but it can also build new pieces of equipment, so it can wander about picking up ore and turning it into pieces of hardware.

Movement of pieces during the game is restricted by two factors, the first and most important being the number of action points available at the start of the turn. Initially, each player only has five points so little can be done. From turn five until turn 21 (at which point the player can opt to blast off if he wishes) the points increase up to 25, so a lot more things can be accomplished - like blasting your adversaries or capturing their pieces of hardware - especially if you save some of your points and have a bumper lot for the next turn. Attacking your enemies is a curious matter: for starters, you must get at least two of your pieces in range - two hexes - and each piece can only fire twice per turn.

The second major movement factor is the tide. Each turn por-



tions of the planet become either submerged or exposed as the tide rises and falls which can leave your pieces stranded and unable to move for at least a turn.

The winner of the game is the person (or computer player, of which there are six with varying levels of aggressiveness) who manages to survive to the end and also has the most ore collected and pieces remaining. ■

**JUDGEMENT**

A jolly nice, simple, tactical game that can be great fun to play - especially if you are lucky enough to persuade two or three chums to join in the fun. It's easy to get into in the first place, but the only thing letting it down is the rigidity of the set-up (the fixed number of turns, having only the one planet and so on).

<b>GRAPHICS</b>	<b>6</b>
<b>SOUND</b>	<b>N/A</b>
<b>INTELLECT</b>	<b>8</b>
<b>ADDICTION</b>	<b>6</b>
<b>OVERALL</b>	<b>75%</b>

Reviewer Andy Smith

**CRAB PASTED**



Two pieces move in for the kill on a Crab - and it most certainly looks like the end of the line for him.

Yup, he's gone.

# AMIGA A500



With **FREE BAT PACK** of software

only

**£309**

**COMPUTER EXPRESS**

**MERRY CHRISTMAS TO ALL OUR CUSTOMERS**

With BATMAN the Movie, New Zealand Story, D' Paint II, F18 Interceptor, and TV Modulator.

Only **£309.00**

(£362.85 including VAT and next day delivery)

## AMIGA A500

With Mouse, TV Modulator, Workbench, Manuals, and BASIC. **£289.00**

## AMIGA HARDWARE

A1084S Colour Monitor – Stereo Sound.	£249.21
A1010 External 880K Disk Drive 3.5".	£93.21
A590 External 20Mb Hard Disk For A500	£326.25
Philips 8833 Colour Monitor with Stereo Sound.	£199.99
A500 Half Meg Memory Expansion.	£79.95
A500 Half Meg Memory Expansion with Clock.	£89.95
A500 2Mb Memory Expansion.	£399.00
Amiga Mini Genlock.	£94.90
External 20Mb Hard Disk with SCSI Interface.	£499.00
Control Centre for A500	£43.43

## AMIGA 2000/B2000

Amiga 2000 with Keyboard and Mouse (Also full range of Amiga 2000 accessories available). **£1295.00**  
Amiga B2000 with 1084 Colour Monitor, PC-XT Bridgeboard, 5.25" Disk Drive, 20Mb MS-DOS/Amiga Hard Disk. **£1379.00**

## AMIGA SOFTWARE

Workbench 1.3 for A500 – A Must For All Amiga Owners.	£13.03
Animagic	£69.52
ComicSetter – A Complete Comic Design System.	£99.95
Deluxe Paint III – Graphics and Simple Animation.	£69.56
Design 3D – For Quick Results And Animation.	£69.52
Digiview Gold	£130.39
Doctor T's Midi Recording Studio.	£52.13
MusicX – Serious Music for the Budget Conscious.	£199.00
PASE – Professional Animator Sequence Editor.	£65.22
Photon Paint II	£78.22
Pro Video Plus – Video Graphics for PAI.	£217.35
The Works TV Text	£78.22

## PRINTERS

Star LC-10 – THE Number One Low Cost Printer. Special Price	
Star LC-10 Colour – Colour At Very Little Extra.	£169.99
Epson LX800 – Epson Quality But A Low Cost.	£154.70
Epson LQ550 – The Favourite For Letter Quality.	£299.87
Panasonic 1180 – 4 Fonts and Fast Printing.	£169.73
NEC P2200 – Never Beaten For Value For Money.	£289.00

## ACCESSORIES

Full range of Amiga accessories available.

## CLASS OF THE 90's EDUCATION BUNDLE

Amiga 500, Midi Interface, D Paint II, Superbase, Publisher's Choice, Dr T's Midi Recording Studio, BBC Emulator and BBC Programs, Maxiplan 500, plus lots of accessories. **£476.25**

**All PRICES EXCLUDED VAT AND DELIVERY. All goods guaranteed.**

Next Day Delivery Service on most popular lines. All prices subject to change without notice. Official purchase orders accepted from Government, Local Authorities, Universities and PLCs. Prices/Specifications subject to change without notice. All special offers are subject to availability. Credit Cards not debited until despatch.

CALL FOR FULL PRICE LIST  
EXPORT AND TRADE ENQUIRIES WELCOME  
CREDIT CARDS NOT DEBITED UNTIL DESPATCH

**CALL 0727 37451/47774**

HEAD OFFICE: COMPUTER EXPRESS LTD

CAXTON CENTRE • PORTERS WOOD • ST ALBANS  
HERTS • AL3 6XT • (0727) 37451 • FAX 0727 50819

**WEST LONDON**

**SHOWROOM & PARKING**

304 Kingshill Ave, Hayes, Middlesex. UB4 8BX. ☎ 01-841 8744

**NORTH LONDON**

**SHOWROOM & PARKING**

99 Park Street Lane, Bricket Wood, St Albans, Herts. AL2 2JA. ☎ 0727-72790

**MANCHESTER**

**SHOWROOM & PARKING**

85 Washway Road (A56), Sale, Manchester. M33 1TQ. ☎ 061-962 0780

**BIRMINGHAM**

**SHOWROOM & PARKING**

1046 Coventry Road (A45), Haymills, Birmingham. B25 8DP. ☎ 021-772 5212

**HEAD OFFICE & SHOWROOM**

**SHOWROOM & PARKING**

Caxton Centre, Porters Wood, St Albans, Herts. AL3 6XT. ☎ 0727-37451/47774

## SPECIAL OFFER

### STAR LC-10

Our Christmas Special  
Price £125.95

or with VAT & delivery £152.31  
Available 15th Nov to  
24th Dec. only.

**CHRISTMAS  
OPEN SUNDAY 24 DEC.  
10am-5pm**

Order in advance, collect on Sunday.  
Large stocks of Atari, Amiga and IBM  
compatibles and Printers, Accessories,  
Software etc, etc, etc.



**GRAPHICS AND SOUND**

As is usual in games of this type, the graphics have attempted to be cute and cuddly rather than realistic. To be honest, the designers have succeeded in doing this, but it would have been nice to have "cute and cuddly" on a larger playing field. Most of the screen is taken up by the display panels, not leaving much space for the game screen.

The sound also lets the side down, as it consists of extremely weak beeping soundtracks that fail to add any atmosphere whatsoever. It looks as though the game hasn't been programmed to make use of any of the Amiga's features, which for a £25 game is rather annoying.



In the shop and on the receiving end of some sound words of advice.

Occasionally, arcade games veer away from the space shoot-em-up or racing simulation, and appear with some of the silliest plots imaginable. One of these games popped up several years ago, placing the player in control of a nappy-clad, adventuring toddler carrying out tasks that would make a muscled docker flinch.

The game was, of course, *Wonder Boy*, and proved such a success that Sega came up with a

sequel: *Super Wonder Boy*. This time the hero no longer seems like a frightened toddler struggling to stay alive. Oh no, this time the courageous adolescent is kitted out with sword and armour. He has a quest to undertake and, moreover, despite his diminutive stature he can bally well do the job too!

Tom-Tom (our junior hero) must enter the realm of Monster Land, home of the vicious Meka dragon. For too long the scaly

# SUPER WONDER BOY

**ACTIVISION £24.99 ■ Joystick and Keyboard**

tyrant has dominated the poor frightened folk of Wonderland and it's about time something was done. Enter one fully-armed sprog, who you control on the start of his journey into Monster Land.

First stop is a local wizard's hut, where you are kitted out in the latest line in adventurers' tin fashions. Then it's time to tackle the terrible tyrant's terrifying tools of termination (that means mon-

sters), such as snakes, giant squid and the evil Red Knight (gasp)!

Not all the inhabitants of Monster Land follow the Dragon ruler's lead, however, and additional help can be had from various store owners and inn-keepers, who are only too happy to let you have some additional gear or information provided that the price is right. You can pay them for their services with gold, gained by finding secret locations or by killing the Monster Guards.

To get to the Dragon himself you have to kill off his guardians in a one-to-one battle and steal the keys to the gates that divide Monster Land. ■

**LASTING INTEREST**

The game starts off quite easy, then gets very hard very quickly, causing you to die somewhat abruptly. As in the arcade version there is a continue play option, but the Amiga version only allows you a maximum of three credits. It also includes the annoying feature of not giving you the chance to finish after one credit, so that your score resets to zero, which means that there is no way to keep your high score. That may seem petty, but once you've completed the adventure (which, incidentally, shouldn't take THAT long), what is there to keep you playing if you can't obtain a high score?



Aargh! A nasty ghost to do battle with (still, you are a wonder boy so he really shouldn't prove to be of too much trouble to you).



Meanwhile, on another level... This time you are lucky enough to find another shop, located at the top of the stairs.

**JUDGEMENT**

It seems that *Super Wonder Boy* is another in the sadly increasing number of games that has simply been ported over from the first conversion, so that none of the features that make Amiga games stand out are included. Activision have supplied us with some top-rate games recently, including arcade conversions, but unfortunately *Super Wonder Boy* misses the mark by a considerable distance.

<b>GRAPHICS</b>	<b>6</b>
<b>SOUND</b>	<b>2</b>
<b>INTELLECT</b>	<b>2</b>
<b>ADDICTION</b>	<b>3</b>
<b>OVERALL</b>	<b>51%</b>

Reviewer Maff Evans

Remember that ancient arcade game *Gyruss*, in which you travelled from planet to planet destroying aliens by whizzing around the edge of the screen? Well, Exocet have released a 'new' game similar to this ageing coin-op.

The plot remains the same, in that you have to travel around the solar system destroying the invading alien forces, your eventual destination being good ol' Mother Earth, although the planet Platblat

doesn't appear to be in the AF text-book of the Solar System! The graphics are more akin to 'classic' shoot-em-up *Arcadia* than a new 16-bit release, being flat and blandly coloured with a noticeable lack of animation. The sound is of an equally poor standard, consisting of a few badly-sampled spot effects and an incredible use of the old 'silent theme tune' trick!

The gameplay is annoying in the extreme. Your ship slows down

when a lot of aliens appear on screen, meaning that it's easier for them to kill you, and the 30-second delay between lives urges your finger towards the OFF button. Take my advice - don't stop the finger! It knows what it's doing!



<b>GRAPHICS</b>	<b>1</b>
<b>SOUND</b>	<b>1</b>
<b>INTELLECT</b>	<b>1</b>
<b>ADDICTION</b>	<b>0</b>
<b>OVERALL</b>	<b>19%</b>

Collect that blue pod as it flies toward you and you'll gain a power-up.

Reviewer Maff Evans

**EXOCET £19.95 Joystick**

# PURSUIT TO EARTH



Another game and a dragon to fight. Time to run away?

# DRAKKHEN

**INFOGRAMES £29.99 ■ Mouse and Keyboard**

In another world and another time a strange island once appeared. This island is home to eight (or is it nine?) dragons that have returned after a long slumber to rid themselves of a very annoying thorn in their sides: mankind.

Eventually the only course of action became clear: four adventurers would have to travel to the island and defeat the dragons in order to steal the magical stones set in their foreheads and thus ensure mankind will be free from the threat for once and for all.

You're going to be leading the party, so the first thing to do is decide just who should go and what their attributes should be. A fighter would be a good idea, so would a magician, but how about a priest (or priestess)?

Once you think you've got the right mix you can worry about their strength levels and so on, which are generated randomly and range from one to twenty. This is just a simple process of deciding which number you're happy with for the particular attribute, then moving

on to the next. The easy option, though, is to use the default team, which is made up of a person of each profession, but this does mean you won't be able to save the game as you're playing.

Moving during the game is divided into two major modes. The first is individual mode, where your characters are all on screen and by pointing and clicking with the mouse pointer one character can be directed about the screen (the character currently under control is highlighted to the left of the playing window). This is the main movement mode whenever you're inside a building - handy for picking up objects that are found lying around - and for when you have to engage in combat.

The other movement mode is for travelling about the island and simply involves hitting the return key, at which point all the characters walk towards the front of the screen and fast movement around the lands can be achieved by using the cursor keys. ■

## GRAPHICS AND SOUND

The sound effects are terrific and very atmospheric. The graphics are also very good and it's nice to see such a high level of attention to detail: for example, get a member of your party to take some armour out of his or her backpack and put it on and the picture at the side of the screen will show him or her wearing it, as will the sprite when in individual move mode. Inside buildings all the rooms are highly detailed and outside everything moves very swiftly when you're travelling around.



In individual mode. Move the pointer around the action window and the highlighted character moves to the selected spot.



With two party members dead things look bleak.

## JUDGEMENT

This game takes work to get the most out of. The blend between adventure and action works but it's not brilliant. Shoot-em-up fans and anyone not wishing to work at a game should steer clear, and even fans of the genre may find it's not the best of its type. Dungeon Master is still the best action/adventure to have appeared.



Before setting off properly, though, it's a good idea to equip your party.

## LASTING INTEREST

Should you decide not to bother creating a game save disk, you'll spend hours trying to get through the game. Even when you do create a disk and 'cheat' by saving the game before entering a potentially difficult situation you'll find the game takes a long time to play. Get involved with the game and it'll keep you busy for a long time.

<b>GRAPHICS</b>	<b>8</b>
<b>SOUND</b>	<b>7</b>
<b>INTELLECT</b>	<b>5</b>
<b>ADDICTION</b>	<b>6</b>
<b>OVERALL</b>	<b>73%</b>

## DUNGEONS AND DRAKKHENS



In group mode. Use the arrow keys to move about the countryside.



A castle to explore, if you can get past the shark in the moat!



You did, but how are you going to turn off the force fields shielding the doors?



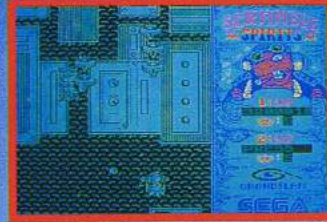
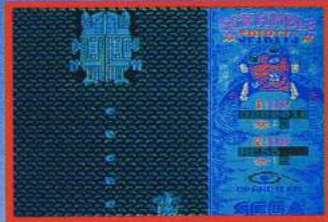
After a scrap, the spoils of war.

# SCRAMBLE SPIRITS™

ATARI ST

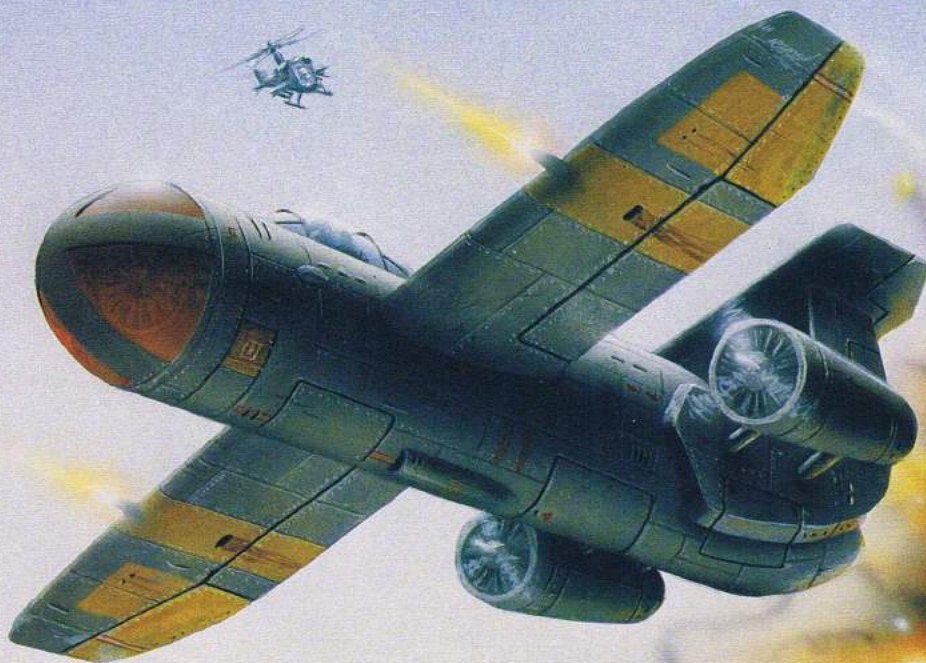


SPECTRUM



Set in the indeterminable future, this high-speed game sends the player into battle against hoards of deadly opponents. Sealed in your vintage fighter plane you take on wave after wave of enemy attack craft and huge aircraft carriers. Dodge their lethal fire-power to survive!

A fast and furious shoot-em-up with all the gameplay, action and excitement you'd expect from a top SEGA product.



**SEGA®**

© 1989 SEGA ENTERPRISES LTD  
This game has been manufactured under license from Sega Enterprises Ltd., Japan, and "SCRAMBLE SPIRITS™" and "SEGA®" are trademarks of Sega Enterprises Ltd.

Grandslam Entertainments Ltd  
56 Leslie Park Road, Croydon, Surrey CR0 6TP

**GRANDSLAM**

AVAILABLE ON:

ATARI ST & AMIGA £19.99

C64, SPECTRUM & AMSTRAD DISKS £14.99

C64, SPECTRUM, AMSTRAD & MSX

CASSETTES £9.99

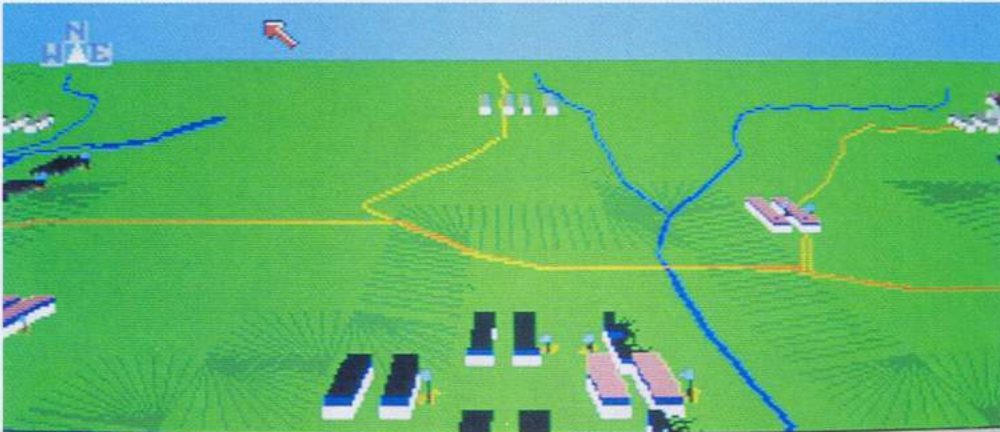
CREDIT CARD HOTLINE

TEL: 01-655 3494 (VISA/ACCESS)



PSS £24.95 ■ Mouse and Keyboard

# AUSTERLITZ



Mail: Murat, a report has arrived from Walther. 8 15 am, 1/2 mile southeast of the Zuran, I have 1500 men.

Looking north from Napoleon's position. Getting battle reports from your subordinates is the best way to keep track of how things are developing.

**D**ecember 2nd 1805 and Napoleon's Grand Arme'e have called off the planned invasion of Britain due to the threat imposed by Austria, Russia, Sweden and Britain who comprise the Third Coalition. The French march their way into Austria and after winning a series of decisive victories are preparing for yet another confrontation with the Austro-Russian forces.

That's the state of play at the start of this one or two player wargame, one that allows the player to rewrite history as either Napoleon commanding the French or Czar Alexander I commanding the allied Austro-Russian forces.

This is the second of the PSS games designed by Dr Peter Turcan. They differ from most wargames in their attempt to be

as realistic as possible – only allowing the player to see the battlefield from the eyes of the Commander-in-Chief.

Once you've decided whether to play as Napoleon or Alexander, take command: the orders you issue are sent by dispatch rider to your corps commanders, who in turn order the divisional generals to move their infantry, cavalry and artillery units. All of your subordinates have their own intelligence and the player is rarely concerned with the decisions made by regimental commanders at the lowest level of command.

The orders you're able to issue vary in complexity from vague commands like 'Soul't, attack the Pratzberg' to things like 'Lannes, at 12 45pm order 3 infantry divisions to defend Santon

Hill'. Once you've decided which orders to issue (eight per turn, each turn lasting 15 minutes) the orders are sent by messenger to their destination. Obviously, the further away this is, the longer it's going to take the orders to get through (if they do at all, because riders are just as prone to getting themselves killed as anyone else). And that's the crux of the game, keeping tabs on what your subordinates are doing and reacting to situations, very often before they can actually occur. ■

<b>GRAPHICS</b>	<b>7</b>
<b>SOUND</b>	<b>N/A</b>
<b>INTELLECT</b>	<b>8</b>
<b>ADDICTION</b>	<b>8</b>
<b>OVERALL</b>	<b>91%</b>

## GRAPHICS AND SOUND

The last thing you want in a serious wargame is sound, so there isn't any. The 3D graphics, however, are great. It takes a short while for the screen to update each time, but the delay is not too bad. There's an option to see the cannons firing, which is a nice touch, but most of the time you're looking at the blocks that represent the various units.

## LASTING INTEREST

To familiarise yourself with the game system and, indeed, to get used to the tactics used in Napoleonic warfare, you can select to view the action through the eyes of corps commanders and major landmarks – very handy. Though there's only one scenario, it's a tough one to win – especially if you play as the Czar against the computer.



Looking south from Alexander's position. The yellow text message just tells you what the computer's doing.



Looking east from Lannes' position on Santon Hill (the option to look through other commanders' eyes is on).

## JUDGEMENT

This wargame provides a real challenge. Novices may be better off looking elsewhere, but anyone who wants to play a serious game and is prepared to put in the effort needed to play the game well will find it very rewarding. If you liked *Waterloo*, you'll find this a worthy follow-up.

Looking east from the town of Pratz at the allied forces who are currently dominating the high ground.



**GRAPHICS AND SOUND**

The character portraits are all good and while the overhead and side views are basic, they're quite reasonable— at least the sprites respond quickly to key presses. Sound is limited to a few spot effects and these are nothing to write home about.

**Right: In combat, with the Draconian forces proving to be tough cookies.**

**S**SI continue their series of AD&D releases with *Dragons of Flame*, an action game (like *Heroes of the Lance*, the first release) set in a mythical world.

It's 300 years since the gods abandoned the people of Krynn and as a result, Takhisis, the Queen of Darkness has awakened some dragons and created an army of Draconians. Once her armies are victorious, she'll be able to rule the land. All that can stop her is a bunch of companions — led by your very own self.

The battle against Takhisis has already begun, the Disks of Mishakal have been taken and one of your party (Goldmoon) has become a true Cleric. Unfortunately, your party have also managed to get themselves caught up in a Draconian army and have to reach the caves of Sla-Mori, sneak into the fortress of Pax Tharkas in order to free the slaves and recover the sword 'Wyrmslayer' so as to bind the forces of the resistance together.

Up to 10 companions comprise your band (you start with eight, the other two can be recruited as you travel) and the idea is to move through the coun-



# DRAGONS OF FLAME

**SSI/US GOLD £24.99 ■ Joystick or Keyboard**

tryside, find the caves, enter the fortress and do the business. There are two main movement modes: the first shows your party represented by a single, viewed from above, character that is controlled directly by joystick. The

second is viewed from the side and shows only the party leader (you can switch party leaders whenever you feel like it) and any characters encountered — friendly or not. Encountering baddies usually means you have to fight them and this involves either pressing the firebutton and moving the joystick to one of eight positions, or calling up a spell menu and casting a spell (if the current character has the ability). Encountering goodies, though, usually results in a text message either giving you some helpful advice, such as "There is an arms cache to the north" or informing you that someone would like to join your party.

There are several helpful items lying around that can be picked up and used by members of your party, and these are indicated by blue squares on the overhead view. Once a character dies, his/her portrait at the base of the screen becomes blurred and once you've lost all the party, well, it's time to either start again or load back in that saved game. ■



**The spell casting screen: handy, and essential for defeating some of the monsters encountered.**

**LASTING INTEREST**

It's simple stuff so it's easy to get into. It's also easy to play and with a bit of application shouldn't take too long to complete. That said, it's not too easy and the difficulty tuning has been set about right. It's definitely an action game and the role-playing elements that creep in give it a nice bit of variation on a straight hack'n'slash game.

**JUDGEMENT**

*Dragons of Flame* is definitely enjoyable to start with, but the sheer number of enemies that have to be dealt with takes the edge off the excitement and the whole thing starts to get a shade on the repetitive side. Still, it's certainly a nice easy game to get into and works well as an introduction to the sort of things that happen in 'real' role-playing games.



<b>GRAPHICS</b>	<b>6</b>
<b>SOUND</b>	<b>4</b>
<b>INTELLECT</b>	<b>3</b>
<b>ADDICTION</b>	<b>6</b>
<b>OVERALL</b>	<b>62%</b>

Reviewer Andy Smith



# AMIGA SUPERMARKET

**EXTERNAL AMIGA DRIVE**  
 \* 3.5" 890K FORMATTED  
 \* ON/OFF SWITCH  
 \* THROUGH PORT  
 \* SLIMLINE STEEL CASE  
 FOR A500/1000/2000 ..£79.99

**MODEMS - FREE CABLE**  
 DEMON MODEM + FREE A500 CABLE.....£102.99  
 DESIGNER MODEM + FREE A500 CABLE.....£113.85  
 PACE LINNET MODEM + FREE A500 CABLE.....£174.99

**MONO & STEREO DIGITISERS**  
 The best sounding (sample rates upto 70KHz), lowest priced (ready built & tested) AMIGA sound digitisers on the market AND compatible with a big range of sampler Software eg AUDIOMASTER I & II, PERFECT SOUND, SONIX, FUTURE SOUND & others. Complete with audio input lead for connection to personal stereos, radios, keyboards etc.  
**FREE 'SOUND WORKSHOP' DISK**  
 A500/2000 MONO DIGITISER£27.99  
 A500/2000 STEREO DIGITISER£37.99

**MINIAMP 2 STEREO SPEAKER SYSTEM**  
 The AMIGA has the best stereo sound around - hear it through our MINIAMP 2 stereo speaker system. Two neat self contained speakers & built in stereo amplifier + handy remote volume control. Powered for the AMIGA (mains power pack optional). Complete with all leads - just plug-in & switch on.  
 MINIAMP 2 FOR A500/2000 .. £19.99  
 MINIAMP 2 FOR A1000 ..... £19.99  
 OPTIONAL MAINS POWER UNIT£5.99

**MIDI INTERFACES - FREE MIDI LEAD**  
 Connect any Midi instrument to your A500 or 2000 with our low cost MIDI INTERFACES. Compatible with all AMIGA MIDI SOFTWARE. Just plug-in - no extra software, batteries or power supplies needed.  
 MIDI 1 has IN THRU & OUT sockets. MIDI 2 has IN THRU & OUT sockets + two unique separately switchable out or thru sockets for added versatility with additional Midi instruments & sound expanders.  
 MIDI 1 + FREE LEAD .....£29.99  
 MIDI 2 + FREE LEAD .....£34.99  
 EXTRA MIDI LEAD 5m .....£4.99

**TRIOLOGIC TV & MONITOR LEADS**  
**AL1 - AMIGA TO SCART TV OR MONITORS** £10.99  
 mono or stereo, inc Sony, Philips, Toshiba etc.  
**AL2 - AMIGA TO FERGUSON 7/8 PIN DIN** ..£10.99  
 inc MCO1, MCO5.  
**AL4 - AMIGA TO HITACHI 7 PIN DIN** ..£10.99  
 inc Granada with RGB input.  
**AL6 - AMIGA TO AMSTRAD CPC COLOUR**...£9.99  
 monitor with 6 pin socket. No audiolead.  
**ALL1 - AMIGA TO MULTISYNC MONITOR** ..£9.99  
 with 9w 'D' socket. No audio lead.  
**MANY OTHER TYPES AVAILABLE.** LONGER LEADS TO ORDER £4.99 EXTRA ANY LENGTH  
 All tv/monitor leads include audio lead except where stated, give all 4096 colours & are approx 1.5m long

**MONITOR SHARERS**  
 Want to use two computers (or 1 computer, 1 VCR) with one Tv or monitor? NO MORE lead swapping if you connect our MONITOR SHARER switch. Your existing leads plug-in to Sharer, & lead from Sharer connects to Tv or Monitor. Push button changerover switch can be used at anytime.  
 FOR SCART TVs & MONITORS.....£15.99  
 FOR 1084S MONITOR.....£16.99

**MOUSE JOYSTICK SWITCH - NEW IMPROVED MODEL**  
 A must for AMIGAS & STs - no more groping round the back, wearing out the mouse port or risking damage by not powering down before unplugging. With our Mouse Joystick switch connect both & just push a button anytime to select which ever is needed - even when powered up.  
 MOUSE JOYSTICK SWITCH .. £12.99

**PORT SHARER**  
 Our neat PORT SHARER switch has TWO Amiga compatible 25w female 'D' sockets for printers, & audio/video digitisers. Push-button changerover switch. Amiga cable included. **FREE CABLE**  
 FOR A500/2000 & STs etc. . £20.99

**MINIAMP 4 STEREO SPEAKER SYSTEM**  
 Offers more power & louder speakers, with mains pack included. Separate 4 watt per channel amplifier, speakers / headphone socket + 4" dia twin cone heavy duty speakers.  
**ALSO FOR USE WITH ST, ARCHIMEDES, SPECTRUM + & SATELLITE TV RECEIVERS ETC.**  
 FOR A500/1000 /2000 ...£34.99  
**PLEASE ENQUIRE FOR OTHER APPLICATIONS.**

**MINIAMP 5 STEREO SPEAKER SYSTEM**  
 The ultimate 5 way MINI HI/FI BOOKSHELF SPEAKERS in solid alloy enclosure. Separate 5 watt per ch. inel amplifier, speakers / headphone socket + Mains power unit & connecting lead.  
**ALSO FOR USE WITH ST, ARCHIMEDES & SATELLITE TV RECEIVERS ETC.**  
 FOR A500/1000 /2000 ...£69.99  
 (SPEAKERS ALONE SOLD ELSEWHERE FOR £59.99)  
**PLEASE ENQUIRE FOR OTHER APPLICATIONS.**

**DUST COVERS - DON'T LEAVE IT EXPOSED!**  
 A500 .....£5.49  
 A2000 - 2 COVERS ..£9.99  
 3.5" EXTERNAL DRIVE£4.99  
 CM8833/8852 MONITOR£6.99  
 1084/S MONITOR .....£6.99  
 CITIZEN 120D .....£5.99  
 STAR LC10/LC10 COLOURE£5.99  
 Flame retardant antistatic PVC.

**SAVE £1**  
 BUY A DISK BOX PLUS ANY PACK OF DISKS AND DEDUCT £1

**DISK BOXES**  
 3.5" 40/50 DISK BOX £8.49  
 3.5" 80 DISK BOX .....£9.99  
 3.5" 100 DISK BOX £11.99  
 Lockable, smoked lid, antistatic

**SONY DISKS**  
 10 for ..£12.99  
 25 for ..£28.49  
 50 for ..£55.99  
 100 for £99.99  
 3.5" Ds/did guaranteed plus FREE labels.

**LOW PRICES! RETURN OF POST SERVICE!**

**PHONE FOR LATEST LOW PRICES ON AMIGAS PRINTERS MONITORS**

**HOW TO ORDER**

- 1) To use this ad as an order form - tick the box next to the items you wish to order, add any carriage charges (see below), fill in coupon, send in the whole page with payment or quote Access or Visa number & expiry date. A new copy of the ad + our catalogue will be sent with your order.
  - 2) Or write out your order + name & address on a separate sheet if you wish.
- CARRIAGE CHARGES**
- 1) Orders under £15.00 - please add 75p p&p.
  - 2) Orders over £15.00 post free except books
  - 3) Optional express delivery £1.99 per order
  - 4) Export orders despatched daily - add £1.99 extra for surface mail or £3.99 extra for airmail.

**5000 RAM EXPANSION**  
 \* 512K RAM  
 \* ON/OFF SWITCH  
 FOR A500. ONLY £89.99

**ALL PRICES INC VAT**

**OUR TOP 10 AMIGA BOOKS**

- AMIGA TRICKS & TIPS .....£14.95
- AMIGA DOS INSIDE OUT ..£18.45
- AMIGA BASIC INSIDE OUT ..£18.95
- ADVANCED AMIGA BASIC£18.95
- AMIGA DOS MANUAL .....£22.95
- AMIGA DISK DRIVES INSIDE OUT.....£27.95
- AMIGA INTUITION REF MANUAL ..£22.95
- AMIGA ROM KERNAL REF EXEC ..£22.95
- AMIGA ROM KERNAL LIBRARY .....£32.95
- AMIGA MACHINE LANGUAGE .....£14.95
- AMIGA PROGRAMMERS GUIDE (COMPUTE).....£16.95
- AMIGA PROGRAMMERS HANDBOOK VOL1.....£23.95
- AMIGA PROGRAMMERS HANDBOOK VOL2.....£23.95

POSTAGE £1.50 PER BOOK

**SELECTED SUPERB SOFTWARE - DISCOUNT PRICES**

- PUBLISHERS CHOICE - WPRO + DTP£89.99
- KINDWORDS 2 - WPRO + SPELL CHK£48.99
- SUPERBASE PERSONAL - DATABASE£54.95
- SUPERBASE PERSONAL 2 DATABASE £89.95
- VIDEO TITLER .....£99.99
- MOVIESETTER - VIDEO ANIMATOR ..£74.99
- DELUXE VIDEO - VIDEO GRAPHICS £64.99
- DELUXE PHOTOLAB - GRAPHICS...£59.99
- DELUXE PAINT II.....£47.49
- DELUXE PAINT III .....£74.99
- DELUXE MUSIC - MUSIC + MIDI .....£64.99
- AUDIOMASTER II - STEREO SAMPLE£74.99
- DR TS MIDI RECORDING STUDIO.....£59.99
- BBC EMULATOR & CABLE .....£54.99

**PRINTER & MODEM LEADS**

- AMP1 - A500 PARALLEL PRINTER CABLE 1.5m .....£6.99
- AMP2 - A500 PARALLEL PRINTER CABLE 3.0m .....£9.99
- NM1 - A500 - A500 NUL MODEM CABLE 1.5m .....£7.99
- NM2 - A500 - A1000 NUL MODEM CABLE 1.5m .....£7.99
- ML1 - DEMON & DESIGNER A500 MODEM LEAD.....£9.99

A1000 types also stocked.

**USEFUL ODDS & ENDS**

- REPLACEMENT MOUSE - FOR AMIGA, ST, AND C64.....£29.99
- MOUSE MAT - A4, NON SLIP, RED OR BLUE .....£4.99
- EXTERNAL DRIVE SWITCH FOR DF1 - NO EXPOSED PARTS .....£8.99
- 4 JOYSTICK ADAPTOR FOR 4 PLAYER GAMES .....£8.99
- MODULATOR SPLITTER - CONNECT RGB LEAD & MODULATOR.....£8.99
- MODULATOR EXTENSION LEAD APPROX 6" LONG .....£8.99

**OTHER PERIPHERALS**

- MINGEN - GENLOCK FOR A500 .....£109.99
- VORTEX 40 MB AUTOBOOT HARD DRIVE .....£499.99
- AMDRIVE 30MB HARD DRIVE .....£399.99
- DIGIVIEW GOLD COLOUR VIDEO DIGITISER ..£139.95
- B/W VIDEO CAMERA - HIGH QUALITY BY HITACHI .....£239.99

NAME.....  
 ADDRESS.....  
 TEL NO.....  
 EXPRESS DELIVERY £1.99  
 EXPORT DELIVERY £1.99 or £3.99  
 GOODS TOTAL £ .....  
 CARRIAGE TOTAL £ .....  
 TOTAL ENCLOSED £ .....  
 CARD No. ....  
 EXPIRY DATE .....  
 SIGNED .....  
 Address given above must be cardholders address.

**AMIGA SUPERMARKET**

**FAST MAIL ORDER PROMPT DESPATCH TELEPHONE ORDERS: 0274 691115 5 LINES**

**TRIOLOGIC**  
 Dept A.F. Unit 1  
 253 New Works Road  
 Bradford BD12 0QP  
 Fax 0274 600150

**PROMPT DESPATCH FREE CATALOGUE CALLERS WELCOME**

**ENQUIRIES**  
 0274 678062



"I say Holmes, just how does one become a detective and get mixed up with 'orrible murders, dastardly deeds and villainous felons?" "Elementary, my dear Watson: you simply enter this competition, in which the winner gets to spend a weekend doing just that in the comfort of a Trusthouse Forte hotel."

This chance to test your powers of detection and have a great time as well comes courtesy of Electronic Arts and their game *The Hound of Shadow*.

Fortunately you won't encounter any supernatural hounds on the weekend break – the only people getting murdered are paid to be.

The weekend starts on the Friday night; a school reunion perhaps, a will reading or the start of an eccentric political party. You can bet it won't be long before somebody pops their clogs – and they probably won't be the last either. Now you're in the thick of things; finding clues, interrogating suspects and getting to know your fellow detectives. Just the sort of tension and intrigue that *The Hound of Shadow* recreates.

The weekend break is for two, so the lucky winner can take along a fellow sleuth to enjoy the fun. Murder weekends take place across the country, so choose any of these locations: Bradford, Buxton, Cheltenham, Farnham, Hull, Leamington Spa, Oundle, Scarborough, Southport and Tonbridge.



An exciting tale of murder, mystery and suspense slowly unwinds as a bloody corpse is discovered!

# WIN A MURDER

**A PRIZE YOU WOULD KILL FOR – A MURDER MYSTERY WEEKEND**

### HOW TO ENTER

Write the answers to the following three questions on the back of a postcard or stuck-down envelope and send it to: *Hound of Shadow* Comp, *Amiga Format*, Beauford Court, 30 Monmouth Street, Bath, Avon BA1 2AP. The entries should reach us by March 16th and don't forget to include your name, address and phone number on the postcard.

### QUESTIONS

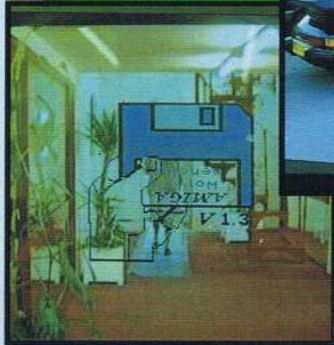
1. What nationality is Hercule Poirot?  
a) French b) Belgian c) Dutch
2. What instrument does Sherlock Holmes play?  
a) Piano b) Cello c) Violin
3. Which Agatha Christie mystery is the longest-running stage play ever?  
a) *The Mousetrap* b) *A Caribbean Cruise* c) *Death on the Nile*

Employees of Future Publishing and Electronic Arts are not allowed to enter. The judges' decision is final. No correspondence will be entered into. No entries on purple, scented postcards with the name Derek on them will be accepted.



# DATTEL ELECTRONICS

## PRO-GENLOCK



**NEW!**

**PRO-GENLOCK  
ONLY £89.99  
COMPLETE**

**AT LAST - A TOP QUALITY, FULL  
FEATURE GENLOCK INTERFACE FOR  
THE AMIGA AT A REALISTIC PRICE.**

- ▼ Genlock is the latest "buzzword" on the Amiga - it's a device that allows you to mix computer text/graphics with live video pictures from either a camera or VCR. "Desk Top Video" as it's become is probably the fastest growing productivity application for the Amiga.
- ▼ With the Datel Pro Genlock, you can do all the things previously only possible with units costing hundreds of pounds!!!
- ▼ Perfect for video titling, captions or your own animation productions.
- ▼ Lock your Amiga to external colour or B/W video signal (camera/VCR etc) - output is a composite combined picture.
- ▼ Plugs into RGB port of A500/1000/2000. Provides composite video output to monitor/VCR/suitable TV etc.
- ▼ Switch selectable to view video input/overlay graphic or both (combined signal).
- ▼ Top quality unit features VLSI Motorola chip as used on commercial devices.

## BUT THAT'S NOT ALL...

- ▼ Unique fader control allows overlay to fade in or out. Ideal for fading captions etc.
- ▼ This is a complete hardware solution - no software to load.
- ▼ Comes complete with necessary leads etc - no more to buy
- ▼ Unbeatable price.

**TOO GOOD TO BE TRUE? WHY NOT BUY ONE AND SEE - YOU WON'T BE DISAPPOINTED!**



## STEREO BOOSTER SYSTEM

- ▼ Boost the output of your Amiga in glorious stereo.
- ▼ 30W + 30W power amplifier with 5 band graphic equalizer.
- ▼ Complete with cables for A500/A1000/A2000 models.
- ▼ Slimline colour matched metal case with built-in mains power unit & headphones socket.

**ONLY £59.99**

## MATCHING SPEAKERS

- ▼ High quality miniature 3 way speaker units in die-cast aluminium shelf enclosures.
- ▼ 30 Watts 8 ohm each.

**ONLY £39.99 PAIR**



## ICON PAINT

- ▼ A unique product to edit and produce your own individual icons.
- ▼ Allows for multi-colour (up to 16) extra large icons for use when customising workbench, disk, icons, tools, programs, etc.
- ▼ Advanced editing facilities make for fast and easy design.

**ONLY £12.99**



## A590 UPGRADES

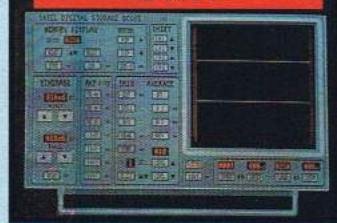
- ▼ If you own an A590 hard drive, then you can upgrade it to give up to an extra 2 Megs of Ram to your system.

**ONLY £69.99 FOR 512K (0.5 MEG)**

**ONLY £134.99 FOR 1 MEG.**

**ONLY £259.99 FOR 2 MEGS**

## DATA ACQUISITION UNIT



- ▼ Turn your Amiga into a sophisticated measuring instrument capable of measuring a wide range of data inputs.

**DIGITAL SCOPE DISPLAY** - 2 channel inputs. Manual or continuous display. Timebase 500ms/div to 20us/div - accurate to 5%. 6 bit flash conversion gives 2 million samples/sec.

**PLOTTER DISPLAY** Timebase range 1 sec to 10hrs per plot.

**ONLY £99.99**

PLEASE STATE A500/1000/2000



**NEW!**

## 8 CHANNEL DIGITAL MIXER

- ▼ Now an 8 channel digitally controlled mixer for under £100.00!!
- ▼ This system comes in two parts - a 19" rack mounting mixer - and a superb control program. Use your Amiga to give top quality 8 channel "digital" mixing.
- ▼ 8 inputs via 0.25" jack sockets. Two outputs via 0.25" sockets.
- ▼ Connects to Amiga parallel port.
- ▼ Control software gives 8 faders with super-fine increments, digital display of levels on each channel, stereo lock for each pair of faders.
- ▼ Master faders with bar graph display of output levels. Suitable for mono and stereo applications.
- ▼ When an ideal mix has been achieved, then the overall "mix" can be saved to disk for re-load as required - just like systems costing thousands !!
- ▼ Auto zero of faders.
- ▼ Top quality analogue and digital circuits give superb results.
- ▼ Complete hardware/software.

**ONLY £99.99 COMPLETE**

# DATTEL ELECTRONICS

## EXTERNAL 3.5" DISK DRIVE

- ▼ Slimline extra low profile unit.
- ▼ Top quality fully compatible drive mechanism.
- ▼ Throughport allows daisy-chaining other drives.
- ▼ A superbly styled case finished in Amiga colours.
- ▼ 1 meg unformatted capacity.
- ▼ Good length cable for positioning on your desk etc.

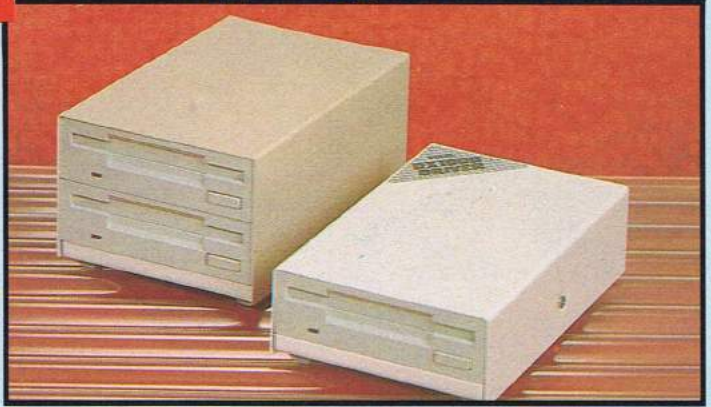
**NEW LOW  
PRICE ONLY  
£74.99  
SINGLE DRIVE**

**ONLY £129.99 TWIN DRIVE  
ADD £5 FOR COURIER DELIVERY IF REQUIRED**

### EXTERNAL DRIVE SWITCH

- ▼ Switch in/out of external drives.
- ▼ Save on memory allocated for drives not currently in use.
- ▼ DF1 & DF2 controlled.
- ▼ Fits between computer & driver(s).

**ONLY £9.99**



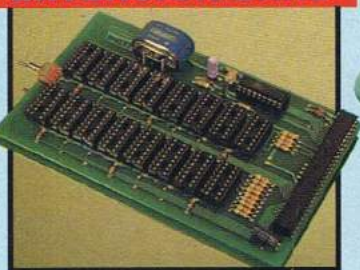
### 512K MEMORY EXPANSION

- ▼ Now with this superb 512K expansion unit you can simply plug in more memory. Bring your Amiga up to 1Meg Ram in seconds!!
- ▼ Featuring the latest 1 Meg fast Ram chips.
- ▼ Comes complete with dissable switch (not offered by some others, including A501 unit).
- ▼ Available with/without clock/calendar feature. Clock version has high capacity NiCad battery - never needs replacing.
- ▼ Low chip count means extra low consumption.
- ▼ High grade PCB with quality connector.
- ▼ Buy direct from the manufacturer and save!
- ▼ Simply plugs into internal Ram extension slot - no knowledge at all required.

**ONLY £84.99 COMPLETE**

**ONLY £99.99 FOR VERSION WITH CLOCK/CALENDAR COMPLETE**

### 512K RAM EXTENSION CARD



- ▼ If you can obtain your own Ram chips, we can supply the card.
- ▼ Accepts 16 x 41256 DRams.
- ▼ Available with/without clock option.
- ▼ Switch dissable feature.
- ▼ Simply plugs into Ram expansion slot.
- ▼ Fitted in only minutes - no user knowledge required.

**ONLY £19.99**

**ONLY £34.99 FOR  
VERSION WITH CLOCK/CALENDAR**  
NB. THESE PRICES DO NOT INCLUDE  
RAM CHIPS



### REPLACEMENT MOUSE

- ▼ High quality direct replacement for mouse on the Amiga.
- ▼ Teflon glides for smoother movement.
- ▼ Rubber coated ball for minimum slip.
- ▼ Optical system counting - 500/mm.

**SPECIAL OFFER - FREE  
MOUSE MAT + MOUSE  
HOUSE (WORTH £7.99).**

**ONLY £29.99  
COMPLETE**

## GENISCAN GS4500 AMIGA



- ▼ An easy to handle Handy Scanner featuring 105 mm scanning width & 400 dpi resolution enables you to reproduce graphics & text on your computer screen.
- ▼ Adjustable switches for brightness & contrast.
- ▼ A powerful partner for Desk Top Publishing.
- ▼ With Geniscan you have the ability to easily scan images, text & graphics into the AMIGA.
- ▼ Printout for Epson compatibles.
- ▼ Powerful software allows for cut & paste editing of images etc.
- ▼ Save images in suitable format for most leading packages including DELUXE PAINT etc.
- ▼ Package includes GS4500 scanner, Interface & Scan Edit software.
- ▼ Unmatched range of edit/capture facilities simply not offered by other scanners at this unbeatable price.

**SPECIAL OFFER  
COMPLETE WITH PHOTON PAINT  
FOR ONLY £169.99  
INCLUDING HARDWARE/SOFTWARE**



ALL ORDERS NORMALLY DESPATCHED WITHIN 48 HRS

## HOW TO ORDER ...

### BY PHONE

   
**0782 744707**  
24hr Credit  
Card Line

### BY POST

  
Send cheques/POs made  
payable to  
"Datel Electronics"

### FAX

**0782 744292**  
UK ORDERS POST FREE  
EUROPE ADD £1  
OVERSEAS ADD £3

PRICES AND SPECIFICATIONS CORRECT AT TIME OF PRESS  
AND SUBJECT TO CHANGE WITHOUT NOTICE

CALLERS WELCOME - Please reserve goods by telephone prior to visit.

# DATTEL ELECTRONICS

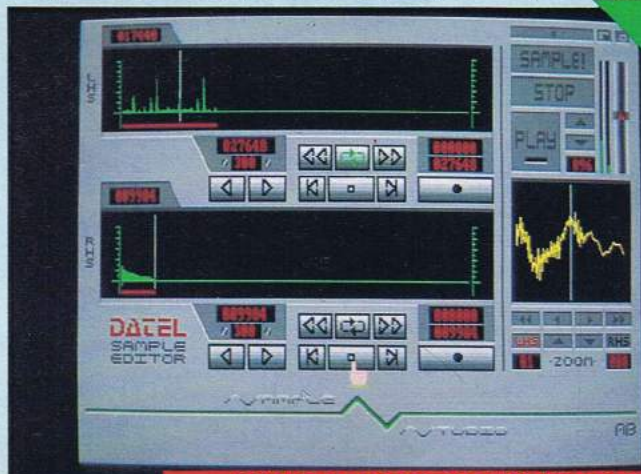
DATTEL ELECTRONICS LTD., FENTON INDUSTRIAL ESTATE  
GOVAN ROAD, FENTON, STOKE-ON-TRENT, ENGLAND.

SALES ONLY  
0782 744707

TECHNICAL ONLY  
0782 744324

# DATEL ELECTRONICS

STEREO SAMPLING



## AMIGA PRO SAMPLER STUDIO + DATEL JAMMER

- ▼ A top quality stereo sampling system at a realistic price.
- ▼ 100% machine code software for realtime functions.
- ▼ HiRes sample editing.
- ▼ Realtime frequency display.
- ▼ Realtime level meters.
- ▼ Files saved in IFF format.
- ▼ Adjustable manual/automatic record trig level.

- ▼ Variable sample rate & playback speed.
- ▼ Separate scroll line waveform windows & zoom function with Edit windows for fine accurate editing.
- ▼ 3D shot of sound waveform. Wave editor to design your own waveforms or adjust existing ones.
- ▼ Microphone & line input 1/4" Jack & Din connections.
- ▼ Software files can be used within other music utilities.

TO COMPLEMENT THE SAMPLE STUDIO THE DATEL JAMMER GIVES YOU A 5 OCTAVE KEYBOARD TO PLAY & RECORD YOUR SAMPLED SOUNDS

### FEATURES:-

- 4 track sequencer up to 9999 events.
- Tempo & Beat controls.
- Mixer Controls on Instruments.
- Load & Save sequence.
- Works on standard IFF file sounds.



**ONLY £79.99** PLEASE STATE A500/1000/2000

### MIDIMASTER



- ▼ Full Midi Interface for A500/1000/2000 (please state model).
- ▼ Compatible with most leading Midi packages (including D/Music).
- ▼ Midi In - Midi Out x3 - Midi Thru.
- ▼ Fully Opto isolated.

**ONLY £34.99**

### MICRO MIDI



- ▼ A simple low price MIDI Interface for the A500.
- ▼ All the features found on more expensive units. Fully compatible.
- ▼ MIDI In - MIDI Out - MIDI Thru.
- ▼ Fully Opto isolated.

**ONLY £24.99**

### VIDEO DIGITISER



- ▼ 256 x 256 display with 16 grey levels.
- ▼ Realtime frame grab 1/50th second.
- ▼ Takes standard composite Video input from camera or Video recorder.
- ▼ Screen update 1 frame per second, single, continuous or buffered display.
- ▼ Load, Save facilities including IFF Save.
- ▼ Edit picture, cut, copy, paste and undo.
- ▼ Special effects, reverse, negative, mirror, compress, etc.
- ▼ Increase the width of the display to 320 x 256 automatically or manually.
- ▼ Plugs into the parallel port of your Amiga 1000/500/2000.
- ▼ Comes complete with its own power pack.

**ONLY £89.99**

## A TOTAL MIDI MUSIC PACKAGE

UNBEATABLE VALUE PACK - THE YAMAHA SHS 10 FM MIDI COMPATIBLE GUITAR-STYLE SYNTHESIZER, THE ACTIVISION MUSIC STUDIO SOFTWARE PLUS THE MICROMIDI INTERFACE TO CONNECT TO YOUR COMPUTER SYSTEM

SAVE OVER **£75\***

\* R.R.P. over £175

### FREE MIDI CABLES

#### ACTIVISION MUSIC STUDIO

- ▼ A full feature MIDI Recording Studio.
- ▼ A multi channel sequencer with realtime input and full editing facilities.
- ▼ Completely menu driven - full Mouse control.
- ▼ Very simple to use.

#### MICRO MIDI INTERFACE

- ▼ This unit connects your computer to any MIDI instrument.
- ▼ Fully Opto isolated - MIDI IN, MIDI OUT, MIDI THRU.
- ▼ Just plug in and go.

#### FREE CABLES

- ▼ 3 metre long MIDI Cables - completely FREE!! (normally £6.99).

#### YAMAHA SHS 10 FM SYNTHESIZER KEYBOARD

- ▼ Superbly styled guitar-type keyboard with shoulder strap.
- ▼ Top quality brandname.
- ▼ 2.5 octave keyboard.
- ▼ 25 built-in instrument and rhythm choices.
- ▼ Uses FM synthesis.
- ▼ Full MIDI OUT standard.



**FOR ONLY £99.99**  
**NO MORE TO BUY!!**

# DATTEL ELECTRONICS

**UNBEATABLE  
VALUE**



## SYNCR0 EXPRESS

▼ **SYNCR0 EXPRESS IS A HIGH SPEED DISK DUPLICATION SYSTEM THAT WILL PRODUCE COPIES OF YOUR DISK IN AROUND 30 SECONDS!!**

▼ Syncro Express requires a second drive & works by controlling it as a slave device & ignoring the AMIGA disk drive controller chip, high speeds & great data accuracy are achieved.

▼ Menu driven selection for Start Track/End Track - up to 80 tracks. 1 side, 2 sides.

▼ Very simple to use, requires no user knowledge.

▼ Also duplicates other formats such as IBM, MAC etc.

▼ Ideal for clubs, user groups or just for your own disks.

▼ No more waiting around for your disks to copy.

▼ Probably the only duplication system you will ever need!

**THE ANSWER TO  
YOUR DISK  
DUPLICATION  
PROBLEMS**

ON BOARD CUSTOM LSI CHIP  
MAKES THIS UNIT EXTREMELY  
SMALL & EFFICIENT.



**CUSTOM  
LSI  
CHIP**

**ONLY £34.99**  
COMPLETE HARDWARE/SOFTWARE

**If you don't have a second drive we can supply SYNCR0 EXPRESS together with a drive for ONLY £104.99.**

WARNING 1988 COPYRIGHT ACT WARNING  
Datel Electronics neither condones or authorises the use of its products for the reproduction of copyright material.  
The back-up facilities of this product are designed to reproduce only software such as public domain material, the users own programs or software where permission to make a back-up has been clearly given.  
It is illegal to make copies, even for your own use, of copyright material, without the permission of the copyright owner, or their licensee.

**SP 11 SCANNER/  
PRINTER ONLY  
£449.99 INC. VAT + PP**

**UNBEATABLE  
VALUE**



▼ **UNBEATABLE VALUE - A FLATBED 200 DPI SCANNER PLUS BUILT-IN PRINTER!! FOR LESS THAN £450!!**

**▲ TRUE 200 DPI  
FLATBED SCANNER/  
PRINTER**

- ▼ Comes complete with superb software to scan/edit pictures.
- ▼ Very comprehensive software allows for Capture, Writing, Cut/Paste, Printing, Load & Save of images.
- ▼ Save to your favourite graphics/DTP package - very easy to use.
- ▼ Easy to install - connects to the Printer Port - ready to scan in minutes.

- ▼ Up to 16 grey scales or black & white modes - giving you superb scanned images.
- ▼ Complete - no more to buy.

**BUT THAT'S NOT ALL...**

- ▼ Not only does the SP11 scan at 200 Dpi - it is also a superb image printer giving high definition output prints of scanned images, screen dumps etc.

- ▼ PLUS - its a Photocopier!! Yes, just press start and it will deliver a superb photocopy of your original in seconds!

**TOO GOOD TO BE TRUE? WHY NOT BUY ONE AND SEE - YOU WON'T BE DISAPPOINTED!**

# ATARI ST and AMIGA

## Sixteen Bit Superdeals from the Sixteen Bit Specialists !

**CUSTOMERS PLEASE NOTE!** When comparing prices remember ours include fast delivery by courier.

**NEW!** **520 STE Power Pack** **NEW STE**  
**£359.00**  
*Inc. VAT and Next Day Delivery*

**Power Pack includes:**

- ★ 520 STE 512K Keyboard with Built-in 1 Megabyte disk drive and TV Modulator
- ★ 4096 Colour Palette
- ★ 8 Channel digital stereo sound
- ★ 4 Joystick Ports
- ★ Over £550 worth of games software, including OutRun, Gauntlet 2, R-Type, Space Harrier, Super HangOn and 16 more Top Games
- ★ Organiser Business Software including WORDPROCESSOR, SPREADSHEET and DATABASE.
- ★ First BASIC and First Music Utility Software
- ★ FREE JOYSTICK AND FREE MOUSE MAT WORTH £4.95
- ★ All leads, manuals PLUS MOUSE and free mains plug!

**REMEMBER!** Many ST's do not come with BASIC - ours come with ST BASIC REV D by Metacomco.

**520STE Explorer Pack** **NEW STE**  
**£279.00**

- ★ Explorer Pack Includes 520STE 512K Keyboard with built-in 1 Megabyte Disk Drive and TV Modulator
- ★ 1 FREE Game, ST Tutorial and METACOMCO Basic worth £25.00
- ★ All Leads, Manuals PLUS MOUSE and FREE Mains Plug! ★ Free mouse mat worth £4.95

**1040STE Super Pack**  
**£479.00**

- ★ Includes the new 1 megabyte 1040STE keyboard plus £450 worth of software. Comprising 21 games and Organiser Business Software. Also includes Metacomco BASIC, Mouse Pad, all Leads, Manuals and Mouse.
- ★ 1040 STE keyboard without software **£439.00**

**MEGA 1 BUSINESS PACK**  
**£529.00**

Features:

- ★ Separate Keyboard and System Unit
- ★ £385 worth of Business Software including MICROSOFT WRITE word processor (£150), SUPERBASE PERSONAL Database (£60) and VIP PROFESSIONAL Lotus 123 Spreadsheet clone (£150). Metacomco Basic (£25.00)
- ★ Blitter chip installed for faster graphics
- Inc SM124 Mono Monitor..... £628.00

**ACCESSORIES**

Quickshot II Turbo Joystick.....£9.95	Branded Memorex 3.5" DS-DD Disks
Competition Pro 5000 Joystick...£13.95	Box of 10.....£13.95
Competition Pro with Autofire.....£14.95	Memorex Disk Box
Konix Speedking Joystick.....£11.95	For 40 3.5" Disks.....£8.95
Red Mouse Mat with Amiga logo...£5.95	Amiga 1/2 Meg Expansion.....£119.95
Plain blue Mouse Mat.....£4.95	Control Centre Atari or Amiga.....£44.95
Contriver Amiga and ST Mouse with FREE Holder and Mouse Pad £20.95	

**PRINTERS**

Star LC24-10 24 pin incl. lead ST/Amiga.....£249.00
Star LC10 including interface lead for ST/Amiga.....£169.00
Star LC10 colour including interface lead for ST/Amiga.....£219.00
Citizen 120D including interface lead for ST/Amiga.....£159.00

**SEIKOSHA 80 COLUMN PRINTERS - AMAZING PRICES**

Seikosha 9 pin NLQ including interface lead for ST/Amiga.....£139.00
Seikosha 24 pin LQ including interface lead for ST/Amiga.....£239.00

**AMIGA A500**  
**BAT GAMES PACK** **NEW!**  
**£399.00**

*Inc VAT and Next Day Delivery*

**BAT Games Pack includes:**

- ★ Amiga A500 512K Keyboard with Built-in 1 Megabyte disk drive.
- ★ Free TV modulator worth £24.99 allowing you to use the Amiga with a normal TV.
- ★ DELUXE PAINT II GRAPHICS PACKAGE
- ★ PHOTON PAINT II graphics package with animation worth £70.00
- ★ FREE, only-just-released BATMAN - THE MOVIE games software.
- ★ NEW ZEALAND STORY arcade games software.
- ★ F16 - INTERCEPTOR - amazing 3D flight simulator software.
- ★ A further £230 worth of Games Software, including BUGGY BOY, MERCENARY, BARBARIAN, WIZBALL & six more games.
- ★ FREE JOYSTICK, MOUSE MAT AND 10 BLANK DISKS
- ★ Amiga BASIC, Amiga EXTRAS 1.3, Workbench 1.3 PLUS the Amiga Step by Step Tutorial.
- ★ All leads, manuals PLUS MOUSE and mains plug!

**AMIGA 1 MEG**  
**BAT GAME PACK** **NEW!**  
**£529.00**

**1 Meg Bat Games Pack includes:**

- ★ Fitted 1 Megabyte Memory Expansion + Real Time Clock Card
- ★ Everything listed for the A500 Bat Game Pack
- ★ DRAGON'S LAIR 1 MEG MEGAGAME!

**AMIGA A500**  
**CLASS OF THE 1990'S**  
**BUSINESS + EDUCATIONAL PACK**  
**£549.00**

**FEATURES:**

★ Amiga A500 + TV Modulator	★ Maxiplan 500 Spreadsheet
★ Midi Interface + Software	★ Amiga Logo, BBC Emulator, Deluxe Paint II
★ Kind Words II word processor	★ Mouse mat, 10 blank disks and disk wallet
★ Page Setter DTP	
★ Super Base Personal Database	

**EXTERNAL DISK DRIVES**

Atari SF314 1 Megabyte.....£139.00
Amiga A1010 1 Megabyte.....£109.00
Cumana 1 Megabyte Atari or Amiga.....£89.95
NEC 1 Megabyte Atari or Amiga.....£79.95
Atari Megafile 30 Hard Disk.....£439.00
New! Commodore A590 20 meg hard disk.....£369.00
A590 Hard Disk + Memory Upgrade installed.....Phone

**MONITORS**

Commodore Amiga A1084 Stereo colour Monitor inc lead.....£249.00
Atari SC1224 Colour Monitor inc lead.....£259.00
Atari SM124 Mono Monitor including lead.....£104.00
Philips CM8833 stereo colour monitor inc. lead for ST or Amiga.....£259.00

**CREDIT CARD ORDERLINE ☎ 0908 378008 (Mon - Sat 9am - 6pm)**  
 To order either call the orderline above with your Credit Card details OR make a cheque or P.O. payable to Digicom Computer Services and send it with your order to the address below. Callers are also most welcome at the address below

**DIGICOM**

**Unit 36, Wharfside, Fenny Stratford, MILTON KEYNES MK2 2AZ**  
 All prices include VAT and delivery by courier



**DAVE JONES**, programmer of Psygnosis' hits *Menace* and *Blood Money*, presents part two of his series in which he divulges the tricks

## THE WHOLE TRUTH ABOUT GAMES PROGRAMMING: 2

of the trade used by top games programmers.

This month:

### SCROLLING

This month's example with source is the dual playfield *Menace* scroll. The framework source from last month has been used to allow the scroll to be executed, with return to the CLI upon pressing the left mouse button. Try executing the assembled file on the disk, what you see should hopefully be recognisable as *Menace*, minus any aliens or your ship on the screen.

When designing your scroll routine there is one major decision to make: namely, should it be a hardware or software scroll? First I'll explain the differences.

#### Hardware Scroll

The Amiga has the ability to hardware scroll the display screen. This means the entire display can be shifted pixelly, left or right, with virtually no overhead or processor usage. It actually does better than this in that it can change the scroll value every line if required: take a look at *Shadow Of The Beast* for some impressive use of the hardware scroll.

#### Software Scroll

A software scroll entails using the

processor, or preferably the blitter, to physically shift the display memory the required number of pixels. Take for example a typical 32-colour screen that requires 40000 bytes: to scroll the entire display memory, even using the blitter, would take the best part of a frame (1/50th of a second).

#### Pros and Cons

It seems fairly obvious at first glance that the hardware scroll is the one to go for: however, thoughts must now turn to what exactly will be drawn into the display memory. To move an alien

about the screen for either method requires a simple procedure as follows...

1. Save the memory where the alien is to be drawn.
2. Draw the alien (masked) into this memory.
3. When moving the alien, restore the memory and go back to (1).

If we did not do the saving and restoring of the display memory, then as we moved that alien, a 'trail' of itself would be left when it moved. The above procedure is exactly what happens in *Menace*, where the saving and restoring does take up a major part of the execution time of the game. This is where using the software scroll can have an advantage. With the software scroll the usual method is to use the blitter to copy the display memory, shifting it as it goes, to another part of memory, which will obliterate the contents of what was previously there. This means that only step 2 of above need be executed when moving aliens about, as the whole of the display memory is restored

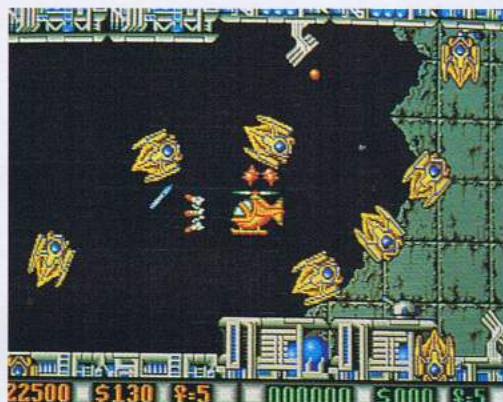
while it is being scrolled.

If you envisage having a LOT of objects flying about on a scrolling screen, then there comes a point where the software scroll will save you more execution time than the hardware one. The software one is also simpler to write, not having to bother with steps 1 and 3 above. Incidentally in *Blood Money* I switched to a software scroll for the very reason of the number and size of the aliens kicking about compared to those flying around in *Menace*. There are, of course, many variations on scrolling techniques which are dreamed up by programmers: it is simply a case of sitting down with pen and paper and working out which one is best suited to your own game.

#### Scenery Blocks

With the scrolling method decided upon I had to come up with a technique for scrolling through approximately 30 screens for one *Menace* level. The simplest way would be to have 30 screens laid end to end in memory and simply hardware scroll through memory. However, at approximately 24 Kbytes per screen this would require some 720 Kbytes, not exactly easy with only 512 Kbytes! Game playing areas therefore tend to be made up from maps.

The scenery graphics were broken up into 16x16 blocks, each of these given a number from 0-255 (to store as a byte). To make best use of the blocks many blocks were designed to fit together in certain ways giving as much variety as possible. Some games that use this technique are easily spotted when graphic



In one of David's other games, *Blood Money*, he used a software scroll to enable him to put more objects on the screen - as you can see from this screenshot of some furious action.

blocks that do not quite match up are placed together – *Battle Squadron* exhibits this quirk. As *Menace* is a dual playfield game the maximum number of colours per block is 8, made up from 3 planes. Each block required 96 bytes of memory (2 bytes wide x 16 high x 3 planes) with a complete level taking 24576 bytes (256 blocks x 96 each).

The scrolling technique devised allowed us to scroll through an infinite number of screens, but required memory for only twice that of a normal screen. The *Menace* screen was larger than the normal 320 wide to make the playing area that bit larger. 16 pixels were added either side, expanding it to 352 pixels in length and providing a nice over-scan effect. Another extra 16 pixels were also required at the left side due to the way the Amiga accomplishes the hardware scroll (these are the extra pixels that are normally hidden but are hardware scrolled on) – this is fully explained in the Amiga hardware manual. The actual size is therefore 368 pixels wide of which 352 are displayed. As mentioned, the scroll routine requires memory for two screens laid side by side (see figure 1), we can calculate the memory required as...

**46 bytes wide**

- x 2 screens
- x 192 high
- x 3 planes
- = 52992 bytes

The 192 line height of the playing area was chosen as it is the closest multiple of 16 to 200, the game panel adds another 32 pixels to the overall height bringing the full screen size to 224 pixels. The background playfield is constructed in a similar way (see figure 2) but requires an extra 32 pixels at the end of each screen for clipping purposes (more about this at a later stage). The memory required for the background is...

**50 bytes wide**

- x 2 screens
- x 192 high
- x 3 planes
- = 57600 bytes

Given that that one screen is 368 x 192 pixels, this corresponds to 23 x 12 blocks (each block being 16x16). As each block is stored as a byte in the map, then map data for one screen would be 23 x 12 = 276 bytes. For approximately 30 screens per level the map data would therefore



**Battle Squadron from Electronic Zoo exhibits a programming quirk where graphic blocks that do not quite match up have been used. Can't see it? Then look closely at the ridge running across from the left of the screen.**

be some 8280 bytes. Looking at the size of the file MAP on the disk, which is the map data for level 1 of *Menace*, shows a file size of 5282 bytes – so level 1 consists of roughly 19 screens. The map data in this file is simply organised as 'strips of bytes'. This means that every 12 bytes (the number of blocks high the screen is) represent the 12 graphic blocks that sit one on top of another to form a 16 x 192 high strip which is scrolled on from the right.

That actual graphic data for each block is stored in the file FOREGROUNDS. As discussed, each block is 96 bytes in length, given that the foregrounds file on

the disk is 24480 bytes in length, we know this will contain 255 graphic blocks (1 less than the 256 maximum allowed). The first 96 bytes are always 0, as block 0 is a special case being a blank block (there has to be some blank areas on the screen to fly through!).

You could try experimenting with your own graphic data and map. If you altered the bytes in the map in any way, then you will see 16 x 16 blocks scrolling on that were obviously not designed to fit together. You can even try changing the map file to some other file, as it is simply a sequence of bytes that can be any value. The program will not crash doing this. You

can even do this with the foregrounds file to produce some pretty random graphics!

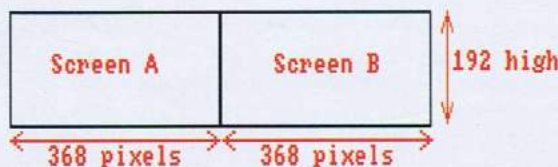
**How the scroll works...**

Now we know how the map and graphics are organised I will attempt to explain how the scroll works. If it sounds confusing, which it probably will at first, persevere, as when it clicks it should seem pretty straightforward.

Take a look at figure 3. This shows our two screens laid side by side in memory. At any one time we are displaying 352 pixels (22 words) of this data. The bit plane pointers on the Amiga can be positioned on any word (16 pixel) boundary. Incrementing the pointers therefore would scroll through memory 16 pixels at a time, which is a mega speed compared to the single pixel *Menace* requires. We therefore use the hardware scroll to shift the display pixelly from 0 to 15, then when we want to scroll to the 16th position we increment the bit plane pointers but reset the hardware scroll back to 0. We will carry on doing this until we have scrolled entirely through screen A and are displaying screen B. At this point we reposition the bit plane pointers back to display screen A and repeat the procedure again. OK, this will smooth scroll us from A to B.

Now, to keep new data coming onto the screen we draw graphic blocks as defined in the map, one strip at a time (16 x 192 pixels) just to the right of where we are displaying (as shown in figure 3). Therefore for every 16 pixels we scroll on we draw a new strip from the map, scroll another 16 pixels, draw a new strip etc, etc. Remember that the strip is being drawn just to the right of where the display is, so we cannot see it being drawn, but only see it scrolling smoothly on.

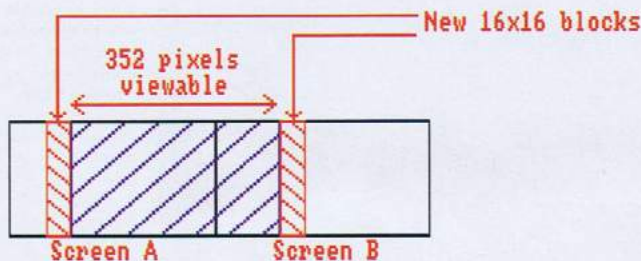
Right, if you understand so far you may notice a quirk in that when we have fully reached screen B, we reposition the plane pointers back to screen A and start again. This sudden jump to screen A though will cause a complete new screen to appear showing what was previously in screen A. This is where we apply the twist in the tail. As we are drawing the strips into screen B and scrolling them on, at exactly the same time we draw the same strip into screen A, just to the left of where we are displaying (see figure 3 again). This means that as we are forming and scrolling through screen B, the exact same data is being formed in Screen A, so when we are completely displaying screen B, screen A is also



**Scenery (foreground) screen**  
Figure 1



**Background screen**  
Figure 2



**Scenery (foreground) screen**  
Figure 3









*Shadow of the Beast*, another game from Psygnosis, demonstrates impressive use of hardware scrolling – which is the technique used in *Menace*.

▶ exactly the same. NOW when we display screen A again, nothing will seem to happen as the same data is being displayed, but we have moved the plane pointers back to screen A, allowing us to repeat this process, and to scroll through large numbers of screens with only two screens in memory!

If your brain has now turned to jelly with that lot, do not worry, the light will dawn soon. Read it a couple of times, remembering the problem you are trying to overcome.

The background playfield in *Menace* is scrolled through in the same way, although no map building is done as the background is a simple wrap scroll where whatever gets scrolled off on the left reappears again on the right. At the start of a level, the background screens A and B are both built identically from a small map that allows only 16 blocks maximum. The Background is scrolled once every SECOND frame to allow it to scroll half the speed of the foreground. This gives the nice parallax effect. The graphic data for these blocks are included as source in the scroll source on the disk. The background graphic blocks are only 4 colours.

### The copperlist

Finally for this month a run down of the copperlist for the main game (Listing 1). I tend to put everything that describes the display into the copperlist, although many can simply be written with the 68000. It allows the full display to be quickly changed or referred to rather than looking through your source to find where you changed modulo's etc, for certain copperlists.

The first instruction is a 'wait for line 10', which simply allows a

## LISTING 1 - MENACE COPPERLIST

```

clist          DC.W  $0A01,$FF00
copperlist     DC.W  bplpt+0,$0000,bplpt+2,$0000
               DC.W  bplpt+8,$0000,bplpt+10,$0000
               DC.W  bplpt+16,$0000,bplpt+18,$0000
               DC.W  bplpt+4,$0000,bplpt+6,$0000
               DC.W  bplpt+12,$0000,bplpt+14,$0000
               DC.W  bplpt+20,$0000,bplpt+22,$0000
               DC.W  bplcon0,$6600
scroll.value   DC.W  bplcon1,$00FF,bpllmod,$0036
               DC.W  bpl2mod,$002E,bplcon2,$0044
               DC.W  ddfstrt,$0028,ddfstop,$00D8
               DC.W  diwstrt,$1F78,diwstop,$FFC6
colours        DC.W  color+0,$0000,color+2,$0000
               DC.W  color+4,$0000,color+6,$0000
               DC.W  color+8,$0000,color+10,$0000
               DC.W  color+12,$0000,color+14,$0000
               DC.W  color+16,$0000,color+18,$0000
               DC.W  color+20,$0000,color+22,$0000
               DC.W  color+24,$0000,color+26,$0000
               DC.W  color+28,$0000,color+30,$0000
               DC.W  color+32,$0000,color+34,$0000
               DC.W  color+36,$0000,color+38,$0000
               DC.W  color+40,$0000,color+42,$0000
               DC.W  color+44,$0000,color+46,$0000
               DC.W  color+48,$0000,color+50,$0000
               DC.W  color+52,$0000,color+54,$0000
               DC.W  color+56,$0000,color+58,$0000
               DC.W  color+60,$0000,color+62,$0000
sprite         DC.W  sprpt+0,$0000,sprpt+2,$0000
               DC.W  sprpt+4,$0000,sprpt+6,$0000
               DC.W  sprpt+8,$0000,sprpt+10,$0000
               DC.W  sprpt+12,$0000,sprpt+14,$0000
               DC.W  sprpt+16,$0000,sprpt+18,$0000
               DC.W  sprpt+20,$0000,sprpt+22,$0000
               DC.W  sprpt+24,$0000,sprpt+26,$0000
               DC.W  sprpt+28,$0000,sprpt+30,$0000
               DC.W  $DF01,$FF00
rastersplit2   DC.W  bplcon1,$0000,bplcon0,$4200,ddfstrt,$0030
               DC.W  bplpt+0,$0000,bplpt+2,$0000
               DC.W  bplpt+4,$0000,bplpt+6,$0000
               DC.W  bplpt+8,$0000,bplpt+10,$0000
               DC.W  bplpt+12,$0000,bplpt+14,$0000
colours2       DC.W  color+20,$0000,color+30,$0000
               DC.W  color+2,$0000,color+4,$0000
               DC.W  color+6,$0000,color+8,$0000
               DC.W  color+10,$0000,color+12,$0000
               DC.W  color+14,$0000,color+16,$0000
               DC.W  color+18,$0000,color+22,$0000
               DC.W  color+24,$0000,color+26,$0000
               DC.W  color+28,$0000,color+0,$0000
               DC.W  bpllmod,$0000,bpl2mod,$0000
               DC.W  $DF01,$FF00,intreq,$8010
               DC.W  $FFFF,$FFFE

```

bit of time after a vertical blank occurs in which to change some values in the list, before the copperlist is executed again.

Next we set the bitplane pointers. Six planes in all for dual playfield, three for the back playfield (as defined first) then come the three for the front playfield. Note these all point to 0 as they will be initialised once we have allocated some screen memory.

Next come the control registers. BPLCON0 is set to six planes with dual playfield activated.

BPLCON1 sets both playfield scroll values to 15. As we want to scroll left we have to actually decrement the hardware scroll value, incrementing it will scroll us right.

BPLMOD's are set to the difference in width of the screens laid side by side in memory, to the displayed areas.

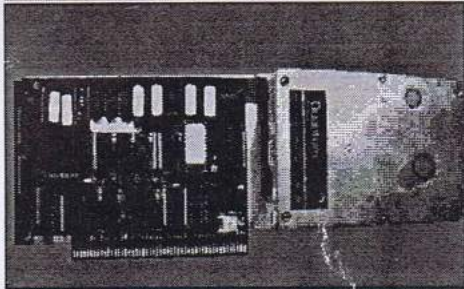
DDFSTRT and DDFSTOP are increased from the normal values by one word each, DDFSTRT is increased by a further word due to the hardware scroll. The hardware manual goes into this in greater depth.

DIWSTRT and DIWSTOP are set to reflect a screen size of 352 x 224 pixels. Note that the display is set higher up the screen than normal to allow 224 pixels to be viewed on an American system on which *Menace* appears as full screen with overscan.

COLOR and SPRITE registers are all set to 0 initially, these are set up by the initialisation routine of the game.

After 192 lines have been displayed a copper change occurs which switches the display to a 16 colour one in which the panel is displayed. The panel is 352 x 32 pixels, the graphic data is stored in the file PANEL on the disk. ■

# HardFrame/2000: There is no competition.



When it comes to choosing a hard drive for your Amiga 2000, there's no real alternative to MicroBotics HardFrame/2000. It's the fastest Amiga SCSI controller available, and our 5-year warranty says it's also the most reliable. Coupled with a fast Seagate (28 ms access time) or Quantum ProDrive (19/11 ms access) it's also surprisingly affordable. Try it yourself on thirty days approval (we don't think we'll get too many coming back.). Unmatched by any other controller (Amiga World July '89).

Since then, nothing has changed. HardFrame is fastest. Prices start at £499 for a HardFrame with 32MB Seagate, 28ms. HardFrames fitted with Quantums start at £599 for the 42MB.

Prices exclude VAT.

Dealers can order from:  
MicroBotics (01) 298 0060  
SDL (01) 300 3399  
ZCL 0543 414817

# CROSSING THE GREAT DIVIDE

**"A** disk's a disk, innit? They all look the same, so I should be able to put my PC text files disk into my Amiga (the disk certainly fits!) and read the files directly into my Amiga word processor." As we all know, this is sadly not the case. Even though you may use a disk of exactly the same type and make, your Amiga will still refuse point-blank to read disks once it has been used on another make of computer.

The problem lies in the way that computers use floppy disks. Before a disk can be used to store files, the magnetic particles that make up the disk must be arranged into the order required by the machine that the disk is to be used on. If the 'format' of the disk is different from that used by the machine trying to access it, the disk will appear to be unreadable.

To make life a little easier, *CrossDOS* is an immensely useful utility program that allows any Amiga drive to read and write disks in both AmigaDOS and MS-DOS formats (including PC-DOS and even Atari ST formats). By simply referring to a drive using the relevant device name, any Amiga application that accesses the disk drives through the operating system can be made to read

Need to transfer files from different disk formats? **JASON HOLBORN** checks out

*CrossDOS*, a program that promises to make the process considerably easier.

and write MS-DOS directly.

What must be stressed is that *CrossDOS* is not an emulator, but just a tool to transfer files between previously incompatible disk formats - you'll need a Bridgeboard or the KCS PC Emulator board (see news pages for more!) to actually run program files on a PC format disk. As for running ST programs - forget it.

### Installing CrossDOS

*CrossDOS* works by installing a device driver into the Amiga operating system to handle the reading and writing of MS-DOS format diskettes. The program can be installed onto almost any boot disk by simply copying across the device driver files and putting them into the appropriate logical devices. Getting *CrossDOS* up and running once all the files are installed, is just a case of editing your StartUp-Sequence to 'Mount' the PC file System.

### Using CrossDOS

The possible uses for a utility such as *CrossDOS* are almost unlimited. Probably the most common use that Amiga owners will find for *CrossDOS* is for sharing files between the Amiga and Atari ST. If you own a program such as Progressive's *PIXmate*, any NeoChrome picture (NeoChrome is one of ST's picture file formats) stored on an Atari disk could be read straight into the Amiga, re-saved in IFF and then loaded directly into *Deluxe Paint*... without ever having turn on the Atari!

If you use *Lotus 1-2-3* on PC Compatibles at your place of work, you could bring your work home on a floppy disk and load it directly into an Amiga spreadsheet such as *VIP-Professional* or *Plan/IT* (both support Lotus worksheets). Both *Word Perfect* and *Protext* users could directly load in text files created using the PC ver-

sions of those two programs. How about being able to swap IFF pictures between the PC and Amiga versions of *Deluxe Paint*? Or even accessing *Master Tracks* performance files created on the Atari - the list of uses is endless.

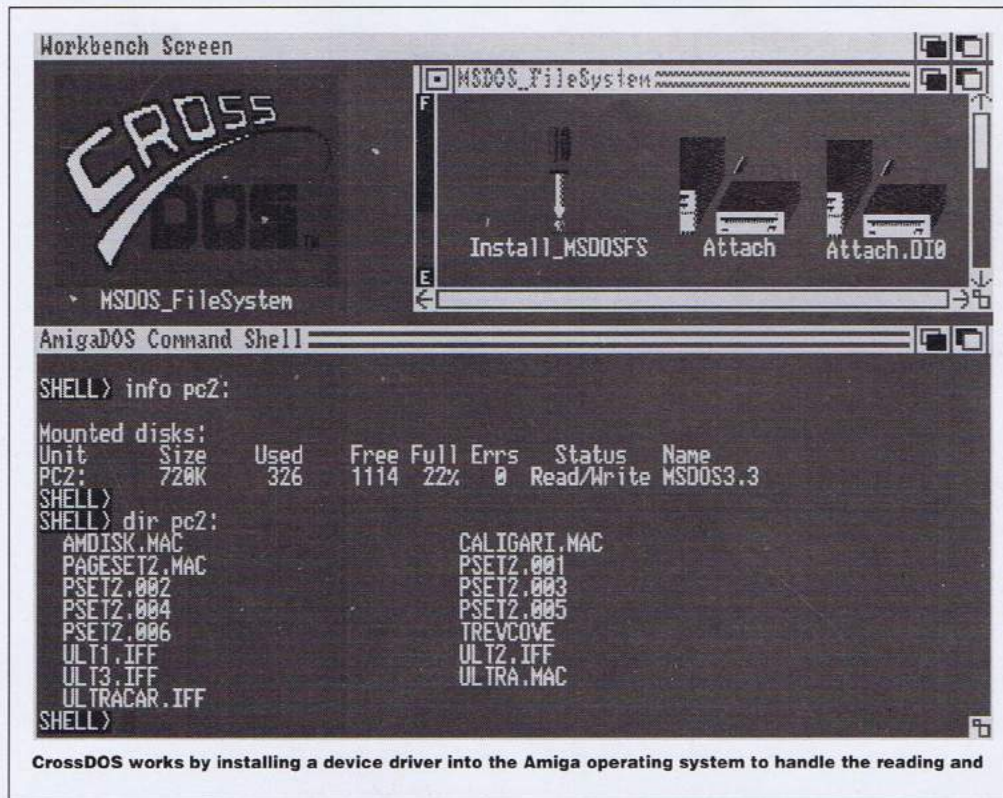
Even at Amiga Format, we've started using *CrossDOS* in favour of that old faithful, *DOS-2-DOS*. All text files and screendumps produced on our office Amigas (yes, we write the mag on Amigas!) are written out to PC format disks and loaded straight into our office Macintosh SE/30 (OK, the Mac actually belongs to Damien). Previously, we had no choice but to port files to the Mac in batches (using *DOS-2-DOS*), but now any file can be transferred within seconds just by calling up a new CLI window.

### Conclusion

For Amiga owners who regularly use either an Atari ST or a PC compatible, *CrossDOS* is a dream come true. OK, so *DOS-2-DOS* has been happily reading and writing PC and ST disks for years, but even with *DOS-2-DOS*, life was never so easy. Being able to just bung a PC (or ST) disk into your Amiga and then access the files on that disk directly from any Amiga program makes the task of transferring files an absolute pleasure.

So what kind of people should consider purchasing *CrossDOS*? For starters, users of *DOS-2-DOS* should rush out today and buy *CrossDOS* immediately. For the rest of you, if you think you are ever going to want to exchange files between either an ST or PC, then drop what you're doing, forget those comms cables, and phone Power Computing immediately. Put simply, *CrossDOS* is one of the few true essentials for the Amiga. ■

**CROSSDOS**  
**£29.00 ■ All Amigas ■**  
**Power Computing 0234**  
**273000**



SECOND  
DRIVE  
£79.95

MAIL  
ORDER

# SOFTSELLERS

6 BOND STREET, IPSWICH SUFFOLK IP4 1JE

MAIL  
ORDER

MUSIC X  
£199.95

5A DOG'S HEAD STREET, IPSWICH, SUFFOLK (RETAIL)



36A OSBORNE STREET, COLCHESTER, ESSEX (RETAIL)

**24hr MAIL ORDER PURCHASE LINE (0473) 257158/ (0473) 210605 FAX: 0473 213457**

### AMIGA 500 BATMAN PACK

Batman (The movie) Interceptor, NZ Story, Deluxe Paint II, mouse, modulator and manuals.

**£369.95**

### AMIGA 500 + PHILIPS 8833

As above with Batman pack and Philips colour monitor, Photon Paint and 10 free games

**£649.95**

### AMIGA 500 CLASS OF 90 PACK

Deluxe Paint II, Superbase Personal, Maxiplan A500, Doctor Midi Recording Studio, Datel Midi Interface, BBC emulator, "Publishers Choice", Amiga logo, "Interceptor" 10 3.5" disc box and education support files from Commodore

**£529.95**

### DATEL MIDI

Midi interface

**£34.95**

### SEGA MEGA DRIVE

16 bit games machine

**£199.95**

### 512K MEMORY EXPANSION

Plus Clock Card

**£99.95**

### PHILIPS 8833 COLOUR MONITOR

**£299.95**

### C1900 Monochrome monitor

**£99.95**

### EXTERNAL DRIVE

Power Drive 1 meg

**£79.95**

### A590 HARD DRIVE 20 meg hard drive

**£369.95**

### VIDI VIDEO DIGITISER

**£99.95**

### MINI-GEN

Merge computer graphics with live video

**£113.85**

### PRO DESIGNER GOLD

Sound Sampler

**£79.95**

### PC ENGINE PLUS

Games machine

**£199.95**

## HARDWARE

**ALL OUR HARDWARE INCLUDES VAT AND FREE DELIVERY.**

**UK MAINLAND ONLY. NEXT DAY DELIVERY BY ARRANGEMENT MOST WORKING DAYS.**

### JOYSTICKS

Cheetah 125 .....£6.99  
Cheetah Starprobe.....£11.99  
Pro 5000 extra glo green .....£13.99  
Pro 5000 extra glo red .....£13.99

QS Turbo .....£7.99  
Euromax Racemaker .....£24.99  
Euromax prof 9000.....£11.99  
Konix Navigator.....£11.99

### DISC BOXES

3.5 40 holder lockable.....£5.99  
5.25 50 holder lockable.....£4.99

3.5 80 holder lockable.....£7.99  
5.25 120 holder lockable.....£6.99

### DISC BOXES AND DISCS

3.5 40 holder lockable with 10 3.5 DSDD discs.....£12.99  
3.5 40 holder lockable with 20 3.5 DSDD discs.....£19.99  
3.5 40 holder lockable with 40 3.5 DSDD discs.....£33.99

3.5 80 holder lockable with 10 3.5 DSDD discs.....£15.99  
3.5 80 holder lockable with 40 3.5 DSDD discs.....£35.99  
3.5 80 holder lockable with 80 3.5 DSDD discs.....£55.99

### DISCS

3.5 DSDD .....£7.99  
3.5 DSDD SONY .....£11.99

### QTY 10

### QTY 20

### QTY 50

### QTY 100

3.5 DSDD .....£7.99 .....£14.99 .....£34.99 .....£59.99  
3.5 DSDD SONY .....£11.99 .....£22.99 .....£54.99 .....£99.99

### PERIPHERALS

Replacement mouse + mouse holder + mouse mat .....£29.95  
Four player Adaptor .....£5.95

Mouse Mat .....£4.95  
Joystick Extender.....£5.95  
Dust Cover .....£4.95

PUBLISHERS  
CHOICE  
£99.95

AMOS  
£34.95

DELUXE  
VIDEO II  
£59.95

MAIL  
ORDER

# SOFTSELLERS

MAIL  
ORDER

DELUXE  
PAINT II  
£59.95

6 BOND STREET, IPSWICH SUFFOLK IP4 1JE

5A DOG'S HEAD STREET, IPSWICH, SUFFOLK (RETAIL)



36A OSBORNE STREET, COLCHESTER, ESSEX (RETAIL)

24hr MAIL ORDER PURCHASE LINE (0473) 257158/ (0473) 210605 FAX: 0473 213457

5th Gear.....	£13.99	Escape from the Planet of	Lombard R.A.C Rally.....	£16.99	Stryx.....	£13.99
3D Pool.....	£15.99	Robot Monsters.....	Lords of the Rising Sun.....	£19.99	Strider.....	£16.99
Adidas Golden Shoe.....	£16.99	Eye of Hercules.....	Last Ninja II.....	£16.99	Skweek.....	£13.99
Altered Beast.....	£16.99	Eye of Horus.....	Lost Patrol.....	£16.99	Space Quest III.....	£19.99
A.P.B.....	£13.99	Flash Dragon.....	Liverpool.....	£15.99	Speedball.....	£16.99
Action Fighter.....	£15.99	F29 Retaliator.....	Last Stuntman.....	£12.99	Steve Davis Snooker.....	£12.99
Ancient Art of War.....	£16.99	F19 Stealth Fighter.....	Legend of Djel.....	£16.99	Story So Far 1 (compilation).....	£12.99
Ancient Art of War At Sea.....	£16.99	F16 Combat Pilot.....	Manic Mansion.....	£16.99	Story So Far 3 (compilation).....	£12.99
Aquaventura.....	£24.99	Falcon.....	Microprose Soccer.....	£15.99	Stunt Car.....	£15.99
Axels Majic Hammer.....	£13.99	Falcon Mission Disks.....	Majic Johnson.....	£12.99	Shinobi.....	£13.99
Asterix.....	£16.99	Ferrari Formula One.....	Murder in Venice.....	£15.99	Street Fighting Man.....	£13.99
Balance of Power 1990.....	£15.99	Forgotten Worlds.....	Matrix Marauders.....	£16.99	Scroll.....	£12.99
Barbarian II (Palace).....	£16.99	Fast Lane.....	Moonwalker.....	£16.99	Sword of Twilight.....	£16.99
Barbarian II (Psygnosis).....	£16.99	Frankenstein.....	Magnum 4 compilation.....	£19.99	Starwars Compilation.....	£16.99
Bankok Knights.....	£16.99	Future Wars.....	Manchester United.....	£16.99	Shufflepuck Cafe.....	£13.99
Battlechess.....	£16.99	Fighting Soccer.....	Ninja Warrior.....	£13.99	Super Scramble Simulator.....	£13.99
Batman (the movie).....	£16.99	Fiendish Freddy.....	Ninja Spirits.....	£16.99	Super Wonderboy.....	£16.99
Bloodwych.....	£16.99	Fighter Bomber.....	New Zealand Story.....	£16.99	Silpheed.....	£19.99
Blood Money.....	£16.99	Footballer of The Year.....	North and South.....	£15.99	Sleeping Gods Lie.....	£15.99
Bloodwych Data Disks.....	£12.99	Full Metal Planet.....	Neuromancer.....	£16.99	Slayer.....	£13.99
Beach Volley.....	£16.99	Final Battle.....	Nevermind.....	£13.99	Stormlord.....	£13.99
Battlevalley.....	£13.99	Giants (compilation).....	Operation Thunderbolt.....	£16.99	Shadow of the Beast.....	£24.99
Blade Warrior.....	£15.99	Galdregons Domain.....	Oriental.....	£15.99	Star Blaze.....	£13.99
Bad Company.....	£15.99	Ghostbusters II.....	Onslaught.....	£13.99	Super Quintet.....	£15.99
Battle of Australitz.....	£15.99	Gunship.....	Ooze.....	£15.99	Sim City.....	£19.99
Bobo.....	£12.99	Games Summer Edition.....	Overlander.....	£12.99	Saint and Greavsie.....	£13.99
Battle Squadron.....	£15.99	Greenpeace.....	Omega.....	£24.99	Seven Gates of Jambala.....	£15.99
Black Tiger.....	£16.99	Gore.....	Planet Busters.....	£13.99	Star Command.....	£19.99
Battle of Britain.....	£16.99	Galaxy Force.....	Paperboy.....	£12.99	Stellar Crusade.....	£24.99
Beverly Hills Cop.....	£15.99	Ghouls and Ghosts.....	Pinball Majic.....	£16.99	Skidz.....	£13.99
Chase HQ.....	£16.99	Gravity.....	Police Quest II.....	£16.99	Switchblade.....	£13.99
Chaos Strikes Back.....	£16.99	Gazza's Super Soccer.....	Pools of Radiance.....	£16.99	Super Cars.....	£13.99
California Games.....	£13.99	Highway Patrol.....	Populous Data Disks.....	£9.99	Star Trek 5.....	£24.99
Cabal.....	£16.99	Hillsfar.....	Precious Metal (compilation).....	£16.99	Space Ace.....	£29.99
Conflict Europe.....	£16.99	Hard Driving.....	Premier Collection (1, 2 or 3).....	£19.99	Triad II (compilation).....	£16.99
Continental Circuit.....	£13.99	H.A.T.E.....	Predator.....	£16.99	Test Drive II.....	£16.99
Chariots of Wrath.....	£16.99	Heavy Metal.....	Player Manager.....	£12.99	TV Sports Football.....	£19.99
Carthage.....	£15.99	Hound of Shadow.....	P47.....	£15.99	Trivial Pursuit (family edition).....	£16.99
Corvette.....	£19.99	Hot Shot.....	Powerdrift.....	£16.99	Take em Out.....	£12.99
Chicago 90.....	£12.99	Indiana Jones (Lucas Films).....	Passing Shot.....	£16.99	Tintin.....	£12.99
Commando.....	£12.99	Indiana Jones (US Gold).....	Pictionary.....	£16.99	Thrill Time Platinum (comp).....	£15.99
Commandos Compilation.....	£15.99	Ivanhoe.....	Panic Station.....	£13.99	Trivia.....	£15.99
Chambers of Shaolin.....	£15.99	Iron Tracker.....	Pro Tournament Tennis.....	£16.99	Track Attack.....	£16.99
Cyberball.....	£13.99	Infestation.....	Quartz.....	£15.99	Turbo Outrun.....	£16.99
Dragon Ninja.....	£16.99	Interphase.....	Quarterback.....	£13.99	Tower of Babel.....	£15.99
Dungeon Master.....	£16.99	International Athletics.....	Quest for Time Bird.....	£19.99	Turbo Buggies.....	£13.99
Dungeon Master Editor.....	£9.99	It Came from the Desert.....	Red Heat.....	£16.99	TV Sports Basketball.....	£19.99
Dreadnought.....	£13.99	Iron Lord.....	Renegade.....	£16.99	Theme Park.....	£16.99
Demons Tomb.....	£13.99	Jack Boot.....	Rick Dangerous.....	£15.99	Ultimate Golf.....	£16.99
Dragon Spirit.....	£13.99	Jack The Ripper.....	Robocop.....	£16.99	Ultimate Darts.....	£13.99
Drakken.....	£19.99	Jumping Jackson.....	Rocket Ranger.....	£19.99	Untouchables.....	£16.99
Dynamite Dux.....	£16.99	Kult.....	Run The Gauntlet.....	£16.99	UMS II.....	£15.99
Double Dragon II.....	£13.99	Kick Off.....	R.V.F Honda.....	£15.99	Ultima V.....	£15.99
Dogs of War.....	£12.99	Kick Off Extra Time.....	Red Storm Rising.....	£15.99	War in Middle Earth.....	£13.99
Dragons of Flame.....	£16.99	Krystal.....	Risk.....	£13.99	Waterloo.....	£15.99
Dynamite Debugger.....	£15.99	Keef the Thief.....	Rally Cross.....	£12.99	W.E.C Le Mans.....	£16.99
Die Hard.....	£16.99	Killing Game Show.....	Roadwars.....	£13.99	Warp.....	£12.99
Day of the Pharoah.....	£16.99	Knightforce.....	Rock and Roll.....	£13.99	Winners (compilation).....	£19.99
Dragons Breath.....	£19.99	Krypton X.....	Scramble Spirits.....	£13.99	World Cup Soccer 90.....	£13.99
Dan Dare 3.....	£13.99	Kenny Dalglish Soccer Match.....	S.E.U.C.K.....	£19.99	Wings of Fury.....	£13.99
Damocles.....	£15.99	Laser Squad.....	Space Savage.....	£13.99	Wild Streets.....	£15.99
Elite.....	£15.99	Leisure Suit Larry II.....	(NEW) Space Harrier.....	£12.99	Xenophobe.....	£15.99
Epoch.....	£15.99	Lightforce (compilation).....	Space Harrier II.....	£13.99	Xenon II.....	£16.99

CHEQUES AND POSTAL ORDERS MADE PAYABLE TO SOFTSELLERS. POST & PACKAGING FREE IN UK.OVERSEAS £1.50 PER ITEM.  
Subject to availability and price changes without notice. Not all titles released at time of going to press.  
Shop prices may vary, but personal callers can claim advertised discounts on production of cut-off slip.

TITLE	COMP	PRICE

**TOTAL COST £**

Have you ordered from us before? YES/ NO

Name .....

Address: .....

Tel No: .....

Partners M James and L.K Mitchell

**AMF MARCH**

MEMORY  
EXPANSION  
£99.95

DELUXE  
MUSIC  
£49.95





# ON YOUR DISK

## X-OUT

Will you look at this! A fully playable demo of the first level of Rainbow Arts' amazing underwater extravaganza. Shoot-em-up fans have never had it so good.

## ULTRAPAIN

So you fancy yourself as a bit of a Picasso? Well, now's the time to prove a point. Here's your chance to pummel pixels with this phenomenal graphics package until the paint dries.



## PICPUZ

Moving tiles... boring? Not this implementation! Pretty graphics, interesting tile images and four very different games make this an experience you won't want to miss.

## XOPER

Not a new cough medicine, as many would believe, but an invaluable tool for investigating and interacting with the Amiga's multi-tasking operating system.

## MENACE SCROLL

Dave Jones opens up his locker to reveal more

secrets about games programming. Creating smooth horizontal parallax scrolling is this treat he has in store for you this month. Source, data and demo files are all provided.

## WORKBENCH HACKS

More mindless mayhem in the form of two great Workbench hacks. One will have you shining like a star while the other will have you jumping for joy.

## £800 UP FOR GRABS!

Think you've got what it takes to write for the Amiga Format Coverdisk? Get your programming tools out, prove what you can do and earn yourself some cash in the process. We're after Workbench hacks, demos, utilities, games, game cheats... Turn to page 80 for details.

## BACK UP YOUR COVERDISK IMMEDIATELY

DON'T KNOW HOW? SEE PAGE 80 FAST!

# DISK EXTRA

Where else can you get a magazine and a disk containing almost 900K of programs for under £3? RICHARD MONTEIRO guides you through the disk's stunning offerings.

## X-OUT

**PROGRAM:** RAINBOW ARTS  
**FILES:** X-OUT\*

Let's get one thing straight. X-Out is pronounced 'cross out'. Got it? Good. Let's party.

From the farthest reaches of outer space they came to inhabit the depths of the oceans. From their savage assaults on a defenceless human race grew a planet's last desperate crusade: project Deep Star, the ultimate underwater war machine.

Early attempts proved catastrophically ineffective. A few kept faith and continued improving Deep Star, the greatest collection of man's technical wizardry committed to the hands of a lone gladiator for one final attempt at halting the inevitable: the frantic death throes of a civilisation sinking into darkness.

Take no prisoners, give no quarter, make no compromise... the World's hopes lie in your hands.

So much for the introduction: now for the translation. X-Out is a furious shoot-em-up based underwater. The action is tremendous with, on occasions, 50 objects



Size is everything in X-Out. And money can make get you the biggest gun you can carry. Buy, buy, buy or it'll be bye, bye, bye.



You've just met up with an end-of-level super alien. And judging by your energy bar this is the last alien you're ever going to meet.

millling around the screen. Sprites and background are made up of 48 colours and animation takes place at 50 frames a second. Sounds good, looks good, is good!

X-Out is a horizontally-scrolling shoot-em-up. The idea is simple: build yourself an underwater craft, arm it, sail the high seas (don't you mean scuttle along the seabed? - Ed) and waste any aliens that get in the way.

### Getting going

X-Out can only be run by inserting the Coverdisk into the drive and resetting the computer. A prompt will appear asking you whether or not you wish to run the playable demo. Typing in Y and pressing Return will automatically run Rainbow Arts' excellent blaster.

Before you can rid the seas of alien scum, you must construct a ship from items in the stock room. Everything costs, so you've got to take care what you buy. You can never purchase too much. No matter how much weaponry you've got, you'll always want more. Money talks, but you've only got so much. Be selective: some weapons work well, others aren't worth thinking about.

All control is performed by a

◆ joystick in Port 1. Items must be picked up from the warehouse and dropped into the centre of the screen. When you've created the craft of your choice, click on the icon labelled X-Out. Come out with your guns blazing.

■ Please note: X-Out is stored on the Amiga Format disk in a non-standard way. It's not possible to copy X-Out onto another disk using the standard file copying procedure. Instead, the disk must be copied using the Duplicate option in the Workbench menu item. Copy the disk by highlighting the Coverdisk (done by single-clicking on it) and then clicking on the Duplicate menu item.

## XOPER

PROGRAM: PUBLIC DOMAIN

FILES: XOPER, XOPER.DOC

Find out what your system is up to with this nifty utility. Among many other things, Xoper will inform you of how much processor time each task uses.

Xoper comes with its own command line and can accept commands for checking on the priority, status and processor usage of tasks; task flags including allocated signals, signals received and the address of the next instruction to be executed; libraries and their base address, revision number and flags; devices

STATE	PRI	CPUSE	MIN	TASKNAME
Running	0	19.4%		Xoper
Waiting	20	38.2%		Input device
Waiting	3	2.0%		Trackdisk device
Waiting	3	2.0%		File System
Waiting	3	1.2%		Input device
Waiting	10	3.2%		File System
Waiting	10	2.7%		FBI
Waiting	8	0.8%		FBI
Waiting	8	0.8%		DAM
Waiting	8	2.5%	0	Workbench
Waiting	22	0.8%		CON
Waiting	2	0.8%		Reu CLI
Waiting	8	0.8%		CUN
Waiting	8	0.8%		StratMan
Waiting	8	0.8%	3	AmigaShell
Waiting	5	0.8%		NEONUN

Whether you want to see which tasks are running, send signals to a task, or even kill a task, Xoper has something for you.

and their open count, version, revision and devicename; upper and lower bounds of memory; flags, signal bit and queue length of ports.

In addition to that lot you can see what interrupts, the stack and many other system items are getting up to.

But that's only half the story. It's also possible to alter node priorities, break tasks, track memory allocation of tasks, display reset vectors, list memory-resident fonts and their statistics, freeze a task, signal a task and even kill a task. It's one hell of a tool to have around.

### Getting started

Inside the XOPER drawer you will

# ULTRAPAIN

PROGRAM: PUBLIC DOMAIN

FILES: ULTRAPAIN, ULTRAPAIN.DOC

You won't find a better art package in the public domain. UltraPaint is littered with countless features. Far too many to list in full here, but to whet your appetite here are a few:

\* Brush – variable size brushes can be used and custom brushes can be created.

\* Undo – this will undo your last action that caused anything to be drawn to the screen.

\* Freehand – main drawing mode. Others include sketch, line, ray, box, solid box, ellipse, solid ellipse, polygon, solid polygon, fill and airbrush.

\* Zoom – lets you investigate areas of the screen close up. The magnification level is selectable by you and a grid can be switched on.

### Getting started

Inside the ULTRAPAIN drawer you'll find a program called ULTRAPAIN. You can run the

graphics package as is by double-clicking on the program icon. The art software will boot up in low resolution (320 by 200 pixels using five bitplanes or 32 colours).

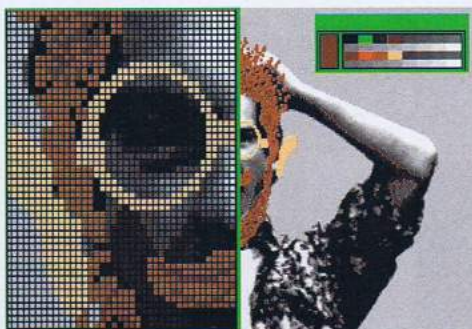
The resolution can't be changed once you're using UltraPaint: it must be done before you start. To specify the resolution simply highlight the ULTRAPAIN icon and select Info from the Workbench menu. In the Tool Types bar inside the information box you'll notice several variables (h=200, w=320, d=5, p=1). These determine UltraPaint's screen resolution. Obviously h stands for the vertical resolution or height, w for the horizontal resolution or width, d for the number of bitplanes or depth and p – admittedly not so obvious – for a preset resolution.

The preset values and resolutions are as follows:

P Value	Resolution
1	320*200*5
2	320*400*5
3	640*200*4
4	640*400*4

If you require some other resolution you'll have to remove p from the Type Tools and alter the values h, w and d manually.

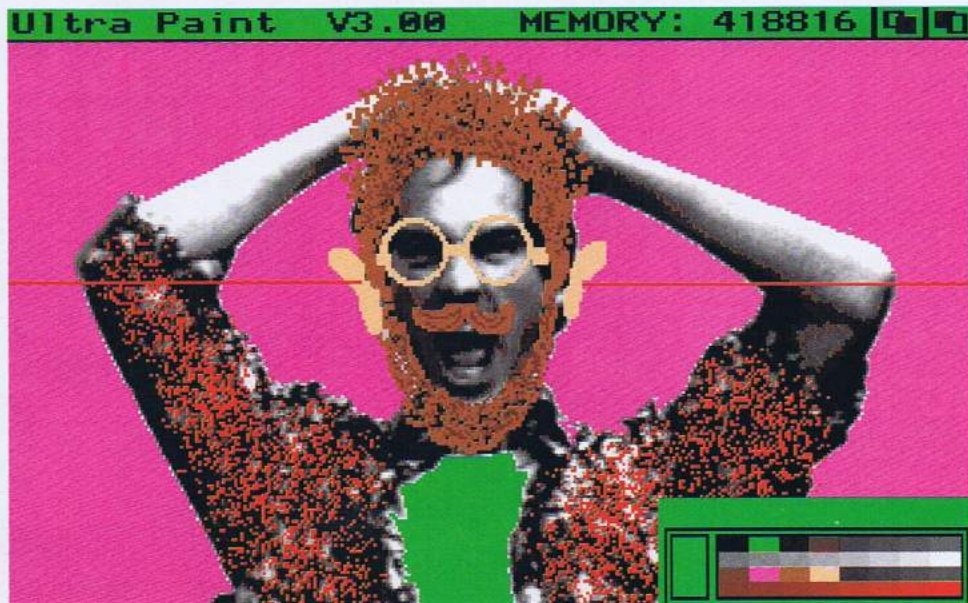
Full instructions on using UltraPaint are in the help file. However, PicPuz uses IFF brushes for its images. So, select Load IFF image from the appropriate menu in UltraPaint and – when the file selector appears – click on the PICPUZ drawer. Then click on FRAMES inside the PICPUZ folder. Once inside FRAMES you'll spot two IFF images: GIRL.FRM and MICKEY.FRM. Double-click on one of these to load. Don't worry about the message that states the image is of the wrong resolution: simply click on continue.



The zoom mode in UltraPaint is configurable. In other words, you decide the magnification.



UltraPaint comes with an abundance of editing options and operates in any resolution except HAM.



# SPACE HARRIER II™



ATARI ST



C64



SPECTRUM



AMIGA



SEGA  
© 1989 SEGA ENTERTAINMENTS LTD.  
This game has been manufactured under  
license from Sega Enterprises Ltd.; Japan  
and "SPACE HARRIER II™" and "SEGA®"  
are trademarks of Sega Enterprises Ltd.



stein

# SUNDAY SPOT

A COLD-SORE INTERNATIONAL PUBLICATION  
NEXT YEAR'S NEWS - TODAY

**NEW**  
"FATTER AGNUS"  
CHIP  
AVAILABLE NOW!  
ALSO  
1.3 ROMs  
Call for details

**A500  
2 MEG  
£289**

ISSUE 3 JAN 97

# I SPENT A NIGHT AT BYTES MOTEL - AND LIVED!

Even MOTHER would like these prices

## A500 HALF MEG

**WITH FREE  
1 MEG DEMO**

**£68**

**A500 TWO MEG**  
(Internal . . . Mini Max+)

**£289**

**A/B2000 TWO MEG**  
(Microbotics 8 Up)

**£309**

**A/B2000 FOUR MEG**  
(Microbotics 8 Up)

**£489**

**A/B2000 HARD CARD**  
(Microbotics Hard Frame with  
49Mb Drive 28MS)

**£489**

**NEC FLOPPY DRIVE**  
(3.5" with Switch and Through Port)

**£68**

**A590 UPGRADE CHIPS**

HALF MEG

1 MEG

2 MEG

**£40**

**£80**

**£150**

ALL PRICES INCLUDE VAT AND POSTAGE & PACKAGING



## BY THE TIME YOU READ THIS . . .

Magazine deadlines are getting sillier. Most ads.  
are out of date by the time you read them.

**SO PHONE TODAY FOR DETAILS  
OF OUR NEW PRODUCT RANGE  
AND LATEST PRICES!**

TRADE ENQUIRIES WELCOME

Send cheques to: Dept AF  
**Memory Expansion Systems Ltd.**  
Britannia Buildings, 46 Fenwick Street,  
Liverpool L2 7NB

**(051) 236 0480**

PRICES ARE SUBJECT TO CHANGE WITHOUT NOTICE



(051) 236 0480 • 24 Hour Sales

(051) 227 2482 • 24 Hour Fax



◆ see the program icon XOPER. Double-click on this icon to run the utility. Because Xoper is so comprehensive, and each command can have so many parameters attached, it is best to read the documentation file. If that seems too much like hard work, type in a question mark and press Return at the Xoper command line.

## PICPUZ

**PROGRAM:** DAVE COLCLOUGH, STOO FOTHERINGHAM  
**FILES:** PICPUZ,

PICPUZ.DOC, BIGCON1, NOFASTMEM, FASTMEM-FIRST, FRAMES (drawer), GIRL.FRM, MICKEY.FRM

*PicPuz* is a game based on the old moving tiles type of puzzle. The frame is a five by five grid, and there are various different ways to play the game. While moving tiles puzzles can be boring, Dave and Stoo's efforts are graphically and gameplay-wise pleasing.

The game types go like this: Pair Flip – flips two adjacent tiles in either the vertical or horizontal direction. Place the cursor on one of the tiles you wish to move and hold the left mouse button down while moving in the direction you wish to flip.

Classic – one square is missing, allowing you to move the other squares and unscramble the picture.

Rotate 4 – moves four tiles by 90 degrees. Click on the centre of a group of four to make them spin.

5 Slide – the movement is very similar to Rubic's cube. Five tiles in a row or column move together. To move a column or row, place



Two of the images available with the PicPuz puzzle game

the cursor on any tile in the row (or column) and hold the left mouse button while moving in the direction you wish to slide.

### Getting started

Double-click on the PICPUZ file icon, which is inside the PICPUZ drawer, to start the game. Once loaded, you will notice two icons on the left-hand side labelled Next and Play. Pressing Next will load the next picture in the FRAMES directory (there are only two images). Clicking on Play will shuffle the tiles according to the selected game.

## MENACE SCROLL

**PROGRAM:** DAVE JONES  
**FILES:** MENACE SCROLL, MENACE SCROLL.DOC, MENACE SCROLLS, FOREGROUNDS, MAP, PANEL

Psygnosis programmer extraordinaire Dave Jones reveals more of his tricks in this month's Amiga Format. (See page 63)

This month Dave explains how to create ultra-smooth parallax horizontal scrolling. All the source and data files for the first level of Menace, Dave's first game for Psygnosis, are present inside the DAVEJONES drawer.

Source isn't much good if you haven't got an assembler, which is why there's a compiled version of the scrolling level so that you can marvel at Dave's techniques.

### Getting started

Inside the DAVEJONES drawer you will see the file MENACE SCROLL. Simply double-click on this file to get the first level of Menace scrolling smoothly by. Click the left mouse button to exit.

You will need to enter the CLI to use the other files, which include the Assembler source and all the graphic data for the first level of Menace. It's there for you to examine and alter.

To compile the source you will need an assembler like HiSoft's Devpac. ■

## HOTLINE 0225 765086

BETWEEN 4PM AND 6PM ON WEEKDAYS ONLY.

Flummoxed by files? Dumfounded by disks? Paranoid about programs? If you've got a problem with the disk – and you're sure the disk is in full working order – phone 0225 765086 with your query. State the model of your machine and anything you've got attached to (or plugged inside) the computer. Don't bother telling us the version of Workbench or Kickstart because Jason thinks it is silly and wastes valuable column inches. For problems with disks before Issue 5 phone Amiga Format on 0225 442244.

# WORKBENCH HACKS

It's that time again when only the maddest, zaniest, most useless programs are aired.

## BOUNCE BENCH

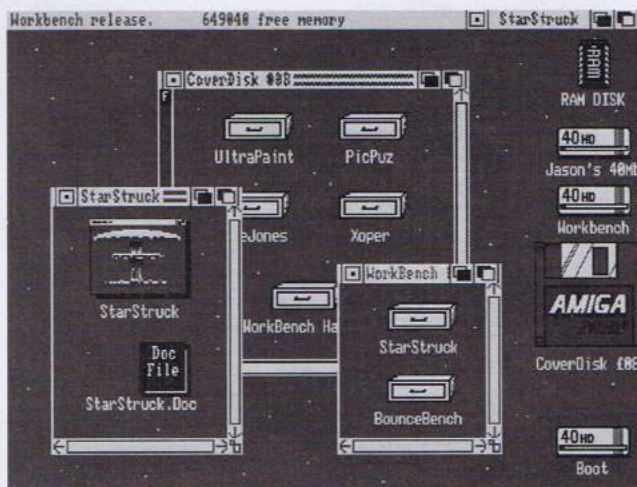
**PROGRAM:** JEAN-PAUL COSSIGNY  
**FILES:** BOUNCEBENCH, BOUNCEBENCH.DOC

It's hold on to your hat time as you watch in disbelief while the Workbench starts its workout. Is there any way of stopping its stomping? Well, yes, if you've got a joystick plugged into Port 1.

## STARSTRUCK

**PROGRAM:** MARK EVERINGHAM  
**FILES:** STARSTRUCK, STARSTRUCK.DOC

Put stars in your life. Double-click on the STARSTRUCK file and watch the Galaxy woosh by your Workbench. Nobody said it was any use...



COME AND  
SEE US

# THE COMPUTER STORE

POST  
FREE

DISKS LOW LOW PRICES and HIGH HIGH QUALITY

**3 1/2"**  
**DSDD**

**ONLY**  
**59p**  
**EACH**

**3 1/2"**  
**DSDD**

Our disks are packed in boxes of 10 and come complete with labels. They are of the highest quality and come with a no quibble replacement guarantee. Order any quantity of disks you want at only 59p each post free.

25 Disks + 80 Capacity Lockable Box .....	£19.95
40 Capacity Lockable Disk Box .....	£5.99
80 Capacity Lockable Disk Box .....	£6.99
100 Capacity Lockable Disk Box .....	£7.99

Call in and visit The Computer Store, produce this advert and we will give you a FREE 3.5" disk. We are in the In Shops Complex in Chelmsley Wood Shopping Centre

**THE COMPUTER STORE**  
Unit 82 In Shops,  
2-8 Greenwood Way,  
Chelmsley Wood,  
Birmingham, B37 5TL  
Tel: 021 770 0468

Near Junction 4 M6. Park across the road in the open air car park in Chelmsley Circle. Parking is free.

STAR LC24-10 .....	£249
STAR LC-10 Mono .....	£159
STAR LC-10 Colour .....	£219
Cumana 2nd Drive .....	£84.95
Commodore 2nd Drive .....	£84.95
Ashcom Half Meg + Clock .....	£79.95
Ashcom Half Meg no Clock .....	£69.95
Mouse Pad .....	£3.99

A590 Hard Drive .....	£379.00
A590 + 1 Meg Fitted .....	£499.00
A590 + 2 Meg Fitted .....	£599.00
1 Meg of Memory for A590 .....	£119.00
2 Meg of Memory for A590 .....	£229.00

Courier Delivery £5.00  
C.O.D. by Courier only £10.00

**THE PRICE YOU SEE  
IS THE PRICE YOU PAY -  
NO EXTRAS**

## Amiga A500 Package

Containing  
The Batman Pack  
A500 Computer, Mouse,  
Modulator, Workbench 1.3,  
Extras 1.3 The Very First Tutorial,  
Batman the Movie,  
The New Zealand Story, F/A-18  
Interceptor, Deluxe Paint II.

**PLUS**

**The Computer Store Pack**  
Consisting of Quality Mouse Pad,  
Mouse Bracket,  
10 Best Quality Blank Disks,  
Disk Box to Hold 40 Disks.

**PLUS**

**The Addons Pack**  
Consisting of Exolon, Zynaps,  
Slayer, Battle Tank, Xyberoid II,  
Megablaster Joystick.

**FREE COURIER DELIVERY**

This package is available  
ONLY from

**THE COMPUTER STORE**

**ONLY £399**



# ASHCOM



**0530 411485** 24 hour answer service

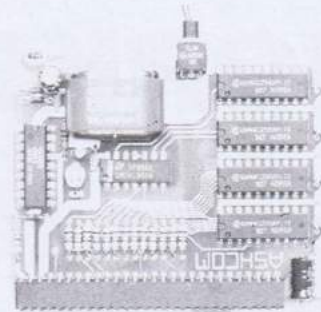
**ASHCOM RAM  
EXPANSION  
without Clock  
only  
£67.95**

**44C 256/12  
DYNAMIC RAMS  
£10.00  
inc VAT each**

## 512K RAM Expansion with Clock for Amiga 500

### Features:

- ★ RealTime Clock with High Capacity NICAD Battery Backup
- ★ Memory Disable Switch
- ★ Low Power Consumption.
- ★ Latest Technology 1MBit RAMS
- ★ Low Chip Count for High Reliability
- ★ Direct Replacement for A501 Expansion



**ONLY £74.95**

All prices include VAT and Delivery. British made.  
Trade Enquiries Welcome  
Please make Cheques and P.O.'s payable to Ashcom.

**Only from ASHCOM, 10 The Green, Ashby-De-La-Zouch, Leicestershire, LE6 5JU**

**Telephone: (0530) 411485**

# FIRST micro

**HARDWARE & SOFTWARE  
SPECIALISTS**  
**NEW! SHOWROOM**  
13 LANSDOWNE RD  
BOURNEMOUTH  
DORSET, BH1 1RZ

NOW  
£7.50  
DELIVERY



**EXC. VAT** ☎ (0202) 24927



**£5 - DELIVERY**

## AMIGA A500 + BATMAN 2

**GIVE AWAY!**

INCLUDING:- ●BATMAN THE MOVIE ● NEW ZEALAND  
STORY ● F18 INTERCEPTOR ● Buggy Boy ● Ikari Warriors  
● Barbarian ● Thundercats ● Terrorpods ● Amegas ● Deluxe  
Paint II - Mega ● Paint Package ● Microblaster Autofire ●  
Microswitched Joystick ● 10 blank 3.5" Disks  
● Mouse Mat ● Mercenary ● Insanity Flight  
● Art of Chess ● Wizball ● Dust Cover ● DiskBox

**£339**

## AMIGA A500

INCLUDING:-  
● MOUSE ● WORKBENCH  
● UTILITIES ● MANUALS  
● BASIC ● TUTORIAL ● TV MODULATOR

**£289**

## AMIGA A500/ PHILIPS 8833

**£476**

## AMIGA B2000/ PHILIPS 8833

INCLUDING:-  
● MOUSE ● WORKBENCH  
● BASIC ● UTILITIES ● MANUALS  
● XT BRIDGE BOARD ● 20Mb HARD DISK

**£1250**

## AMIGA B2000

INCLUDING:  
● MOUSE ● WORKBENCH  
● BASIC ● UTILITIES ● MANUALS

**£750**

## AMIGA A500 BATPACK

● NEW ZEALAND STORY  
● F18 INTERCEPTOR ● DELUXE PAINT II  
● MOUSE ● TV MODULATOR

**£309 + VAT**

### A500/A2000 MONITORS

1084(s) High res monitor.....£209  
Philips CM8833 High res.....£199  
1901 C64-colour.....Call  
1900 C64-Mono.....£119

### AMIGA EXTERNAL DRIVES

Cumana Cax 354E.....£79  
AF880.....£78  
RF302C.....£74  
Supra 20mb H/disk.....£499  
★ All drives 1mb + on/off switch ★

### AMIGA ACCESSORIES

A501-512k RAM.....£109  
TV Modulator.....£22  
Mouse Mat.....£4.39  
Amiga dust-cover.....£6.89  
3.5 135TPI DS/DD.....£9.99

**NEC 3.5" 1MB  
2ND DRIVE £64**

### COLOUR PRINTERS

Citizen HQ40.....£362  
Epson EX1000.....£543  
Hewlett Packard Desk Jet.....£718  
NEC P6+.....£469  
NEC P7+.....£589  
Star LC10.....£194  
Xerox 4020.....£949

Only **£137.00**



Hugely successful 9 pin printer, the Star LC10 provides 4 NLQ fonts (with 96 print combinations) at 36cps and 144cps draft. Has a large 4K buffer and IBM/parallel interface built in. Includes a comprehensive front panel operation and features paper parking, allowing single sheets to be used without removing tractor paper.

THE  
**star**  
COMPUTER PRINTERS

LC24-10  
**£199**

LC10  
COLOUR  
**£169**

### PRINTERS

Star LC10 (P) 130CDS.....£139  
Star LC10 colour.....£189  
Star LC24-10 (24 pin).....£260  
Citizen 120D.....£109  
Commodore MPS 1230.....£119  
Panasonic KXP1124 (24 pin).....£279  
Panasonic KXP1081.....£148  
Epson LX800.....£158  
Epson LQ500.....£250  
Epson FX850.....£409  
Epson FX1050.....£382  
Epson EX800.....£369  
Epson EX1000.....£419

### LASERS

Citizen Overture.....£1299  
HP Laserjet II.....£1825

### A2000 HARDWARE

A2000 + 1Mb RAM.....£869  
A2000 + 1084(s) monitor +  
bridge BD + 20Mb H/disk.....£1369  
A2000 + 1084(s).....£1049  
20Mb hard disk.....£299  
XT bridge BD.....£299

### BATMAN SALE

● BATMAN II  
● THE NEW ZEALAND STORY  
● F18 INTERCEPTOR  
● DELUXE PAINT II

**£29**

**SUMMER  
SALE**  
**A501 512K  
RAM EXPANSION**  
**£75** inc VAT + Delivery

**ALL PRICES EXCLUDE VAT**

**CREDIT CARD MAIL ORDER  
AND EXPORT HOTLINE**

**(0202) 24927**

**OPEN MON-SAT 9am-5.30pm**

All prices and manufacturer's specifications  
subject to change without notice.  
Please call before ordering

To: First Micro, 13 Lansdowne Rd, Bournemouth, Dorset BH1 1RZ

I wish to order \_\_\_\_\_

My computer is \_\_\_\_\_

I enclose cheque/PO for £ \_\_\_\_\_ inc VAT.

Or charge my Access/Visa No. \_\_\_\_\_ Exp. date \_\_\_\_\_

\_\_\_\_\_

Name \_\_\_\_\_ Signature \_\_\_\_\_

Address \_\_\_\_\_

Postcode \_\_\_\_\_ Tel No: \_\_\_\_\_



# USING YOUR FORMAT DISK

Before using your *Amiga Format* disk, you should make a back-up of the master disk as soon as possible.

## THIS IS VERY IMPORTANT!

### BACKING UP YOUR DISK

For a number of reasons, it is rather important to make a backup copy of the Coverdisk as soon as possible. Copying the disk may sound like a complicated task suitable for techno-buffs only, but it is surprisingly simple provided you read the following instructions carefully:

1. First, turn on your machine and load Workbench. Once the Workbench screen appears and the disk-drive light goes out, remove your Workbench disk and insert our Coverdisk.

2. Next, click once on the Coverdisk icon and then press the right mouse-button and the Workbench menus will appear. Now, while keeping the right mouse-button depressed (you can cheer it up afterwards!), move the mouse pointer over to the 'Workbench' heading and a menu will drop down. Move the mouse pointer over the 'duplicate' menu option and then press the left mouse-button.

3. After a few seconds' disk access, the Workbench DiskCopy tool will be loaded and run. Now just follow the on-screen prompts and your *Amiga Format* Coverdisk will be copied to a backup disk. When the machine asks for the destination, insert your blank disk into the drive. Further instructions can be found in the user's guide that comes with your Amiga.

### USING THE PROGRAMS

All the programs on the *Amiga Format* disk are spe-

cially set up to make them as easy to use as possible. If you can use the Amiga's Workbench then you can use our Coverdisk! If you do have problems with a program, full instructions on loading and using the programs are included in the Disk Pages and these should get you up and running. If you still have problems, you should read the documentation file (.DOC) that is included with every program. To run any of the programs on this month's Coverdisk, all you have to do is follow a very simple procedure. Unless specified differently within the Disk Pages, just double-click on the program's icon on the Workbench and the program will load and run. Full details on how to use the programs once they have run are included with the Disk Pages and also as a documentation (text) file accompanying the program.

To display a documentation file, just double-click on the appropriate .DOC file to be viewed and a window will open containing the file's contents. Pressing the space bar will advance a page at a time.

### COPYING THE DISK

Unless specifically stated, the programs on the Coverdisk are not in the public domain and the copyright remains with the author. Selling or distributing these programs without the author's permission is against the laws of copyright.

## IS YOUR DISK FAULTY?

We have done our best to check that the programs on the *Amiga Format* Coverdisk are simple to use, error-free and have no known viruses. However, we cannot normally answer telephone queries on using the software, and we do not accept liability for any consequences of using the programs on the disk.

If your *Amiga Format* disk is faulty – and out of the tens of thousands duplicated, some are unfortunately bound to be – you should send it back for a free replacement within a month of the cover date to:

**Amiga Format  
February Disk  
Discopy Labs  
Unit A, West March,  
London Road, Daventry  
Northants NN11 4SA.**

If your Amiga refuses to accept the disk, try using the DISKDOC-TOR utility on your Commodore Workbench disk to rescue it before sending it off for a replacement. Full details of DiskDoctor can be found in the user's manual that came with your machine.

## WARNING!

The game cheats on this month's Coverdisk are straightforward to use, but please read the instructions in the magazine, on the disk and on the public inconvenience walls. Just do it! If you screw up your game disks – or indeed, any other disk – because you failed to read any documentation, it's your fault. You're on your own. And you're getting diddly-squat from *Amiga Format*. You've been warned.

## WE WANT YOUR PROGRAM

If you've got any programs for the Amiga which you think other readers would find useful, interesting or amusing, we'd like to know about them.

1. Make sure your program is foolproof to use. 2. Create a file called README.DOC on the disk which explains exactly how to use your program. 3. Fill in this form, sign it, and send it without delay to: CoverDisk Software, Amiga Format, 30 Monmouth Street, BATH BA1 2AP. You could win a share of £800 prize money for the best programs each month.

## EARN YOURSELF £800

Name.....

Address.....

Telephone (Daytime).....

(Evenings).....

My program name is.....

Approximate total size of files in kilobytes .....K  
(we cannot use programs longer than 200K; shorter submissions, under 100K, stand the best chance of publication). It is a:

- |   |   |
|---|---|
| <input type="checkbox"/> Game             | <input type="checkbox"/> Technical tool |
| <input type="checkbox"/> Business utility | <input type="checkbox"/> Art program    |
| <input type="checkbox"/> Music program    | <input type="checkbox"/> Educational    |
| <input type="checkbox"/> Novelty          | <input type="checkbox"/> Other          |

Brief description .....

Checklist (please tick):

- Stamped, addressed envelope for return
- README.DOC explanation file on disk
- Printout of README.DOC file (if possible)
- Name, address, machine type written on label
- Disk certified virus free

**IMPORTANT** Please sign this declaration:

This program is submitted for publication by *Amiga Format*. It is wholly my own work and I agree to indemnify Future Publishing against any possible legal action should copyright problems arise.

Signed .....

Date .....



Hobbyte

10 MARKET PLACE  
ST. ALBANS  
HERTS AL1 3DG  
TEL (0727) 56005/41396

THE GALLERY  
ARNDALE CENTRE  
LUTON, BEDS LU1 2PG  
TEL (0582) 457195/411281

COMPUTING

AMIGA 2000 ex vat

All B2000s are full UK 1.3 versions, with 30 day replacement warranty plus 12 months guarantee and include Mouse, Workbench, Basic, Utilities, Manuals, Tutorial. We will price match any genuine offer.

Table listing Amiga 2000 configurations with prices, including B2000, B2000 plus 1084D/8833 monitor, and various drive and storage options.

Accessories - phone for full List

Table listing various Amiga accessories like RAM expansion, hard frames, and disc drives with their respective prices.

HARD DISCS/MEMORY EXPANSION

Table listing hard disc and memory expansion options, such as 8-MB RAM expansion and Commodore A501 RAM expansion, with prices.

AMIGA 500 inc vat

All A500s are full UK 1.3 versions, with 30 day replacement warranty plus 12 Months guarantee and include Mouse, Workbench, Basic, Utilities, Manuals, Tutorial and Modulator (not with monitor), 24 games on 4 discs: Arcade, Adventure, Board and Shoot-em-up games.

BATMAN PACK

Table listing Batman pack items like the movie, Interceptor, and New Zealand Story, with prices.

BATMAN PACK PLUS

Table listing Batman pack plus items, including extra games and accessories, with prices.

A500 "CLASS OF THE 90s" PACK

Table listing A500 class of the 90s pack items, including MIDI interface, DPaint II, and various software, with prices.

PHONE FOR BEST PRICES ON AMSTRAD, OLIVETTI, ACORN, STAR, ATARI, QUINE, ETC

PRINTER/MONITOR ACCESSORIES BARGAINS (ex VAT)

Table listing printer and monitor accessories like blank discs, external drives, and workbench packs with prices.

OUR COMMITMENT TO CUSTOMER CARE

We believe our customers have less problems than those who deal with some of our competitors. However if you do have any grievances, please contact Linda in our Customer Services Department who will do everything possible to help.

TEST ON REQUEST

Equipment is generally reliable and all items are batch-tested before despatch. However, please state if your purchase is to be given as a present, so that we can fully test, just in case and ensure that we have no Christmas morning disappointments.

ORDERING

To place your order: send cheque, postal order or official order, plus £8 per box (software free) for next day courier delivery and VAT to Dept Hobbyte Computers Ltd, 10 Market Place, St. Albans, Herts AL1 3DG, or call in with a copy of this ad at our branches in St. Albans and Luton.

You may also phone your order to our sales desk on St. Albans (0727) 56005. Access/Visa and official orders from government, education, medical authorities and PLCs are accepted.



TELE-ORDER (0727) 56005



Access logo, TEL: 0983 79496, and Visa logo.

Large table listing various computer products like accounts, books, hardware, database managers, desktop publishers, editors, graphics, and sound, with prices.

Richard Howe & Angela Hammett Applied Research Kernel, Corve Farmhouse, Chale Green, Ventnor, PO38 2LA, U.K. Includes contact info and services.

PHOTOFILE logo and Kodak logo.

ST & Amiga Digitising Service. We can digitise your pictures in these formats: Amiga: HAM, High-res, Lo-res, Halfbrite, with interlace or overscan if required.



We'll panda to all your digitising needs! Colour £1.75 B&W £1.25 per picture. (Software houses, phone for special requirements.)

7 disk DTP Clip Art set.....£35.00. Using our own custom software we have imported seven disks of mono Clip Art from DTP computers such as the MAC and the ST.

# CLUB 68000

## AMIGA SPECIALISTS MORE THAN 10,000 MEMBERS

**TWO YEAR BIRTHDAY CELEBRATION  
40 FREE GAMES**

For everyone who owns an Amiga computer, Club 68000 offers Members, Software & Hardware Accessories at huge savings off Recommended Retail Prices. Your only commitment is to pay £20 for one year's membership. You will receive 40 free games.

### RAM EXPANSIONS AT UNBEATABLE PRICES

A500 512K Ram + Clock + on/off switch	£64.99
A500 1.8 Mbyte card with 512K Ram	£129.99
A500 1.8 Mbyte card with 1 Mbyte	£189.99
A500 1.8 Mbyte card with 1.8 Mbyte	£299.99
A500/1000 2 Mbyte External	£319.99
A2000 8 Mbyte card 2 Mbyte Ram	£319.99

### Special Offer on DISK DRIVES

3.5 A2000 Internal	£64.99
3.5 External	£69.99
3.5" with Digital Track Display	£84.99
5.25" External 40/80 Tracks	£94.99
5.25" with Digital Track Display	£109.99

★ All drives with on/off switch & Through Port ★

### X-COPY 2.10 Hardware & Software

**NEW  
VERSION**

- Ultimate backup utility
- Copies up to 4 disks in 48 seconds
- Formats disk in 36 seconds
- Speeds up disk loading
- Queued Superfast Text Editor
- CV Parameter: with toolkit options
- Update service

RRP £39.99	Members £29.99
Hardware only	£19.99
Software only	£19.99
Upgrade 1.0 - 2.0 (send back old disk)	£7.50

### NEW VIRUS PROTECTOR The best on the Market

- Easy to use
- Checks bootsector
- Repairs bootsector (Also commercial software)
- Checks links virus
- For disks, files and disks
- Disk format and information

**ONLY £9.99**

(While stocks last) With Hardware £19.99

### KICKSTART CARD

- For Amiga 500/2000
- Includes original 1.3 Rom
- Allows you to switch between Kickstart 1.2 & 1.3
- Easy to use
- No soldering

RRP £69.99	Members £49.99
Kickstart Card without Roms	£29.99
Kickstart 1.2 or 1.3 Rom	£29.99

### HARDWARE/ ACCESSORIES

**NEW**

- Mini Gen Genlock A500.....£99.99
- Rendale Genlock 8802.....£189.99
- Frame Grabber.....£499.99
- Midi Interface A500/2000 or A1000 (including cable/software).....£39.99
- Boot Selector Boot from External Drive.....£12.99
- Amas - Midi/Sound Digitizer.....£84.99
- Naksha Mouse.....£34.99
- Superpic - Real Time video digitiser, Genlock and Frame Grabber.....£469.99
- Digiview Gold Video Digitizer 4.0.....£109.99
- Golem Professional Stereo Sound Digitizer and Supersound software.....£89.99
- Vidi Amiga video digitizer.....£89.99

### AMIGA TOP 50 GAMES

	Members	RRP
Batman the Movie	£15.99	£24.99
Blade Warrior	£15.99	£24.99
Bomber	£19.99	£29.99
Beach Volley	£15.99	£24.99
Cabal	£15.99	£24.99
Carthage	£15.99	£24.99
Chess Player 2150	£15.99	£24.99
Chaos Strikes Back	£12.99	£19.99
Chase HQ	£15.99	£24.99
Damocles	£15.99	£24.99
Deluxe Strip Poker	£12.99	£19.99
Double Dragon II	£12.99	£19.99
Drivin Force	£15.99	£24.99
Dungeon Master	£15.99	£24.99
Falcon F16	£19.99	£29.99
Falcon Mission Disk	£12.99	£19.99
F16 Combat Pilot	£15.99	£29.99
F29 Retaliator	£19.99	£29.99
Future Wars	£15.99	£24.99
Ghostbusters II	£15.99	£24.99
Ghosts 'n' Ghouls	£15.99	£24.99
Grand Prix Circuit	£15.99	£24.99
Hard Drivin	£15.99	£24.99
Honda RVF	£19.99	£29.99
Indiana Jones Last Crusade	£12.99	£19.99
Infestation	£15.99	£24.99
Interphase	£15.99	£24.99
It Came from the Desert	£19.99	£29.99
Knightforce	£15.99	£24.99
Laser Squad	£11.99	£19.99
Leisure Suit Larry II	£19.99	£29.99
Midwinter	£15.99	£24.99
Moonwalker	£15.99	£24.99
North & South	£15.99	£24.99
Onslaught	£15.99	£24.99
Operation Thunderbolt	£15.99	£24.99
Paul Gascoigne	£15.99	£24.99
Populous	£15.99	£24.99
Power Drift	£15.99	£24.99
Pro Tennis Tour	£15.99	£24.99
Red Storm Rising	£15.99	£24.99
Shadow of the Beast	£24.99	£34.99
Space Ace	£31.49	£44.99
Stunt Car	£15.99	£24.99
Stryx	£12.99	£19.99
Test Drive II	£15.99	£24.99
Turbo Outrun	£12.99	£19.99
Untouchables	£15.99	£24.99
Wild Street	£15.99	£24.99
Xenon II	£15.99	£24.99

### LIGHT PEN

**NEW**

- For A500/1000/2000
- Provides an easy to use natural alternative to the mouse

- Super Light Weight
- Perfect for painting, drawing, animation etc
- Compatible with most software programs, Deluxe Paint III, Photon Paint II, Digipaint 3 etc.

RRP £69.99	Members £49.99
------------	----------------

### NEC A500/1000 Hard Disk

20 Mbyte, 40 msec, Autoboot	£369.99
30 Mbyte, 28 msec, Autoboot	£449.00
40 Mbyte, 24 msec, Autoboot	£519.99
60 Mbyte, 18 msec, Autoboot	£599.99

### NEC A2000 File Cards

20 Mbyte, 40 msec, Autoboot	£349.99
30 Mbyte, 28 msec, Autoboot	£399.99
40 Mbyte, 24 msec, Autoboot	£449.99
60 Mbyte, 18 msec, Autoboot	£548.99

### TOP 50 PROFESSIONAL SOFTWARE

	Member	RRP		Member	RRP
Aegis Animagic	£59.99	£79.99	K Seka	£37.99	£49.99
Aegis Modeller 3D	£59.99	£79.99	Kind Words II	£37.49	£49.99
Aegis Sonix 2.0	£52.49	£69.99	Lattice 5.0	£199.99	£249.99
Aegis Audiomaster II	£59.99	£79.99	Lights, Camera Action	£52.49	£69.99
Aegis Videotiler	£82.49	£109.99	Mailshot Plus	£37.49	£49.99
Appetizer	£24.99	£39.99	Movie Setter	£52.49	£69.99
Butcher 2.0	£29.99	£39.99	Music X	£172.49	£229.99
Comic Setter	£37.49	£49.99	Pagesetter 2.0	£59.99	£79.99
DOS Toolbox	£37.49	£49.99	Professional Page 1.3	£187.49	£249.99
Deluxe Paint III	£59.99	£79.99	Photon Paint 2.0	£59.99	£89.99
Deluxe Music	£52.49	£69.99	Photon Video	£69.99	£99.99
Deluxe VideoIII	£59.99	£79.99	Professional Draw	£99.99	£139.99
Deluxe Photolab	£52.49	£69.99	Quarterback	£44.99	£59.99
Deluxe Print II	£37.49	£49.99	Synthia	£59.99	£79.99
Digicalc	£29.99	£39.99	Starter Kit	£49.99	£69.99
DOS to DOS	£37.49	£49.99	Superbase Personal II	£69.99	£99.99
Digipaint 3.0	£52.49	£69.99	Superbase Professional	£174.99	£249.99
Director	£42.99	£59.99	Sculpt 3D XL	£112.49	£149.99
Design 3D	£59.99	£79.99	Sculpt 4D Junior	£89.99	£119.99
Devpac II	£44.99	£59.99	Sculpt 4D	£374.99	£499.99
Fantavision	£37.49	£49.99	Scribble Platinum	£37.49	£49.99
Funschool 2	£12.99	£19.99	Turbo Silver 3D	£104.99	£139.99
Home Accounts	£22.49	£29.99	Wordprocessor	£172.49	£229.99
Home Office Kit	£119.99	£149.99	Workbench 1.3	£12.99	£19.99
KComm 2.0	£22.49	£29.99	XCad Designer	£84.99	£114.99

Phone for free catalogue, more than 200 different items.  
**HOW TO ORDER:** By phone: 01 977 9596 Visa /Access. By Fax 01 977 5354, By post: Club 68000, Wickham House, 2 Upper Teddington Road, Hampton Wick, Kingston, Surrey KT1 4DP

**POST AND PACKAGING:**  
 Software UK + EEC £1, Non EEC £3.  
**HARDWARE:** Courier service £6.  
 Prices subject to change without notice

# SON OF PAGESETTER

DTP Software need not be expensive, as Gold Disk demonstrated when they released the original *PageSetter* program. Now they've released a major upgrade, in the form of *PageSetter 2*. **JASON HOLBORN** checks it out.

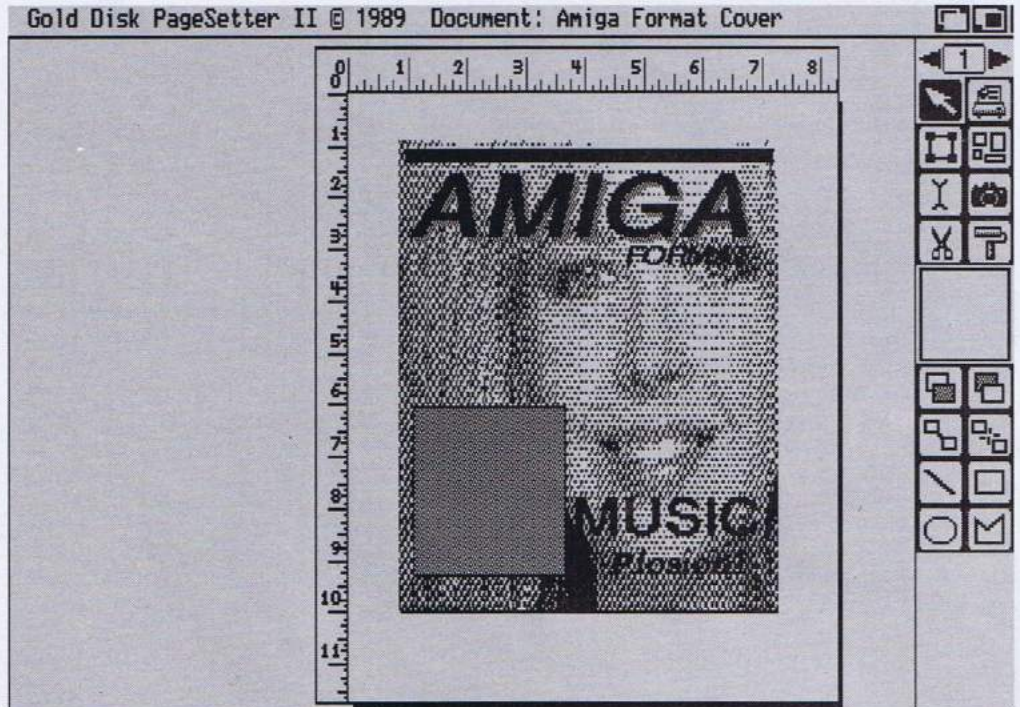
**W**e certainly have a great deal to thank Gold Disk for – not only have they supported the Amiga from day one, but their range of DTP software defines the standards that others must meet. Indeed, the combination of *Professional Page* and *Professional Draw* gives even Mac and PC-based DTP systems a run for their money.

The first DTP package from Gold Disk (which, incidentally, was also the first to be released for the Amiga) was *PageSetter*. While it was adequate for very simple DTP tasks, it really was nothing more than a stop gap until Gold Disk eventually produced their piece de resistance, *Professional Page*. After the release of *Pro Page*, it seemed that Gold Disk had left the home DTP market in favour of the more profitable professional market. However, after almost four years, Gold Disk have surprised us all by releasing *PageSetter* version 2.

Instead of taking the easy option of just making modifications to the existing *PageSetter* code, Gold Disk have rewritten the system from scratch. It is obvious that much of the new code is actually borrowed from Gold Disk's other DTP system, *Pro Page*. Because of this, *PageSetter 2* has a far more professional feel to it than its predecessor. Although *PageSetter 2* looks and feels very similar to *Pro Page* in many key areas, it still manages to work as a program in its own right, rather than just a stripped down version of *Pro Page* (which wouldn't necessarily be a bad thing).

## PageSetter Mechanics

*PageSetter 2* allows you to create single page documents in a range of sizes from A4 to B5, with the maximum page size being limited to 8.5 by 14 inches. It's a shame that it doesn't support multiple pages within a single document,



which can be rather limiting if you're intending using it to produce multi-page reports, fanzines etc. As it is, each page within your multi-page document will have to be worked on separately from the rest. This is a problem that both *PageSetter 2* and *Pro Page* suffer from, which Gold Disk should seriously consider correcting.

Like both its predecessor and *Pro Page*, *PageSetter 2* uses the now familiar *PageMaker* style principle of 'frames'. Once a page has been created, text and graphics are pasted down by creating frames (boxes) to contain them. These frames can then be easily

modified by clicking the mouse button while the on-screen pointer is over the required frame, therefore making the frame 'active'. Because frames can be layered, you often have to send overlaying frames behind the required frame before it can be selected. Selected frames can be cut, copied, moved and then re-pasted down and even temporarily taken off the page and stored on the 'Art Board'.

Frames can be linked together in chains so that text can be flowed between several frames, allowing you to create multiple columns of text. When an alteration is made to text within a chain of frames, the program will automatically re-adjust the contents of later frames within the chain.

## Fonts For The Memory

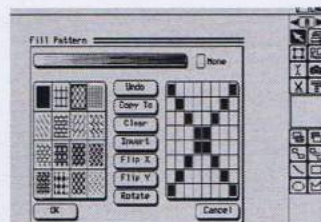
Unlike the previous release, text can now be typed straight onto the page – gone is the *PageSetter* text editor of old. This has the advantage of allowing you

■ An Amiga Format cover knocked up using *PageSetter II* – just goes to prove that you don't need expensive Macintosh II computers and Linotron image-setters to produce your own magazine.

to write copy to length and see the results immediately, as they will appear on the final printed page. Just like a conventional word processor, the text editor includes full search and replace functions as well as the usual cut, paste and copy facilities.

Probably the most major addition to *PageSetter 2* is the inclusion of AGFA/Compugraphic fonts. Unlike the standard Amiga fonts such as those found on your Workbench disk, Compugraphic fonts are 'constructed' as and when they are needed for display on either the screen or dot matrix printer. Two Compugraphic fonts are included with the package and Gold Disk plan to release more separately.

The advantage of



The *PageSetter II* pattern editor.

# YOUR ONE STOP SHOP

MORE SOFTWARE THAN YOU CAN HANDLE!  
MORE HARDWARE THAN YOU CAN USE!

Software

SUPERSTORE

## AMIGA 512K MEMORY EXPANSION

- \* Brings your Amiga up to 1 Meg in seconds.
- \* Enable/disable switch. Now you can run ALL software.
- \* Easy to fit - no technical knowledge needed.
- \* Reliable, fast, high quality chips on a robust through plated P.C.B. Do not confuse with cheaper, inferior products.
- \* DOES NOT INVALIDATE GUARANTEE.

ONLY £69.99

ONLY £79.99 FOR VERSION WITH CLOCK/CALENDAR



## AMIGA 3.5" 2nd DRIVE ONLY

£79.99

- \* DISABLE SWITCH
- \* THROUGH PORT
- \* SLIM SIZE
- \* LOW POWER CONSUMPTION
- \* HIGHLY RELIABLE
- \* EXCELLENT R/W PERFORMANCE

## ST 2nd DRIVES

ALSO AVAILABLE  
PLEASE ASK FOR DETAILS

WE STOCK MOST  
**DATTEL**  
PRODUCTS

## AMIGA A500 BATMAN PACK ALMOST HALF PRICE

	R.R.P.
A500.....	£399.99
TV MODULATOR.....	24.99
BATMAN (THE MOVIE).....	24.99
NEWZEALAND STORY.....	24.99
DELUXE PAINT II.....	49.99
INTERCEPTOR.....	29.99
TEN STAR PACK.....	229.50
TOTAL R.R.P. ....	£784.44
LESS DISCOUNT.....	£384.45

OUR PRICE.....**£399.99**

\*OR £15 MONTHLY

## 1 MEG AMIGA :-

as above plus half meg upgrade, mouse, mat, mouse holder, lockable disk storage case, dust cover and 10 disks

OUR PRICE

ONLY **£499.99**

\*OR £19 MONTHLY

WE HAVE  
EVERYTHING  
YOU COULD  
POSSIBLY  
NEED FOR  
YOUR  
COMMODORE



\*(subject to status) Written details on request.

MAIL  
ORDER:-  
Carriage  
at Cost

ORDER HOTLINE  
(MON to FRI)  
**(0782) 202269**

ADVICE HOTLINE (0782) 268620  
for FAST & FRIENDLY SERVICE

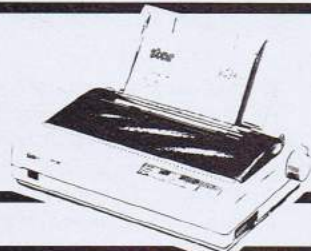
## WE GIVE BIG DISCOUNTS

ON MOST  
SOFTWARE

TO ALL OUR REGULAR CUSTOMERS

CALL IN TODAY AND JOIN OUR  
GOLD CARD CLUB

1 YEAR ON-SITE  
MAINTENANCE  
ONLY £10 EXTRA  
ON ANY PRINTER



## PRINTERS

### STAR LC10

Acclaimed "Best Buy" budget printer. Now massively under-priced at just

**£169.99** \*OR £8 MONTHLY

### STAR LC10 Colour

The perfect printer for every Amiga. Colour output from all the better art packages - or just slot in a black ribbon for word processing. Cheap to run too. Very affordable

**£229.99** \*OR £9 MONTHLY

### STAR LC24 - 10

24 Pin quality at a price you can afford. 8 Fonts, 3 print variations, paper parking, 170 CPS draft, 57 CPS LQ

**£259.99** \*OR £10 MONTHLY

FREE Cable with every Printer

### STOKE-ON-TRENT

11 Market Square Arcade,  
Hanley Stoke-on-Trent  
Manager: Wayne Tel: 0782  
268620 Open 6 Days

### SHEFFIELD

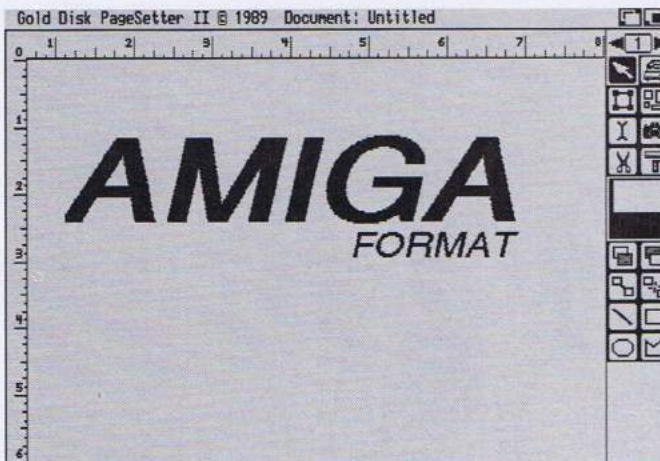
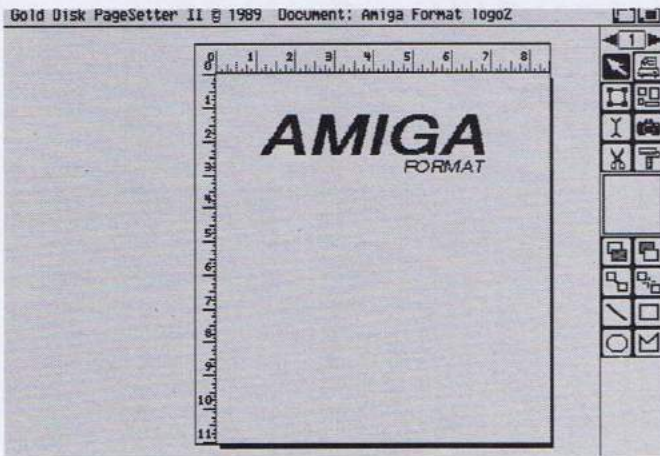
6 Waingate, Sheffield  
Manager: Tony  
Tel: 0742 721906  
Open 6 days

### ST HELENS

27 Baldwin Street,  
St Helens  
Manager: Adrian  
Tel: 0744 27941  
Closed Thursday

### STOCKPORT

6 Mealhouse Brow,  
(Off Little Underbank),  
Stockport. Manager: Ray  
Tel: 061 480 2693  
Closed Thursday



(Above, and top right) PageSetter II's impressive AGFA/Compugraphic Fonts in action. Notice how they remain 'jaggie'-free even at the highest magnification (200%!).

Some of the fonts that are bundled with PageSetter 2. Only two are Compugraphic fonts, but Gold Disk plan to release more separately.

◆ Compugraphic fonts over standard Amiga fonts is that the resolution that they are printed at is limited only by the maximum resolution of your printer. The result is that the output from PageSetter 2 offers the kind of quality equalled only by a PostScript laserprinter. Although PageSetter 2 will also allow you to use standard Amiga fonts, although they will not be printed at anywhere near the resolution of Compugraphic fonts.

The text control facilities are a little sparse. Although the standard point size, style and font type can be controlled, it would have been nice to have been able to change both the 'tracking' (amount of space between the start of each consecutive character) and 'horizontal scale' (horizontal width of characters) of any text on the page. You often find yourself having to re-jig your layouts to work around these short-comings. By the very nature of Compugraphic fonts, it shouldn't have been too hard to implement either of these facilities. However, you do have control over the leading (pronounced as for the metal), which is the space between lines of text, and the fill pattern (which is a unique feature).

**Picture This**

Presenting your intended audience with pages filled with nothing but continuous text is a sure way to bore them to tears, so you'll no doubt want to include some form of illustrations within your documents.

PageSetter 2 allows you to load any standard IFF picture file into a frame, regardless of resolution, number of colours etc. However, the program lacks any form of colour support (you can forget colour separation etc!), therefore any illustrations you do import will only be printed and displayed in grey scales (using dithering techniques). Surprisingly, even HAM pictures can be loaded in and used (although they will obviously suffer from being knocked down from 4096 colours to 16!).

The program itself includes a number of structured drawing tools that allow jaggie-free objects to be created and manipulated within your page. Like the Compugraphic fonts, these structured objects will be printed at the maximum resolution of your printer. If you lack the kind of creative talent needed to construct good looking structured art, any clip-art files produced using Gold Disk's Professional Draw can be loaded and used.

Users of the original PageSetter may remember the old graphics editor. The bad news is that this has been removed, which is a shame as it was useful for touching up imported IFF pictures. However, if you've got enough memory, you can still run Deluxe Paint in the background.

**Putting It On Paper**

Documents can be printed directly to any preference-supported printer. Due to the inclusion of structured drawing tools and the Compugraphic fonts, the quality of the output is astounding - easily the best dot matrix output I've seen from an Amiga DTP package.

Just like the original program, version 2 lacks PostScript compatibility, which is hardly surprising considering the market that the product is aimed at (with PostScript laser printers costing around £5000, how many home users can afford to own one?) Gold Disk could rectify this by upgrading their LaserScript program to work with PageSetter 2 - at least this would give users the option of using Postscript compatible printers.

**Conclusion**

Although Gold Disk recommend at

least a megabyte to even start using PageSetter 2, more memory is really needed to comfortably use the program (2 Megabytes would be best). Both bitmapped graphics and the AGFA/Compugraphic fonts do use up of RAM, therefore the extra memory is a necessity if you're hoping to produce complex layouts. Surprisingly, you can actually produce more complex layouts. As it is, 1 Meg users really are restricted to only simple layouts.

When memory does start to get tight, the program has a rather disturbing habit of falling over and losing all your work, which can be a barrel of laughs when you've just spent the last couple of hours working on a particularly complex page.

Apart from the obvious omissions and bugs discussed earlier, I was impressed by the power of PageSetter 2. If you need to produce professional quality page layouts, then you're probably still better off saving up a few extra coppers and going for Pro Page. Otherwise, PageSetter 2 currently represents the best buy for home users. Highly recommended! ■

**PageSetter 2**  
**£99.95 ■ All 1 Mb Amigas**  
**■ HB Marketing 0895**  
**444433**



# SENLAC SOFTWARE PD

14 OAKLEA CLOSE, OLD ROAR ROAD, ST LEONARDS ON SEA,  
 EAST SUSSEX TN37 7HB TELEPHONE: 0424 753070  
 CHEQUES & POSTAL ORDERS TO ABOVE ADDRESS  
 CREDIT CARD ORDERS DESPATCHED SAME DAY

VISA

### DISK PRICES

ORDER 1-10 DISKS 2.00 EACH,  
 10-20 DISKS £1.75 EACH,  
 OVER 25 DISKS £1.50 EACH

### OVERSEAS ORDERS EUROPE ADD

£1.00 POSTAGE. AUSTRALIA/NEW ZEALAND  
 CARRIAGE CHARGED AIRMAIL, UK POSTAGE  
 AND PACKING INCLUDED

- GRAPHICS**
- SEN125 FANTASY PIXS I
  - SEN65 IMAGE PROCESSOR
  - SEN114 KARIS CARTOONS
  - SEN142 DIGIPIXS SLIDESHOW
  - SEN159 DELUXE PHOTOLAB (2\*)
  - SEN190 APC99 GRAPHICS
  - SEN215 CALIG DEMO
  - SEN274 ROGER DEAN PIXS
  - SEN285 PARADISE SLIDESHOW
  - SEN299 ROT (FISH71)
  - SEN307 PHOTOFILE PIXS
  - SEN308 PHOTOFILE PIXS II (2)
  - SEN310 HI-TEK SLIDESHOW
  - SEN303 HAM PIXS

- GLAMOUR DISKS**
- SEN115 UTOPIA
  - SEN121 SAMFOX SLIDESHOW
  - SEN367 SARRINA/SAM FOX
  - SEN366 PLAYBOY SLIDESHOW

- GAMES DISKS**
- SEN286 FLASCHBIER
  - SEN287 RETALIATOR/PACMAN87
  - SEN296 PDCHES, TILES,
  - TETRISII
  - SEN312 CASINO CRAPS
  - SEN259 CLUEDO, MONOPOLY
  - SEN100 BATTLEMECH



- SEN2 STARTREK (3\*DF1:)
- SEN29 PDGAMES I
- SEN30 PDGAMES II
- SEN31 PDGAMES III
- SEN238 LARN
- SEN238 MORIA 1.3

- ANIMATION**
- SEN8 NOTBOINGAGAIN \* (Sculpt)
  - SEN13 PROBE SEQUENCE (director)
  - SEN17 WALKER II DEMO
  - SEN42 ROSES FLOWERSHOP
  - SEN46 COKEMAN-SMURF
  - SEN51 WARHAMMER (DVideo)
  - SEN72 ROTATINGWOMEN
  - SEN88 CAR DEMO\*
  - SEN108 ZEUS BUST\*
  - SEN118 DRAGONS LAIR\*
  - SEN122 KILLER DEMO\*
  - SEN126 GHOSTPOOL
  - SEN129 COYOTE\*
  - SEN131 CHARON \*
  - SEN137 FRP STARTREKDOCK\*
  - SEN138 FRP ROADRUNNER\*
  - SEN145 FRP KARNSATTACK\*
  - SEN123 BOINGMACHINE
  - SEN12 ALICE
  - SEN114 LUXO TEENAGER\*
  - SEN317 WAVESAILING \*2

- DEMOS DISKS**
- SEN332 ACU COLLECTION AUSTRALIA
  - SEN336 ANNIE JONES
  - SEN345 TETRAGONS DEMO DISK
  - SEN346 IT MEGADEMO
  - SEN354 JCS DEMO
  - SEN355 RED SECTOR (2)
  - SEN358 ALCATRAZ DEMOS III
  - SEN359 SAE DEMOS DISK I
  - SEN361 SPACE ACE DEMOE
  - SEN362 TRIANGLES DEMO
  - SEN368 PUGGS IN SPACE (brill)
  - SEN100 ROBOCOP FX
  - SEN106 DEATHWARP
  - SEN7 NEWTEK DEMO (2 df1:\*)
  - SEN14 MAASE DEMO + OTHERS
  - SEN11 KEFRENSTUPCREW
  - SEN36 PAN DEMO
  - SEN99 VISION MEGADEMOS

- MUSIC**
- SEN348 JUNGLE MANIA
  - SEN349 JUNGLE COMMAND (2)
  - SEN351 BYTE RAPPERS
  - SEN353 SOUND EXPLOSION
  - SEN357 BATDANCE REMIX
  - SEN364 COMPACT DISK PLAYER
  - SEN371 FLASHTeam MUSIC DISK
  - SEN371 D-MOB MUSIC I
  - SEN374 REBELS MEGA DEMOS
  - SEN375 RIPE ERUPTIONS MUSIC
  - SEN353 SOUND EXPLOSION

- UTILITIES**
- SEN333 ESA UTILITIES
  - SEN334 ULTIMATE UTILITY DISK
  - SEN339 FULLFORCE UTILITIES
  - SEN374 8 CHANNEL SOUNDTRACKER
  - SEN222 GHOSTWRITER
  - SEN189 GAMES MUSIC CREATOR
  - SEN200 LE. COPIERS
  - SEN5 NIB COPIER (df1:)
  - SEN212 SOUNDTRACKERS (2)
  - SEN188 PIXS TO EXECUTABLE
  - SEN209 BOOTBLOCK PROGS (2)
  - SEN400 VIRUS UTLS VIRUSX40
  - SEN401 JRCOMM 9.4
  - SEN197 RAYTRACING
  - SEN132 MYMENUMS
  - SEN66 BUSINESS PACK (6)

- MISCELLANEOUS**
- SEN68 SAFEXES DEMO
  - SEN69 OH OBSCENE I
  - SEN70 OH OBSCENE II
  - SEN111 LOADSAMONEY
  - SEN112 MILLERLITE
  - SEN94 MIKE TYSON DEMO
  - SEN376 INSANITY II
  - SEN275 HOLSTEN PILS
  - SEN278 M.CAD

- MUSIC**
- SEN348 JUNGLE MANIA
  - SEN349 JUNGLE COMMAND (2)
  - SEN351 BYTE RAPPERS
  - SEN353 SOUND EXPLOSION
  - SEN357 BATDANCE REMIX
  - SEN364 COMPACT DISK PLAYER
  - SEN371 FLASHTeam MUSIC DISK
  - SEN371 D-MOB MUSIC I
  - SEN374 REBELS MEGA DEMOS
  - SEN375 RIPE ERUPTIONS MUSIC
  - SEN353 SOUND EXPLOSION

BRACKETTED FIGURES INDICATE No DISKS IN SET \*DENOTES REQUIRING 1 MEG TO RUN DF1: INDICATES EXTERNAL DRIVE

We supply the best at the best prices!

## JTS P.D.

Send a large S.A.E. or a blank disk for our free catalogue

### £1.75 per disk!

Here are just a few of our disks from our wide range of P.D. software.....

- JTS Introduction disk: games, music, utilities, animations, demos, virus killer.....£1.25
  - JTS Utilis Disk #1: Cruncher, virus killer, file editor, NIB copier (parameters).....£1.75
  - Puggs in Space Demo: brilliant demo as featured in January issue, very cute!.....£1.75
  - Titan Trax #1: Brilliant House music with loads of digitised samples.....£1.75
  - Batdance Remix: An excellent remix of Batdance by Beatmaster, fabulous!.....£1.75
  - Magnetic Beats: Again by the Beatmaster, brilliant music - loads of samples.....£1.75
  - Space Ace demo: Incredible Animation and digitised soundtrack very good.....£1.75
  - Showering Girls demo: Brilliant digitised animation (requires 1MEG of RAM).....£1.75
  - Red Sector MegaDemo: 2 disks full of brilliant demos, all are stunning.....£3.50
  - Walker Demos 1 & 2: These are the classic 1 Meg Animations on the Amiga.....£3.50
  - Star Trek: Needs 1 Meg & 2 drives. Comes on 3 disks! Cool sound and GFX only £4.50
- OR! Buy 10 disks for £12.50! OR! Buy 10 blank 3.5" DS/DD disks for only £7.00!

To order: please make cheques or postal orders payable to JTS P.D. and then send your order to:

2. ASHFIELD, WETHERBY, LS22 4TF.

Foreign orders please add 10% for the extra postage. Enquiries: Tel. 0937-63834 (outside office hours)

NOVA brings you.....A new concept in Amiga PD - VALUE



**FAST, PROFESSIONAL AND FRIENDLY AMIGA PD SERVICE**

HIGH QUALITY PUBLIC DOMAIN DISKS

### £2.00 OR LESS\*

Two Disk Catalogue £2.00

We'll get any PD disk for you - AT NO EXTRA CHARGE  
 NO EXTRA FEES - Write for overseas postage  
 ALL Disks TRUE BRANDED SONY  
 ALL Libraries available (Fish, TBAG, AGATron etc.)  
 Latest demos, animations etc.



Discount Hardware/Software/Disks etc.  
 i.e. PHOTON PAINT 2 £49.99 SONIX £39.99

\* Prices start at £0.000  
 Cheques/POs Payable to NOVA



NOVA (AF2), 30 Parsons St, Banbury, Oxon OX16 8LY ☎ (0295)262029

**3 1/2"**

### BENCHMARK DISKS AND BOX OFFER

- 20 3 1/2" DS/DD 135TPI + 80 Cap. Box .....£20.00
- 40 3 1/2" DS/DD 135TPI + 80 Cap. Box .....£34.50
- 50 3 1/2" DS/DD 135TPI + 80 Cap. Box .....£40.00
- 70 3 1/2" DS/DD 135TPI + 80 Cap. Box .....£54.00

All disks 100% certified & guaranteed 135TPI  
 All boxes inc. Lock & Dividers

**3 1/2"**

### BENCHMARK DISKS DS/DD 135TPI

- 25 .....£17.80
- 50 .....£34.80
- 100 .....£63.25
- 200 .....£117.88
- 400 .....£223.68
- 600 .....£319.13
- 1000 .....£503.13

## DISK BOXES

- 3 1/2" 100 Capacity Lockable.....£6.95
- 3 1/2" 80 Capacity Lockable.....£6.50
- 3 1/2" 40 Capacity Lockable.....£5.25
- 3 1/2" 10 Cap. Library Case x 5.....£4.75
- 3 1/2" 10 Cap. Wallet Type Library Case x 5.....£4.75

### ACCESSORIES

- 3 1/2" Head Cleaner.....£2.50
- Mouse Mat Rigid.....£4.50
- Mouse Bracket.....£2.50
- Parallel Printer Cable.....£7.25
- 25 Pin M - 25 Pin M Cable.....£7.25
- 36 Pin M - 36 Pin M Cable.....£8.25
- 2 Way 25 Pin Data Switch.....£12.50
- 2 Way 36 Pin Data Switch.....£14.50

**3 1/2"**

### UNBRANDED DISKS DS/DD 135TPI

- 25 .....£17.00
  - 50 .....£32.00
  - 100 .....£55.00
  - 200 .....£109.00
  - 400 .....£210.00
  - 600 .....£298.00
  - 1000 .....£471.00
  - 2000 .....£892.00
  - 5000 .....£2097.00
- inc. labels

### PLEASE NOTE:

ALL DISKS SUPPLIED ARE 100% CERTIFIED & GUARANTEED MIN. WRITE TO READ CLIP 60% INDUSTRIES STANDARD IS 40%.

ALL PRICES INCLUDE VAT & P&P. UK & BFPO ORDERS ONLY

# MCS

Cheques and Postal Orders to:



24 HOUR ORDERLINE 0597 87784

## Manor Court Supplies Ltd

Dept AF3, Glen Celyn House,  
 Penybont, Llandrindod Wells,  
 Powys, LD1 5SY

Tel:  
 0597  
 87792

EDUCATION AND GOVERNMENT ORDERS WELCOME

## HAVE YOU BEEN RIPPED OFF LATELY?

Are you paying too much for public domain software on your Amiga? Did you know that companies selling PD are not supposed to make any profit from it? Crazy Joe says "KEEP PD FREE!"

We only cover our costs and overheads. Check this out:

- ★ NO MEMBERSHIP FEE ★ FREE CATALOGUE ★ PD EXCHANGE★
- ★ ALL OUR DISKS ARE £2 EACH OR £15 FOR TEN ★
- ★ WIDE RANGE OF DISKS WHICH IS ALWAYS INCREASING ★
- ★ UTILITIES, DEMOS, GAMES, ART, MUSIC, CLIP-ART ★
- ★ OWN LABEL EXCLUSIVE DISKS★ BLANK 3.5" DS/DD £7 FOR 10★
- ★ COMMERCIAL SOFTWARE AT HUGE DISCOUNTS★

Send large stamped addressed envelope for our free catalogue. If you don't, you won't know what you're missing!

### CRAZY JOE'S PD

145 EFFINGHAM STREET, ROTHERHAM  
SOUTH YORKSHIRE S65 1BL. TEL: (0709) 829286

## AMIGA PUBLIC DOMAIN SOFTWARE LIBRARY

- \* No subscription fee \* Free catalogue on request \*
- \* Monthly bulletins containing news, offers, competitions etc \*
- \* Wide range of disks rapidly growing \*
- \* All our disks are virus free \*
- \* All disks cost £2.00 each ten or more £1.50 each \*
- \* Immediate despatch on all orders \*
- \* Full range of commercial software \*
- \* 10 3.5" unbranded Sony DS/DD disks £7.50 \*

FREE.....with your first order of ten or more disks you will obtain a disk full of virus killers....!

Write now for details.

WCA Business Systems  
295 Peniel Green Road,  
LLansamlet,  
Swansea. SA7 9BJ.  
Tel: (0792) 772745.



## Bitman Ltd

We offer a comprehensive digitising service for the AMIGA.

WE will supply the disc. Just send your picture/photo/etc., to us and we will digitise it in HAM and also in an enhanced 16 grey-scale MONOCHROME both in standard IFF format.

If desired we can also produce 32 colour, 16 colour, or interlace frames, please specify.

1 colour & 1 mono frame .....£8.00  
Each extra frame.....colour .....£1.50  
mono .....£1.00

All prices include VAT., disc and return postage.

Please allow 2 weeks for delivery.

Cheques & P.O. payable to:

**BITMAN LTD.,**

B10 Riverside Mill, Godmanchester, Huntingdon, CAMBS., PE18 8ER.

## AMIGANUTS UNITED

AMIGA PD LIBRARY IS NOW INTO ITS THIRD YEAR AND OFFERS THE LOWEST COPYING FEES IN THE U.K.

★ STOP PAYING OVER THE ODDS FOR YOUR ★

★ PUBLIC DOMAIN SOFTWARE ★

PRICES START AT ONLY FIFTY PENCE SELECTED FREEBIES WITH EVERY TEN PROGS ORDERED.

NO MEMBERSHIP OR OTHER HIDDEN FEES

A SPECIAL INTRODUCTORY OFFER TO THE FASCINATING WORLD OF PD

DISK 230 CONTAINING 44 GREAT SELECTABLE TUNES  
DISK 260 THE EXCELLENT SCROLLING SPACE GAME CALLED BLIZZARD  
DISK 389 THE VERY FUNNY PUGGS IN SPACE ANIMATION  
DISK 401 PSEUDO-OPS LATEST AND BEST VIRUS KILLER/BRAINFILE  
DISK 443 SIX EXCELLENT DEMOS, INCLUDING THE CAPT'S LOG/LASER DEMO  
DISK 453 THREE NICE GAMES BY ANDERS BJERGEN AND A GREAT FILE WINDOW UTILITY  
DISK 454 STARFLEET 1, A NICE VERTICAL SCROLL SPACE GAME BY DOMINIC BEADLE  
DISK T34 ONE OF THE LATEST TBAG DISKS OF THE MONTH FROM TAMPA BAY U.S.A.

ONLY £1.85 EACH INCLUDING THE DISK AND RETURN POST/PACKING.

IF YOU DON'T HAVE A COPY OF THE 1990 LIBRARY DISK, LISTING HUNDREDS OF PD PROGS, (INCLUDES THREE NICE GAMES), SEND £1.85 AND ASK FOR THE 1990 LIBRARY DISK NOW!

UPDATES TO THE LIBRARY DISK ARE AVAILABLE AT REGULAR INTERVALS

Cheques/Postal Orders payable to: **Ray Burt-Frost,**  
169, DALE VALLEY RD, HOLLYBROOK,  
SOUTHAMPTON SO1 6QX

PLEASE NOTE: Some PD disks contain language that may be considered offensive.

# 17 BIT SOFTWARE

## "THAT BIT BETTER THAN THE REST"

17 BIT SOFTWARE'S LATEST ISSUE OF THEIR EVER POPULAR DISK UPDATE IS AVAILABLE NOW TO AMIGA OWNERS EVERYWHERE FOR JUST

# ★£1.00★

YES, FOR £1.00, YOU CAN SAMPLE THE DISK THAT HAS MADE 17 BIT BRITAIN'S LEADING AMIGA PUBLIC DOMAIN SUPPLIERS. ON RECEIPT OF YOUR CHEQUE, WE WILL SEND YOU - 17 BIT UPDATE II - CONTAINING:

★ 3 PIECES OF AMAZING MUSIC ★

★ STUNNING ARTWORK ★

★ THE LATEST IN VIRUS KILLERS ★

★ SKY FIGHT - 2 PLAYER SHOOT-EM-UP ★

★ SOFTWARE NEWS AND REVIEWS ★

**PLUS FULL DETAILS OF 17 BIT PUBLIC DOMAIN SOFTWARE (OVER 555 DISKS!!)**

YOU WILL ALSO RECEIVE DETAILS OF OUR USER GROUP (THE BIGGEST IN THE UK, OVER 10,000 MEMBERS), AND A LIST OF SOME STUNNING SPECIAL OFFERS ON COMMERCIAL SOFTWARE.

**SEND ONE POUND TODAY - YOU WON'T REGRET IT!!**

PLEASE SEND YOUR CHEQUE/PO/ACCESS/VISA DETAILS TO

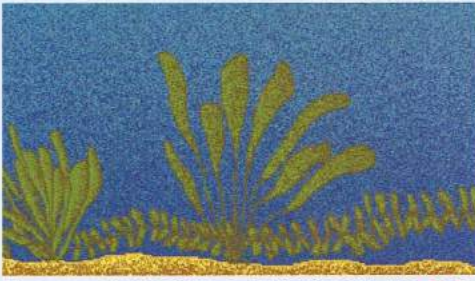
**17 BIT SOFTWARE, (DEPT AMF)  
UPDATE 11 SPECIAL OFFER**

PO BOX 97  
WAKEFIELD  
WEST YORKS  
WF1 1XX

TEL: 0924 366982







Turn your Amiga into a fishtank with the *Fish-tank Simulator* on Fred Fish's disk. Sadly this tank is empty because the fish are sprites and can't be grabbed, but they'll be there when you get the program.

## TOP TEN PD

GTS Titles

- 1 HOME BUSINESS PACK
- 2 FOX VALLEY 38
- 3 MEGA GAMES II
- 4 HAM RADIO SPECIAL
- 5 FISH 215
- 6 FISH 183
- 7 STAR TREK
- 8 BLIZZARD
- 9 TV GRAPHICS
- 10 TENNIS

## TOP TEN DEMOS

17Bit Disk Numbers

- 1 INTROS #23 (550)
- 2 FLEET MANOEUVRE (542)
- 3 X-OUT DEMO (555)
- 4 MAGNETIC BEATS (524)
- 5 RED SECTOR MEGADEMO (503/504)
- 6 DEXION MUSIC DISK (547)
- 7 TV SPORTS SLIDESHOW (530)
- 8 INTROS #22 (533)
- 9 SHOWERING GIRLS (474)
- 10 BILBO CHART SHOW MUSIC (506)

# PD UPDATE

For little more than the price of a disk, you could fill your software collection with some of the finest utilities and demos from the Public Domain. **RICHARD MONTEIRO** gets his hands on the latest additions and tests them out.

## UEDIT

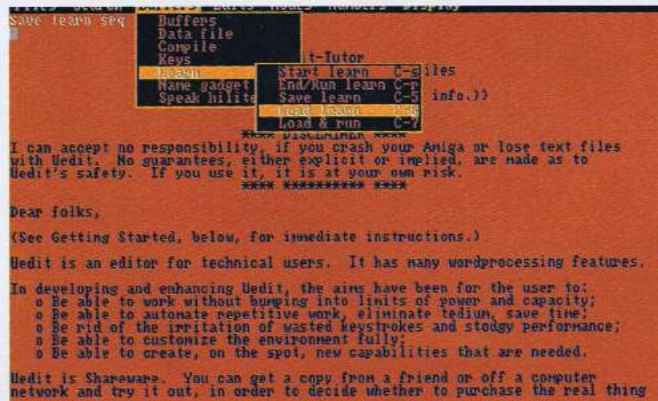
Fish Disk 254

Do yourself a favour, stop using Ed. The file editor included in the C directory on your Workbench disk is unbelievably unfriendly, so just give it a rest. Not only is it tedious to use, but someone forgot to add instructions on how to use it when the Amiga user manual was compiled. Ho hum.

There are numerous text editors in the public domain, and one of the best in our opinion, that has recently been given an overhaul, is Rick Stiles' *Uedit*.

In its latest incarnation, *Uedit* lets you edit up to 100 or more files simultaneously (memory permitting); reformat paragraphs; edit while up to 12 documents or regions are printing; undo; search and replace; cut, copy and paste regular, inverted or highlighted text; create new commands.

Features include online help, teach mode, split windows, interlace and overscan display, mouse scrolling and mouse cursor-placement, page-making commands, multi-column text displays, and much more.



**Uedit: an excellent alternative to the Ed text editor... and one that's not going to cost you a fortune.**

Perhaps the most important feature in *Uedit* is its ability to learn new commands. New commands are typed into a buffer and compiled (learned) virtually instantly. The possibilities are endless. You can teach *Uedit* to search for all double space characters and replace them with a single space, justify the document, place your address at the top of the document, add your name at the end of the document and save the results. The whole operation

can be tagged to one key.

*Uedit* is fully configurable. For a fee, ready-made *WordStar*, *Scribble*, *V!* (Unix editor) and *Gold Key* (DEC editor) configuration files can be obtained. These will turn *Uedit* into the text processor you feel most confident using. Of course, you could do the configuration yourself – it's easy enough.

## FISH 251 GEORGE THOMSON SERVICES

While it's true most of Fred Fish's disks have one or two utilities or

demos that will appeal to most, very few come crammed with items that will appeal to everyone. Disk 251 is one of those rare breeds; a real stonker.

On the disk you will find:

### DEBUG

Jim Thibodeau and Larry LaPlume's symbolic debugger features, unsurprisingly, symbolic disassembly, simple expression parsing, multiple breakpoints, memory fill, memory dump, single-step trace mode, skip-over-subroutines options plus much more.

### DISKSALV

A disk recovery program for all Amiga file system devices that use either the Amiga Standard File System or Amiga Fast File System. *DiskSalv* creates a new file system on another device and uses as much salvaged data from the original device as possible. This is version 1.42, an update to the version released on Fish disk 212.

### LINSTROM'S MALARKEY

Also on Fish disk 251 you'll find a selection of programs written or adapted for the Amiga by Lloyd Linstrom and family. Included in this section are three Amiga

## TV GRAPHICS 1 & 2

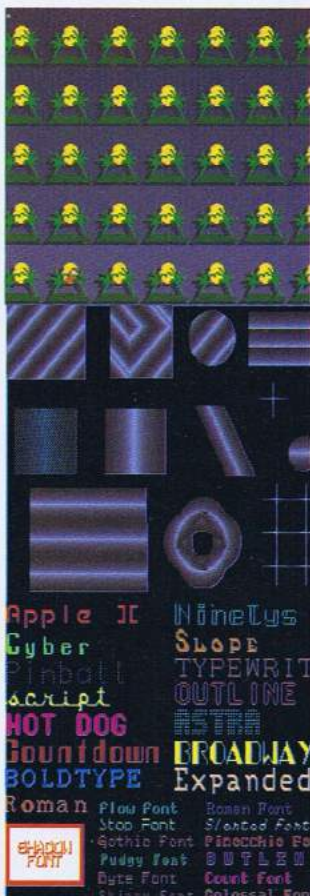
GEORGE THOMSON SERVICES

The TV Graphics disks contain clip art especially created for use as overlays on TV images. Of course, you don't have to use the graphics for that purpose, but designer George Bailey has spent ages ensuring that the images don't look garish or clash with a variety of TV pictures.

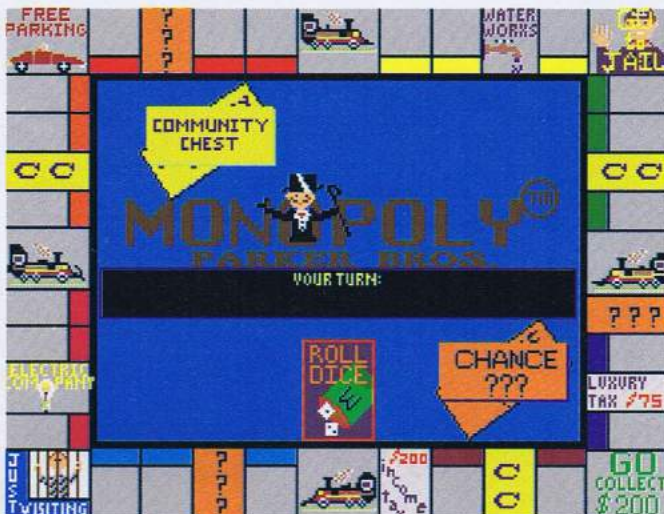
TV graphics disk 1 comes with three types of graphic images: complete screens, frames and parts (or brushes). Screens are full graphic images ready for instant use. Frames are small borders that enable you to overdub any video or graphic elements inside them. Parts are small pieces of computer art that can be defined as a brush and pasted on your own screens.

Several demo screens have been made up out of all three graphic elements; all you need do is direct the live action into the windows provided.

Disk 2 comes packed with Amiga-compatible fonts for use by most graphic, animation and presentation software. There are a selection of large, small, unusual and video fonts - something for just about all your DTV requirements.



A sample selection of the images and fonts available in the TV Graphics disks.



♦ BASIC games (*Spots, TOE and Worms*) and three programs (*Demon, Turmites, Mountain*) based on algorithms taken from the Computer Recreations column in the magazine *Scientific American*.

### DISKSPEED

You can test your disk drive's speed and performance with this handy utility. The program will automatically create and update an ASCII database of results of all the tested disks.

### FISH TANK SIMULATOR

Now I've seen it all! A program that turns your Amiga into a very expensive fish tank.

### MONOPOLY

Ed Musgrove's program is a computer version of the Parker Brothers' classic board game of the same name. Ed had intended to look for a software company to publish the game, but Leisure Genius released a version before Ed had a chance of touting his wares. Story over.

### ROADROUTE

This is a journey planner - in the same vein as *AutoRoute* - which takes a list of cities and known routes between the cities, and generates the distance and time it will take you to reach the desired destination. Only problem is, the cities are all in North America...

## SHOWDISK

### Fish Disk 269

With *ShowDisk* you get a graphical representation of the layout of sectors from files stored on a disk. The mapping is colour coded so that you can identify which sectors are used by the various files and directories present on the disk.

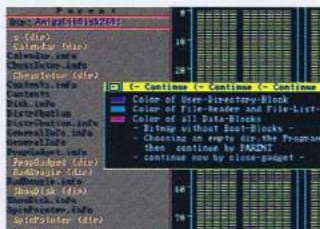
As many directories and filenames will appear in a window to the left of the screen; the list can be scrolled forwards or backwards to reveal further entries. Selecting a directory will open it and reveal any files contained inside. Selecting a file causes certain areas of the

A full version of the *Monopoly* board game to play on your Amiga thanks to Ed Musgrove.

disk map to become highlighted.

Different parts of the file will show in different colours. For instance, directory blocks, file header blocks, file list blocks and file data blocks are all differentiated between.

A very user friendly utility which will help you understand how data is stored on disk.



Checkout graphically the location of files and folders on your disks with *ShowDisk*.

## TBAG DISK OF THE MONTH #24

GEORGE THOMSON SERVICES

Here's another disk from the Tampa Bay Amiga Group's vast selection. This one is crammed with 14 hot programs. Because of space constraints only a few of the best or most unusual items on the disk are mentioned.

*CLICKDOS* - Yet another disk management utility program, but this one's excellent and only takes up 32k of memory. *ClickDOS* uses a single window, which can be iconified, on the Workbench screen and consequently doesn't gobble chip memory. Functions like Type and Show are built in; you can junk your C directory.

The sort of things you can do include renaming, moving, erasing and copying files and directories; creating directories; display IFF picture files and ASCII text files.

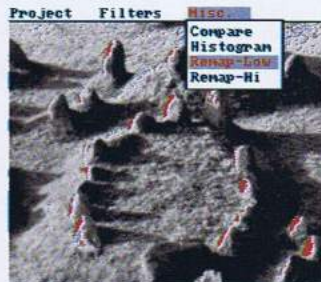
*QVIEW* - Another file viewer! As if the likes of More, Less and so on weren't enough Lyman Epp had to write another. Lyman's *QView* is special because, in comparison, it is far smaller than other file viewers. *QView* takes up a mere 3K. The reason being that it is written in Assembler; most other file viewers are written in C.

*QView* features fast screen updates, keyboard control of all options, search and replace, and all the usual character and page scrolling facilities offered by similar utilities.

*FILTPIC* - This is an image processing system designed specifically to be used with digitised *Digi-View* low-resolution black-and-white IFF picture files.

When *Digi-View* stores a low-resolution black-and-white picture, it stores the image in 32-colour IFF format. Since the Amiga is capable of displaying 16 shades of grey, the *Digi-View* image only uses colours 16 to 31 from the possible palette range of 32. *FlitPic* assumes any IFF files it manipulates to be in this format. Images not of this format will give unpredictable, although occasionally interesting, results.

Once an image is in memory all manner of filtering operations can be performed. 'Averaging' produces an image based on the average pixel intensities using a three by three matrix. 'Binary' results in a high contrast black and white image based on a supplied threshold. 'Cross' will produce a new image using an edge detection algorithm; 'Sobel' and 'Roberts' are two other edge detection filters available.



Perform the filtering functions on your digitised images that *Digi-View* left out.

Other filter functions include Pixelize, Sharpen and UserMatrix. The UserMatrix is the most interesting as it allows you to specify a three by three kernel which can be applied to an image. *SPITE & MALICE* - Cards anyone? *Spite and Malice* is a game which involves both luck and strategy. The object of the game is to play all of the 25 cards in your pile. These cards must be played to the centre of four stacks in numerical

# BLITSOFT

6 Dorney Place  
Bradwell Common  
Milton Keynes  
Bucks MK13 8EL

**ALL PRICES  
INCLUDE VAT  
AND P&P**

## AMIGA P.D. PRICE BLITZ!

Our extensive range now includes over 400 quality disks. Always in stock are all disks in the famous Fred Fish range, and exclusively the full TAIFUN auto-boot range.

Our own ever popular BLITDISKS continue to expand each month. These self-booting subject orientated disks include many topics; Graphics, Sonix, Art, Games, Utility and Demos etc. and are often crunched by us to fit as much as possible on. No more buying 5 disks for 5 programs scattered around. Now YOU can choose a disk on your required subject and if we have yet to make one the chances are we can compile a disk for YOU!! We also exclusively distribute the disk magazine 'Computer Lynx'. Only £1.00 per issue to members.

The most ASTONISHING thing about buying your P.D. from BLITSOFT is:

### PRICE & SERVICE

OPTION 1: ALL disks at £1.25 just send us £5 per quarter (we arrange this) for this offer.

OPTION 2: ALL disks at £2.50, but buy three and choose a free disk i.e. £7.50 for FOUR disks (£5 life membership fee for option 2)

24 hour despatch, Quality packaging and 1st class post,  
FREE cat disks and FREE updates to cat disks!!

## SOFTWARE SERVICE

We are now able to offer AMIGA commercial software, both entertainment and serious, at extremely competitive prices.

Our pricing is as follows:

R.R.P.	OUR PRICE
£19 - 95	£15 - 00
£24 - 95	£18 - 50
£29 - 95	£22 - 00
£34 - 95	£24 - 75

For prices not shown above please enquire: we can offer MAJOR discounts.

Method of ordering

- 1) From the advertised R.R.P. find our price.
- 2) Send a **GUARANTEED** cheque and state if you are prepared to wait for not-released-yet/out-of-stock items.
- 3) We will despatch all titles in stock within 24 hours of receipt of your order.
- 4) If your order has not yet been released or is out of stock we will return your cheque. If instructed that you will wait then we'll send a P.D. disk of your choice.

## HARDWARE/MEDIA

We can also supply your other computer needs at rock bottom prices: Contact us for ANY requirement.

EXAMPLES	1/2 Meg upgrade .....	£68 - 00	10 DS/DD unbranded certified 3.5 disks.....	£7 - 00
	1/2 Meg upgrade + clock.....	£75 - 00	A500 Batpack .....	£365 - 00
	1Mb 3 1/2 Slimline single disk drive .....	£80 - 00	A590 20Mb Hard disk drive.....	£360 - 00

## THE ONLY TRUE PUBLIC DOMAIN LIBRARY

**DEMON SOFTWARE**  
HARBLEDOWN  
WESTLAND GREEN  
LITTLE HADHAM  
HERTS  
SG11 2BQ



The cheapest Amiga demo library in existence!  
MEMBERSHIP IS FREE  
POSTAGE AND PACKING IS FREE  
Demos are 75p each if you supply the disks or £1.45 if we do.  
For membership and a list send an S.A.E.

## DEMON SOFTWARE

**FREE PD CATALOGUE ON DISK**

(please state Atari ST or Amiga)  
When you send a blank disk and S.A.E. to:

**RIVERDENE PDL**  
63 Winttingham Way,  
Purley on Thames,  
Reading, Berkshire RG8 8BH  
Telephone: (0734) 428492  
Fax: (0734) 451239

**AMIGA 500 REPAIRS & SPARES**

**SPARES:**  
68000 MPV ..... £12.00  
8362 Denise ..... £29.00  
8371 Fat Agnus ..... £10.00  
ROM V1.2 ..... £21.00  
MSM6242 Clock ..... £8.00  
Service Manual ..... £22.00

**ACCESSORIES**  
A520 Modulator ..... £16.00  
A501 1/2 Meg ..... £13.00  
A1010 D-Drive ..... £140.00  
A500 Fixed Price repair ..... £40.00  
3 months warranty. Sinclair & Amstrad also repaired.

**ACE Repairs, Outways Farm, Pelynt, Looe,**  
Cornwall PL13 2NW  
(0503) 20282

**E.M.P.D.L.**  
Amiga Public Domain Library. Open 7 Days 9am - 9pm

Latest Edition catalogue, disc, plus  
lifetime membership only £2.50

700 discs catalogued.  
Updated monthly. Range of accessories.

Cheques & P.O.'s payable to:  
E.M.P.D.L. 54 WATNALL ROAD, HUCKNELL,  
NOTTS, NG15 7LE.  
0602 630071

- »»»»»»» Sonix Songs, with player/graphic screen  
 USON1 Duelling, Electric Dream, Wonderful +  
 USON10 Human Power, Mindbreaker, Robocop +
- »»»»»»» Slideshows with background music  
 USLID1 'Heroes' tune + 16 hi-res pictures  
 USLID4 Fantasy pictures by The Dark Lord
- »»»»»»» Music at it's best, with graphix  
 UMUS1 Ten original tunes, brilliant!  
 UMUS13 Metromania, Sahara, Lonely + 3 others
- »»»»»»» Intro's and Demo's, some of the best  
 UINT1 O.G.D, PARTY!, EUROPE + 7 others  
 UINT4 TEARDROPS, MAGIC FIELD + 5 others  
 UINT14 COMBINATION, SUBWAY, WEAPON + 4
- »»»»»»» Great GAMES for you to play at home!  
 UGAM1 COSMOROIDS, ROLLERBALL, LADYB  
 UGAM2 FLASCHIBER - The game, brilliant  
 UGAM3 LINGO, BALLY, NIGHTWORKS & YOUPI
- »»»»»»» Some of the best ANIMATIONS around  
 UANIM1 SPACE animation - needs 1meg RAM  
 UANIM2 UGA and STAMP animations, good!  
 UANIM3 RUNNING MAN, TURNING MAN, UGA  
 UANIM5 HAPPY GUY, WINDOW, F15 MIRROR
- »»»»»»» SPECIAL disks in a special collection  
 USPEC1 ZOUNDMONITOR, like ST but better  
 USPEC4 GHOSTWRITER, make your own screens  
 USPEC11 GAME MUSIC CREATOR, brilliant!  
 USPEC13 QL EMULATOR, just what it says!  
 plus 2 support disks available

These are brief descriptions, disks may contain much more

- »»»»»»» Full of utilities you can't get elsewhere  
 UUTIL1 SinusCreator, Bootcontrol, CLIWizard,  
 Iconlab, CRLoad, Mandlevroom, Bootune  
 UUTIL3 Tetrapack, Showfont, Bootback, Disksalv,  
 TrackerX, Iconizer, SceneryMaker etc. etc.  
 UUTIL9 KickSaver, Terrainsculpt, StarEditor, Boottext,  
 Sonixpeek, Flowripper, Linkiller etc. etc.

»»»»»»» We stock over 50 of these fabulous UGA disks, all easy to use, menu driven and exclusive to us!



official UK distributor for  
**UGA**  
 public domain disks

**Over 1000**  
 disks FULL of great programs.  
 1-5 disks - £3 each  
 6-9 disks - £2.75 each  
 10 and over - £2.50 each  
 Buy 10 - get another FREE  
 all prices inc. of Disk, Post & packing & VAT

**PLUS** we have the complete FRED FISH collection, Currently over 290 disks, with more added monthly

**PLUS** the A.P.D.C collection  
**PLUS** the PANORAMA collection  
**PLUS** the AMICUS collection  
**PLUS** the SLIPPED DISK collection  
**PLUS** the T.BAG collection

And of course our own 'SOF' collection of Utilities and the very BEST demo disks, now numbering well over 450 in all!

**STARTER PACK**  
 Choose any 5 disks, get 5 blank disks + labels & a Library case for only £18:50  
**VIRUS KILLER DISK**  
 loads of killers inc. VIRUSX v4.0  
 ONLY £1:50 each (state Amiga)

Send an A5 size envelope (28p stamp) for a FREE copy of our 80 page catalogue. State CLEARLY the make of your computer

Callers **SOFTVILLE** Welcome  
 Unit 5, Stratfield Park, Elettera Ave, Waterlooville, Hants PO7 7XN  
 Ring for advice or to order on  
**0705 266509**  
 Fax 0705 251884




# UGA

**A new wave of computer Entertainment!**

- Exclusive Public Domain Series with the latest PD, exclusive material made by UGA artists and material sent in for competitions. The Series covers Utilities, Screenshots, Demo's, Intro's, Animations, Art and more!
- NEWSFLASH, the first European disk magazine which contains the latest news, reviews, tricks, music, art, programming lessons and much more!
- A new low budget software label. MUSICAL ENLIGHTENMENT is the first release and gives you full control when creating your own soundtracks, effects and sample editing. A Dutch masterpiece for a C64 price! Slider will be the second release in March offering you a lot of puzzle fun, great graphics and music too!
- You have to see our disks, you will be amazed by the user friendly approach and the quality of material, we release many firsts - like the Sinclair QL Emulator!!

**All these available from:**

UK: SOFTVILLE, Unit 5, Stratfield Park, Elettera Avenue, Waterlooville, Hants. PO7 7XN. Tel: 0705 266509  
 Holland: Tofware, Postbus 245,4530 AE Terneuzen. Tel: 01150-95898  
 Other countries: UGA, Pobox 881,3700 AW Zeist, Holland. Tel: 3404-52987

Check out our software, and our prices - Prepare to be amazed.....

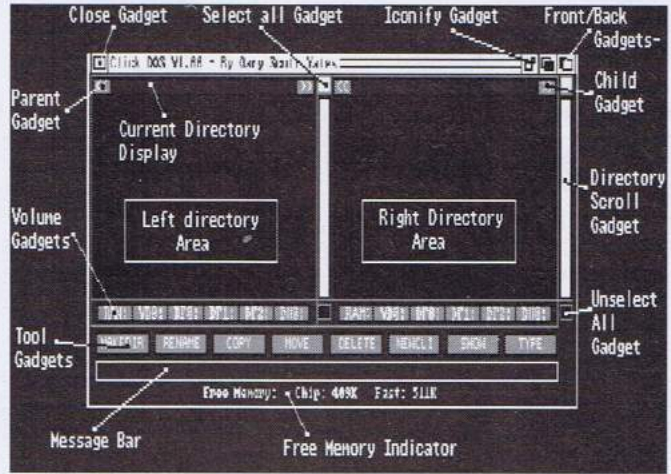
♦ order from ace to queen. Both the king and joker are wild, and may be placed on top of any other card. Your hand consists of five cards which may be played to the centre or to one of the discard piles. Discarded cards can be played to the centre, but cannot be moved from one discard pile to another. Your turn ends when you place one of your cards into a discard pile.

**EGYPT RUN** – It seems the pyramids have come alive and are out to take over the World. You are the World's only hope. It's your job to steer a buggy through the pyramid onslaught and destroy the master

pyramid with your missile. Wacky! **CLICKDOS** – is completely self contained – it doesn't require the use of any other programs, although it will communicate with Spool if present in the C drawer, and will even detach itself when called from a CLI.

**TOING** – Wonderful! You can have between one and 50 balls bouncing in random directions. Totally pointless, but thoroughly absorbing to watch. ■

**Forget the Workbench or the CLI, ClickDOS provides you with virtually all the file management facilities you're ever likely to need. And all in 32K.**



# DEMOS CORNER

Here's where to find out just how powerful your Amiga really is.

## INTROS DISK #23

17Bit Disk 550

Six superb mini demos from the likes of D-Mob, Level 4, Red and Black, Powerlords, Jester Bros and Unique. Just when you thought you were safe from any further Batman hype, the Jester Brothers spring on you the remix of the Bat-dance Remix. Meaner, moodier and more manic than before. You'll love it to bits.

## SHOWBIZ

Fish Disk 261

A fun animation containing mice, a dancing alligator, a sheep on a trampoline and various other performing animals. The source file, in Director format, is supplied.

## SENTINEL

Fish Disks 263/264

Here's an absolutely mammoth animation which requires at least 3Mbytes, and preferably 3.5Mbytes, of memory to run. It's huge, but also very slick.

The *Sentinel* is a large ray traced animation created with *Turbo Silver SV*, *Deluxe Photolab*, *Deluxe Paint II* and *The Director*. It consists of approximately 60 to

70 frames of animation which were rendered over a period of three and a half weeks. This is Bradley Schenck's entry to the 1989 BADGE Killer Demo Contest.

It won first place.

Because of the size of the animation, it has been split across two disks. Two drives and lots of memory are recommended.

## INTROS DISK #25

17Bit Disk 553

Yet more demos for you to drool over. Guaranteed that after you've seen this disk you won't want to see any more BOB (blitter object) demos. There's something of an unofficial competition at present to see who can animate the most BOBs in real time. It's all a load of balls but we love it.

## AGATRON ANIMATION DISKS

17Bit Disks 541/542/543

Each disk contains different animations; it's not necessary to have all three disks to view the animations. The reason for clumping the three disks together is that the Agatron collection is put together by Tobias Richter of West Germany. The presentation and operation of all the disks in the series is identical, so it's pointless wasting column inches on repetitive text. Star Trek fans will go ape for some of the animations on these disks; there are some beautiful detailed shots of the Enterprise and various other ships. Well worth a watch. ■

# JUKE BOX

Listen to the latest sounds to come from your Amiga.

## D-MOB DEXION MUSIC DISK

17Bit Disk 547

Another 10 tracks for your listening pleasure. A fancy scroller gives you something to watch while your ears twitch to the beat.

## MUSIC DISK #3

17Bit Disk 546

A curvy lady in a tight bikini poses with a machine gun on the outskirts of a dense jungle; her voluptuous, ample body silhouetted against the full moon... Okay, so it sounds corny – but you've got to see the picture. Women in skimpy outfits is not what the demo is all about. Honest. It's simply the title screen to D-Mob's third music disk. There's only the one music track, but it's expertly mixed and lasts around seven minutes. The digitised data loads continuously from disk as it's needed. It's excellent.

## D-MOB MUSIC DISK #2

17Bit Disk 554

You'll find 10 of the best sampled music tracks on this disk, including Bigbeat, Chord Chill, X-Tacy, Flying, Running Away, Jack to the Housebeat, Automatic Beat, Cozmo, the Edge and Techno. There's little else to say apart from pump up the jam.

## SUPPLIERS

The following companies are responsible for the distribution of Amiga Public Domain software in this country. For their full address check the advertisements in this issue of Amiga Format, or give them a ring.

George Thomson: 0770 82234, 17 Bit Software: 0924 366982, Softville PD: 0705 266509, Amiga PD Library: 0742 588429, Purple PD: 0279 757692, Ray Burt Frost: 0703 785680, Blitsoft PD: no phone number, Seniac PD: 0424 753070: Deeper Domain 01 204 3954, Crazy Joe's: 0709 829286, WCA PD: 0792 772745.



Many thought that eight bit sampling on the Amiga had been pushed as far as it could go. With devices such as *Future Sound* and *Sound Trap* (both reviewed in past issues of AF), the sound quality obtainable from the eight bit sampler has reached its peak – many say sample quality won't improve until we see the arrival of 12 and 16 bit samplers. Could *Master Sound* prove them wrong?

*Master Sound* is a software/hardware combination that will allow you to digitise bursts of sound from most sound sources, including CD players, personal stereos etc.

The *Master Sound* sampling hardware consists of a large, cream coloured box that comfortably slots into the parallel port of your Amiga. At one end is the standard 25 pin plug for connecting the unit to the computer and at the other end, a single 3.5 mm jack socket for connecting the unit to a suitable sound source. Being a rather inquisitive chap at heart, I opened up the sampler hardware expecting to find a large chunky PCB. Surprisingly, only about a quarter of the interior is actually occupied – the rest contains nothing more than air. Perhaps Microdeal felt that a larger case would look more impressive? (it's not the size that counts – it's what you do with it!).

#### Sound City

Although *Master Sound* will happily work with existing software such as Aegis' *AudioMaster II*, Microdeal provide their own software to drive the unit. Unlike *Master Sound's* main competitor, Omega Project's *Sound Trap III*, the software bundled with the unit is of a very high standard indeed.

The software is split into two distinct sections – the obligatory sample grabber/editor and secondly, a unique 'sample sequencer' which can be used to produce *Sound Tracker*-like tunes from short samples grabbed using *Master Sound* as instruments.

#### Grabbing All You Can

Once you've connected everything up, turned on your computer and loaded the software, the first thing you'll want to do is to grab your first sample. *Master Sound* will digitise sounds using sampling rates varying from 3 KHz right up to an impressive 55.9 KHz (same as *AudioMaster II*). The first thing that will strike you about *Master Sound* is the sheer quality of the samples – even at the lower sampling rates, *Master Sound's* samples remain bright and sparkling.

In this month's music section **JON BATES** takes you on a guided tour of sequencing, but we start with **JASON HOLBORN'S** review of Microdeal's combined sampler and sequencer, *Master Sound*.

## SOUNDING BOARD



The *Master Sound* main screen in all its glory.



Mix your own chart hit with the *Master Sound* sequencer – Fairlight eat your heart out!

Editing is pretty standard stuff, with the usual cut, paste and copying of sections of sample. However, *Master Sound* provides a selection of extra editing functions not usually found within a budget sampler. For starters, any sample can be overlaid (mixed) onto another sample, samples can be filtered (helps to make a sample

sound less electronic or 'tinny'), faded in, out and compressed.

Samples can be saved either in RAW or standard IFF 8SVX format. For those of you who use sampled instruments within packages such as Aegis *Sonix*, *Deluxe Music* or even *Music-X*, *Master Sound* will even generate multi-octave IFF files.

#### Hit Factory

So once you've grabbed loads of sound samples, what are you going to actually do with them? Unless you're the proud owner of one of the three packages named above, the truth of the matter is that those samples will end up being nothing more than disk fillers.

However, with *Master Sound* you can put your samples to work with *Master Sound's* own unique sample sequencer. Ok, Microdeal aren't the first to include such a program with their sampler (Data's *Pro Sample Studio* includes a sampler 'Jammer'), but *Master Sound's* sequencer is miles better than anything the competition has come up with.

The program works by turning your Amiga keyboard into a music keyboard (a bit like *Sonix*). Up to eighteen samples (instruments) can be stored in memory and are accessed by allocating them to keys on the numeric keypad – when you press a key on the keypad, the current sample allocated to the main keyboard is changed instantly.

*Master Sound* treats the Amiga as a four track tape recorder with a simple, 4 note polyphonic sampling keyboard tacked on to generate the sounds. To record onto one of the tracks, just select 'RECORD' and start playing – the sequencer then records your keypresses in real-time. Multiple instruments can be laid down onto a single track using overdub, although only one sound can be played simultaneously for each of the four channels.

Once you've mixed your potential chart hit, you can even hand it out to your friends using the sequencer player program that Microdeal so thoughtfully provide.

#### Sound Choice?

What more can I say? I'm impressed. The sound quality of *Master Sound* is astounding – sampling from a CD source, it produced some of the best quality sound samples I have ever heard from an Amiga (beating even those produced by the king of them all, *Future Sound*).

The combination of crystal clear sampling, a unique sequencer and an unbelievable price tag makes this the current number one choice among Amiga sound samplers – at any price. If you have ever thought of buying a sound sampler, then *Master Sound* is currently the best option. ■

#### MASTER SOUND

£39.95 ■ All Amigas ■  
Microdeal 0726 68020

It would be fair to say that during the course of 1989, the Amiga established itself firmly on the map of serious music creating. As you are probably aware, not only can it create sounds but it can also organise them into songs, tunes, or whatever. And so it is that we launch intrepidly into one of our occasional series of tutorials.

This month it is the subject of sequencing that comes under the special Amiga Format spotlight, with particular reference to popular sequencers such as Music X and Track 24. The notion is that the tutorial will serve not only for those of you who have the software but that it will also be a guide to those of you are considering buying sequencing software.

**First Principles**

The principle of any sequencing software is easy: it records what you play and plays it back. Or rather it records all the data that has gone to make the performance and then replays that data, commanding the actual sound-generating device to make the sound just as you did with your fingers on the keys of a keyboard.

The devices that actually produce the sound can be split into two distinct camps. The one will use strictly the internal chip, the other an external instrument. If the former option is chosen then it could be that the qwerty keyboard is the simple inputting device: the Amiga is a totally self-contained sequencing musical instrument.

The more usual scenario is the latter: using a keyboard for external input of music data into the computer, then reproducing that by the sequencer playing back data to the instrument chosen. MIDI is the communication language that links instrument to computer.

**Why Sequence?**

Why use a MIDI sequencer when maybe a cassette recorder would

do to capture your musical doodlings? Well, if you were only concerned with capturing acoustic instruments like pianos, saxophones or vocals you wouldn't need one. But in order to create 'the big sound' in your bedroom we need to turn to synthesized or sampled sound.

What is more, if you are using magnetic tape to record your

sounds very woolly and full of hiss.

A MIDI sequencer does not suffer with these problems. When you copy or merge or overdub tracks on a sequencer all you are doing is copying digital data. If this is still confusing, remember that at all times when using a sequencer to play back an instrument, that instrument is actually being played when you hear it: you are not hear-

are recording. Often these are calibrated in bars, beats and fractions of beats, but more sophisticated programs such as Music X will also count down in hours, minutes, seconds, and fractions of seconds to line up with SMPTE synchronization code, the universal time code used in the video, television and film.

The main screen should also have some sort of track layout. Since MIDI functions on 16 channels one would think it feasible to have 16 separate instruments playing together. Correct. But with an Amiga you can have up to four channels of internal sounds as well, so more tracks are needed. The usual case is to have either 24, 32 or 48 tracks able to be played simultaneously, apeing the configuration of multi-track machines in recording studios. As well as doubling some instruments up on the same MIDI channel it is possible to have, with some sequencers, more MIDI system loops. These are often called Export channels. So with maybe 64 channels of separately-controllable MIDI to go at, 48 tracks might seem small beer.

**Setting Up**

Most, if not all, sequencers come without a MIDI interface. So when you buy one, remember any Amiga MIDI interface will do since they are all compatible with MIDI software. You might like to check out Jason Holborn's recommendations in Issue 6: there are plenty of others to choose from as well.

Having made sure that you have your MIDI connections the correct way round - that is, OUT of the instrument goes IN to the interface and OUT of the interface goes IN to the instrument - you are ready to record. Or are you? You will need to check that the MIDI ↓

**The main screens for Track 24 and Music X. Track 24 is initially the more straightforward to operate but doesn't have the immense potential of Music X**

# EVERYTHING YOU ALWAYS WANTED TO KNOW ABOUT SEQUENCING...

**JON BATES** leads the way in a comprehensive tutorial.

efforts you will run into the problem that has been the bane of all recording engineers and producers since recorded sound was first tried out: noise. Tape has an inherent background noise that you cannot get rid of.

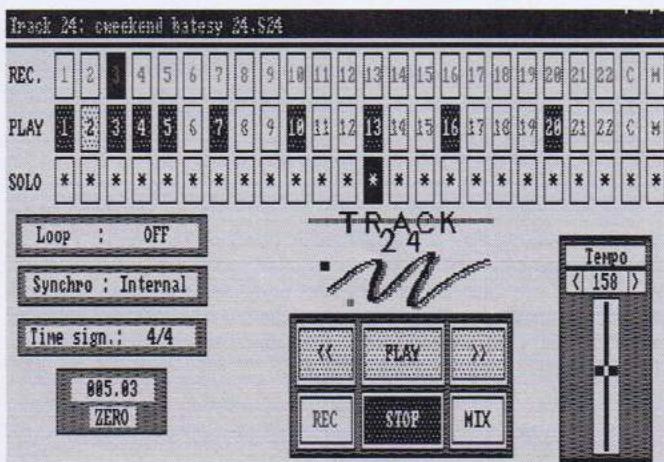
The noise problem becomes compounded when you try to overdub or bounce tracks together. The copying of one track onto another slightly reduces the sharp edge of the sound: owners of double tape decks will know what this is like, as even a CD when copied from tape to tape a few times

ing a recording of the sound. Only the data that tells the instrument how to perform is recorded in the computer's memory.

**Make Like a Tape**

Sequencers are quite often laid out on screen with icons and buttons that resemble the common-or-garden cassette player. Play, Record, Fast Forward and Rewind are often represented with cute little representations of the controls of the recording machine.

There will be a counter to give you the position in the track you





# Computer Technology

53 Riefield Road,

Eltham, London, SE9 2QE

Telephone: 01-692 8700

Opening Hours: 10am - 10pm  
7 days a week.

Hours to suit your requirements.

All orders despatched same or  
next working day.

Top Quality Unbranded 3.5" Disks		Amiga A501 Upgrade	£125.00
10	£10.00	External 3.5" disk drives	£85.00
25	880k £20.00	Philips 8833 Col.Mon.	£270.00
50	1for 2 £35.00	Star LC10 Printer	£179.00
100	replacement £63.00	Star LC10 Colour Printer	£229.00
500	guarantee £295.00	Citizen 120D	£138.00
		Citizen 180E	£159.00

Call for our list of specialised Amiga software  
At Discount Prices

We accept VISA, ACCESS, AMEX, DINERS CLUB

Prices include VAT and postage or delivery.

## SOFT EXCHANGE SPECIAL OFFERS

★★★★★★★★★★★★★★★★★★★★★★★★

£4.99

Joe Blade	Joe Blade II	Extensor	War Machine
Eagles Nest	Gladiators	Amegaz	Drum Studio
Hollywood Poker	Tr. Island Dizzy	Nitro Boost	Adv Ski Simulator
Adv Rugby Sim.	Papeboy	Crazy Cars	N. Mansell's G.Prix
Enduro Racer			

£5.99

Challenger	Cruncher Factory	Space Battle	Demolition
Thai Boxing	Fighter Mission	Las Vegas	Karting G. Prix
Doctor Fruit	Vaders	Grid Start	Tetris
Starsway	Quasimodo	Brainstorm	Rocky
Jigsaw Mania	Phalanx 1	Ice Hockey	BlackJack
Academy			
Craps Academey	Ebonstar	GB Air Rally	Galactic Invasion
Romantic Encounter	Tracers	Hyperdome	Phantasm
Flight Path 737	Seconds Out	Q Ball	Phantom Fighter
Mindbreaker	Sky Fighter	Atax	Growth
Pac Boy	Speed	Beat It	Shooting Star
Vixen	Space Fight	Atron 500	Rocket Attack
Cogans Run	Strange New World	Mercenary	Mousetrap
Jinks	Arcade Classics	Final Trip	Bermuda Project
Caption Blood	Spitting Image	Afterburner	Echo
Custodian	Nebulus	Netherworld	Plutos
Frosbyte	Suicide Mission	Cybernoid II	Exolon
Sinbad	Space Racer	Skychase	Artificial Dreams
Quantos	Jump Jet	UMS	President Is
Missing			

£7.99

Pacland	High Steel	Wrangler	Butcher Hill
Jaws	Danger Freak	Gold Dragon Domain	African Raiders
Realm of Trolls	Scorpion	Deep Space	Spherical
Savage	Monster Slam	Ballistix	Andromeda Mission
Albliterator	Purple Saturn Day	Deep	LED Storm
Winter Games	Motor Massacre	Dominator	Legend
Quadralien	Star Ray	Mickey Mouse	Wanderer 3-D
Tiger Road	Prospector	Spitting Image	Prison
Captain Fizz			

★★ ALL FUN SCHOOL RANGE AT SPECIAL PRICES £13.99 ★★

Box of	10	20	30	40	50
TDK 3.5 DS/DD	£8.99	£13.99	£18.99	£23.99	£28.99
TDK 3.5 DS/HD	£12.99	£20.99	£28.99	£36.99	£40.99

PLEASE WHENEVER POSSIBLE STATE AN ALTERNATIVE AS STOCK IS SUBJECT  
TO AVAILABILITY. CHEQUES NOT BANKED UNTIL DESPATCH  
TO ORDER SEND CHEQUE/P.O TO

## SOFT EXCHANGE

101 CLIFTON ROAD, LONDON SE25 6QA

# Learning has never been such fun!

Fun School 2 has been a tremendous success with more than 60,000 copies sold to date – even reaching Number 3 in the Gallup full-price software chart!

Each pack contains *eight* colourful and exciting programs designed by a team of educationalists, a colourful button badge and detailed instructions giving educational help.

The computer itself monitors the child's progress. The skill level – initially set by you – is automatically adjusted to suit your child's ability.

Now children can enjoy using your computer while they learn at their own pace.

Give your children an unfair advantage with **Fun School 2!**

*"The number one choice in our school"*

– The Micro User

*"Fantastic!"*

– New Atari User

*"It is fun, and your child will almost certainly learn too."*

– Amstrad Action

*"Full marks to Database"*

– Amstrad User



Under-6s



6-8 years



Over-8s

Prices from  
£9.95

On sale at *top dealers nationwide* and selected branches of *WH Smith and Boots* subject to availability

Order by telephone on 051-357 2961, or send your name, address, postcode and product code number together with a cheque payable to Database Software or your Access/Visa number and its expiry date. Postage free in the UK. Add £2 per program for Europe & Eire (£5 Overseas).

Send to:

Database Direct, FREEPOST, Ellesmere Port, South Wirral L65 3EB.

Format	Under 6s		6-8 years		Over 8s	
	Tape	Disc	Tape	Disc	Tape	Disc
Spectrum	9094	9095	9096	9097	9098	9099
Commodore 64	9064	9065	9066	9067	9068	9069
Amstrad CPC	9179	9180	9181	9182	9183	9184
BBC Micro/Electron	2239		2242		2245	
BBC B+/Master 40 Track		2240		2243		2249
BBC B+/Master 80 Track		2241		2244		2250
Atari ST		9192		9193		9194
Amiga		9842		9843		9844
PC 5.25"		5764		5765		5766
PC 3.5"		5767		5768		5769
Archimedes		2900		2901		2902

8-bit formats: £9.95 (cassette) £12.95 (disc)

16/32-bit formats (ST, Amiga, PC, Archimedes): £19.95

Please quote the product code number  
(as shown above) when you order.

DATABASE EDUCATIONAL SOFTWARE



# DEAL DIRECT

ALL OUR PRICES INCLUDE VAT & DELIVERY  
ALL DISKS CARRY THE MICROSOFT LIFETIME GUARANTEE



COMMODORE AMIGA 500 COMPUTER BATMAN PACK includes Batman, Interceptor, Deluxe Paint II & The New Zealand Story, Workbench 1.3, mouse and modulator £349.99	COMMODORE AMIGA A501 INTERNAL 512K to 1 meg RAM expansion & clock card £125.00
512K RAM EXPANSION & battery backed clock £99.00	COMMODORE 1MEG 3 1/2" DISK DRIVE A1010 Thru port external power from Amiga Amiga colour co-ordinated £89.99

Amiga 500 dust cover.....£2.50	Amiga 4 player Adaptor.....£4.95
Cheetah 125+ joystick.....£5.99	3 1/2" x 80 holder lockable disk storage box.....£5.99
Amiga Parallel Centronics printer cable.....£3.50	3 1/2" x 100 holder lockable disk storage box.....£7.99

No Name 50 x 3 1/2" DS DD 135TPI 880K/1 meg disks £24.99	Sony 100 x 3 1/2" DS/DD 135TPI 880K/1 meg Sony Disks £63.00
--	---

**Tel 0533 471485 - 24 hour hotline or post cheque payable to  
 MIDLAND MICROSOFT, MAIL ORDER DIVISION (Amiga Format),  
 GROUND FLOOR, UNIT 22 SYKEFIELD AVE, LEICESTER LE3 0LB  
 minimum order £15.00**

# GET LOST



**IN THE WORLD OF COMPUTER BARGAINS AT  
 SABRE COMPUTER DISCOUNT CENTRE!!!  
 THE SOUTH'S LEADING COMPUTER EXCHANGE CENTRE**



**We Specialise in New and Used Hardware and Software: Phone our Hotline Numbers:  
 01 760 0274 MAIL ORDER OR 01 667 0851 SHOP**

<b>A590 HARD DRIVE for A500</b> ✓ 20 Meg ✓ AUTOBOOTING (1.3 Kickstart required) ✓ SOCKETS FOR 2Meg ✓ FAST RAM ✓ COMPACT DESIGN <b>ONLY £365.00</b>	<b>AMIGA EXTERNAL 3.5 DRIVE</b> THROUGH PORT ON/OFF SWITCH SLIMLINE STEEL CASE <b>£85.00</b>	<b>AMIGA A500 SPECIAL OFFER HIGH QUALITY</b> <b>512K RAM EXTENSION CARD</b> INCLUDES: BATTERY BACKED CLOCK, ON/OFF SWITCH, VAT, POSTAGE <b>£85.00</b>	<b>BATMAN PACK</b> AMIGA 500 includes Batman game, Interceptor, Deluxe Paint II, New Zealand Story game, 6 other games. <b>ONLY £365 inc VAT</b> PHILIPS 8833 COLOUR MONITOR WITH STEREO SOUND <b>£220 inc VAT cable &amp; delivery</b>	A FULL SELECTION OF GAMES SOFTWARE IN STOCK, OLD AND NEW AT COMPETITIVE PRICES. "If in doubt check us out" <b>PHONE NOW ON 01 760 0274</b>
---	--	--	--	---

MUSIC SOFTWARE	RRP	SABRE
Adrum.....	£39.95	£32.50
Aegis AudioMaster II.....	£69.95	£56.50
Aegis Sonix II.....	£57.50	£46.50
Deluxe Music.....	£69.95	£56.50
DRT's KCS.....	£199.95	£162.50
Dynamic Drums.....	£59.95	£42.50
Dynamic Studio.....	£179.00	£139.00
Future Sound.....	£89.95	£84.50
Instant Music.....	£24.95	£19.99
Music X.....	£228.85	£189.99
Pro Sound Designer.....	£79.95	£71.50
Soundscape Pro Midi Studio.....	£139.95	£106.50
Synthia.....	£79.95	£75.00
Studio Magic.....	£69.95	£59.95
Music Public Domain Disks.....		£3.00
Midi interfaces.....		from £24.99

**Music Hardware available - Roland, Casio, etc.**

**SABRE ARE:**  
 Licensed Credit Brokers and can offer credit facilities on most items.  
 Phone now for details 01 760 0274

**Order Form:**

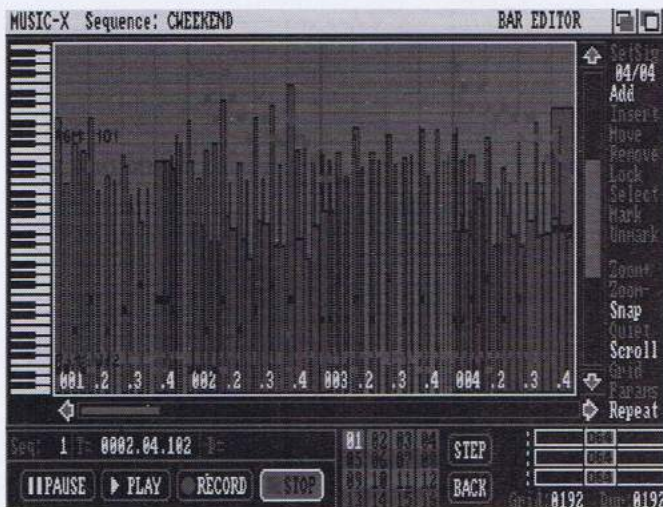
Please send me: \_\_\_\_\_ Cost (inc VAT & Postage)

Items \_\_\_\_\_

Signed: \_\_\_\_\_ Send to: Name: \_\_\_\_\_

Address: \_\_\_\_\_ Telephone: \_\_\_\_\_

All prices include VAT & Postage within UK Mainland. All Goods subject to availability (Prices correct at time of going to press) Cheques and Postal Orders made payable to:  
 Sabre Computer Discount Centre, Units 74/75, Inshops, 68-74 Church Street, Croydon, Surrey, CR0 1RS



▶ channel that the sequencer is going to play back on is the same one that the instrument is set to receive on. Sequencers will record on whatever MIDI channels they are sent but when they send back the data it will have been filtered to only work on the channel that it has been told to send.

**Record**

Assuming that all is well, hit the record button and play away. Most, if not all, sequencers have a 'Metronome' function that ticks away loudly to give you some semblance of a beat. You might find this off-putting at first but there should be a way of turning it on and off. Some sequencers will send this metronome out as a MIDI note so if your instrument suddenly squawks into life on one note don't be too surprised.

There is usually provision to have a few bars of count-in before you start. When you have finished your efforts hit the stop button, rewind back to the beginning and press play. You should hear your efforts back in all their glory. Not too good? Well try again several times until you get the hang of it.

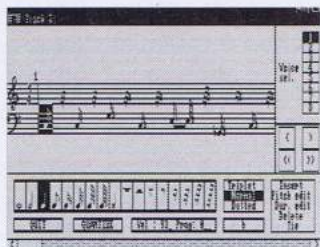
After a few tries you will probably feel the need to correct your mistakes: you might have slipped in the odd bum note or they might have been just slightly out of time. Well you could record it at a slower speed and play it back at the normal speed as it won't affect the pitch of the instrument. Still can't get it right? You need to actually look at the notes and correct them.

**Edit**

This is where the Amiga sequencer will score hands-down over a small dedicated sequencer because editing and track-merging on these is rather like trying to park a Cadillac in a garden shed: you can't see what you are doing and there ain't enough room.

Sequencers can adopt three methods of displaying the notes:

- 1) Traditional music notation.
- 2) A bar graph style of display.
- 3) A list of numerical data arranged into a set of tables that relate to each note.



Track 24 is reduced to single line traditional notation.

The merits of each can be listed as follows. The first is fine and very quick if you can read music well but hopeless if you can't. It should also be borne in mind that traditional notation is only an approximation of the exactitude of the notes (hence all the arguments about 'interpretation' in Classical music), and you would still need some other form of display to show you all the non-note types of events that a sequencer can record, such as pitchbending, changing the sounds, the velocity and aftertouch applied to each note.

The second is a pretty decent compromise. You can usually drag the bars around and change the notes much more accurately. Somewhere on the display will be a piano type of keyboard so that you can work out the pitch of the notes and spot the offending

items. But it has the same disadvantages as the first in that it will miss out anything that is not a note.

The third is obviously the best for displaying all the information that was recorded and is really indispensable for any sequencer. But if this is your only means of showing the data it could get pretty tedious running through it. To edit anything you really need to hear it played and then pull it up at the point of error. A data stream scrolls down the screen so fast that it is usually just a blur. Picking out erroneous events can be quite time-consuming and hence frustrating.

**The Compromise**

What we need is what diplomatic circles and foreign offices achieve throughout the world in times of stress or world tension, a compromise. A display that combines or lets you flip from one sort to the other, so you can home in on the dubious section very quickly, make a few sweeping changes and flip to the data display for the final touches.

As well as correcting the notes and other events it should be possible to insert anything in step time or to simply change anything you like: beef up a drum beat, change a sound. MIDI will change sounds for you and in some cases alter the overall volume.

In the best of sequencers you can alter many other aspects of the sound, even if your inputting

**Displaying their wares: the same piece is put into both Track 24 and Music X. Music X can cope with both a graphic display and data stream of events.**

keyboard will not send those alterations itself. For example you might want sustain added to a chord or the volume to be reduced for a particular section. Nowadays it is no surprise to find that you can add vibrato, pan the sound in stereo, slide the pitch from one note to the next, detune sounds and lots of other functions depending on what the performing instrument is and how well you can read the MIDI implementation chart that came with it!

**Correction!**

The most widely used function in the editing department is the Quantize facility. Quite simply, what this does is to put the events played through a 'correcting' factor.



Some of the quantizing options of Music X

The easiest way to demonstrate this is when it is used on the actual timing of the notes. Record 4 bars of hi-hat struck on every beat and then listen back to it. More than likely one or more of the beats is slightly out. Since you want an exact pattern from the hi-hat on every beat you will need to select a quantization factor equivalent to a quarter note (crotchet). By executing the function, what happens is the Amiga will compare your timing with the correct timing and shuffle up your beats to the nearest quarter note. Simple.

Well... not quite. Because although it may have moved the ▶

**DON'T GET MIXED UP!**

It is as well to have a clear distinction in your mind between sampling and sequencing as the Amiga sequencers and music packages often offer both under one roof. Sequencing is the reiteration of the data relating to the notes that have been played. Sampling, or the playing back of samples etc, is the recalling of the actual sound digitally preserved. It should be noted that sampling can create as much background noise, if not more in some cases, than magnetic recording. Await a tutorial on sampling in the not-too-distant future.



First a guide hi-hat track was laid down, 46 bars of straight beat looped endlessly.



Then the bass line was added.



After a few stabs were laid over the bass, a punchy snare and kick drum were added.



Finally the matching hi-hat rhythm was put in and the guide track was muted out.

starting time of the notes it may not have moved the ending of the notes. It could have stretched or shortened the notes to start correctly: in our hi-hat example this won't matter but for long sustained notes it could be quite drastic. OK, you need a choice of whether or not it moves the whole note with duration intact. And while we are there you might as well be offered the choice of altering just the duration of the notes, the ending of the notes and combination of these. Music X has a whole host of quantization options.

The Quantize function is probably the most overused and misused part of the whole sequencing pile of beans. It is this function that brings the often quite justified criticism that music using computers is boring. Why? Well, if overused, it lines all the notes and timings exactly so that they are incredibly monotonous. You can quantize the notes, the velocity and feel of each note all with the press of the quantize function.

To get round this, what is required is a degree of inaccuracy that can be used to vary the quantize. Programs like Music X can now even throw in a 'Randomize' feature that can be called in vary-

ing strengths to add life to monotonous tracks. If applied sparingly to the velocity of notes it really adds a lifelike feel to drum beats and patterns.

### Building Up A Track

My favoured method of working is to start with a guide drum track, usually hi-hats in either eighth or sixteenth notes. I usually put down about four bars and quantize it quite heavily. This is then copied forward or looped to give me a bit more than I need. I nearly always work on sections of a piece and chain them together at a later date. However I can use the hi-hat guide on any section as I leave it on a separate track.

Next stage is either the main chords or bass and I always spend some time sorting out which sound I am going to use. Each sound usually makes you play in a slightly different way. If it's the chords that go first, I slow the tempo for recording down a little and check that the notes go down together and that there are no notes hanging on too long. This affects the start of the notes and I usually apply only about 80% accuracy if the software will let me.

The bass has a similar treat-

ment except that I may well quantize it very accurately. The basis of many tracks is the co-ordination between the bass and drums and it is as well to get them spot on. Quite often it is a good idea to re-scale the velocity for the bass as it sounds a good deal punchier with the initial attack increased. In Music X this is achieved from the velocity scaling module.

To complete the rhythm basics of this I return to the drums and build them up starting with hi-hats again if necessary. Then on the next track I record the snare and bass drum. These often need velocity scaling and I use the event editor with the data stream to fine tune any beats that sound weak. If any drum fills are required I make these up on a separate pattern and fit them in by muting the main drum sequence at the same time that the fill starts, turning it back on at the begging of the next complete bar after the fill has finished. You can put mute commands in with Music X and other sequencers have similar configurations

### Check your Parts

Back on the main page I then compare and contrast the individual parts, listening for parts that don't

gel and blend well. Most sequencers let you switch the individual patterns on and off. In Music X you are usually better off doing this from the top right-hand sequencer section.

If the volumes are out of sorts it's a good idea to return to the data stream and insert a volume control at the beginning of the part. This is achieved with a control command number 7 followed by a suitable value: a quick experiment will determine just exactly what value will sound right for that instrument. Note that older instruments may not obey the MIDI volume control command, to be sure check the MIDI implementation chart.

It's then a case of repeating the procedure for the other sections of the song. Quite often I will leave a separate track for the lead line as it often sounds too forced if it is played from a chained sequence: smooth notes can get abruptly chopped up as the sequencer jumps from pattern to pattern.

For the first few try-outs it is really best to try simple ideas and learn how to combat problems as you go along. You might like to experiment by putting in patch change numbers to add variety to the sounds: sounds can usually be changed without too much hassle although sometimes it can lead to notes hanging on if the sound changes while a note is still playing.

### Take Your Time

Like many computer programs, sequencing software is usually powerful. To get to use any of them successfully it takes time. One is forever humbled into a feeling of inferiority when the demonstrator in the shop or at the computer fair whizzes round the screen and produces amazing results in seemingly no time at all. You should see demonstrators and others (myself included) when faced with a brand new program, an unfamiliar layout and a different internal architecture to one you're used to. Like a word processor, once you get used to using a sequencer, you'll wonder why you bothered with tape decks or the unfriendly sequencers built into many single keyboards. Have fun!

## LOADSANOISES

Up until a year or two ago it seemed that it was the privilege of the rich and famous to run a MIDI sequencer to its full capacity. The reason was that for each MIDI channel you used, you needed a separate MIDI instrument, be it a drum machine, synth or tone module. However with the advent of the multi-timbral module, all this has changed.

A multi-timbral module can produce sev-

eral sounds simultaneously on separate MIDI channels and therefore subject to individual control, although there may be a limit to the number of notes you can play simultaneously.

There are many such instruments now on the market from the lowly single keyboard to the 'workstation' concepts of Yamaha, Roland and Korg. Roland have recently launched a series of modules designed totally for use with

computers like the Amiga. The flagship of their range, the CP-M 64, will produce no less than 15 instruments (including a full-ranging drum kit) simultaneously with built-in reverb effects with up to 63 notes sounding all at once. Once you start stacking a few multi timbral devices together you soon run out of MIDI channels. The more tracks that your sequencer can provide, the better.



FROM £349!

Prices include VAT, delivery & warranty. Please add £15 for overnight delivery. All systems are tested before despatch. On-site maintenance options available.

- Amiga A500 complete, now only £349
- Amiga A500M with A1084 hi-res colour monitor £615
- Amiga B2000 latest UK model, with 1.3 Romms and 1MB chip-RAM £949
- Amiga B2000 As above, plus A2286 PC-AT bridge board & 5 $\frac{1}{4}$ " disk £1495
- Amiga B2000 With A2286, plus A2090A/2092 20MB autoboot hard disk £1795

■■■■ B2000 + AT Bridge Board + 40MB autoboot hard disk £2095!



PERIPHERALS

- A2286 PC-AT board & 5 $\frac{1}{4}$ " drive £595
- A2088 PC-XT board & 5 $\frac{1}{4}$ " drive £249
- 20MB Amiga/MS-Dos hard disk £229
- A2090A/2092 20MB autoboot h/d £375
- A2090A/2094 40MB autoboot h/d £675
- A2620 68020 Accelerator Card £1295
- C2058 8MB Board, 2MB installed £375
- RAM for above, per 2MB ... £199
- Flicker Fixer Multiscan Adaptor £349
- 14" Multisync high-res monitor £445
- C2010 NEC 3 $\frac{1}{2}$ " internal drive £79

- 3 $\frac{1}{2}$ " DS/DD diskettes, per 10 £10
- C1010 NEC 3 $\frac{1}{2}$ " half-height drive £79
- A501 plug-in RAM/clock 512K £119
- A1084 High-res colour Monitor £249
- A590 20MB autoboot hard disk £375
- RAM for A590, per MB ... £99
- Amdrive 20MB SCSI hard disk £339
- Amdrive 50MB SCSI hard disk £425
- Star LC10 Multifont Printer £179
- Star LC10C colour, 120 cps, NLO £229
- HP DeskJet+ 300 dpi inkjet, B/W £695
- HP PaintJet colour inkjet 180 dpi £889
- DXY1200 A3 8 pen plotter £1159
- Trackball Marconi RB2 £59
- FrameGrabber Phone
- Superpic Genlock/Digitiser Phone

■■■■ NEW half-height NEC external drive with switch & throughport £79!

Why not enjoy the free Teletext databases with the MicroText Teletext adaptor... Fully programmable, with Fastext facility, instant access to last 16 pages, double page view, teletextware loader, auto-start/background operation... Pages can be spoken, printed as ASCII or graphics, saved as ASCII or IFF files... And it turns your 1081/1084/8833 monitor into a digital TV! Available now for only £139!



■■■■ SUPERBASE II half-price special offer, while stocks last... £49.95!



PRODUCTIVITY

- SuperBase Personal Relational database power, without programming! 39.95
- SuperBase Personal 2 As above, plus text, mail merge, batch entry etc. 49.95
- " " Professional v3 With Forms Editor and DML programming language 154.95
- SuperPlan Pro Spreadsheet with business graphics, time planner 49.95
- VizaWrite Desktop v2 High performance desktop WP, now with HQ fonts 69.95
- Professional Page v1.3 Includes WP, Desktop, colour separations, CAD 189.95
- Excellence! WP with graphics, thesaurus, dictionary etc. 129.95
- Arena Accounts Sales, Purchase and Nominal Ledgers plus invoicing 168.95
- Personal Tax Planner UK Income Tax computation program, from Digita 39.95
- A/C Basic v1.3 By Absolt. Compiles Amiga Basic... FAST! 149.95
- SuperBack Backs up 20MB in 20 minutes, any Amiga hard drive 37.95
- B.A.D. Disk Optimizer Speeds disk access up to 500%, WorkBench or CLI 34.95
- Publisher's Choice £79.95
- ProText v4 79.95
- Amiga C for Beginners 18.45
- Amiga C Advanced Programmers 24.95
- Lattice C v5 £179.95
- Dos-2-Dos 34.95
- PC Emulator v1.1 24.95
- C64 Emulator v2 39.95
- BBC Emulator v1.2 44.95
- Workbench v1.3 Enhancer 14.95
- System Programmer's Guide 32.95
- Amiga Basic Inside & Out 18.95
- AmigaDos Inside & Out 18.45
- Amiga Tricks & Tips 14.95

■■■■ SUPERPLAN half-price special offer, while stocks last... £49.95!



CREATIVITY

- Graphics Starter Kit Aegis Images/Aegis Animator/Aegis Draw/Aegis Artpak 69.95
- Sculpt-Animate 4D 3D graphics and animation for the professional user 369.95
- Sculpt-Animate 4D Jr. As Sculpt 4D above, without HAM ray-tracing 109.95
- Sculpt 3D XL Much faster than Sculpt 3D, with 24-bit plane option 129.95
- Music-X "Without doubt the best piece of MIDI software to date" 199.95
- Pro-Video PAL Plus Professional video titler with fonts, extra fonts available 189.95
- Pro Video font sets Choice of 4 sets of 4 anti-aliased fonts, each... 89.95
- TV-Text Professional Latest full-feature video titler, includes Zuma fonts 139.95
- SummaSketch Plus 12x12 Graphics Tablet with fast driver software 425.00
- PAL Rendale Pro Broadcast quality genlock for the professional user 625.00
- Rendale 8802 Genlock £199.95
- MiniGen 109.95
- DigiView Gold 89.95
- De Luxe PhotoLab 49.95
- Fantavislon 34.95
- Professional Draw 114.95
- Aegls Draw 2000 179.95
- PageFlipper + FX 79.95

■■■■ IF YOU WANT IT TOMORROW... CALL US TODAY! ON 01-546-7256 ■■■■

Prices are POST FREE & include VAT. Order by phone with your credit card, or send cheque/PO or your credit card number. Official orders welcome. We despatch same day by FIRST CLASS post. Please allow 5 days for delivery of hardware orders. Prices are quoted subject to availability. Ref. A09



LAKESIDE HOUSE, KINGSTON HILL, SURREY, KT2 7QT. TEL 01-546-7256

## NO COMPUTER IS COMPLETE WITHOUT A DUST COVER

Protect your Amiga with a dust cover from the BBD Professional Range.

Made from best quality proofed nylon that has been treated with a flame retardant and an anti-static inhibitor. BBD Dust Covers are tastefully finished with contrasting piping. They never crack, discolour, tear or fade. They can be washed and ironed. So confident are BBD of the quality that they give a no-quibble guarantee with every cover.

**BBD dust covers are not expensive and all our prices include VAT and P&P**

- Amiga 500, Keyboard only .....£5.00
- Amiga 1000, one piece cover.....£8.00
- Amiga 2000, two piece set .....£11.00

In addition to the above BBD offer a wide range of other covers. These include printer covers from only £5.50 Why not contact us for further details

# BBD DUST COVERS

Dept. 34, The Standish Centre, Cross Street, Standish, Wigan, WN6 0HQ



Telephone: 0257 425839 ext 34  
Fax: 0257 423909



Sheer Perfection in Computer Protection

## LIVE IN LEEDS ?

**Why not visit the only dedicated Amiga and ST dealer in town?**

We specialise in DTP, CAD, MIDI, Graphics, and Business applications. Together with the full range of Amiga and Atari Computers, Star Printers, Genlocks Digitizers, Interfaces, Second Drives and more.

So for a better service, product range and the keenest prices call P.S. Selected games software now in stock.

## Miditech

**MIDITECH, THE COLOSSEUM, COOKRIDGE STREET, LEEDS LS2 3AW 0532 446520**

Access & Visa Welcome  
MAIL ORDER AND TRAINING PACKAGES AVAILABLE

# INFORMATION STATION

It's no wonder people feel threatened by computers – the plethora of jargon awaiting the unsuspecting first time computer user is unrivalled within any other industry. Even Amiga owners, who have grown use to a mass of new jargon (before you bought your Amiga, how many of you knew about such things as Direct Memory Access, Multi-tasking, WIMP systems, MIDI etc?), the computer industry still manages to churn out new jargon at an alarming rate.

The latest buzzword to add to the ever increasing lists of jargon is that of Hyper-Media. Hyper-Media is rapidly becoming one of the industries fastest growing areas and, as the owner of a machine that is very much at the forefront of it all, it's time to put on the old tin hat and prepare to be bombarded by a stream of new packages promising to turn your humble Amiga into the ultimate in Multi-Media computing.

### Hyper-Media Explained

All this talk of multi-this and hyper-that is all very nice, but isn't it time someone actually explained what all the fuss is all about? For starters, what precisely is Multi-Media and Hyper-Media? And what is a Hyper-Text processor? Read on for the answers.

Hyper-Media and Multi-Media are very much the same thing. The theory behind a hyper-media system is that a single workstation (in this case, the Amiga) can control data in different formats – ranging from the conventional text and numeric data, to sound, graphic and video data stored on video disk, CD ROM, CD Audio and other optical media. A Hyper-Media system provides an object-orientated front end (the Workbench is an example of an object-orientated front end) that can control all the different forms of media from within a standardised user interface.

What we basically have with a Hyper-Media system is a form of programmable relational database that can handle data in any form – not just as text, like a conventional database. However, Hyper-Media is much more than this. For starters, a Hyper-Media system can be used to pull together previously incompatible programs into a functional system that can provide communication between the different elements within that system – one program can be used to indirectly control the actions of another. The aim of Hyper-Media is to provide a totally flexible environment for the creation of any application that requires complex linking of infor-

Hyper-Media is the latest buzz word to hit the industry with both Apple and Commodore pushing their machines as the ultimate in multi-media workstations.

**JASON HOLBORN** takes a look at the Amiga's first true Hyper-Media system, *UltraCard*.

mation in any form.

Hyper-Text is one of the most powerful tools within the Hyper-Media toolkit. Basically speaking, any word, phrase or sentence within a section of text can be linked (associated) with any Data within the Hyper-Media system. For example, you could tell Hyper-Text to link the word 'Education' with any data within the system that is associated with education – a database of courses at a University for example.

Probably the most famous Hyper-Media system of them all is

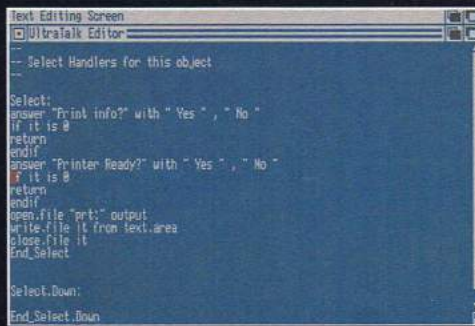
the HyperCard program on the Macintosh. Although this system has now been superseded by the new SuperCard, HyperCard has proved immensely popular amongst Mac users.

### Intuitive Approach

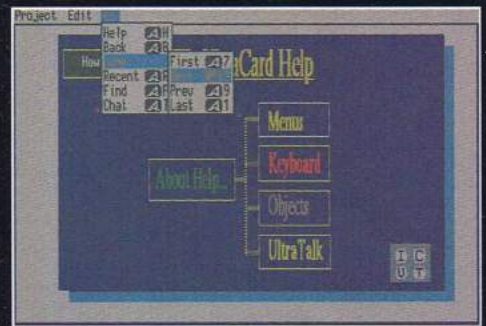
UltraCard, from Intuitive Technologies, is very much an adaptation of the Mac HyperCard system, enhanced for the Amiga. Intuitive Technologies describe UltraCard as a "multi-tasking hyper-media information construction set", which is an ideal description of the

program's capabilities. Using UltraCard is so very similar to HyperCard, that anyone who has used that system will feel instantly at home with the program.

UltraCard allows you to bring together a collection of data within what it calls a 'Stack'. A stack consists of frames (pages) of information that can be linked to other data within the system. The information within a frame may be graphic (structured and bit-mapped), audio (Amiga sound samples) and textual. Textual information can be single line or multi-



The UltraTalk Editor in action. It may not look as pretty as the rest of UltraCard, but UltraTalk is the workhorse of the UltraCard system.



Although the UltraCard manual is nothing to write home about, the inclusion of a help stack makes the learning process quicker and less painful.

## Amiga Format

ULTRACARD DEMO STACK

- 1 BACK ISSUE CONTENTS
- 2 GAMES INDEX
- 3 REVIEWS IN
- 4 FEATURES I
- 5 QUIT

Our demo stack in action. With a little bit of creativity, some astounding results are possible.

(Inset) Name your application needs and chances are that UltraCard will handle the problem perfectly.

line and include Hyper-Text links.

A Typical *UltraCard* stack would consist of one or more frames that contain 'buttons' (also called 'objects') that are used to access the information within the system. These rectangular buttons can be placed anywhere within the frame and are controlled using a script file that is automatically associated with the object. When you first create an object, the script file contains nothing more than a blank template that must be set up to carry out particular tasks using *UltraCard* commands. The language used by *UltraCard* is called *UltraTalk*, and is basically a BASIC-like mini programming language that is geared towards processing information and resource handling.

At first glance, *UltraTalk* looks simple, but after a while, you'll soon realise the potential power locked away within its commands. *UltraTalk* contains loop and decision making constructs, information handling commands plus extra commands designed specifically for hyper-media applications. External programs can be called in and run with a single command and A-Rexx commands issued. *UltraTalk* even allows a stack to control, and even modify, itself!

For purely cosmetic reasons, *UltraCard* even includes control over how frames are displayed with the inclusion of 15 visual effects such as wipes, zooms and others.

**Creating a Stack**

Constructing an *UltraCard* stack is simplicity itself, and can also be a lot of fun. Even those who would have previously been bored to tears with such a task will find the process of constructing a system from *UltraCard* quite enjoyable as the Hyper-Media concept encourages creativity in all forms.

When you first create an *UltraCard* Stack, the very first frame that you create is taken as the root of the system – every time you use the system, *UltraCard* will automatically jump to this first frame. The first thing you will want to do is to add a backdrop to the frame, which can be any standard IFF picture file (the frames shown within these pages were created in *Deluxe Paint 3*). Once the backdrop has been loaded, it's time to add one or more buttons to the frame. These buttons can either be completely transparent, filled with a graphic or contain the name of the object.

The creative scope available is

certainly wide. You could, for example, use a picture of a car engine as a backdrop and then create transparent buttons over the major components. Each button could then be programmed to access additional frames containing information on the particular component.

**Talkative Programs**

As discussed earlier, a true Multi-Media system must provide a means of driving external devices such as video disk players, CD ROMS etc. Because of Apple's standardised control architecture, *HyperCard* on the Mac will directly control most external storage mediums. Although *UltraCard* does not directly provide the drivers necessary to use such devices (mainly due to the lack of any agreed standards), *UltraCard* gets around these incompatibilities by making use of the A-Rexx system. As long as the device drivers provided by the hardware manufacturers support A-Rexx, *UltraCard* can take advantage of the device.

A-Rexx, for those of you who have not encountered this wondrous program, is a system for providing communication between any programs that support the A-Rexx standard. Any program that supports A-Rexx can be directly controlled from another by sending commands through an A-Rexx 'communication port'.

Although A-Rexx was not developed by Commodore, the system has now been adopted as an Amiga industry standard, and will actually be built into the operating system with the eventual release of version 1.4 of the operating system. Already several third party software vendors have included full A-Rexx support within their products – NewTek's *DigiPaint 3* and the excellent *Cygnus Ed* are two examples. When 1.4 is eventually released, expect to see many more packages (including programs such as *Deluxe Paint*, *Professional Page* etc) modified to support the A-Rexx standard. If programs are not modified, they will become obsolete within the Amiga market.

**Applications**

So what kind of people are actually going to want to use *UltraCard*?, and what applications would most benefit from the Hyper-Media revolution?

The kind of people I can see using *UltraCard* professionally are those who need to produce information systems such as the point of sales/information systems produced by Xebec. For example, *UltraCard* could be used to produce

a point of information system for an art gallery. You could move through the system, viewing digitised pictures of all the pictures within the gallery, information on the artist and even listen to an interview with the artist stored on CD.

So you want to view a particular type or work? Simple, just click on the word describing the work of a particular artist within a text file and the Hyper-Text system presents you with a list of paintings of that type within the gallery. Within a well designed Hyper-Media system, you could never end up at a dead end – the system would just keep on jumping through the information available until you've had enough and choose to quit. Pretty amazing stuff!

In order to allow users to create stand-alone applications, Intuitive Technologies include a sort of run time system called the *UltraCard Browser*. The *Browser* program can be freely distributed amongst third party users of your *UltraCard* stacks.

*UltraCard* can also be used to implement a system that can completely shield the user from the user interface of the computer. Using an autoboot hard drive, an Amiga-based system comprising of several applications programs could easily be tied together without the user ever having to see or use the Workbench.

**Conclusion**

Occasionally a product arrives on the Amiga that is so revolutionary that you just cannot afford to ignore it – *Deluxe Paint*, the *Video Toaster* and *Music-X* are three examples. *UltraCard* has the potential to become one of the most important Amiga software releases ever.

*UltraCard* certainly isn't without its faults. For starters, the program is rather unstable on a machine with less than at least 1.5 Mbs. Although the program will function on a megabyte machine, don't expect to produce anything particularly complex.

However, like most multi-media systems, the true power of the system will not be realised until people actually start using it. The applications for such a package are endless and really are limited only by your imagination and ingenuity. If you are prepared to put in the time learning the darker secrets of *UltraCard*, the results that you can produce are simply breath-taking. ■

**ULTRACARD 1.5**

£39.95 ■ All Amigas, 1 Mb Required ■ HB Marketing 0895 444433



The *UltraCard* 'Modify' mode in action. Here, we're editing the attributes of a button.



The *UltraCard* Control Room. This is the default stack that *UltraCard* will attempt to pull in every time you load the program. From here you can access the help pages, view application suggestions and ideas, and much more besides.

# Business Computer Centre

DESKTOP PUBLISHING • ANIMATION •  
DIGITISING • DESIGN SOLUTIONS

66 Wells Street, London W1P 3RB  
01 637 5666

WORLDWIDE  
SOFTWARE  
1 Bridge Street  
Galashiels TD1 1SW



WORLDWIDE  
SOFTWARE



WORLDWIDE  
SOFTWARE  
106A Chilwell Road, Beeston  
Nottingham NG9 1ES

Commodore Amiga Software	Commodore Amiga Software	Commodore Amiga Software	Commodore Amiga Software	Commodore Amiga Software
5th Gear.....£14.95	Drakkin.....£21.95	Hollywood Poker Pro.....£9.99	Operation Thunderbolt.....£17.95	Stryx.....£14.95
A.P.B.....£14.95	Drivin Force.....£16.95	Hound of Shadow.....£17.95	Outlands.....£14.95	Stunt Car.....£16.95
Altered Beast.....£17.95	Dungeon Master 1 meg.....£16.95	Infestation.....£16.95	P47.....£16.95	Super League Soccer.....£16.95
Aquanaut.....£17.95	Dungeon Master Editor.....£7.99	Interphase.....£17.95	Paperboy.....£14.95	Super Wonderboy.....£17.95
Asterix.....£16.95	Dynamic Debugger.....£17.95	Iron Lord.....£22.95	Pinball Magic.....£17.95	Switchblade.....£14.95
Austerlitz.....£17.95	Dynomite Dux.....£17.95	It Came from the Desert (1 meg).....£22.95	Platinum 2 (Elite).....£16.95	Swords of Twilight.....£17.95
Axels Magic Hammer.....£14.95	Elite.....£16.95	It Came From Desert Data Disk.....£11.99	Player Manager.....£14.95	Table Tennis.....£14.95
Bad Company.....£16.95	Eskimo Games.....£17.95	Jack Nicklaus Golf.....£14.95	Police Quest.....£17.95	Targhan.....£16.95
Balance of Power 1990.....£17.95	European Super League.....£14.95	Jump Jet.....£4.99	Populous.....£18.75	Test Drive 2 California Challenge.....£11.20
Barbarian 2 (Psychosis).....£17.95	Eye of Horus.....£16.95	Kings Quest 4.....£22.95	Populous Promised Lands.....£7.99	Test Drive 2 Musclecars.....£11.99
Batman the Movie.....£17.95	F16 Combat Pilot.....£16.95	Kings Quest Triple Pack.....£26.95	Powerdrome.....£17.95	Test Drive 2 Supercars Disk.....£11.20
Battle Chess.....£17.95	F16 Falcon.....£22.95	Kenny Dalglish Soccer Match.....£14.95	Powerdrome.....£17.95	Test Drive 2 The Duel.....£11.95
Battle Squadron.....£16.95	F29 Retaliator.....£17.95	Kick Off.....£14.95	Pro Tennis Tour.....£17.95	The Cycles.....£17.95
Battlehawks 1942.....£17.95	Falcon Mission Disk.....£14.95	Kick Off Extra Time.....£7.99	Quartz.....£16.95	The Krystal.....£22.95
Battletech.....£17.95	Fast Lane.....£14.95	Kingdom of England.....£16.95	Red Lightning.....£22.95	Time.....£21.95
Beach Volley.....£17.95	Ferrari Formula One.....£17.95	Kings Quest 4.....£22.95	Red Storm Rising.....£16.95	Times of Lore.....£16.95
Beverly Hills Cop.....£17.95	Fiendish Freddie Big Top.....£16.95	Kings Quest Triple Pack.....£26.95	Renaissance.....£14.95	Tintin The Moon.....£14.95
Blade Warrior.....£17.95	Final Battle.....£17.95	Lancaster.....£14.95	Rick Dangerous.....£17.95	Toobin.....£14.95
Blood Money.....£16.95	Fire Brigade 1 meg.....£22.95	Laser Squad.....£14.95	Robocop.....£16.95	Tower of Babel.....£16.95
Bloodwych.....£17.95	Flight Path 737.....£4.99	Leaderboard Collection.....£17.95	Rock n Roll.....£14.95	Tracksuit Manager.....£14.95
Bloodwych Data Disk.....£11.99	Flight Simulator 2.....£28.95	Leisurelady Larry.....£17.95	Run The Gauntlet.....£16.95	Treasure Island Dizzy.....£4.99
Bomber.....£22.95				Triad 2.....£16.95
Bridge Player 2000.....£14.95				Trip a Tron.....£26.95
Bridge Player 2150 Galactica.....£22.95				Trivial Pursuit Genius Edit.....£14.95
Cabal.....£17.95				Turbo.....£14.95
Carrier Command.....£16.95				Turbo Outrun.....£17.95
Centrefold Squares.....£14.95				Tusker.....£17.95
Chambers of Shaolin.....£16.95				TV Sport Basketball.....£17.95
Chase HQ.....£17.95				TV Sports Football.....£21.95
Chess Player 2150.....£16.95				Twin World.....£17.95
Colossus Chess X.....£16.95				UMS 2.....£16.95
Commando.....£14.95				Ultimate Golf.....£17.95
Conflict.....£4.99				Untouchables.....£17.95
Conflict in Europe.....£17.95				Vulcan.....£14.95
Continental Circus.....£14.95				Wall Street.....£17.95
Cyberball.....£14.95				War in Middle Earth.....£14.95
Daily Double Horse Racing.....£14.95				Warp.....£16.95
Damocles.....£16.95				Waterloo.....£17.95
Darius Plus.....£16.95				Wayne Getsky Hockey.....£21.95
Dark Century.....£16.95				Weird Dreams.....£16.95
Day of the Viper.....£16.95				Wild Streets.....£16.95
Days of the Pharaoh.....£16.95				Winners US Gold.....£22.95
De Luxe Paint 2.....£38.95				World Champ Boxing Manager.....£14.95
De Luxe Scrabble.....£14.95				X-Out.....£14.95
De Luxe Strip Poker.....£14.95				Xenomorph.....£17.95
Debut.....£16.95				Xenon 2 Megablaster.....£17.95
Demons Winter.....£17.95				Xenophobe.....£16.95
Double Dragon 2.....£14.95				Zak Mcracken.....£17.95
Dr Dooms Revenge.....£16.95				
Dragon Scape.....£14.95				
Dragon Spirit.....£14.95				
Dragons Breath.....£22.95				
Dragons of Flame.....£17.95				
Fit Sim 2 Scenery Disk 9.....£11.99	Light Force.....£17.95	RVF Honda.....£16.95	Seven Gates of Jambala.....£16.95	*****
Fit Sim 2 Hawaii Scenery.....£11.99	Liverpool.....£14.95	Seventeen.....£28.95	Shadow of the Beast.....£28.95	10 X 3.5" DS/DD Hi Qual Disk.....£9.95
Fit Sim 2 Scenery Disk 11.....£14.95	Lombard RAC Rally.....£16.95	Shinobi.....£14.95	Shinobi.....£22.95	
Fit Sim Japan Scenery Disk.....£14.95	Lords of the Rising Sun.....£22.95	Shoot em up Construction Kit.....£22.95	Silent Service.....£16.95	
Football Director 2.....£14.95	Lost Patrol.....£17.95	Silkworm.....£14.95	Sim City (1 meg).....£21.95	
Football Manager 2 Gift Pack.....£14.95	Magnum 4 Compilation.....£22.95	Skidz.....£14.95	Skidz.....£14.95	
Footballer of the Year 2.....£14.95	Marjico Mansion.....£17.95	Snoopy and Lost Blanket.....£14.95	Space Ace.....£32.95	
Fun School 2 (6 to 9 years).....£14.95	Matrix Marauders.....£14.95	Space Quest 1.....£17.95	Space Quest 2.....£17.95	
Fun School 2 (over 8).....£14.95	Microprose Soccer.....£16.95	Space Quest 3.....£26.95	Siar Command.....£22.95	
Fun School 2 (under 6).....£14.95	Midwinter.....£17.95	Star Wars Trilogy.....£17.95	Star Wars Trilogy.....£17.95	
Future Wars.....£17.95	Minibender.....£14.95	Starblaze.....£14.95	Startrek Final Frontier.....£16.95	
Galaxy Force.....£17.95	Moonwalker.....£14.95	Stellar Crusade.....£26.95	Steve Davis Snooker.....£14.95	
Garrison 1 or Garrison 2.....£9.99	Myth (system 3).....£17.95	Strider.....£17.95		
Gazza's Super Soccer.....£16.95	Never Mind.....£14.95			
Ghostbusters 2.....£17.95	Naw Zealand Story.....£17.95			
Ghouls and Ghosts.....£17.95	Ninja Warriors.....£14.95			
Grand Prix Circuit.....£17.95	Nitro Boost Challenge.....£4.99			
Gravity.....£17.95	North and South.....£16.95			
Grimon.....£16.95	Oil Imperium.....£16.95			
Gunship.....£16.95	Omega.....£21.95			
Hard Drivin.....£14.95	Omni Horse Racing.....£16.95			
Highway Patrol 2.....£16.95	Onslaught.....£17.95			

North, Scotland, N. Ireland  
0896 57004 (24 hours)

Fast Delivery On All Stock Items By 1st Class Mail In UK.  
Special Overseas Service By Air Mail Worldwide.  
Credit Card Orders Accepted by Phone Or Mail.  
Overseas tel no: Nottingham 225368

South, Midlands, Wales  
0602 225368  
0602 252113 (24 hrs)

Credit Card Order Telephone Lines

Europe (other than UK)  
shipping costs are:  
£1.50 per disc for normal airmail  
£2.50 per disc for express airmail

Please make cheques or postal orders payable to WORLDWIDE SOFTWARE  
All prices include postage and packing in the UK.  
ADVERTISED PRICES ARE FOR MAIL AND TELEPHONE ORDERS

Outside Europe shipping costs are:  
£2.00 per disc for normal airmail  
£3.00 per disc for express airmail



# PUBLIC APOLOGY

M.D. Office Supplies would like to take this opportunity to apologise to all its competitors. As always we will supply the highest standard Discs, Storage Boxes, etc, at the, **LOWEST POSSIBLE PRICES.**

**IN FACT WE GUARANTEE IT**

## JUST LOOK AT THESE PHENOMINAL OFFERS

### 3 1/2" **3.5" DISCS & BOXES** 3 1/2"

25 3.5" DS-DD 135 TPI with 100 Capacity Lockable Storage Box.....	£21.95
35 3.5" DS-DD 135 TPI with 100 Capacity Lockable Storage Box.....	£29.95
45 3.5" DS-DD 135 TPI with 100 Capacity Lockable Storage Box.....	£34.95
55 3.5" DS-DD 135 TPI with 100 Capacity Lockable Storage Box.....	£39.95
65 3.5" DS-DD 135 TPI with 100 Capacity Lockable Storage Box.....	£44.95
75 3.5" DS-DD 135 TPI with 100 Capacity Lockable Storage Box.....	£49.95
150 3.5" DS-DD 135 TPI with 2, 100 Capacity Lockable Storage Boxes.....	£89.95
200 3.5" DS-DD 135 TPI with 2, 100 Capacity Lockable Storage Boxes.....	£99.95

OUR 3.5" DISCS ARE **VERY CAREFULLY SELECTED** TO GIVE YOU 100% ERROR FREE PERFORMANCE. EACH DISC IS OFFERED WITH OUR 100% MONEY BACK GUARANTEE AND IS SUPPLIED WITH LABELS

### 5 1/4" **5.25" DISCS & BOXES** 5 1/4"

25 5.25" DS-DD 96 TPI With 100 Capacity Lockable Storage Box.....	£12.50
50 5.25" DS-DD 96 TPI With 100 Capacity Lockable Storage Box.....	£16.50
75 5.25" DS-DD 96 TPI With 100 Capacity Lockable Storage Box.....	£22.50
100 5.25" DS-DD 96 TPI With 100 Capacity Lockable Storage Box.....	£28.50
200 5.25" DS-DD 96 TPI With 100 Capacity Lockable Storage Boxes.....	£52.99

OUR 5.25" DISCS ARE **VERY CAREFULLY SELECTED** TO GIVE YOU 100% ERROR FREE PERFORMANCE. EACH DISC IS OFFERED WITH OUR 100% MONEY BACK GUARANTEE AND IS SUPPLIED WITH LABELS

#### HIGH DENSITY 3.5" DISCS

10 DS HD 3.5" Discs .....	£18.99
30 DS HD 3.5" Discs with 50 Capacity Box.....	£49.99
50 DS HD 3.5" Discs with 100 Capacity Box.....	£69.99
100 DS HD 3.5" Discs with 100 Capacity Box .....	£119.99
150 DS HD 3.5" Discs with 100 Capacity Box.....	£164.99

#### HIGH DENSITY 5.25" DISCS

25 5.25" DS HD 1.6Mb plus 50 Box .....	£19.99
50 5.25" DS HD 1.6Mb plus 100 Box .....	£37.99
75 5.25" DS HD 1.6Mb plus 100 Box .....	£51.99
100 5.25" DS HD 1.6Mb plus 100 Box .....	£64.99
150 5.25" DS HD 1.6Mb plus 2,100 Box .....	£89.95
200 5.25" DS HD 1.6Mb plus 2,100 Box .....	£109.95

### **BULK BUYERS**      **BULK BUYERS**      **BULK BUYERS**

For all you large users we have some excellent bulk rates on our superb diskettes -

250 DS DD 135tpi.....	£120.00	600 DS DD 135tpi .....	£258.00
350 DS DD 135tpi.....	£160.00	750 DS DD 135tpi .....	£315.00
500 DS DD 135tpi.....	£220.00	1000 DS DD 135tpi .....	£395.00

As always Lifetime Guaranteed and 100% reliability

#### NEW EXCITING PRODUCTS

3.5 Stackable 150 Capacity Lock Box .....	£19.95
5.25 Stackable 180 Capacity Lock Box.....	£19.95
3.5 Amiga External Drive .....	£79.95
Ultra quiet, reliable, excellent value	
Universal Printer Stands, 80 column .....	£12.95
2-Way Manual Data Switch available as RS232 or Centronics (please state).....	£12.95
Amiga Printer leads .....	£5.95

#### PRICE & QUALITY GUARANTEE

We pride ourselves on offering you the very Highest Quality products at the best possible prices. If you should ever see a comparable product offered cheaper in this magazine DO NOT HESITATE give us a call because we won't match it:

#### WE WILL BEAT IT - GUARANTEED

## M.D. OFFICE SUPPLIES

18 CRESCENT WAY, FARNBOROUGH, KENT BR6 9LS

TELESALES HOTLINES: 0689-61400



Trade Accounts Welcome

All prices include VAT and Delivery UK only E/OE

Education Orders Welcome

# Ladbroke Computing International

"The Country's leading 16 Bit Specialist"



33 Ormskirk Rd, Preston, Lancs, PR1 2QP  
Open Mon. to Sat. 9:00 am to 5:00pm  
Dealer enquiries welcome.

**Phone us for best prices. We will try to match any price.**

This company has given years of full support to computer users from their premises at 33 Ormskirk Road Preston. Now from their Mail Order premises they can offer this "second to none" service to users countrywide. All Software/Hardware is in stock and fully tested prior to purchase to ensure that returned goods are now a thing of the past. All hardware is supported by our on site engineers so that quick turn around on all repairs is guaranteed. There are no hidden extras WYSIWYG. All prices include VAT, and delivery on orders over £100 (Mainland UK, courier delivery + £5). All prices are correct at time of going to press and are subject to change without prior notice. Phone for latest prices, advice. We are always happy to help.

## Amiga Drives

Vortex 40Mb	£ 499.99
Supra 30 Mb	£ 674.99
Third Coast 65 Mb	£ 659.99
Cumana 1 Mb floppy, disable switch & through port (New slimline low noise model CAX 354)	£ 74.99
Ladbroke's 1Mb floppy as above	£ 69.99
Disk drive dustcover	£ 2.99

## Peripherals

A2000 PC-XT bridgeboard	£ 558.99
A2000 PC-AT bridgeboard	£ 792.99
Master sound sampler	£ 34.99
2Mb RAM expansion for A500	£ 539.99
Midi Master 1 in, 1 thru, 3 out	£ 32.99
AMAX Mac emulator	£ 124.99
AMAX with 128K Mac ROM's	£ 229.99
AMAS Sound sampler	£ 91.99
Digi-view gold V3.0	£ 137.99
Semi-Professional quality genlock	£ 275.99
Studio quality genlock	£ 793.99

## Monitors

Philips 8833 colour, stereo monitor. A best-selling monitor which exploits the excellent sound quality of the Amiga.	£249.99
Philips 8802 colour, mono monitor	£239.99
Philips 15" FST Remote, Scart input, Teletext Tv with 60 tuner presets.	£ 259.99
Commodore 1084	phone
An Amiga to scart cable is included with monitors only.	

## A4 Flat Bed Scanner

This high quality 200dpi flat bed scanner is also a thermal printer and photocopier. It can scan high resolution images in up to 16 grey scales. Software and cable are provided for the ST or Amiga. The software allows capture, printing, load and save of images in a number of formats (ST software includes image editor). Ideal for DTP, this is probably the most cost effective piece of office equipment you could own.

**£449.99**

## Quality 3.5" Disks

Quantity	Unbranded		Sony
	Loose	Boxed	Boxed
10	£6.99	£7.99	£9.99
100	£64.99	£74.99	£89.99

All our disks are top quality Sony, Maxcell or Kao products. All disks carry an unconditional lifetime guarantee. Please add 60p p&p for each pack of ten disks.

## Price Beaters

Joysticks from	£4.99
Trak ball converted to work as mouse on Amiga	£19.99
Mouse mats from	£5.99
A500 Dustcover	£3.99
Printer Dustcover	£7.99
Monitor Dustcover	£4.99
3.5" disk care kit	£5.99
80/100 disk box	£9.99

## Memory Upgrade Boards

\* Available with or without calendar/clock. \* Plugs easily into A500 slot so no soldering. \* Switch provided to switch RAM in/out. \* Battery backed calendar/clock, retains time/date on switch off. \* Amazing low price.

512K RAM Extension board	£19.99
512K RAM Extension board + clock	£29.99
512K RAM Extension board, populated	£79.99
512K RAM Extension board + clock, populated	£89.99

Our trained technicians can repair all hardware, including Amigas, in minimum time at competitive rates.

**New Low Prices**

## Amiga Packs

Pack1=Batman pack, mouse, modulator	£369.99
Pack2=Batman + pack, mouse mat, joystick, Tenstar pack	£399.99
Pack3=Batman class of 90's pack	£549.99
Pack 4=Pack1 + 512K RAM extension	£439.99
Pack 5=Pack 1 + CM8833 Colour Monitor	£609.99
Pack 6 =Pack 4 + CM8833 Colour Monitor	£689.99
Amiga 2000 Pack includes A2000, PC-XT bridgeboard, 5.25" drive, 20Mb Amiga/MS-DOS hard drive, 1084S colour monitor	£1585

Phone for other combinations of hardware / software.

## Quality Low Price and Professional Series Printers

Star LC-10 Best-Selling mono 9 pin	£ 159.99 *	Star FR-10 mono 9 pin, 300 cps draft elite, 16 NLQ fonts	£ 399.99 *
Star LC-10 2 faster version of LC-10	£ 189.99 *	Star FR-15 15" carriage version of above	£ 514.99 *
Star LC-10 Colour 9 pin, 7 colour printer	£ 199.99 *	Star XB-24/10 24 pin SLQ, LQ, 240cps draft elite	£ 514.99 *
Star LC-24/10 24 pin mono excellent quality	£ 239.99 *	Star XB-24/15 15" carriage version of above	£ 699.99 *
Epson LQ500 24 pin mono printer	£ 319.99 *	7 colour upgrade kit for XB-24/10 and XB-24/15	£ 39.99
Citizen 120D 9 pin mono. Lowest price	£ 134.99 *	Star Laser Printer 8, 1 Mb memory, 8 resident fonts, 8 pages per min, 300 Dpi	£ 1599.99 *
Atari SLM804 Laser Printer, 90 days on site warranty	£ 1099.99		

\* All these printers carry a 12 months on site warranty and come complete with Amiga cable



**(0772) 203166**

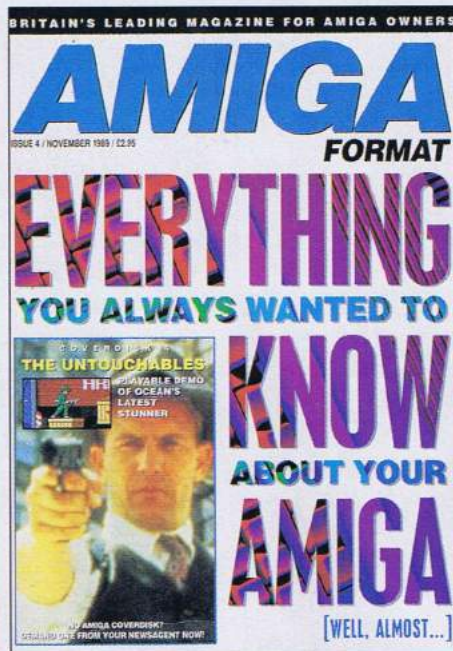
**Fax 561071**

To assist us in processing your order please quote this code.

**SAM2.0**

# SUBSCRIBE TO AMIGA FORMAT

ONLY **£29.95** FOR 12 ACTION-PACKED ISSUES



## YOUR MAGAZINE DEDICATED TO YOUR MACHINE

I wish to subscribe to Amiga Format at £.....

Name .....

Address .....

Postcode .....

Tel .....

I wish to pay by Access / Visa / Cheque / P.O.

No ..... / ..... / .....

Exp. date ..... / .....

Please make cheques payable to "Future Publishing Ltd"

Send to Amiga Format, The Old Barn, Freepost,  
Brunel Precinct, Somerton, Somerset TA11 7BR.

- Britain's leading magazine package for Amiga owners.
- Remember our unique guarantee: we will refund the cost of all unmailed issues, if you are not completely satisfied with our subscription service.
- Use the coupon or ring our hotline number having your credit card handy.
- Hotline Number 0458 74011.
- Be sure you get your copy before the newsagent sells out.

Overseas Prices:

Air Mail Europe £55.95

Surface Europe and World £40.95

# ADVENTURE HELPLINE



Do you play computer adventures? Have you ever been faced with a seemingly impossible situation?

## WE CAN HELP

Our adventure rescue team work 7 days and 7 evenings a week and will be pleased to answer your queries. We offer help with any games or any computer - so if you are tearing your hair out ring this number NOW!

**0898 338 933**

T.M.E Plc 10b Hulme Hall Road, Manchester M15 4LY

Ca.is charged at 25p min "cheap" rate/38p at all other times

## Matrix Hire Makes the Software World Your Oyster!

Join the Matrix and enjoy access to our huge library of the most popular titles. For Amiga, Atari ST, Commodore, Spectrum and Amstrad machines.

For full details send large SAE stating your machine to:-

**Matrix Leisure Club, Dept AM/F,  
271 Stanstead Road, Bishops Stortford,  
Herts CM23 2BT.**

Free Membership for quick replies.

??  
*Do you get  
the best out  
of your Amiga?*  
???



## Amiga Amiga Amiga Amiga Amiga Amiga

The U.K. Amiga Users Group is the Largest Amiga only user group in the world. We are now in our fourth year and are the most established and experienced Amiga user group in the U.K. We have over 1,500 members and are able to offer an unrivalled level of support. Our members receive a 60+ page bi-monthly newsletter packed with articles of interest at all levels, we have a massive library of public domain software and run an Amiga only bulletin board. We offer our members superb discounts on all hardware, software and books. The U.K.A.U.G. is the group to belong to regardless of your age or level of experience, our aim being to provide support and encouragement to everyone. Why not join us and start to appreciate what Amiga computing is all about.

For more info, send a stamped addressed envelope or telephone...  
**The U.K. Amiga User Group  
144 Charles Street  
LEICESTER LE1 1CB  
(0533) 510066**



# HAMMERSOFT

VISA

MAIL ORDER SOFTWARE SPECIALIST

<b>BEST SELLERS</b>	<b>AMIGA</b>	Blade Warrior	16.99	Scrabble Deluxe	14.50
Altered Beast	16.50	Cabal	16.99	Starflight	16.99
Batman The Movie	16.90	Castle Warrior	15.90	SWORDS OF TWILIGHT	16.99
Bomber	20.99	Continental Circus	14.50	WATERLOO	16.99
Chase HQ	16.99	Cyberball	14.50	<b>GRAPHICS &amp; MUSIC</b>	<b>AMIGA</b>
Driving Force	16.90	Damocles	16.90	Deluxe Paint III (PAL) (1MB)	39.90
Dungeon Master (1 Meg)	17.90	<b>DOUBLE DRAGON II</b>	14.50	DELUXE VIDEO III (PAL) (1MB)	59.90
F-16 Combat Pilot	16.90	Dragon Ninja	16.99	Digipaint III (PAL)	59.90
Flight Sim. II	26.90	Dragon's Lair (1 Meg)	34.90	DIGIVIEW GOLD (PAL)	119.90
Ghouls & Ghosts	16.99	Elite	16.90	Fantavision (PAL)	29.90
Hard Driving	16.99	Ghostbusters II	16.99	PHOTON PAINT (PAL)	19.00
Hollywood Poker	8.99	INDIANA JONES LAST CRUSADE	14.50	PHOTON PAINT II (PAL) (1 MB)	39.90
It Came From The Desert 1 Meg	20.99	Infection	16.90	Pro Video Plus	179.00
Kick-Off	13.90	Interphase	16.99	SCULPT 3D XL (PAL)	119.00
Lords Of The Rising Sun	20.99	Laser Squad	13.99	SCULPT 4D JNR (1MB)	99.90
Music X-Official UK version	169.95	Light Force (4 Pack)	16.99	SCULPT 4D ANIMATE (1 MB)	369.00
Outrun	8.99	Magnum 4 (4 Pack)	20.99	Tri-p-A-Tron	21.99
Populous	16.99	Moonwalker	16.99	Turbo Silver	98.90
Promised Lands data disk	8.99	Never Mind	16.99	Aegis Sonix 2.0	49.90
Robocop	16.99	Ninja Warriors	14.50	AMAS Digitizer	74.90
RVF Honda	16.90	OPERATION THUNDERBOLT	16.99	Deluxe Music	49.90
Shadow Of The Beast + T-Shirt	24.90	PAPERBOY	13.50	Future Sound Digitizer	79.00
Sim City	19.90	Pro Tennis Four	16.90	Music X UK Version	169.95
Space Ace	34.90	SILKWORM	13.99	Midi Master Interface	30.95
Stunt Car Racer	16.99	Speedball	16.99	<b>BUSINESS</b>	
Sword Of Sodan II	16.90	Strider	16.99	Arena Accounts	119.00
Triad III	17.90	Stryx	13.90	Excellence	159.90
Untouchables	16.99	TARGHAN	16.50	Home Accounts	20.95
Xenon II Megablaster	16.90	Test Drive II (The Dual)	16.99	Home Office Kit	126.90
<b>SPECIAL OFFERS (WHILE STOCKS LAST)</b>		<b>THREE STOOGES</b>	19.50	Kindwords II	39.90
Better Dead Than Alien	11.99	Turbo Outrun	16.99	PEN PAL	98.90
Bermuda Project 1.2 only	11.99	Virus Killer Utility	8.99	PROTEXT V4.2	64.90
Crash Garrett	8.99	Weird Dreams	16.90	Xenomorph	79.90
ECO	11.99	Xenomorph	16.90	<b>ADVENTURE &amp; SIMULATION</b>	<b>AMIGA</b>
Helibent	8.99	BLOODWICH	15.90	BLOODWICH	15.90
Heroes Of The Lance 1.2 ONLY	14.99	Bloodwych Data Disk	13.99	Blackwych Data Disk	3.90
Knight Orc	1.99	BOMBER	20.99	Dragons of Flame	17.90
Mercenary	8.99	Drakken	19.90	DUNGEON MASTER (1MEG)	17.90
Netherworld	8.99	FALCON	17.90	Faery Tale Adventure	13.99
Pandora	11.99	F-16 FALCON (1 MEG)	20.99	F-16 COMBAT PILOT	16.90
Phantom Fighter	11.99	FALCON MISSION DISK	13.99	F-16 FALCON (1 MEG)	20.99
Superman Man Of Steel	14.99	F-29 RETALIATOR	16.99	Flight Sim. II	26.90
Zynaps	8.99	Japan or Europe Scenery Disk	13.90	Future Wars	17.90
<b>QUALITY JOYSTICKS</b>		HOUD OF SHADOW	17.90	INDIANA JONES ADVENTURE	16.99
Cheetah Mach 1 (autofire)	13.90	JOURNEY	21.50	KEEP THE THIEF	16.99
Comp Pro 5000	13.90	LEADERBOARD BIRDIE	16.99	LEADERBOARD BIRDIE	16.99
Comp Pro Extra (clear auto)	14.90	Red Lightning	20.99	Red Lightning	20.99
Super Professional (autofire)	13.50				
Micro Blaster (autofire)	13.50				
<b>LEISURE</b>	<b>AMIGA</b>				
Barbarian II	16.99				
BATTLE CHESS	16.99				
BATMAN CAPE D CRUSADER	15.90				
Battle Squadron	16.90				
Beach Volley	16.50				

Please Send Cheques/Postal Orders to:

**HAMMERSOFT, (DEPT F)  
47 MILL ROAD,  
HETHERSETT, NORWICH,  
NORFOLK NR9 3DS**

Access, Visa, Eurocard & Mastercard Accepted

Titles Available on Request!  
**ORDERS ENQUIRIES  
TEL (0603) 812416**

\* Available on Release  
Prices all include VAT & 1st Class Postage in U.K.  
(Europe please add £2.00 per item)  
Return of Post Service on Stock Items

## UNIQUE TECHNIQUE for AMIGA MUSIC

### AMIGA SAMPLERS

<b>A.M.A.S.</b>	Stereo sampler. Software, built in MIDI Interface.....	£84.95
<b>Future Sound</b>	Complete with software .....	£74.95
<b>Pro Sound Gold</b>	Complete with software & source code .....	£69.95
<b>Perfect Sound</b>	Stereo sampler with software .....	£69.95

### MUSIC SOFTWARE

<b>Aegis Sonix</b>	MIDI or Amiga samples sequencer.....	£49.95
<b>Audiomaster II</b>	Stereo sampling software for use with Amiga hardware samplers.....	£64.95
<b>A-Drum</b>	Drum Sequence using IFF samples .....	£34.95
<b>Deluxe Music</b>	Sequence Amiga samples or MIDI Construction Set instruments.....	£59.95
<b>Dr T's MRS</b>	Music Recording Studio for Amiga Samples or MIDI instruments .....	£54.95
<b>DR T's KCS</b>	Keyboard Controlled Sequencer, 48 track .....	£164.95
<b>Music X</b>	Sequencing, editing, filtering, librarian and much more. 250 track .....	£199.95
<b>Synthia</b>	Create/modify IFF instruments and add special effects.....	£69.95

### MIDI HARDWARE

Amiga 500/2000 MIDI interface 1 IN, 1 THRU, 1 OUT.....	£24.95
Amiga 500/2000 MIDI interface 1 IN, 1 THRU, 3 OUT.....	£34.95
MIDI cables, 3 metres long .....	£2.95
MK5 MIDI master keyboard, 5 octaves, polyphonic .....	£139.95
MD16 16 bit digital drum machine, 40+ sounds, MIDI .....	£264.95
MS6 multi-timbral synth module, 320 presets, MIDI .....	£264.95

ALL PRICES INCLUDE VAT. P&P FREE (UK ONLY).  
Orders below £15 in value carry a handling charge of £1.

Please phone or write for a FREE price list.

**UNIQUE TECHNIQUE, 25 Middlefield Road, Bessacar**

Doncaster, S. Yorkshire, DN4 7EB.

Cardnet credit card hotline (0302) 539955.



# GAMEBUSTERS

## CONTINENTAL CIRCUS

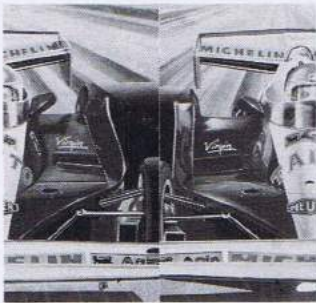
Got those "left on the grid while everyone else screams off into the distance" blues? Then follow this advice for a fast grid start.

When the FIRST red light comes on push and hold the joystick forward. When the SECOND red light comes on release the joystick. As soon as the green light flashes on, push the joystick forward. The faster your reaction time, the quicker you will accelerate.

NC Hughes  
Reading

Now that the winter months are drawing to a close, you'll be wanting to get the most out of your games before you go out to cavort in the spring sunshine. But how can you do that if you're still stuck on Level One? Read Gamebusters for some useful tips, that's how.

## BATTLEHAWKS 1942



*Flight simulators aren't the easiest things to get to grips with at the best of times, never mind while hordes of enemy planes are attacking from all sides. A player's guide is in order for such a game. Oh look! Here comes one now...*

1. One useful thing to know is the promotion levels relating to the missions. Some ranks are only given to certain nationalities, but for the most part they're the same for both Japan and America. The ranks are, CADET, ENSIGN, ACTING LIEUTENANT, LIEUTENANT JUNIOR, LIEUTENANT, LIEUTENANT COMMANDER and COMMANDER.

2. Learn the characteristics of each plane before embarking on combat missions. While Japanese aircraft are generally more manoeuvrable than their American counterparts, they don't have the same sturdy level of protection. Another point to remem-

ber is that the KATE torpedo-bomber has no front-firing weapons, so think twice before using this plane.

3. A plane won't necessarily burn up or disintegrate before it crashes into the ocean. Sometimes the pilot can be shot while still flying, so that his vessel will plunge into the Pacific with little apparent damage. Keep a look out for pilots attempting to trick the enemy by faking a crash - the sneaky devils!

4. On attack missions, it is sometimes better to devastate the enemy C.A.P. before beginning your own attack run. Other pilots in your squadron should meanwhile have carried out their own bombing runs and eliminated some of the opposition. If they have, then life should be a lot easier, since damaged ships fire little or no flack. It is better to bomb an undamaged vessel, even if it isn't a carrier, because there is a good

chance that ships already on fire will sink anyway. Also, your chances of promotion are much greater if several enemy vessels have sunk or been set on fire.

5. Torpedo hits generally do more damage than dive-bombing, because they hit vessels at a more vital point below the waterline. When torpedoing a ship, try to release the missile at the last possible moment. This will cause the maximum damage and means that the ship has less chance to manoeuvre and dodge the attack. There is a good chance that a ship will sink after just one hit using this tactic, especially if you are using the LONG LANCE type torpedo.

6. Bombers are formidable opponents, since all except the Japanese KATE bomber are armed with front and rear guns. These planes are vulnerable to attacks from the side, but this tactic isn't always possible. Another way to get them is as follows:

## STRIDER

Avoid sections of the game that are proving too difficult by half with this tip.

Pause the game by pressing F9 and while the game is paused hold down the Help key, left Shift and 1. Unpause the game and you can now jump to any level by pressing the number of the level you want (1-5). You can also jump to various positions within the level by pressing F1 to F5.

George Christodoulou  
Great Yarmouth, Norfolk

## CHASE HQ

Can't quite get the speed as high as you'd like to catch those villains? Well just press the Space Bar a few times just as you start to send your speed up to about 900 km/h. If you don't think that you get enough turbos for this extravagance, then press the Space Bar several times when the music on/off screen appears to get some for free.

Chris Ross, Stockport and  
John Briggs, Tyne and Wear



♦ Fly behind and slightly below the enemy plane, as their rear guns won't be able to turn far enough to shoot you. Now when you get in range you should be able to pick them off with relative ease. If any planes break away from the formation to get away from your shots, then this will leave them open to a side attack. This technique is difficult to use against torpedo-bombers, as they fly close to the surface of the ocean while attacking.

7. The more explosions occur on the decks of ships, the more chance they stand of sinking. Hanging around blasting the decks of ships increases the possibility of them sinking, so it's a good idea to inflict as much damage as possible on the ships as quickly as you can, then at least one of the ships will have sunk by the end of the mission.

A CARRIER will normally sink after taking three torpedo hits. A BATTLESHIP can be sunk using a single torpedo, particularly if it is launched from close range.

8. If an enemy plane hassles you and causes problems, dive towards the ocean and any nearby ships - even if they're the enemy. You'll have to dodge the flack, but so will any planes attempting to follow you. They'll be so intent on firing at you that they won't avoid the flack and will get it in the neck from their own side!

9. Japanese pilots occasionally attempt kamikaze attacks on allied shipping. This is usually done for a couple of reasons - either they've suffered heavy losses early in the mission or they've missed with all their warheads. Occasionally, the pilot of a badly-damaged plane will aim it at a ship and bail out just

## OPERATION THUNDERBOLT

Think of it - the plight of the captured hostages just because you can't get past the helicopter on Level Two. Never fear! Here is a way to storm through those Arabs without a scratch.

First get a high score and enter your name as either WIGAN NINJA or EDOM TAEHC. This will give you infinite men. If, on the other hand, you think that the game's too easy, then enter SPECCY MODE for a much harder mission.

All you people who are having trouble getting a high score at all, never mind entering a cheat code, then enter this listing and save it. Insert OPERATION WOLF Disk One in Drive 0 and RUN the program. After a few seconds the screen should go black and then the game should load as normal, with the exception of infinite energy.

```

10 DIM CODE%(255)
20 FOR=0 TO 95
30 READ A$:A=VAL("&H"+A$)
40 CODE%(N)=A
50 NEXT N
60 CHEAT=VARPTR(CODE%(0))
70 CALL CHEAT
80 REM ENTER THIS LISTING AND SAVE FOR FUTURE USE
90 REM INSERT OPERATION THUNDERBOLT DISK AND RUN THIS PROGRAM
100 DATA 70FF,2C78,0004,4EAE,FEB6,2200,5280,6772
110 DATA 4BFA,00EE,3AFC,0400,429D,3AC1,93C9,4EAE
120 DATA FEDA,2AC0,2A8D,2B4D,0008,589D,4295,4BFA
130 DATA 0090,1ABC,0005,3B7C,0030,000A,41ED,0038
140 DATA 2B48,0006,41FA,0060,7000,7200,43FA,006A
150 DATA 4EAE,FE44,4A80,662A,700C,99CC,6126,7002
160 DATA 49F9,0007,0000,611C,397C,5340,0030,297C
170 DATA 343C,4A69,0032,297C,31C2,73BA,0054,4EEC
180 DATA 000C,4E75,43FA,0032,3340,001C,234C,0028
190 DATA 42A9,002C,237C,0000,0400,0024,337C,0030
200 DATA 0012,4EEE,FE38,7472,6163,6B64,6973,6B2E
210 DATA 6465,7669,6365,0000,0000,0000,0000,0000

```

**Mark Lawrence  
Basildon, Essex**

before impact. A kamikaze attack causes so much damage that a ship may sink straight away. Kamikaze tactics are tricky but the squadron leader is often well rewarded. Remember only to adopt this tactic on the 16th ATTACK mission - just before retiring.

10. Here's a way to dive much quicker than usual - useful for get-

ting out of tricky situations. Begin your dive as normal, then switch to the rear gunner. The altimeter will now spin round much quicker than usual until you switch to front view. This also works when objects in the distance seem to take a long time to arrive.

**SN Hardy  
Sheffield**

## QUESTRON II

*Not one of the most up-to-date games available, but still has its fair share of followers. If you are a fan that hasn't a clue what to do, then follow this solution.*

The first step of the quest is to arm and protect yourself. You need money for this, which can usually be obtained by gambling at the Wizard Squares. Octapoint is about the cheapest place to buy. Ropes and hooks are useful, since you can't pass mountains or climb pits in the dungeons without them. Stock up about 3000 food - this should last you on your quest, but you will need to restock if you are killed. It's also a good idea to keep your money in the bank in case you are killed.

The second step is to visit the Hall of Visions in Redstone Castle. Use the Gold Key to unlock the door and speak to Mesron.

Next go to Seacrest or Lyton and stock up on Hit Points. Visit Octapoint for Magic Missiles and Fireballs. Enter the Rivercrest Tomb and find Morle, who will then ask you to find the Orb. However, this can't be done until you've returned the Wand of Power to Mesron. Take Morle's key, escape from the tomb and enter Redstone Castle. By the way, it may be a good idea to take the Amulet and the Chalice of Arvyl from the tomb at this point.

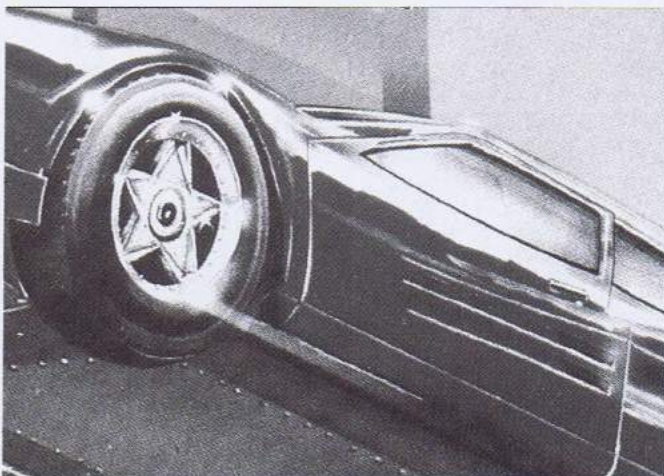
In the North Western part of the Castle is the room of maps. Near this room there is an area which you can enter with the Brass Key, which contains several chests. Raid these for the Emerald Key, the Copper Key and the Unicorn Horn.

Go back to the Rivercrest ▶

# HARD DRIVIN'

As mentioned in last month's review, this race game has quite a few strange "features". This one allows you to qualify for the head-to-head race against the Phantom Photon with ease.

At the start, turn the car around 180 degrees. The display should display the WRONG DIRECTION message. Head off under the bridge until you get to a split in the road. Take the right hand branch and keep going until you reach a checkpoint. Go through and turn the car through 180 degrees until you're heading the other way. Go back through the checkpoint in the right direction and you should hear a



ping. Keep going to the finish and once under the bridge let the clock run down to zero. You should now get a message telling you that you've qualified for the race.

Another quirk is that if you select manual gear control and start the game as normal, you can get to top speed, shift into neutral (N) and carry on around the track at full pelt. There are a few extra details though. For one you don't get any score, but a bonus is that you can't skid!

**James Powell  
Swansea  
and Steven Kipping  
Macclesfield, Cheshire**

► Tomb and unlock the Emerald Door. Then find the Wand of Power, which will increase your hit points by 200 each time. However it is limited, so use it carefully. Return to Redstone Castle to collect the Orb and then visit Mesron - BEFORE you give the Orb to Morle. He will then make you a scout, so you can use the maps in the Redstone Castle Map-room.

Stock up with the Bread of Life, then visit the Holy One in Rivercrest Cathedral (you must be carrying the Moonstone Amulet) and give him the Chalice of Arvyl. Keep returning until you have 99 Bread of Life, which will give you 100 Hit Points each time. Stock up on everything else and then visit Morle, who will teleport you to the Realm of Sorcerers.

Find the fortress and raid it for its keys. Probe the depths of the Dungeon and make your way out, taking two keys with you. Go to Twilight Cathedral and enter the Tomb. Visit King Kelfar in the Fortress and accept his gift. Simon the Stooge is also in the Fortress, so visit him and allow him to use his spell on you.

Visit Mesron in the Hall of Visions, who will then tell you a town is under attack. It is too late to do anything for the town so don't bother visiting it. Speak to Mesron again and he will tell you that Seacrest is under attack. Go to Seacrest and fire a spell at Mantor (he's the figure in red). Visit Mesron and he will make you a Knight. Hit points can now have a maximum of 65535.

Visit the Dungeon of Dispair and use the Black Key to unlock the door. Make your way into the depths of the Dungeon to the Concave below Level Eight. Don't attempt to rescue Morle or kill Mantor (when you find him). Instead, get inside the circle and cast the Destruct spell from the Evil Book of Magic. And (to coin a phrase) "Thu-thu-thu-that's all folks!"

Graham Stephenson  
Workington, Cumbria

## RALLY CROSS CHALLENGE

Here is a cheat for Anco's amusing little race game. On the fifth track (Loco-Motion), drive around the track until just before the wooden level crossing. Now turn the car 90 degrees and drive along the railway tracks at full speed. When you reach the end of the tracks the race will end and the option page will appear, giving you 28 race and tune-up points as well as a variety of medals.

Howard Pull  
Colchester, Essex



# JOURNEY

**Ooops! Apology time! It seems that we didn't quite get the right solution out to you dear readers in the December issue.**

If you are following the solution, then you should find that when Hurth is bitten by the snake, it



says "Split up. Bergen return, Praxis return..." whereas Praxis should proceed until he falls over the tree stump. Then you should cast Tremar (not Lightning or Blaze, they should be kept for later), then it's Dawn, back stream and so on. After examining the walls you should Proceed, Left, Left, UP and left - not just three lefts as the solution said.

After the elves part (part 3) when you open the door with "Lorem", it's Back twice not once. Also,

after taking the Road to Ruin, it says to go "Down. Mix Reagent with fire. Use Mix on stones. Back. Courtyard. Cast flare, rain or lightning." At this point you should only cast rain, otherwise when you get to the mine you won't have any glowpowder left. The solution then says to Proceed once, but you should Proceed three times.

After getting the axe and returning to the old geezer, he still isn't happy and unhelpfully goes ahead and commits Hari-Kiri again, so any more help would be appreciated at this point. Does anyone know what to do next?

M Harvey  
Southwold, Suffolk

## PRISON

**If you've bought this game from Krisalis and are being sent stir crazy, then follow these tips for the discerning escapee.**

1. Standing next to an object to pick it up isn't good enough - you have to be right in front of it.
2. The red light to the right of and below pocket one will light up when you enter a screen where there is something hidden.
3. A very important point - SAVE THE GAME REGULARLY!
4. Search packing cases AFTER

killing the droids.

5. In the room containing the booby-trap, search the unit to the left of the one that explodes. Here you will find a detonating device. Pull the RED wire to disarm it.
6. Search the unit to the RIGHT to find the explosives.
7. Drop the explosives on the rubble blocking the door, remembering to get out of the way!
8. Jump two mines and one hole to find the room containing the stooge.
9. Trade the Jewel found under the bed for a vending token.

10. Wear a tie and go to the nightclub to find a plank.
11. Place the plank on the edge of the large hole and jump the gap.
12. Put the token in the vending machine, choose INNER CITY as the destination and take the ticket. Now give the ticket to the guard.
13. Find Plug Two and take it up the first lift to open the door. Get Plug Three to open the locked door on the first level.
14. Take an object and wonder around the park until you meet a stooge.
15. Go to the agreed place at ►

▶ the correct time while carrying another object and swap it for the combination. Enter the Vault and collect the credit.

16. Go South-West from the Bank and search near the dustbin.

17. Go past the teleport to find something useful.

18. Take it to the secretary and insert it. I know it sounds rude, but that's what you do!

19. Go up in the lifts and search there. Use the credit to teleport to the next section.

20. Find the Vibe-o-Mat and the Fuel. Arm it and drop it near the row of mines. Now take the right-hand lift in the building and search there.

21. Find the room with a grille placed in the left hand wall. Fill the Torch with fuel. Light the Torch and burn away the Grille.

**You will now be in Part Two of the game.**

That's all for the moment I'm afraid. If anyone can get further let us know.

**Ben Cowdell**  
Cirencester, Gloucestershire

# KICK OFF EXTRA TIME

Like the odd kick-about, do you? Can't hit the broad side of a barn though? Never mind, just play KICK OFF and practice. Oh, and there's no need to panic if the other team gets a penalty. Just switch on the autofire on your joystick and the goalie will save the ball every time. This also works for the

practice penalties.

One more thing, even if you kick the ball wide when in practice mode, you can collect the ball and kick it in the net for the goal to count.

**Robert Walker**  
Finchingfield, Essex



# INFESTATION COVER DEMO

Here's a feature of the January demo disk even WE didn't know about. To get into a STARGLIDER 2 "Painting with Rolf" type demo mode, start the demo and press '-' on the keypad. You can now use the following keypad keys to affect the picture:

- . - Change colour of object
- 6 - Increase shape distance
- 3 - Decrease shape distance
- 2 - Increase shape number by

- 10 (hex)
- 1 - Decrease shape number by 10 (hex)
- 5 - Go to next shape
- 4 - Go to last shape
- 7 - Gives object position
- 8 - Gives object structure
- goes back to first shape

The following keys also have an effect on the picture:

- Z - Decrease roll
- X - Increase roll

- Right Shift - Increase "con" (?)
- Right Alt - Decrease "con"
- Help - pauses animation
- Cursor keys - Pitch and Yaw
- Space - toggle background colour

Unfortunately, there is no way to get back to the original demo as far as we can tell, so it's the old C-A-A.

**Paul Crowder,**  
Woking, Surrey

## DOGS OF WAR

To become invincible in this strange COMMANDO clone, type in TIMBO while playing, then press F5. The enemies' bullets will no longer harm you.

**Ralph Headley**  
Macclesfield, Cheshire

## STORMLORD

To get further in this pretty arcade adventure, simply type DRAGONBRIDGE on the credit screen. A scrolly message should now say "You cheating swine". Start the game and press SPACE to pause. Now all you have to do is press L to skip a level.

**Shaun Easton,**  
Plymouth, Devon

# HELTER SKELTER

Not a very widely-known game this, but a very addictive one, so if you're lucky enough to own a copy and can't find the secret codes then here is a list of them:

- Level 11 - SPIN
- Level 21 - FLIP
- Level 31 - BALL
- Level 41 - GOAL
- Level 51 - LEFT
- Level 61 - TWIN
- Level 71 - PLAY

**Ralph Headley**  
Macclesfield, Cheshire



**COMPUTERWISE**  
BRIGHTON ☎ 674626

**AMIGA SPECIALISTS**

We have 100's of software titles;  
many are now discounted, books and  
peripherals in stock at all times.

Up to £1,000 instant credit with Lombard  
Tricity. Finance subject to acceptance.  
Full written details upon request

Open 10 am to 6 pm Monday to Saturday

44 George Street, Kempton, Brighton

Opposite American Express building.




**EASY MONEY!**

Life needn't be so tough you know, in fact it can be positively glorious at times - just ask S. N. Hardy, Graham Stephenson and Ben Cowdell, they've each managed to scoop themselves £50 worth of software, simply by sending in some tips.

Don't let everyone else get the cream, send in your maps, tips and pokes to: GAME-BUSTERS, AMIGA FORMAT, 30, MONMOUTH ST, BATH BA1 2AP and you too could be walking out of your local software shop with your pockets



# SOFTWARE CITY

CALL US ON:

0785 41899

0922 24821

0902 25304



ACCESS

VISA



We welcome customers at:

SOFTWARE CITY

1 GOODALL STREET,

WALSALL,

TEL: 0922 24821

SOFTWARE CITY

59 FOREGATE STREET,

STAFFORD,

TEL: 0785 41899

SOFTWARE CITY

3 LITCHFIELD PASSAGE,

WOLVERHAMPTON,

TEL: 0902 25304

## AMIGA SELLERS

3D Pool.....	£13.99
4th and Inches.....	£13.99
A.P.B.....	£13.99
Airborne Ranger.....	£16.99
Archon Collection.....	£6.99
Balance of Power 1990.....	£16.99
Barbarian 2.....	£16.99
Bards Tale.....	£6.99
Batman the Movie.....	£16.99
Battle Chess.....	£16.99
Battle Hawks.....	£16.99
Battletech.....	£16.99
Battle of Austerlitz.....	£16.99
Beach Volley.....	£16.99
Bionic Commando.....	£6.99
Black Tiger.....	£16.99
Bloodwych.....	£16.99
Bloodwych Data Disc.....	£9.99
Bomber.....	£19.99
Bridge Player 2150.....	£19.99
Cabal.....	£16.99
California Challenge (U.K.).....	£8.50
Carrier Command.....	£16.99
Centrefold Squares.....	£13.99
Chase H.Q.....	£16.99
Conflicts Europe.....	£16.99
Continental Circus.....	£13.99
Crazy Cars 2.....	£16.99
Cyberball.....	£13.99
Daily Double Horse Racing.....	£13.99
Danger Freak.....	£9.99
Days of the Pharaoh.....	£16.99
Deluxe Strip Poker.....	£13.99
Demons Winter.....	£16.99
Dogs of War.....	£13.99
Double Dragon 2.....	£13.99
Dragon Ninja.....	£16.99
Dragons Spirit.....	£13.99
Dungeon Master.....	£16.99
Dungeon Master Editor.....	£6.99
Dynamic Debugger.....	£16.99
Dynamite Dux.....	£16.99
Elite.....	£16.99
Emperor of the Mines.....	£16.99
F16 Combat Pilot.....	£16.99
F16 Falcon.....	£19.99
F-29 Retaliator.....	£16.99
Faery Tale.....	£13.99
Falcon Mission Disc.....	£13.99
Federation of Free Traders.....	£19.99
Fiendish Freddy's.....	
Big Top of Fun.....	£19.99
Fighting Soccer.....	£16.99
Fire Brigade (1 Meg Amiga).....	£19.99
Football Director 2.....	£13.99
Football Manager 2.....	
+ Expansion Kit.....	£13.99
Forgotten Worlds.....	£13.99
Foundation Waste.....	£6.99
Future Wars.....	£16.99
Galdregons Domain.....	£9.99
Garrison 1 or 2.....	£6.99
Gauntlet 2.....	£16.99
Ghostbusters 2.....	£16.99
Ghouls and Ghosts.....	£16.99
Grid Iron.....	£16.99
Gunship.....	£16.99
Hard Drivin'.....	£16.99
Heavy Metal.....	£16.99
Hillsfar.....	£16.99
Hollywood Poker Pro.....	£6.99
Honda RVF 750.....	£16.99
Horse Racing.....	£16.99
Hound of the Shadow.....	£16.99
Indiana Jones Last Crusade.....	£13.99
Indiana Jones the Adventure.....	£16.99
Infestation.....	£16.99
Interceptor.....	£16.99
Iron Lord.....	£16.99
Iron Tracker.....	£13.99
It Came From The Desert (1 Meg).....	£19.99
Jack Nicklaus Golf.....	£16.99
Joan of Arc.....	£6.99
Keef the Thief.....	£16.99
Kennedy Approach.....	£16.99
Kenny Dalglish Soccer Match.....	£13.99
Kick Off.....	£13.99
Kick Off Extra Time Add On.....	£6.99
Knightforce.....	£16.99
Lazer Squad.....	£13.99
Leaderboard Collection.....	£16.99
L.E.D. Storm.....	£9.99
Lombard R.A.C. Rally.....	£16.99
Lords of the Rising Sun.....	£19.99
Marble Madness.....	£6.99
Microprose Soccer.....	£16.99
Midwinter.....	£16.99
Millenium 2.2.....	£16.99
Moonwalker.....	£16.99
Never Mind.....	£13.99
New Zealand Story.....	£16.99
North and South.....	£16.99
Oil Imperium.....	£16.99
Onslaught.....	£16.99
Operation Thunderbolt.....	£16.99
Outrun.....	£6.99
Paperboy.....	£13.99

Passing Shot.....	£16.99
Paul Gascoigne Super.....	
Soccer.....	£16.99
Phobia.....	£9.99
Populous.....	£16.99
Populous New Worlds.....	£6.99
Powerdrift.....	£16.99
Pro Tennis Tour.....	£16.99
Realm of the Trolls.....	£6.99
Red Lightning.....	£19.99
Rick Dangerous.....	£16.99
Roadwars.....	£6.99
Robocop.....	£16.99
Rocket Ranger.....	£19.99
Running Man.....	£16.99
Scapeghost.....	£13.99
Shadow of the Beast.....	£24.99
Shinobi.....	£13.99
Shoot 'em up.....	
Construction Kit.....	£19.99
Shufflepuck Cafe.....	£13.99
Soldier of Light.....	£6.99
Space Ace.....	£29.99
Starglider 2.....	£16.99
Starwars Trilogy.....	£16.99
Street Fighter.....	£6.99
Strider.....	£13.99
Stryx.....	£13.99
Stunt Car.....	£16.99
Super Hang-On.....	£16.99
Super League Soccer.....	£16.99
Super Wonder Boy.....	£16.99
Sword of Sodan.....	£16.99
Swords of Twilight.....	£16.99
T.V. Sports Basketball.....	£19.99
T.V. Sports Football.....	£19.99
Test Drive 2.....	£16.99
Three Stooges.....	£9.99
Times of Lore.....	£16.99
Toobin.....	£13.99
Tracksuit Manager.....	£13.99
Turbo Outrun.....	£16.99
Ultimate Darts - John Lowe.....	£13.99
Ultimate Golf - Greg Norman.....	£16.99
The Untouchables.....	£16.99
Vigilante.....	£9.99
Vulcan.....	£13.99
War in Middle Earth.....	£13.99
Wayne Gretzky Hockey.....	£16.99
Waterloo.....	£16.99
World Class Leaderboard.....	£6.99
X Out.....	£16.99
Xenomorph.....	£16.99
Xenon 2 Megablast.....	£16.99

## SIXTEEN BIT COMPILATIONS

### MAGNUM FOUR

Operation Wolf, Afterburner,  
Double Dragon & Batman the  
Caped Crusader

£19.99

### THRILLTIME PLATINUM VOL 2.

Ikari Warriors, Buggy Boy,  
Bombjack, Space Harrier, Live  
and Let Die, Thundercats, Beyond  
the Ice Palace and Battleships

£16.99

### LIGHT FORCE

R-Type, I.K.+ , Voyager & Batman  
the Caped Crusader

£16.99

### WINNERS

Thunderblade, L.E.D. Storm,  
Blasteroids & Imp Mission 2

£19.99

### GIANTS

Gauntlet 2, Rolling Thunder, 1943  
& Outrun

£19.99

### THE STORY SO FAR VOL 1

Ikari Warriors, Buggy Boy, Beyond  
the Ice Palace & Battleships

£13.99

### THE STORY SO FAR VOL 3

Space Harrier, Live and Let Die,  
Bombjack & Thundercats

£13.99

### PREMIERE COLLECTION

Zynaps, Exolon, Nebulus &  
Netherworld

£19.99

### PRECIOUS METAL

Captain Blood, Xenon, Arkanoid  
2, Crazy Cars

£16.99

3.5" DS/DD.....	1.....	£0.79
with labels.....	10.....	£6.99
.....	25.....	£16.99
Mouse Mats.....		£2.99
Mouse Cover.....		£4.99
ST & AG Extension leads.....		£5.99
Amiga 1/2 Meg Expansion.....		£79.00
Amiga 1/2 Meg + Clock.....		£89.00

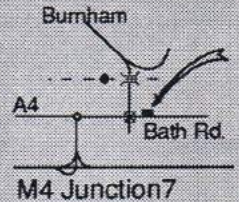
# SOFTSTORE

**AUTHORISED AMIGA 2000 DEALERSHIP**  
for Government and Educational business

Scanners, Summagraphics Tablets.

Business systems, DTP, Music video graphics & games

\*\*\*\*\*  
"Fatter" Agnus chips £49.00  
Kickstart 1.3 chips £25.00  
2 meg board for A500 phone  
\*\*\*\*\*



A500, Philips 8833, extra disk, 1 meg control centre, mouse mat & joystick  
- SAVE £50.00

Books, disks etc

**Large selection of Educational Software**

**What's important to you?**

Midi hardware, Cheetah keyboards, Roland Sound modules, Music X, Dr T's Copyist Apprentice  
NEW NEW NEW  
Dr T's Tiger Club

ACCESS VISA & credit facilities

special external disk drive + £40 software for £75  
512k ram £69.95

Price?  
Delivery?  
Support?  
Warranty?

They are all important to us!  
Come and visit us or phone on:

**0628 668320**

Why buy mail order when you can visit us and still get a good deal from:

SOFTSTORE, 408/410 BATH ROAD, (EVERITT'S CORNER) SLOUGH, BERKS, SL6 1JA



**RAMSOFT**  
AMIGA & ST SPECIALISTS

UNIT 1 DRAKE HOUSE  
160 DRAKE STREET  
ROCHDALE, LANCS  
OL16 1PX  
TEL: 0706 43519



**RAMSOFTS BOOK SHOP**  
\*\*\*\*\*

Amiga DOS Quick Reference (Abacus).....	£9.95
Motorola 68000 Programmers Ref Man (Motorola).....	£9.95
1001 Things To Do With Your Amiga (Tab) PLEASE CALL.....	£9.95
Amiga for Beginners (Abacus).....	£12.95
Kickstart Guide to the Amiga (Ariadne).....	£12.95
Kids and the Amiga (Compute!).....	£12.95
Elementary Amiga BASIC (Compute!) (D).....	£12.95
Amiga Machine Language (Abacus) (D).....	£12.95
Amiga Programmers Guide (Compute!).....	£14.95
Amiga DOS Reference Guide (Compute!).....	£14.95
Amiga Tricks and Tips (Abacus) (D).....	£14.95
Inside Amiga Graphics (Compute!) (D).....	£14.95
Amiga C for Beginners (Abacus) (D).....	£14.95
Amiga Applications (Compute!) (D).....	£14.95
First Book of the Amiga (Compute!) (D).....	£14.95
Amiga DOS - Inside & Out (Abacus) (D).....	£16.95
Advanced Amiga BASIC (Compute!) (D).....	£16.95
Computer Viruses - A High Tech Disease (Abacus - NEW!).....	£16.95
Amiga Users Guide to Graphics, Sound, Telecom (Bantam).....	£16.95
Becoming an Amiga Artist (Scott-Foresman - NEW!).....	£16.95
Amiga 3D Graphics Programming in BASIC (Abacus - NEW!) (D).....	£17.95
Amiga Machine Lang Programming Guide (Compute!) (D) CALL.....	£17.95
Using Deluxe Paint II (Compute!).....	£17.95
Learning C - Graphics on Amiga & Atari ST (Compute!) (D).....	£17.95
Amiga BASIC - Inside & Out (Abacus) (D).....	£18.95
Amiga Microsoft BASIC Programmers Guide (Scott-Foresman).....	£18.95
Inside the Amiga with C (Sams).....	£19.95
Amiga DOS Manual (Bantam).....	£22.95
Programming the 68000 (Sybex).....	£22.95
Amiga Disk Drives - Inside & Out (Abacus) (D).....	£24.95
Programmers Guide to the Amiga (Sybex).....	£24.95
Amiga Programmers Handbook (Sybex).....	£24.95
Amiga Programmers Handbook, Vol 2 (Sybex).....	£24.95
Amiga ROM Kernel Ref. Man.: Includes & Autodocs (A.W. NEW!).....	£29.95
Amiga C for Advanced Programmers (Abacus - NEW!).....	£29.95
Amiga System Programmers Guide (Abacus) (D) CALL.....	£29.95
Amiga Graphics Inside & Out (Abacus - NEW) (D).....	£29.95

Books Marked (D) have a Disk Available, £9.95...Disk may be purchased separately.

\*\*\*\*\* **RAMSOFT EXTRAS** \*\*\*\*\*

---- NEW POSSO - 150 CAP DISK BOXES NOW IN...ONLY £16.00 ----

**SOFTWARE SPECIALS**

Beast:- £24.99 \*\*\*\* Falcon Mission Disk:- £12.99 \*\*\*\* Promised Lands:- £6.99  
Space Ace:- £32.00 \*\*\*\* Photon Paint 2:- £26.00 \*\*\*\* Black Magic:- £9.99  
\*\*\* Please ring for price on other titles...All Prices are Inclusive of Postage.

**\* A500 BAT PACK \***  
A500, TV Modulator, Deluxe Paint II, Interceptor. New Zealand Story, & Batman - The Movie  
\*\*\*\*\* **£359.00** \*\*\*\*\*


**A500 BAT PACK +**  
This Pack as above Plus Ten Star Pack.  
1: Amegas, 2: Art of Chess, 3: Barbarian, 4: Buggy Boy, 5: Ikari Warriors 6: Insanity Flight, 7: Mercenary Comp, 8: Terrorpods, 9: Thundercats, 10: Wizball.  
**R.S. PRICE! £379.00**

**Class of 90's**  
Now in stock  
**Only £525**

**MONITOR PACK.**  
Buy any pack & we will offer a Philips CM8833 FOR ONLY £225 inc lead

**COMMODORE 1084** £225.00  
**PHILIPS CM 8833!** £234.00  
All Monitors Include Leads!

**Universal Monitor Stands**  
Only £16.50



**PRINTERS**

**STAR LC 10 MONO** £159.00  
**STAR LC 10 COL.** £199.00

**PRINTER RIBBONS**  
ALL MAKES AVAILABLE, LOW PRICE  
EG: STAR LC-10 MONO £4.49.

ALL OUR PRINTER PRICES ARE INCLUSIVE OF LEADS

N.E.C. 1 Meg 3.5" EXT DRIVE, Low Power, Throughport, Slimline, Only £79.95

**MARCONI \* RB2 - TRACKER BALL - ONLY £52.00**

**TARGET RAM EXPANSION WITH CLOCK - ONLY £79.95**

PLEASE NOTE, ALL OUR PRICES INCLUDE VAT & COURIER DELIVERY.  
All hardware items despatched within 24 hrs, dependent on availability & cheque clearance, prices subject to change without prior notice at any time. Personal callers welcome.  
We are open from 09.00-17.30 Monday to Sat., Late night closing Friday 20.00. E & OE.

ACCESS VISA & STYLE WELCOME

# DRAGONS BREATH



**I**mmortality. Legend has it that the secret is hidden in the Throne Room of the Great Castle atop Dwarf Mountain at the centre of the land of Anrea.

Breed a fighting force of dragons and conquer the villages of Anrea. Collect taxes and buy magic ingredients from passing traders to cast spells. Finally, complete the Talisman that guides you to your ultimate goal.

Dragons Breath. A Fantasy Strategy game for up to three people.

ATARI ST + AMIGA

PALACE

INCLUDES FREE Spellbook

# 16 BIT CENTRE

ALL PRICES INCLUDE VAT AND COURIER SERVICE

CALLERS AND MAIL ORDER  
WELCOME

OPEN MONDAY to SATURDAY 9am-6pm

**PHILIPS 8833  
STEREO MONITOR**  
Including Lead for Amiga  
**ONLY £229.00**

**STAR LC-10  
COLOUR PRINTER**  
Including Free Printer Lead  
**ONLY £199.00**

**STAR LC-10  
MONO PRINTER**  
Including Free Printer Lead  
**ONLY £159.00**

**TARGET MIDI  
INTERFACE**  
In, through, 3x out LED's  
signal data transfer  
**ONLY £29.00**

## A500 XMAS PACK

Includes: A500, Mouse, Modulator, Leads, Workbench, Basic, Tutorial, Joystick, Mouse Mat, Disk Bank, 10 Blank Disks, Amiga Dust Cover, Batman, New Zealand Story, F18 Interceptor, Deluxe Paint II, Amegas, Art of Chess, Wizball, Terrapods, Buggy Boy, Barbarian, Ikari Warriors, Mercenary, Insanity Fight, Thundercats, Manuals,

**ONLY £399.00**

## HARDWARE

COMMODORE A590, 20Mb Hard Disk, Unpopulated .....£369.00  
COMMODORE A590, 20Mb Hard Disk, Populated to 2Meg .....£519.00  
AMIGA B2000, 1Meg Ram, 1.3 rom, 1.3 Workbench .....£685.00  
AMIGA COMPATIBLE DISK DRIVE On/Off, Through Port .....£74.95  
Philips 8833 Stereo Monitor inc Lead for Amiga.....£229.00  
Target Ram, 512K Ram expansion with clock.....£74.75  
Commodore A501 Ram expansion .....£115.00  
Amdrive, 50 Mb Hard Disk for A500 .....£439.00

## PRINTERS

STAR LC-10 MONO PRINTER.....£159.00  
STAR LC-10 COLOUR PRINTER.....£199.00  
CITIZEN SWIFT 24, 24 Pin Mono Printer, (Upgradeable to Colour) £323.00  
CITIZEN SWIFT 24, 24 Pin Colour Printer .....£349.00  
CITIZEN 120D .....£139.00  
STAR 24-10 24 Pin Printer.....£259.00

All printers supplied with 1.8M cable suitable for Amiga or any computer with standard centronics port

## SOFTWARE AND DISKS

Sony DS/DD Disks, Box of Ten Inc Labels.....£12.95  
3M DS/DD Disks, Box of Ten inc. Labels .....£12.95  
MUSIC X Midi Package .....£169.00  
SUPERBASE PERSONEL .....£39.00  
KIND WORDS V2 .....£39.00  
PUBLISHERS CHOICE .....£79.00  
XCOPY V2, Copier + Text Editor.....£19.95  
F18 INTERCEPTOR .....£11.50  
DELUXE PAINT II .....£29.00  
PC TRANSFORMER IBM Emulator .....£25.00  
PHOTON PAINT II .....£49.00

## NEW LOW COST DISK DRIVE

FULLY AMIGA COMPATIBLE  SLIM DESIGN  
 ON/OFF SWITCH  880K FORMAT CAPACITY  
 THROUGH PORT  HIGH QUALITY CITIZEN MECHANISM

**ONLY £74.95**

## TARGET RAM EXPANSION

512K RAM EXPANSION FOR A500  
WITH BATTERY BACKED CLOCK FOR A500

**ONLY £69.00 (£59.00 Without Clock)**

OPTIONAL MEMORY SWITCH ONLY £2.00

## AMIGA PACKS

AMIGA Class of 90's Pack, includes professional business software.....£549.00  
AMIGA BATMAN PACK, Includes A500, Modulator, Mouse, Manuals, Batman, F18 Interceptor, Deluxe Paint II, New Zealand Story .....£365.00  
AMIGA STARTER PACK Includes A500, Modulator, Mouse, Workbench, Basic, 5 Commercial Games + Joystick £369.00  
AMIGA A500 10 Star Pack, Photon Paint and Aegis Sonix .....£399.00  
AMIGA 1 MEG PACK Includes A500, Commodore A501 Ram Expansion + Deluxe Paint III .....£499.00  
1 MEG SPECIAL, Amiga A500, with Fitted 512K Target Ram .....£415.00  
AMIGA B2000, PHILIPS MONITOR, PC XT BRIDGEBOARD, 20Mb HARD DRIVE, Rom 1.3, Workbench 1.3 .....£1349.00  
**ALL AMIGA'S SUPPLIED WITH MOUSE, MODULATOR, MANUALS, LEADS, WORKBENCH, BASIC + TUTORIAL**

**HOW TO ORDER:** Either call our number below with your credit card details, or send a cheque/PO or credit card number and expiry date to our address. Make cheques payable to THE 16 BIT CENTRE

Prices subject to change without notification.

# 16 BIT CENTRE

**Unit 17, Lancashire Fittings Science Village  
Claro Road, Harrogate HG1 4AF  
Tel (0423) 531822/526322**



AMIGA/PC/ATARI software

# The Tipster



£29.95



Price includes VAT & delivery

THE TIPSTER is a horse racing program which will give you the information needed to pick HORSES not ZEBRAS.

THE TIPSTER stores horse and race info on a DATABASE to provide a quick and easy method of reviewing a race.

**TAM Marketing (S/West)**  
**7 GD UNITS**  
**Marsh Barton Trading Estate**  
**Exeter**  
**DEVON**

Telephone: (0392) 215485

## 512K EXPANSION FOR THE AMIGA A500

£59.00

Inclusive of VAT and p&p  
Only £66 with real time clock

The Expansion board uses the latest 1Mbit DRAMS to provide high reliability and a memory disable switch is included.

**COMING SOON: 2 meg board**

★ SAME DAY DESPATCH

Send cheques to: DS & K Designs Ltd  
Dept:AF, 66 Lime St, Liverpool L1 1JN.



051

709-4412



# FOOTBALL CRAZY

The Most AUTHENTIC MULTI-MANAGER Football Game Has Finally Arrived. After 2 Years Research & Development The Ultimate Game Is Ready And Waiting To Test Your Skills. FEATURES INCLUDE:-

Multi-Manager Game for 1 to 4 Players.

Full UK and European Cup itinerary including FA, League, Zenith Data, Leyland Daf, European, Cup Winners and UEFA Cups. All Cup matches are played to the precise rules. eg. 2 Leg Ties, Extra Time, Away Goal Rule, Seeded Draws, Penalties, etc.

Complete league line up with 20 1st division teams and 24 in the 2nd, 3rd and 4th. End of Season Playoffs with Expulsions.

All team surnames are the real ones for all 92 clubs (CURRENT 89/90 SEASON).

Historic Records are maintained for 6 seasons with the ability to call up all previous results against your next opponent.

A Lively Transfer Market to Buy and Sell Players with a end of season deadline. Player Loans, Free Transfers with Approach & Offers on players or trainees.

Managers can be sacked or offered jobs at better teams.

All screens are displayed in a pleasant format, which is easy to use and comfortable to read. PRINTER facilities also exist.

Complete Instructions, for the beginner, are provided in a 16 page booklet.

...and would you believe it doesn't stop there! We have included many other fine details which are just impossible to list in this space. They include all the regular features you would expect like loading & saving your game, player injuries plus much, much more. The most genuine implementation of a Football Managers hectic season awaits you for only £19.95.

**Take Your Team To The Top And  
Win The Double.**

**Or Are You Good Enough To Win The  
Quadruple Crown. Never Yet Achieved  
By A League Team Manager.**



MAIL ORDERS

Send £19.95, Cheque / Postal Order / Credit Card Details to:

**ESP**  
SOFTWARE

32a Southchurch Road,  
Southend-on-sea,  
Essex SS1 2ND.

Orders outside the UK please add £1.00 extra.

TELEPHONE ORDERS



(0702) 600557

FAX (0702) 613747  
Out of hours Answer Phone

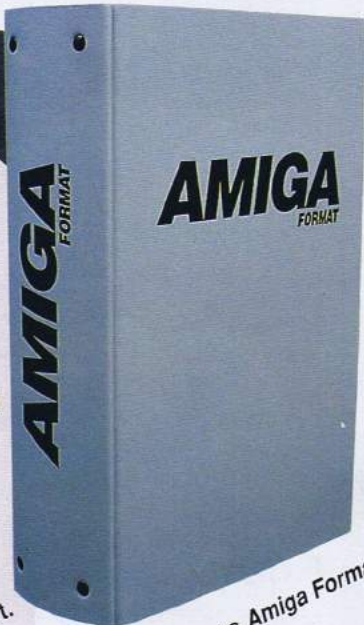


# AMIGA FORMAT MAIL

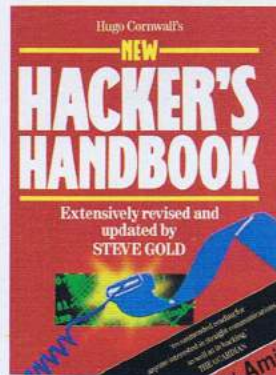
THE LATEST AND GREATEST PRODUCTS AT THE BEST POSSIBLE PRICES!



**1** Gain some credibility in this truly American shirt.



**2** Keep your vulnerable, precious Amiga Formats safe.



**3** A classic book for every Amiga owner.



**GFA BASIC 3.0**

**4** A winning Basic compiler.



**HOTLINE 0458 74011**



**7** A brilliant new sound sampler



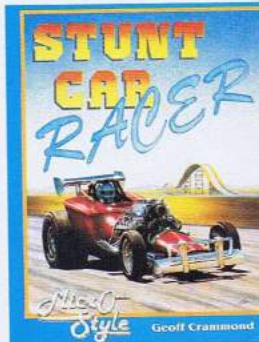
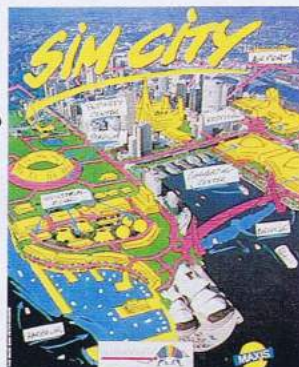
**8** The best assembler for your Amiga

HOW TO ORDER... JUST MAKE A NOTE OF THE PRODUCT NAME AND ORDER NUMBER AND FILL IN THE ORDER FORM OPPOSITE OR RING OUR HOTLINE NUMBER ON 0458 74011

TO ORDER PLEASE SEE SUBSCRIPTION OFFER ON PAGE 81

PRICES INCLUDE POSTAGE, PACKING AND VAT NO HIDDEN EXTRAS

**9** City games, compulsive playing



**12** Brilliant educational software



**11** The latest and greatest mouse



# ORDER



**5**

Unbelievable value

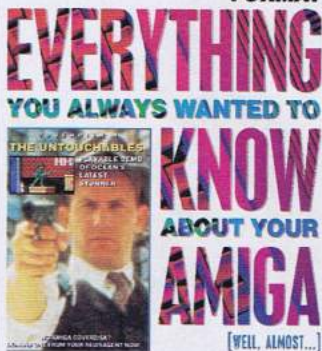
Taken from the blockbuster movie

**6**



**10**  
Breathtaking stunts

## SUBSCRIPTION AMIGA FORMAT



FOR ONLY £29.95 YOU CAN RECEIVE 12 ISSUES OF AMIGA FORMAT, DELIVERED TO YOUR DOOR. DO NOT RUN THE RISK OF THE NEWSAGENT SELLING OUT! SEE PAGE 107 FOR FURTHER DETAILS OR CALL THE HOTLINE NUMBER ON 0458 74011 ORDER CODE AM100



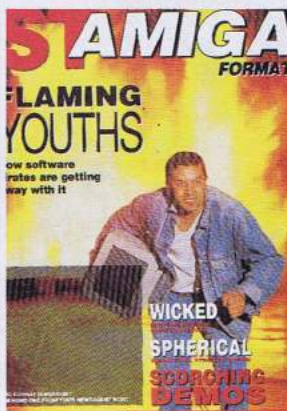
## BACK ISSUES

Want to complete your collection of the ultimate Amiga magazine? Complete with disks, we even pay the postage!

### AMIGA FORMAT

ISSUE	PRICE	ORDER NO
ISSUE 1	SOLD OUT	
ISSUE 2	SOLD OUT	
ISSUE 3	£2.95	AMF03
ISSUE 4	£2.95	AMF04
ISSUE 5	£2.95	AMF05
ISSUE 6	£2.95	AMF06
ISSUE 7	£2.95	AMF07

OR WHY NOT BUY SOME OF THE VERY RARE ORIGINAL ST/AMIGA MAGAZINES... HURRY, THERE ARE LIMITED STOCKS!



### ST/AMIGA FORMAT

ISSUE	PRICE	ORDER NO
ISSUE 1-10	SOLD OUT	
ISSUE 11	£2.95	AM211
ISSUE 12	£2.95	AM212
ISSUE 13	£2.95	AM213

**1 BASEBALL SHIRT**  
Description: Designed in the USA, this black and white shirt is a must for every Amiga owner (Logo on left breast and centre back)  
Price: Medium £6.50, Extra Large £6.50  
Order No: AM106, AM107

**2 AMIGA BINDER**  
Description: Keep your issues together in this high quality binder with the Amiga Format logo printed on the front and spine.  
Price: One binder £4.95, Two binders £9.00  
Order No: AM108, AM109

**3 HACKERS HANDBOOK** **INVALUABLE**  
Description: Century Hutcheson. An essential reference book for every hacker or would-be hacker. Recently updated by the infamous Steve Gold.  
Price: Hackers H/Book £9.95  
Order No: AM143

**4 GFA BASIC 3.0** **SAVE £10**  
Description: The best interpreter for the Amiga. Complete with 400 page manual. A superb package from the authors of the ST best-seller.  
Price: GFA Basic 3.0 £39.95  
Order No: AM144

**5 RPS DISK PACK** **FREE DISK BOX & CALCULATOR**  
Description: Buy 20 top quality 3.5 inch disks and receive a smart disk box and disk calculator FREE.  
Price: Disk Pack £29.95  
Order No: AM145

**6 BATMAN** **SAVE £7**  
Description: Patrol Gotham City in the Batmobile. Try to capture the Joker in the Axis Chemical Factory. A brilliant game taken from the superb feature film.  
Price: Batman £17.99  
Order No: AM140

**7 MASTERSOUND** **SAVE £10**  
Description: The best sound sampler for your Amiga. As featured on issue 7 cover disk. Complete with cut and paste, fade, volume and other features.  
Price: Mastersound £29.95  
Order No: AM153

**8 ARGASM** **SAVE £15**  
Description: Argonaut Software. You can't afford to miss out on this brilliant, fast assembler from the authors of Starglider 2. See Issue 4 for full review.  
Price: Argasm £44.95  
Order No: AM146

**9 SIM CITY** **SAVE £10**  
Description: Infogrames. Build a city from scratch, cope with the dramas of earthquakes, etc. Compulsive gameplay. "Once you're into it you can't get out of it" Andy Smith Issue 6  
Price: Sim City £19.99  
Order No: AM147

**10 STUNT CAR RACER** **SAVE £5**  
Description: Microprose. A brilliant gripping game requiring full concentration and control. Superb graphics. "You really will be holding your breath" Andy Smith Issue 6  
Price: Stunt Car Racer £19.99  
Order No: AM148

**11 NAKSHA MOUSE** **SAVE £16**  
Description: Naksha. A superb mouse that works on the Amiga, ST or PC. Complete with mouse house and mouse mat.  
Price: Naksha Mouse £29.99  
Order No: AM149

**12 FUN SCHOOL 2** **SAVE £7**  
Description: Database Software. Bumper packages of educational software for children. Fun School consists of three different suites of eight programs. "Fun School 2 lives up to both parts of its title. It is fun and your child will almost certainly learn too." Steve Carey  
Price: Fun School 2 Under 6 years £12.95, 6-8 years £12.95, Over 8 years £12.95  
Order No: AM150, AM151, AM152

## AMIGA FORMAT MAIL ORDER

Name	Description	Price	Order No
Address			
Postcode			
Phone number			

Method of payment (please circle) Access • Visa • Cheque • PO

TOTAL ORDER

Credit Card No

Expiry date

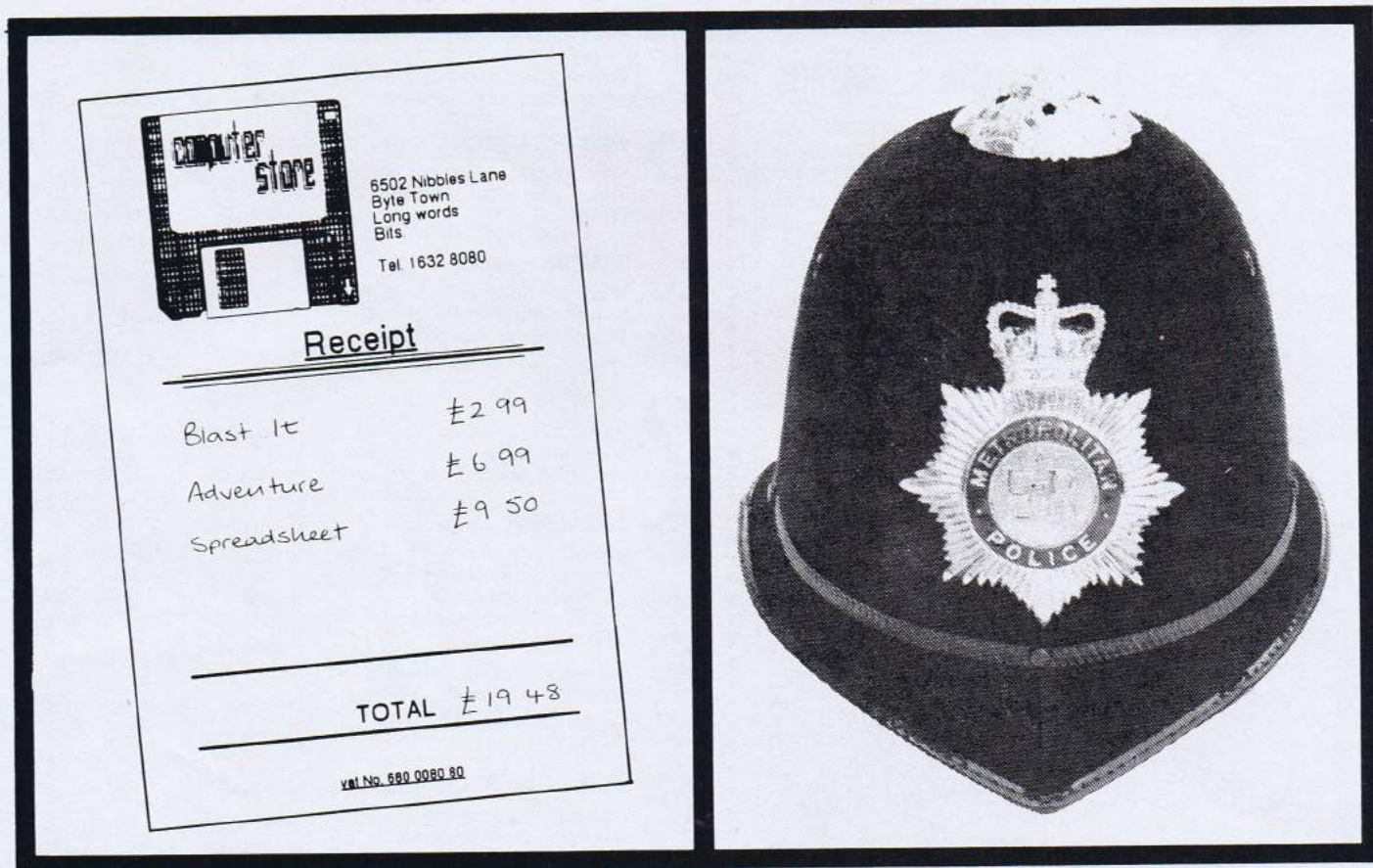
Please make all cheques payable to Future Publishing Limited

SEND THIS FORM TO: Trevor Witt, Amiga Format, The Old Barn, Freepost, Somerton, Somerset, TA11 7PY

No stamp required if posted in the UK, Channel Islands or the Isle of Man

● For overseas orders call Trevor for prices on 0458 74011

# WARNING



**THIS SORT OF  
BILL IF YOU  
PAY FOR THEM**

**THIS SORT OF  
BILL IF  
YOU DON'T**

A pirated game could result  
in a visit from you  
know who.

THIS CAMPAIGN IS ORGANISED BY  
**ELSPA**  
EUROPEAN LEISURE SOFTWARE  
PUBLISHERS ASSOCIATION

*Any information on piracy  
should be passed to  
The Federation Against Software Theft.  
Telephone 01-240 6756*





# WORKBENCH

If techno jargon is the disease, Workbench is the cure. Armed to the teeth with his hardware reference manual and a steady flow of coffee, **JASON HOLBORN** goes jargon bustin' on all things from samplers to printers, *DPaint* to crashes.

## SAMPLE CITY

I am new to the Amiga 500 and need some help with choosing the right sound sampler. Which would you recommend? Secondly, what is the largest sample possible? Lastly, if I upgraded my Amiga to 1 Mb, could I capture larger samples? Any help would be gratefully received.

**P Brown**  
Doncaster

If you need a sound sampler, you won't go far wrong with the Master Sound sampler reviewed elsewhere within this issue. On a standard A500 with 512k, the largest samples you'll probably be able to grab will be about 260k in size, the rest is used by the sampling software itself - obviously this is dependent on how much memory the sampling software uses up.

Some older samplers will only sample into chip RAM, so unless you're lucky enough to have the new 1 Mb Agnus, your samples will never be greater than about 450k (regardless of how much expansion RAM you have). However, if you have a sampler such as Future Sound or Master Sound, you'll be able to sample directly into Fast RAM, therefore allowing you to grab samples to completely fill the maximum amount of RAM you have installed within your machine.

## MUSIC, MAESTRO PLEASE

I would like to know what programs are available for the Amiga in the style of the Archimedes program Maestro. This program, if you haven't seen it, allows the user to use either the keyboard or mouse to input music onto a traditional score which is displayed onscreen.

Are there any such programs available within the PD libraries?

**R Coxon**  
Derby

No PD program of that type exists, but you could treat yourself to either Electronic Art's Deluxe Music or Aegis' Sonix package. Both will allow you to input notes onto an onscreen score. Sonix is favoured by many and is extremely easy to use, but Deluxe Music is far more powerful.

## PRINTER PROBLEM-PROMPTLY POSED

I have recently bought an Amiga 500. I would like to know if the printer that I already own is compatible with my new machine. The printer in question is an Amstrad DMP2000 with a serial interface.

What software, if any, will I need to make the printer work? I believe the printer is Epson compatible.

**P Chappel**  
Mexborough

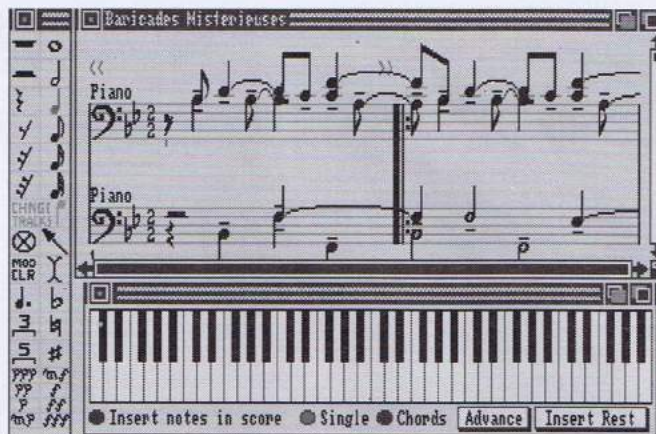
You're in luck, the Amstrad should work without problems. Just pop down to your local computer store and purchase a serial lead, plug it in and you'll be fine. The Amiga will have to be told to print to the serial interface, so use the Preferences program on your Workbench disk to change the output port from the parallel port (the default setting) to serial. Next, just install the EpsonX printer driver and you're ready for action.

## NEW DIRECTION

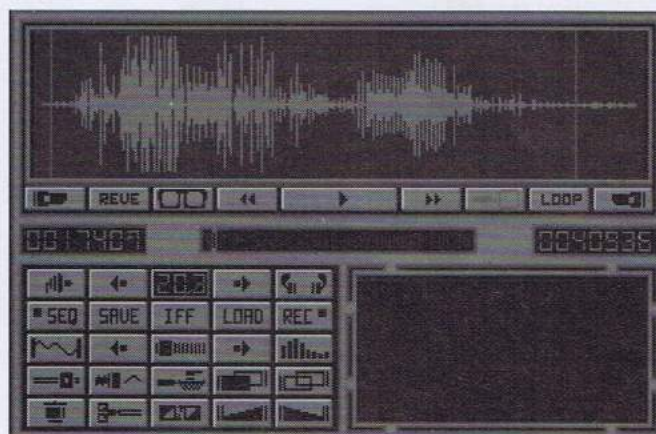
Being blunt and straight to the point, is there anyway to 'call up' a directory into a wordprocessor (I've got Kind Words) or Ed (that funny little thing on the Workbench disk)? In the introductory manual it says you can but all I get is the error message '...IS A DIRECTORY AND CANNOT BE EDITED'. Are there any PD programs that will allow me to print directories? Help!

**G Sayer**  
Dagenham

Your letter was a little unclear, but I think I understand what you want to do. If you need to print out a listing of the contents of a particular directory (or include it within a document that you're working on within your wordprocessor), what you must first do is to obtain the directory listing using the CLI command 'DIR'. Using output redirection, it is possible to send the output from DIR to a text file. If you typed DIR > DFO:DIRTEXT SYS: OPT A, a textfile called 'DIRTEXT' would be written to the disk in the internal drive. This file will contain an ASCII listing of the entire contents of your boot disk. If you then type 'COPY RAM:DIRTEXT TO PRT:', the listing will then be printed.



Deluxe Music in action. Just pick up a note and paste it onto the score using the mouse.



Confused by samplers? Read 'Sample City' for help.

**KNOBY WRITES**

Please, please, please help. How can I change the shape of the Workbench 'Snooze' mouse pointer that appears every time the Amiga accesses the disk? I HATE it! How can I change it?

I am also interested in learning Assembly language. Could you advise me on a suitable assembler to start with. Also, which books would you recommend to help me learn both the Amiga hardware and instruction set?

**R 'Knoby' Swift  
Godalming**

There is no way to redefine the snooze pointer through the Workbench. However, as we speak, a colleague of mine is working on a little utility to carry out the task. Expect to (hopefully) see it on the coverdisk very soon!

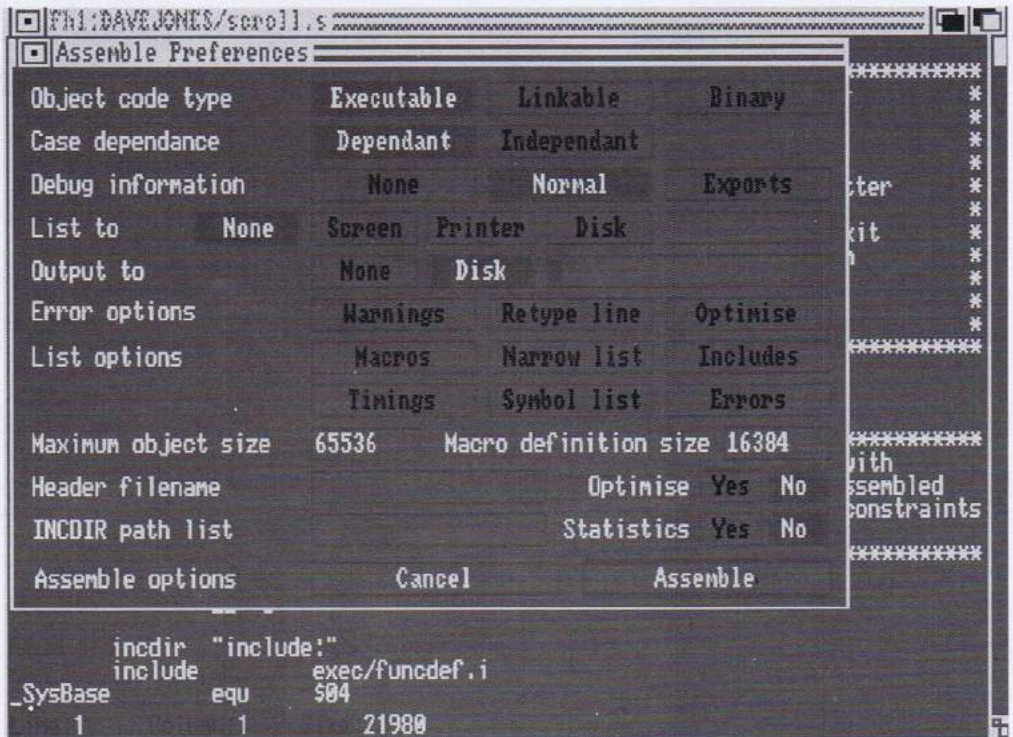
You basically have two choices where assemblers are concerned - HiSoft's Devpac or Argonaut's ArgAsm. If you're just staring out with assembly language, then Devpac 2 is a better bet because it includes a completely integrated monitor/debugger, which is almost as important as the assembler itself. ArgAsm is the choice if you already know assembler language very well and you intend working on large projects. A good book to teach you assembly language is Abacus' imaginatively named 'Amiga Assembly Language Programming'. To teach you about the Amiga hardware, the one book you must have is Addison-Wesley's 'Amiga Hardware Reference Manual'.

**PUTTING YOU OUT  
OF YOUR MISERY**

So you've got a problem with your Amiga, eh? Want to be put out of your misery? If the answer is 'yes', then you've got two options. The first is to commit Seppuku with a sharpened mouse. The second is to write down your problem and send it into the Workbench Helpline - it's your choice, but I assure you that the second is considerably less painful!

If you're feeling perplexed by processors, flummoxed by for-next loops, dumbfounded by disk drives, then relieve your misery by sending your letters to the following address:

**WORKBENCH HELPLINE,  
AMIGA FORMAT,  
30 MONMOUTH STREET,  
BATH BA1 2AP.**



At last, those of you who wanted to play with the ArgAsm demo on issue six's coverdisk can with our tip 'Accessing ArgAsm'.

**DPaint HELP**

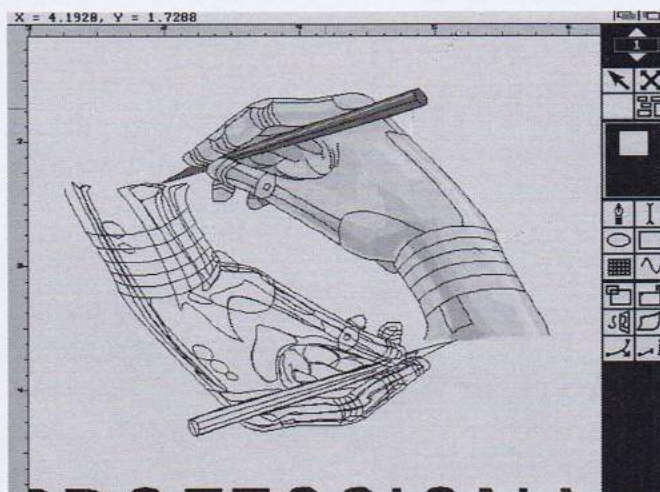
When working with DPaint II and I want to resize my brush, I seem to always run into problems. I use DPaint to produce outline drawings, but when I wish to increase the size of a line that I have picked up as a brush, instead of just increasing the length of the line, DPaint also increases the thickness and makes the brush look 'jaggie'. When I decrease the size of an outline, DPaint loses pixels altogether.

As I mostly work with outline drawings, it is crucial that I am able to resize any outline. Is there a solution to this problem within DPaint itself, or do I need to buy another package? I never used to have this problem on my old Macintosh!

**J Olsen Bournemouth**

What you actually need is a totally different package altogether, called a 'structured drawing' package. These packages work on the principle of points and vectors, which (without becoming too technical) allows any 'object' (lines, boxes, circles etc) to be resized, stretched etc, without affecting the thickness of the line. These packages are used extensively with areas such as CAD and DTP. DPaint, on the other hand, is pixel-based.

Instead of going back to your Macintosh, why not check out a package called Professional Draw which will more than fulfil your needs. The program is available from HB Marketing on 0895 444433.



Structured drawing packages allow lines to be resized without introducing either 'jaggies' or increasing the thickness of a line.

**ACCESSING ARGASM**

Oops, we made a bit of a booboo on issue six's coverdisk. Many of you who tried to run the ArgAsm demo may have been wondering where the CLI icon popped off to - according to the documentation, it should have been in the same directory as the ArgAsm demo itself!

To access the ArgAsm demo (if you haven't already sussed out how to get around the problem), you'll first have to boot your machine with Workbench (not from the coverdisk). Once the Workbench screen appears, double click on the Workbench icon and then double click on the System drawer to open it. Once the window appears, double click on the 'CLI' icon and the command line interface will appear. Next, type CD ? and press RETURN. After a second or so, a line will appear on the screen saying DIR:. Now, remove your Workbench disk and insert our coverdisk and type DFO:ArgAsm and press RETURN. You will now be in the ArgAsm directory. To run the demo, just type ArgAsm and you're away.

**R Monteiro  
Bath, Avon**

**MEMORY MATTERS**

I have just bought an Amiga 500 and wish to upgrade it to 1 Mb of RAM. I was all set to buy one when I read about the new ECS upgrade in your news pages that offers a megabyte of chip RAM. Should I wait for ECS?

# GFA Basic 3.0

## Interpreter and Compiler

### Now available for the Amiga

#### GFA Basic Interpreter £49.95

GFA has **SOLD** over 100,000 GFA Basic systems on the Atari ST, and now expect to achieve a similar success on the Amiga.

GFA Basic 3.0 Interpreter is the first release of an entire range of GFA products being produced for the Amiga. Soon to be released products:

**GFA Assembler**

**The First GFA Basic 3.0 Book**

**Training for Advanced Programmers Book**

The quickest way to learn about any machine is to sit down and write programs for it. The use of an interpreter will improve your learning curve, not requiring the agonising waits endured by Basic compilers. The GFA range of products will provide you with tutorials and documented examples. First class software backed up by superb documentation and books to cover most subjects. This is why GFA Basic has been a success on the Atari ST, and why it will be a success on the Amiga.

#### GFA Basic Compiler £29.95

**Now available**, for users that who to compile their programs written with the GFA Basic 3.0 Interpreter, to obtain fast stand alone programs.



### Develop fast, run fast!

GFA Basic Interpreter is now at release 3041. Existing users should send their original GFA Basic Disk to GFA, in suitable stamped addressed envelope for **FREE** update.

Available from your Amiga Dealer, and most software stockists or in case of difficulty by mail order:

**GFA Data Media (UK) Ltd, Box 121, Wokingham, Berkshire, RG11 9LP.**

Credit card or cheque/postal orders payable to GFA Data Media (UK) Ltd accepted.

 	I wish to pay by Visa/Mastercard; please charge my account.	
	GFA Basic Interpreter Amiga	£49.95 <input type="checkbox"/>
	GFA Basic Compiler Amiga	£29.95 <input type="checkbox"/>
	Card No:	<input type="text"/>
	Signature	<input type="text"/>
	Expiry Date	<input type="text"/>
Name (on card)	<input type="text"/>	
Address	<input type="text"/>	
	<input type="text"/>	
	Postcode <input type="text"/>	



**GFA Basic 3.0  
for the Amiga**

**GFA Data Media  
Box 121  
Wokingham  
Berkshire, RG11 9LP**

**Tel: (0734) 794941**

**GFA  
Basic  
3.0**

# DISCOUNT SOFTWARE

FROM MJC SUPPLIES

## WORD PROCESSING

### PROTEXT V4.2

This must be the most powerful word processor available for the Amiga. Excellent speed and wide range of features make it the only WP to buy. Includes Mail Merge and Spell Checking.

RRP£99.95.....Our Price £64.95  
Useable demo disc available - £5.00

## SERIOUS SOFTWARE

Publishers Choice.....79.95  
Digicalc (spreadsheet).....26.95  
K Spread II (spreadsheet).....49.95  
Home Account.....20.95  
Personal Tax Planner.....28.95  
K Data (database).....32.95  
Home Office Kit.....129.95

### PRO DATA

The long awaited Database from Arnor, authors of Protext.

Requires 1MB.

RRP - £79.95

**OUR PRICE - £59.95**

### BUSINESS SOFTWARE FROM DIGITA

Cash Book Controller.....£37.95  
Final Accounts.....£21.95  
Cash Book Combo.....£54.95

## PRINTERS

All printers listed have a ten-inch (A4) carriage, are Epson compatible and accept cut sheet or continuous paper. The relevant printer cable is also included free of charge. Delivery is 7-10 days from date of cheque/credit card clearance. For next day (after clearance) delivery add £5.

### CITIZEN 120-D

Cheap Epson FX-80 compatible giving a range of text sizes and effects in draft mode, limited sizes and effects in NLQ.

£139.95

### PANASONIC KXP-1081

Good print and build quality, very reliable. Offers all the draft mode sizes and effects of the FX-80 compatibles in NLQ as well. Best Value.

£159.95

### STAR LC-10

As well built and reliable as the Panasonic. Four different typefaces all available in the full range of sizes and effects. Well worth the little extra.

£179.95

### STAR LC-10 COLOUR

All the features of the LC-10 but with the addition of 7 colours in several shades. Uses the Epson JX-80 printer driver from Workbench or your graphics program.

£229.95

### STAR LC-24/10

24 pin version of the LC-10. Has 5 typefaces, all usual sizes and effects, two extra effects (Outline and Shadow) and excellent print quality.

£259.95

## EDUCATIONAL

Each Fun School has 8 educational games per disc.

Fun School 2 (2-6 years) .....13.95  
Fun School 2 (6-8 years) .....13.95  
Fun School 2 (8-12 years) .....13.95

The "Discover" range have 6 games per disc

Discover Alphabet (6+ yrs) .....15.95  
Discover Numbers (6+ yrs) .....15.95  
Discover Maths (10+ yrs) .....15.95

## GRAPHICS

Digi Paint .....41.95  
Phantavision .....29.95  
Photon Paint II .....68.95  
Deluxe Paint II .....54.95  
Deluxe Paint III .....59.95

### VIDI AMIGA

NTSC Version (300 x 200 res) -£79.95  
PAL version (300 x 256 res) - £99.95

### VIDI CHROME

Colour upgrade for any Vidi Amiga.

Requires video camera.

£14.95

## SOUND

AMAS-Sampler & MIDI Interface ..74.95  
Aegis Sonix .....44.95  
Master Sound Sampler .....34.95  
Trilogic Midi interface .....34.95  
(In, Out, Thru, 2x Out/Thru Switchable)  
Trilogic Stereo Audio Digitiser .....34.95  
(requires software)

## GAMES

We stock a range of Amiga Games, available mail order or at our premises at discount prices.

Write or call in for latest lists.

## ACCESSORIES

A500 Dust Cover .....3.95  
Mouse Mat .....3.95  
A500/2000 - Printer Cable .....6.95  
Quickshot Turbo Joystick .....10.95  
Competition Pro 5000 J/S .....12.95  
3.5" Disk Head Cleaner .....5.95  
Kempston Mouse .....29.95

## PROGRAMMING

K-Seka (assembler) .....34.95  
Hisoft Devpac V2 .....39.95  
Hisoft Basic (inc. Book, Amiga Basic Inside & Out - while stocks last) ..59.95  
GFA Basic 3 .....49.95

## BOOKS

Amiga For Beginners .....10.95  
Kickstart Guide .....12.95  
AmigaDos Ref. Guide .....14.95  
Amiga Tricks & Tips .....12.95  
Amiga Basic Inside & Out .....18.95  
Elementary Amiga Basic .....14.95  
Amiga Dos (Burgess) .....14.95  
The C Language (by K&R) .....23.95  
Pascal Beginners Guide .....6.50

All prices include Postage, Packing & VAT. Please send Cheques/PO's to:

**M.J.C. SUPPLIES (AF), 40A Queen Street, Hitchin, Herts SG4 9TS**  
Tel: (0462) 420847, 421415 or 432897 for enquiries/Credit Card Orders

## AMIGA A500 512K RAM EXPANSION

WITH CLOCK **ONLY £69.95**

Or £59.95 without Clock. Board excluding RAM IC's but with RAM Sockets including Clock:-  
£27.95: Excluding Clock:- £17.95

### SONY Bulk 3 1/2" DS/DD Disks

100% Certified Error Free

10	25	50	100
6.95	16.95	32.50	58.95

### Disks & 80 CAP. Box Offer

12.75	22.45	37.75	63.95
-------	-------	-------	-------

80 Capacity Lockable Storage Boxes @ 5.99 ea.

★★★ SPECIAL OFFER ★★★  
UNBRANDED BULK DISKS

**ONLY 45p EACH**  
MINIMUM ORDER 25 DISKS

ALL OUR PRODUCTS HAVE A NO QUIBBLE GUARANTEE.  
ALL PRICES INCLUDE VAT AND CARRIAGE  
TELESALES HOTLINE:- 0782 315148

CHEQUES / PO's TO:-



**B & B COMPUTER SUPPLIES**

11 MEAKIN AVENUE, CLAYTON,  
NEWCASTLE, STAFFS, ST5-4EY.



## AMPOWER FOR FAST REPAIRS

FULLY QUALIFIED ENGINEERS ON SITE TO UNDERTAKE REPAIRS OF, COMPUTERS, DISC-DRIVES, PRINTERS AND MONITORS.

ALL WORK GUARANTEED FOR 3 MONTHS. FREE ESTIMATES.

Tel: MARK OR MARTIN (0527 85) 3374  
BUSINESS HOURS Mon-Sat 9am to 8pm

## AMPOWER

VIDEO & COMPUTERS

15a ALCESTER ROAD, STUDLEY, WARCS B80 7AG



When was the last time your mail order put a smile on your face?

Why is it our many customers praise our excellent service and continue to shop with us? Probably because our great prices help. We offer the best in mail order with a service that is beyond comprehension. We will beat our competitors.

High grade Verbatim/Sony bulk disks: £15.80 - 20, £23.80 - 30, £36.80 - 50, £70.00 - 100. Std 3.5 720k (Kao) bulk disks: £6.90 - 10, £13.50 - 20, £20.10 - 30, £31.40 - 50, £55.99 - 100. 10 Sony/Verbatim/ Tdk (with a free disk)/Dysan DS/DD Branded boxed: £11.50 Inc. Soft mouse mats: £3.60. Mouse houses: £2.90. Twin joystick extenders: £4.80. Dust covers (state make): £3.90. Midi (10ft) cables: £3.60. Epson (92454m) ribbons: £2.70. Amiga A500 Batman pack: £368.00. M.E.S 512k ram switchable upgrade: £77.00. Cumana 3.5 1Mb external drive: £87.95. Oceanic 3.5 1Mb external: £85.95. Trilogic Midi interface: £34.95. Music X: £190.00. Mastertracks Pro: £280.00. Amiga 20 Mb Hard Disk: £366.00. Vortex 40 Mb: £499.00. Star LC10 Printer: £168.00.

All above prices include VAT and P&P with 3 day delivery and come complete with our no nonsense warranties. All trade and government welcome. Best ever prices on all your hardware/software requirements not listed above. Send large SAE for prices. Phone Paul now or send in your order with cheque/PO or Access/Visa/Connect (usual details) for immediate despatch to:

joy of life arts, (AMF3), 45 elswick, skelmersdale,  
lancashire, wn8 6bx.



telephone: 0695 32382 (24 hrs)



If I do buy a non-Commodore RAM expansion, will this invalidate my guarantee? Is the Commodore A501 and internal or external RAM expansion?

The ECS upgrade does not provide a Megabyte RAM expansion, just the potential to use a megabyte of chip RAM (amongst other new features). To take advantage of this facility, you will need a megabyte of RAM in the first place, therefore go ahead and buy your RAM expansion now.

Buying a RAM expansion that is not manufactured by Commodore will not invalidate your warranty. Finally, Commodore's A501 lives in the little hatch that can be found underneath your A500, hence it is an internal RAM expansion.

**LIFE THE UNIVERSE AND PRINTER DRIVERS**

Life with Workbench 1.2 was a joy for printer owners – if you needed to install a printer, all you needed to do was to load 'Preferences', enter the 'Install Menu' screen, select the printer you required and that was it – all the printer drivers you required were immediately accessible. However, Workbench

1.3 is a different beast altogether. Although the mechanics of installing a printer are almost identical, Commodore (in their infinite wisdom) decided that it would be a jolly good thing to remove the printer drivers and put them on the Extras disk instead, making them totally inaccessible to Preferences. What are you to do?

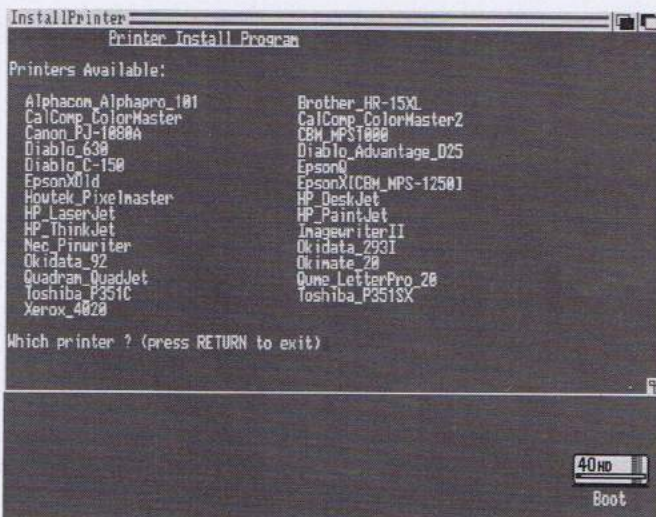
The answer lies in a little utility that Commodore so thoughtfully provide called 'InstallPrinter' which

(surprise, surprise) is used to transfer the printer driver you require from the Extras disk to your Workbench disk.

The InstallPrinter utility is simple to use. First of all, double click on its icon and a window will appear displaying a list of the printer drivers available on the Extras disk (if you only have a single drive, you will be prompted to insert your Extras disk). Simply decide upon which printer driver

you require (EpsonX for Epson's etc) and then enter the name of the driver using the keyboard. When you press RETURN, InstallPrinter will then copy the printer driver from your Extras disk to the DEVS:Printers directory of your current boot disk. Once InstallPrinter has finished, load up Preferences and then install the printer as the manual details.

J Taylor Daventry



If everything is going ok, the Install Printer program should look a little like this.

**WIN FIFTY QUID**

Ha! thought that would grab your attention. But this isn't a shallow offer – we really do want to give you fifty big ones!

If you've discovered an amazing tip for your favourite Amiga program, or you're a wiz with programming languages, then share your knowledge with your fellow Amiga users by sending your tips into Workbench. If your tips are the best of the month, then you collect a whacking great 50 notes.

Send your tips to:

WORKBENCH HELPLINE,  
AMIGA FORMAT,  
30 MONMOUTH STREET,  
BATH BA1 2AP.

# COPING WITH FAILURE (Part 2)

We always keep our word on Amiga Format, and just to prove it, here's the second and final instalment of the 'AmigaDOS error codes explained' feature that we started last month. But I didn't buy last month's issue, though! I hear you shout. What am I to do?. Well matey, you can jolly well go out and buy a back issue.

219 seek failure

Another programmer problem. The program that caused the error paused incorrect parameters to the AmigaDOS Seek() function. Contact the manufacturer and tell them immediately!

220 comment too big

My, don't we waffle on! The filenote that you have tried to attach to a file is greater than 80 characters long. The solution to this problem is, like most, beautifully simple – just cut down the size of your filenote.

221 disk full

The disk (Hard or floppy) that you are trying to write to has run out of disk space. If you get

this error when trying to copy files to the RAM disk, then you've run out of memory.

222 file is protected from deletion

Files can be protected against deletion by setting the relevant flag using the AmigaDOS Protect command. To make the file deletable, enter Protect <Filename> D and then delete the file using the AmigaDOS Delete command.

223 file is write protected

224 file is read protected

If you get either of these error messages, then I'll be very impressed – because they shouldn't appear in the current release of Kickstart. These two error messages are put in for 'future expansion'.

225 not a valid DOS disk

This disk you have just tried to access is either totally corrupted, or it hasn't been formatted (or it's not an Amiga disk at all – are you sure it doesn't belong to your Mac, PC or ST?).

226 no disk in drive

There isn't a disk in the drive that the Amiga can access. So why not put one in?

232 no more entries in directory

No, you haven't tried to write more files to a disk than AmigaDOS can handle (that's practically impossible!). This error is actually caused by a bug in the program you are trying to use. ■

# A.B Computer Supplies

- Amiga A500 Bat Pack inc. modulator, Batman  
D Paint II, F18 and New Zealand Story.....£369
- Amiga 2000 XT Pack inc. 1084s col. monitor,  
XT Bridgeboard and 20MB PC DOS Hard Disk...£1349
- Commodore A501 Ram Expansion 512K .....£112
- Commodore 1084s Colour Monitor.....£249
- Cumana CAX354 on/off switch, daisychain .....£89
- Branded Sony 3.5" DSDD per box of 10 .....£12

All Prices Include VAT and Delivery U.K.

Please send Cheque/P.O. to:

**A.B. Computer Supplies, 103a Shellfield Road,  
Marshside, Southport, Merseyside PR9 9UL.  
Tel: 0704-213544.**

## COLOUR PRINTOUT!

Now you can have your Deluxe Paint and  
Photon Paint pictures printed out in full  
colour on our Xerox 4020 printer.

Small 5" x 7" £1.50  
Large 7" x 11" £3.50  
Post and Packing £1.50

Larger prints, up to 10 feet square, and overhead  
transparencies are also available, prices on application.

**Red Computers, P.O. Box 222,  
Taunton, Somerset TA1 1LG  
Phone: 0823 276768.**

## ★ SPECIAL OFFER ★ SPECIAL OFFER ★

Buy Amiga External Drive for £35.00 when you buy any of pack B to F. Or  
receive our FREE special pack (includes 20 Public Domain Disks), or FREE  
Computer Desk worth £60.00.

### AMIGA A500 PACKS

- PACK A Amiga A500 + Mouse + Modulator + Our Special Pack.....£370.00
- PACK B Amiga A500 + Mouse + Modulator + 10 Games + Our FREE  
Special Pack.....£395.00
- PACK C Amiga A500 + Mouse + Modulator + 10 Games + Photon Paint + Our FREE  
Special Pack.....£399.99
- PACK D Amiga A500 + Mouse + Modulator + 512KB RAM Expansion + Dragons Lair +  
Our Special Pack.....£504.00
- PACK E Amiga A500 + Mouse + Modulator + A1084 Colour Monitor +  
Our Special Pack.....£600.00
- PACK F Amiga A500 + Mouse + Modulator + External Disc Drive +  
Our Special Pack.....£450.00
- Amiga External Disk Drive with throughport/disable switch .....£69.95
- A500 20 Meg Hard Disk with 2 Meg RAM Slots .....£370.00
- AT Bridgeboard.....£679.00
- For AMIGA B2000 ring for our Special price.

Increase the speed of your Amiga with our 68010 Processor + full instruction...£30.00

Increase the speed of your XT Bridgeboard with our V20 Upgrade .....£20.00

Upgrade your Amiga 2000 with our 80286 Card .....From £300.00

### AMIGA PUBLIC DOMAIN DISKS

We have over 600 PD Disks in our Library which include Fish Disks, Amicus Tbags, APDL  
Quads. Each PD costs £3.00 inclusive or buy 10 and get 3 free. Disk catalogue costs £5.00  
(2 disks). Buy a complete Bible (Old and New Testament) for only £8.50 (3 disks).

### 100% GUARANTEED ERROR FREE

- |                                      |                                      |
|--------------------------------------|--------------------------------------|
| <b>SONY UNBRANDED</b>                | <b>BRANDED</b>                       |
| 3 1/2" DSDD.....£9.00 per box of 10  | SONY 3M/VERBATIM                     |
| 3 1/2" DSDD.....£19.00 per Qty of 25 | 3 1/2" DSDD.....£12.00 per box of 10 |
|                                      | 3 1/2" DSHD.....£30.00 per box of 10 |

### AMIGA BOOKS

- |   |  |   |
|---|--|---|
| Adv. Amiga Basic.....£18.95               | Amiga Machine Language.....£14.95        | Compute's 2nd Book of Amiga.....£16.95    |
| Amiga 3D Graphics Prog Basic.....£18.45   | Amiga Microsoft Basic Prog Gd.....£18.45 | Elementary Amiga Basic.....£14.95         |
| Amiga Applications.....£16.95             | Amiga Prog Handbook Vol 1.....£23.95     | Inside Amiga Graphics.....£16.95          |
| Amiga Assembly Lang. Prog.....£10.80      | Amiga Prog Handbook Vol 2.....£23.95     | Inside the Amiga with C 2nd Ed.....£20.95 |
| Amiga Basic Inside & Out.....£18.95       | Amiga Programmers Guide.....£17.45       | Kickstart Guide to the Amiga.....£19.95   |
| Amiga C for Beginners.....£18.45          | Amiga Programmers Guide.....£18.45       | Kids & the Amiga.....£15.95               |
| Amiga DOS Inside & Out.....£18.45         | Am. Rom Kernel Ref Man Autod.....£28.95  | More Tips & Tricks for Amiga.....£18.45   |
| Amiga DOS Manual.....£22.95               | Am. Rom Kernel Ref Man Exec.....£22.95   | Programmers Guide to Amiga.....£23.95     |
| Amiga DOS Quick Ref.....£8.95             | Am. Rom Kernel Ref Man Lib.....£32.95    | Amiga Basic Inside & Out Disk.....£13.95  |
| Amiga DOS Ref. Guide.....£14.95           | Amiga Systems Prog. Guide.....£32.95     | Amiga DOS Express & Diskette.....£27.45   |
| Amiga Disc Drives Inside & Out.....£27.95 | Amiga Tricks & Tips.....£14.95           | Amiga DOS Inside & Out Disk.....£13.95    |
| Amiga GD Graphics Sound Telec.....£17.45  | Amiga for Beginners.....£12.95           | Amiga Disk Drives Inside Disk.....£13.95  |
| Amiga Handbook.....£15.95                 | Becoming an Amiga Artist.....£18.45      | Amiga Machine Language Disk.....£13.95    |
| Amiga Hardware Ref. Manual.....£22.95     | Beginners Guide to the Amiga.....£16.95  | Amiga System Prog Guide Disk.....£13.95   |
| Amiga Intuition Ref. Manual.....£22.95    | Compute's 1st Book of Amiga.....£16.95   | Amiga For Beginners.....£12.95            |
| Amiga Machine Lang. Guide.....£21.95      |  |   |

We also stock COMMODORE 64'S and PC COMPATIBLES,  
PEGASUS SOFTWARE / STATIONERY. Please Ring For Details!

All prices are inclusive of VAT. Goods are despatched within 24 hours of cleared  
transaction. Personal Callers welcome. Please send your cheque/Postal orders to:

## QUADSOFT COMPUTERS

Unit 306, 203/213 Mare Street, London E8 3QE.  
Telephone: 01-533 5116/0860 564231



Amiga



**WAR GAMES, ADVENTURE GAMES  
SIMULATORS & SPORTS**

Strategic Plus Software  
Dept. AF  
PO Box 8, Hampton, Middx TW12 3XA  
Telephone 01 941 6163



Send £2.50 for Extensive Catalogue.

Prop. S. Harper

## TELETEXT

A world of information  
at your fingertips



Now you can keep it informed with the latest weather, financial news, sports results, current  
affairs and much more from Ceefax or Oracle. But unlike a Teletext TV all this valuable infor-  
mation isn't trapped behind glass. Now you can.....

**Save to disc.** Pages may be saved in Compact (over 800 pages per disc) or IFF format.

**Print.** You can print as just text (for a fast result) or as a screendump.

**Review.** Instant access to the last 16 pages which have been received.

**Speak.** Thanks to the Amiga's speech capability, it will even read the news to you.

**Multiple display.** It can display and update two pages on screen simultaneously!

**FastText.** True FastText - gets pages in advance and reduces the waiting time.

**Tuning.** Just connect an aerial - it tunes itself in! Although the prime function is to receive  
Teletext, it also will convert a 1081 or 1084 monitor to a colour TV.

**Programmable.** The system can be programmed to get a series of pages and then save or  
print them. Your own programs can access the data on Teletext.

Only a Microtext adaptor can provide all these facilities, it's easy to use and connects to the  
parallel port, a printer can be reconnected to the adaptor. Everything is supplied, all you  
need is your Amiga and a normal TV aerial.

At just £124.80 + VAT inc p/p for an advanced Teletext TV it's excellent value for money.  
Make sure you're always up to date, and get yours now from:-



**MICROTEXT**



Dept AF, 7 Birdlip Close, Horndean, Hants PO8 9PW  
Telephone: 0705 595694 Fax: 0705 593988

# BACK TO BASICS

After a period of silence, BASIC programmers are treated to a couple of new products to further enhance their Amiga programming. **JASON HOLBORN** checks out the *GFA BASIC Compiler* and HiSoft's *Extend*.

Over the years, BASIC has earned itself (rather unfairly) a bad reputation amongst professional programmers – it's slow, encourages sloppy programming and isn't at all 'hip'. Is Basic really a programming language fit only for novices?

Of course it's not! – don't listen to a word of it – Basic is still a powerful language that can hold its head up high with those other 'trendy' languages such as C, OCCAM and Assembler (assembler has always been an 'in' language). Within the 'professional' corporate computer industry of high-end PC, mainframe and mini computers, Basic still remains a popular choice for producing applications quickly and easily.

## Amiga Basics

When the Amiga was originally launched, software was thin on the ground. What was available usually consisted of straight port-overs from other systems, which was the case with the Amiga's original Basic interpreter system. This original Basic was not the *AmigaBasic* Interpreter that we have come to know and love, but a creaky affair called *ABasiC*, written by Metacomco. Although *ABasiC* worked (you'll probably find quite a few of the older PD games were written using it), it was a rather unfriendly beast at the best of times. Realising how dire it was, Commodore commissioned MicroSoft to produce an Amiga version of their popular Macintosh Basic system.

Although *AmigaBasic* is now the industry standard, this hasn't stopped third party developers producing alternatives to the interpreter supplied. Over the past couple of years, five alternative Basic systems have been released for the Amiga, but by far the most popular of them all must be GFA and HiSoft Basic.

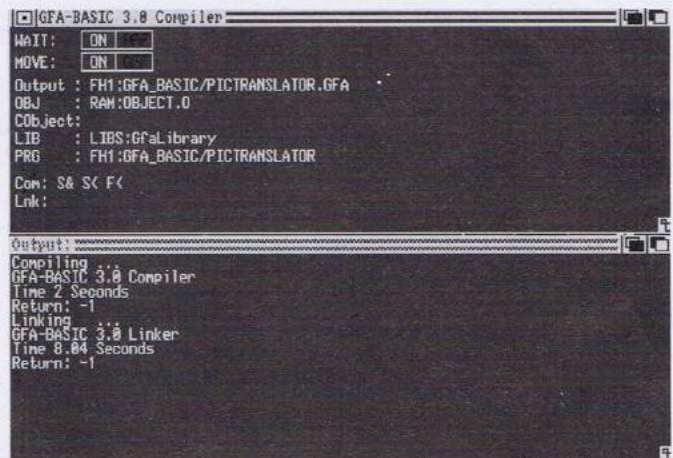
## GFA UPDATE

When GFA SystemTechnik of Germany (then handled by Microdeal, but now under the control of their own UK operation) originally launched the Amiga version of their hugely successful *ST Basic* language, the reception that awaited it was surprisingly cool. Although *GFA Basic 3* was undoubtedly a fast and powerful implementation of Basic, early releases suffered from two major problems – bugs and the lack of a compiler.

After solving the first of these problems with the release of 3.041 of *GFA Basic* (you have upgraded, haven't you?), GFA Data Media (UK) have finally turned *GFA Basic* into what is arguably one of the fastest and most powerful implementations of Basic on the Amiga with the release of the *GFA Basic Compiler*.

### The GFA Basic Compiler

It's been a long time coming, but finally GFA have delivered the one program that GFA users have been crying out for. For a little more



Configuring the GFA compiler is simplicity. If the option you require can't be found within the menus, then just modify the compiler shell by loading it into your GFA interpreter!

than the price of the average game, *GFA Basic* can be taken far beyond the levels of performance that were accessible from the interpreter alone.

The compiler takes a standard *GFA Basic* program and then compiles and links it into a stand-alone program which can be executed

independently from both the compiler and the *GFA Basic* interpreter. Because *GFA Basic* programs are stored in a tokenised form, you'll need to own the interpreter if you wish to write and compile your own programs – you could just buy the compiler, but you'll be restricted to compiling other people's source code. The compiler will therefore not take *GFA* programs stored in ASCII format. If you do prefer to use a separate text editor (such as *Cygnus Ed*) in preference to the *GFA* editor, then your programs will have to first be converted to a tokenised form (using the *GFA Interpreter*) before they can be compiled.

The compiler consists of three programs – the CLI-based *GFA Compiler*, the *GFA Linker* (which is surprisingly *GFA*'s own, and not *BLink*, as used by everyone else), and a menu shell designed to allow operation of both the compiler and linker from within an easy to use, Intuition-based front end.

## BENCHMARKS CORNER

Enough of the techno-waffles, here's the hard facts that clearly demonstrate the performance of *GFA Basic* against its nearest rival, *HiSoft Basic*. All the times quoted below are in seconds.

Benchmark	GFA (Int)	GFA (Compiled)	AmigaBasic (Int)	HiSoft Basic (Compiled)
10000 Square Root Calculations	7	5	36	12
Byte Copy 50k file held in RAM	36	21	229	348(!)
Print 10000 chars to screen	23	21	37	34
Loop 100000 times	7	4	41	12

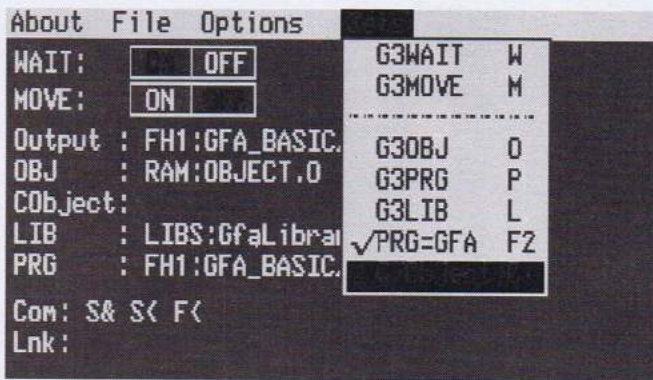
As well as these three programs, the compiler system also requires access to a GFA Library that is used by the linker to produce the final executable code.

**Operating The Compiler**

Using the compiler from the GFA Shell is simplicity itself. Once the GFA Shell is loaded, all you must do is to tell the compiler the filename of your GFA source file and then press <F10> – the shell will then automatically call both the compiler and linker. If everything compiled and linked ok, your compiled program will be written out to disk. Who said compilers and linkers were complicated beasts?

Although the shell seems to be a fairly simple affair, most compilation options are controllable from within its pull down menus. Even so, if you do think there is an option that is missing from the shell, you can easily add it yourself – the Shell is written in GFA Basic and GFA kindly include the source code as a tokenised file that can be loaded directly into the GFA Interpreter.

For the purists among you who still think that the Workbench is for softies, both the Compiler and Linker can be executed from the CLI by simply passing the appropriate parameters. In some cases, it is often necessary to use



The GFA Compiler doing its stuff

**COMPILERS EXPLAINED**

Although Basic is deemed a 'computer programming language', the language itself is as foreign to the computer as binary is to a human. For the Amiga to understand what a program wants it to do, each line of Basic must be translated into the computer's native language, machine code. Even a language such as assembly is gobbledygook to your Amiga until it is translated into machine code using an assembler such as *Devpac* or *ArgAsm*.

A Basic interpreter takes each line as it is to be executed, translates it into machine code and then runs it. Once the line has been executed, the interpreter then forgets the translated line and moves onto the next. Every time a line is to be executed (within a loop, for example), this process must take place. This basically means that if you have a loop that is performed 100 times, the interpreter converts each line within the loop to machine 100 times! As you can probably appreciate, this process is rather wasteful of time.

What a compiler does is to translate the entire program into machine code so that the computer does not have to carry out the time consuming task of translation during program execution – the processor can be left to run the actual machine code version of your program. In theory, this should result in a significant improvement in program performance.

the Linker from the CLI, even though you would normally use the GFA Shell. For example, the linker allows programs written in C to be linked with GFA code. As long as your C Compiler can output object files in Metacomco format (the standard format), the GFA Linker should take it without problems.

**Conclusion**

If you already own GFA Basic, then you'd be insane to ignore the GFA Compiler. If you have ever had doubts about purchasing GFA Basic but have still to buy yourself a replacement Basic system, then the combination of the Basic Interpreter and Compiler should be at the top of your list. Although two separate packages have to be purchased to pull together a complete GFA programming environment, the total price works out at about the same level as HiSoft's system.

Compiled programs are both compact and fast in execution. Everyone knows that Interpreted GFA is fast, but compiled GFA is blisteringly fast – rivaling languages such as C and Modula 2 with ease. At last, GFA Basic has come of age.

**GFA Compiler**  
**£29.95 ■ All Amigas ■ GFA**  
**Data Media (UK) 0734**

**EXTENDING YOUR REACH**

When HiSoft originally released their Basic Compiler system, they proved that you don't need to scrap all your old AmigaBasic code just because you're using an alternative Basic. Not only could you happily compile all your old AmigaBasic programs, but HiSoft Basic even included a couple of new commands to further enhance your Basic programming.

However, even HiSoft admit that their Basic isn't perfect. Because of time constraints when the original compiler was released, many of the enhancements that HiSoft hoped to include were left out. For starters, there's no IFF support, no standard file requester (although you can use the one built into the ARP library) and virtually no support for Intuition gadgets. What are we to do? Buy Extend of course!

Extend is a disk-based library of routines written by SunSmile Software in the States that are designed to enhance your Basic programs beyond belief. The package consists of the library file itself, the HiSoft and AmigaBasic '.bmap' file (used to tell Basic how to pass parameters) and a large

number of source code examples designed to show of the Extend library in action. Before they can be used, both the extend library and the extend bmap file must be copied to the LIBS: directory of your boot disk.

**How Many Commands?**

The Extend library contains 72 new commands that can be directly called from your HiSoft Basic programs. Although Extend

is badged for use with HiSoft's system, it will also happily work with AmigaBasic.

The extra commands offered by Extend cover a wide range of different areas that were previously not addressed by either HiSoft or AmigaBasic. These extra commands mainly cover loading and saving screens in IFF format, loading and playing sampled sounds, but the vast majority are designed to provide AmigaBasic

programs with improved control over Intuition and AmigaDOS.

**Intuition Addition**

Intuition was never particularly well supported within AmigaBasic – ok, so you could open windows, screens and menus, but that was as far as it went. Even these three facilities weren't particularly well implemented.

Even though AmigaBasic supports Intuition menus, control is rather limited. Extend takes Intuition menus that bit further by allowing you to define both sub menus and hot keys (Left Amiga key plus Q etc).

By far the most major areas of Intuition now covered by Extend are the gadgets and requesters. To say that gadget and requester support within AmigaBasic was rather limited would be an understatement – both HiSoft and AmigaBasic totally ignore them both!

The current version of Extend allows you to set up both Boolean and String gadgets with considerably less hassle than C programmers have to suffer. Surprisingly, one of the most useful gadget



Bored of the standard Topaz font? With Extend, you can change the font with ease.



# MAKE YOUR AMIGA EARN

Yes making money with your Amiga becomes incidental when you know how. Your micro is, if only you knew it, a gold mine. The size and make is irrelevant. Make the initial effort NOW by starting your own

## HOME BASED BUSINESS

*This may be the most important move you will ever make!*

REMEMBER: You'll never get rich by digging someone else's "ditch". Anyone in the country, including YOU, can become very rich in a relatively short period of time just by doing a few basic things! It's more rewarding than playing games. The benefits are many and varied. Full or part time. For FREE details send S.A.E. to:

## HOME BASED BUSINESS

31, PILTON PLACE (AF8)  
KING AND QUEEN STREET,  
WALWORTH, LONDON SE17 1DR



## Incredibly Useful People

### Midi and Multitrack Studio Consultants

### Professional Audio Products

We specialise in MIDI based recording facilities  
Amiga/Music-X combinations

Atari with C-Lab, Steinberg etc.

Gear from Roland, Akai, Tascam, TAC, AKG Yamaha.

Call us now on 0836 284369 or 01 923 0226  
or Fax us on 01 353 9001

The best deals to be had are here.

Full range of 8 to 24 multitrack systems available  
Audio for Professionals

STOP PRESS ★ SPECIAL OFFER★ AMSTRAD STUDIO 100  
4 TRK HOME RECORDING SYSTEM £149.00 ex VAT. Includes  
4 Mics ★ Headphones and Backing Track Cassette!!

## AUTHORISED DEALER FOR \* AMIGA \* STAR \*

### AMIGA (UK MODELS ONLY)

Amiga B2000 only	949.00
B2000 + NEW 1084D Colour Monitor	1169.00
B2000 + 1084D + 20/30/48Mb	
Autoboot	1399/1589/1629
A2088 PC/XT Bridgeboard + 5.25"	
Drive inc MS-DOS	249.00
Amiga 500 BATMAN PACK Interceptor /	
Batman/DPaint II/ NZ Story	359.00
Amiga 500 BATMAN PACK +	
Tenstar Pack	389.00
Amiga 500 BATMAN PACK + 1084D	
Colour Mon	579.00
Amiga 500 CLASS OF THE 90's	
Education Pack Comprising:	529.00
DPaint II/ S'base/Maxiplan/Publ Choice/	
Dr T's Mid/BBC Emul etc.	

### PRINTERS

Citizen 120D Parallel	129.95
Star LC-10 Parallel	159.00
Star LC-10 Colour Parallel	205.00
Star LC24-10 24 pin Multi-font	
170/57 cps	239.00
All Oki 20 consumables normally in	
stock	PHONE

### MONITORS

Philips 8833 Stereo Colour Monitor	249.00
Quadram Hi-Res Monitor + A2000	
Video Card	649.00
Commodore 1084D (NEW)	229.00

### DISK DRIVES

A2000 Autoboot 30Mb Drive	439.00
A2000 Autoboot 48Mb Drive	469.00

AMDRIVE 20/30/48MB External	
Disk Drive for A500	309/339/399
Amiga A590 Autoboot 20Mb Drive	
(RAM expandable)	369.00
20Mb Disk Drive for PC/A2000 Inc	
Controller	150.00
Internal 3.5" Disk Drive for A2000	99.95
External 3.5" Drive for Amiga - Disable	
Sw & Thro' Port.	79.95

### MISCELLANEOUS

RAM/Clock 512K Exp for A500	89.95
Kickstart V1.3 ROM for A500/2000	28.00
A2000 RAM 8Mb Populated with	
2Mb	359.00
MiniGEN low cost Genlock	109.00
Vidi-Amiga Colour PAL Frame	
Grabber	129.00
Surge Protector 4-Way Distrib Unit	15.95
Surge Protector 13A Plug/3-Way	
Adaptor	12.95/19.95

### SOFTWARE

Arena Business Accounts Sales/	
Purchase / Nom/ Invoice	149.00
TV*TEXT Professional (NEW)	129.00
Pro Video Plus	189.00
Digiview Gold V4 (NEW)	119.95
Home Office Kit: Kindwords 2,	
Pagesetter 1.2, Maxiplan 1.9, InfoFile,	
CalcFonts & Artists Choice	129.95
Starter Kit: KindWords 2, Golf,	
Crazy Cars, Super Ski	59.95
Professional Page	179.95
X-CAD Designer	79.95/000000
Music-X	175.00
Midi Interface for above	34.99

ALL PRICES INCLUDE 15% VAT  
CARRIAGE £5 (EXPRESS £10) SOFTWARE £2  
Prices subject to change without notice. E. & O. E.

## Delta Pi Software Ltd

8 Ruswarp Lane, WHITBY, N. Yorks YO21 1ND  
TEL/FAX: 0947 600065 (9am - 7pm)



# Amiga Educational

Educational Software from 3 Years to Adult



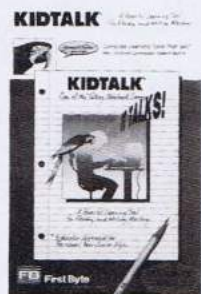
My Paint is a painting program for youngsters aged 4 to 8. It is very easy to use and understand and no reading skills required. Various special effects are included such as colour cycling and sampled sounds to go with the 28 colouring pictures provided. The child can either colour the pre drawn pictures or design their own pictures. A pictorial guidebook is included.

My Paint  
£34.95



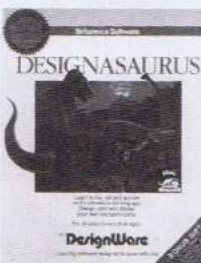
At the Zoo is part of the Electronic Crayon colouring book series. Over thirty animal pictures are provided to colour with information and realistic sound effects for each picture. When each picture is finished it can be printed in a variety of ways using any preferences printer. Banners, sideways prints and calendars can be created by using the special print options provided.

At the Zoo  
£24.95



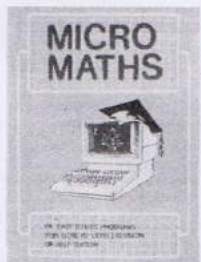
Kidtalk is an amazing talking word processor for the young student. It can be used as a first word processor to write and read stories and reports. The real difference is that this WP actually talks and can speak the words or sentences as you type them. The voice can even be changed to suit! Great for homework and general fun and learning.

Kid Talk  
£34.95



Designasaurus is a dinosaur construction kit and information data base. Using the program you can study the habitats and details of many dinosaurs and print them out. You can even take a dinosaur into its environment and live out the cruel world as it was. When you have had enough of studying then you can design your own dinosaur! T-Shirt printer routine is included.

Designasaurus  
£34.95



Micro Maths, 24 easy to use programs for self-tuition or revision to GCSE level. It takes the user from simple topics like percentages and averages to more advanced ones such as calculus and matrices. Each program includes instructions and full worked examples in the case of an incorrect answer.

Micro Maths  
£29.95



The ultimate typing tutor by Mindscape. The program features sophisticated monitoring and builds a typing course around your ability. Your progress is monitored every step of the way and impressive graphics help make the program a joy to use. To help the new computer user there are on screen help windows at each option and lessons are selected by an easy to use menu system.

Mavis  
B. Typing  
£29.95

Over 50 Top Class Educational Titles for the Amiga  
Send Now For A Complete Catalogue

TELEPHONE

0702 600557

ESC THE EDUCATIONAL SOFTWARE CLUB

32A SOUTHCHURCH ROAD • SOUTHEND-ON-SEA • ESSEX SS1 2ND

FAX 0702 613747

# FIRST CHOICE COMPUTERS

TEL: LEEDS 637988

UNIT 8, ARMLEY PARK COURT, STANNINGLEY ROAD, LEEDS LS12 2AE

ALL PRICES INCLUDE VAT & DELIVERY

**NEC PIN WRITER P2+**  
24 Pin Printer New Improved version of P2200  
**£299.00**

**AMIGA BATPACK**  
INC. MODULATOR, MOUSE, BATMAN, F18 INTERCEPTOR, DELUXE PAINT 2, NEW ZEALAND STORY **£375.00**  
£14 EXTRA WITH 10 STAR PACK

**SONY 3.5 DS/DD UNBRANDED DISKS 100% ERROR FREE GUARANTEE**  
**£6.90 FOR 10 DISKS**  
**£31.90 FOR 50 DISKS**  
**£59.90 FOR 100 DISKS**

**STAR LC10 MONO**  
9 PIN PRINTER INC LEAD  
**£159.00**

**STAR LC10 COLOUR**  
9 PIN PRINTER INC LEAD  
**£209.00**

**PHILIPS 8833**  
COLOUR MONITOR INC. LEAD FOR AMIGA OR STE  
**£249.00**

**OTHER HARDWARE AND PERIPHERALS**

COMMODORE 1084P COLOUR MONITOR .....£219.00  
CUMANA 1 MEG 3.5 AMIGA EXTERNAL DRIVE .....£89.00  
OLIVETTI DM 05S COLOUR PRINTER (ONE YEAR ON SITE WARRANTY).....£209.00  
CITIZEN SW1 24 PIN PRINTER .....£319.99  
COLOUR OPTION .....£29.99  
SENATOR 1 MEG 3.5 EXTERNAL D/D £79.00 FOR AMIGA  
COMMODORE 1084D COLOUR MONITOR .....£229.00

**SOFTWARE**

**20% OFF MOST AMIGA AND ATARI ST GAMES! AT LEAST 10% OFF ALL AMIGA AND ATARI ST UTILITY SOFTWARE!**

**PHOTON PAINT II ONLY 39.00**

**ACCESSORIES**

JOYSTICK PORT (DOUBLE) EXTENSION LEAD .....£4.95  
MONITOR COVERS .....£6.95  
STAR PRINTER COVERS .....£4.95  
AMIGA COVERS .....£4.95  
80 CAPACITY D/BOX .....£6.90  
MOUSE MATS .....£4.50  
PRINTER LEADS .....£5.90  
AMIGA TO SCART LEAD .....£9.95

OPEN 9.00AM TO 5.30PM MONDAY TO SATURDAY OPEN SUNDAYS 10.00AM TO 3.00PM

OPEN THURSDAY 'TILL 8PM

Call into our showroom or order by telephone for a fast delivery tel: 0532 637988 please make cheques payable to First Choice

VISA

Access

Software for serious sports enthusiasts

## POOLSWINNER II

THE ULTIMATE POOLS PREDICTION PROGRAM

- MASSIVE DATABASE** Poolswinner is a sophisticated Pools prediction aid. It comes complete with the largest database available - 22000 matches over 10 years.
- PREDICTS** Not just SCOREDRAWS, but NO-SCORES, ALWAYS and HOMES too. Predictions are based on many factors ... recent form, the massive database, current league standing, goal scoring rates, and draw averages (each factor is independently switchable by the user).
- SUCCESSFUL** Selec guarantee that Poolswinner performs significantly better than chance.
- LEAGUE AND NON-LEAGUE** matches are covered.
- FULL LEAGUE TABLES** are automatically generated as results are entered.
- AUTOMATIC FIXTURE GENERATION** : Fixtures for English and Scottish League matches are generated automatically by Poolswinner's sister program FIXGEN...



**FIXGEN 89/90** ● **FIXGEN** : No need to struggle for hours to get the fixture list into the computer - just type in the date, Fixgen contains the complete fixture list for the whole year's league soccer. (Published under licence from the Football League, and the Scottish Football League). **£28.50** Poolswinner with Fixgen.

## POOLS PERM PLUS

SOPHISTICATED FOOTBALL POOLS PERM ANALYSER

- Whether you use a scientific bet, or family birthdays, PPP will check the performance of any bet over the years, revealing which weeks it won prizes. Test your theories, or compare perms' performance. Complete with 5 years coupon results.
- Also you can use Pools Perm Plus to check your perm for winning lines each week: the program comes complete with 20 top perms. **£26.00**

## COURSEWINNER V3

THE PUNTERS COMPUTER PROGRAM



- The ORIGINAL, and still the BEST computer punter's aid.
- Coursewinner V3 uses all the most important form pointers (past form, speed ratings, prize money, course statistics, jockey form, trainer form etc) to give a detailed assessment of every runner's chances, not just a tip.
- Vital statistics of all British courses (Draw advantage, Top Trainers and Jockeys etc) are included in the database. **£26.00**
- Includes both FLAT and NATIONAL HUNT versions.

All available for IBM (525/35") AMIGA, ATARI ST, Amst PCW

Send cheque / PO for return of post service to ...

**Selec Software** (Est. 1984)

62 Altrincham Rd, Gatley, Cheshire SK8 4DP Tel 061-428-7425

(send for full list of our software)



## DATAPLEX

10 Petersfield Avenue, Slough, Berkshire SL2 5DN  
Tel 0753 35557

All prices excluding VAT and delivery



VISA

**AMIGA HARDWARE**

A500 complete .....279.00  
A500 + TV Modulator .....289.00  
New Amiga Batman Pack .....£317.00  
Includes:  
DFaint II  
Batman The Movie  
F18 Interceptor  
New Zealand Story  
TV Modulator  
and a free mystery gift.  
New Amiga Batman Plus 10 GamesPack Plus  
Photon Paint .....£345.00

**AMIGA ACCESSORIES**

A501 - 512K Ram + clock .....99.00  
TV Modulator .....10.00  
Mouse Mat .....4.00  
Amiga to Philips Lead .....10.00  
Amiga to Printer Lead .....10.00  
Quickshot II/Stick .....10.00

**DATAPLEX DRIVES**

1MB 3.5" External Drive .....68.00  
1MB 3.5" Internal Drive .....63.00  
1MB 5.25" External Floppy Drive .....95.00

**NEW AMIGA CLASS OF '90'S**

Including:  
Art & Design feature, Word Processing, Desk-Top Publishing, Spreadsheet, Music, Logo and BBC Emulation .....449.00

**PHILIPS MONITORS**

CM8833 14" RGB/CVBS mon .....199.00  
CM 8833 14" RGB/CVBS mon (including cables) .....219.00

**PRINTERS**

Amstrad LQ3500 DI .....195.00  
Amstrad DMP4000 .....195.00  
Amstrad LQ5000 DI .....310.00  
Brother HR20 Daisywheel .....380.00  
Brother HR40 Daisywheel .....688.00

**DOT MATRIX RANGE**

Citizen 120D .....115.00  
Citizen 180E .....127.00  
New 24pin swift 24 .....255.00  
Colour upgrade for swift .....42.00  
All Citizen printers come with 2 year warranty

Epson LX400 .....139.00  
Epson LX850 .....182.00

Epson FX850 .....310.00  
Epson FX1060 .....410.00  
Epson LQ400 .....215.00  
Epson LQ500 .....249.00  
Epson LQ550 .....289.00  
Epson LQ850 .....445.00  
Epson LQ860 .....525.00  
Epson LQ1060 .....654.00

**HEWLETT PACKARD**

Thinkjet .....265.00  
Quietjet .....343.00  
Quietjet+ .....412.00  
Deskjet .....443.00  
Deskjet + .....535.00  
Paintjet .....665.00  
Rugged Writer .....865.00

All Hewlett Packard printers come with 12 months on site warranty

Star LC10 mono .....135.00  
Star LC10 Colour .....168.00  
Star LC24-10 .....225.00  
NEC P2 + .....245.00  
NEC P6 + 80 character .....389.00  
NEC P7 136 character .....523.00  
Colour upgrade kit .....69.00  
Panasonic KXP 1081 .....119.00  
Panasonic KXP1124 .....219.00  
Sheetfeeder .....89.00  
Panasonic KXP1180 .....144.00  
Panasonic KXP 1592 .....253.00  
Panasonic KXP1595 .....319.00  
Panasonic KXP1540 .....404.00

**NEW MANNESMANN TALLY LAUNCH OFFER**

MT81 (dot matrix) .....115.00  
Sheetfeeder .....62.00  
Serial I/F .....35.00

**RIBBONS**

KXP1081/1090/1124 .....4.00  
DMP 2000/3000/3160 .....2.80  
DMP 4000 .....4.40  
PCW 8256/LQ3500 .....4.50  
Panasonic 3131/MP26 .....3.15  
FX800/RX/MX/FX80 .....3.15  
FX1000/FX/RX100 .....4.40  
NL 10 .....4.40  
LQ500/800/850 .....4.40  
LC10 .....4.40  
NEC .....5.00

Professional Repairs Carried Out.

types are not supported – proportional gadgets. Once your gadgets have been set up, *Extend* provides a whole host of extra commands to aid gadget management.

Requesters are also particularly well catered for within *Extend*. Both string requesters and the more common Boolean requesters can be set up with a single command. The big let down of requester support is the file requester supplied – it really is atrocious. If you do require a file requester, you're probably better off with the one supplied within ARP – not only is it easier to use, but it is now the unofficial Amiga standard.

**IFF Support**

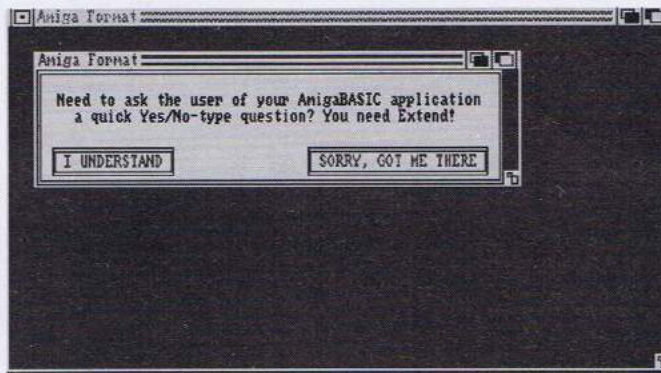
Although *AmigaBasic* can be eventually talked into accepting IFF files, the process is a painful one. Anyone who has used the 'SavellBM' source code on the Extras disk will no doubt be alarmed at the size of the code. With *Extend* however, screens can be loaded and saved in IFF format with a single command! Regardless of the format of the screen, be it 4 or 64 colours, NTSC or PAL, the *Extend* IFF commands will handle them with ease.

The one area of IFF screen handling that *Extend* does not cope with particularly well is HAM format pictures. Although *Extend* will load and display a HAM picture, this is as far as it goes. Surprisingly, *Extend* will not allow you to actually use the HAM picture – once the picture is loaded, clicking the 'close gadget' to close the screen is about as interactive as things get.

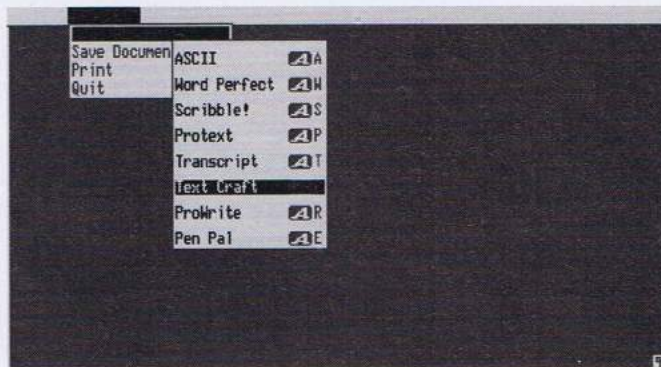
**Legal Matters**

Once you've written your application that takes advantage of *Extend*, you'll no doubt want to share the fruits of your labours with your friends.

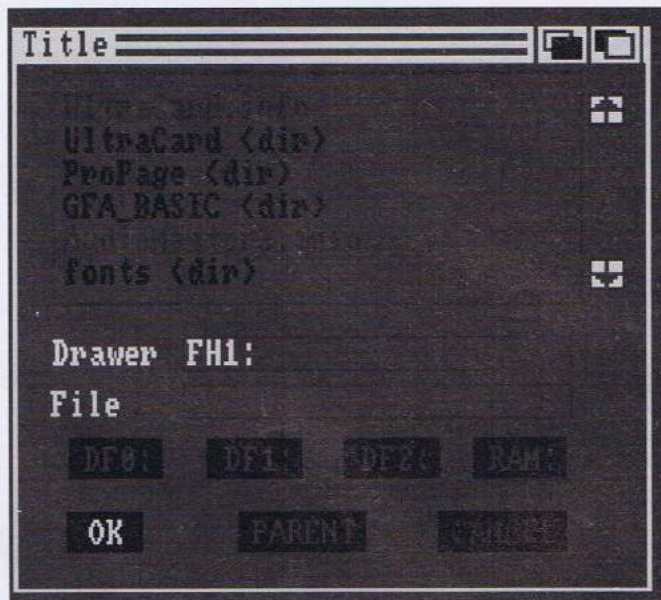
If you've compiled your program using *HiSoft Basic*, this is no problem as *HiSoft* allow the



Requesters are simple to use with *Extend*!



Sub Menus within Menus – try doing that within *AmigaBasic*!



OK, so it's not the best file requester in the world, but it's better than now!

*Extend* library to be freely distributed. However, *HiSoft* do not allow you to distribute the *Extend* '.bmap' file that is needed by *AmigaBasic* – if you do, then you'll be breaking *HiSoft*'s licence agreement and you can expect rapped knuckles when *HiSoft* eventually catch up with you.

While *HiSoft Basic* owners will be saying 'big deal, I don't need it once my program has been compiled', *AmigaBasic* users will require this file to be present every time your program is run. If you do use *AmigaBasic* and want to take advantage of *Extend*, isn't it time you thought about upgrading to *HiSoft Basic*?

**Conclusion**

*HiSoft* themselves admit that the *Extend* library contains routines that should have been in *HiSoft Basic* in the first place. The good news is that *HiSoft* are working on a major update to their *Basic* that will have the *Extend* library routines built into it. The bad news is that this isn't due until at least the end of the year, so don't hold your breath.

*Extend* is worth buying just to gain the sheer speed and convenience of the IFF commands – the fact that the library also includes about 70 extra commands makes it even greater value. If you're a *HiSoft Basic* user, then *Extend* is an invaluable addition to your software collection which will make the task of programming the Amiga considerably easier.

For *AmigaBasic* owners, the choice to buy is a little less certain – if you do buy *Extend*, then any programs you produce to use the library will be confined to your own personal use. But for adding a truly professional look and feel to your *AmigaBasic* programs, *Extend* is a well worth considering. For the price, it's invaluable. ■

**HiSoft Extend**  
**£19.95 ■ All Amigas ■**  
**HiSoft 0525 718181**

**EXTEND FEATURE SUMMARY**

**So what exactly does *HiSoft*'s *Extend* library really have to offer? Here's a quick run down of the areas that it covers, to enhance your *Basic* programming.**

**IFF PICTURES** – Load and save pictures in IFF format with a single command. If you're not sure of the picture's format, *Extend* will automatically open a screen of the appropriate type. Display a HAM picture. Manipulate individual bit planes, load and save planes in binary format.

**SAMPLED SOUND** – Ever wanted to include sampled music/sound effects within your *Basic* programs? Well now you can. *Extend* allows control over which channel the sound is played through, the volume and playback rate.

**FONTS** – Change the font used within your *Basic* programs without having to mess about with ROM Kernal routines. *Extend*'s font commands will also allow you to change the style of text with ease.

**GADGETS** – Define and manage Intuition gadgets with ease. At last your *AmigaBasic* programs will have that true Amiga feel to them. Set up both Boolean and String gadgets, define the position relative to their parent window, highlighting type etc.

**REQUESTERS** – Need a file requester? *Extend* has it. Need to prompt the user for an input but don't want to mess up your screenful of pretty graphics? *Extend* does the job.

**MENUS** – Define both sub menus and menu 'hot keys'. Bored with the way menus are highlighted? Let *Extend* customise your application's menu system.

**O/S SUPPORT** – Run external programs from within *AmigaBasic* using a single command. Find out information about both the system and any disks currently mounted to the system. Allocate and deallocate memory legally, specifying both the amount required and memory type (fast, chip, public).

# Evesham Micros

**CAMBRIDGE  
SHOP NOW  
OPEN!**  
5 Glisson Road, Cambridge  
Tel: (0223) 323898

**All prices include  
VAT and Delivery**

## AMIGA ACCESSORIES

MiniGEN Genlock adapter .....	£95.00
Omega Projects MIDI Interface, including 30' serial cable .....	£29.95
Contriver Hi-Res Mouse, includes Mouse Mat & Pocket .....	£22.95
A500 Dust Cover .....	£4.95
ITT CP3228 16.5" FST TV/Monitor inc. rem/control & cable ....	£229.00
Philips CM8833 14" colour monitor, suits for Amiga 500 .....	£229.00
GFA BASIC Version 3 .....	£49.00
Home Accounts .....	£18.95
Kind Words Version 2 .....	£37.95
Superbase Personal .....	£69.00
Superbase Professional .....	£179.00
Super-Plan .....	£74.95
Track 24 (MIDI sequencer package) .....	£60.00
Word Perfect .....	£183.00

## A-MAX MACINTOSH EMULATOR

An AMIGA COMPUTING Gold Medal winner - allows Amiga users to emulate a Mac Plus in order to run Apple Mac and Mac Plus software. Mac disks can be read directly in when an external Mac Drive is connected to the cartridge hardware. Runs at least as fast as a Mac Plus! Software compatible with the A-Max includes MacPaint, MacDraw (V1&2), MacWrite, Pagemaker (V1&2) plus all versions of System. A-Max without 2 x Mac 128K ROMs ... £129.00  
A-Max WITH 2 x Mac 128K ROMs ..... £249.00

## PRINTERS

All prices include VAT/delivery & cable



**star**

We use and recommend Star printers because they offer an unbeatable combination of features, print quality, reliability and value. When buying please note we are now offering 12-month on-site maintenance contracts for £5.75 extra

Hugely successful 9 pin printer, the Star LC10 provides 4 NLO fonts (96 print combinations) at 36cps and 14cps draft. Includes 4K buffer and IBM/parallel interface, front panel operation, plus paper parking, allowing single sheets to be used without removing tractor paper.

**Only £169.00**  
Colour version also available,  
**Only £215.00**  
Prices include 2 extra  
black ribbons free of charge.

Star LC24-10 multifont 24pin printer, super low price .....	£239.00
Star LC24-15 wide carriage version of LC24-10, 200/67 cps .....	£409.00
Star LC15 wide carriage version of LC10, 180/45 cps .....	£329.00
Star LC-10 Mk.II faster version of LC10, 180/45 cps .....	£199.00
Olivetti DM100S 9-pin 10" printer 200/30 cps inc. 1 year on-site warranty! .....	£129.95
Panasonic KXP1081 reliable + sturdy 9pin 10" printer 120/24 cps .....	£159.00
Panasonic KXP1180 super new feature-packed multifont 9pin 11" .....	£179.00
Panasonic KXP1124 new good specification multifont 24pin 11" .....	£269.00
Epson LX400 (was LX800) 10" 180/25 cps .....	£179.00
Epson LQ550 good 24pin 150/50 cps .....	£299.00
Epson LQ400 new 24 pin 180/60 cps with 8k buffer .....	£229.00
Citizen 120D budget 9 pin printer 120 cps .....	£139.00

## DOUBLE TAKE! PYE 15" TV/MONITOR (MODEL 2325)

High quality medium resolution colour TV/monitor now available to suit the Amiga. Features teletext, full infra-red remote control, SCART connector, Video/Audio input and headphone output connectors. 39 tuner presets, external aerial connector and a loop aerial. Supplied with connection cable.

**ONLY  
£269.00**  
price includes  
VAT, delivery  
and cable

## AMIGA 500 LOW COST RAM UPGRADE

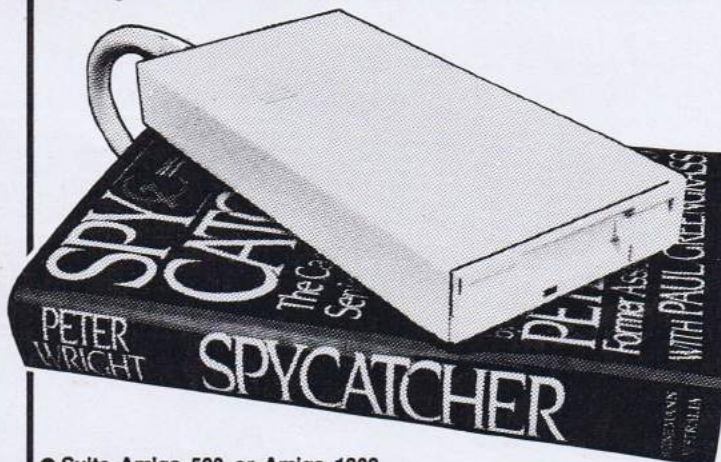
**ONLY £69.00** inc.VAT & delivery

### 512K RAM/CLOCK EXPANSION FEATURES :

- ☆ Direct replacement for the A501 expansion
- ☆ Auto-recharging battery backed Real-time Clock
- ☆ On / Off switch
- ☆ Compact unit size : Ultra-neat design
- ☆ Uses only 4 D-RAMs for High Reliability
- ☆ Low power consumption

**RAM expansion without clock, only ... £59.00**

## 3.5" EXTERNAL DRIVES using Teac / Citizen drive mechanisms



- Suits Amiga 500 or Amiga 1000
- Teac / Citizen drive mechanism
- On / Off switch on rear of drive
- Throughport connector
- One megabyte unformatted capacity
- Slimline design
- Very quiet
- Long cable for location either side of computer
- Full 12 months guarantee

**Ultra low price!**

**£69.95**  
inc.VAT and  
delivery

## vortex system 2000 40 Mb hard disks

These high specification units offer versatile high capacity storage suitable for use with the Amiga 500 or 1000. Autobooting capability, a formatted capacity of over 42Mb, with an average access time of 45ms. Includes cables, Amiga interface module, plus utilities software including hard disk backup.

**System 2000 40Mb  
Hard Disk Package ..... £499.00**

## Low Cost 5.25" External Drive

The RF542C is a high quality 5.25" drive compatible to the Amiga. Capable of a number of configurations including 40/80 track switching, 360/720K format, giving full 'Transformer' compatibility. Colour matched to the Amiga, quiet in operation, and includes a throughport connector.

**£114.95** including VAT  
& delivery

## 3.5" Disks

10 Bulk packed DS/DD 3.5" disks with labels, fully guaranteed .....	£ 9.95
25 bulk disks as above .....	£22.95
10 disks as above with plastic case .....	£11.95
25 disks as above, with 40 capacity lockable storage unit .....	£29.95
Kodak DS/DD 3.5" disks, top quality storage media. Box of 10 .....	£17.95

## How to order from Evesham Micros

Phone us with your  
ACCESS or VISA  
card details on :  
**0386-765500**

All prices include VAT and delivery. Express Courier delivery £5.00 extra.

Send cheque, Postal Order  
or ACCESS/VISA card details

Govt., educ. & PLC orders welcome  
Same day despatch whenever possible  
All products covered by 1 year guarantee  
All goods subject to availability, E.&O.E.

Retail outlets : 1762 Pershore Road, Cotteridge, Birmingham B30 3BH Tel: 021 458 4564  
63 Bridge Street, Evesham, Worcs WR11 4SF Tel: 0386 765180  
5 Glisson Road, Cambridge CB1 2HA Tel: 0223 323898

**Evesham Micros Ltd**  
UNIT 9 ST RICHARDS RD  
EVESHAM  
WORCS WR11 6XJ  
**0386-765500**  
fax 0386-765354

Let the Amiga world know your views by writing to us – go on, get it off your chest. The letters that are witty, interesting, informative or completely ridiculous will win a priceless prize

# FORMAT LETTERS

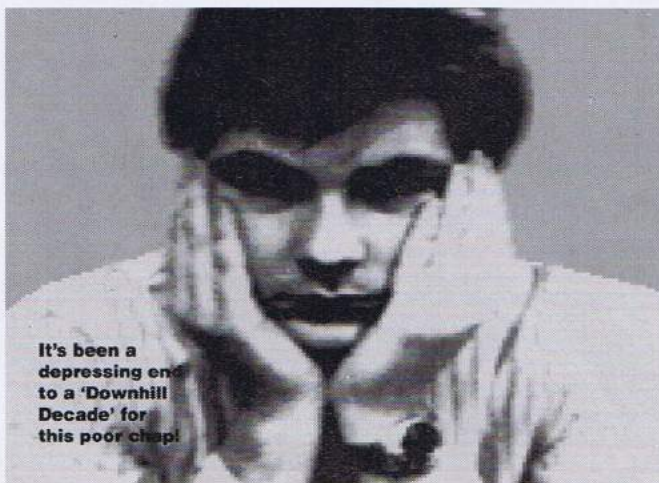
of a T-shirt and binder. Send your letters to **BOB WADE**, *Amiga Format*, Beauford Court, 30 Monmouth Street, Bath BA1 2AP. Bob's the Editor, so if he likes them he'll print them, and if he doesn't he'll print them and then turn them into origami chickens – or maybe fish with flapping fins...

## DOWNHILL DECADE

I've been in on the computer revolution from nearly the beginning just under ten years ago, and now I'm a little fed up. Sure, I still enjoy using the machines, and their spin-offs like CD players, videos, toasters (who can enjoy using a toaster?), etcetera, but life doesn't seem to be what it was at the beginning. Some people think that at 24 going on 25 I'm past the age when I should be using computers or, as some people put it, "playing with those things that destroy your mind!" I'm sure every computer user has heard that at least once from their parents, guardians and sometimes even friends, and perhaps it is that phrase that is making me fed up.

I'm fed up enough to actually begin to de-technologise myself. Yes, I know that sounds painful but I really have had enough. I got rid of my Psion Organiser recently, and the 'yuppie' label that went with it, and now I'm thinking of dispensing with my PC (which is a faithful old chum), and converting completely to the Amiga which sits quietly on the next table.

However, there is something in my mind that is even fed up with my Amiga. I'm not sure why, but I feel that I haven't achieved much with it. Strangely, that's the feeling I've had every time I've needed to change computers, or is it that I'm fed up with the software companies churning out the same old drivel as always? There doesn't seem to be a lot of 'original' soft-



ware on the market at the moment, just licences and arcade conversions, of which there are only a few good ones.

What happened to the originality of the first years of computing where nearly every game broke the boundaries of the computing field; where a game like *Elite* could be marketed without the fear of being out sold by *After the Ninja XXIII*, or shoot-em-up after shoot-em-up after shoot-em-up? It's got to the stage where the utilities (like *Deluxe Paint III*) are actually more fun to use than the games. True, the 16-bit market has allowed some originality to happen. I mean, where would *Starglider II* be without the 16-bitters, or *Interphase* (my current favourite). I will admit to liking *Batman the Movie* and *New Zealand Story* which happens to be a favourite arcade

martial arts? Is there no originality within the software industry? Well, if there isn't I believe that they will soon find some very unhappy customers. I hope that any company that dares to push an original game onto the market does well with it, even though it may essentially be a shoot-em-up.

The software industry has actually begun to give computers a bad name, so why won't they listen to complaints? An example of this was a quote from someone who I helped to set up her new Amiga. Her children started playing *Batman the Movie* and she eventually said "Well, what is the point of this game, and all the shoot-em-ups?" I had to defend *Batman*, which is admittedly cashing in on the success of the movie (which I enjoyed but no-one else did), but I found I couldn't defend the shoot-em-ups, or the beat-em-ups, or the 'kick the hell out the poor sods' type games. I used the examples of *Elite*, *Starglider II* and *Carrier Command* to defend the software industry, but then I thought "Why should I?", because she's right – what is the point to many of these games except to promote mindless violence?

I'm sure that the original concept of the home computer was to find a tool to help learning within the home, but what can you learn from blasting aliens or beating the hell out of someone. At least games like *The Sentinel* and *Interphase* teach you to survive by using your wits and not always ▶

game of mine, and a pretty good conversion too, but I'd much prefer an innovative 3-D game like *The Sentinel*.

So why won't the software industry return to the heady days when someone could get away with marketing an original game and do well. I suppose that money governs that one. The only company that seems to push originality with quality is Electronic Arts. It was brave of them to release a game like *Populous*, which is original in its concept and dares to make games last longer than a mere five minutes.

So why doesn't the software industry take EA's example and push originality with quality, instead of conversions of arcade games that many people haven't seen in this country and which are usually utter crap or based on

# PREMIER MAIL ORDER

TITLE	PRICE	TITLE	PRICE	TITLE	PRICE
3D Pool	11.99	Ghostbusters 2	16.99	R Type	16.99
Adv Ski Sim	4.99	Ghouls 'n' Ghosts	16.99	Raider	11.99
Airburner	16.99	Gilbert Escape Drill	11.99	*Rainbow Islands	15.99
Airborne Ranger	14.99	*Golden Shoe	16.99	Rally Cross	12.99
Altered Beast	16.99	Gold Rush	16.99	Reach For The Stars	16.99
A-Max	134.95	*Guerilla War	14.99	Red Heat	15.99
A-Max with Rom	249.95	Gunship	14.99	Return of the Jedi	9.99
Alien Legion	16.99	Hard Drivin	13.99	Return to Genesis	11.99
*Amos	34.99	Hawkeye	12.99	Rick Dangerous	15.99
APB	12.99	Helter Skelter	9.99	Road Blasters	13.99
Archipelagos	16.99	Heroes of the Lance	16.99	Robocop	15.99
Austerlitz	16.99	Hostages	14.99	Rocket Ranger	14.99
Bal of Power 1990	16.99	Hot Football	9.99	Rolling Thunder	7.99
Barbarian 2 Pal	14.99	*Hounds of Shadow	16.99	Run the Gauntlet	15.99
Barbarian Pal	7.99	Hunt for Red October	14.99	Running Man	14.99
Bard's Tale 1 or 2 Hint Book	5.99	Hybris	19.99	RVF Honda	14.99
Bards Tale 2	17.99	Indy Jones Action	13.99	Scrabble Deluxe	13.99
Batman Caped Crusader	15.99	Indy Jones Adventure	16.99	Sim City	16.99
Batman The Movie	16.99	Interphase	16.99	Shadowgate	14.99
Battlehawks 1942	16.99	Int Karate +	16.99	Shadow of the Beast	22.99
*Battle of Britain	16.99	Iron Lord	16.99	Shinobi	12.99
Battle Squadron	16.99	It Came from Desert (1 Meg)	19.99	Shoot em up Con Kit	19.99
Beach Volley	16.99	*It Came from Desert Data	9.99	Silent Service	14.99
Bionic Commando	7.99	Jaws	12.99	Silkworm	12.99
Blasteroids	14.99	J Nicklau's Golf	15.99	Skate or Die	17.99
Blood Money	16.99	Jet	26.99	Sleeping Gods Lie	14.99
Bloodwych	16.99	Joe Blade 2	4.99	Space Ace	29.99
Bloodwych Data Disc	9.99	Kennedy Approach	14.99	*Space Harrier 2	16.99
Bloodwych + Data Disc	19.99	Kick Off	11.99	Space Quest 1 or 2	16.99
Bomber	21.99	Kick Off X-tra Time	7.99	Space Quest 1 or 2 Hint Book	6.99
Bombuzal	14.99	Kind Words 2	34.99	Speedball	11.99
*Cabal	16.99	King's Quest 1,2,3 or	6.99	Star Wars Trilogy	16.99
California Games	16.99	4 Hint Books	6.99	Starglider 2	14.99
Captain Blood	7.99	King's Quest 4	21.99	Stealth Fighter	16.99
Carrier Command	14.99	King's Quest Triple	26.99	Steve Davis World Snooker	12.99
Centrefold Squares	12.99	Knightforce	14.99	Stormlord	13.99
Chase HQ	16.99	Kristal	17.99	Street Fighter	7.99
Chessmaster 2000	16.99	Kult	16.99	Strider	16.99
Chronoquest	18.99	Leaderboard Birdie	16.99	Strike Force Harrier	9.99
Colossus Chess X	15.99	Laser Squad	12.99	Strip Poker 2+	9.99
Commando	13.99	*Lost Patrol	16.99	Stunt Car Racer	15.99
Conflict Europe	16.99	Legend of Djel	16.99	Super Cars	13.99
Continental Circus	13.99	Legend of Sword	14.99	Super Wonderboy	16.99
Cosmic Pirate	14.99	Leisure Suit Larry	16.99	Superbase Personal	59.95
Crazy Cars 2	14.99	Leisure Suit Larry Hint Book	6.99	Superman	14.99
Cyberoid 2	11.99	Leisure Suit Larry 2	19.99	*Talespin	17.99
*Day of the Viper	16.99	Licence to Kill	12.99	Tech	13.99
Dominator	13.99	Light Force	16.99	Teenage Queen	11.99
Double Dragon	11.99	Lombard RAC Rally	14.99	Test Drive 2 The Duel	21.99
Double Dragon 2	13.99	Lords of Rising Sun	19.99	Thargan	15.99
Dragon Ninja	15.99	Magnum 4	16.99	The Cycles	16.99
Dragon Spirit	12.99	Manhattan Dealer	14.99	Thunderbirds	16.99
Dragonslair 1 meg (1 Meg)	29.99	Manhunter New York	21.99	Thunderblade	16.99
*Drakkhen	21.99	Manhunter N.Y. Hint Book	6.99	Tiger Road	17.99
Drum Studio	4.99	Maniac Mansion	16.99	Time and Magik	12.99
Dungeon Master	15.99	Menace	12.99	Times of Lore	14.99
Eagle's Nest	4.99	Microprose Soccer	14.99	Titan	14.99
Elite	14.99	*Midwinter	15.99	Toobin	13.99
Empire Strikes Back	11.99	Millenium 2.2	16.99	Tracers	16.99
Espionage	11.99	Mr Hel	15.99	Tracksuit Manager	11.99
F16 Combat Pilot	16.99	Nebulus	17.99	Triad	11.99
F29 Retalitor	16.99	Netherworld	17.99	Triv Pursuit New Begin	12.99
Falcon F16	19.99	New Zealand Story	16.99	Turbo Outrun	16.99
Falcon Mission Disc 1	13.99	Ninja Warriors	13.99	*TV Sports Basketball	19.99
Fantavision	29.99	Nitro Boost	4.99	TV Sports Football	17.99
Fed of Free Traders	19.99	North and South	16.99	*Typhoon Thompson	11.99
Fighting Soccer	16.99	Omega	21.99	*UMS 2	15.99
*Final Battle	16.99	Onslaught	16.99	*UMS Scenario 1	8.99
Fish	14.99	Operation Neptune	14.99	*UMS Scenario 2	8.99
Flight Sim 2	26.99	Operation Thunderbolt	16.99	Univ Military Sim	14.99
Flt Disc 7 or 11	13.99	Operation Wolf	14.99	Untouchables	16.99
Flt Disc European	13.99	Outrun	7.99	Verminator	14.99
Flt Disc Japan	13.99	P47	15.99	Victory Road	14.99
Foot Man 2 Exp Kit	8.99	Paperboy	12.99	Vigilante	10.99
Football Director 2	11.99	Passing Shot	13.99	Vindicators (Domark)	9.99
Football Manager 2	11.99	Peter Beardsley	12.99	Virus Killer	8.99
Footballer of the Year II	13.99	Phantom Fighter	13.99	Voyager	15.99
Foundations Waste	7.99	Phobia	14.99	W C Leaderboard	8.99
Fun School 2 (6-8)	11.99	Pioneer Plague	14.99	W Gretzky Hockey	14.99
Fun School 2 (over 8)	11.99	Police Quest	16.99	War in Middle Earth	14.99
Fun School 2 (under 6)	11.99	*Police Quest 2	16.99	Waterloo	16.99
Fusion	7.99	Police Quest Hint Book	6.99	Weird Dreams	14.99
Future Wars	16.99	*Pool of Radiance	19.99	Xenon 2 Megablast	15.99
Galactic Conqueror	14.99	Powerdrift	16.99	*Xenomorph	16.99
Galdregons Domain	12.99	Precious Metal	15.99	Xybots	12.99
Garfield	9.99	Prison	9.99	Zak McCracken	16.99
		Purple Saturn Day	14.99	Zany Golf	16.99

## SPECIAL OFFERS AT £3.99 EACH

NAME	PRICE
Alien Strike	3.99
Challenger	3.99
City Defence	3.99
Fortress Underground	3.99
Jump Jet	3.99
Mike The Dragon	3.99
Phalanx 2	3.99
Quantox	3.99

## SPECIAL OFFERS AT £7.99 EACH

NAME	PRICE
Armageddon Man	7.99
Alien Syndrome	7.99
Blackjack Academy	7.99
Bermuda Project	7.99
Bombjack	7.99
Craps Academy	7.99
Crazy Cars	7.99
Dark Castle	7.99
Deja Vu	7.99
Fernandez Must Die	7.99
Galactic Invasion	7.99
Gee Bee Air Rally	7.99
Gold Runner	7.99
Hacker 2	7.99
Hellfire Attack	7.99
Insanity Flight	7.99
Incredible Shrinking Sphere	7.99
Manix	7.99
Mindfighter	7.99
Nigel Mansell GP	7.99
Nord And Bert	7.99
Romantic Encounters	7.99
Skychase	7.99
Sea Stalker	7.99
Seconds Out	7.99
Soldier of Light	7.99
Spellbreaker	7.99
Stock Market	7.99
Strike Force Harrier	7.99
Tetra Quest	7.99
Tetris	7.99
Thexder	7.99
Three Stooges	7.99
Tracers	7.99
Typhoon	7.99
Vixen	7.99
Winter Olympiad 88	7.99
Zynaps	7.99

## ELECTRONIC ARTS SPECIAL OFFERS

NAME	AMIGA
Archon Collection	8.99
Arctic Fox	8.99
Bards Tale 1	8.99
Battlechess	16.99
Deluxe Music Con Kit	69.99
Deluxe Paint 3	59.99
Deluxe Photolab	59.99
Deluxe Print 2	59.99
Deluxe Production	89.99
Deluxe Video	59.99
Ferrari Formula 1	16.99
Fusion	16.99
Interceptor	16.99
Marble Madness	8.99
Populous	16.99
Populous Promised Lands	8.99
Powerdrome	16.99
Skyfox 2	8.99
World Tour Golf	8.99

Titles marked \* are not yet available and will be sent on day of release.

Please send Cheque/PO/Access/Visa No. and expiry date to:

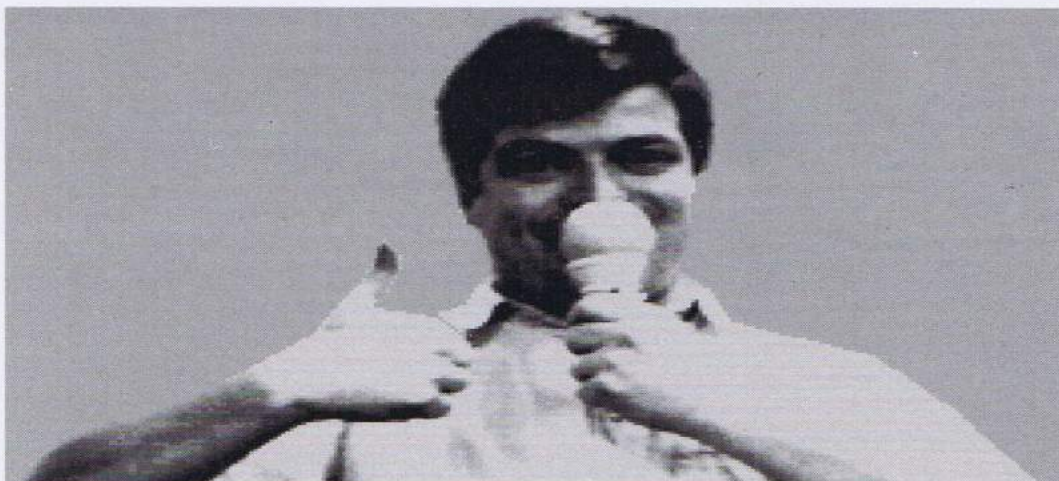
Dept AF03, Trybridge Ltd, 8 Buckwins Square, Burnt Mills, Basildon, Essex, SS13 1BJ.

Please state make and model of computer when ordering. P&P inc. UK on orders over £5.00. Less than £5.00 and Europe add £1.00 per item. Elsewhere please add £2.00 per item for airmail.

These offers are available Mail Order only.

Tel. Orders: 0268 590766.

**Can you tell the difference between a vanilla ice-cream and a vanilla A500? If so, the leadership of the Conservative Party could be yours! See 'Vanilla Wibble'.**



your weapons. So what is your opinion and what do the members of the software industry have to say for themselves?

**Jon Gigney  
Chelmsford, Essex**

PPS Get the software companies to listen to a track from Janet Jackson's Rhythm Nation 1814, called "Living in a World (They Didn't Make)" - it says it all.

*I don't think the situation is quite as depressing as you make out. The software houses certainly do produce too many unoriginal games, but people keep buying them. If everyone stops buying shoot-em-ups they will stop producing them. I think the situation has improved in the last year and the success of games like Populous will encourage more software houses to try to emulate it by producing more varied software.*

**VANILLA WIBBLE**

1. What is: a) wibbling? (as in "Jason's wibbling")  
b) a dongle?  
c) a vanilla A500? (sounds tasty)
2. How much internal RAM can the A500 look after and what is the total that it can handle?

Please can we have page numbers on every page. It makes it so much easier to find the place you want to get to. And how about a sort of colour coding to determine between music, graphics, coverdisk etc. I'm sure this would save a lot of people a lot of hair.

**David Baker**

1. a) *Wibbling is what the whole Amiga Format team does best.*  
b) *A dongle is a piece of hardware that plugs into a computer, usually for software protection.*  
c) *It's an A500 that tastes of vanilla of course.*
2. *Officially you can get 1 meg internally but some boards manage two. Externally you can add on up to 8 meg.*

**NO IMMUNITY**

Let me first introduce myself as a fairly practised computer user and secondly a fairly new Amiga user (only two months) and thirdly a very pissed off virus receiver. In a way, a virus is one of those "it will never happen to me" phenomena, but it did.

First of all it wiped out 10 blank disks, my original WB 1.3 and then took over my *Deluxe Paint II*, which was what really

pissed me off. The people who write these viruses are real mindless idiots and make a lot of misery which could be avoided. I'm thinking of getting a virus killer to eliminate it, so is *Virus X 3.2* any good? And can I get the virus out of the system forever?

Hopefully I can get the software replaced, but that is not really the point. The point I'm making is that it's going to take a long time to return and get the

software replaced and check for viruses in the future, and continually checking, which is quite time consuming, while these \*\*\*\*\* who put in the viruses are laughing their heads off at what they've created. IT'S SICK.

Just one more question concerning viruses. Is the virus actually present in the hardware, or only on the software? Can I run a word processor with the printer safely? I'm asking because when I was dumping a screen from *Deluxe Paint II* to my printer I had a read/write error and the next thing I knew the disk was corrupted.

**S Smith  
Tonbridge, Kent**

*Viruses can only exist in software - on floppy or hard disks. If you turn off at the plug before switching disks the virus cannot copy itself. If it gets onto a hard disk it is more of a problem and will have to be forcibly evicted or it will trash every disk you use.*

*Virus X 3.2 is a good virus killer and is available as public domain software. There is also a new update called Virus X 4.0 that copes with even more infections.*

**PACKING THEM IN**

I own a 1 meg Amiga but I don't take the Michael out of the Atari ST. I used to own an ST until I saw the Amiga, which I bought the next day and got rid of the ST.

Yes, technically the Amiga is a far superior machine but you must stop to realize that the ST, apart from being cheaper anyway, offers much better value for money in the form of the Power Pack. I am the assistant manager in a computer shop and have worked with computers for four years, so I know.

The Amiga Batman Pack may be a good idea, and yes it out sells the ST 20-1, but it just can't stand up to the ST's pack. The Batman pack has only about £150 worth of software with it and they forgot the joystick. Whereas the ♠

**THE BEST 50 OF THE DECADE...**

My top 50 pieces of software of the decade are...

- |   |  |
|---|--|
| 1. <i>Elite</i> - Firebird                            | 26. <i>F18 Interceptor</i> - Electronic Arts     |
| 2. <i>Starglider/Starglider II</i> - Rainbird         | 27. <i>Rebelstar</i> - Firebird                  |
| 3. <i>Interphase</i> - Imageworks/Mirrorsoft          | 28. <i>Populous</i> - Electronic Arts            |
| 4. <i>Batman the Movie</i> - Ocean                    | 29. <i>Feud</i> - Mastertronic                   |
| 5. <i>ATF</i> - Digital Integration                   | 30. <i>Magic Knight Trilogy</i> - MAD            |
| 6. <i>Tetris</i> - Mirrorsoft                         | 31. <i>Psion Chess</i> - Psion                   |
| 7. <i>The Sentinel</i> - Firebird                     | 32. <i>Colossus Chess X</i> - CDS                |
| 8. <i>Archipelagos</i> - Logotron                     | 33. <i>Shoot-em-up Construction Kit</i> - Outlaw |
| 9. <i>New Zealand Story</i> - Ocean                   | 34. <i>Rocket Ranger</i> - Cinemaware/Mirrorsoft |
| 10. <i>Batman</i> - Ocean (the isometric 3D game)     | 35. <i>Three Stooges</i> - Cinemaware/Mirrorsoft |
| 11. <i>Grand Monster Slam</i> - Golden Goblins        | 36. <i>Bio Challenge</i> - Delphine              |
| 12. <i>Deflektor</i> - Gremlin                        | 37. <i>Leaderboard</i> - Access                  |
| 13. <i>Knight Lore</i> - Ultimate                     | 38. <i>Space MAX</i> - Final Frontier            |
| 14. <i>Mortville Manor</i> - Lankhor                  | 39. <i>The Pawn</i> - Rainbird                   |
| 15. <i>Deluxe Paint III</i> - Electronic Arts         | 40. <i>Guild of Thieves</i> - Rainbird           |
| 16. <i>Wordstar 4</i> - Micropro                      | 41. <i>Passing Shot</i> - Imageworks/Mirrorsoft  |
| 17. <i>Wizball</i> - Ocean                            | 42. <i>Virus</i> - Firebird                      |
| 18. <i>Driller</i> - Incentive                        | 43. <i>Whirligig</i> - Firebird                  |
| 19. <i>Dark Side</i> - Incentive                      | 44. <i>Carrier Command</i> - Rainbird            |
| 20. <i>Total Eclipse</i> - Incentive                  | 45. <i>UMS</i> - Rainbird                        |
| 21. <i>Obliterator</i> - Psygnosis                    | 46. <i>Balance of Power 1990</i> - Mindscape     |
| 22. <i>Hitchhiker's Guide to the Galaxy</i> - Infocom | 47. <i>Nebulus</i> - Hewson                      |
| 23. <i>Beyond Zork</i> - Infocom                      | 48. <i>Koronis Rift</i> - Lucasfilm              |
| 24. <i>3D Pool</i> - Firebird                         | 49. <i>Starstrike</i> - Realtime                 |
| 25. <i>TLL</i> - Vortex                               | 50. <i>Star Ray</i> - Logotron                   |

**Jon Gigney  
Chelmsford, Essex**

*I like your idea for the best software of the decade: judging from the list you've had several computers but show a distinct bias towards games. I would like to see other peoples' lists of the best software of the '80s, but keep them to a top 10 and let's not just have games.*

ST pack has £500 worth of software and a joystick.

Now, don't take me wrong, personally I think the ST is a total lemon, but I'd like to see Commodore get even remotely close to a pack that good. They have the Class of the 90's pack, but that's too expensive at £580.

**Lorne Smith**  
Bexhill-on-Sea, E Sussex

*If the Amiga outsells the ST by 20-1 then obviously nobody is particularly influenced by the quantity of software in the Power Pack. The Amiga Batman pack is good value for money and is recognised as such. This shouldn't be a competition to see who can squeeze the most games into a bundle: it's about quality not quantity.*

**INQUISITIVE MIND**

I think your magazine is brilliant. I have a few questions to ask.

1. In the Issue 5 demo of *Ghostbusters II* I got the first part of the scoop but I couldn't find the other two parts. Are they in the demo?
2. Is there a conversion of *Dinosaur Isle in 1930*?
3. In Issue 5 I saw three Abacus books on Amiga 3D Graphics, Amiga C for Advanced Programmers and Amiga Graphics Inside & Out, is there one on icons?
4. Is there a follow up to *Robocop*?
5. I like *Virus*. Are there any other games like it?

**James Snowden**  
Chesterfield, Derbyshire

1. No, the other two parts are not in the demo.
2. Don't know - does anyone else?
3. No.
4. Yes, but there is no release date set for it as yet.
5. Unfortunately, no. It would be nice to have a few, wouldn't it?

**AND WHY NOT**

Firstly a quick crawl and fawn - terrific mag, fab, well-balanced, excellent, mega, rubberly!

Secondly I hope you can furnish me with some info. I read with great interest in *Empire* magazine of an American program called *The Collaborator* which was designed to effectively screentest scripts for movie writers. *Empire* produced no information in its article about which software house the program was produced by, which formats the program was available on or even if it was yet available in this country. The article was a bit of a tease, to say the least.

Please can you help a struggling writer to turn his Amiga into a Barry Norman lookalike! Keep up the good work. And why not?

**Simon Cooper**  
Lymington, Hants

*I'm afraid it's the first we've heard of The Collaborator - if anyone out there knows something about it please do let us know.*

**COME BACK DEVPAC**

Could you please put *Devpac* on your Coverdisk again as first time round I was an ST owner. So when I came to my senses and sold the ST, all my *ST/Amiga Format* disks went too. I reckon it was only for *Devpac* on the Coverdisk that your readership became so great that you could afford to split into two mags anyway (the mag is amazing though).

If there is no chance of this could you tell me if I could get that back issue. Think of it though... if you also included an instructions on programming bit each month your sales would quadruple! Hi-Soft would make a bomb too as we would all upgrade to *Devpac 2*.

Could you also tell me why you don't use a compactor on your disks, I do every month and save loads of space.

**Neil Smith**  
Llanfaes, Powys

*There are still a few back issues of ST/Amiga Format Issue 10*

*available with the Devpac disk on - contact our Somerton office to get hold of one.*

**PRAISE AND CRAZE**

I have some praises and crazes. Firstly some praises. *Future Wars*...WOW... Congratulations Delphine, a marvellous piece of programming, the further you get in the game the better the animated sequences, brilliant. Any more games like this in the pipeline?

Praise No 2 - *Cinemaware*. Nice job on *It Came From the Desert*. Pity it's only 1 meg though, only the select few will be able to see the brilliant graphics involved - a superb opening sequence. Can't wait to see the next one.

Now the crazes, the things that make you go Aaaaaaagh... and all that.

Are Commodore going to start bundling a decent mouse with their packages? You see mine is dead, won't work, defunct, kaput. He runs around OK, he puts the arrow where I want it, but when I tweak the little fellow's ears - nothing, not even a click. On closer inspection I found the leaf contacts were black.

These things are silver plated. A few years ago some 'bod discovered that silver has better conductivity than copper, so everything became silver plated - hi-fi jack sockets, micro switches etc. But what old bod didn't take into account was that silver... tarnishes, and when you get a film of tarnish, no more contact. If you try to clean the contacts in your mouse, before you know it you have worn through them and you are now rubbing your bare finger up and down the emery paper. Enter the dead mouse. What is wrong with the carbon and silicon type of contact that is used in digital watches?

Craze No 2. *Fissionchip*. Remember the game *Krystal of Kanos*? I find it difficult to com-

plete the game because of the crappy fast load system used. I sometimes get three screens at once or the one I have just left. I even got a screen full of red-headed pirates. It looked like one of those that game designers use when animating characters.

You see, *Fissionchip*, most of us forked out £400 on our Amigas to get decent graphic adventures, so make it worthwhile eh? Don't release the game if it isn't going to work properly. And no, there isn't anything wrong with my system because even my software dealer has stopped stocking the game because of returns. Same goes for *Kult*. Stop releasing junk - it doesn't work on 1.3 machines. I returned the game to my dealers and we still haven't heard anything and that was in August. Have you got any ideas, *Format* team?

**Michael Harvey**  
Southwold, Suffolk

*Mice wear out like anything else - there are replacements available, notably the Naksha mouse reviewed last issue and the Boing mouse reviewed in Issue 5.*

*There's certainly no excuse for releasing bugged software, but incompatibility problems are tougher to deal with - getting the most out of the Amiga and sticking to the compatibility rules isn't always possible.*

**WHOSE DOMAIN?**

Remember the original version of Kirsten Orbarski's excellent *Soundtracker* program. I bought this program, but since then I've got hold of many other hackers' versions that are much better. I know that these probably used some of the original code, but can these be classed as PD or shareware? They may have one or two bugs in them but they are far superior to the original.

I now use this program extensively for music but a few of my friends want copies of the



**Tearing out his hair over tarnished silver mice, strange loading systems and 'Praises and Crazes' in general.**



program. I'm not going to let them have a copy unless I'm sure it's PD or shareware.

**Lorne Smith**  
Bexhill-on-Sea, E Sussex

Although the Hackers will claim that their versions of Sound Tracker are rewritten from scratch, and that no code from the original is used whatsoever (which is most probably the case), Sound Tracker (in all its incarnations) still remains on dodgy ground. Legally, Sound Tracker is still a commercial product that cannot be distributed in the same way as PD software, therefore most PD suppliers will not touch it with a barge pole. This is undoubtedly a great shame as Sound Tracker is an excellent program that is used extensively for the production of music tracks within both demos and even commercial games software. We even recently heard a rumour that a well known games software house was actually employing a very well known cracker just to make changes to the version of Sound Tracker they were using. Try instead the PD programs Game Music Creator or Sound Monitor.

#### COLOURFUL WIFE

I feel compelled to write so other readers may appreciate how helpful their wives can be when everything is not going to plan.

My husband has just bought a Star LC10 colour printer for his Amiga. He spent days using every combination possible, trying to do a graphic screen dump.

I decided to read his recently delivered Jan 1990 issue of *Amiga Format* - the article 'Mystery Tour'. I asked him if he had been in the system drawer and initialised the printer. I'll never forget that look on his face. He now spends many an hour printing colour pictures of Garfield, spaceships and tigers.

The lesson to be learnt is, even though the wife might think a workbench is found in the garage and shell is a type of petrol, she can already read *Amiga Format* or his instruction book while the husband uses trial and error.

**Mrs I Burns**  
Spennymoor, Co Durham

PS My husband has just had his 40th birthday and life with his colour printer has made him young again.

I've heard of many things making someone feel young again, but never a colour printer. It just goes to show that the Amiga is a computer for all ages and sexes. Oh, and are females better readers?

#### INFECTED, DEJECTED

Your Coverdisk with last month's *Amiga Format* had some interesting stuff on it, eg Gamebusters, WB Hacks, PPrefs etc. So imagine my happiness when I booted it up to find all that good stuff on it. I decided however to check it with my Virus Killer 3.1. Imagine my disgust when I checked it and found a North Star virus on it.

I thought - it can't be a virus, I've always known *Amiga Format* was a reliable magazine. I then thought of if I had played any games beforehand. The bad news was that I had and it's destroyed two-thirds of my collection.

It sickens me to see a good coverdisk packed with good utilities and (sometimes) a good game demo, but with a virus on it. As I found it I had no alternative but to kill it. It ruined most of my disk. Then I found a non-standard boot code on another one of your disks and had to kill that as well.

I know you claim that most of your programs are virus free but this is out of the question. Either put a stop to these viruses and non-standard boot codes or I won't get your magazine any more.

**Lee Anderson**  
Nelson, Lancs

Your letter isn't too clear about the order in which things occurred. It is almost certain that the virus came from one of your disks and not the Coverdisk. Issue 6 carried the usual boot-block that states that the disk is virus free. If that message doesn't appear when you boot up then the boot-block has been altered. Our boot-block is non-standard but don't

use a virus killer on it unless the 'virus free' message fails to appear when the disk is booted up. NB: the message appears when you boot up from the Coverdisk and not when you boot up from a Workbench disk and then load the Coverdisk.

The Coverdisk master is always checked for viruses before it goes to our duplicators and it is virtually impossible that the Coverdisk could get a virus between leaving our offices and reaching your computer.

#### PIRATES AND PROTECTION

This piracy thing. Personally I think that anyone who makes a profit out of pinching some poor sod's hard work should be shot, or at least put away forever. These scumbags are destroying the industry and if they don't stop then we are going to be stuck with some very expensive doorstops. On the other hand there are some good points to note.

The pirates' distribution network is bigger, better and faster than the software houses' so why bother to fight them with these clever copy protection things that never work in the end anyway? I've seen loads of pirated games and I'm sure you have too, that work better than the original. One to note is *Xenon II*. The original only worked on a few Amigas due to the copy protection and was on two disks, whereas the pirated version worked on all Amigas and was only on one disk.

I admit that they must have some protection on their disks, but what's wrong with the key disk

technique? This worked very well as it allows you to make a backup copy for your own use, yet requires the original disk to work.

One to note on this is *Deluxe Music Construction Set*. I've seen copier programs that claim to copy this and even have parameters for it, but they never seem to work. Seems to be pretty good protection to me. Even better, why not use a counter technique as used on PCs. This allows you to make a certain number of copies then no more, unless you un-install a copy. Both of these methods also allow you to copy the software onto a hard disk, something quite a few people would like.

Also, this manual protection, not a bad idea but it just doesn't work. If I see a game that uses this method then I just don't buy it. Pure and simple as that. There's nothing more annoying than having to find a word in a manual, especially if, like me, you're always losing them anyway. Besides, it takes a pirate about half an hour to cut this out as well.

**Lorne Smith**  
Bexhill-on-sea, E Sussex

We don't see "loads of pirated games" - we don't see any, because we want nothing to do with them or the pirates that produce them. Copy protection is never going to stop the determined pirate, though it does help restrict the casual copier. As I've said before in these pages, the difficulty of the problem doesn't mean we should give up. Pirates don't have a moral or legal argument to justify their actions, they are thieves, pure and simple. ■



The symptoms would seem to indicate a serious case of infection: catch 'Infected, Dejected' to find out how!

# GURU'S MEDITATION

## CHRISTMAS PUZZLE ANSWERS

My wife has hidden my Christmas present under her dress (which, by the way, is hanging up in the wardrobe). Wrapped in gold and silver foil paper, about the size of X-Cad Designer (drool), but there again it could be just a big bottle of aftershave.

Derek Boyle  
Billingham, Cleveland

Well done on correctly solving the puzzle, Derek. We hope you did get X-Cad: if not and you got the smelly lotion, we calculate that it will take you 14 years 237 days, 3 weddings, 22 office parties, 72 trips to the theatre and 127 evenings in a night club to use the stuff up. Alternatively, drink it.

## OH DEARY, DEARY ME

Last month proved to be another poor month for cock-ups - only two. I just don't think they're trying to make mistakes, you know - damn poor show. All they could come up with was getting some captions out of place on Pages 18-19 and failing to identify the map on Page 136 as being of Shadow of the Beast. They even got all the Previews shots numbered correctly again. They're taking all the fun out of bodge-spotting.

## CAPTAIN WHINGE

...coffee machines, Cortina drivers, Barry Manilow, unoriginal games, football hooligans, push-top taps, the new can ring-pulls, ads for Whiskas, obvious wigs, poodle haircuts, the UK defence budget, losing the end of the Sellotape, musical phone holds, car drivers wearing hats, professional fouls, critics of the long-ball game, Kylie Minogue, broken photocopiers, lift music, people with three middle initials, personalised number plates, plastic spoilers, Australian soaps, losing a contact lens, broken zips, people who pick their noses at traffic lights, flares, broken paving slabs, losing shirt buttons, the penny change from things that cost £7.99, viruses, exclusives, cash machines that give out £20 notes, reviews of demos, anyone who steals my bios...



## CYBERTWITS

It doesn't take much to get Mark Strachan and Dominic Wheatley of Domark to dress up in funny clothes, but that's enough about their private lives. Here we have the idiosyncratic chappies promoting their new game Cyberball by wearing lots of padding and trying to look mean. Sorry chaps, but such charming, likeable guys as yourselves could never look mean and nasty - nice to have the silly pictures back though.

## COMPETITION WINNERS

Here are the winners of the competitions run in the January issue.

**MOONWALKER COMP** - Answers 1)c, 2)b, 3)b; WINNER (Discman, CD's, T-shirt and game): M Tawo, Fixby; **RUNNERS-UP** (T-shirt, badge and game): R Nicol, Hatfield; M Cozens, Dymchurch; Steven Hendry, Trentham; CJ Holt, Hough; Arash Shababi, Kingswood; Nicola London, Hornchurch; Andy Banwell, St George; MJ Stevenson, Hyson Green; CS Tubbs, Leek; James O'Hanlon, Peckham; Michael Morris, Bridlington; Troy Helm, Brighton; E Wilkinson, Ashington; Amar Patel, Wapping; Iain Brown, Tongham; Jason Cook, Somercotes; David Black, Kings Heath; Michael Barber, Stamshaw; J Dalby, Pontyberem; Tom Chapman, Earls Barton; Andrew Butler, Westcliff-on-sea; N Muldrew, Milton Keynes; Matthew King, Verwood; RG Davenport, Tickhill; Krisjan Robert Smith, Lymington.

**HARD DRIVIN' COMP** - Answers 1)a, 2)c, 3)a; WINNERS (radio controlled Ferrari): IS Brown, BFPO 43; S Edgey, Lower Woodside; Andy Grant, Kilmorack; Alan Robertson, Portslade; Nicolas Michaelides, Ealing.

**TRACK COMP** - Answers 1)b, 2)b, 3)c; WINNER (Superpic): Vic Storey, BFPO 40; **RUNNERS-UP** (Acquisition 1.3): Robert Baulk, Wheatley Hills; A Mottram, Hatton; Christian Boatman, Swansea; Kevin Mills, Hawley; Paul Hine, North Petherton.

**ACTIVISION COMP** - Answers 1)c, 2)a, 3)b; WINNER (22 games): Kevin Hobden, Lincoln.

**PHOTOFILE COMP** - Answers 1)b, 2)a, 3)c; WINNER (Sniper camera): David Carter, Woking. The winning tie-breaker was - 1 would photograph the Battle of Hastings because the original tapestry offers such a low resolution and all the perspective is wrong.

## NEXT MONTH

Next month's issue, out on Thurs 8th March, will be warmly wonderful in a fluffy kind of way. It will have loads of cuddly features to bring a rosy glow to your keyboard. There's a fascinating piece on multi-media, more programming with Dave Jones, a look at scanners and a fabulously addictive Coverdisk demo.

## ADVERTISER'S INDEX

16 Bit Centre .....116  
17 Bit Software .....88  
A-Z Computer Supplies ..... 55  
AB Computer Supplies .....126  
Ace Repairs .....91  
Amiganuts .....88  
Ampower .....124  
Anco .....40  
Ark .....81  
Artronic .....18  
Ashcom .....78  
Athens .....66  
Audition Compact  
Services .....72  
BBD Dust Covers .....101  
B & B Computer Supplies .....124  
Best Prices .....94  
Bitman .....88  
Blitsoft .....91  
Business Computer  
Centre .....104  
Byte Back .....52  
Calco .....101  
Club 68000 .....82  
Computer Express .....48  
Computer House .....27

Computer Store .....78  
Computer Technology .....97  
Crazy Joes .....88  
Dataplex .....130  
Datel .....58-61  
Delta Pi .....129  
Demon Software .....91  
Digicom .....62  
DS & K Designs .....117  
Elite .....30  
E.M.P.D.L .....91  
Esp Software .....117, 129  
Evesham .....132  
First Choice .....130  
First Micro .....79  
GFA .....123  
Grandslam .....51, 75  
Guiding Light .....108  
Hammersoft .....108  
Harwoods .....28-29  
Hi Soft .....21  
Hobbyte .....81  
Home Based .....129  
Incredibly Useful  
People .....129  
Intermediates .....22

Joy of Life .....124  
JTS .....87  
Ladbroke .....106  
Mail Centre .....66  
Manderin Software .....97  
Manor Court .....87  
Matrix .....108  
MD Office Supplies .....105  
Medusa .....94  
Megaland .....65  
Memory Expansion .....76  
Merlin Express .....8  
Micronet .....14  
Microtext .....126  
Miditech .....101  
Midland Microsoft .....98  
Mindscape .....IBC  
Mirrosoft .....39  
MJC Supplies .....124  
Nova .....87  
Oasis .....68  
Ocean .....IFC-3, OBC, 34  
Palace .....115  
PD Purple .....86  
Photofile .....81  
Power Computing .....43-45

Premier Mail Order .....134  
Psychosis .....6  
Quadsoft .....126  
Ramsoft .....114  
Red Computers .....126  
Riverdene PDL .....91  
Rombo .....11  
Sabre 16 .....98  
Selec .....130  
Senlac .....87  
Siren Software .....55  
Soft Exchange .....97  
Soft Machine .....72  
Softsellers .....70-71  
Softstore .....114  
Softville .....92  
Software City .....113  
Software Superstore .....84  
Strategic Plus .....126  
TAM Marketing .....117  
Trilogic .....56  
TurboSoft .....66  
UK Amiga .....108  
Unique Technique .....108  
W.C.A .....88  
Worldwide .....104



# SPACE ROGUE™



Rocket into the striking realism and spectacular visuals of **SPACE ROGUE**, the phenomenal 3D space flight simulation. You'll discover authentic flight dynamics, precision navigational aids and sophisticated weapons technology as you maneuver through turbulent ion storms and confront alien foes. You'll visit space stations and mining outposts — swapping tales with pirates, drinks with friends and goods with merchants. It's the seamless integration of space flight and role playing that makes **SPACE ROGUE** the first ORIGIN Cinematic Experience™.



IBM/COMPATIBLE VERSION



IBM/COMPATIBLE VERSION



APPLE VERSION



Available for: IBM/Tandy/compatibles, Commodore C-64/128, Apple II series. Coming soon for Amiga and Macintosh.

# M I N D S C A P E

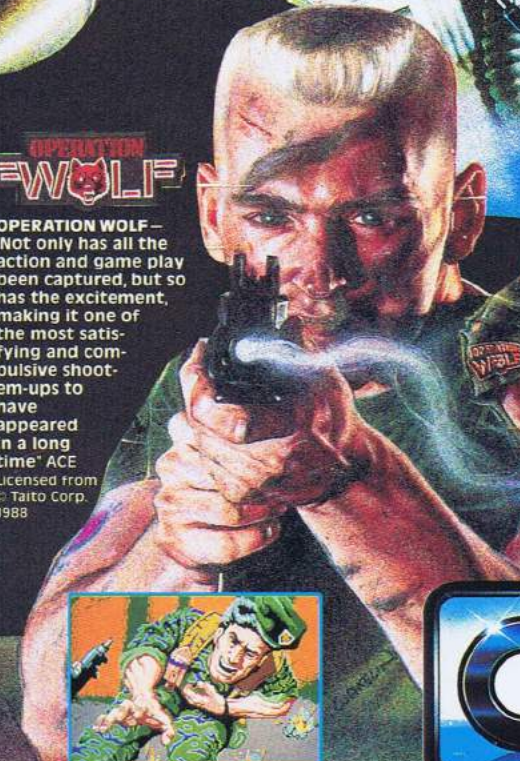
For further information on Mindscape products and your local Dealer, contact:  
 Mindscape International Limited, PO Box 1019, Lewes, East Sussex BN8 4DW. Tel. (044 486) 545/547.

# LOCK & LOAD

# MAGNUM

**AFTERBURNER** — You've played the arcade smash — now experience the white-knuckled realism of a supersonic dogfight at home!

Using your heat-seeking missiles and laser anti-aircraft fire, can you be top gun against supersonic swarm? AFTERBURNER™ SEGA © are trademarks of SEGA ENTERPRISES LTD.



**OPERATION WOLF** — Not only has all the action and game play been captured, but so has the excitement, making it one of the most satisfying and compulsive shoot-em-ups to have appeared in a long time! ACE licensed from © Taito Corp. 1988



**DOUBLE DRAGON** — Join in deadly combat with the savage street gang of the infamous Shadow Boss. Use whatever weapons come to hand as you pursue the gang through the slums, factories, and wooded outskirts of the city to reach the Black Warrior hideout, for the final confrontation with the Shadow Boss himself! © 1988 Mastertronic International, Inc.



**DOUBLE DRAGON**

4

**HIGH CALIBRE GAMES IN ONE PACK FOR YOUR ATARI ST/AMIGA**



**BATMAN THE CAPED CRUSADER**

The character and backgrounds are straight from the superhit TV series. The soundtrack is glorious remixed stereo. The one... TM & © DC Comics, Inc. 1988. All Rights Reserved.

