

Volume 2  
Number 10  
March 1990  
£1.95

A Database Publication

# AMIGA

## COMPUTING

# VIDI!

**Breakthrough  
in colour  
manipulation**

**Mouses: The  
best on test**

WIN OVER  
**£9000**  
OF  
PD SOFTWARE

ISSN 0954-5948



9 770954 594009

03

# Guaranteed Window Seat.

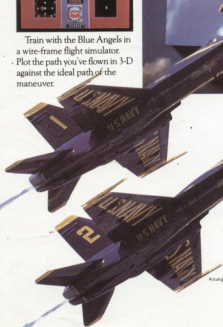
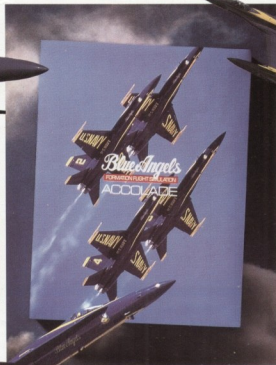
You've got the best seat at the air show — the cockpit of your F/A-18. And you're about to fly where only angels dare.



Blue Angels Formation Flight Simulation™ puts you wingtip-to-canopy with the acrobatic U.S. Navy aviators who've become legends of the sky. From ground school to the wild blue yonder, you'll practice and perform over 25 actual air show maneuvers.



Train with the Blue Angels in a wire-frame flight simulator. Plot the path you've flown in 3-D against the ideal path of the maneuver.



Actual game screens from IBM PC/EGA version of the game. Other versions may vary.



Then dance with danger in one of four Blue Angel F/A-18s — a jet that can twist 500 knots into a 5g vertical climb.

Pierce the clouds on a wing and a prayer. Engage your formation in delta rolls, left



echelon rolls and fan breaks. Wow the crowd during three heavenly air shows.



You can watch all of your maneuvers from a variety of camera angles, review the performance on Instant Replay — even take a bird's-eye tour of the entire airfield in "Free Flight" mode.

If you're a blue chip Blue Angel, they'll induct you into the "Pilots Hall Of Fame." Because only the best and the brightest can take 32,000 pounds of military thrust and turn it on a dime.

Blue Angels Formation Flight Simulation. Everything you've ever experienced in flight simulation is about to take a 360-degree diamond roll.

**ACCOLADE™**  
The best in entertainment software.™

Accolade Europe Ltd.  
Unit H, The Lombard Business Centre,  
50 Lombard Road,  
London SW11 3SL



# OVERSEAS MEDIA DISTRIBUTORS LTD



OVERSEAS MEDIA DISTRIBUTORS LTD

OM HOUSE,  
139-141 DOMINION ROAD,  
GLENFIELD, LEICESTER LE3 8JB

TELEPHONE: [0533] 877733

FACSIMILE: [0533] 873999

MINIMUM ORDER VALUE £7.50

3 1/2" UNBRANDED DISKS

- TOP QUALITY • CERTIFIED
- GUARANTEED • 100% ERROR FREE LABELS SUPPLIED

	25	50	100	200	500
DSDD 135TPI	£19.50	£33.50	£59.50	£115.00	£247.50
SONY BULK DSDD 135TPI	£22.50	£38.50	£68.50	£129.00	£269.00

BUY 200 DISKS AND GET A FREE -100 CAPACITY STORAGE BOX

3 1/2" BRANDED DISKS

CHOOSE FROM  
SONY OR  
VERBATIM



1 BOX	3 BOXES
£13.90	£12.90
5 BOXES	10 BOXES
£11.90	£10.90

Price per box of 10 disks

3 1/2" DISK STORAGE SYSTEMS

3 1/2" x 10	£1.95
3 1/2" x 50	£6.75
3 1/2" x 100	£8.90
3 1/2" x 120	£9.90

- LOCKABLE • ANTI-STATIC
- SMOKED LID



- LOCKABLE
  - STACKABLE
  - IMPACT RESISTANT
- Holds 150 disks  
**£24.50**



## 3 1/2" EXTERNAL DISK DRIVES



- AVAILABLE FOR AMIGA OR ATARI-ST
- FULLY COMPATIBLE
- SLIMLINE DESIGN
- 1 MEG UNFORMATTED CAPACITY
- 12 MONTHS WARRANTY

NEC DRIVE **£79.00**  
CUMANA **£85.00**

## MANUAL DATA SWITCHES



All metal case with rotary switches.  
Available in RS232 and Centronics.

2 WAY	£15.50
4 WAY	£24.50
x OVER	£22.50

PRICES  
INC. OF VAT  
AND  
DELIVERY

## DUST COVERS

- GOOD QUALITY • ANTI-STATIC
- ATARI 520/1040 ST FM **£5.50**  
AMIGA 500 **£5.50**  
PRINTERS (please specify) **£4.50**

## PRINTER CABLES

- AMIGA 500/ATARI ST **£6.90**  
CENT/CENT 36M/36/M **£8.50**  
RS232 M/M **£8.50**  
RS232 M/F **£8.50**

## PRINTER STANDS



WIRE  
PRINTER STAND  
Made of safety plastic  
coated steel wire

**£12.50**



YU-S25 K/D PRINTER STAND

Made of moulded plastic. Feeds and revolves paper underneath the printer. Takes up hardly more space than the printer itself.  
YU-S25A: for 80 col. printer **£27.90**  
YU-S25B: for 132 col. printer **£32.50**

MOBILE  
PRINTER STAND  
Rugged steel frame.  
Height adjustable basket  
for output paper & base  
shelf for input paper.  
Self assembly -  
includes castors.

80 column **£57.50**  
132 column **£74.50**

## STAR PRINTERS



- LC10 **£169.00**  
LC10 COLOUR **£219.00**  
LC24-10 **£269.00**

★ FREE  
PRINTER CABLE  
+ BOX OF PAPER  
WORTH  
**£23.80**

## COMPATIBLE PRINTER RIBBONS

Amstrad 8256/LQ3500	£3.90	NEC P2200	£4.50
Amstrad DMP 2000/3160	£2.75	Panasonic KXP 1081	£4.50
Amstrad DMP 4000	£4.50	Panasonic KXP 1124	£7.90
Canon PW 1080	£4.25	Shinwa CP 80	£4.50
Citizen 1200	£4.25	Star NL10	£3.90
Epson LQ 800	£3.90	Star LC10	£3.90
Epson LX 80/86	£2.90	Star LC10 Colour	£7.90
Epson MX/FX/RX80/		Star LC24-10	£4.50
FX/LX800	£2.90		

BUY 10 GET 1 FREE

MANY OTHERS AVAILABLE - PLEASE CALL

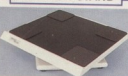
## LISTING PAPER

11x9 1/2" 60GSM	Box of 2000	£15.90
PERFECT A4 85GSM	Box of 1000	£13.90

## COMPUTER LABELS

- SELF ADHESIVE • TRACTOR FED
- Packed 2000 3 1/2" x 1 1/8" **£11.90**  
1, 2 or 3 across 4" x 1 1/8" **£12.90**

## MONITOR STAND



HOLDS 14" MONITOR **£14.50**

All monitor stands revolve  
360° and tilt up to 25°

## COPY HOLDERS



With  
adjustable  
arm  
80 Column **£13.50**  
132 Column **£19.50**

Desk Top



**£7.90**

## SUPER MOUSE PAD



DIMENSIONS  
270 x 220 x 6  
**£4.90**

## HOW TO ORDER

• CREDIT CARD

Telephone us on  
(0533) 877733 (24 hrs)  
to place an order

• CHEQUE

Please make your cheques  
payable to: Overseas Media  
Distributors Ltd.

All orders received by noon  
are despatched same day.  
If you require goods urgently  
they can be despatched for  
next day delivery for £7.50

Managing Editor  
Derek Meakin

Editor  
Simon Rockman

Assistant Editor  
Jeff Walker

Staff Writers  
Nic Veitch  
John Kennedy

Production Editor  
Peter Glover

Art Editors  
Mark Nolan  
Doug Steele

News Editor  
Don Lewis

Advertisement Manager  
John Snowden

Advertising Sales  
Wendy Colburn

Editorial: 0277 234434  
Administration: 0625 878088  
Advertising: 0625 878088  
Subscriptions: 061-357 2961  
Telcom Gold: 72-MAG001  
Telex: 94081191  
Fax: 0625 878086  
Printed Mailbox: 634568383

Published by:  
Database Publications Ltd,  
Europa House, Adlington Park,  
Adlington, Macclesfield SK10 4NZ.

ISSN 0952-5948

Amiga Computing welcomes articles for publication. Material should be typed or computer-printed, and preferably double-spaced. Program listings should be accompanied by disc. Please enclose a stamped, self-addressed envelope, otherwise the return of material cannot be guaranteed. Contributions can only be accepted for publication by Database Publications Ltd on an all rights basis.

© 1990 Database Publications Ltd. No material may be reproduced in whole or in part without written permission. While every care is taken, the publishers cannot be held legally responsible for any errors in articles, listings or advertisements.

Amiga Computing is an independent publication and Commodore Business Machines (UK) Ltd is not responsible for any of the articles in this issue or for any of the opinions expressed.

News trade distribution: European Sales and Distribution Limited, Unit 1, Burgess Road, Ivyhouse Lane, Hastings, East Sussex TN35 4NR. Tel. 0424 430422.

## AMIGA SCENE

### 7 LATEST NEWS

Leaked info on Commodore's CD playing Amiga 500. High spec portable due soon. New screen sucking cartridge for the A500.

## AMIGA ARCADE

### 18 HOTTEST ACTION

What is Domark up to? Look out for some really good stuff like Wings of Fury and Typhoon Thompson. Plus Populous leads the way.

## COVER STORY

### 48 VIDI GOES COLOUR

High speed digitising and colour usually mean expensive hardware. Rombo has a new solution which rewrites the rules.

## MACHINE CODE

### 53 SCROLLS AND WIBBLES

Jolyon Ralph shows how to liven up the bane of a demo writer's job: The scrolly. Plus some secrets spilled on the new enhanced chip set.

## COMPETITION

### 58 WIN OVER 300 PD SOFTVILLE DISCS

If it's hip to be square then you have no worries. Search the square for the magic words and qualify for some great public domain prizes.



## LAB REPORT

### 60 MICE ON TEST

We look at the best of the Amiga mice currently available and look at the options for anyone who happens to suffer from muriphobia.

## REVIEW

### 67 EPSON GQ5000 CHEAP LASER

Well, you may not think that £1,400 is cheap, but you used to pay that for a daisywheel printer not long ago. David Foster investigates.



## BUSINESS

### 70 ARNOR'S PRODATA

Knowledge is power, getting to the information is as important as having it. Nic Veitch looks at the bees' knees of information storage.

## PROGRAMMING

### 77 GOOD, BAD AND UGLY

John Kennedy looks at programming with style and finds that some rules will help you to get ahead whatever language you use.

## GAME KILLER

### 82 MAX THE HACKS

Having problems with Hard Drivin', Rock n Roll, Stormlord or some of the other TV toughies? No worries, Max the Hax will put your right.

## LETTERS

### 83 EZRA SURF'S POSTBOX

The best letters page this side of Ursa Beta Minor, where readers are right and writers are readers. It's where your kind words can end up.

## TAILPIECE

### 114 CLOSE GADGET

What is all the fuss about Unix? Will it hurt good 'ole AmigaDos? Should you trade in your A500? Or are the techies taking over?

## GAMES REVIEWS



Battle Squadron - Page 22



Weird Dreams - Page 44

- Battle Squadron sets the new shooty standard
- Indiana Jones Adventure. Action for thinkers.
- Watch your diet before playing Weird Dreams
- Darius Plus action in a confined space
- Become a mayor for a day with Sim City
- Stunt Car Racer the road hog's dream
- Laser Squad strategy with added zap
- Empire calls Time gentlemen please
- Knight Force, lukewarm swordplay
- Psynopsis say Nevermind



Space Quest III - Page 26



Indiana Jones and the Last Crusade - Page 28

# 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

### 3.5" DISCS & BOXES

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

### 5.25" DISCS & BOXES

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 135 TPI .....	£120.00	600 DS-DD 135 TPI .....	£258.00
350 DS-DD 135 TPI .....	£160.00	750 DS-DD 135 TPI .....	£315.00
500 DS-DD 135 TPI .....	£220.00	1000 DS-DD 135 TPI .....	£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 Atari 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
Atari 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**



Trade Accounts Welcome

## M.D. OFFICE SUPPLIES

18 CRESCENT WAY, FARNBOROUGH, KENT BR6 9LS

TELESALES HOTLINES: 0689-61400

All prices include VAT and Delivery UK only. EOE



Education Orders Welcome



# AMIGA SCENE

## Amiga CD system shown in secret

FAVOURED developers in California are reported to have been shown a new Amiga 500 based system for launch in the summer. Based on an enhanced Amiga 500, it includes a CD rom player and is targeted at the rapidly growing home entertainment market.

The unit is designed to sit with a hi-fi, satellite dish decoder, cable system, video recorder and TV in

the user's lounge. It will play normal audio CDs through the hi-fi but can also be used as a games machine with the addition of a remote keyboard and mouse which use an infra red link.

The CD player can be used to store up to 600 megabytes of data - which gives scope for some awesome graphics.

Compact disc manufacture is now pretty cheap,

there is no reason why a two floppy disc game couldn't be produced as cheaply for this system as a single CD program.

The target price is \$600, which works out to be around £430 with Vat.

A separate box which allows existing Amiga users to add a CD Rom will also be launched, although there are no details as to when or how much it will cost.

## Incentive magic for satellite

BRITISH Satellite Broadcasting will use Amiga to show a programme which benefits the medium. The Satellite Game uses technology first developed for the ITV dungeon programme Knightmare, but with an extra twist.

Incentive Software has customised its Freescape graphics system for the programme. Using an Amiga 2000 with a 68020 processor card and what might well be the world's longest joystick lead courtesy of Euromax.

Two levels of Amiga graphics are used. The first stores high resolution frame rendered images on video tape.

The second uses Freescape for interactive graphics as contestants control a robot which wanders around satellite in the game.

The Enigma Satellite is the key to saving mankind, put into orbit by some aliens, it contains a time bomb. Sounds exciting enough to be worth buying a squarial for.

## A word from your micro

IT may not tell you to fasten your seat belt but your Amiga could soon be voicing other commands thanks to David Sands, the man responsible for the first talking dashboard.

From his company Sands Technology (0223 420288) has come Speakeasy II, a phonetic speech synthesiser which makes it easy and cost effective to add synthetic speech to computers.

It produces clear and natural speech by programming a model of the human vocal tract. As a complete boxed unit it costs £402. As a board needing 12 volt supply and a loudspeaker it costs £310.

## EA wins for charity

ELECTRONIC ARTS is the first winner of the new Commodore award for Enterprise and Vision. The EnVi award was won by Deluxe Paint III, which the judges felt was the program which best utilised the Amiga's features.

Mark Lewis, the Managing Director of Electronic Arts and general good egg, said: "We are very proud that Deluxe Paint III has been chosen to be the first recipient of this award. The Amiga is a great machine which Electronic Arts has supported from the beginning".

Along with the award goes a prize of £2,000, half of which goes to a nominated charity, the other half to the software company. Commodore and Electronic Arts decided that the full amount should be given to the Royal Variety Club charity.

The runners up were Music-X, The Works (Platinum Edition), Sculpt Anime 4D and Shadow of the Beast.

For more details on Deluxe Paint III, including information on how to upgrade from Deluxe Paint II for £30, contact Electronic Arts on 0753 49442.



Mark Lewis with the Commodore award

## Commodore looks at Konix

UNCONFIRMED rumours report that a high level team from Commodore US is investigating the possibility of buying the rights to the Konix Multi-system.

If true, it could mean that we will see the revolutionary games machine with a chicken-head logo. Such a deal would also be likely to mean a long delay before the Konix hits the streets.

When Commodore has bought the rights to technology in the past it has spent a long time refining, develop-

ing and production engineering the hardware.

The Hyperion PC technology took several years to emerge as a Commodore machine. The Amiga also benefited from many changes between the sale of the company and launch of the machine.

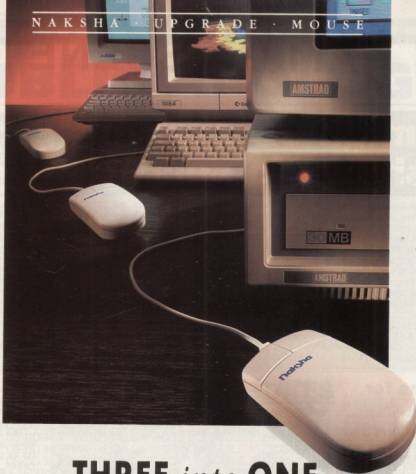
There are loads of parallels between the Multi-system and the Amiga, which would make it a neat fit in the history of computing.

## Lost contact

Would the programmer who told Jeff Walker about his C interpreter please get back in touch ASAP. Thanks.



NAKSHA · UPGRADE · MOUSE



## THREE *into* ONE

FOR · USE · WITH

A M S T R A D · P C

A T A R I · S T

C O M M O D O R E · A M I G A

The Mouse now plays a major role in all your applications whether you're lost in a world of business software, art and design or presentation graphics, *an efficient mouse is a must!*

Now there is a true upgrade available, the *Naksha Mouse*, it will connect to all three machines *effortlessly*. But unlike the standard manufacturer's mice, the *Naksha Mouse* offers ultra high 280 DPI resolution and silk smooth operation... *less drag, more speed*.

100% compatible, no additional drivers required and installation that's as easy as 1...2...3, the *Naksha Mouse* is supplied complete with adaptors, mouse mat, mouse holder and a discount voucher for Electronic Arts software.

Who says *three into one* won't go!

The *Naksha Mouse* only £39.99 plus VAT

# Naksha

For further information including dealer and educational pricing please contact:

Naksha (U.K.) Limited, 29 The Wharf, Warrington WA1 2HT.

Tel: 0925 56398 Fax: 0925 574375

All Trade Marks and Registered Trade Marks are acknowledged.

## It's the Amiga 200,000

WHEN production engineer Dean Dibsdall went to Harpers Computers in Woking to buy an Amiga 500 he had a surprise in store. As the 200,000th person to buy a 500, he was greeted by Commodore's regional sales manager Martyn Chipperfield who presented him with a Class of the '90s software bundle.

Dean's prize includes Deluxe Paint II, Superbase Personal, Publisher's Choice, Maxiplan 500, Dr T's Midi Recording Studio and Midi interface, Amiga Logo, BBC emulator and BBC programs, a box of 10 blank discs, a mouse mat and a disc wallet.

Commodore claims that more than two million Amiga 500s are now in use worldwide.

## Portable Amiga soon

GIGATRON, the German manufacturer of Amiga expansions, is to launch a portable Amiga at the Hanover Fair. This uses a redesigned motherboard and either a gas plasma or



Dean Dibsdall and his wife Olivia receive their software 'surprise' bundle from Commodore regional sales manager Martyn Chipperfield

16 grey scale LCD display. The gas plasma unit costs £2,500 and the LCD version £1,700.

Options include up to 2 meg ram on the mother unit and one of the new generation of 23ms 2.5in hard discs with 20, 40 or 100 meg capacity. All machines have slots for standard Amiga 2000 peripherals.

Commodore has not been involved with the development of the system, but is aware of the unit. The machine is expected to go on sale sometime between April and July.

Gigatron has a number of other new products in the

wings, including an Amiga with a 68020 on the motherboard which expands the normal Amiga ram limit from nine meg to 3.6 gigabytes. For more details of UK availability contact Jerry Howells at Fast Forward Marketing on 021 333 3563.

## Exhibitions group is expanding

DATABASE Exhibitions which was responsible for the pre-Christmas record-breaking Computer Shopper

Show at Alexandra Palace has been taken over by the Blenheim Exhibitions Group.

Database was formed in 1982 by the Cheshire-based Europress Group and after five years growth was producing more than a dozen shows a year attracting more than 1,000 exhibitors and almost 200,000 visitors. Two years ago it launched the International Desktop Publishing Show and this year it inaugurated the European Computer Trade Show.

Blenheim is Europe's leading independent exhibitions and conference organiser. Among its 200 European exhibitions and

DMA Design, the programming team responsible for Blood Money, has moved into hardware. Designed as a tool for programmers, The Monster Cartridge offers many of the features which were popular on toolkits for the C64. A really smart peripheral, it has a Z80 processor and either 16k or 64k ram.

The cartridge has a full 68000 disassembler with automatic disassembly from the Program Counter on entry. A copper disassembler shows hardware registers with proper names (COLOR0 rather than \$180). Just the thing for examining hackers' demos.

All standard monitor commands are available, including the ability to

dump, edit and search memory. A slow mode option forces software to run at one hundredth normal speed.

The software for the Monster is on disc. This is great for easy upgrades or cus-

screen as an IFF file.

The success rate in being able to stop any software, take over the display, have a look around memory and disassemble is claimed to be 100 per cent.

DMA Design will produce

## New cartridge is a developer's dream

tomising the software. The Monster64 has some extra special features: A hi-res monitor screen, DMA dos to allow the reading and writing of data even if the operating system is completely dead, and screen grabbing that saves the current

poke sheets for many popular games allowing infinite lives and energy.

Software is being written to allow recovery of data after a guru crash. If for you are typing some text or source, and the Amiga gurus while saving, press

the monster button, use the SEARCH command to find the text and then use DMA dos to save. Converting files from DMA dos to Amiga dos is simple with the utility provided.

The Monster cartridge will even interrupt disc loading and resume the load for all types of disc access.

Pricing is not yet final but expect around £70 for Monster16 and £90 for monster64.

The Monster Cartridge is available for the A500/A1000 and plugs into the expansion bus. It does not carry the bus through, which means it won't work with an A590. A card for the Amiga 2000 is a possible development.

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 AND  
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" - 40 Capacity Library	
Case x 5	£4.75
3 1/2" - 10 Capacity 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	£32.80
100	£58.00
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 &amp; P&amp;P. UK &amp; BFPO ORDERS ONLY

Cheques and Postal Orders to:



24 HOUR ORDERLINE 0597 87784

**M  
C  
S****Manor Court Supplies Ltd**

Dept. AMC03, Glen Celyn House, Penybont, Llandrindod Wells, Powys, LD1 5SY

Tel: 0597  
87792

EDUCATION AND GOVERNMENT ORDERS WELCOME



PLEASE NOTE OUR PRICES INCLUDE P&amp;P + VAT



Contriver High Resolution Mice  
complete with free mouse pad & mouse  
pocket for only

**£24.99**

PLEASE SPECIFY MODEL REQUIRED

**HOW TO ORDER**

Phone us with your ACCESS or VISA details on: 01-530 5988  
or send Cheque/P.O. made payable to "CASUALS",  
and send with delivery details to:

**CASUAL COMPUTER SUPPLIES**

174 George Lane  
South Woodford  
London E18



The NEW "Power Drive" External  
Disk Drive with Internal Power  
Supply. 720k formatted, 3.5"  
Double Sided Floppy Drive  
ONLY

**£84.99****QUANTUM  
PAINT**

High quality software for your ST

**Features:**

32 Colours in Medium Resolution.  
128 in Low Resolution.  
\$12 in Low Res Super palette mode.  
4096 in Low Res Interface mode.  
High Speed drawing option includes:  
Box, Circle, Ellipse, Lines, Editable Brushes,  
Cut, Copy, Lasso, etc.  
Real Time Delta Frame Animator in 128  
Colour mode

ONLY

**£29.99**

+ MUCH MORE

**NOW READ  
THIS**

As an introductory offer (while current stocks last), we will supply  
1 x C820 or C830 mouse, 1 x 'Power Drive'  
& 1 x Fanta Vision for the all in price of:

**£99.99!!**

Normal value £139.97

conferences are 70 based on information technology.

"Database will significantly strengthen our existing portfolio of successful information technology events", said Blenheim's UK executive chairman David Jones. "There is clearly tremendous potential to accelerate the moves Database have already made into continental Europe by networking with our pan European capability".

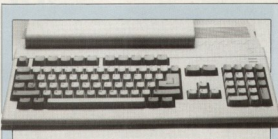
Managing director of Database Michael Meakin added: "Joining Blenheim will open up many new avenues for developing the company in the international computer marketplace. The outstanding success of our first European Computer Trade Show underlined for us the importance of expanding into Europe and with 1992 coming ever closer we intend to capitalise on the increased export opportunities that are rapidly becoming available".

The present directors of Database Exhibitions will remain with the company.

## GCSE packs for Amiga

EDUCATIONAL software house LCL (0491 579345) has launched Amiga versions of three of its best selling programs.

Taking pupils from 11 years up to GCSE, Micro Maths ranges from simple topics such as averages and percentages up to advanced work including calculus and matrices. Each program includes instructions, an unlimited number of prob-



## Amiga link for Z88

FULL use is made of the Amiga's intuition in a new link-up with the Cambridge Z88 from Music Suite (0239 710594).

Z88-Amiga link provides a friendly interface for archiving Z88 files on Amiga discs. It converts Z88 files for the Amiga's ProText and Scribble word processors and vice versa, converts Z88 files for use on Superbase, can send Z88 printer output to parallel printers and is also available in French and German language conversions.

The software costs £19.95 and link cables £12.95.

lems and complete explanations of wrong answers.

Covering an age range from eight years old up to GCSE, Micro French emphasises practical French using passages from newspapers and signs found in France.

It also teaches users how to speak French and is considered suitable for travellers as well as students.

Also spanning the eight to GCSE range, Micro English includes more than 580 questions with some programs incorporating real speech to back up the written work.

All LCL courses have been adapted to fit in with the national curriculum and consist of 24 programs, two books and a voice tape where appropriate. They each cost £24.

ing, January) and recognised that it is a nettle which must be grasped, he has surprisingly failed to act.

A spokeswoman for the Department of Trade and Industry said: "The government has a heavy legislative programme for this session and other matters have taken precedence".

## DIY Midi interface kit released

GOOD news for do-it-yourself electronics enthusiasts who like to make music with their Amigas.

Alba Computing (031-316 4171) has launched an easy to assemble Amiga Midi interface kit which allows the Amiga to interface directly to a Midi network of synthesizers, drum machines and other computers.

"The interface is unique because it can be used with the Amiga A1000, A500 and A2000 models by the simple flick of a switch", said Steve Simpson of Alba.

It includes an etched PCB with component reference guide, opto-isolator and all the necessary resistors, capacitors, sockets, connectors and cables. Price, £23.95.

## Commodore picks new marketing team

BEEFING up its European operations, Commodore has formed a new marketing arm led by marketing vice-president of Commodore International Peter Bayley.

Called Commodore Marketing International, its brief is to bring a consistent and aggressive approach to the marketing of Commodore products through its European subsidiaries.

After joining Commodore from Compaq last summer, Bayley takes the roll of managing director with the new organisation and has gathered about him what is claimed to be "Europe's most powerful IT marketing team".

Director of product marketing is 37-year-old Jim Horsborough who was previously international marketing manager with Lotus Development International.

Director of channel strategy is Peter Turner, 40, who was UK general manager of Amarante, a subsidiary of Trinitech.

Taking on the directorship of marketing communications is 42-year-old Mike Grant, the former vice-president of international marketing services and communications with ICL and director of market research is Eddy Marie, 43, a multi-discipline, multi-lingual consultant who joins Commodore Marketing International from Cegos Makrotest.

Completing the line-up is director of strategic marketing Simon Dismore, 33, from NEC.

"We are putting new and coherent marketing strategies into place and will be providing a degree of support to our national subsidiaries which will enable each of them to take a stronger position in their particular markets", said Bayley.

## Stop thief

SOFTSTORE is offering a reward of an Amiga 500 for information leading to the conviction of thieves who stole a Vortex hard drive, serial number SN 98010741 A, a Roland CM32 music module, serial number ZA 31142, and a couple of Amigas. If you can help please ring Alan Batt on 0628 666320.

## Hackers get respite

NEW laws to curb computer hacking have been left out of the Government's proposed legislation for the coming year.

While Secretary of State for Trade and Industry Nicholas Ridley commended the recent Law Commission report on computer misuse (see *Amiga Comput-*



## More people going for IT

COMPUTERS can now be found in more than a quarter of British homes and public attitudes have shown a marked swing towards greater acceptance of information technology. This is revealed in a major survey carried out by MORI (Market & Opinion Research International) and commissioned by Computer Management Group, Europe's largest independent management and IT consultants.

Although home ownership of computers has risen dramatically, serious use of those machines is not so high. Not surprisingly, games are the most popular use with 70 per cent opting for simple shoot'em ups and 26 per cent going for the more serious games.

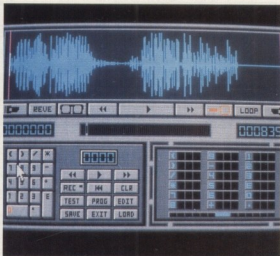
Twenty six per cent of owners use a word processor, 13 per cent do their accounts on computer, 11 per cent use a database, 10 per cent prepare graphics, and six per cent use spreadsheets and design applications.

Most dramatic changes are shown in schools. In 1982 less than one out of eight British primary schoolchildren used a computer at school but today this proportion has risen to three quarters. Half of Britain's secondary pupils used computers at school in 1982 but today nearly nine out of ten do so.

## Demo discs made easier

MASTER Sound, the latest Amiga offering from Microdeal (0726 68020), is a sound sampler featuring advanced sampling, editing and sequencing software.

It allows users to record sounds into the Amiga from personal cassettes, compact discs and the like. The sounds can be edited in a wide variety of ways then incorporated into demos and programs or played back along with other samples. Master Sound's editor



Microdeal's Master Sound Editor in operation

includes a realtime spectrum analyser and oscilloscope which allows users to monitor frequency content and volume thus ensuring that sample quality remains good.

The Master sound demo allows sequenced sounds to be played back from the sequencer while displaying IFF picture files. Master Sound for the Amiga costs £39.95 plus £1 postage and packing.

## Learning at home

PARENTS who would like to start their children reading before school age or give them valuable back-up tuition while at school will soon be able to enlist the help of their Amiga with a home version of Play and Read from educational software house Prisma (0244 326244).

Play and Read features a central character called Prof who helps children learn to read and includes five illustrated reading books plus story cassette. There are also plans for a schools Amiga version.

"Play and Read has proved so successful in schools that the logical next step was to publish home versions", said Prisma's Jason Salisbury. The Amiga version is likely to cost £29.99.

## Mail mix speeds the message

THERE are some cases where the old and the new can be combined to advantage and this is currently being shown by the MicroLink comms service.

Now fully operational is its Telemessages facility where a message starts its life in the ultra-modern realms of electronic computer mail and ends up being delivered by the postman.

This Email start and snail mail finish is not the paradox it seems. Allowing for the fact that not everyone has a telephone but all have a postal address, it provides MicroLink subscribers with an even wider base for communication.

Users key in their message which is then transmitted to a post office in the recipient's area from where a print-out in an envelope is delivered to the door.

The service is aimed at that urgent message for a host of recipients who may not have telephones but need to be contacted with all speed.

## Network deal

CONTINUING its commitment to open systems, Amiga Centre Scotland (031-557 4242) has signed a deal with Syndesis Corporation for the rights to market its forthcoming TSSnet product in the UK.

A software implementation of DECnet for the Amiga range, it provides both ethernet and serial connection and fully supports X Windows.

## They gotta horse

CHOOSING winners, not zebras is the boast of the latest betting program to hit the Amiga market - The Tipster from T.A.M. Marketing (0392 215485).

Complete with instructions and a fast entry data sheet, the program stores race information to give punters selection tips on each horse the next time it is running. The Amiga disc contains a program which installs The Tipster onto a hard drive.

It will evaluate national hunt and flat races and will also accept handicap and non-handicap races covering up to 999 horses and an unlimited number of races. Necessary data is entered from The Racing Post, start-up help is available on helpline for 30 days and on Read Me files. Available by post, The Tipster costs £29.95.

## Computer art goes on show

AMIGA art is alive and well and living in Switzerland. The Gallery Shirley in Geneva recently staged the country's first computer art contest for the Amiga. Entries included drawings in two and three dimensions and animations.

Those taking part were graphic artists, art students, computer enthusiasts and high school pupils. To accompany the event, New Yorker Steve Berkowitz provided music made with the Amiga.



# Flex Your brain power with



RRP £19.95  
OUR PRICE **£12.95**

Flippit is a fascinating and entertaining series of puzzles akin to Rubik's Clock and Cube, with over 100 levels of play – making it suitable for players of all ages and abilities.

The idea is to solve a puzzle by flipping tiles in the correct order. But it's not quite as simple as that, because different tiles have differing effects on their neighbours. Before you can complete a puzzle you'll first have to determine the rules governing each tile's effects.

Well designed and superbly presented, Flippit is guaranteed to give endless hours of mind-bending fun. And remember for just £12.95 whether for yourself, a friend or a relative it makes an ideal Christmas present. But make sure you order soon.

## THE POWER DRIVE



The Power Drive from Power Computing sets new standards in performance and quality for your Commodore Amiga™ or Atari ST™ computer at a price that leaves our competitors behind!

### THE FACTS

#### PC880 Amiga

Super Slim Case  
880K Formatted  
Thru Port  
Isolating Switch  
12 Month Guarantee

#### PC720 Atari ST

Super Slim Case  
720K Formatted  
Built in 240v PSU\*  
On/Off Switch  
12 Month Guarantee

Both Power Drives include cables and instructions  
\*The 720E takes it's power from the ST Computer



Available Now!  
Amiga PC880 £69.95  
Atari PC720 £79.95  
Atari PC720E £69.95  
(excludes cables and manuals including VAT)

Power Drives are available by mail order direct from Power Computing or at better computer retailers. Look out for the bright red box!




### Mail Order Hotline

**0800 581742**

Free Call!

### Power Computing Ltd

44A Stanley St • Bedford • MK41 7RW  
0234-273000

Trade distribution  01-300-3399

™ All trademarks are acknowledged

Please send me a copy of Flippit at the special offer price of £12.95 (5962)  
Payment: please indicate method (✓)

☐ Cheque/Eurocheque made payable to Database Direct  
☐ Access/Mastercard/Eurocard/Barclaycard/Visa Connect

Expiry Date: / /

No.

Name  Signed

Address

Post Code

Daytime telephone number in case of queries

Send to: Database Direct, FREEPOST, Ellesmere Port,  
South Wirral L65 3EB (No stamp needed if posted in UK)  
Order at any time of the day or night

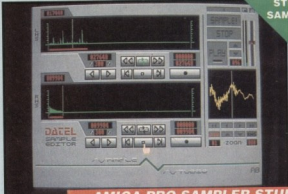
Telephone: 051-357 2961

Orders via Fax: 051-357 2813  
Orders by Postcard: Key 89, then 614568383  
Orders via MicroLink: MAG001

AMC3

# DATTEL ELECTRONICS

STEREO  
SAMPLING



## AMIGA PRO SAMPLER STUDIO + DATTEL 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 waveforms. 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 DATTEL 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.
- ✓ Plug 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

- ✓ Superiorly 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



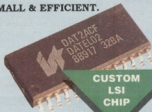
## SYNCR EXPRESS

SYNCR 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.



**ONLY £34.99**  
COMPLETE HARDWARE/SOFTWARE

If you don't have a second drive we can  
supply SYNCR EXPRESS  
together with a drive for  
**ONLY £104.99.**

WARNING 1988 COPYRIGHT ACT WARNING  
Datatel 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 licensor.

## 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!!

Δ 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...**

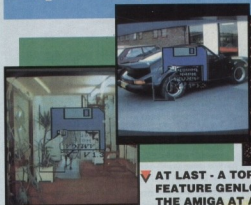
- ▼ Not only does the SP11 scan at 200 Dpi - it is also a superb image printer giving high definition output prints of scanned images, screen dumps etc.
- ▼ PLUS - It's a Photocopier!! Yes, just press start and it will deliver a superb photocopy of your original in seconds!

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

# 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 Dattel 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 equaliser.
- Complete with cables for A500/A1000/A3000 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 enclosure.
- 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.

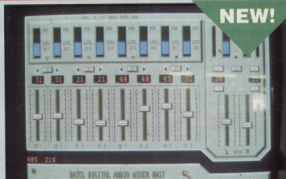
**DIGITAL SCOPE DISPLAY** - 2 channel inputs. Manual or continuous display. Timebase 500ns/div to 20us/div - accurate to 5%.

**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**

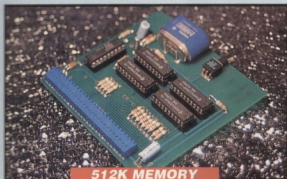
### EXTERNAL DRIVE SWITCH

- Switch in/out of external drives.
- Save on memory allocated for drives not currently in use.

➤ DF1 & DF2 controlled.

➤ Fits between computer & drive(s).

**ONLY £9.99**



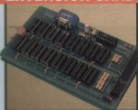
### 512K MEMORY EXPANSION

- 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 disable switch (not offered by some others, including ASOI 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 disable 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  
"Datatel 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**



# Amiga Arcade

## It's Populous – by a mile!



The trophy awarded to Electronic Arts and Populous for the Best Original Game of 1989

WITHOUT a shadow of a doubt last year's biggest success on the computer leisure scene was EA's Populous.

In the UK it has been voted by the industry as Best Original 16 Bit Game of 1989. The developer, Bulldog, has been awarded the coveted title of Programmer of the Year.

At the Tilt awards in France, Populous picked up Best Strategy Game, while Sweden's leading magazine, Dator, voted it not only Game of the Year but Game of the Decade as well.

Sales of the game across Europe on the Amiga and ST have now passed the 80,000 mark. Bulldog is currently coding Populous II for release later this year.

TENGEN is proud of having the rights to Escape from the Planet of the Robot Monsters, a game which catapults you into the thrilling world of comics, it says here.

An army of reptilians has enslaved the humans stationed on Planet X; they are being forced to create a robot army destined to destroy Earth! You take control of Jake and Duke as they fight their way through hordes of robots in

## Cartoon coin-op conversion

search of Professor Sarah Bellum.

At the end of each factory level the heroes are shown their reward status and must race to the next factory to set free more captives.

Points are earned for each captive freed, but it is hungry work



and food lockers must be broken into to gain extra energy.

Escalators can be a real problem because they have to be switched on to get them moving – and the switch is, of course, never near the escalator.

"It's like opening the pages of a comic", Tengen PR person Clare Edgeley told Amiga Arcade. "The presentation and feel of the game is superb".

## Robot rugby

CYBERBALL is a game played by robots – American Football at its most violent, full of colliding metal and exploding shrapnel.

You can choose your team from the likes of the Los Angeles Assassins and the New York Enforcers and select from more than 100 offensive and defensive plays.

The challenge of the game lies in working out the right tactics to annihilate the opposing team. The ball, some 3ft in diameter, weighs 350lbs and is made up of steel and high explosive. The robots are 20ft tall, 8ft wide and weigh in at 2,000lbs.

Converted from the Atari coin-op by Tengen, Cyberball costs £19.99 and is in the shops now.

## Burn and rule

DWARF MOUNTAIN lies at the heart of the Land of Anrea. At its summit stands a great castle. Three people crave the secret of immortality that lies within the throne room.

This is the scenario for Dragons Breath, the new game from Palace Software coded by Andrew Bailey with Simon Hunter on graphics and David Hanlon on sound.

It can be played by up to three people, any of the characters being controlled by either humans or computer.

Throughout the game each player will have to buy information and ingredients for spells from passing traders. Building a fighting

NEW out the 16 Blitz label is Hunter Killer, a combat submarine simulation developed in the States by Solarco.

You embark on a series of missions from straightforward search and destroy sorties to escort duties modelled on real WWII campaigns. There are 11 different submarines and 14 separate missions to attempt at a range of difficulty levels, as well as practice patrols.

Hunter Killer claims to outclass



Hunter Killer, budget submarine simulation from 16 Blitz

# All the latest news on the games software scene



Dragons Breath, although essentially an arcade game, draws heavily on fantasy role-playing imagery

force of dragons will help you to capture, govern and retain villages.

Your ultimate goal will be to find and retain the parts of the talisman which, when complete, will take you to Dwarf Mountain.

This is not a game to be played

in five minutes", Palace boss Pete Stone told *Amiga Arcade*. "Depending on the skills of the individual players, a game can continue indefinitely".

Dragons Breath will be out in "early 1990" priced at £29.99.

DELPHINE'S highly acclaimed *Future Wars: Time Travellers* received two major awards at the Tilt D'Or ceremony in Paris recently - Best Adventure and Best Soundtrack - before it had been released!

ZZKJ is coding Harley Davidson for Mindscape. The game will let you choose different set-ups for different situations, the race scene being just one of them. It is scheduled for an April release.

## Budget releases

submarine classics like *Silent Service* and *Hunt for Red October*. Only time will tell, but at £4.99 it seems to be outstanding value.

Hot on the heels of *Hunter Killer* will be two more original titles on the 16 Blitz budget label - *Conflict*, a simulation of the politics and economics of the Middle East, and *Grimblood*, a gothic whodunnit written by Mike Singleton, the name behind such classics as *Lord of Midnight* and *Shadowfax*.



The Guardians send you off on a mission in Broderbund's Typhoon Thompson

## A life on the ocean waves

BRODERBUND is to release the Amiga version of *Typhoon Thompson*. Taking control of a one-man jet sled, you must find and rescue a baby being held captive by the sea sprites of the ocean planet Aguar.

High speed chases are the order of the day, and controlling your sled in pursuit of an escaping sea sprite is no easy matter. Catching the sprite is even harder.

The challenge lies in jetting to each of the many clusters of islands to find a weapon. To get each weapon you will first have to deal with the flyers and then

the sprites. The flyers jump out of the islands and have to be shot. Each has a different property and will try to push you around, sink your sled, suck you towards them or zap you permanently.

Having seen off the flyer you turn your attention to the cutesy sprite which is legging it away from the island as fast as it can.

Hang around too long and it will change into a fish and rush back to the island - and then you'll have to start the process all over again.

*Typhoon Thompson* will cost £19.99 and is scheduled for release late February.

## REVIEWED

## THIS MONTH

109%	Battle Squadron
100%	Stunt Car Racer
94%	Space Quest III
93%	Indy Adventure
89%	Sim City
85%	Hard Drivin'
84%	Laser Squad
78%	Time
69%	Darius+
62%	Weird Dreams
53%	Nevermind
53%	Knight Force
26%	Hellraiser

## MAX HACKS

- Hard Drivin'
- Peter Beardsley Football
- Rock'n'Roll
- Stormlord
- TV Sports Football

## Gallup Chart

Last Month

1	Batman - The Movie Ocean £24.95	2
2	Chase HQ Ocean £24.99	NE
3	Hard Drivin' Tengen £19.99	NE
4	Robocop Ocean £19.99	8
5	Xenon 2 Imagination £24.95	1
6	Shadow of the Beast Pyramis £24.95	3
7	Interphase Imagination £24.99	NE
8	Op. Thunderbolt Ocean £19.99	NE
9	Stunt Car Racer MicroProse £24.95	5
10	Ghostbusters II Activision £24.99	NE

## New recruits

## for MicroProse

HAVING decided over a year ago to source and develop software in the UK, MicroProse, the American software house famed for its war simulations, has at last got round to forming an in-house development team.

Three programmers have already been recruited, Malcolm Hellon, Tim Walter and Adrian Scotney, with more expected this month. Their main arena of work will be in the coding of original simulation games and aiding in the conversion of MicroProse US products, traditionally written on the PC, to the Amiga and ST.

Amiga Arcade wishes the new team every success, and hopes this new era of growth for the company will help to prevent bugs creeping into the Amiga conversions of MicroProse games.



From left to right: Malcolm Hellon, Tim Walter and Adrian Scotney, the core of MicroProse's new in-house 16 bit development team

## Bombs away!

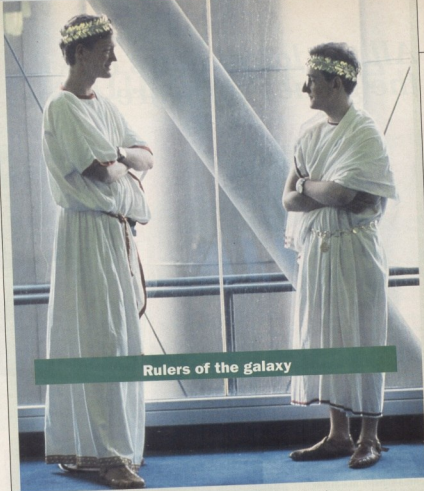
WINGS OF FURY – surprise, surprise – is a flying game. Your mission is to provide air support for a heavily damaged aircraft carrier, the USS Wasp, during the final years of WWII. Your plane is a Hellcat, armed with machine guns, bombs, rockets and torpedoes.

The game isn't a simple shoot-'em-up. There are seven ranks under which you fly, each offering a more challenging set of missions and objectives than the last. Remote and close-up views are featured, along with a simultaneous 3D display from the cockpit.

Should be available now at £19.99 on the Broderbund label.



Your Hellcat takes a hit in Broderbund's Wings of Fury



## Rulers of the galaxy

Imperium programmer Nick Wilson (left) and game designer Matthew Stibbe discover that working for Electronic Arts means having to wear the company uniform

THE Electronic Arts' follow up to The Hound of Shadow will be Imperium, a complex strategy game simulating 1,000 years of human development from 2020 to 3020. Your aim must be to become the last surviving emperor of the

galaxy, which will involve manipulation of economic, diplomatic, political and military matters.

Imperium is programmer Nick Wilson's first 16 bit project. He is being helped by game designer Matthew Stibbe, whose past expe-

rience is in computer wargames, and graphics artist Karl Copley, the man responsible for the stunning sepia graphics in The Hound of Shadow.

Scheduled for release in March at £24.99.

# Trip--TRON

## LIGHT SYNTHESISER



CONTROL PANEL



EVENT SEQUENCER



COLOUR COOKER



SILLYSCOPE



DISK ACCESS



STARFIELD EDIT



KML LANGUAGE

TRIP-A-TRON converts your AMIGA into an instrument on which you (and your mouse) can produce flowing patterns of light and iridescent colour, and match the display to any music.

THE RESULT is fascinating - pleasure enhanced by knowing that your sequences can be saved and enjoyed again or used as performance art at a disco or by a group.

SOON THE LIGHT-SYNTHESIST COULD BE UP THERE WITH THE GUITAR HEROES.

AMIGA TRIP-A-TRON with graphics effects allocated to most keys, is instantly useable. It also has its own programming language, KML, and beautifully designed pop-up screens, helping you create an infinity of unique effects.

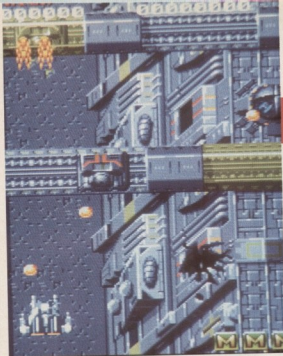
TRIP-A-TRON comes with a comprehensive 145 page manual in an attractive A5 ring binder.

# LLAMASOFT

Price - £29.95

LLAMASOFT 49 MOUNT PLEASANT TADLEY HANTS RG26 6BN TEL: 07356 4478





For a shoot-'em-up the game's got a lot of depth; so have the graphics



Cooperation is the key to the two-player game



**W**HEN it comes to vertical scrolling shoot-'em-ups, the words "veritable plethora" would adequately describe the number of them for The Machine That Does It Better. If we limit the search to really good ones, there's two that spring to mind. Battle Squadron isn't one of these two – it neatly sidesteps the competition and comes in number one by the fabled long chalk.

Now you might think these are mighty big words – indeed, most of them have more than five letters – but Battle Squadron doesn't deign to be the sequel to any other game, even though the same folks did Hybris, which is also in the top three.

Nor does it have a rather insipid tune licensed from somewhere else. Battle Squadron shows that there's plenty of new tricks in the old shoot-'em-up dog.

Style permeates this fabulous production. In homage to the age old tradition, Battle Squadron sports a plot of such horrific inconsequence that it would gag a

gameshow host.

Yea, it is written that Commanders Mayer and Bergin were returning from a successful reconnaissance mission deep into the heart of the Barax Empire.

And, lo, a great big huge ginormous flying thing did appear close by. And the good commanders saw that it had very large guns and had "Barax" written on its side and generally could be considered by all and sundry as a bummer.

And from this great big huge ginormous flying thing there did appear a tractor beam, and we're not talking Massey-Fergusons here. And it did proceed to draw the commanders' ship towards it and the commanders were a wee bit worried. But in the last garbled message they did manage to say that it won't be much fun getting us out, so you'd better send something pretty zappy.

You are that something. And you have a whole planet to destroy before tea time.

Back in the real world (now the





# BATTLE SQUADRON

I bring you love and deeper understanding

coffee's worn off) your elegant little ship is moved about in the time honoured way via joystick, or mouse if you're feeling silly or are player two. Or both.

The play area is a full 256-line, 64-colour (or 32-colour and some extremely clever shading) scroller, with tiny strips shaved off the sides to give it the perfect arcade aspect ratio. Your weapons can be upgraded through more than 25 levels to a degree that the only way the flying nasties can get to you is from the sides. They know that trick, and they use it.

There are some phenomenally cunning enemies that can turn well nigh invisible before trying to catch you unawares. There are also some incredibly stupid ones which have to rely on very thick armour and a very high rate of fire. Both work out equally nasty.

If you took an Amiga running Battle Squadron, put it in a large wooden box and put it in an arcade, it would compete on level terms with dedicated machines with really fast processors and

more memory than you could shake a stick at.

The attract mode is very pleasantly noisy, and the fine in-game effects don't seem to suffer any when you have the equally fine tune running. These people really know how to make the Amiga sing.

Everyone went gaga over Xenon II, and rightly so – it was the best available then. But now Battle Squadron is the best. Xenon II scored the perfect 100 per cent. How can we express that Battle Squadron is even better? Hmm. I'll show you how ....

Stewart C. Russel

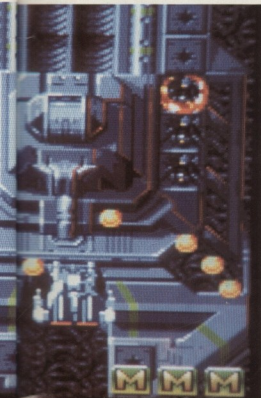
*Battle Squadron*  
£24.99  
Electronic Zoo



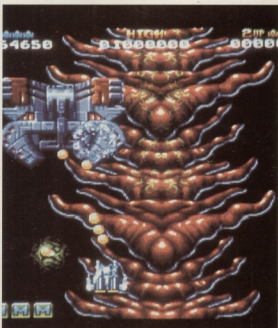
Overall – 109%



He's turning green! I do believe this alien is about to be wasted!



Hey, buddie,  
where are you?  
I need help with  
this guy



The graphics are so well drawn in parts that you feel you could just reach out and grab them



# SIM CITY

King for a day, or a century?

BEING a mayor isn't, as is widely held, all about dressing up in silly frocks and leading a procession once a year. Well, maybe a bit of it is, but there are some pretty tough decisions to be made too, like what areas of natural beauty to destroy and industrialise, how high to set the rates, building roads to combat traffic congestion and building expensive residential areas for incredibly rich people – like mayors – to live in.

Sim City will terraform a suitable landscape for you and set the clock back to the year 1900. How the New Town development proceeds from here is up to you.

Remember, the social make-up of the town depends on these early stages – one wrong plan and it could be Milton Keynes for thousands of innocents. You are in a position of great social responsibility.

The first thing to do is build a power station – man cannot live by candle alone. Along with this decision comes your first quandary –

Floydsburg		JAN 2123 \$1777	
<input checked="" type="checkbox"/>	Tax Rate	8%	<input checked="" type="checkbox"/>
	Collected		\$5,971
Fire:	\$488	\$488	<input checked="" type="checkbox"/> 100
Police:	\$1,788	\$1,788	<input checked="" type="checkbox"/> 100
Transit:	\$2,489	\$2,489	<input checked="" type="checkbox"/> 100
Cash Flow			\$1,38
Prev Funds			\$1,77
Current Funds			\$3,15
Go With These Figures			

If you put the tax up too much everyone will get upset and move to another city

coal or nuclear?

A coal power station is considerably cheaper, but causes more environmental damage, and pollution is one of the factors that effects population growth. Nuclear, while more expensive, is a lot cleaner unless, of course, you have a meltdown.

Already you are making decisions which will effect the structure of the city to come. In fact, the early decisions are far more important than those taken later on.

Growth of the city will critically depend on how high you set the tax rate and how much valuable

land you cultivate for the populace. The initial considerations are for power, transport and zoning regions for industry, commerce and residents.

It is important to note that you do not actually build on any of the zoned regions, your population does. If you zone a residential region in the middle of an industrial wasteland, don't expect many people to go and live there.

The challenge therefore is not merely to provide a certain amount of accommodation for each of the city's functions but to use a piece of land for the purpose for which it

Sim City  
£29.99  
Infogrames



Overall – 89%

is most suited.

Furthermore, each zoning decision you take will effect the suitability of neighbouring property for a particular task, due to reasons of traffic, pollution and land value. As the city grows, so will other factors, like pollution, crime and traffic density.

Police stations are a good idea, and if you are planning for a Pudding Lane then a few fire departments might go down well, too. Of course, all this costs money, and the only place to get it is via the annual rates demand. It's a good thing you don't have to get re-elected.

Just when you think you have it all worked out the trade figures suffer a slight blip, commerce slumps, the taxes must go up and before you know it the last of the fleeing population have you hanging upside-down in your lovingly sculptured town square.

Presentation doesn't mean much in a game like this, but great care has been taken to make your metropolis look as brilliant as it was designed.

Sim City follows the simple philosophy of a game called Kingdom, which was widely popular in the days when programming meant wearing a white coat and flicking switches – define a few simple rules that describe a reality and then explore the mathematics. This it does excellently.



Not many people around, better have a few electricity cuts this evening

Green Hills – the very expensive part of Floydsburg

THE SKIES ARE YOUR HUNTING GROUND

# F2A

## RETALIATOR



YOUR NERVE  
IS YOUR  
RETURN FLIGHT

**ocean**

6 Central Street · Manchester · M2 5NS  
Telephone: 061 832 6633

Telex: 669977 OCEANS G · Fax: 061 834 0650

AVAILABLE SOON FOR  
ATARI & AMIGA

# SPACE QUEST III

## The Pirates of Pestulon



FROM space it came. Carried by the solar wind, the escape capsule bearing the seemingly lifeless body, drifted across the space lanes until it halted, gripped in the searing light of a powerful tractor beam.

Hauled from the void and tipped unceremoniously on to a pile of garbage within a vast ship, you awaken to find the fate of the galaxy is once more in your hands. Roger Wilco - space hero - has returned.

Elmo Pugg, the evil owner of Scumsoft Software, has scandalised game players throughout the known worlds by kidnapping the two writers of the fabulous Astro-Chicken video game and imprisoned them in his secret lair.

You must find some way to build a working ship from the piles of junk which surround you, fly to the nearby worlds, search for clues and finally rescue the "Two Guys from Andromeda". And it's nearly tea-time already!

Speaking of food, don't forget to stop at Monolith Burgers, the last fast-food parlour before you hit the Milky Way. Monsters from all over the galaxy will be queuing there to pick up a Whoppa-Burger and fries - with added grease.

Your new ship is fitted with the latest laser guns and defensive shields. Your navigation system is fired up and ready to go. There's lots to do and see out there, so let's get the lead out and make tracks for the nearest planet.

This eagerly awaited addition to the Space Quest series is all that game players could wish for. Artists from the world of TV car-



Blast off and feed your face at the quickest, fast-food burger joint in the galaxy

toon animation have been assembled to create Sierra's most lavish graphic adventure so far.

Combined with super music and realistic sound effects, Space Quest III is a feast for both eyes and ears. Lucky owners of the Roland sound module will be able to enjoy the even more sophisticated music which the game is capable of producing.

In addition to finding lots of silly objects to help you solve the

puzzles - fancy some temperature-controlled boxer shorts! - you must also play a few arcade sequences.

There is a space battle to be fought with pirate ships, a boxing match in which you control a giant robot, plus the opportunity to play Astro-Chicken itself. Visit the Fun-World on planet Phleebut and play Hopscootch across the lava flows on a volcanic moon.

Just in case you thought things

were difficult enough, you'll soon discover that you have an additional problem in the shape of an apt android. Seems like someone has put a price on your head, and this deadly Terminator intends to collect it the hard way.

He is bigger than you. He can run faster and hit harder than you. And just to make things really interesting, he can make himself invisible.

This is both the funniest and easiest of the Quest games and I defy anyone not to enjoy it. If, like me, you enjoy adventures but never seem to be able to finish one, then this is the game you have been waiting for. Even dying is fun because the game has the witty last word every time.

Alan Makepeace

Space Quest III  
£29.95  
Sierra



Overall - 94%

Score: 135 of 230

Space Quest III

NOW HERE'S A RED-HOT ITEM, THE OFFICIAL ASTRO CHICKEN FLIGHT KIT! YOU'LL REALLY TURN SOME HEADS IN THIS SPICY LITTLE NUMBER! IT'S MODELED AFTER THE HOT NEW ARCADE GAME THAT'S SHEEPING THE GALAXY.



Don't happen to have a dead parrot by any chance, do you

2-File Action Speed Sound

SEEMS YOU FORGOT TO PAY FOR THAT LAIBORIAN TERROR BEAST HATING CALL WHISTLE. NOW LET'S SEE... WITH INTEREST THAT COMES TO 400,000 BUCKAZOIDS. I DON'T THINK YOU'VE GOT THE KIND OF CASH ON YOU HIM? NO... I DIDN'T THINK SO.



Space Quest III features the best graphics to come out of the Sierra stable to date





# OXFORD SOFTWARE



NEW

## CHESS PLAYER 2150

**Winner 1989 British Open Personal Computer Chess Championship**



COMING SOON  
THE CLASSIC  
ORIENTAL GAME OF

**GO**

ALSO DRAUGHT  
BOARDS 8x8  
10x10

Please phone for details



Chess Player 2150 is the strongest and most versatile chess program yet, with the most advanced graphics and widest range of features available, many of which have never before been implemented on a personal computer.

Chess Player 2150 has just defeated all opposition to win outright the British Open Chess Championship. Every possible feature is included: stunning 2D/3D display, take-back move, massive openings library, simple mouse driven input, full menu control, save/load games, many classic games on disc, speech, learning, total on-screen information, special modes for beginners, actually rates your play on the international ELO scale, and much, much more.

CHESS PLAYER 2150

£24.95

NEW

## The London School of Bridge's BRIDGE PLAYER 2150 GALACTICA with Integrated Tutor

INTEGRATED BRIDGE PLAYER AND TUTOR, WITH POWERFUL CARD PLAY AND A WEALTH OF SUPERB FEATURES, OFFERS YOU HOURS OF ENJOYMENT IN THIS CLASSIC GAME OF COMMUNICATION AND SKILL.

The BRIDGE PLAYER, designed for players of all standards, gives literally millions of possible hands, simulating the game with full realism. Bidding uses the ACOL system with Stayman, Blackwood, Gerber, Grand Slam Force and Unusual No-Trump conventions.

The BRIDGE TUTOR contains 100 tutor hands, selected by co-author, Nicola Gardener, World Bridge Champion and Olympic medalist, ranging from fairly straightforward hands to endplays and squeezes.

- + bidding and play with full information displays
- + post-mortem facility
- + scoring of hands to rubber
- + input own hands, save/load hands to disc
- + solves double dummy problems after trick eight
- + special cheat options: bias the deal, peep at cards
- + comprehensive manual with detailed advice on play
- + and much, much more

We think you'll be truly amazed at the power of this world beating Bridge.

BRIDGE PLAYER 2150 GALACTICA

£29.95

NEW

## BACKGAMMON PROFESSIONAL

Backgammon, one of the most ancient games, has been played for thousands of years in all parts of the world.

BACKGAMMON PROFESSIONAL is fully featured, including the doubling cube, input your own or random dice, variable playing speed and, full scoring.

Easy to use, menu driven and great graphics.

BACKGAMMON PROFESSIONAL

£19.95

### ORDER FORM

Please rush me the following titles for my Amiga:-

PRODUCT	PRICE	QUANTITY
Chess Player 2150	£24.95	<input type="text"/>
Bridge Player 2150 Galactica	£29.95	<input type="text"/>
Bridge Player 2000	£19.95	<input type="text"/>
Backgammon Professional	£19.95	<input type="text"/>
Postage to Europe per item	£2.00	<input type="text"/>
Air postage ex Europe per item	£2.50	<input type="text"/>

UK post and packing included

card no  Please debit by Access/Visa card  expiry date

I enclose a cheque/postal order to the value of: £

Name

Address

Post Code

Signature

OXFORD SOFTWARES is a division of:  
CP SOFTWARE, Stonefield House

198 The Hill, Burford, Oxfordshire OX8 4HX

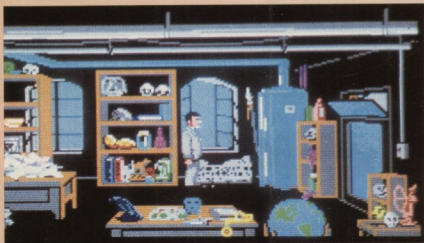
Credit Card Hotline 0993 823463

# INDIANA JONES AND

The graphic adventure



Try "push grid" for a laugh



That diary must be around here somewhere

FOLLOWING in the footsteps of the old crusaders, both the Nazis (boo!) and Indiana Jones (hooray!) are searching throughout war-torn Europe for the Holy Grail. With the aid of your father's diary and your bullwhip, you must follow a trail which leads from the rat-infested catacombs of Venice into the very heart of the Third Reich.

Having got yourself into another fine mess, you'll discover that your eccentric father is also stuck in the Wolf's Lair, so it's double trouble for the man in the Fedora.

Before setting off for Venice you can travel to your father's house to pick up some useful objects. If you survive the deadly traps protecting the tomb of the crusader, your trail will lead onward to an old castle in Germany.

Rescuing your father and escaping the clutches of the Gestapo (boo!) will enable you to pay a call on Hitler himself, before you make a further dash in a Zeppelin to the Holy Lands.

Here your most dangerous test awaits – three trials of faith must be endured before the secret of the Grail is at last revealed.

To make this adventure even more appealing, all commands use the point and click method, dispensing with typing completely. You may pick up and use objects, and talk to other characters by selecting sentences from an offered list.

In case your fists are faster than your wits, the game will allow you to engage in punch-ups with various bad guys. Where an enemy blocks your progress, you have the option to resort to brute force and give him a right to the jaw.

The game has been designed with many different paths to success. Should you managed to fool the Gestapo (boo!) and escape from the German castle with the Grail diary, you will automatically head for the airport. Otherwise the game will point you in the direction of Berlin and give you the chance to



Just one Corretto, give it to me...



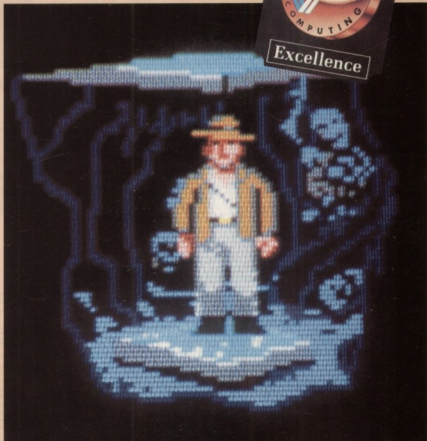
For this reason you may play sections of the game which have not been seen by other players who have completed the quest. A score of Indy's IQ is given to indicate how well you are doing in the solving of the complete game.

From time to time the view of the screen will change to an overhead perspective. This is used in a number of small mazes and in the castle corridors.

The animation and background graphics are first class. The title music and sound effects build up the atmosphere and do a great job of recreating the excitement of the film.

Like the movie, this game is big. By avoiding the temptation to push out a second-rate product which simply cashes in on the film's success, Lucasfilms has satisfied both Indy fans and computer adventurers with a brilliant game.

Alan Makepeace



*Hmmm... Perhaps that wasn't such a good idea*

### Indy Adventure

£24.95

*Lucasfilms*

Sound 

Graphics 

Gameplay	
----------	--

[illegible]

**Overall – 93%**



*I recognise Rockman, but who's that with him?*

THE  
WORLD'S  
LARGEST  
CHAIN  
OF  
AMIGA  
CENTRES

MR

# DIAMOND'S EXECUTIVE

## DIAMOND PACK 1

ALL OUR AMIGA A500 PACKS CONTAIN MACHINES WITH THE FOLLOWING STANDARD FEATURES

- 512K RAM
- 1 Meg Disk Drive
- 4096 Colours
- Multi Tasking
- Mouse
- Built-in Speech Synthesis
- Two Operation Manuals
- Operating System Disks
- All Appropriate Connecting Cables

AMIGA 500 + Batman the Movie + New Zealand Story + F18 Interceptor + Buggy Boy + Ikari Warriors + Barbarian + Thunder Cats + Terrorpods + Art of Chess + Wizball + Mercenary Compendium + Sanity Fight + Amegas + Deluxe Paint II + Microswitch Joystick + 10 Blank 3.5" Disks + Mouse Mat + Amiga Dust Cover + Tutorial Disk + TV Modulator

**£399.00**

INC VAT + 23 PD PROGRAMS



SAVE EVEN  
MORE WITH  
DIAMONDS  
MEGA

4

## DIAMOND PACK 2

SAME AS PACK 1

But with  
**8833 STEREO  
MONITOR**

**£649**  
INC VAT

## BULK DISKS

Top quality 3.5" DSDD disks

10 .....	£7.00
25 .....	£13.00
50 .....	£25.00
100 .....	£48.00
200 .....	£94.00

Prices inc. labels and VAT. Add £4.95 for 80 capacity disk box (only when ordering disks.)

## DIAMOND PACK 3

BATPACK PLUS £100 OF SOFTWARE OF YOUR CHOICE

**£419** INC VAT

## DIAMOND PACK 4 MEGA BAT

A500, NEW ZEALAND STORY, BATMAN 2, F18 INTERCEPTOR, DELUXE PAINT II

ONLY **£425.00** INC VAT

## A590 2MB Populated

**£449.00** + VAT

## ACCESSORIES

TAILORED AMIGA  
DUST COVERS

ONLY **£4.95**

(Also available for most monitors/printers etc.)

JOYSTICKS

(New low price)

QUICKSHOT 1 .....	4.95
QUICKSHOT 2 TURBO .....	8.49
EUROMAX MICROHANDLER .....	22.95
ARCADE .....	14.89

JOYSTICK PRICES INCLUDE VAT

## PAPER

1000 SHEETS CONTINUOUS  
STATIONERY ..... **£9.95**

2000 SHEETS CONTINUOUS  
STATIONERY ..... **£16.95**

FULL RANGE OF RIBBONS  
STOCKED - PHONE FOR PRICES

**DIAMOND - THE NAME YOU CAN TRUST**

EXPORT  
HOTLINE  
0272 693545

CHEQUES MADE  
PAYABLE TO THE  
RELEVANT  
BRANCH NAME  
ACCESS/VISA  
ORDERS  
WELCOME

## DIAMOND A501:

- ★ TWO YEAR WARRANTY
- ★ BATTERY BACKED  
CLOCK/CALENDER
- ★ FREE UTILITIES DISK  
WORTH £49.95

INTRODUCTORY OFFER!  
**£69.95** INC. VAT + DELIVERY

## ★ SPECIAL ★

DIAMOND DRIVE -  
NEC MECHANISM,  
THRU PORT,  
ON/OFF SWITCH.

ONLY **£69.00**



# Portfolio



**Mr Diamond  
is now in  
Southern  
Ireland**

## CHIP SHOP PRICES

8up Board RAMS - 9.95 each  
A590 RAM Chips - 9.99 each  
256K RAM Chips - 2.95 each  
(Chip prices exclude VAT)



## Mr Diamonds

1Meg Ramboard  
Fully populated, upgrade your  
Amiga 500 to 1Meg.  
Phone for prices



**AMIGA B2000  
REVISION 6.2  
KICK START 1.3  
1 MEGABYTE  
AGNUS CHIP**

**£735.00 + VAT**

FULL GUARANTEE IMPORTED MACHINE

### AMIGA 2000 ACCESSORIES

Microbiotics 8-up board 2 megabyte populated	£295
Microbiotics Hard Frame	£175
Microbiotics Hard Frame 49MB	£395
Kick Start 1.3 ROM	£19.95
New Enhanced Chipset	P.O.A.

## DISK DRIVES

Diamond NEC 2nd drive	£85.00 inc vat
Diamond Otec drive	£79.95 inc vat
Diamond 5.25" disk drive	£99.95 inc vat
A590 20MB hard disk	£319.95 + vat
A590 2MB populated ram	£449.95 + vat



## PRINTERS

All printers in our range are dot matrix and include the following features:-  
Standard canonics parallel port for direct connection to Amiga, PCs, ST, Archimedes etc. Tractor and friction paper feeds.

PANASONIC KXP-1124 24-PIN D MATRIX PRINTER	£209 + VAT
OKIMATE 20 24-PIN COLOUR THERMAL DOT MATRIX PRINTER	£159 + VAT
STAR LC-10 MONO Multiple font options from front panel, excellent paper handling C64/128 version available	£119 + VAT

STAR LC-10 COLOUR  
Colour version of the popular LC-10, allowing the effect of full colour on screen dumps (requires colour printer driving software). C64/128 version available

STAR LC-24-10 24 Pin version of the popular LC series with exceptional letter print quality.	£159 + VAT
STAR XB 24-10 24 PIN COLOUR PRINTER (inc colour option)	£439 + VAT

CITIZEN SWIFT 24 PIN PRINTER with colour option	£259 + VAT
--	------------

### Diamond Software Members Prices

Aegis Sonix Version II	£29.95
Home Office Kit	£89.00
Publishers Choice	£59.00
Protext Version 4.2	£29.95
Diamond D501 Ram Expansion	£14.95
Deluxe Paint II	£14.95
Photon Paint II	£5.00
Photon Paint II	£19.95
Diamond Business Pack (Protext, Superbase II, Maxipian)	£49.95



## MONITORS

**PHILLIPS 8883  
COLOUR MONITOR WITH  
STEREO SOUND**

**ONLY £219.00 + VAT**  
includes 1 year on site maintenance

**DIAMOND MULTISYNCH  
MONITOR**

**ONLY £295.00 + VAT**

**COMMODORE 1084  
MONITOR**

**ONLY £199.00 + VAT**  
includes all connecting leads

### TOP TEN RELEASES

1. Space Ace No.1	£24.95
2. Interphase	£14.95
3. Chase HQ	£14.95
4. Stunt Car Racer	£14.95
5. F29 Retaliator	£19.95
6. Dungeon Master	£14.95
7. Shadow of the Beast	£19.95
8. Xenon II	£14.95
9. File Combat Pilot	£14.95
10. Batman the Movie	£14.95

**24HR ORDER LINE 0703 232669    SOFTWARE HOTLINE 01 597 8851**  
**EXPORT HOTLINE 0272 693545    FAX 0272 693 223**  
**LATEST PD SOFTWARE 0703 232777**

## SOFTWARE CLUB

**FREE GAME FREE T-SHIRT  
EXCLUSIVE 30% OFF ALL SOFTWARE**

**PART EXCHANGE YOUR OLD SOFTWARE  
TITLES FOR NEW ONES  
FREE BULLETIN BOARD NO 0272 693545  
FREE MONTHLY NEWSLETTER**



**ALL FOR JUST  
£20.00 INC VAT**

### MIDLANDS (LHC MICROSALES)

ESTABLISHED 20 YEARS  
121 REGENTS ST, LEAMINGTON SPA  
WARWICKSHIRE. TEL: 0926 312155

### SOUTHAMPTON (DIAMOND COMPUTERS)

114 LODGE RD, SOUTHAMPTON, SO12GS  
TEL: 0703 232777

### LONDON (LAN COMPUTERS)

1045-1047 HIGH RD, CHADWELL HEATH,  
ROMFORD ESSEX. TEL: 01-597 8851

### BRISTOL (DIAMOND COMPUTERS)

227 FULTON AVE, HORFIELD, BRISTOL  
TEL: 0272 693545

### DIAMOND COMPUTER SYSTEMS LTD

BALLINA, KILLALOE, COUNTY CLARE,  
SOUTHERN IRELAND  
TEL: 061 78125





# STUNT CAR RACER

The chase is on

IMAGINE a race with only two cars, each as fast and powerful as the one Nigel Mansell drives at work, each with wheels like a tractor and suspension to match. Now put them on a track which is closer to a big dipper than Brands Hatch.

This is the flight of fantasy taken by Geoff Crammond. And while mere mortals would have to go back to daydreaming, he – the pro-

gramming genius responsible for Aviator, Revs and Sentinel – has turned it into a reality.

The game was started at Firebird before it sold out to MicroProse. Geoff was given free rein to write whatever he wanted and take as much time as he liked. Not the usual contract. The results prove that the unusual pays.

Free from deadlines and the

confines of an arcade conversion, Stunt Car Racer is the best driving game ever produced.

Controls are simple – if you aren't braking you are accelerating. Steering self-centres on the straight bits. The fire button provides a not too limited supply of boost and the dashboard shows if you are in the lead or have set the fastest lap. The distinctly dated speedo reads up to

250. Then it wraps around for higher speeds.

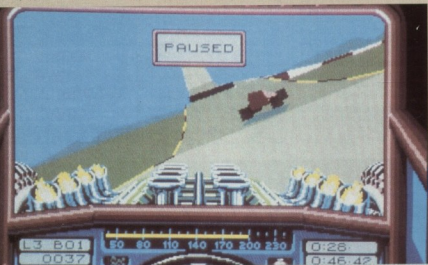
Minimalist controls leave you to worry about racing line. Not just corners, but how fast to go up the hills. Tear up a ramp, boost blazing, to find a corner just over the apex and you will be airborne without a track to land on. When pro racing drivers talk about "falling off", they don't mean this.

But leaving the track is part of the fun. There are jumps to negotiate where speed is critical. Too slow and you won't make it. Too fast and you'll land hard, wrecking the chassis.

Damage is shown as a crack which works its way across the top of the screen. Really hard bumps show up as holes which cannot be repaired between races. So it is very important not to fall off.

Keeping to the tarmac becomes less easy as the chassis damage starts to affect your handling. Enter too tight and you'll slide off the

*Fast polygons make for exciting gameplay, even via the serial link*



*Watch your speed at the top of steep hills – too fast and it's wheeee...*





Inside of a corner, too fast and you'll shoot off the edge.

The computer-driven opponent will help you off the circuit, although it seems to be impossible to knock the computer off. Single player races are conducted against a motley crew of nine other drivers. The aim is to win in each of the four leagues and make it to the top of class one.

You need to learn the tracks. My favourite is the Roller Coaster - curves tight as a tourniquet, slopes which make the Alps look flat. You can get up breakneck speeds, but



Stunt cars are built to take the strain, but too much reckless driving can lose you the race

make a mistake and the crane will have to hoist you back on to the track.

The game really comes into its own when you race against friends, either in a league, or ideally by using the two-computer datalink. Even linking a vanilla machine to the fastest Amiga you can buy works perfectly.

There are no pretty sprites or copperlist skies, just a few smart title screens between races and

shots of the winner's podium. The whole thing is rounded off nicely by a comprehensive manual with a potted history of motor sport and some great action photos. No one could identify all the cars.

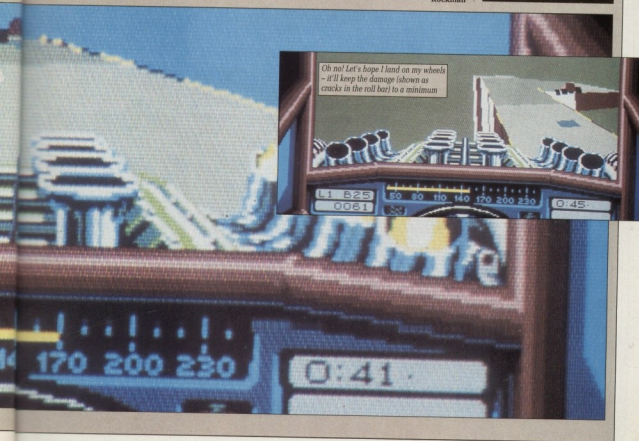
In future years, when most games have been forgotten and aged joystick jockies reminisce of the games of their youth, Stunt Car Racer will be one of the titles which gets cited as a true classic.

Rockman

**Stunt Car Racer**  
£24.95  
MicroStyle

Sound	████████████████
Graphics	████████████████
Gameplay	████████████████
Value	████████████████

**Overall - 100%**



Oh no! Let's hope I land on my wheels  
- it'll keep the damage (shown as  
cracks in the roll bar) to a minimum

# TIME

Ticking away the moments...

**Y**OU have seen the future, and it is not good. Not good at all. In fact, it's terrible. Everyone dies. Not very enjoyable. You've seen it because you've been there. In a time machine.

Confusing things, time machines. If you've seen the future, can you go back to the past and change it? If so, how could you have seen it in the first place? It doesn't exist any more. Or does it? I had that Robert Heinlein in the back of my cab once...

All these paradoxes are quite rightly swept aside by Empire Software, which uses the old adage "never let physics get in the way of a good story". The only snag is that if time travel did indeed exist as described, the entire fabric of the space-time continuum would be in a constant state of non-conservation energy flux, and not in a fixed newtonian frame of reference. But what the heck, it's only a game.

Time is an adventure spanning several thousand years of Earth history, from the era of the Roman Emperors to a period in the possible future when Earth has been ecologically destroyed. To avoid the main character constantly getting old and dying, a major plot device is that brilliant H.G.Wells invention, the time machine.

An approach normally kept locked into shoot-'em-ups is the multiple game scenario, all linked

via some central theme. Occasionally ideas spill over into other game formats, and Time is quite happy to plagiarise from as many sources as possible to produce a potentially original plot, tying several small games together into one.

Our hero arrives on the orbiting satellite, Historsat, a giant floating library of Earth history. Finding out exactly what is going on involves solving some simple puzzles, such as chatting up a secretary, choking a cat and visiting what is left of Earth via shuttle craft.

Returning to the space station armed with a brief inkling of what is happening, the next task is to come to grips with travelling

into the past and meeting a few well known figures.

Each of these little adventuresses is a mini-quest in its own right, albeit of a rather simple nature. Mostly a case of walk over here, pick up this object and drop it over here, but they work well and are different enough to keep you waiting for the next.

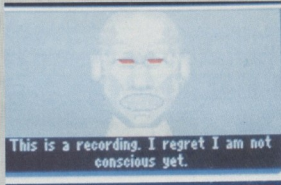
The action is totally mouse-based, guiding the hero about a window of graphics and other characters. This window could most kindly be described as not large, but, believe it or not, it soon seems big enough. The majority of the screen is taken up by the action icons - the usual sort of stuff like drop, pick up and walk.

The speak icon usually merits a response from the other characters, as they chatter away in an good animated sequence with their words appearing as subtitles beneath them. This provides lots of scope for doing some silly voices as you play the game.

Unfortunately you cannot specify what your hero says - he appears to be the strong silent type and waits for everyone else to volunteer information. This gives the game that slightly pre-destined feel which detracts from gameplay.

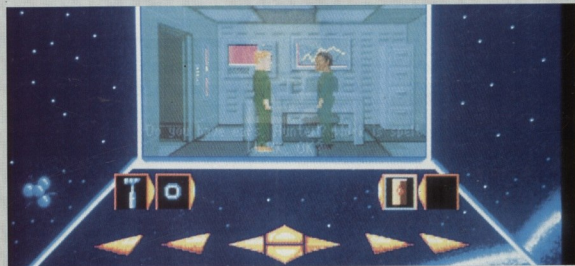
The puzzles in Time are not tough. I usually get frustrated with adventures when I can't solve a problem, and throw them away. I didn't throw Time away - it is a good re-introduction to adventuring for those of us who either gave up on the genre after The Hobbit or couldn't be bothered with incredibly complex solutions.

John Kennedy



The friendly face of BT

Time	
£24.99	
Empire	
Sound	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Graphics	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Gameplay	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Value	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Overall - 78%	

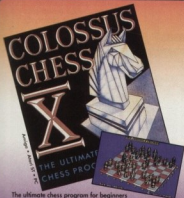


You thought jet lag was bad

# Classic Names

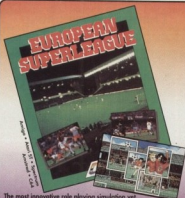


# Classic Games



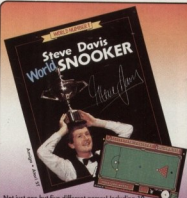
The ultimate chess program for beginners and experts alike! The first chess program ever to learn from playing experienced! Infinite playing levels! Stunning 2D/3D graphics! Change game view by tilting and rotating board.

**"What a debut! Brilliant" NEW COMPUTER EXPRESS**  
**"The definitive chess program" ST WORLD**



The most innovative role playing simulation yet, of the toughest job in sport! Take your team to the top against the best in Europe.

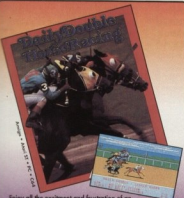
Highly graphic presentation, original and challenging gameplay, and in-depth tactical choices make this the ultimate soccer management simulation yet programmed!



Not just one but five different games! Including 10 or 15 ball Snooker, UK and US Pool, UK and Carom Billiards.

Choose your computer opponent from six skill levels; zoom in on the action for difficult shots; replay the last shot in slow motion.

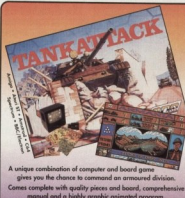
All this plus much, much more.



Enjoy all the excitement and frustration of an actual day at the races!

Included is a full card of 10 races, the form of 180 horses, 12 jockeys and over 400 races.

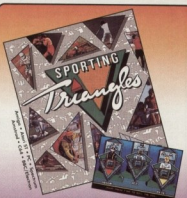
Choose track conditions, handicap the races and place bets in this true to life action packed simulation.



A unique combination of computer and board game gives you the chance to command an armoured division. Comes complete with quality pieces and board, comprehensive manual and a highly graphic animated program.

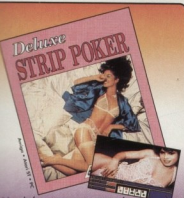
**"An interesting, clever approach to the wargame concept with some well thought out game ideas, slot of fun to play" CRASH 80%.**

**"CDS have managed to combine board and computer and produce a great game for everyone"**  
**Overall 85% COMPUTER GAMESWEEK**



Whatever your sporting preference, with over 2500 questions to choose from, this computer version of the top rated TV sports quiz show is bound to test, intrigue, puzzle and frustrate.

**This game is produced under licence and by permission of Central Independent Television Plc.**



Join each of your two gorgeous opponents for a game of Strip Poker! Each of these shapely ladies want to play!

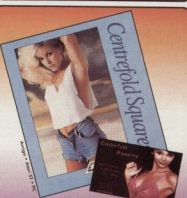
Which one will you choose?

Who cares! The clothes will soon disappear as you 'call' and win! Deluxe Strip Poker: not for the faint hearted!



You must steer your team to League and Cup triumphs. Brian Clough's Football Fortunes combines an excellent range of computer based features with a fascinating high quality board game.

**ZEAP! SIZZLER 93% YOUR SINGLAIN MEGAGAME 9/10**



A game for those with a head for 'figures'!

You are faced with a screen full of blank squares, but what delights lie hidden, just waiting for you.

Put you wits against your chosen Centrefold in an attempt to win each of the squares.

# LASER SQUAD

Their life is so cheap



She came in through the bathroom window

CADETS for the armed services' Special Forces are hand-picked from regular units. They undergo rigorous and extensive testing and training before they are given a permanent position. Only the very select go on to command such a cadre.

Until now, that is, because for a modest fee Laser Squad will put you in such a position. Just think, you're missing out on all that yomping through minefields armed with a forked stick, spending winter nights in the Cairngorms with only a Tesco carrier bag for shelter, climbing the Himalayas in your underclothes at night with a knapsack full of bricks, and so forth.

Even better, this is the elite service of the future, armed with all sorts of death-dealing weaponry from light sabres to heavy duty laser gear. Unfortunately, this of course means that the other guys have it too. Nobody said it was going to be lemon-squeeze.

There are five scenarios: An assassination attempt, an assault, a prison breakout, a defending action and a sort of forced march thing. This gives a fairly rounded sample of the sort of stuff these blackened-face and balaclava johnnies get up to.

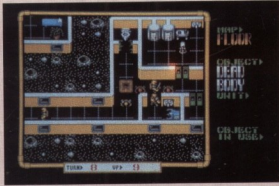
The first thing to do before going on a very dangerous mission from which nobody is likely to return is to phone HQ and see if they haven't made some sort of administrative error. The second thing to do is to equip your men.

Since you are working for a band of rebels - born to be free, just like the fish in the sea - you are a bit short on the necessities.

Typical, isn't it? I mean, just because making money out of the honest sweat of peasants is against their ideals doesn't mean that Rebel High Command can't bung something away in the Nationwide Anglia against a bit of serious weaponry.

Your team will consist of five or more members, some of whom are better than others at specific tasks. Unfortunately, you won't be able to find out what they are good at before the action starts, so you'll have to guess when you are equipping them.

Generally the corporals are better shots - except for Corporal Clegg, who has been excused from duty on account of his wooden leg - so give them the best weapons.



I think we've got a mole

Another quibble is the deployment phase. Before the action starts you are allowed to choose where to deploy your men, but you aren't allowed to see the overhead map, so there is no way to plan your strategy. This might be all right if you are penetrating an enemy installation, but surely you would know your way around your own base?

There is an option to play against a friend or the computer. The computer can be programmed for varying degrees of skill depending on which scenario you have chosen. It gets tough at the top.

In terms of tactics, realism and the way your troops interact with each other and their equipment, Laser Squad is very true to life,

although enjoyment is slightly limited by the small number of scenarios.

A good attempt to produce a role-playing game, combining graphics, gameplay and realism.

Lucinda Orr

Laser Squad

£19.95

Blade

Realism	<div><div></div></div>
Strategy	<div><div></div></div>
Gameplay	<div><div></div></div>
Value	<div><div></div></div>

Overall - 84%



Lost in time, lost in space



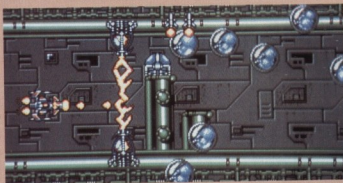


# DARIUS+

There's plenty more fish in the sea



This bionic octopus is armed to the beak



Your playing area is the thin strip between the horizontal green pipes

SOME companies are renowned for their shoot-'em-ups. Some are admired for their graphics. Some companies are even celebrated because of the artwork they use on the packaging. Then there is The Edge.

To some people, The Edge's ability to produce a game which excels in all three departments mentioned above is akin to the ability of a small lettuce to write a dissertation on quantum physics.

Darius is a sideways scrolling shoot-'em-up that Taito produced in 1987. It performed quite modestly in the arcades and isn't really a household name. Darius+ is a conversion of that coin-op by The Edge, the plus sign signifying that the version running on your Amiga is significantly better than the arcade original.

Unfortunately for all concerned, it isn't. That's not to say that the game reaches the depths of certain of The Edge's recent releases, but

dull blue background slowly moving by.

Pulsing stars put in periodic appearances and, if collected, add firepower to the current control centre. There is only one firepower centre to start with – your ship – but by collecting the other type of pulsing star, a droid and two cannons can be added and then upgraded.

Unfortunately there is a slight coordination problem here. Pressing F1-F4 signifies where the next power-up will have an effect, but there isn't that much spare time for keyboard pressing unless you have a joystick with sticky feet. Incidentally, an auto-fire joystick is essential.

Further key pressing is needed to send the droid out and about in true R-Type fashion. Another press on the spacebar recalls it, while fingering the left and right cursor keys will manoeuvre it behind and in front of your ship.

After a few practices, and probably a couple of lives, you will encounter the end-of-level fish, which loads in especially to fight you.

To defeat this mother of all fish it is necessary to eliminate its appendages one by one. Should you not possess the free swimming droid, which can be sent out to do just this job, then it is most likely that you will die. Should you have some other form of particularly virulent firepower, your chances improve to marginal.

If and when the fish is removed, a branching network of choices spreads out in front of you. These are the remaining 27 levels.

Darius+ is an entirely adequate product. The scrolling is slow, but this does not make things easier because the playing area is so small and your ship is so large. This combination makes the game rather too difficult.

Duncan Evans

the artwork on the box depicting a submarine is an inadvertent giveaway.

Half way through loading there is an intermission in which the person responsible for the music demonstrates his knowledge of samplers and arrangement. Then it is time to press the space bar and continue loading.

The game arrives with a serviceable fanfare, and in the blink of an eye the first of the 28 levels begins scrolling towards your ship from right to left.

The initial problem is one of firepower. The enemy has it, and you do not. A secondary problem is the size of the playing area. The screen has been reduced and the playing area is made even smaller by virtue of the scrolling scenery. A parallax effect is created by having a very

Darius+ £19.99 The Edge	
Sound	████████████████████
Graphics	████████████████████
Gameplay	████████████████████
Value	████████████████████
Overall – 69%	

Gulp. Can't have a saveloy instead?

# 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

**£359.00**

*Inc. VAT and Next Day Delivery*

**NEW STE**

#### 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, SPREAD-SHEET 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.

### Amiga A500 BAT Games Pack

**£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 and PHOTON PAINT Graphic Packages WORTH over £100!
- ★ 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, WZBALL & six more games.
- ★ FREE MOUSE MAT worth £4.95.
- ★ Amiga BASIC, Amiga EXTRAS 1.3, Workbench 1.3 PLUS the Amiga Step by Step Tutorial
- ★ All leads, manuals PLUS MOUSE and mains plug!

### 520 STE Explorer Pack

**£279.00**

**NEW STE**

- ★ Explorer Pack includes 520 STE 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

### Amiga A500 Business & Games Pack

**£479.00**

**NEW!**

- ★ Includes Amiga A500 and TV modulator PLUS BATMAN: THE MOVIE, F16 INTERCEPTOR, NEW ZEALAND STORY and in addition a comprehensive suite of business programs including: KIND WORDS II, Word Processor (featuring Spellchecker and Thesaurus), HOME ACCOUNTS by Digita International and SUPERBASE PERSONAL database software.

### 1040 STE Super Pack

**£439.00**

- ★ Includes 1 megabyte STE 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 SuperPack software £439

### AMIGA 1 MEG BAT GAME PACK

**£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!

### 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 (£90) and VIP PROFESSIONAL Lotus 123 spreadsheet clone (£150) METACOMCO Basic (£25).
- ★ Bitter 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 Speeding 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 .....	£39.95
Contriver Amiga and ST Mouse with FREE Holder and Mouse Pad	£20.95		

## PRINTERS

Star LC24-10 24 pin incl. lead ST/Amiga .....	£269.00
Star LC10 including interface lead for ST/Amiga .....	£169.00
Star LC10 colour including interface lead for ST/Amiga .....	£219.00
Citizen 1200 including interface lead for ST/Amiga .....	£159.00
<b>SEIKOSHA 80 COLUMN PRINTERS - AMAZING PRICES</b>	
Seikosha 9 pin NLQ including interface lead for ST/Amiga .....	£139.00
Seikosha 24 pin LQ including interface lead for ST/Amiga .....	£239.00

## EXTERNAL DISK DRIVES

Atari SF314 1 Megabyte .....	£139.00
Amiga A1010 1 Megabyte .....	£109.00
Cumana 1 Megabyte Atari or Amiga .....	£99.95
NEC 1 Megabyte Atari or Amiga .....	£89.95
Atari Megaflo 30 Hard Disk .....	£449.00
Newel 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 CM8633 stereo colour monitor inc. lead for ST or Amiga .....	£229.00

## 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/PO 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

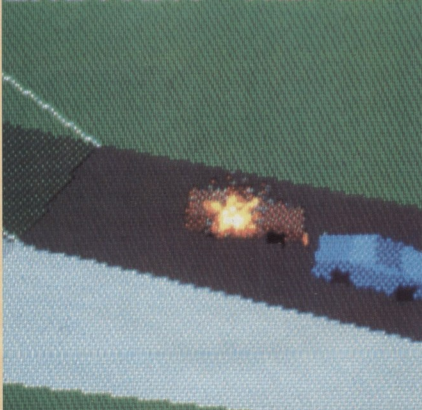
All prices include VAT and next day delivery by courier.



# HARD DRIVIN'

Life isn't this simple

## INSTANT REPLAY



ONLY a few years ago a game such as this would have been impossible. A faithful conversion from the arcade game, Hard Drivin' is most definitely a car simulator, not your bog standard formula one racing car game. The arcade cabinet even had an ignition key.

Here you drive a red car of indefinable type with improved handling and tyres. It is sort of based on a Testarossa, but during the action replay sequence it looks like a breeze block with a brick on top.

The track layout is designed to offer you a choice of straight speed or a stunt circuit with open bridge, 360 degree loop and banked corners.

When you skid, which you will do if you exceed 60 mph, you must point the wheels in the opposite direction to correct – and jolly realistic it feels, too. If you can resist shouting "Yeeehhaa!" when you jump the bridge, then you are a stronger man than I.

Usual gripes about not having a steering wheel to plug into the Amiga apply, but using a mouse or even a trackball is a workable substitute.

A joystick can be used as a gear stick or as another steering implement, but it's not any easier to use than the dreaded rodent. Remind me to set up a company to sell steering wheels.

The mathematically generated



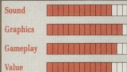
What I want to know is, how come I'm always the one to blow up?



The stunts are a bank, a bridge jump and a 360° loop



Hard Drivin  
£199.99  
Tengen



Overall - 85%

Take my advice  
and keep to the  
left or the right

world in which you exist shows a few cracks here and there. Oncoming cars have a frightening habit of appearing to travel towards you through solid hills, and the action replay finds it difficult to keep up with the car travelling up slopes, and instead plants it under the surface. I was prepared to let these bugs pass (like the lorry on the loop-the-loop) because although annoying, they are not damning.

Unfortunately, there is a subtle moral dilemma in making car games as realistic as this. Striving to emulate the real world is to be recommended - it could be used to encourage skillful driving and potentially save lives. Instead you are encouraged in *Hard Drivin* to break speed limits, drive on the

wrong side of the road and infringe more road traffic laws than a typical cab driver.

A head-on collision with another car incurs nothing more than a time penalty. No multiple pile-ups and being forced to play the rest of the game in a wheelchair

here. No, this is good clean family entertainment - killing people is OK as long as they are computer-generated people.

In a form of acknowledgement, the game gives you a helpful warning message to the effect that attempting the stunts in the game

for real could be dangerous or even fatal. So make sure there is a grown up around when you try this, kids.

Solid, real-time 3D graphics have come of age on the home computer. The question is, are we ready for them?

John Kennedy



## HELLRAISER

Snore

I SHALL now demonstrate two ways to be angry. The first involves having holiday leave cancelled. This usually creates a high dudgeon situation, but not quite of the same ire level as, say, the BBC deciding that your region isn't going to get Monty Python.

The real annoyance is that your holiday leave has been cancelled and instead you are off to off some Hellraisers.

Hellraisers are annoying creatures. All they ever seem to do is attack things and then fly off elsewhere to attack somewhere else. No one has ever got close enough to one to ask it why it's doing what it's doing. So whenever they appear, it's generally a case of "Let's do it to them before they do it to us".

By dint of some spectacularly unintelligent behaviour by a now deceased airlock attendant, the Hellraisers have got into the space fighter hangar and are raising the eponymous with all speed. To get

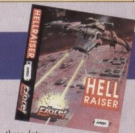
to your fighter you have to trudge along some corridors, blasting any beasties you may meet, getting out of the way of the defence systems, which have got all confused.

Once in the fighter it's off on a somewhat dull sideways scroller (power pickups, yawn) with the inevitable showdown with something big and unpleasant at the end. Tell me something I don't know.

The other way to get angry is to actually buy this game. Now you know and I know that no game can be awful in its entirety. Hellraiser makes a darn good try at it - and very, very nearly succeeds.

The short and utterly pointless corridor section is only an exercise in losing a couple of lives so that you'll have even more time to wait for the game to reload. Each new stage takes ages to load and prints up an annoyingly obvious message. Yup, you guessed it - Loading...

Wow, even Mastertronic had that in 1984, complete with the



three dots.

The only thing which is slightly good is the tune, which unfortunately fits in with the rest of game as a walrus would at a gerbil convention. The game can't even decide what it's called - the box says Hellraiser, the title screen says Liberator.

This game is too bad for words.

Stewart C. Russell

Hellraiser  
£19.95  
Exocet



Overall - 26%



# WEIRD DREAMS

Close encounters of a sick mind

**M**ICROPROSE has at last got around to releasing a Rainbird game that I first saw in back in June 1988. *Weird Dreams* is a collection of strange arcade games arranged to form an ongoing dream.

As we all know, dreams being what they are, the contents of them can jump from topic to topic or scene to scene in an instant, which is as good an excuse for sticking all these quite different games together as any. If anything this is the subconscious version of *Summer Games*.

Life in the dreamscape of Serrano, Hutchby and King, the co-designers, begins on the operating table - and it frequently ends there, before you, the patient, tumble into the first dream, a candyfloss machine.

Beware the giant floss stick which penetrates the sanctity of the tooth decay special. The candy whirls around and around, with the stick harvesting it relentlessly. The object here is to collect pieces of candy by standing up and letting them stick to you, and then jumping on to the stick the next time it comes around.

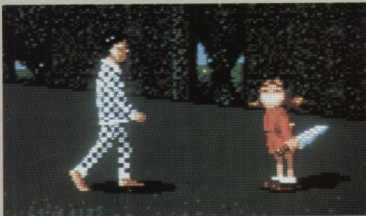
Needless to say this isn't easy, as it is necessary to spend most of the time crouched down to avoid being brained. As in all the worst dreams, your character stands up with all the speed of a sloth covered in treacle.

Once out of the candyfloss machine you find yourself at a fun-fair, one that is populated by a very large wasp. This is where the candy stuck to your chequered pyjamas comes in handy. Escaping from there to the hall of mirrors is easy, but now you have three choices of dreams to pursue in your bid to finish the game and wake up.

There are actually five mirrors but two of them are boarded up until you complete the other three. So, the choice is left, right or straight ahead?

Going straight on leads to another encounter with the candyfloss machine, while the other two choices lead to experiences in a desert and an English country garden, along with the music for it.

The desert is the strangest one. Overhead flies a flock of fish, one of which you must leap up and



*From candy floss machine to country garden...*

grab. Off you then go, and watch out for the amazing scrolling. In my dreams games always have ultra fast, super smooth parallax scrolling with planes of different resolutions gliding by. Unfortunately those sort of games

tend to only exist in my dreams.

This game has amazing pause-o-flip scrolling. Reach the end of the screen and there's a pause for you to recover your breath, and then the next screen is scrolled totally in. Very impressive, I'm sure.

Anyway, you're plodding through this desert in your pyjamas waving a cod around when up pops the most horribly ugly thing you've ever seen, unless you've been to Brentwood and seen the people working on this magazine.



*Bother this guy with the cod a few times and he'll die. But there's more...*

# KNIGHT FORCE

A chase through time

It's all springy legs, neck and head.

Whatever you think it is, whack it one with your cod before it springs at you. Of course there are lots of these things awaiting, but that's dreamland for you.

The garden scene has you picking up a stick and attempting to force your way past a bed of vicious red roses, which isn't too hard providing you stick at long range and thrust at them.

Weird Dreams may be a good deal more subtle than the Nightmare on Elm Street series of splatter feasts but there is quite a nasty surprise waiting if you take too long getting past the roses. Up from behind comes a very large lawnmower.

Past the roses and there's a sweet little girl waiting who wants to play ball. Unfortunately she also has a large knife. Get too close to the little urchin and...

A lot of Weird Dreams is quite unpleasant, but some things seem to have been cut out since I last saw the program. The screams when you get killed have gone, although they are still in the ST version apparently, and so has the end sequence when you lose all your lives and the surgeons leer horribly and lunge at you with a very large knife.

The music is disappointing on both the title page and during the game. A talented musician could have had a field day with the theme of frightening nightmares, but what we've ended up with lacks any feeling of menace at all.

The same could be said of the game itself. There are plenty of good ideas and classical dream elements in there, but it is all let down by dull graphics and bad programming.

Duncan Evans

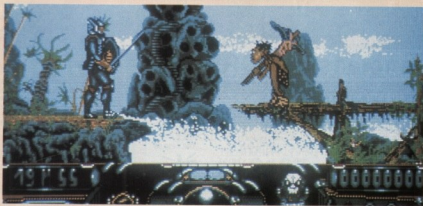
## Weird Dreams

£24.95

Rainbird

Sound	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Graphics	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Gameplay	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Value	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>

Overall - 62%



Watch out for the flying things!

**O**H DEAR, when everyone's releasing driving games left, right and centre, Titus goes for nostalgia and does a beat-'em-up. Always were a bit different, were the folks at Titus. Strange, even.

Strange is quite a good word for Knight Force, too, though it doesn't quite manage to convey the deep-seated bizarreness that pervades the whole affair.

The basic idea is that long, long ago - long before the dinosaurs appeared or Green last had a shave - there was a superior race of beings who knew the secret of time travel. These days, only BR knows the secret - when you want to travel, it always takes time...

As I was saying, before I was rudely interrupted, these zebs could zip back and forth in time like a hot knife through butter, except they didn't need to be washed afterwards.

This kind of mellowed them out to such an extent that they only had one cat who had his head together enough to actually be any use, defence-wise. The Knight of Thunder was his name (he was always followed by The Morning of Rain) and he had one problem - an uptight square called Red Sabbath, supposedly for copyright reasons.

This Red Sabbath character had kidnapped the Good King's daughter and had split his own persona into millions of individually-wrapped bits, partly to avoid detection and partly because it broke the ice at the Necromancers' Guild Tupperware Party.

You, as the Knight of Thunder,



You rung, milady?

must get the King's daughter back. She's now the Queen because the old man died of acute embarrassment.

So off you plod, forward through time, past Pre-History with a suicidal Cro-Magnon man and a killer terrydack... pterodack... ptery... flying thing. Through Fantasy Land, with headbutting dwarfs, ninja skeletons and another flying thing. Along to Versailles in 1789, with murderous street urchins, hangmen, sewers and yet another flying thing.

New York's docklands await, with the girl gang leader, an octopus, and, yes, a flying thing. And finally to the Future, with all manner of technojunk and, quite surprisingly, two flying things. Nearly fell off my chair at the shock of it.

You've got to destroy a bit of Red Sabbath at each stage. This is rather difficult. He keeps moving about and won't stay still and die like a good necromancer should.

The only mild consolation is that when fighting Red Sabbath the

constant barrage of flying things temporarily stops. But not for long.

Knight Force doesn't really hang together too well. The graphics would be OK on a C64, movement is far too intricate, the tune is way too odd, and trying to off Red Sabbath is like trying to go the wrong way through the crowd at the Shopper Show. All in all, it's another Titus game - good idea, bad implementation.

Stewart C. Russell

## Knight Force

£19.95

Titus

Sound	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Graphics	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Gameplay	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>
Value	<div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div>

Overall - 53%

## NEW FOR YOUR COMMODORE FROM TRILOGIC!

### AMIGA AUDIO DIGITISER



TRILOGIC



— NEW, CHOOSE MONO OR STEREO VERSION

Both Amiga audio digitisers give superb performance, unsurpassed at the price. No software is supplied, since they are fully compatible with Perfect Sound, Prosound Designer, Audiomaster, and Datal's Prosembler. Sampling rates up to 60kHz are possible depending upon the software. An audio lead is supplied for connecting to the headphone socket or line output of a radio, personal stereo, keyboard etc. Full instructions are included, and the mono version also has an L.E.D. overload indicator. A public domain "Sound Workshop" disk is available which has demo versions of Audiomaster & Perfect Sound etc.

MONO DIGITISER £27.99 POST FREE STEREO DIGITISER £37.99  
SOUND WORKSHOP DISK FREE WITH DIGITISER  
ADAPTOR FOR A1000 £2.00

### EXTERNAL 3.5" DISK DRIVES

- 800K FORMATTED CAPACITY
- THROUGH POST
- VERY QUIET OPERATION
- SLIMLINE STEEL CASE
- LOW POWER CONSUMPTION
- 3.5" DRIVE WITH ON/OFF SWITCH £74.99 POST FREE



### AMIGA MONITOR & PRINTER LEADS

#### RGB TV & MONITOR LEADS

We have leads to connect all AMIGAs to your TV or colour monitor provided it has an RGB input socket. All leads give a much clearer picture than using the AMIGA MODULATOR, permit all 4096 colours to be displayed and include the audio lead to give stereo with stereo TV's.

- ORDER AL 1 FOR TV'S WITH 21 PIN EURO (SCART) SOCKET. ONLY £10.99
- FITS PHILIPS, FIDELITY, SONY, GRUNDIG, NORMENDE, ETC.
- ORDER AL 2 FOR FERGUSON TV'S WITH 7 or 8 PIN DIN SOCKET. ONLY £10.99
- MODELS M201 & M205, ETC.
- ORDER AL 4 FOR HITACHI & GRANADA TV'S WITH 7 PIN DIN SOCKET. MODELS CPT1444, ETC. ONLY £10.99
- AMIGA TO MULTISYNC MONITOR (analogue RGB) AL13 £9.99

MANY OTHER AMIGA MONITOR/TV LEADS LISTED IN OUR FREE CATALOGUE.

OUR LEADS ARE GUARANTEED TO WORK WHERE OTHERS DON'T! LEADS ALSO AVAILABLE FOR ATARI ST RANGE. PLEASE CONSULT US IF IN DOUBT.

### NEW — MONITOR SHARER

#### SHARE 2 COMPUTERS WITH ONE TV/MONITOR

Plug-in to the start leads from any two computers eg AMIGA & ST, and connect the SHARER to the tv or monitor's scart socket. Just press the switch to instantly select either computer. MSW1 £15.99

### OTHER LEADS

- AMIGA 64 EMULATOR LEADS
- MODULATOR EXTENSION LEADS
- AMIGA PRINTER LEAD — Parallel type 1.5m long. £5.99
- 3.0M long. £6.99
- AMP 3 ONLY £9.99
- AMP 1 ONLY £7.99
- AMP 2 ONLY £7.99
- AMP 4 ONLY £7.99
- AMP 5 ONLY £7.99
- AMP 6 ONLY £7.99
- AMP 7 ONLY £7.99
- AMP 8 ONLY £7.99
- AMP 9 ONLY £7.99
- AMP 10 ONLY £7.99
- AMP 11 ONLY £7.99
- AMP 12 ONLY £7.99
- AMP 13 ONLY £7.99
- AMP 14 ONLY £7.99
- AMP 15 ONLY £7.99
- AMP 16 ONLY £7.99
- AMP 17 ONLY £7.99
- AMP 18 ONLY £7.99
- AMP 19 ONLY £7.99
- AMP 20 ONLY £7.99
- AMP 21 ONLY £7.99
- AMP 22 ONLY £7.99
- AMP 23 ONLY £7.99
- AMP 24 ONLY £7.99
- AMP 25 ONLY £7.99
- AMP 26 ONLY £7.99
- AMP 27 ONLY £7.99
- AMP 28 ONLY £7.99
- AMP 29 ONLY £7.99
- AMP 30 ONLY £7.99
- AMP 31 ONLY £7.99
- AMP 32 ONLY £7.99
- AMP 33 ONLY £7.99
- AMP 34 ONLY £7.99
- AMP 35 ONLY £7.99
- AMP 36 ONLY £7.99
- AMP 37 ONLY £7.99
- AMP 38 ONLY £7.99
- AMP 39 ONLY £7.99
- AMP 40 ONLY £7.99
- AMP 41 ONLY £7.99
- AMP 42 ONLY £7.99
- AMP 43 ONLY £7.99
- AMP 44 ONLY £7.99
- AMP 45 ONLY £7.99
- AMP 46 ONLY £7.99
- AMP 47 ONLY £7.99
- AMP 48 ONLY £7.99
- AMP 49 ONLY £7.99
- AMP 50 ONLY £7.99
- AMP 51 ONLY £7.99
- AMP 52 ONLY £7.99
- AMP 53 ONLY £7.99
- AMP 54 ONLY £7.99
- AMP 55 ONLY £7.99
- AMP 56 ONLY £7.99
- AMP 57 ONLY £7.99
- AMP 58 ONLY £7.99
- AMP 59 ONLY £7.99
- AMP 60 ONLY £7.99
- AMP 61 ONLY £7.99
- AMP 62 ONLY £7.99
- AMP 63 ONLY £7.99
- AMP 64 ONLY £7.99
- AMP 65 ONLY £7.99
- AMP 66 ONLY £7.99
- AMP 67 ONLY £7.99
- AMP 68 ONLY £7.99
- AMP 69 ONLY £7.99
- AMP 70 ONLY £7.99
- AMP 71 ONLY £7.99
- AMP 72 ONLY £7.99
- AMP 73 ONLY £7.99
- AMP 74 ONLY £7.99
- AMP 75 ONLY £7.99
- AMP 76 ONLY £7.99
- AMP 77 ONLY £7.99
- AMP 78 ONLY £7.99
- AMP 79 ONLY £7.99
- AMP 80 ONLY £7.99
- AMP 81 ONLY £7.99
- AMP 82 ONLY £7.99
- AMP 83 ONLY £7.99
- AMP 84 ONLY £7.99
- AMP 85 ONLY £7.99
- AMP 86 ONLY £7.99
- AMP 87 ONLY £7.99
- AMP 88 ONLY £7.99
- AMP 89 ONLY £7.99
- AMP 90 ONLY £7.99
- AMP 91 ONLY £7.99
- AMP 92 ONLY £7.99
- AMP 93 ONLY £7.99
- AMP 94 ONLY £7.99
- AMP 95 ONLY £7.99
- AMP 96 ONLY £7.99
- AMP 97 ONLY £7.99
- AMP 98 ONLY £7.99
- AMP 99 ONLY £7.99
- AMP 100 ONLY £7.99

EXTERNAL DRIVE SWITCH FOR DF1

EXTERNAL DRIVE SWITCH FOR DF1 & DF2

PLEASE STATE WHICH AMIGA YOU HAVE WHEN ORDERING

### MOUSE/JOYSTICK SWITCHER

- NO MORE UNPLUGGING MOUSE WHEN JOYSTICK REQUIRED
- EXTENDS THE PORT FOR EASIER ACCESS
- SAVES WEAR & TEAR ON THE MOUSE PORT
- PUSH-BUTTON SWITCH CAN BE OPERATED WHEN THE COMPUTER IS ON

NEW COMPACT DESIGN

£12.99 order as DJAI

### AMIGA MINI STEREO AMPLIFIERS

MINIAMP 2 combines a mini stereo power amp with two meat speaker units which connect directly to your AMIGA. They are ideal for use with mono TV's & monitors, & simply plug in for instant stereo sound. You'll be amazed at the difference. MINIAMP 2 WITH REMOTE VOLUME CONTROL & ALL LEADS. ONLY £19.99

MINIAMP 4 comprises separate 4 watts per channel high quality mini stereo amplifier with loudspeaker/headphone socket, separate speaker units with 4" twin cone drivers, mains power pack & connecting lead for AMIGA. CAN BE USED AS 'WALKMAN' BOOSTER & WITH OTHER COMPUTERS. MINIAMP 4 STEREO AMPLIFIER SPEAKER SYSTEM. MAA £34.99

### NEW — AMIGA MIDI INTERFACES

- MIDI INTERFACE 1 FOR A500/A2000 OR A3000 MIF1 £29.99
- This has MIDI IN/OUT & THRU sockets
- MIDI INTERFACE 2 FOR A500/A2000 OR A3000 MIF2 £34.99
- This has MIDI IN, MIDI OUT, MIDI THRU plus 2 UNIQUE switchable MIDI OUT/THRU SOCKETS to save you having to swap MIDI leads when using more than one MIDI instrument. FREE MIDI LEAD WITH BOTH INTERFACES

### SUNDRY ITEMS — BARGAIN PRICES

- SONY 3.5" DISKS 100% Guaranteed D500 disks
- Lowest Prices... Per 25 £28.49 Post Free
- Lowest Prices... Per 50 £55.99 Post Free
- Lowest Prices... Per 100 £99.99 Post Free
- 3 1/2" DISK BOX FOR 40 DISKS, SMOKE D1, LOCKABLE, D584 ONLY £8.49
- 3 1/2" DISK BOX FOR 80 DISKS, SMOKE D1, LOCKABLE, D586 ONLY £9.99
- A500 DISCOVERER, ANTI-STATIC TYPE, ADCL ONLY £4.99
- AD NON-SLIP MOUSEPAD, AFM1 ONLY £4.99

WE ALSO STOCK AMIGAS, PCs, PRINTERS, MONITORS, HARD DISKS, MEMORY EXPANSIONS, VIDEO DIGITISERS, SELECTED SOFTWARE & BOOKS — PHONE FOR OUR FREE 20 PAGE CATALOGUE. TRADE ENQUIRIES WELCOME. Please add 75p post postage + packing to orders under £15.00

FREE CATALOGUE WITH ALL ORDERS EXPRESS DELIVERY £1.99 FWH



TRILOGIC, Unit 1, ENQUIRIES 0274-678062  
253 New Works Road, Bradford BD12 0DP  
Tel 0274 691115 Fax 0274 600150

— SAT MATHS ORDER SERVICE — PROMPT DELIVERY — ALL PRICES FULLY INCLUSIVE PLUS 10% DELIVERY MONEY  
BAG GUARANTEE ON ALL ITEMS. INQUIRY BY CARD, CREDITED TOWARD TO TRILOGIC BY POST.  
ORDER, ORDER ON VISA, ADD £3.99 EXTRA FOR CREDIT ORDER, PAYMENT BY CREDIT CARD ONLY.

Making Technology Work for You...

### AMIGA BATMAN PACK

INCLUDING: BATMAN THE MOVIE INTERCEPTOR (C/C) + NEW ZEALAND STORY DELUXE PAINT II + AMIGA BASIC + MOUSE 3 MANUALS + MODULATOR AMIGA EXTRAS 1-3 BASIC 1-2 + WORKBENCH 1-3

THE VERY FIRST (ENGLISH) plus INCLUDING SPECIAL VALUE PACK EXCLUSIVE TO MICROSNIPS

Sold Separately £499 £399  
(Takes max 4hrs) \*BUDGET A/C AVAILABLE APR 34.5%

£17 month\*

### CABLES

- AMIGA/SCART (RGB ANALOGUE) £11.95
- AMIGA/MONITOR (TTL RGB) £11.95
- AMIGA ET AJ SOCKET £11.95
- A500/A2000-CENTRONICS £9.95
- RS232 CABLE FOR A500/2000 (takes DCE or DTE) £9.95
- AMIGA DISK DRIVE EXT. £14.95

### DRIVES

- AMIGA 3 1/2" DRIVE £79.95
- CUMANA 3 1/2" DRIVE £95.00
- BARE 3 1/2" DRIVE £69.95

### ACCESSORIES & CONSUMABLES

- 25 MICROSNIPS CERTIFIED ERROR FREE 3 1/2" D500 DISKS £23.50
- SONY 3 1/2" D500 (BOXED IN 10s) £18.99
- LOCKABLE MULTIPURPOSE DISK BOX (Holds 40 3 1/2" DISKS) £8.95
- LOCKABLE ANTI-STATIC DISK BOX (Holds 40 3 1/2" DISKS) £6.95
- 50 3 1/2" DISK LABELS & DISK BOX £2.99
- SPONGY MOUSE MAT £5.95
- LUXURY DUST COVER SUITABLE FOR AMIGA £7.95
- PHILIPS 8833 DUST COVER £7.95
- BOWTHORPE SURGE PROTECTOR PLUG £11.95
- APOLLO 4-WAY ANTI-SURGE £24.95
- TRAILING SOCKET £4.95
- PANASONIC 1081 RIBBON £4.95
- STAR NL-10 RIBBON 2 fer £9.95
- STAR LC-10 MONO RIBBON 2 fer £9.95
- STAR LC-10 COLOUR RIBBON £7.95
- 2,000 SHEETS 60gm MICROPERF FANFOLD £15.95
- 2,000 SHEETS 80gm PLAIN FANFOLD £13.95
- 1,000 SHEETS 80gm MICROPERF £10.95

### MONITORS

- PHILIPS 8833 MED RES. COL. MONITOR £249.00
- COMMODORE 1084 COLOUR £239.00
- PHILIPS PROFESSIONAL COLOUR £289.95

### BARGAIN BUY!!!

Q-TEC 3 1/2" 1MG DRIVE for A500/1000 and 2000

- SLIM SIZE • LOW POWER CONSUMPTION • HIGHLY RELIABLE • EXCELLENT R/W PERFORMANCE •

only £79.95

Number 1  
3 1/2" DISK IN THE  
WORLD

TDK CAME TOP OVERALL  
IN 11 CATEGORIES  
TDK MF-2DD

MRP £33.95 for 10 £14.50

Instant Credit Available - Ask for Details

UK Postage and Packaging items under £50 add £2, items under £100 add £5, items over £100 add £10 for Courier Delivery. Includes delivery to you the day after dispatch. Overseas customers: Europe £10 price shown will cover carriage and packaging. Non-European - add 5% to total.

37 Seaview Road, Wallasey,  
Merseyside L45 4QN.  
051-630 3013 051-630 5396  
051-691 2008 Fax 051-639 2714



Book Now For  
Our Video &  
Graphics Course

# THE VIDEO SPECIALISTS

**Real Things**  
Living Animation  
for your Amiga!

£24.95 Inc P&P



## A590 Hard Drive

With 2MB RAM Fitted for The unbelievable

price of **£599.95** Inc VAT

## 8MB RAM Boards

Fully Populated **£899** Inc VAT and P&P

## DIGIPRO Professional Video System

Amiga 2000 with 20MB Hard drive,  
2MB RAM, G2 Video Centre, HI-RES  
Colour Monitor and Pro Video Plus  
Available now!

from **£127** pm Inc VAT

## EASY PAYMENTS!

DIGIPRO can offer Lease and Hire  
Purchase facilities.

Written details are available on request

We also accept Access,  
Visa & Mastercard

## VIDI-AMIGA the AMAZING Video Frame Grabber

Grab real time 3-D images from TV & Video  
Capture and store action sequences  
Perfect Freeze Frame from any video source  
All this for only:

**£114.95** Inc VAT and P&P

## CanDo Power Steering For The Amiga

CanDo is incredibly easy to use. Programs can be created by just pointing and clicking. CanDo's graphic interface guides you easily, step-by-step through the creation of your own applications, from presentations to education to personal productivity, complete with buttons, menus, windows and much, much more.... without any programming experience. It can choreograph digitized sounds... music...graphic or video images in real-time by interaction or time. It lets you use any number of Deluxe Paint III brush animations and display them on-screen simultaneously.

For a FREE demo disk send 50p to cover  
P&P to DIGIPRO LTD or ask your local PD  
dealer for the latest CanDo Demo.

Available Now! **£149.95** Inc VAT and P&P



**We Have  
MOVED TO**  
32 Castle Way  
Southampton  
Hants SO1 0AW

**0703 23 49 49**  
**01 905 1030**

## A500 Super Home Video System

Includes an additional 512K of RAM, the  
world renowned 8802 Genlock and Video  
Titling Software. All this for only:

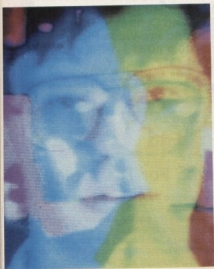
**£699.95** Inc VAT.

Hire Purchase from only £6.29 pw

## Authorised Commodore Amiga Dealer

Dealer, Export, Government, MOD and Educational Orders Welcome  
Hire-purchase and leasing finance available. Digipro are licensed credit brokers.

# Vidi goes colour



*The best Amiga digitiser has had the technicolour treatment. John "AJ" Kennedy looks through the lens*

**Y**OU have a problem. You have a computer with amazing graphics capabilities but your artistic abilities are limited to drawing the curtains. Or you want to use realistic images in your latest homegrown arcade game. Or the robot you spent years building keeps walking into walls. Or – more likely – you have a deep and secret desire to draw



*Black and white photos grab well*

moustaches on famous people.

The answer to all these problems could be solved by one little box – Rombo's Vidi.

Physically, Vidi looks drab and worryingly like a DIY project. The small black box connects snugly to the parallel port and a trailing lead borrows a joystick socket to extract five volts.

Next to the phono socket where the video source plugs in sit twin twiddly knobs which control contrast and brightness. Brightness can be fine tuned under software control, but after an initial setting you rarely need to adjust anything again.

Vidi comes with a phono-to-phono lead, so if your video uses SCART or BNC connectors be prepared to be frustrated while you try to find a suitable lead. The camera I hired for this review necessitated half an hour's playing with paper clips (and a phone call to Green to look up SCART pin-outs) to jury rig a suitable connection.

If you have problems getting wired up, Rombo will be happy to talk to you about what you might need. On production of a very reasonable sum of money they will even give you what you require to connect Vidi to your whatever make of video recorder you have.

Frames are grabbed and stored sequentially in memory to form a

## Frame grabbing works fast

**D**IGITISING a video signal is a complicated business. The signal consists of a series of consecutive frames, just like a piece of Super 8 cine film. Well, almost but not quite, because video frames are constructed in two parts or *fields*.

First all the even lines are sent and then all the odd lines. Each field consists of a control and timing section followed by a large block of analogue data to describe the brightness as it varies over the entire horizontal screen line. This data must be isolated and converted into the digital data which computers know and love.

The accuracy of the digital version depends on the number of brightness levels used and on the number of pixels used. The greater the accuracy required, the greater the complexity and expense of the hardware needed to digitise it. A standard digitiser combines several frames to extract as

much information as possible, sometimes looking at the image slice by slice.

Obviously the subject being digitised must be rock steady during this process to avoid blurring. The pause button on most video recorders will not produce a perfectly still picture, so for best results the only answer is to use a rather expensive video camera.

A frame grabber is a digitiser which works hard and fast, capturing a single video frame and so avoiding any smearing caused by moving subjects. Vidi grabs single frames, but the pay-off is in the relatively low resolution of the output.

However, when animated or used with colour, the resolution is not as important as you might think, and VIDI has the distinct advantage that it can be used perfectly well with the moving image produced by a video recorder.

sequence of consecutive images. The length of this sequence will obviously depend on the amount of ram you have to spare.

With a one meg machine you can store just over 20 frames. With eight

megs you could store 278 screens, which may seem an enormous number but would only make about 12 seconds if played back in real time. One of the eternal computer truths –



Green meets the Cheetah girl at the PC Show

you never seem to have enough memory.

Special effects include the facility to grab into or around defined windows and so build up a vast moving scrapbook of video excerpts. Looks great, if not particularly useful. If you played your holiday video through it and dubbed some of Madonna's songs over it you might be able to pass it off as a cheap pop video.

Nevertheless it does demonstrate Vidi's ability to grab images into user defined screen areas – ideal if you need to size an image for insertion into a DTP package.

Although the supplied software offers facilities for reducing the number of colours in the grabbed picture and also for cutting and pasting, you will need a good art package to get the most from the digitised images.

In fact if you upgrade to a colour system you will need two art packages – one for the HAM colour pictures and

one for the non-HAM monochrome images.

The software supplied is standard issue drop-down menus and ARP file requesters, which works well and feels robust. A palette editing section will automatically generate shades between two starting colours and give your monochrome pictures tones in purple, yellow, blue, or even sepia.

A nice touch is the ability to display all available frames in a photo-montage, ready for saving to disc either individually or in sequence.

Programmers will be pleased to note that a Library is available to access Vidi directly from your own assembler or Basic programs. With its high frame rate, Vidi is ideal for playing with image recognition and processing.

Vidi must be one of the most exciting peripherals you can buy for your Amiga. Now it is even more difficult to decide on expanding your machine, because you must decide on what you buy first: a memory expansion, a disc drive or Vidi.



Would you  
buy a car  
from this  
man?

## X ray specs

**D**OWN to specifications - Vidi can capture a single video frame into its own internal ram with a resolution of 320 pixels by 256 lines in 16 shades.

Although images are grabbed in 1/50 of a second from a moving source, they can only be sent into the Amiga at around three frames a second. This is not Vidi's fault, more a consequence of using the parallel port to transport the image into the Amiga.

However, once frames are in memory they may be played back at any speed, the fastest being about 25 a second. To increase the display to

its maximum rate there is a facility to stop the buffering and take one frame at a time.

Each frame is displayed as a four colour image, converted to 16 only when stopped. Useful for a photofinish of your Scalextric races.

If you are desperate to save money and are willing to sacrifice your PAL screen for a NTSC one, Rombo will sell you a cheaper Vidi for £99.95. It can be factory upgraded to a full PAL version, but the missing bottom of the screen is such a handicap that it is not worth the hassle of getting an NTSC version with a view to upgrading.

## REPORT CARD

Vidi  
Rombo (0506) 414631  
£114.95

### EASE OF USE

Once connected to your video recorder you can grab all you see with no worries.

### SOFTWARE

The software supplied works well.

### SPEED

Very fast, but not quite quick enough to digitise juggling.

### VALUE

Starts at £114.95 for a black and white unit, rises to £135 for a colour system. If you have a video camera, the colour option is worthwhile.

**OVERALL 88%**

One of the great fun peripherals. The more ram you have, the better it gets.

**V**IDI started life in black and white but is now capable of capturing colour images. This means buying a combined software and hardware upgrade for £19.95. The hardware consists of a set of red, green and blue filters and the software permits full-colour HAM images to be captured.

Software upgrades are promised to handle interlace with a resultant increase in picture quality. My version of the colour software tried, unsuccessfully, to convert all frames to interlace by halving the resolution. The guru was only a minor irritation since any art package could satisfy this strange request.

By grabbing an image through each of a set of red, blue and green filters placed in front of the video camera, the amount of each primary colour in the picture can be calculated. These values are combined to determine the colour of the pixels in the finished picture.

Using filters means that either colour or usually cheaper monochrome cameras can be used. The quality of monochrome cameras varies considerably: some are much better than others, so if possible try before you buy.

As the colour image is formed by combining three individual frames,





Subjects need to keep still when grabbed

## Future enhancements

As well as the colour upgrade, a colour separator and bus interface unit will be available soon. The separator will allow colour images to be grabbed without the need for filters by electronically separating the red, green and blue components.

This unit will interface automatically with Vidi or can be used manually with any other digitiser. It has the added benefit of allowing colour pictures to be grabbed from video sources other than cameras, such as a good video recorder.

The bus interface will solve the problems caused by using the Amiga parallel port and allow digitised images to be transferred to memory much faster.

## Colour adds class... and the ability to capture pictures in 3D

this technique is only suitable for use with stationary subjects. Moving subjects produce weird multi-coloured effects as seen on *Top of the Pops* circa mid '70s, when long hair, silver platform soles and bad music were all the rage. Hasn't really changed much, I suppose.

Vidi produces colour results at least as good as I have obtained with other low price digitisers, with the benefit of having to get people to stand still for a few seconds rather than minutes.

Other digitisers require a return to the early days of photography with subjects standing still for uncomfortably long periods. If you are quick with the filters you can grab a HAM image with Vidi in about a second.

Colours were clearly defined - look at the *Amiga Computing* logo for the various rainbow shades. Skin tones also came out well, even Green's skin tones, which are different from those of everyone else.

The resolution was quite low when used with a fairly standard camcorder, making fine details hard to see. However, the results were still quite acceptable because with colour images detail is less important than form.

With a good monochrome camera, such as an Hitachi MV-720K, the results were superb. HAM mode is

used exclusively by the colour software, and if you want to use the colour pictures in a non-HAM art package such as *Deluxe Paint* you will need some way of converting the images, an image editing program like *Pixmate* or *Butcher*.

There is an option to send images to a printer, but you will probably prefer to use your art package to gain greater control of the output. I was impressed with the colour option. Vidi seems to be more tolerant of lighting than other systems, producing good tones in all but the worst conditions. A nice trick

when using colour filters is to capture pictures in 3D.

The subject is grabbed through one filter, the camera moved six centimetres to the left and grabbed through another filter. By controlling the colours in which the finished picture is displayed, the image will appear to have depth when viewed through coloured glasses.

This technique requires a lot of experimentation to get good results, but soon you could be remaking scenes for '50s horror films in glorious 3D-o-vision.



The colour filters work well

# CLUB 68000

AMIGA SPECIALISTS  
MORE THAN  
10,000 MEMBERS

Two year birthday  
celebrations  
40 FREE GAMES

Club 68000 offers to everyone who owns an Amiga computer, 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 and a free catalogue five times a year.

## 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 2Mbyte External £319.99
- A2000 8 Mbyte card (2Mbyte 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

- Ultimate back-up utility
- Copies 4 disks in 48 secs.
- Formate disk in 36 secs.
- Update service
- Speeds up disk loading
- Quick: Superfast Text Ed.
- CV Parameter: With Toolkit options

R.R.P. £39.99 Members £29.99

Hardware only £19.99  
Software only £19.99  
Upgrade (send back old disc) £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

R.R.P. £69.99

Members £49.99

Kickstart Card without Roms £29.99  
Kickstart 1.2 or 1.3 Rom £29.99

## AMIGA TOP 50 GAMES

	R.R.P.	Members
Batman The Movie	£24.99	£15.99
Beach Volley	£24.99	£15.99
Blade Warrior	£24.99	£15.99
Bomber	£29.99	£19.99
Cabal	£24.99	£15.99
Chase HQ	£19.99	£12.99
Chess Strikes Back	£24.99	£15.99
Chest Player 2150	£24.99	£15.99
Carthage	£24.99	£15.99
Demonics	£24.99	£15.99
Deluxe Strip Poker	£19.99	£12.99
Double Dragon II	£19.99	£12.99
Drivin Force	£24.99	£15.99
Dungeons Master	£24.99	£15.99
Falcon F16	£24.99	£19.99
Falcon Mission Disk	£19.99	£12.99
F16 Combat Pilot	£24.99	£15.99
F29 Realizer	£24.99	£19.99
Future Wars	£24.99	£15.99
Ghosts II	£24.99	£15.99
Ghost n Ghouls	£24.99	£15.99
Grand Prix Circuit	£24.99	£15.99
Hard Drivin	£24.99	£15.99
Indiana RVF	£29.99	£19.99
Indiana Jones Last Crusade	£19.99	£12.99
Infestation	£24.99	£15.99
Interphase	£24.99	£15.99
It Came from Deceit	£24.99	£15.99
Knights Force	£24.99	£15.99
Laser Squad	£19.99	£11.99
Leisure Suit Larry II	£29.99	£19.99
Midwinter	£24.99	£15.99
Moonwalker	£24.99	£15.99
North and South	£24.99	£15.99
Outblast	£24.99	£15.99
Operation Thunderbolt	£24.99	£15.99
Pul Gasecigne Soccer	£24.99	£15.99
Populous	£24.99	£15.99
Powershift	£24.99	£15.99
Pro Tennis Tour	£24.99	£15.99
Red Storm Rising	£24.99	£15.99
Shadow Of The Beast	£24.99	£15.99
Sinister Ace	£24.99	£15.99
Stunt Car	£24.99	£15.99
Stryx	£19.99	£12.99
Test Drive II	£24.99	£15.99
Turbo Outrun	£19.99	£12.99
Unouchabot	£24.99	£15.99
Xenon II	£24.99	£15.99
Wild Street	£24.99	£15.99

## 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 3.0.

R.R.P. £69.99 Members Price £49.99

## NEC A500/2000 Hard Disk

- 20 Mbyte, 40 msec, Autboot £369.99
- 30 Mbyte, 28 msec, Autboot £449.99
- 40 Mbyte, 24 msec, Autboot £519.99
- 60 Mbyte, 18 msec, Autboot £599.99

## NEC A2000 File Cards

- 20 Mbyte, 40 msec, Autboot £349.99
- 30 Mbyte, 28 msec, Autboot £399.99
- 40 Mbyte, 24 msec, Autboot £449.00
- 60 Mbyte, 18 msec, Autboot £549.00

## TOP 50 PROFESSIONAL SOFTWARE

		Member	R.R.P.			Member	R.R.P.
Angis Animagic	Animation	£59.99	£79.99	Kind Words II	Wordprocessor	£37.49	£49.99
Angis Modeller 3D	Cad	£59.99	£79.99	Latice 5.0	Prog. Language	£217.49	£239.99
Angis Sonic 2.0	Musical	£52.49	£69.99	Light's Cam, Action	Desktop Video	£52.49	£69.99
Angis Animator II	Music/Midi	£59.99	£79.99	Mailbox Plus	Mailmerge	£37.49	£49.99
Angis Videoziller	Desktop Video	£82.49	£109.99	Movie Set	Desktop Video	£69.99	£69.99
Appetizer	8 Business Programs	£24.99	£39.99	Musix X	Musical	£122.49	£229.99
Butcher 2.0	Utility	£29.99	£39.99	Pagecenter 2.0	DTP	£59.99	£79.99
Comic Setter	DTP Comic	£37.49	£49.99	Photon Paint 1.2	DTP	£187.49	£249.99
Deluxe Toolbox	Utility	£37.49	£49.99	Photon Point 2.0	Animas/Graphics	£99.99	£89.99
Deluxe Paint III	Gra/Animation	£59.99	£79.99	Photon Video	Desk Top Video	£69.99	£99.99
Deluxe Music	Musical	£52.49	£69.99	Professional Draw	Cad/Graphics	£99.99	£139.99
Deluxe Video III 3D	Video Animation	£59.99	£79.99	Quarterback	HandiKad Utility	£44.99	£59.99
Deluxe PhotoLab	Animatic - Ham	£52.49	£69.99	Synthesia	Master/Midi	£59.99	£79.99
Deluxe Print II	Print Utility	£37.49	£49.99	Superbase Personal II	Database	£69.99	£99.99
Digicalc	Spreadsheet	£29.99	£39.99	Superbase Professional	Database	£174.99	£299.99
Due to Dos	Utility	£37.49	£49.99	Sculp 3D XL	3D Animation	£112.49	£149.99
Digipaint 3.0	Graphics	£52.49	£69.99	Sculp 4D Junior	4D Animation	£89.99	£119.99
Director	Desktop Video	£59.99	£79.99	Sculp 4D	4D Animation	£374.99	£699.99
Design 3D	Cad Elec/Technic	£59.99	£79.99	Scrubble Painter	Wordprocessor	£37.49	£49.99
Dynapac II	Prog. Language	£44.99	£59.99	Starter Kit K/words	2/Point3 Games	£49.99	£69.99
Emulation	Animation	£37.49	£49.99	Turbo Silver 3D	3D Animation	£104.99	£139.99
Fun School 2	Financial	£12.99	£19.99	Word Perfect 4.2	Wordprocessor	£172.49	£229.99
Home Accounts	Financial	£22.49	£29.99	Workbench 1.3	1.3 + Manual	£12.99	£19.99
Home Office Kit	W-P/Prog/DTP	£119.99	£149.99	X Cad Designer	Cad Cam	£84.99	£114.99
K Comm 2.0	Communications	£22.49	£29.99				
K Soks	Assembler	£37.99	£49.99				

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

**S** CROLLER, scrolly, scroll-text – call it what you will – every demo has one. None is complete without a message from the programmer telling you how brilliant he is, how long he took to program it and who all his friends are. The sillier the scroller is, the better it is. Usually. Some are totally daft; I saw one recently that tried to hypnotise you into sending off for a subscription to a computer magazine.

There are several ways to do these scrollys, and I've tried most of them. The easiest way is to use the blitter.

The general theory goes something like this. Follow this carefully, I'll type slowly for you: You define a bit of chip memory for your scroll to appear on. You set up your copper list so that this memory is shown as part of the screen display. Every frame (50th of a second) you scroll this bit of memory to the left a little, let's say by two or three pixels. Every three or four frames you will have scrolled the text enough to print another character at the right-hand side of the screen.

Now you get the next character out of your message string and check you haven't reached the end of your text. If you have, set your pointer back to the beginning of your text so everyone can read it a second time.

Take this character, which is an Ascii value, subtract 32 from it, multiply the result by the number of bytes per character in your font, and add this number to the start address of your font data. Now you have the start address of the character you want to print.

Now copy this data on to the screen in the correct position. For small fonts use the 68000, for larger fonts use the blitter.

**C**ARRY on scrolling and adding the new characters when needed, and your scrolly is working. Now all you need to do is think up a really silly message. This is often regarded as the hardest part of programming a demo. It is best left to experts.

If you get stuck, throw in a stupid comment about an East European country that no one will ever understand. It makes your demos look intellectual without having to expend much needed brain power. It has always worked for me.

If you have followed all of this, you

# Scrollys, wibbles 'n' things

*Jolyon Ralph gives some tips on how to go about making a demonstration of yourself in exhibitions*

should be able to code a working scrolly. If you haven't, here are a few clues. You will need to call the scrolly routine once every frame from an interrupt, see last month's *Amiga Computing* for an interrupt driver routine that will do the business for you.

You may also be annoyed that your characters scroll off the left side of the screen smoothly, but appear one at a time splatted straight on to the right-hand side of the screen – not very smoothly at all.

You can fix this by splatting the character on to the bitmap off-screen. If you have a bitplane-modulo set for your screen, you can specify a certain number of bytes skipped at the end of each line on the screen which are not displayed.

If you set this modulo to two, your effective bitplane width is now 42 bytes wide, although only the first 40 are displayed. If you print your new character in the last two bytes, you will not see the character being splatted on the screen; it will appear to scroll perfectly smoothly.

There's a rather nice scrolly routine

– even if I say so myself – in the source code for my Christmas Demo on the January cover disc. This uses a 32-pixel wide multi-colour font and employs all the tricks I described above. If you haven't got it, buy yourself a back issue now!

The only other problem is getting hold of a font. You can, of course, use the one that I created myself, which is on the September cover disc. This is a 16 x 16 font, but the principle behind the whole business is the same for any size.

Another justly famous demo technique is the wibble. This involves displaying a picture and sort of wobbling it a bit, but wobbling each line of the picture differently. Sounds strange, and it is.

An example of this effect can be found in the Heavy Demo on the November cover disc. The overall effect is somewhere in between looking like the picture is melting and the picture is being drowned in thick oil.

I did this to the *Amiga Computing* logo at the bottom of the Heavy Demo – and a very nice logo it was too.

This wibble effect is caused by changing the horizontal smooth-scroll register (\$dff102) each line in the copper list. This allows each line to be offset by up to 15 pixels. One other useful application of this is to change a scrolly from an ordinary font (boring) to an italic font (yippee, really exciting).

If you add the following lines to



➤  
your copper list:

```
dc.w $a009,$ffff,$102,$88
dc.w $a109,$ffff,$102,$77
dc.w $a209,$ffff,$102,$66
```

and so on, up until:

```
dc.w $a709,$ffff,$102,$00
```

and set up your bitplanes so your 8-pixel high scroller is displayed between scanlines \$a0 and \$a7, you will find that you have an italic scroller instead of a normal one and you will gain new friends when everybody sees how clever you are.

Back to the point for a little while, the amazing and astounding wibble effect. If you display a picture on-screen and have a simply massive amount of copper list much the same as the small listing above, you can make a rather ordinary looking picture look very weird.

The best way to do this is to calculate the wibble from a precalculated data table of sine values, that is, a list of values from \$0 to \$f and back to \$0 again which follows some vague sine pattern.

Such a list would look something like this:

```
sinelist:
dc.b $0,$0,$0,$1,$1,$1,$1,$2,$2,$2
dc.b $3,$3,$3,$4,$4,$5,$5,$6,$6,$6
dc.b $7,$8,$9,$9,$a,$a,$b,$b,$c,$c
dc.b $c,$d,$d,$e,$e,$e,$f,$f,$f,$f
dc.b $f,$f,$f,$f,$f,$f,$f,$f,$f,$f
dc.b $d,$d,$d,$c,$c,$c,$b,$b,$b,$b
dc.b $9,$9,$8,$7,$6,$6,$5,$5,$4,$4
dc.b $3,$3,$2,$2,$2,$1,$1,$1,$1,$1
dc.b $0,$0,$0,$0
```

Don't use the above list for any important sine calculations, because I didn't calculate it, I made it up as I went along. But rest assured, it will look fine for the kind of effects I'm talking about.

So, you set up your copper list full of these \$102.xx commands, and then you move them with an interrupt routine. Scroll the values up a bit so that:

```
$a009,$ffff,$102,$44
$a109,$ffff,$102,$55
$a209,$ffff,$102,$55
```

becomes:

```
$a009,$ffff,$102,$55
$a109,$ffff,$102,$55
$a209,$ffff,$102,$66
```

Put the next value from the list on the bottom line and keep on scrolling. Your picture will now wibble! This

## Playing with the ECS

HAVE you got one of the new Amigas with the Enhanced Blitter? If you do, and you also use a monitor, then you can benefit from an amazing feature of this chip, the 60Hz mode.

This works in the same way as the 60Hz mode on the ST. It makes the machine run in the American NTSC video standard instead of the European PAL standard (thus this trick will not work on PAL televisions, only on monitors).

The advantage of this is that it will stretch the NTSC screen to fill the whole monitor. Games written for NTSC screens, which usually have a black border at the bottom of PAL screens, suddenly fill up the whole screen. Interceptor, for example, is

amazing in 60Hz mode.

All you have to do is write a simple two line program in assembly language:

```
move.w $0,$dff1dc
rts
```

Assemble this to a file called 60Hz. Put it in the startup-sequence of programs you wish to run in 60Hz mode. To turn back to 50Hz, use this code:

```
move.w $32,$dff1dc
rts
```

The credit for discovering this gem must go to my good friend Alex Slater, who came across it accidentally when his sprite routine blew up.

effect looks especially good on digitised photos, especially of people you don't like.

Well, these are two fairly simple examples of how to use the hardware to create graphical effects. All the other effects you see in demos are produced in a similar way, they just take a little longer. For example, I could explain to you how to produce 3D vectors if I had 16 pages spare and a better grade in my A level maths.

The best thing to do is to load up a demo, look at it closely for a few minutes and think to yourself: "How do they do that?" Most of the time the best looking effects are done with the simplest pieces of code. And if that fails, you can always cheat – disassemble the demo and see what they're doing.

**N**OW a final bit of advice. Several people have asked me what you actually need in the way of software and books to program the Amiga. With software you only need to buy a decent assembler – of which there are two: Devpac and ArgAsm – and possibly a paint program, which will be Deluxe Paint II or, preferably, Deluxe Paint III.

Digi-Paint, Photon Paint and other HAM paint programs are not much use to demo programmers because HAM screens are not much fun to play around with.

The rest of the software is more or less free. IFFConverter converts IFF files to raw data which you can load straight into your demos. This was on the October cover disc. Fnt2Raw is a useful little utility that converts IFF font files into raw data for use in scrollers, a little gem that can be found in most good public domain libraries.

The first book you will need is a 68000 programming book, unless you are a natural expert at 68000, and I've not met many of them. Various books are available and all seem fairly good. Try to borrow a few from a library and buy the one you like the most. They all have a different style and cover things in a different order; everyone I know has their own personal preference.

You have a choice of two for your essential Amiga hardware guide. Up until a couple of weeks ago I would have recommended everyone to buy the System Programmers Guide from Abacus, but now the new Commodore Hardware Reference Manual is available, and is at least 9.6 times better than the old one.

Buy this if you can – it's cheaper than the Abacus book – but get the new release with the blue cover, not the old red and white one.

Of course, the old Hardware Reference Manual is a classic, and I just happen to have one for sale second hand...

● NEXT MONTH: *Nothing. This is the end.*



MAIL  
ORDER

**SOFTSELLERS**  
6 BOND STREET, IPSWICH, SUFFOLK IP4 1JE

MAIL  
ORDER

Deluxe  
p.

5A DOG'S HEAD STREET, IPSWICH, SUFFOLK (RETAIL)



VISA

36A OSBORNE STREET, COLCHESTER, ESSEX (RETAIL)

**24 HR. MAIL ORDER PURCHASE LINE (0473) 257158/210605 FAX NO. 0473 213457**

## HARDWARE

ALL OUR HARDWARE INCLUDES VAT  
AND FREE DELIVERY, UK MAINLAND  
ONLY. NEXT DAY DELIVERY BY  
ARRANGEMENT MOST WORKING  
DAYS

### AMIGA 500 BATMAN PACK

Deluxe Paint II, mouse, modulator,  
and manuals  
\$299.95

## AMIGA 500 + PHILIPS 8833

As above with Batman pack + Philips 8833  
colour monitor + 10 free games + Photon  
Paint  
**£549.99**

AMIGA 500 CLASS OF 90  
PACK

Deluxe Paint II, Superbase Personal, Maxiplan A500, Doctor Midi recording studio, Gatel Midi Interface, BBC emulator, Interceptor, Amiga logo, 10 3.5" discs, mouse mat, disc box and education support file from Commodore.

## C-190

Monochrome monitor  
£99.95

## PHILIPS 8833

Colour monitor + 10 free games + Photon  
Paint  
£299.95

## 512K EXPANSION

+ Clock Card  
£99.95

### EXTERNAL DRIVE

Power drive 1 Mag DS  
£79.95

### A590 HARD DRIVE

20 meg hard drive  
\$369.95

## VIDE

Video digitiser  
£99.95

## MINI-GEN

Computer graphics with live video  
E113.85

## DATEL MIDI

Midi interface	C34.95
----------------	--------

**PRO SOUND**

DESIGNER GOLD

## MEGA MEGABYTE

**SEGA MEGADRIVE**  
Games machine  
£199.95

## DC ENGINE BLUG

**PC ENGINE PLUS**  
Games machine  
£199.95

5th Gear	13.99	Goldwings Domain	17.99
300 Pool	15.99	Gravity	17.99
Addicks Golden Show	16.99	Grid Iron	16.99
Altman Peter	16.99	Guerrillas II	16.99
A.P.B.	13.99	Gunsling	16.99
Action Fighter	15.99	Guns Summer Edition	16.99
Ancient Art of War	16.99	Greenpeace	16.99
Ancient Art of War at Sea	16.99	Games	16.99
Asileri	16.99	Galaxy Force	16.99
Aventura	16.99	Ghouls and Ghosts	16.99
Asals Majic Hammer	13.99	Highway Patrol	16.99
Balance of Power 1990	15.99	Hillstar	16.99
Barbarian II (Palace)	16.99	Hard Drive	16.99
Barbarian II (Pygmalion)	16.99	H.A.T.E.	13.99
Barlock Knights	16.99	Heavy Metal	16.99
Battle of Britain	15.99	Hound of Shadow	16.99
Battle Squadron	15.99	Hot Shot	16.99
Barthelemy	16.99	Indiana Jones (Lucas Flame)	16.99
Batman (The Movie)	16.99	Indiana Jones (US Gold)	16.99
Betrayal	15.99	Invader	16.99
Beverly Hills Cop	15.99	Iron Tracker	16.99
Black Tiger	16.99	Intelligence	12.99
Blood Money	16.99	Interphase	12.99
Bloodchry Data Disk	12.99	International Athletics	12.99
Blood Money	16.99	Iron Lost	12.99
Boach Valley	16.99	It Came from the Desert	12.99
Battlewings	13.99	Jack Boot	12.99
Blade Warrior	16.99	Jack The Ripper	12.99
Bad Company	16.99	Jumping Jackson	12.99
Ball of Australitz	15.99	Kenny Dalglish Soccer Match	12.99
Bodo	12.99	Kult	12.99
Chase HQ	16.99	Kick Off	12.99
Chase Stripes Back	16.99	Kick Off Extra Time	12.99
California Games	16.99	Krypton	9.99
Cabal	16.99	Krystal	16.99
Conflict Europe	16.99	Kod the Thief	16.99
Continental Circus	16.99	Killing Game Show	16.99
Charlots of Wrath	16.99	Knightforce	15.99
Cartage	16.99	Laser Squad	12.99
Corvette	16.99	Legend of Val	12.99
Chicago 90	12.99	Lecture Suit Larry II	16.99
Comando	12.99	Lighthouse (Compilation)	16.99
Commandos	15.99	Lombard X-Box	16.99
Commandos of Shadow	16.99	Lords of the Rising Sun	16.99
Chambers of Chelation	16.99	Last Ninja II	16.99
Cyberball	16.99	Lost Patrol	16.99
Damocles	16.99	Liverpool	15.99
Dan Dare 3	13.99	Lancaster	12.99
Day of the Viper	15.99	Las Vegas	16.99
Days of the Phoenix	16.99	Manchester United	12.99
Die Hard	16.99	Magnus 4 Compilation	16.99
Dragon Ninja	16.99	Marc MacLean	16.99
Dragons Breath	15.99	Microprose Soccer	15.99
Dragons of Flame	16.99	Majic Johnson	12.99
Dungeon Master	16.99	Monopoly	16.99
Dungeons Master Editor	15.99	Murder in Venice	16.99
Dreadnought	13.99	Matrix Marauders	16.99
Demons Tomb	13.99	Midwinter	16.99
Dragon Sport	13.99	Ninja Spies	16.99
Drakken	13.99	Ninja Warrior	13.99
Dynastie Dur	15.99	New Zealand Story	16.99
Double Dragon II	13.99	North and South	16.99
Dogs of War	12.99	Neuramorph	16.99
Dynastic Delouger	15.99	Neverwinter	16.99
Ego	15.99	Operation Thunderbolt	16.99
Empire	13.99	Oriental	16.99
Escape From The Planet of Robot	13.99	Ortega	24.99
Monsters	13.99	Overlander	12.99
Eye of Hercules	15.99	Onslaught	13.99
Eye of Horus	15.99	Proze	12.99
Faith Dragon	13.99	Paperboy	12.99
F20 Retaliator	15.99	Prinzi Majic	16.99
F15 Stealth Fighter	15.99	Planet Brawl	16.99
F16 Combat Ace	15.99	Police Quest II	16.99
Falcon	13.99	Pools of Radiance	16.99
Falcon Mission Disk	13.99	Poolside	16.99
Ferrari Formula One	15.99	Populous Data Disk	9.99
Footballer of the Year II	13.99	Powerdrome	16.99
Forgotten Worlds	13.99	Precedent Analysis (Compilation)	16.99
Formula One	12.99	Premier Collection Comp. 1, 2 & 3	19.99
Final Battle	16.99	Predator	12.99
Frankenstein	12.99	Pro Tournament Tennis	12.99
Ferrari Formula One	16.99	Player Manager	15.99
Fighting Soccer	12.99	P27	15.99
Full Metal Fighter	12.99	Pewerit	15.99
Furcien Freddy	19.99	Passing Shot	15.99
Fighting Bomber	12.99	Pictionary	16.99
First Contact	15.99	Prinzi Super Soccer	16.99
First Contact	15.99	Quartz	16.99
Grants (Compilation)	19.99		

Quarter Back	13.99
Quest for Time Bird	13.99
Red Heat	16.99
Ringside	16.99
Rick Dangerous	15.99
Robocop	16.99
Rocket Ranger	13.99
Run the Gauntlet	16.99
R.V.F., Honda	15.99
Bad Storm Rising	15.99
Risk	13.99
Rally Cross	12.99
Rock and Roll	13.99
Soccer Spirits	13.99
S.E.U.C.K.	19.99
SNZ	13.99
Space Savage	13.99
Strike	13.99
Tridder	16.99
Stewek	13.99
Space Ace	29.99
Space Harrier (New)	12.99
Space Harrier II	13.99
Space Outpost III	19.99
Speedball	16.99
Star Trek 5	24.99
Steve Davis Snooker	12.99
T.O.S.	13.99
Story So Far 1 (Compilation)	12.99
Story So Far 3 (Compilation)	12.99
Surf Car	15.99
Shenob	13.99
Street Fighting Man	12.99
Scroll	13.99
Sword of Twilight	16.99
Switchblade	13.99
Stardust Commander	13.99
Shufflepuck Cafe	13.99
Super Scramble Simulator	13.99
Super Wonderboy	16.99
Sigheed	13.99
Sleeping Gobs Lie	15.99
Slayer	13.99
Shomlord	13.99
Shadow of the Beast	24.99
Star Blast	15.99
Super Quinter	15.99
Super League Soccer	16.99
Super Cars	13.99
Sim City	19.99
Saint and Gruesie	13.99
Seventh Seal of Jambala	15.99
Star Commander	19.99
Survivor	24.99
Stellar Crusade	15.99
Trade II (Compilation)	16.99
Theme Park	13.99
Turbo Buggies	16.99
Test Drive II	16.99
Tv Sports Football	19.99
Trivial Pursuit (Family Edition)	19.99
Take Em Out	12.99
The Cycles	16.99
Tower of Babel	15.99
Tetris	12.99
Thrill time Platinum (Compilation)	15.99
Trivia	15.99
Track Attack	16.99
Tv Sports Basketball	19.99
Turbo Outrun	16.99
Ultimate Golf	16.99
Ultimate Darts	13.99
Universe III	12.99
Untouchables	16.99
UMS II	15.99
Ultima V	15.99
Vernator	15.99
War in Middle Earth	13.99
Waterloo	15.99
Wild Streets	15.99
Wings of Fury	13.99
World Cup Soccer 90	13.99
W.E.C. Le Mans	16.99
Warp	12.99
Winners (Compilation)	19.99
Xenophobia	15.99
Xenon II	16.99
Xybots	13.99

## HARDWARE

**ALL OUR HARDWARE INCLUDES VAT AND FREE DELIVERY, UK MAINLAND ONLY. NEXT DAY DELIVERY BY ARRANGEMENT MOST WORKING DAYS.**

### 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 + Philips 8833 colour monitor + 10 free games + Photon Paint  
**£649.99**

### AMIGA 500 CLASS OF 90 PACK

Deluxe Paint II, Superbase Personal, Maxspan A500, Doctor Mid recording, studio, Cate! Midi Interface, BBC emulator, Interceptor, Amiga logo, 10 3.5" discs, mouse mat, disc box and education support file from Corecores  
**£529.95**

### C1900

Monochrome monitor  
**£99.95**

### PHILIPS 8833

Colour monitor + 10 free games + Photon Paint  
**£299.95**

### \$12K EXPANSION

+ Clock Card  
**£99.95**

## EXTERNAL DRIVE

Power drive + Mag DS  
**£79.95**

## A590 HARD DRIVE

20 meg hard drive  
**£369.95**

## VIDI

Video digitiser  
**£99.95**

## MINI-GEN

Computer graphics with live video  
**£113.85**

## DATEL MIDI

Midi interface  
**£34.95**

## PRO SOUND DESIGNER GOLD

**£79.95**

## SEGA MEGADRIVE

Games machine  
**£199.95**

## PC ENGINE PLUS

Games machine  
**£199.95**

**CHEQUES AND POSTAL ORDERS PAYABLE TO SOFTSELLERS. POST AND PACKING FREE IN UK. OVERSEAS £1.50 per item. Subject to availability and price change 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 line.

[illegible]

Deluxe  
Video  
£59.99

**Publisher's  
Choice**

# 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

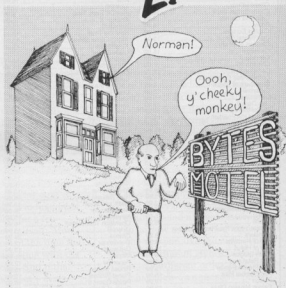
2 MEG

£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 AC  
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

# FREE! TENSTAR PACK WORTH OVER £229!



FREE! - AMEGAS - by Players



FREE! - INSANITY FIGHT - by Microdeal



FREE! - ART OF CHESS - by SPA



FREE! - MERCENARY COMP - by Novagen



FREE! - BARBARIAN, ULT WARRIOR - by Palace



FREE! - TERRORPODS - by Psychosis



FREE! - BUGGY BOY - by Elite



FREE! - THUNDERCATS - by Elite



FREE! - IKARI WARRIORS - by Elite



FREE! - WIZBALL - by Ocean

# Commodore AMIGA



ONLY  
**£3.34**  
PER WEEK  
(with 10% deposit)

## £346.95

-VAT-  
**£399**

INCLUDES  
FREE UK  
DELIVERY

The Amiga 500 is one of a new breed of technologically advanced computers, which are now emerging as the new standard for home computing, based around the new Motorola 68000 chip. The A500 has 512K RAM and a 1Mbyte double sided disk built-in. It can be connected directly to a wide range of monitors, or to a domestic TV set through a TV modulator. Designed with the user in mind, the A500 features a user friendly WIMP environment and comes supplied with a free mouse. And, when you buy your Amiga from Silica Shop, the UK's Not! Amiga specialists, you will experience an after sales service that is second to none, including a technical support helpline and free newsletters and price lists. Return the coupon below for our current information pack, which will give details of the Silica service and the very latest Silica Amiga offers. EAOE

## WHY SILICA SHOP?

Before you decide when to buy your new Commodore Amiga computer, we suggest you consider very carefully WHERE you buy it. There are MANY companies who can offer you a computer, a few peripherals and the top ten selling titles. There are FEWER companies who can offer a wide range of products for your computer as well as expert advice and help when you need it. There is ONLY ONE company who can provide the largest range of Amiga related products in the UK, a full time Amiga specialist technical helpline and on-going after sales support, including free newsletters and brochures delivered to your door for as long as you require after you purchase your computer. That one company is Silica Shop. We have been established in the home computer field for ten years and can now claim to meet our customers requirements with an accuracy and understanding which is second to none; more are just some of the ways we can offer you.

**THE FULL STOCK RANGE:** The largest range of Amiga related peripherals, accessories, books and software in the UK.

**AFTER SALES SUPPORT:** The staff at Silica Shop are dedicated to help you to get the best from your Amiga.

**FREE NEWSLETTERS:** Mailed direct to your home as soon as we print them, featuring offers and latest releases.

**FREE OVERNIGHT DELIVERY:** On all hardware orders shipped to Silica Shop customers within the UK mainland.

**PRICE MATCH PROMISE:** We will normally match our competitors offers on a same product same price basis.

**FREE TECHNICAL HELPLINE:** Full time team of Amiga technical experts to help you with your technical queries.

But don't just take our word for it. Complete and return the coupon below for our latest Amiga literature and ask to experience the Silica Shop specialist Amiga service.

## PHOTON PAINT PACK

A500 Computer	£399.99
TV Modulator	£24.99
Photon Paint	£69.95
TenStar Pack	£229.50
<b>TOTAL RRP:</b>	<b>£724.43</b>
<b>LESS DISCOUNT:</b>	<b>£325.43</b>
<b>PACK PRICE inc VAT:</b>	<b>£399</b>

## 1084S MONITOR PACK

A500 Computer	£399.99
1084S Colour Monitor	£299.99
Photon Paint	£69.95
TenStar Pack	£229.50
<b>TOTAL RRP:</b>	<b>£999.43</b>
<b>LESS DISCOUNT:</b>	<b>£350.43</b>
<b>PACK PRICE inc VAT:</b>	<b>£649</b>

## FREE FROM SILICA

When you buy the Amiga 500 from Silica Shop, you will not only get a high power, value for money computer, we will also give you some spectacular free gifts. First of all, we are now including a TV modulator with every A500 stand alone keyboard so you can plug your Amiga straight into your TV at home (the modulator is not included with the A500-A1084S pack as it is not required for use with monitors). Secondly, we have added a free copy of Photon Paint, an advanced graphics package with an RRP of £69.95. Last (and by no means least!), so that you can be up and running straight away, we are giving away the sensational TENSTAR GAMES PACK with every A500 purchased at Silica Shop. This pack features ten top Amiga titles which have a combined RRP of nearly £230! Return the coupon for details.

## FREE TENSTAR PACK

When you buy your Amiga 500 from Silica Shop, we want to make sure you get the best deal possible. That is why we are giving away the TENSTAR GAMES PACK worth nearly £230, absolutely FREE with every A500 purchased from us. The TenStar Games Pack includes ten titles for the A500, each individually packaged in its own casing with instructions.	
Amegas	£14.95
Art Of Chess	£24.95
Barbarian, Ult Warrior	£19.95
Buggy Boy	£24.95
Ikari Warriors	£24.95
Insanity Fight	£24.95
Mercenary Comp	£19.95
Terrorpods	£24.95
Thundercats	£24.95
Wizball	£24.95
<b>TOTAL RRP:</b>	<b>£229.50 inc VAT</b>

## DO YOU OWN AN AMIGA?

If you already own an Amiga computer and would like to be registered on our mailing list as an Amiga user, let us know. We will be pleased to send you copies of all price lists and newsletters (FREE OF CHARGE) as they become available. Complete the coupon and return it to our Silica Shop and begin experiencing a specialist Amiga service that is second to none.

## SILICA SHOP:

<b>SIDCUP (&amp; Mail Order)</b>	<b>01-309 1111</b>
1-4 The Mews, Hatherley Road, Sidcup, Kent DA14 4DX	
OPEN: MON-SAT 9am - 5.30pm LATE NIGHT: FRIDAY 9am - 7pm	
<b>LONDON</b>	<b>01-580 4000</b>
57 Tottenham Court Road, London, W1P 0BA	
OPEN: MON-SAT 9.30am - 6.00pm LATE NIGHT: TUE	
<b>LONDON</b>	<b>01-629 1234 ext 3914</b>
Selfridges 1st floor, Oxford Street, London, W1A 1AB	
OPEN: MON-SAT 9am - 6.00pm LATE NIGHT: THURSDAY 9am - 5pm	

To: Silica Shop Ltd, Dept AMCOM 1-4 The Mews, Hatherley Road, Sidcup, Kent DA14 4DX  
**PLEASE SEND ME FREE LITERATURE ON THE AMIGA**

Mr/Mrs/Ms: Initials: Surname:  
Address:

Do you already own a computer  
If so, which one do you own?

Postcode:

# SOFTVILLE

## Computer Supplies

# 300

**M**ANY people overlook one of the greatest advantages of owning an Amiga – the vast quantity of obscenely cheap software. Megabytes of marvels. The problem is finding what you want. And finding someone who has the relevant disc.

A public domain software supplier keeps up to date with the latest releases, catalogues and compiles them on to discs. What you should look for when buying PD software is someone who has a good range and knows the ropes, not just the cheapest on offer.

And the favourite PD company here at *Amiga Computing* is Softville. Why? Well it came up with the biggest bribe. "Be nice about us", the man said, "and you can have loads of

discs". This sounds good, but there is a catch. The discs have to be given away in a competition.

That's because Softville would far rather be nice to readers than the magazine. And so to give you an idea how difficult it is to sort out good PD software from the mass of rubbish, we've hidden (well a program did actually) 15 words in the 400 letters on the facing page. All you have to do is sort them out.

Fourteen of the words are listed in a panel here, but to make life more interesting one mystery word is missing from the list. It is nine letters long. Circle all 15 words and write the mystery word on the coupon then send your entry to us.

### THE PRIZES

**1st** 200 PD  
discs worth  
£600

**2nd** 50 PD  
discs worth  
£150

**PLUS** 16 runners up  
prizes of five  
discs

AmigaDos  
Blitter  
Collection  
Commodore  
Compiler

Disc  
Domain  
Fish  
Free  
Printer

Public  
Shareware  
Softville  
Software

### THE RULES

- (1) The first 18 correct entries drawn out of the box on March 20, 1990 will win the first, second and runners up prizes in that order.
- (2) You may not photocopy the form. Only genuine entries are acceptable.
- (3) Employees of Database Publications and their associated companies may not enter.



# SOFTWARE SURPRISE

## discs to be won

O	B	U	R	A	R	S	D	M	X	K	Z	C	N	W	H	W	R	G	D
Y	X	E	O	B	C	S	B	Q	R	M	J	C	Z	S	D	S	B	O	F
W	T	L	W	X	K	E	R	E	F	I	B	W	V	U	F	R	M	P	C
G	B	L	C	X	W	I	C	I	L	B	U	P	F	I	C	H	W	O	V
W	L	i	A	L	D	T	C	D	I	D	K	X	S	U	Z	Q	M	H	C
V	C	V	T	O	B	I	O	R	M	P	M	H	Z	K	N	P	Q	T	Q
X	A	T	D	Q	V	L	S	A	V	S	C	G	R	K	I	R	U	Z	D
S	R	F	O	Z	E	I	P	C	A	O	J	M	V	L	G	X	O	O	H
S	R	O	M	H	G	T	V	K	M	D	P	I	E	R	I	D	M	O	P
A	R	S	E	X	G	U	P	M	Y	A	L	R	S	N	S	A	P	S	A
B	M	N	M	V	S	D	O	S	Z	G	K	X	A	T	I	K	R	H	Q
H	E	E	R	F	Y	D	N	Q	L	I	U	D	M	N	V	G	V	A	K
R	O	H	O	V	O	O	B	S	P	M	M	H	W	F	K	Z	C	R	V
K	T	A	Z	R	W	B	K	J	Y	A	H	I	N	K	F	Y	Z	E	Q
R	Y	Z	E	A	Z	K	J	I	V	E	X	M	R	W	P	E	X	W	E
J	E	R	A	W	T	F	O	S	O	R	E	T	T	I	L	B	F	A	W
P	C	B	E	H	U	R	Y	J	M	N	M	T	Y	B	A	V	Y	R	L
E	H	O	D	Q	X	S	J	C	T	E	T	E	L	A	H	W	X	E	Y
R	I	N	W	R	E	Z	G	X	Y	T	G	F	C	B	K	J	O	N	O
C	O	L	L	E	C	T	I	O	N	N	O	P	R	I	N	T	E	R	D

The mystery word is \_\_\_\_\_

Name \_\_\_\_\_

I have read and understand the rules

Address \_\_\_\_\_

(sign here) \_\_\_\_\_ (date)

Send your entry to: SOFTVILLE Compo,  
Amiga Computing, Second Floor,  
North House, 78-84 Ongar Road,  
Brentwood, Essec, CM15 9BG.

Telephone \_\_\_\_\_

# Of mice and men

*The staff of Amiga Computing conducts a long term test on the very latest replacement Amiga mice*

THE bog standard Amiga mouse has gone through a number of revisions since 1985. It's made as inexpensively as possible to keep the cost of the Amiga package down. And if you use your Amiga for business, as we do, the odds are it won't last longer than a few months.

We've been through five Commodore mice in 12 months. All of them died of worn out bubble switches – that's the bit under the button that clicks when you press it.

A good question to ask when buying a replacement mouse is: "Does it have bubble switches?"

The "Where am I?" mechanism is opto-mechanical; the ball moves some rollers which spin a slotted wheel. A

photocell inside the mouse counts the slots moving past a light and can work out the speed up and down the mat. Another similar set-up at 90 degrees to this works out the speed across the mat. The two figures are then sent back to the computer.

The rate of counting determines the accuracy of the mouse, but too high a rate will show up

any imperfections in the mechanical parts. The Commodore mouse has a resolution of 200 dots per inch.

If your Amiga mouse breaks and you feel that you must buy an original Commodore replacement, you'll probably have to order one from your local dealer. A browse through the mail order companies plying their wares in *Amiga Computing* did not reveal anyone who stocked it.

*Commodore Business Machines (UK) Ltd, Commodore House, The Switchback, Gardner Road, Maidenhead, SL6 7XA.  
Tel: 0628 770088. £34.95*

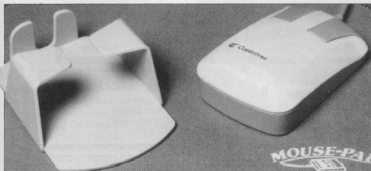
## Contriver Mice

CONTRIVER (Europe) Ltd makes two inexpensive replacement Amiga mice, the C820-G-A1 and the C830-G-A1. Mechanically the same, the 830 being the later model. Differences are wholly cosmetic – the 820 is rounded with beige buttons; the 830 is a squarer shape with black buttons.

Inside the gubbins are similar to the Commodore mouse, but with more robust bubble switches and a clever mechanism which lets you easily remove and clean the brass rollers.



*Commodore mouse*



Contriver mouse



Boing! mouse



Marconi trackerball

After two month's heavy use at home and in the *Amiga Computing* office, both mice – or mouses, as Contriver prefers to call them – are still going strong and feel as though they have a lot more mileage in them yet. Both come with small but adequate mouse mats and plastic stick-'em-up holsters.

Like the Commodore unit they have a 200 dpi resolution but are better made and cheaper.

**Contriver (Europe) Ltd, Unit 3  
Buckingham Industrial Estate,  
Buckingham.**

**Tel: 0280 822803. £29.95**

## Marconi Trackball

**A**N angled cream box, the trackball is just smaller than an A590 hard disc and a matching beige colour. It plugs directly into the mouse socket. No driving software required.

The lower half on the top surface forms a rest for the base of your hand, allowing your fingers and thumb to easily manipulate the snooker sized ball.

A slight finger stretch away are three buttons, two of which are the same as the buttons on a standard

mouse. The third does nothing special unless your software is specially programmed to respond to it.

Rolling the ball fast makes a definite noise. This annoyed people in the office until Green's monitor started making a high pitched whine to drown it out.

Freehand drawing is tricky. Most art packages need you to hold a button down to draw, so you will have to use a finger to hold down a button and twiddle the ball at the same time. You can't use the palm of your hand on the ball because the switches are too close.

On a soft mouse mat, the very act of pressing a button causes the pointer to drift slightly as the mouse is pressed into the surface. This problem does not occur with the trackball.

Games playing is an interesting experience. It's good for Missile Command and Centipede clones, and surprisingly good for some car games. Unlike the mouse, you never run out of desk space and lose a life because you aren't able to move your rocket, hero or cute furry animal any further left.

Using a trackball is perfect if you do a lot of programming and rarely need to use the mouse. Instead of hunting for the hibernating rodent under

sheafs of paper, or following a flex tail to its conclusion, just roll that ball and resize the windows.

For about a week I found I was constantly reaching out for the non-existent mouse. This soon passed, and now I'm about 98 per cent accurate, only occasionally missing the odd close gadget. Trackballs are a breed apart from mice, and take getting used to. But once you do, you'll never miss the tiny rodent.

**RB2 Trackball, Marconi Electronic  
Devices Ltd, Carholme Rd, Lincoln  
LN1 1SG.**

**Tel: 0522 510500. £59.95.**

## Boing! mouse

**W**HO would think of a mouse as a status symbol? You can't buy them in Harrods. There is one mouse which has all the techie street cred of an eight megabyte expansion. The Boing! mouse.

Made especially by Mouse Systems for Dale Luck, the ex-Amiga programmer and owner of Boing! Inc, it looks the same as the mice on mega-expensive Sun workstations.

Dale commissioned them for use with his X-windows software, which turns the Amiga into a workstation because it needs three buttons. AmigaDos has the routines to use the third button but suitably equipped mice are such rare breed no programs use them.

There are no moving parts other than the microswitch buttons. It works by shining a light on to the special gridded mousemat and counting the reflections using two photodiodes. This restricts you to using the supplied mat and it takes some getting used to because the mouse must be kept parallel to the mat.

However the result is very accurate at 300 dpi and the felt pads on mirrored mat give a smooth action. Simon has used his for six months and the only glitch was when he spilled coffee on the mat. The pads on the mouse soaked this up and the whole thing had to be left to dry. An hour and a squirt of Windowlene later everything was fine. The Boing! is more than just a good pose, it's a great mouse, albeit overpriced.

**Boing! Mouse, Amiga Centre Scotland,  
4 Hart Street Lane, Edinburgh  
EH1 3RN.**

**Tel: 031 557 4242. £79.95.**



**ALL OUR PRICES INCLUDE CARRIAGE & VAT**  
**HSV COMPUTER SERVICES LIMITED (AMC)**  
 23, Hampstead House, Town Centre, Basingstoke, RG21 1LG.

### 3 1/2" DS/DD Disks Bulk - Fully Guaranteed

25	50	100	250	500	
*69p	*63p	*61p	*59p	*57p	*per disk

SONY 3.5" DS/DD  
 branded discs  
 £13.95 per  
 box of 10

### Lockable Disk Boxes

50 x 3 1/2"	£5.95
100 x 3 1/2"	£7.95

### Accessories

3 1/2" Cleaning Kit.....	£4.95
Amiga 500 Dust Cover .....	£4.95
Amiga 1000 Dust Cover .....	£9.50
Mouse Mat (Foam).....	£5.95

### Stationery... Stationery... Stationery...

Micro-perf all edges	500	1,000	2,000
9.5" x 11" 60gsm		£9.50	£15.95
True A4 70gsm	£8.50	£12.95	£23.95
True A4 80gsm	£8.95	£13.95	£25.95
True A4 90gsm	£9.75	£14.95	£27.95

### Special Box and Disk Offer

100 capacity disk box only £4.95  
 when purchasing 50 or more disks

Labels	1,000	2,000	4,000
3.5" x 1.5" (1 across)	£5.25	£9.50	£17.95
3.5" x 1.5" (2 across)	£5.75	£10.50	£19.95
4.0" x 1.5" (1 across)	£5.75	£10.50	£19.95
4.0" x 1.5" (2 across)	£5.75	£11.95	£22.95
2.75" x 1.5" (3 across)	£4.75	£8.50	£15.95

**Order Hotline**  
**(0256) 463507**



Orders under £8 in value carry a small order charge of £2

## TWO AMIGA SPECIALS

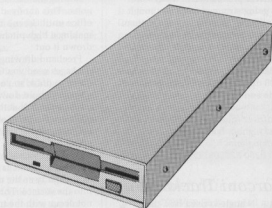
**Amiga 500  
 upgrade board  
 .5 to 1 Meg . . .  
 In seconds!**

- ★ No technical expertise required
- ★ Realtime Clock
- ★ Low power consumption
- ★ On/off switch

**ONLY £72.95**

Inc VAT + Delivery

## 3.5" External Drive



- ★ Suitable for Amiga 500/1000/2000
- ★ Chinon drive mechanism
- ★ Can be daisy chained

- ★ Integral power supply
- ★ Ultra slim metal case
- ★ Enable/disable switch
- ★ 12 months warranty

**ONLY £72.95**

Inc VAT + Delivery

**STOP PRESS - BUY BOTH ITEMS £139.95**



## Naksha

**S**AD as it may be when your little friend and companion through hours of Amiga enjoyment finally goes buttons down, there is always the expectation that now you can splash out on some hi-tech ergonomically designed pointing aid.

In contrast to the Commodore supplied variety, the Naksha mouse offers more economic dimensions and a sense of nimbleness enhanced by its higher resolution 280 dpi.

Two overlarge buttons inhabit the forward area of the curvy case which then rises in a pregnant palm-filling hump.

Nice to handle, free and easy to move, but then they all seem that way when you get used to them. State of the art opto-mechanics and microswitches virtually guarantee long and trouble-free service. The leads which let you plug it into an Amstrad or Atari are a gimmick.

The best presented of all the mice, the Naksha comes with an excellent steel-centred mat.

*Naksha replacement mouse, Naksha UK Ltd, 29 The Warf, Warrington, WA1 2HT £39.95.*

## Mousestick

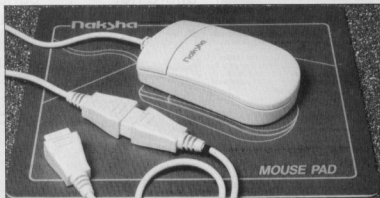
**C**ONTRARY to what some of the sensationalist press may be saying, the Gravis Mousestick is not a toy.

Yes it is a joystick which works like a mouse. Yes, you can play mouse-control games with it. Yes, it is good for flight sims. No, that is not what it was designed for.

The Mousestick is a direct replacement for the mouse. Although most people who have graduated on to the Amiga have learnt to use the mouse and may feel the action of the Mousestick to be alien, still some people feel more at home with a joystick – it is a question of personal taste.

With its programmable resolution up to 1200 lines from one end of stick travel to the other it can easily be more accurate and controllable for CAD and other design work. The programming is done via a small unit which is connected between the stick and the Amiga.

You may also program response modes, X and Y trims and virtually



*Naksha mouse*



*Gravis mouse*

## Who uses which mouse

### Simon Rockman uses the Boing!

*"Because it's the best mouse you can get and impresses people, it is the secret behind my incredible high scores at Super Hang On".*

### Jeff Walker uses the Contriver

*"Because the mice I use always break, so I need something cheap and strong".*

### Nic Veitch uses the Naksha

*"Because John got to the Marconi Trackball first, but the Naksha is well made and accurate. It's good value".*

### John Kennedy (AJ) uses the Marconi Trackball

*"Because it is more compact and I've only got a titchy desk. Besides, it's different"*

anything else you can imagine. You can store up to four setups.

The Mousestick is based around the design of the Gravis Joystick, itself an innovative design.

A ratchet system provides eight levels of resistance so you can choose the stick to be as floppy or as stiff as you like. This has a more important ramification for the Mousestick, since in very high resolution mode with the stick movement very light it is an ideal replacement for the mouse for any handicapped persons with even a small degree of motor function.

Versatile and reliable, but that costs. Not a serious contender for a general mouse replacement unless you have a specific task in mind.

*Mousestick, Advanced Gravis Computer Technology Ltd, 7033 Antrim Avenue, Burnaby, British Columbia, Canada, V5J 4M5. Tel: 0101 604 434 7274. US\$ 160.*

*Official  
←  
Secrets*

- 

UK Annual Membership **£22.00**

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

**Amiga Specials**

AFTERBURNER	7.49	LYCS OF THE RISING SUN	9.99
BAL	6.99	MINOR	6.99
BALLISTIC	7.99	MILLENNIUM 2.2	9.99
BLOOD DARK CASTLE	7.99	MIND FEVER VOYAGING	9.99
CAPTAIN BLOOD	8.49	NIGEL MANSELL'S G.P.	4.99
CARRIER COMMAND	7.99	NORTH AND SOUTH	10.99
CHAMP BASEBALL	7.99	OUTBACK	9.99
CHAMP BASKETBALL	7.99	PASSING SHOT (TENNIS)	8.99
CHERIE VUE	7.99	PICTOR PART	6.49
CLUBS	7.99	PICTURE SATURDAY DAY	9.99
DEAD ENDER THE CROWN	8.49	REAL GHOSTSTRESSORS	7.49
DELAU	12.49	ROCKET RANGER	9.99
DRAGON NINJA	8.49	RUNNING	9.99
EDUC RECOVER	8.49	SHADOWGATE	10.49
ELIMINATOR (1.2 ONLY)	9.99	SHOGUN (INFOCOM)	14.99
FAL FALCON MISSION DISK	9.99	SIM CITY	11.49
FEET EXPANSION KIT	6.99	SPACE QUEST 2 (SIERRA)	12.99
FOOTBALL MANAGER 2	9.99		

SPELL BOOKER (7+ YEARS)	13.41
SPELLBREAKER (INFOCOM)	19.99
STAR BLAZE	16.41
STAR COMMAND (SSI)	19.99
STAR WARS TRILOGY	15.99
STARSHIPS (INFOCOM)	19.99
STATIONFLIGHT	16.99
STATIONFLIGHT (INFOCOM)	19.99
STEVE DAVIS SNOOKER	52.40
STORMLORD	15.99
STRIDER	16.99
STRYK	12.99
STUNT CAR RACER	15.99
SUPER LEAGUE SOCCER	15.99
SUPER BORDERBOY	15.99
SWITCHBLADE	16.41
SWORDS OF TWILIGHT	16.99
TALPANA (1 MEG)	18.99
TAIL DRAG RACER	16.99

FEEL SOLUTION	7.89	
GOLDEN BELL	HYPERFORCE	7.49
HUNTER OF THIEVES	3 ARTIFICIAL DREAMS	7.99
HILLSHAR	KING'S BACK LEVEL 9	7.39
JACKSON	KARTING GRAND PRIX	6.49
JERKER	KING OF CHICAGO	8.49
LEAGUE QUEST 1,2,3 & 4	KINGS QUEST 1 (3ERRAL)	7.49
LEAGUE SUIT LARRY I	KINGS QUEST 2 (3ERRAL)	7.49
LEAGUE SUIT LARRY 2	KINGS QUEST 3 (3ERRAL)	7.49
MASKED MAN IN NEW YORK	KORRAL	7.99
PAWN	KULT	7.99
POCKET QUEST 1	LEATHERNECKS	5.99
POCKET QUEST 2		7.49
POCKET QUEST 3		7.49
SPACE QUEST 1		7.99
SPACE QUEST 2		7.99
SPACE QUEST 3		7.99
SWORD OF SODAN		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. INEVITABLY SOME OF THE ABOVE GAMES MAY NOT YET BE RELEASED. ALL GAMES ARE DESPATCHED AS SOON AS POSSIBLE.

**P.O. Box 847, Harlow, CM21 9PH**  
Special Reserve and Official Secrets are trading names of Inter-Medians Ltd.  
Reg. Office: 2 South Block, The Mailings, Sawbridgeworth, Herts CM21 9PG.  
Registered in England Number 2054713. VAT reg. no. 424 8532 51

\*CHEQUE\*POSTAL ORDER\*ACCESS\*VISA  
(including Connect, Mastercard, Eurocard, Switch etc)  
\* Delete where applicable

Overseas orders must be paid by credit card  
Prices include UK Postage and Packing  
EEC orders please add 70p per item  
World orders please add £1.50 per item

# 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 to fill 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 (and examples) on disk. All for £19.95 inclusive.

Now you can extend the power of your Amiga's BASIC with this great new 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

**HiSoft**  
High Quality Software

## 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.
- DTP, Desk Top Publishing.



IBM Amiga Image

AVAILABLE FROM ALL GOOD COMPUTER SHOPS

VIDEO  
FRAME  
GRABBER



## VIDI-ST/AMIGA

DESK FILE OPTIONS SETTINGS



### 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 'VIDEO CHROME' pack.

AVAILABLE FROM ONLY

**£99-95**

PAL VERSION £114.95 inc VAT

IBM UNIT BRL WITH INT PAL SCRN BRVLY STAT/CPRO  
IBM 0 29 649 0711 Off 029 6

IBM's Image

IBM  
Limited



**£19.95 inc VAT**



Bombro Ltd., 6 Fairbairn Road,

0506 414631

Edinburgh North Livingston Scotland EH14 6TS



*You say you want  
the resolution?  
Well David Foster  
has the plan*

# Laser largesse

**E**PSON'S new GQ5000 is a vast improvement on the earlier GQ3500. Visually similar, it still uses a Ricoh engine, but is now supplied with more built-in emulations – including HP LaserJet II, Epson LQ and FX – in addition to the standard PagePrinter mode and a Video mode.

The front panel incorporates a sophisticated liquid crystal display which provides information and easy re-configuration using the Epson SelecType method. Virtually all settings may also be configured from software.

The 3500 only provided Courier 12 point, EDP (the font *Amiga Computing* uses for listings) 7.2 point, Modern proportional 10 point and graphics fonts. The new model also includes Bold Courier 12 point, Prestige in 6 and 10 point as well as a compressed form of EDP. Provision is made for up to three extra font cards.

On top of the extra bit-mapped fonts, it has 13 outline fonts, including Helvetica, Times Roman and Courier, which may be used to generate more fonts in a variety of sizes. By using the HP LaserJet emulation you can download fonts if your software will do it.

While fully compatible with the earlier model, enabling old printer drivers to be used, new drivers are needed to make full use of the new features. Since most people will use it in Laserjet mode, this isn't a major consideration.

Smaller dots look better, so the 300 dots per inch output is higher quality than that from 24 pin dot matrix printers capable of 360 dpi.

Solid areas of black – a good test – reproduce well. Speed is quoted as six pages a minute. As honest as any printer manufacturer's, downhill-with-the-wind-behind-it figures, the time varies enormously depending on software and whether pages are duplicates or need composing separately.

Running costs of lasers variable. The cost per A4 page is quoted as being



about two pence, but this can vary considerably, depending on the amount of text and graphics on the page. Bear in mind you need to replace the drum (£108.50) and collector (£59.50) units from time to time.

The most worrying thing is the cost of repair (minimum charge £130) if anything goes wrong, so it's sensible to take out a service contract.

The standard model only has 512k ram, sufficient for most purposes, but if you are printing pages full of graphics you will need more. Provision is made for up to 2 meg.

If you fancy a laser, The Epson GQ5000 has a lot in its favour, reasonable price, a number of fonts and emulations.

But best of all is that the commands used in PagePrinter mode are essentially the same as those used by Epson-compatible dot matrix printers. That and the quietness – a gentle fan is so much more soothing than the rasp of pins against a platen.

## REPORT CARD

**Epson GQ 5000**  
**Epson 0442 61144**  
**£1,200+vat (shop around)**

**EASE OF USE** .....   
Zillions of DIP switches make setting up fiddly. Paperfeed good, the LCD display is useful.

**SOFTWARE** .....   
Loads of emulations which can be addressed from preferences. Shame there is no Postscript, but at this price it can't be expected.

**SPEED** .....   
No great shakes, decoding Laserjet graphics is very slow.

**VALUE** .....   
While the initial price looks OK watch out for the running costs.

**OVERALL** ..... **62%**

You need to put a lot of work through a printer to justify the price. If you want something cheaper look at the HP Deskjet.

★ Batman Pack      ★ Dustcover  
★ 10 Star Games   ★ Mouse Mat  
★ Photon Paints

**ALL FOR £399**

# KLR Electronics

## PRINTERS

Peripheral 35+	£17
Star LC10	£13
Star LC24 Colour	£22
Star LC24 10	£26
Star NB24 10	£42
Epson L3000	£24
Epson LQ500	£40
Epson LQ850	£48
Epson LQ1050	£60
Epson FX850 (New In)	£48
Epson FX1050 (New In)	£58
Panasonic 1001	£18
NEC P2200	
NEC P6 Plus	£62
NEC P7 Plus	£78
Amstrad DMP 400	£34
Panasonic K2P 1124 (New 24 Pin)	£12
Panasonic P1180	£21
Mannemann Tally MT01	£17

## GENERAL

Modem	E229
Philips 8633 Monitor	C2555
Commodore 1064P Monitor	A2551
A501 Ram Expansion/Clock	E1189
Commodore A1010 3.5" Drive	C1189
Cumana CA3534 3.5" Drive + PSU	C1189
Cumana CA1 10005 5.25" Drive	C1120
Cumana CA5 10005 5.25" Drive + PSU	C1120
A590 20mb HD	P103A
Dust Cover	C8.95
3.5" Cleaning Kit	C8.99
10 3.5" Disks	C17.25
Mouse Mat	C5.75
Kennel Navigator	C14.99
Turbo Junior	C8.99
Quick Gun	C8.99
Challenger	C8.99
Chetah 125+	C15.50
Mac II	C14.99
Quickkey Superboard	C18.90
Seeking	C14.95
Camp Pro Extra	C15.95
Camp Pro Extra	C16.95

**SALES HOTLINE 0923-89 69 69**

### CLASS OF THE 90's

- ★ Amiga 500
- ★ Superbase Personal
- ★ Publishers Choice
- ★ Amiga Logo
- ★ BBC Emulator
- ★ Mouse Mat
- ★ Deluxe Paint II
- ★ Maxiplan
- ★ Dr T's Midi
- ★ Recording Studio
- ★ 10 Disks
- ★ Disk Waller

**£545.00**

## BOOKS

Advanced Amiga BASIC	C1
Amiga 3D Graphics Prolog BASIC	C1
Amiga Applications	C1
Amiga Assembly Lang Pro	C1
Amiga BASIC Inside & Out	C1
Amiga C For Beginners	C1
Amiga DOS Inside & Out	C1
Amiga DOS Manual	C2
Amiga DOS Quick Reference	C1
Amiga DOS Ref Guide	C1
Amiga Disk Drives Inside & Out	C2
Amiga Gd Graphics Sound Telec	C1
Amiga Hardware Ref Manual	C2
Amiga Intuition Ref Manual	C1
Amiga Machine Language	C1
Amiga Machine Language	C1
Amiga Microsoft BASIC Pro Gde	C1
Amiga Pro Hardware Ref Manual	C1
Amiga Pro Handbook Vol 2	C2
Amiga Tricks & Tips	C1
Amiga for Beginners	C1
Amiga for Artists & Artists	C1
Beginners Guide to the Amiga	C1
Computer's First Book of Amiga	C1
Computer's First Book of Amiga	C1
Elementary Amiga Basic	C1
Inside Amiga Graphics	C1
Inside Amiga Graphics	C1
Inside Amiga with 2 and Ed	C1
Kickstart Guide to the Amiga	C1
Kid & the Amiga	C1

## PROFESSIONAL SOFTWARE

64-bit emulator 2.0	643
Ageia Animations Images	65
Ageia Draw 3000	61
Ageia Modeler 3D	64
Ageia Sonic	64
Ageia Audiomaster II	636
Ageia Videocase 3D	64
Ageia Proton 61	64
Artax C Studio	6149
Artax C Intel	64
A Task II	658
8850 PC	658
Benchmark Modula 2	64
Butcher	619
Comic Satter	64
Comic Satter Art 1	64
Comic Satter Art 2	64
Comic Satter Art 3	64
Cambridge Map	64
Critiqueur 1.05	659
Calligraph	64
Cost Toolfish	64
Deluxe Gold	697
Deluxe Print II	64
Deluxe Music	64
Deluxe Video	64
Deluxe PhotoLab	64
Deluxe Print II	64
Drum Studio	616
Digiplex	64
Derpex II	629
Digiplex	629
Director	64
Director Toolkit	64
Draw 3000	64
Dynamic	687

## AMIGA 2000

- \* £2000 Model
  - \* 20 MB Hard Disk
  - \* PC-XT Bridge Board
  - \* Floppy Drive
  - \* 1084 Stereo Colour Monitor
- ONLY £1495**

## PROFESSIONAL SOFTWARE Cont.

Dynamic Studio	081
Fantastion	081
GFA Basic	021
Gold 1.0	021
Gold 3.0	021
Hercules Copy	021
Home Account	021
Home Office K3	021
Infocad	021
K. Kim 2.0	021
Kind Words II	021
Lattice 5.0 Dew	021
Lotus 1.25, 2.5	021
Magnum Turbo	021
Macro Assembler	041
Masterpiece Plus	041
Movie Studio	041
Omagrafia	041
Personalizer's Choice	071
PageMaster	071
Professional Page	071
Project Paint 2.0	071
Promix	071
Photon Video	071
Photomontage	071
Power Windows 2.5	071
Pro Video	071
Product	071
Promix	071
Quarterback	071
Synthis	071
Superbase Personal II	081
Superbase Personal II	081
Superbase Pro II	081
Script 3.0	091
Studio Magic	091
Turbo Silver 3D	091
Text Ed Plus	091
Transcript	091
Video Camcorder	091
Word Master	091
Wipe Market 5.2	091
Workbench	091

## LEISURE SOFTWARE

[illegible][illegible][illegible][illegible]

## NEW RELEASES

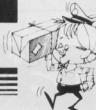
[illegible]

**Government, Educational, Corporate  
and Export Orders Welcome**

All enquiries and payments to  
KLR Electronics Ltd  
All prices include  
VAT/Carriage Free  
(Mainland UK)

**KLR COMPUTER SUPPLIES** 13 Moneyhill Parade, Uxbridge Road, Rickmansworth, Herts, WD3 2BE. Fax: 0923-771068

# BYTEBACK



## FAST

### DELIVERY SERVICE

... and the keenest prices

Ring us now! **0636-79097** we're programmed to help

**GUARANTEED RETURN OF POST** Delivery on ALL Stock items!

**INTERNATIONAL ORDERS WELCOME**

GAMES	ONLY!	GAMES cont.	ONLY!	HARDWARE	ONLY!	CHILDREN	ONLY!
Armada	18.90	Scrabble Deluxe	13.90	AMIGA A500 Backup	£399.90	All Zoo (Alphabet tutor)	9.90
Science of Power 1990	16.90	Shoot em up Conquest	18.90	+ 10 game pack & joystick		Decimal Outgun	29.90
Barbarian 2 (Palace)	18.90	<b>SPACE ACE</b>	<b>29.90</b>	AMIGA A500	359.00	Fun School 2 (Under 8)	13.90
Barbarian 2 (Pygnosis)	15.90	Stewek	15.90	Philips CM8633 Monitor	759.00	Fun School 2 (6 to 8)	13.90
Battle Tale 2	18.90	Space Quest II	18.90	512K RAM expansion	84.90	Fun School 2 (Over 8)	13.90
Battle Chess	18.90	Space Quest III	24.90			Three Little Pigs	19.90
Battle Squadron	15.90	Starflight	18.90	<b>STAR LC10 Printer (Mono)</b>	<b>170.00</b>	Three Bears	19.90
Battle Tech	18.90	Stormlord	13.90	<b>STAR LC10 Printer (Colour)</b>	<b>219.00</b>	The Ugly Ducking	19.90
		Strip Poker 2	8.90	(Printers include lead)		Postman Pat	8.90
<b>SHADOW OF THE BEAST</b>	<b>24.90</b>			Cumana 3.5" 1Mb Disk Drive	99.00	Match it	27.50
Bomber	18.90	<b>STUNT CAR</b>	<b>15.90</b>	Senator 3.5" Disk Drive	89.00		
Cabal	18.90	Super Wonderboy	18.90			<b>BOOKS (Abacus) ONLY!</b>	
Centrefold Squares	13.90	Swords of Twilight	18.90	<b>BUDGET GAMES ONLY!</b>		Amiga for Beginners	12.90
Chase HQ	18.90	Test Drive II	15.90	Only 8.90 each! (2 for £16.90)		Amiga Basic Inside and Out	18.90
Chuckie Egg (1 or 2)	13.90	Ten Worlds	16.90	Action Service	Captain Blood	Machine Language	14.90
Colossus Chess X	15.90	Time	11.90	Spideadron	Phoenia	Tricks and Tips	14.90
Conflict Europe	15.90	California Challenge	11.90	Trauma	Turbo GT	More Tricks and Tips	14.90
Continental Circus	15.90	TV Sports Football	11.90	Warrior	Wizards Quest	System Programs	32.90
Dark Fusion	15.90	Ultimate Darts	13.90	Warrior	Wizards Quest	Amiga DOS Inside and Out	18.90
Dark Spots	15.90	Unsubduable	18.90	Warrior	Wizards Quest	Disk Drives Inside and Out	27.90
Demons Winter	18.90	War in Middle Earth	15.90	W.C. Leaderboard	Barbie Tale 1	Disks to accompany books	13.90
		Waterloo	13.90				
<b>DAMOCLES</b>	<b>19.90</b>	Wendy Dreams	15.90	<b>SALE (Limited!) ONLY!</b>		<b>ACCESSORIES ONLY!</b>	
Driver Force	18.90	Xenomorph	15.90	Only 4.90 each! (5 for £19.90)		Locking Disk Box (50s)	7.90
Dungeon Quest	15.90	Xenon II - Megablast	17.90	Crystal Hammer	Goldrunner	Locking Disk Box (100s)	9.90
Ekmo Games	18.90	Zak McKracken	18.90	Way of Little Dragon	Vixen	Media Box (Holds 150)	19.90
Ekmo Games	18.90			Way of Little Dragon	Vixen	<b>Furry Mouse Cover!</b>	<b>6.90</b>
Ekmo Games	18.90	<b>COMPILATIONS ONLY!</b>		Way of Little Dragon	Vixen	(with cute little eyes, ears and nose!)	
Ekmo Games	18.90	<b>PREMIER COLLECTION (2)</b>	<b>18.90</b>	Way of Little Dragon	Vixen	Printer Stand	9.90
Ekmo Games	18.90	Mercurial, Backlash, Eliminator		Way of Little Dragon	Vixen	Copy Holder	5.90
Ekmo Games	18.90	Custodian		Way of Little Dragon	Vixen	Mouse Mat	5.90
Ekmo Games	18.90			Way of Little Dragon	Vixen	Mouse Pad	5.90
Ekmo Games	18.90	<b>THRILL TIME (8 GAMES)</b>	<b>15.90</b>	Way of Little Dragon	Vixen	Monitor Cover	5.90
Ekmo Games	18.90	Buggy Boy, Space Warrior		Way of Little Dragon	Vixen		
Ekmo Games	18.90	Winter Olympic, Suicide Mission		Way of Little Dragon	Vixen	<b>SPECIALS ONLY!</b>	
Ekmo Games	18.90	Battlehips, Star Wars		Way of Little Dragon	Vixen	AMIGA APPETIZER	24.90
Ekmo Games	18.90	Beyond The Ice Palace, Bombjack		Way of Little Dragon	Vixen	Write: Word Processor	
Ekmo Games	18.90			Way of Little Dragon	Vixen	Paint: Graphics package	
Ekmo Games	18.90	<b>TRAD (Vol.2)</b>	<b>15.90</b>	Way of Little Dragon	Vixen	Music: Music program	
Ekmo Games	18.90	Menace, BAAL, Tetris		Way of Little Dragon	Vixen	Tile: Puzzle game	
Ekmo Games	18.90	<b>MEGAPACK</b>	<b>15.90</b>	Way of Little Dragon	Vixen	<b>PUBLISHERS CHOICE</b>	<b>79.90</b>
Ekmo Games	18.90	Pinus, Mouse Trap, Seconds Out		Way of Little Dragon	Vixen	Includes: Page Setter 1 & 2	
Ekmo Games	18.90	Winter Olympic, Suicide Mission		Way of Little Dragon	Vixen	Kind Words 2, Headline Fontpack	
Ekmo Games	18.90	<b>MEGAPACK II</b>	<b>15.90</b>	Way of Little Dragon	Vixen	Artists Choice Artpack	
Ekmo Games	18.90	EX Circus Games, Summer Olympiad		Way of Little Dragon	Vixen		
Ekmo Games	18.90	Formula 1 G.P., Man from Council		Way of Little Dragon	Vixen	<b>UTILITIES ONLY!</b>	
Ekmo Games	18.90	<b>THE LIGHT FORCE</b>	<b>18.90</b>	Way of Little Dragon	Vixen	AmigaDOS Toolbox	39.95
Ekmo Games	18.90	Be Challenge, Voyager		Way of Little Dragon	Vixen	BBC Emulator	39.90
Ekmo Games	18.90	R-Type, Int. Karate Plus		Way of Little Dragon	Vixen	Cashbook Controller	54.90
Ekmo Games	18.90	<b>ACTION AMIGA</b>	<b>21.90</b>	Way of Little Dragon	Vixen	Descartes	24.90
Ekmo Games	18.90	Artful, Deflector, Technopac		Way of Little Dragon	Vixen	DigiCalc	29.90
Ekmo Games	18.90	Cybernoid, Motor Massacre		Way of Little Dragon	Vixen	DOS to DOS	39.90
Ekmo Games	18.90	<b>STARS WARS TRILOGY</b>	<b>15.90</b>	Way of Little Dragon	Vixen	Excelance	19.90
Ekmo Games	18.90	Stars Wars, Empire Strike Back		Way of Little Dragon	Vixen	Home Accounts	22.90
Ekmo Games	18.90	Revenge of the Jedi		Way of Little Dragon	Vixen	Personal Tax Planner	29.90
Ekmo Games	18.90	<b>THE STORY SO FAR (1)</b>	<b>13.90</b>	Way of Little Dragon	Vixen	Pagesetter (2)	69.90
Ekmo Games	18.90	Star Wars, Battlehips		Way of Little Dragon	Vixen	Professional Page (1-3)	179.90
Ekmo Games	18.90	Buggy Boy, Beyond Ice Palace		Way of Little Dragon	Vixen	Pen Pal	99.90
Ekmo Games	18.90	<b>THE STORY SO FAR (2)</b>	<b>13.90</b>	Way of Little Dragon	Vixen	Phoenia	12.90
Ekmo Games	18.90	Space Hammer, Thundercats		Way of Little Dragon	Vixen	Plus Killer	9.90
Ekmo Games	18.90	Bombjack, Live and Let Die		Way of Little Dragon	Vixen	WORKBENCH 1.3 (NEW)	14.90
Ekmo Games	18.90	<b>PRECIOUS METAL</b>	<b>18.90</b>	Way of Little Dragon	Vixen	Wizards Quest	139.90
Ekmo Games	18.90	Kenon, Capt. Blood		Way of Little Dragon	Vixen	<b>X-Copy - NEW Version 2</b>	<b>29.90</b>
Ekmo Games	18.90	Crazy cars, Arkadon II		Way of Little Dragon	Vixen	(The BEST Backup utility)	
Ekmo Games	18.90	<b>HIT DISKS (Vol.1)</b>	<b>15.90</b>	Way of Little Dragon	Vixen	<b>JOYSTICKS ONLY!</b>	
Ekmo Games	18.90	Goldrunner, Karate Kid II		Way of Little Dragon	Vixen	Joystick & Mouse Extension	4.90
Ekmo Games	18.90	Jupiler Probe, Starzone		Way of Little Dragon	Vixen	Joystick Lead - 3 meter	4.90
Ekmo Games	18.90	<b>HIT DISKS (Vol.2)</b>	<b>15.90</b>	Way of Little Dragon	Vixen	Quickshot II	7.90
Ekmo Games	18.90	Major Motion, Time Bandit		Way of Little Dragon	Vixen	Quickshot Turbo	12.90
Ekmo Games	18.90	Lethalstrike, Tangwong		Way of Little Dragon	Vixen	Crusher (CLEAR)	13.90
Ekmo Games	18.90	<b>SUPER 8</b>	<b>15.90</b>	Way of Little Dragon	Vixen	Compu Pro 5000	14.90
Ekmo Games	18.90	Ball Boxing, Kart, G.P. Las Vegas		Way of Little Dragon	Vixen	Competition Pro Extra	15.90
Ekmo Games	18.90	Grid Star, Flight Plan 737, X-535		Way of Little Dragon	Vixen	Crusher Joystick	16.90
Ekmo Games	18.90			Way of Little Dragon	Vixen	Crusher Mouse	27.50
Ekmo Games	18.90			Way of Little Dragon	Vixen	Crusher	15.90

The above is just a small selection of our VAST stock of AMIGA software!  
 Callsers welcome; Normal Office Hours - 24 Hour Telephone Service!

# BYTEBACK

DEPT AC, 6 MUMBY CLOSE, NEWARK, NOTTS NG24 1JE

Cheque, postal orders or credit card facilities are available



# A matter of facts

Nic Veitch discovers that information is power and wonders how many watts he can get out of Prodata

## Filter tips

**F**ILTERS are probably the most useful and the most used addition to any database. Serious data management is impossible without the ability to sort things out – this is the prime fundamental that started off IBM with their punch-card reader.

A filter is basically a set of conditions which are applied to each record in turn. If the record in question meets all the conditions it remains selected. If it fails it is thrown in a hypothetical bin.

Don't worry, the records that fail the filtering have not been removed from the database, they are just deselected. This means that you can chose to perform a function specifically on those records which have passed through the filter. Unfortunately at the moment this does not include a further filtering action.

If you want to use two filters you will have to create a sub-database of the selected records, open that and then impose your second filter. If this sounds unnecessarily tortuous that's because it is.

It isn't really too difficult to do, but it's a pain, and since you'll probably only want to use the sub-database once you'll have to delete it when you are finished. Admittedly the filter structure in Prodata is very powerful and it would be simple to combine two filters into one but that is not the point, it would be much easier to have a small number of simple filters that you could use sequentially.

For example, if you had created four basic filters using them sequentially would give you 16 permutations – a 75 per cent saving on disc space and a 99 per cent saving on hassle.

SOME say love and some say money, but it's really facts and figures that make the world go round, as anyone who has ever sat an exam or spent a sunny afternoon suffering in St Tropez will testify. If you want to make the facts and figures go round you need a database.

From a simple piece of interpolation you can reason that with a good database you can rule the world. Well, maybe not quite, but you could have a pretty good go.

It is perhaps with such an aim of world domination that Arnor have ventured into the database market. Regular readers or rabid Arnorites will undoubtedly have heard of Protext, probably the best word processor in the world, and as a matter of fact the one I am using right now.

These people might, therefore, expect the same degree of professional competence at a small percentage of the price usually associated with such a package. Well, the price we know already – the rest remains to be seen.

The first thing of note about Prodata

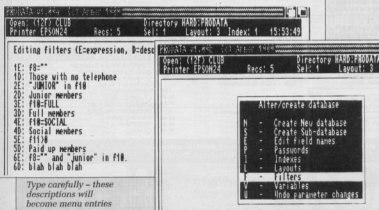


The main menu – a road to anywhere

is that it requires 1Mb of memory. Those of you without 501s – that's the memory expansion, not the jeans – will have to splash out some extra cash to get started.

This is not unreasonable, since any database you are likely to create, with the exception of a complete list of every away match Darlington have ever won, is going to be fairly sizeable. You'll need it for lots of other things anyway.

The function of a database is to store, recall and in some cases perform actions on computerised freaks, and there are always some, Prodata can handle 300 fields per record, each of up to



Twenty Arnor Filters please...

Type carefully – these descriptions will become menu entries



## Variably I say unto you

VARIABLES are not the normal run of the mill things you expect to come across in a database – a database language perhaps, but where in the day to day running of things do you need a variable?

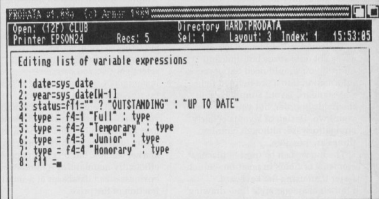
Suppose for a moment that you are a university professor with a database full of students. This should be easy unless you are actually a university professor, since they have no imagination. Further suppose that in addition to all their relevant details you have a list of their marks for coursework.

Now being lazy, you would want to see the average scores and the total so far. Ordinarily this would mean calculating them as they were entered and creating a new field for the results.

This would mean that this field would have to be updated each time a new score was added and it would probably be wrong because you'd have to work it out yourself (university professors are also very bad at counting).

With variables, not only are these values calculated and updated automatically but they take up no field space – giving you more bounce to the ounce.

Almost all the standard mathematical functions are available, while the parameters may be a constant, the contents of a field, or even another variable. It would be



Each database has its own variable list

quite easy to turn Prodata into a simple spreadsheet.

Variables work with text as well, providing all the concatenation and string functions you would expect to find in a well equipped version of Basic, for example.

A number of reserved variables hold the current date, time and other system functions. Very useful, especially in conjunction with the Assign option from the menu. This allows you to change globally the contents of a field in all selected records to a variable or a defined value such as a piece of text. This is very

handy, for example, if you have a field – say F1 – containing the date the record was last updated. Then you can just use "assign F1 = sys-date", and all the selected records will be automatically dated.

Variables excel at saving space. Instead of storing fields full of text which is repeated many times across all the records a single number may be stored which can be decoded to the corresponding text in a variable and placed in the layout.

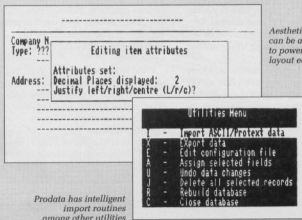
The end result is exactly the same, but with space saved in the database and time saved in the input stages.

999 characters. Prodata is able to muster such impressive figures since it uses a variable length storage format to compact the database so there is no wasted disc space.

Prodata starts with a rather simple menu in a box in the centre of the screen. All of Prodata is run from this menu and its associated submenus. It looks simple. It is simple. But behind all those entries some pretty cunning programming is going on.

You select item by pressing the corresponding key or using the mouse to click on the entry. It is worth getting to know your way around with the keys, as it will make things a lot easier when you decide to program a macro.

Creating a database was never easier. Prodata will ask you for the



Prodata has intelligent import routines among other utilities

Aesthetic displays can be attributed to powerful layout editing

names of the fields until you decide to stop. At this stage it will ask you if you wish to have data checked on entry. It can spot the difference between number and letters so you don't get an entry for someone called 0733-68909 with the telephone number :Armor Ltd. Which is not only very sensible, but works very well.

The variable field length system saves not only space but time and effort if you should need to put more information into a pre-defined field.

A standard layout simply lists all the fields in order, but you may create your own. Design of layouts is fairly straightforward, although cunning things are possible.

The mouse can be used to place elements or fields in position – much faster than using the keyboard. Limited character style line-drawing is supported, as it was in Protext.

This is the place to put your variables if you have any. Fans of disgustingly neat little boxes and well arranged text will no doubt be over a natural satellite to learn that you have the option to have your text centred or justified.

Creation of several layouts for different purposes speeds access and minimises fuss when the time comes to change minor details.

Speaking of Protext – well, I was at

some stage I'm sure – there are good facilities for importing and exporting text from/to Ascii or Protext format.

The import routine is very intelligent and can accept comma delimited, single line or quote wrapped data items which are the main outputs from other databases, spreadsheets, Basic programs and virtually any source of raw data you are likely to come across.

You are also able to import data selectively, so you can see instantaneously if something is going horribly wrong and try again.

These elements combine towards a very flexible database system. Prodata may be lacking in some of the more flashy ingredients which comprise the market leaders, but it is still capable of efficiently maintaining a number of business-sized databases at a small fraction of the price.

Its simplified structure offers great bonuses in terms of ease of use, the only drawback being lack of a programming language, which in any case is only useful in large scale installations.


Prodata lacks a sense of Amiganess, as does its pen friend. Yet it is impossible to use just the mouse even to get simple printouts, which is a bit of a nuisance.


It may feel alien to the Amiga, but at the same time powerful, slightly


primitive perhaps, but with ripples of ingenuity just below the surface. Overall a sense that if you can't find a way to do something with Prodata, it is due to your own shortcomings and not the program's.

## REPORT CARD

**Prodata**  
Armor Ltd 0733 68909  
£79.95

**EASE OF USE ...**   
*Structure of menus simple and fairly efficient. Could have been a bit more Amigaed though.*

**SPEED .....**   
*Fast. Of course you have to wait for long searches but no database is instant.*

**VALUE .....**   
*Perhaps not quite as much of a bargain as Protext, but certainly a high performance to price ratio.*

**OVERALL** **87%**

*Prodata will never beat Aston-Tate but unless you are worried about corporate image it is competent, reliable, easy to use and excellent value.*

## A to Z of indexes

**I**NDEXES are a man's best friend. Book index, refractive index, FT index, index-linked pension, you even have a finger put aside for them.

Without indexes, for example, you would never be able to find anything in the extensive Prodata manual. In fact, even with the index it can be a bit trying. Anyway enough irrelevancies, on with the blurb.

The function of the index is to keep things in order so you can find all the records when you want them. It's sort of like a mother, but it never wants to know where you were last Tuesday when it was ringing you all night and it hopes you are wearing a vest because you could catch your death. It's not like the old days when people had respect....

All databases need to have at least one index, otherwise Prodata would get confused, so as a default the first

field is taken to be the index field.

This is all very well, and normally that is all you would need, but suppose you had a database containing details for a mailshot to various people at different companies. You might equally well want to sort the records alphabetically by the person's name or by the company name.

What to do, what to do? Well, it's simple really – you just have to create two indexes. You create a new index by selecting Alter/Create Database from the main menu and then selecting Indexes. Another menu will appear with four options on it, one of which is Create new index.

Enter a description for your new index. It is quite important to make this description something sensible so that you know what it means when it appears on the menu later on.

Next comes another cunning bit. You can have more than one field as the index. In the previous example this would be quite useful, since you could index first in the name of the company and second in the name of the person, as there may be two people on your mailing list working for the same company.

An index can be specified over up to four fields – more than you could possibly want to use unless your brain functions in some fashion previously undocumented by modern science.

It is important to note (your important notebook must be getting pretty full by now) that any searching function you perform will only look through the fields that are designated as index fields. Therefore you must make sure that any fields you are likely to want to search feature in at least one index.

# Distinctly Digita

Cleverly written and always favourably reviewed in the press, Digita produces a range of powerful, low cost software for the home and business user.

## DGCALC

The fastest and most powerful spreadsheet available in this price bracket, with 512 rows by 512 columns, giving you up to 268,432 cells. As with all Digita products, the operation of the program is clearly thought out. Being either menu, mouse or command driven you'll be able to start using it within minutes—even if you've never used a spreadsheet before. Some of the features which make it such good value are the exporting of ASCII files for integration with other programs, adjustable column width and text overflow, programme function keys (macros), and a unique windowing facility, so that you can look at different parts of a sheet at the same time.

**£39.95**

## MAILSHOT

If you ever need to send out mailings or print labels, you know how fiddly and time-consuming it can be making sure all the labels are printed correctly. Here now at last is a thing of the past. Because Mailshot actually shows you the labels on screen, you can type names and addresses in exactly the correct place. But more than that, the labels are animated on screen as a continuous sheet, allowing you to scroll backwards and forwards, to search for particular keywords or to edit entries with the minimum of fuss. Facilities include searching, detection of duplicate labels, sorting (even surname!) labels across, 999 copies of any label. This has to be the simplest and most effective method of creating a mailing available.

**£24.95**

## FINAL ACCOUNTS

The program will take information prepared by Cashbook Controller and produce a complete set of accounts including: \* True Balance \* Trading and Profit and Loss Account \* Balance Sheet \* Notes to the Accounts \* Full Accounting ratios. All reports may be produced at any time, with comparable budget figures. If required, the facility to produce these documents quickly, accurately and regularly is of enormous help to running any business, large or small, since one shows the true profitability achieved, and the other the exact strength of the business in terms of assets and liabilities.

**£29.95**

## E-TYPE

Do you ever have to print names and addresses at awkward places on envelopes, or do you ever need to fill in tricky forms or invoices where the text has to be in exactly the right place? Usually you have to do it by hand, or get your trusty old typewriter out of the cupboard and dust it off. Well not anymore. The Emulated Typewriter transforms your computer and printer into a fully fledged typewriter, supporting bold, underline, italic and other style types. Because it can display and/or print INSTANTLY you can line up your form, press Return and Space a few times to move to the correct place, and then start typing. Alternatively you can switch to line-by-line mode, which offers word-wrap, justification and proportional spacing, so that you can edit each line before it's printed.

**£39.95**

## MAILSHOT PLUS

Advanced version of Mailshot for the business user with the following extra facilities: \* integration with other software (using ASCII files) \* column/tabulated summary (ideal for telephone lists, etc) \* 4 extra memo lines per label (with defaults) \* system for coding, dating and adding messages to each label \* different layouts available for horizontal and vertical justification.

**£49.95**

## CLASSIC INVADERS

Escape from executive stress with the classic space invader game.

**£14.95**

## PERSONAL TAX PLANNER

Are you absolutely sure your taxman is doing his job correctly? Plan your own tax with ease. This menu-driven program will calculate your income tax liability (if tax years included) and provide pertinent facts about your tax position. You can perform "what if?" calculations to discover ways to minimise your tax liability. And with a word of advice you can do things such as, if you are a married man, whether it would be advantageous to have your wife's income taxed separately or not. At this price who knows, you will probably find that PTP will pay for itself in tax savings the first time you use it.

\*\*\* STOP PRESS \*\*\*

July 89 - PTP user receives tax refund of £2,000

**£39.95**

## DAY-BY-DAY

An excellent way to get organised. With it you'll be reminded of birthdays and other anniversaries, meetings and appointments, phone calls to make and so on. As with all Digita products, inputting information is a simple matter and, once entered, you can search for keywords or for particular events such as birthdays to see when one is coming up. Includes month/week/day planner, automatic reminders for evening appointments, month and week summary at a glance. For less than £20 this is the ideal way to make sure you never miss that important occasion again!

**£29.95**

## SYSTEM 3

Take the first essential step in computerising your business with the simple integrated set of programs. 1. CASHBOOK CONTROLLER keeps track of the most important aspect of business—cash flow. Essentially a account balance relating to your debtors (the ability to produce transactions, sales and orders). A management and planning tool, it can generate a cash flow forecast. 2. INVOICES & STATEMENTS. This program will generate a professional invoice, month and week summary at a glance. 3. STOCK CONTROL. Effectively control your stock, purchasing and suppliers and produce a stock report, purchase order, sales valuation, price cards, etc.

**£49.95**

## CASHBOOK

Use your computer as a powerful business tool and use the driveway out of book keeping in its simplest form. The program will replace your Cash and Petty Cash books, but with a program of effort, date, more time, more information. Summary of VAT information is included. Comprehensive analysis of sales and purchases. Total debitors and creditors, sales and overheads. Income and expenditure analysis. \* Journal routine for entering transfers and means ledger operations, allowing correct approach to book keeping. \* Full audit trail and integrated with VAT Accounts.

**£49.95**

## HOME ACCOUNTS

Ideal for both home users and small business. Simple to use, this package will keep track of all your finances and cater for expenditure of e.g. Bank, credit card and 60 types of expenditure (e.g. rent, mortgage, gas, food) and 60 types of income (e.g. salary, pension, interest). The program will handle Standing Orders, Bank Charges, and automatically warn you if your credit limit is exceeded. With the comprehensive reporting and graphics facilities you can even produce your own monthly Bank Credit Card statements. Once you've used Home Accounts, you'll wonder how you ever managed without it.

**£29.95**

Available to the trade from:  
Digita, GEM, Greyhound,  
HB Marketing, Lazer,  
Leisuresoft, R & R, SDL.

# DIGITA INTERNATIONAL

"Serious software at a sensible price"

All software written in the UK. Prices include VAT & P & P (add £2.00 for export)

• HOW TO ORDER •  
CREDIT CARD HOTLINE

**0395 270273**

Post: Digita International Ltd  
Black Horse House  
Exmouth Devon  
EX8 1JL England  
Fax: 0395 268893

# New Titles for Amiga

## AmigaDOS Inside & Out

An in-depth guide to AmigaDOS and the CLI



Abacus

**AmigaDOS - Inside & Out** - is a thorough introduction to 68000 assembler programming and is a practical guide for learning to program the Amiga in other fast track languages. Covers 68000 microprocessor architecture and addressing modes, making speech and sound from machine language and more. This book is also a perfect companion to our AssemPro machine language development software. 280pp

**Amiga Machine Language** - is a thorough introduction to 68000 assembler programming and is a practical guide for learning to program the Amiga in other fast track languages. Covers 68000 microprocessor architecture and addressing modes, making speech and sound from machine language and more. This book is also a perfect companion to our AssemPro machine language development software. 284pp

## Amiga Tricks & Tips

A valuable collection of software tools and programming hints



Abacus

**Tricks & Tips** - here is a large collection of useful and important programming techniques that makes working with your Amiga friendlier and easier. Presents dozens of tips on accessing libraries from BASIC, making and using custom character sets, using AmigaDOS, important 68000 memory locations, and much more.

## Amiga Machine Language

A practical guide to learning 68000 assembler language on the Amiga



Abacus

## Amiga System Programmer's Guide

An in-depth volume to what goes on inside the Amiga. Includes "gitty gritty" information on both the hardware and software aspects of the Amiga. Covers the EXEC and its structure, handling I/O requests and the interrupts, managing the Amiga's resources and multitasking functions, more. Considered by many to be a standard reference for all Amiga programmers. 438pp

## Amiga C for Advanced Programmers

An advanced guide to programming the Amiga using the C language



Abacus

**Amiga C for Advanced Programmers** - contains a wealth of information from the pros: how compilers, assemblers and linkers work, designing and programming user friendly interfaces using intuition, combining assembly language and C code together. Includes complete source code for a working text editor. April 1989 about 380pp

## Amiga Graphics Inside & Out

A comprehensive book for understanding and using Amiga graphics

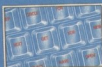


Abacus

**Amiga Graphics - Inside & Out** - an in depth treatment of the Amiga's super graphic features and functions. Learn how to access these graphic features from AmigaBASIC or C. Learn graphic programming in C with examples of points, lines, rectangles, polygons, colors and more. Contains a complete description of the Amiga graphic system - View, ViewPort, BitPort, bitmaps, screens, and windows, more. May 1989 about 450pp

## AmigaBASIC Inside and Out

A complete guide to learning and applying AmigaBASIC



Abacus

**AmigaBASIC - Inside & Out** - is THE definitive step-by-step guide to programming the Amiga in BASIC. Each BASIC command is fully described and detailed. Some of the topics covered include files and file handling, using pull-down menus, sensing the mouse, handling windows, drawing charts and using the speech commands. Techniques for advanced BASIC programmers. 554pp

## Amiga C for Beginners

A Practical guide to learning and using C Language on your Amiga



Abacus

**Amiga C for Beginners** - an introduction to learning the language of choice among Amiga programmers. Unlike other books, the examples here are specifically geared to the Amiga. Explains the language elements of this popular language so that you'll be able to use the C library routines, learn how to write compiler works, more. 280pp

## Amiga System Programmer's Guide

A comprehensive guide to the inner workings of your Amiga



Abacus

# Abacus

U.K. DISTRIBUTOR: COMPUTER BOOKSHOP LTD.  
30 LINCOLN RD, OLTON, BIRMINGHAM B27 6PA

CALL 021 706 1188 FOR YOUR NEAREST STOCKIST

AVAILABLE NOW  
AT GOOD BOOKSHOPS  
& COMPUTER STORES  
EVERYWHERE



# NIGHTMARE RACING DREAM MACHINE

## SUPER CARS™



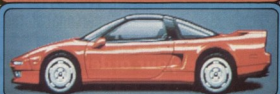
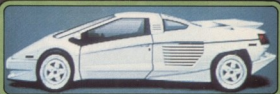
Available on:  
**Atari ST &  
CBM Amiga.**

Power your way through 27 stages of highway terror engaging in mile after mile of motorised combat.

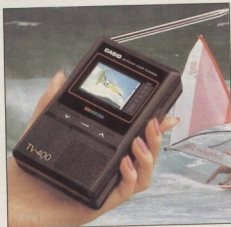
But first visit the showroom to choose your car. Then stop at the garage to equip it from a huge choice of optional extras - front and rear missiles, side armour, power steering, turbochargers and anti-skid braking. But be selective, your budget is limited.

Then take to the tracks ready to do battle using your skill, determination and powers of endurance to reach the final SuperCar Challenge.

Screen shots from Amiga version.



All mail order enquiries to: Gremlin Graphics Software Limited, Alpha House, 10 Carver Street, Sheffield S1 4PS. Tel: (0742) 753423



# Watch TV on the move – and SAVE £20!

... with the unique CASIO Colour Pocket TV

## Look what it offers:

- |                            |   |
|----------------------------|---|
| ★ 2" HQM LCD colour screen | ★ External aerial socket                |
| ★ Internal loudspeaker     | ★ Earphone socket                       |
| ★ Volume control           | ★ Automatic tuning                      |
| ★ Brightness control       | ★ External power supply socket          |
| ★ Colour control           | ★ Takes four standard AA size batteries |
| ★ Extendible aerial        |   |

Because of a breakthrough in technology you can now watch your favourite TV programmes anytime, anywhere – and in full colour with the new pocket-sized Colour TV400 which features a revolutionary high quality matrix LCD display – giving crisp, bright pictures.

Measuring just 5 x 3 x 1 inches, the TV400 sits snugly in the palm of your hand, or you can use the built-in rest to place it on most surfaces – at just the right angle for optimum viewing. The screen itself measures 2 inches diagonally.

When the TV400 was designed, part of the specification was that it should be useable virtually anywhere. As a consequence it has a built-in signal amplifier which can pick up some far away stations your ordinary TV can't! Plus it has automatic tuning, so at the touch of a button the TV400 scans through the band and quickly locks into all receivable broadcasts.

We have tested the pocket TV in trains, on buses, in cars, indoors and outdoors, and in most cases the picture remained sharp and clear. However, reception could vary depending on obstacles in the way of the signal like large buildings and hills.

Whether for yourself, a member of your family or friend, the TV400 makes an excellent present which will give entertainment and pleasure for many years to come.

Due to our purchasing power we can make the TV400 available to you at the exceptionally low price of just £94.95\* – a saving of £20 off the normal price. We have not seen the TV as cheap as this anywhere else – including the High Street stores.

And remember, you can buy with complete confidence as the TV400 comes with a full one year guarantee for parts and labour (in normal use).

RRP £114.95

OUR PRICE **£94.95\***

\* Plus £1.50 post and packing

Please note: The TV400 is tuned for UK PAL broadcasts. Therefore we can only accept orders from the UK

Save £'s on batteries for your TV, radio personal stereo . .

You know how expensive it is to replace your batteries when they run down. Even with rechargeable batteries and a charger you still have to wait 14 hours for a full charge.

We have solved the problem with the unique superfast powerpoint battery and charger kit.

This amazing device will completely charge four standard AA size rechargeable batteries in under 2 hours and each battery can be recharged at least 1,000 times.

Further, for a limited period we can sell the charger and four rechargeable batteries at the staggeringly low cost of £19.95 (plus £1.00 p&dp). It will pay for itself within weeks.



Place your order today, using the form on Page 113

*If the good way is to use the OS, and the bad way, the hardware, who's ugly? asks John Kennedy*

This article is aimed at the programming literate who are having problems getting to grips with the challenge of programming the Amiga. It makes reference to C, but only in comparison to assembler.

**S**IX months ago I bought the Rom Kernal Reference Manual – my attempt to learn how to program the Amiga and become rich and famous. I even started calling it the RKM like proper programmers do. My Lattice C compiler documentation under one arm and the RKM under the other, I was confident of games within a fortnight. I was wrong. And it wasn't just because I couldn't type with a book under each arm.

Two weeks of hard graft and I could open screens and windows. Big deal. A fortnight of pointing pointers and constructing structures to could produce a rectangle with my name on it. After three weeks I managed to get a sprite on to the display. But it was the wrong colour and wouldn't go where I wanted.

I decided that programming the Amiga was too difficult for me, and went back to the comfort of my little friend, the Z80. Sure, I kept using the Amiga, mostly for point processing and playing with ray tracing, but that nagging feeling was still there.

The little voice in my head said: "Why aren't you programming? You spent all that money on a brilliant computer, and you aren't using it properly!"

"Naff off", I said, "I'm busy. And besides, I tried once and it was too hard".

Time passed. After a few months I was tired of watching games fall into Green's In Tray. I could write games too. I knew I could. I wasn't stupid - I knew how to program. There must be some trick to programming the Amiga that didn't involve the mind-numbing complexity of integrating Intuition with Kernighan and Ritchie. I decided

# The good the bad and the ugly

to give it another go.

So last week I bought another book and today I am almost half way through my first game. OK, so it's not a commercial product, but it will work, looks good and will be all my own work. What more could I ask?

And what was the book I bought?

*How to write a game in one easy lesson*, by Jez San? Nope.

*Fifty ways of being brilliant on the Amiga* by Jolyon Ralph? Not quite. (Although I admit that his articles in *Amiga Computing* definitely put me on the right track.)

*How to program and be cool by Green?* Definitely not. Well, only a quick glance.

It was the official Hardware Reference Manual, and it opened my

eyes to the Amiga. Later the same day I got it, I was already playing with screens and bitplanes. The day after I was animating sprites. It was easy - and I had hardly ever used 68000 machine code before.

So that you can see the difference between methods, I'll show you how to display a screen with Intuition in C and how to do it from the hardware and assembler. It is entirely possible to use Intuition from assembler, but this is an ugly way of doing things.

Intuition was designed to be used from C, and using another language makes things even more difficult than they already are. You can interface with the OS using languages such as

## What is a bit plane?

FIRST we choose the resolution. This can be 320 or 640 pixels in the horizontal and 256 or 512 lines in vertical resolution. The flicker caused by the 512 line interlace when used with simple graphics screens is normally prohibitive.

The number of colours we require specifies how many bitplanes we need. A bitplane is a binary representation of a screen or sprite.

If only a single bitplane is used, the image is in monochrome and each pixel is either on or off.

```
00001110000
00001110000
00000100000
00011110000
00000100000
00001010000
00010001000
00100001000
00100000100
```

➤ Pascal or even Basic, but C is preferred.

The eternal question: Should we program the good way, using legal operating system calls, or the bad way, dump the OS and talk to the hardware? To mis-quote: "To use the OS, or not to use OS, that is the question. Whether to suffer the structures and libraries of outrageous Intuition, or to take up assembler against the sea of registers".

The answer is simple. It's "Yes". We should use both, depending on the application. To write multi-tasking software that integrates into the Amiga way of doing things requires legality or coding and great perseverance.

It is true systems programming – the sort of systems programming that professional programmers in the real world of PCs and VAXs and UNIX use everyday. It's also the sort of programming that pays between £15 and £25K a year, so it's not to be scoffed at.

But if you want to write a game, well then the only sensible approach is to drop the OS and play with the custom chips. This approach is one which I fully endorse to budding Amiga programmers.

Yes, it's a bit, well, rude. Yes, it's dumping the most powerful and

To get more than two colours, we overlay several bitplanes. This involves setting up another bitplane in an separate area of memory and telling the hardware the the screen display will use both planes to generate the picture. Now each pixel has two related bits in memory from which to generate colour information.

With two bits, we have four possible numbers, and so four colours. Similarly with three bitplanes we have eight colours, with four bitplanes 16 colours and with five bitplanes 32 colours.

Point to remember: Each bitplane takes up the same amount of memory, and a five bitplane, hi-res interlaced image uses a LOT of space.

There ain't no such thing as a free lunch.

complicated operating system ever written for a home computer. But by its very nature Intuition takes time to master.

Writing a program with it is not the best way to get to know the hardware. It's a good way to get to know Intuition, but it's also a good way to get totally bogged down and give up.

Only by understanding and becoming familiar with the copper and the blitter will you be aware of what is possible. And it is only by talking to the hardware directly that you will understand what is going on.

Therefore don't be afraid of reading and writing custom chip registers.

## What is the copper?

The copper is a co-processor (copper, co-processor, geddit?) which ticks along in the background helping out the 68000. It is a simple beast, and only executes three types of instructions. The most common instruction is equivalent to a 68000 MOVE.W, and as it is synchronised to the Amiga's screen display. It is mainly used in writing to the custom chips that control screen modes and sprites.

They are there to enable you, the user-cum-programmer, to make the most of your machine.

If you have arrived at the Amiga via another home computer and know machine code well, then buy the Hardware Reference Manual and a copy of Devpac. From the inside, the Amiga is very easy to program indeed. The custom chips are all there to help you.

Don't waste time developing a brilliant new sprite routine, the Amiga gives you as many hardware sprites as you need. Techies might argue that there is a limit of eight per pixel line. This is no worry. You won't need more.

Setting up backdrops for graphics? Just use Deluxe Paint and you're flying. And if you are apprehensive about the change over from 8 bit assembler to 16 bit - don't be. 68000 code is as simple as Basic compared to other codes. You have eight data registers and eight address registers to play with, and more addressing modes than you would know what to do with.

If you are experimenting with Amiga machine code it is unlikely that you will try to use a non-existent opcode, because opcodes exist to cover nearly every eventuality. Talking to the hardware is only a matter of writing and reading from memory addresses which happen to be mapped on to the custom chips. Just like on a C64.

If you are totally new to programming, you have a long road ahead of you. Ploughing through AmigaBasic - or better still, HiSoft Basic - will provide you with a thorough grounding in programming skills. You will even be able to play with the blitter without worrying about poking around in the hardware. But you will need an inquiring mind and a good book to learn machine code on the Amiga.

I really wish that the demo writers would stop amazing everyone (yawn) and write some useful programs or fun games. OK, it might take slightly longer and require some thought, but at least a game would serve a purpose.

We know the Amiga is capable of nice graphics and wonderful sound. We know that the copper is good for lots of coloured lines. Now go away and don't come back until you have something I can shoot at. Or better still, just let me get on with writing my own game.



## 68000 machine code for assembly programmers

UNDERSTANDING 68000 code is best done by buying a good assembler, a good book and hacking away. The Motorola beastie has lots of 32 bit registers, eight data registers and eight address registers to be exact.

The instruction to get data into them is MOVE.

**MOVE.B #10,d0**  
**MOVE.W \$1000,d2**  
**MOVE.L #plop,a0**  
**LEA.L TABLE,a1**

Move a byte '10' into data register 0  
 Move 16 bit word contents of hex 1000 into d2  
 Move 32 bit address of label plop into address register 0  
 Load Effective Address of table into an address register.  
 Just like MOVE.L #TABLE,a1 but faster.

**GOTOing** is achieved using **BRA** (for **BRANCH**). You can branch on conditions on such as **Equal** or **Not Equal** by using instructions such as **BEQ** or **BNE**.

**JSR** or **BSR** will call a subroutine, and **RTS** will return. Easy.

## Opening screens with Intuition and Assembler

### Intuition and C

To open a screen under Intuition you must construct C structures to handle all input and output. These structures are then used by calls to Libraries of operating systems functions, which are used to open a screen or whatever.

```

/*****
/* Example program to open a new screen */
*****/

#include <exec/types.h>
#include <intuition/intuition.h>

struct IntuitionBase *IntuitionBase;
struct Screen *MyScreen;

main()
{
    SHORT y,w,h,d;
    SHORT mode;
    UBYTE *name,colour0,colour1;

    void delay_func();

    /* Open Intuition Library */

    IntuitionBase=(struct IntuitionBase *)
        OpenLibrary("intuition.library",0);

    if (IntuitionBase==NULL)
        exit (FALSE);

    /* Open a Screen */

    name="My Screen";
    y=0;w=640;h=200
    d=3;colour0=0;colour1=1;
    mode=LORES;

```

```

Screen0=(struct Screen *)
    open_the_screen(y,w,h,d,colour0,colour1,mode,name);

    (closeScreen(Screen0);
    (closeLibrary(IntuitionBase);

    }

    open_the_screen(y,w,h,d,cl0,cl1,mode,name)

    UBYTE cl0,cl1,*name;
    SHORT y,w,h,d;
    USHORT mode;
    {
        struct NewScreen NewScreen;

        NewScreen.LeftEdge=0;
        NewScreen.TopEdge=y;
        NewScreen.Width=w;
        NewScreen.Height=h;
        NewScreen.Depth=d;
        NewScreen.DetailPencil=0;
        NewScreen.BlockPencil;
        NewScreen.ViewModes=mode;
        NewScreen.Type=CUSTOMSCREEN;
        NewScreen.Font=NULL;
        NewScreen.DefaultTitle=NULL;
        NewScreen.Gadgets=NULL;
        NewScreen.CustomBitMap=NULL;

        return(OpenScreen(&NewScreen));
    }

```

### Assembler

Opening a screen by writing directly to the custom chips and setting up a copper list to keep the screen addresses updated. It is much simpler to get working than the Intuition system - just don't expect it to multi-task.

```

#include custom.header      * Definitions of labels *

move.l #SCREEN,d0          * Set screen pointers *
move.w d0,pl1l
swap d0
move.w d0,pl1h

    lea CUSTOM,a0           * The start of chippery. *
move.w #D0,BPLCONT(a0)     * Define limits of screen *
move.w #D2C81,DWSTRT(a0)   * by writing directly to *
move.w #D2C81,DWSTOP(a0)   * hardware registers. *
move.w #D38,DOFSTRT(a0)    * All these numbers are *
move.w #D38,DOFSTRT(a0)    * well documented in the *
move.w #D0,DOFSTOP(a0)     * Hardware guide. *

```

```

move.l #new,COPPERLIST     * Patch in New copperlist *

rts

new:    dc.w BPLCOND,$1200  * The new copperlist *
        dc.w BPL1PTH
        plth    dc.w $0
        dc.w BPL1PTL
        plll    dc.w 0
        dc.l COPPER_HALT   * End of copperList *

        GFXNAME dc.b "graphics.library",0
        SCREEN incbin "screenbitmap" * Load a prepared screen map *

```



# 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 & Modulator .....£349.99**

**512K Ram Expansion & Battery backed clock ...£99.00**

**Commodore AMIGA A501 Internal 512K to**

**1Meg Ram Expansion & Clock Card.....£125.00**

**Commodore 1 Meg 3.5" Disk Drive A1010 –**

**Thru Port external power from AMIGA –**

**AMIGA colour coordinated .....£89.99**

**AMIGA 500 Dust Cover .....£2.50**

**Cheetah 125 + Joystick .....£5.99**

**AMIGA Parallel Centronics Printer Cable .....£3.50**

**AMIGA 4 Player Adaptor .....£4.95**

**3.5" x 80 Holder lockable disk storage**

**box.....£5.99**

**NO NAME 50 X 3.5" DS DD 135 tpi**

**880K/1Meg Disks .....£24.99**

**SONY 100 X 3.5" DS DD 135 tpi 880k/**

**1Meg disks .....£63.00**

**Tel: 0533 471485 – 24 Hour Hotline  
or Post Cheque Payable to**

**Midland Microsoft**

**Mail Order Div, Ground Floor, Unit 22,  
Sykefield Ave, Leicester, LE3 OLB.**

**MINIMUM ORDER £15.00**

## THIRD COAST TECHNOLOGIES LTD

Amiga A500 + Batpack .....	£369.00
Amiga A500 + Batman Pack + Tenstar Option .....	£386.00
Amiga A2000 full UK spec machine .....	Call for details

### A500 HARD DRIVES

Xatec Hard Drives are the fastest hard drives for the A500 & A2000 Commodore A590 22 Meg	£365.00
IVS 32 Meg. Full SCSI 25 Milliseconds Head Park .....	£499.00
Xatec 45 Meg. Full SCSI 25 Milliseconds Head Park .....	£349.00
IVS 50 Meg. Full SCSI 25 Milliseconds Head Park .....	£599.99
Xatec 65 Meg. Full SCSI 25 Milliseconds Head Park .....	£699.00
Xatec 85 Meg. Full SCSI 25 Milliseconds Head Park .....	£799.00
Xatec 109 Meg. Full SCSI 25 Milliseconds Head Park .....	£999.00
Xatec 251 Meg. Full SCSI 25 Milliseconds Head Park .....	£1995.00

### A2000 HARD DRIVES

Xatec 22 Meg. Full SCSI 25 Milliseconds Head Park .....	£399.00
45 Meg. Full SCSI 25 Milliseconds Head Park .....	£499.00
59 Meg. Full SCSI 25 Milliseconds Head Park .....	£599.00
65 Meg. Full SCSI 25 Milliseconds Head Park .....	£349.00
85 Meg. Full SCSI 25 Milliseconds Head Park .....	£799.00
109 Meg. Full SCSI 25 Milliseconds Head Park .....	£949.00
251 Meg. Full SCSI 25 Milliseconds Head Park .....	£1899.00

### AMIGA A500 & A2000 RAM UPGRADES

Amiga A500 1 Meg Ram Upgrade (inc clock & switch) .....	£79.99
Amiga A500 2 Meg Internal Ram Expansion (populated) .....	£339.00
Amiga A500 2 Meg Internal Ram Expansion (unpopulated) .....	£149.00
Amiga A500 4.0 Meg Internal Ram Expansion .....	£699.00
Amiga A500 8.0 Meg Internal Ram Expansion .....	£1099.00
Amiga A500 8.0 Meg Board expands in 2, 4 and 8 increments (takes 1x1 D RAMS, unpopulated) .....	£249.99
Amiga A500 2 Meg External Ram Expansion (unpopulated) .....	£149.00
Amiga A500 2 Meg External Ram Expansion (populated) .....	£379.00
Golan 22 Meg Full SCSI 25 Milliseconds Head Park .....	£399.99

### PRINTERS

Star LC-10 Mono Printer .....	£169.99
Star LC-10 Colour Printer .....	£215.00
Star LC-24-10 .....	£199.99

### FLOPPY DRIVES FOR THE AMIGA A500 + 2000

Internal 1 Meg Floppy Drive, Direct replacement .....	£64.99
1 Meg External 82 track court .....	£69.99
1 Meg External with Track Counter .....	£124.99
5.25 with Track Display .....	£149.99
5.25 without Track Display .....	£129.99

### NEW PRODUCTS

Professional Monochrome Digitiser Low Medium and High Res .....	£149.99
RGB Splitter for colour cameras allows full colour digitising .....	£99.99
Minigen Amiga A500 & A2000 Genlock .....	£95.99
Professional Genlock Overscan, Fader, built in RGB Splitter too many features to list .....	£499.00
Rendite 8802 Genlock .....	£195.00
Microtext Teletext Adaptors built in tuner .....	£139.99
X-Specs 3D Glasses, excellent for Cad Cam Liquid Crystal shuttering gives a whole new outlook on your Amiga .....	£149.99
Processor Accelerator 16 MHz Accelerator will support MC68881. Offers between 45-50% more performance whilst maintaining complete compatibility with software 8-16 MHz switch .....	£149.99
Replacement Amiga Mouse A500 & A2000 .....	£24.99
A-Max Mac Emulator Roms .....	£249.99
Amiga A2000 8 Meg Expansion Board (Unpopulated) .....	£149.99
Amiga A2000 8 Meg Expansion Populated 2 Megs .....	£349.00
Amiga A2000 8 Meg Expansion Populated 4 Megs .....	£519.00
Amiga A590 Upgrade Chips .....	£11.00
D.I.Y. kits to interface embedded SCSI hard drive or IBM PC ST506 drive to Amiga A500 or Amiga A2000 .....	

Trumpcard includes power supply, enclosure, software, auto-boot roms. Will accept 3.25 inch embedded SCSI drive any capacity. Simply plugs into side of A500 can draw power from machine or external source. Up to 4 megs of desk cache or system memory can be installed. Offers transfer rates up to twice that of A590. Board can be removed and used in A2000 at a later date offering future expansion. £199.99

ALF MFM drive kit for A500. Offers support of ST506 IBM PC drives. Available with or without power supply and enclosure. Host board and controller available. Entire kit including Enclosure host board and controller auto boot roms cables and software. £299.99

ALF RLL kit available at the same price for people with RLL IBM ST506 type drives £299.99

A500 ALF controller and host board without power supply and enclosure. £199.99

A500 ALF host board will accept standard PC hard card full software including enclosure for host. £129.99

Toolbox 3 slot or 2 slot box available, allows the A500 user to have A2000 power at A500 prices, the toolbox clips onto the side of the A500 and allows support of A2000 products on the A500, eg: 8 meg ram board, hard card, 68020 accelerator board. £299.00

Features 2 or 3 slots 40 watt supply, on/off power. £299.00

### HARDWARE

Virus protection device, eliminates all viruses .....	£34.99
Lighpen for Amiga A500 + 2000 .....	£79.99

Unit 8, Bradley Hall Trading Estate, Standish, Wigan WN6 0XQ

Tel: 0257 472444

Fax: 0257 426577

We accept Bank Drafts, Company and Personal Cheques and also Access and Visa Cards. All prices include VAT at 15%. A full warranty is offered on all products. All prices correct at time of going to press.

We reserve the right to alter prices. £ = £0.

# SAVE £30

Buy the combined package of the HiSoft Basic Compiler and HiSoft's award-winning Extend library for less than the price of the compiler alone

**HiSoft Basic is THE language to get you started with programming the Amiga.**

- ★ Runs up to 30 times faster than Amiga Basic
- ★ Produces stand alone programs
- ★ Compatible with PC Quick Basic & Amiga Basic

**HiSoft Basic is easy to use**

- ★ Supplied with a high quality manual
- ★ No upper limit to program or data size
- ★ Multi-tasking editor and compiler

**HiSoft extend is the natural enhancement for HiSoft Basic users**

- ★ 50 functions and subprograms
- ★ Load and Save IFF pictures
- ★ Use all the commands in your own programs

Together both programs would usually set you back almost £100, as a special offer to Amiga Computing readers both programs are available for just £69.95.

**SEE ORDER FORM ON PAGE 113**

# Game Killer

Stormlord

**TONY "ZAX" PALMER** says: Please could you include this cheat for Stormlord in your brill mag. When playing the game type in CHEAT for unlimited lives and again to turn it off. Press space to pause the game, B to jump higher and L to skip to the next level.

**FRASER BAIN** says: Once the game has loaded completely, start a game then hold down the C. Then press the fire button and push the joystick to the right simultaneously, and let go. This will give you infinite lives for that



level only; you must use the cheat again for each new level.

**MTH** says: I tried to test these on the office copy but since this was pre-production it didn't work.

# No worries

Max Tennant tackles football, driving and other problems

TV Sports Football

**PHILIP RICHARDSON** says: If you are playing in a league and lose a match do not insert Reel 2 at the prompt, just switch off. Next time you boot up the game you can replay the match.

Rock 'n' roll

**DAVE KYLE** says: You can warp from level six to level eight by placing three platforms in the correct positions. The action takes place in an area with many ventilators where the railing is missing in the lower right corner. If you place one platform in each row the warp will be activated.

You can warp from level four to 11 by smashing all the eggs. To get to the egg area you must buy one repair set and place it to the right of the middle arrow. Then it is possible to roll over the abyss until you reach the egg area.

To warp from level 14 to 18 you must smash the correct eggs. In the big egg area you have to roll a 'M' into the separated zone and a 'G' into the separated zone to the right. You are not allowed to smash any other eggs.

You can warp from level two to 20 by smashing the correct eggs in the egg area. You have to smash all the eggs near the railing. You are not allowed to smash any others.

The warps get bigger and better. You can warp from level three to level 24 by placing three platforms in the correct positions. Near the starting point you will find three repair set shops and to



the right a small abyss area. The warp is activated by placing all three platforms in the middle row.

The best warp I've found is from level one to level 33 (the bonus level). Near the start of the game there are two passages with holes and a blue diamond and a yellow key behind them. Just past these



## Hard Drivin'

**PAUL RAMSELL says:** This tip for Domark's Hard Drivin' will be a great help to anyone struggling to complete the speed lap in less than two minutes and challenge the Phantom Photon.

When the game loads select Manual Shift (No clutch) and start. As you move off up the hill under the start light get into fourth gear as soon as possible by using the number keys on the main keyboard. Stay in the righthand lane.

When you reach the top of the hill your car should leave the road for a second. The speed will flip around to 140 mph. Before you land, quickly press the N key to put the car into neutral. You will now be able to complete the course without skidding or having to brake.

If your time runs out you will be able to keep going at the same speed, even if the tone of the engine drops to a tickover.

Selecting neutral at any stage will stop you from skidding and will

maintain your speed regardless of the amount of time remaining. Once you have passed a checkpoint you will still be awarded extra time. So if time runs out quickly press N and wait until the next checkpoint before accelerating again.

The stunt course is a little different, because while using neutral works in most places, the loop is an exception. Select first gear just before you enter the loop and as you leave it accelerate quickly and again select neutral in time for the banking.



## Peter Beardsley's Football

**SHAUN FORSTER says:** When making a run from the centre or goal kick, flick the joystick on to auto-fire and keep running in a straight line. You should be able to take the ball past opposing players with no trouble at all.

Once you are past them and are sure that no one else can tackle you, turn off the auto-fire and dribble round past the keeper.

## Write to Max

GAME KILLER is always on the lookout for hot tips, so if you have found a cheat mode, bug or written a poke then drop it in the post – on disc if it is a long listing. If your work is used I'll send you a game drawn at random from the goodies box and a

Konix joystick.

To speed up getting the prize to you please cut out, photocopy or copy this form. It will be used as the address label to send out your parcel so please write neatly. May all your bugs be simple ones.



landmarks is a toolkit shop with a hole behind it. Buy the kit and fill the hole to activate the warp.

In addition to the warps there are several puzzles to be solved. Here are some of them. Smash all the eggs on levels two, five, 11, 12 and 14. On Level two roll over all the fragile floors making holes.

I have supplied tips/pokes/cheats for

.....

.....

.....

.....

Name .....

Address .....

Telephone .....

I confirm that the information I have supplied is mine, it hasn't been published elsewhere and I haven't sent it to anyone else.

Send this form to Max "The Hax" Tennant, Game Killer, Amiga Computing, Second Floor, North House, 78-84 Ongar Road, Brentwood, Essex, CM15 9BG.

Signature ..... Date .....

# SOFTMACHINE

## AMIGA HARDWARE

### A500 BAT PACK

Amiga 500 (1.3 FDC)  
Mouse + P.S.U.  
Modulator + Leads  
Workbench 1.3  
Basic 1.2 + Extras  
The Very First Tutorial  
Introduction to the A500  
WB1.3 Supplement  
Amiga Basic  
Bastman, Interceptor  
New Zealand Story  
Deluxe Paint II  
£372.99

**A500 BATPACK** + 1 plus the following:  
Bast Warriors + Insanity Fight  
Mercenary 1 + Art of Chess  
Temporads + Thundercats  
Barbarian + Buggy Boy  
Amigas + Wizard + Photon  
Paint II  
£394.99

### SOFTWARE STARTER PACK

Mouse Mat  
Mouse Bracket  
10 TDK MF2DD Disks  
80 Capacity Disk Storage Box  
3.5" Head Cleaner  
A500 Dust Cover  
**ONLY £25**  
\*When purchased with any Amiga computer. Offer limited to 1 starter pack per Amiga purchased.

**ALL PRICES INCLUDE V.A.T. AND DELIVERY (UK ONLY)**

courier/overseas rates on request

See our Advertisement in Last or Next Month's Amiga Computing for Business/Productivity Software

### A2000 SYSTEM 1

Amiga 2000  
A1084 Monitor  
A2090 20MB Hard Drive  
PHONE - While stocks last!

### A2000 SYSTEM 2

Amiga 2000  
A1084 Monitor  
A2088 PC-XT Bridgeboard  
A2090 20MB MS-DOS Hard Drive  
PHONE - While stocks last!

Amiga 500 + A1084S £392.99  
A590 20MB Hard Drive £372.99  
A501 HardExpDisk RING £144.99  
A502 Modulator £24.99  
MPS1230 Printer £222.99  
A1084 Colour Monitor £222.99  
A1900M Mono Monitor £99.99  
A1010 Disk Drive £31.99  
A1352 Mouse £33.99

A2000 P.O.A.  
A2000 + A1084S P.O.A.  
A2024 Hercules Mono Monitor P.O.A.  
A2010 Internal Drive P.O.A.  
A2060 20MB Hard Drive P.O.A.  
A2063 20MB Hard Drive P.O.A.  
A1095 40MB Hard Drive P.O.A.  
A2062 20MB MS-DOS Drive P.O.A.  
A2088 PC-XT Bridgeboard P.O.A.  
A2088 PC-AT Bridgeboard P.O.A.  
A2088 Ram Expansion P.O.A.  
A2621 68020/68881 P.O.A.  
A2621 Unix Card P.O.A.  
A2300 Genlock P.O.A.  
A2350 Prof Video Adapter P.O.A.  
A2032 PAL Comp Vid Card P.O.A.

### CAMERAS/LENSES

Hitchhik HW720 £183.99  
Panasonic WV1500 £179.99  
Irem Lens £44.00  
Irem Lens £36.00

### DIGITISERS

Colourscope £433.99  
Digitizer £182.99  
Digitizer Gold £178.99  
Rombo Vid-Amiga £89.99  
Superpic £139.99

### GENLOCKS

Mugen RING  
Mugen £97.99  
Rendite 8802 £251.99  
Rendite 8806 £719.99

### GRAPHIC TABLETS

Cherry A3 Tablet £488.99  
CRP A4 Tablet £268.99  
Easy A4 Tablet £268.99

### DISK DRIVES - FLOPPY

Corona 1mb 3.5" £86.99  
Corona 1mb 5.25" £119.99

### DISK DRIVES - HARD

Amrdine 30MB £372.99  
Amrdine 50MB £435.99  
Vortex 40MB £467.99

### MOI EQUIPMENT

EC2 Midi Interface £47.99  
Midi Master Interface £30.99  
Grey Hawk Midi Interface £29.99

## PERIPHERALS/ACCESSORIES/BOOKS

### MODEMS

Demon II £34.99  
Designer £103.99  
Linnet £148.99  
Linnet 1200 £224.99  
Microm WS3000 £339.99  
Microm WS4000 £224.99

### MONITORS

NEC 14" Multisync £619.99  
Philips 14" CM6533 RING  
Quadram 14" MS1422 £474.99

### MOUSE CONTROLLERS

Contriver Mouse for Amiga £24.99

### PRINTERS - MATRIX

Citizen Swift 24 £327.99  
Epson LX800 £388.99  
Epson LX800 £277.99  
Seikoshu SL-80AT 24 £277.99  
Seikoshu SP-1800 £135.99  
Star LC-10 £166.99  
Star LC-10 Colour £217.99  
Star LC24-10 £268.99

### PRINTERS - INK JET

Canon PJ1080A £504.99  
HP DeskJet £699.99

### PRINTERS - LASER

Epson GC3500 £1487.99  
HP LaserJet £1680.99

### SCANNERS

B&W Handy Scanner £193.99  
Grey Hawk Scanner £299.99

### SAMPLERS

A.M.A.S. £74.99  
Futuresound £79.99  
Perfect Sound £68.99

### CABLES

Cent Printer - Deluxe £9.99  
Cent Printer - Std £7.99  
Drive/Monitor Ext £14.99  
Four-Way Adapter £5.99  
Mod £4.99  
RS232 M-M/M-F/F-F £10.99  
RS232 M-M/M-F/F-F £9.99  
Scan! £10.99

### BLANK DISK DS/DD

10 x Sony Bulk Unbranded £10.99  
10 x Sony Branded £13.99  
10 x TDK Branded £14.99

### DISK STORAGE/HEAD CLEANER

3.5" 40 Capacity Box £9.99  
3.5" 80 Capacity Box £9.99  
3.5" 150 Pissie Box £19.99  
3.5" Head Cleaner £4.99

### MISCELLANEOUS ACCESSORIES

Control Centre £45.99  
Dust Cover A500 £3.99  
Dust Cover A1000 £3.99  
Dust Cover A2084/2085 £3.99  
Monitor Stand - Philips £16.99  
Monitor Stand - Universal £19.99  
Mouse Bracket £3.99  
Mouse Cover £7.99  
Mouse Mat the Amiga Logo £3.99  
Printer Stand £13.99

### BOOKS (\*Amiga)

Advanced Amiga Basic £16.95  
Amiga 3D Graphics Prog. £18.45  
Amiga Applications £18.95  
Amiga Assembly Lang Prog £10.80  
Amiga Basic Inside & Out £18.95  
Amiga C Adv. Programming £22.95  
Amiga C for Beginners £18.45  
Amiga DOS Inside & Out £18.45  
Amiga DOS Manual £22.95  
Amiga DOS Ref Guide £14.95  
Amiga Drives Inside & Out £27.95  
Amiga For Beginners £12.95  
Amiga Handbook £15.95  
Amiga Mach Lang Guide £21.95  
Amiga Machine Language £14.95  
Amiga MS BASIC Prog Guide £18.45  
Amiga Prog Guide £17.45  
Amiga Tracks & Tips £14.95  
Beginners Guide to £16.95  
Computer's 1st Book £16.95  
Computer's 2nd Book £16.95  
Elementary Amiga BASIC £14.95  
Hardware Ref Man £22.95  
Inside Amiga Graphics £16.95  
Inside the Amiga with C £20.95  
Intation Ref Manual £22.95  
Kickstart Guide £13.95  
Programming Guide to £23.95  
Prog Handbook Vol 1 £23.95  
Prog Handbook Vol 2 £23.95  
Rom Kernel Ref Man - Exec £28.95  
Rom Kernel Ref Man - Lib £22.95  
Rom Kernel Ref Man - Lib £20.95  
System Prog Guide £32.95  
68000 Assem Lang Prog £19.95  
Programming The 68000 £21.95  
40 Great Right Sims £9.95  
40 More Great Right Sims £14.95  
Flying Right Simulator £7.95  
Plying on Instruments £9.95  
Gunship Academy £14.95  
Jet Fighter School £14.95  
Learning to Fly £14.95  
Sub Commander £12.95

Please ring for prices/availability on any hardware/software/peripherals not listed. (Full price list on request)

Please make cheques/postal orders payable to SOFTMACHINE. All prices are inclusive of V.A.T.

All prices subject to change without notice. All items subject to availability. E.S.O.E.

## SOFTMACHINE

Dept AMC 3, 36 Guernsey Road, Sunderland SR4 9RR. Telephone: 091 385 7928

# 7 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 11 - containing:

- ★ 3 PIECES OF AMAZING MUSIC ★
- ★ STUNNING ARTWORK ★
- ★ THE LATEST VIRUS KILLERS ★
- ★ SKY FIGHT - 2 PLAYER SHOOT-EM-UP ★
- ★ SOFTWARE NEWS AN 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 AMC), UPDATE 11 SPECIAL OFFER,**

**PO Box 97, Wakefield, West Yorks WF1 1XX, UK**

**TELEPHONE 0924 366982**





# Castle Software

COME TO THE  
PROFESSIONALS!!!!



NOW TAKEN



2 William Clowes Street  
Burslem  
Stoke on Trent  
ST6 3AP  
Tel: 0782 575043

## AMIGA SPECIAL OFFERS

Street Fighter	5.99
Road Blasters	5.99
Drum Studio	4.99
Joe Blade	4.99
Joe Blade 2	4.99
Into Eagles Nest	4.99
War Machine	4.99
Hollywood Poker	4.99
Karting Grand Prix	3.99
Ice Hockey	3.99
Grid Start	4.99
Destroyer	9.99
Nebulous	5.99
Custodian	5.99
Nether World	5.99
Turbo Cup (+ car)	7.99
Fight Path 737	4.99
Jinxter	9.99
Corruption	9.99
LED Storm	5.99
Rocket Ranger	9.99
Flintstones	4.99
Pacland	6.99
Roger Rabbit	7.99
Saint and Greasey	6.99
Time Scanner	7.99
Targhan	9.99
Speedball	9.99
Predator	6.99
P.O.W.	11.99
Fish	9.99
Archipelagos	9.99
Advanced Ski Sim	4.99
Lords of the Rising Sun	11.99
F-18 Interceptor	11.99
Space Quest	9.99
Leather Goddess	4.99
Phantasm Fighter	4.99
Police Quest	9.99
Outrun	7.99
World Class Leaderboard	7.99
Soldier of Light	7.99
Alien Syndrome	7.99
Star Goose	4.99
Wicked	5.99
Dungeon Master (1Meg)	15.95
Fernandez Must Die	5.99
Blasteroids	6.99
Phobia	6.99
Football Manager 2	9.99

## AMIGA SPECIAL OFFERS

FM2 Expansion Kit	5.99
Warlocks Quest	3.99
Gold Runner	4.99
Gold Runner 2	5.99
Leather Necks	6.99
Jug	5.99
Bards Tale	7.99
Space Quest 3	19.99
Dominator	5.99
Phantasm	3.99
Hyper Dome	3.99
Manhunter in NY	9.99
Gold Rush	9.99
Pioneer Plague	4.99
Foundations Waste	4.99
F29 Retaliator	20.99
Xenon 2	15.99
Player Manager	13.99
Rampage	6.99
Legend	7.99
Phantasia 3	9.99
Treasure Island Dizz	4.99
Commando	13.99
On Slaght	15.99
Double Dragon 2	14.99
Postman Pat	7.99
Fun School 2 Under 6	12.99
Fun School 2 6-8	12.99
Fun School 2 8-12	12.99
Bloodmoney	15.99
Robbery	4.99
Indy Jones Last Crusade	16.95
Ferrari Formula One	16.95
Cabal	16.95
Super Wonderboy	15.95
Interphase	15.99
Lombard Rally	14.99
Microprose Soccer	15.95
North and South	15.95
Days of the Pharaoh	15.95
Beast (Shadow of)	24.95
Space Ace	29.95
Hard Drivin	15.95
Chase HQ	15.95
Continental Circus	13.95
Bomber	20.95
Manchester United	15.95
Fighting Soccer	15.95
Sim City	19.95
Strider	15.95

## AMIGA SPECIAL OFFERS

Vigilante	9.99
Stella Crusade	27.95
Star Command	23.95
Turbo	12.95
Gold of the Americas	17.95
Firezone	6.99
ISS	6.99
Artura	4.99
Batman the Movie	11.99
New Zealand Story	11.99
Laser Squad	14.99
Turbo Outrun	15.95
Myth	15.95
Space Quest 2	9.99
Lancaster	13.95
Hound of Shadow	16.95
Paperboy	13.99
Grand Prix Circuit	16.99
Ivon Hoe	16.99
Light Force	16.99
Ghostbusters 2	16.99
The Untouchables	16.99
Bloodwych	15.99
Falcon	18.99
Falcon Mission Discs	13.95
Populous	16.95
Populous Scenery Disc	7.95
Dragon Spirit	13.95
Robocop	16.95
New Zealand Story	15.95
Stunt Car Racer	15.95
Honda RVF	15.95
F16 Combat Pilot	15.95
Danger Freak	7.99
Mechanics	7.99
Future Tank	7.99
Thunderbirds	9.99
Silkworm	13.99
TV Sports Football	19.99
Stryx	15.99
Bloodwych Data Disk	9.99

We offer a fast reliable service. Cheque's P.O.'s to:

### CASTLE SOFTWARE

Any games not listed phone our

Hotline now on 0782 575043

Please state Amiga when ordering. All orders  
under £6.00 require 75p towards P&P.  
Over £6.00 P&P Free

\* Please confirm availability before ordering

**NEW SHOP  
OPENING  
SHORTLY**

The above are mail order prices only, but special offers always available in the shops

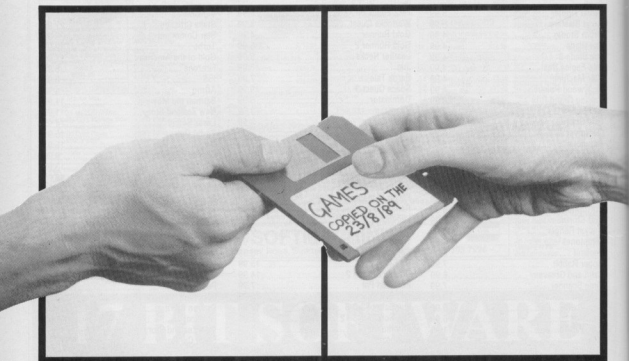
**69/70 Marsden Court  
Arndale Centre  
MANCHESTER**

### Other shops at:

**6 Hope Street  
Hanley  
Stoke-on-Trent  
Tel: 0782 267952**

**11 Newcastle St.  
Burslem  
Stoke-on-Trent  
Tel: 0782 575523**

# WARNING



**THE ONE ON THE RIGHT  
IS HANDLING  
STOLEN GOODS.**

If you are involved in software piracy then you are breaking the law.

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*



**PIRACY  
IS THEFT**

# Evesham

**All prices include VAT and Delivery**

**CAMBRIDGE SHOP NOW OPEN!**  
3 Glisson Road, Cambridge  
Tel: 0223 323898

## 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 CP3229 16.5" FST TV/Monitor Inc. remote 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) .....	£95.00
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**

**LC10**



**star**  
For use and recommended Star printers include many other on a separate combination of features, with quality, reliability and value. From 100 pages, please see us for more details. 12 month on-site maintenance contracts for £75 extra.

**Only £169.00**  
Colour version also available,  
**Only £215.00**  
Prices include 2 extra black ribbons free of charge.

Star LC24-10 multitrait 34pin printer, super low price .....	£259.00
Star LC24-15 wide carriage version of LC24-10, 200/67 cps .....	£409.00
Star LC10 wide carriage version of LC10, 180/45 cps .....	£329.00
Star LC10 Mk II faster version of LC10, 180/45 cps .....	£199.00
Oliveri OM1005 9-pin 10" printer 200/30 cps inc. 1 year on-site warranty! .....	£129.95
Panasonic KXP1081 reliable & sturdy 9-pin 10" printer 120/24 cps .....	£159.00
Panasonic KXP1180 super new feature-packed multitrait 9-pin 11" .....	£179.00
Panasonic KXP1124 new good specification multitrait 24-pin 11" .....	£269.00
NEC P2200 budget 24 pin 160/25 cps .....	£279.00
Epson LX400 (w/4x600) 10" 160/25 cps .....	£179.00
Epson LQ550 good 24pin 150/50 cps .....	£319.00
Citizen 1200 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: full auto-tune remote control, SCART connector, Video/Audio input and head-phone 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

## 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**

# AMIGA 500 LOW COST RAM UPGRADE ONLY £69.00 inc.VAT & delivery

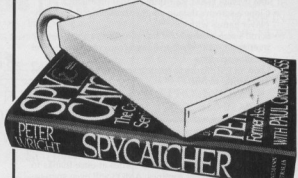
## 512K RAM/CLOCK EXPANSION FEATURES:

- ☆ Direct replacement for the A501 expansion
- ☆ Auto-recharging battery backed Real-time Clock
- ☆ 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 utilises 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 throughput connector.

**£114.95** including VAT & delivery

All prices include VAT and delivery. Express Courier delivery £5.00 extra.

Send cheque, Postal Order or ACCESS/VISA card details

**Evesham Micros Ltd**  
UNIT 9, ST. RICHARDS ROAD  
EVEESHAM  
WORCS WR11 6XJ  
**0386-765500**  
fax 0386-765354

Govt., educ. & PLC orders welcome  
Same day despatch whenever possible  
All goods subject to availability, E.&O.E.  
Open to callers 6 days, 9.30-5.30

Retail outlets at: 1762 Pershore Road, Catteridge, Birmingham B36 3BH Tel: 021 458 4544  
also at: 5 Glisson Road, Cambridge CB1 2HA Tel: 0223 323898



# AMOS

## Design the game of your dreams

AMOS - The Game Creator is like nothing you've ever seen before on the Amiga.

Developed by the author of the number one, best-selling STOS, AMOS stretches the Amiga to its limits. Now for the very first time you can access the awesome power of your computer with bewildering ease.

### Here's just some of the things you can do:

#### ▶ Screens

- Define and display up to eight screens each with its own resolution, size in x and y, position on TV, colour palette, and even in HAM, half-brite or dual playfield
- Clone a screen's data to another screen to create multi-player games with ease
- Scroll a screen simply by changing the screen offset. By overlapping different screens you can create multi-level parallax scrolling
- Load an IFF picture to create a screen or overlay it onto an existing screen

#### ▶ Sprites

- Create sprites with ease using the feature-packed sprite editor
- Display your creations as either hardware or software (BOB) sprites
- Move up to a staggering 400 sprites at once thanks to AMOS's intelligent routines. AMOS will even snap together hardware sprites automatically when the image requires more than four colours or exceeds 16 pixels in the x-axis
- Animate as many BOBs (Blitter Objects) as memory will allow, definable to any size and displayed at lightning speeds with automatic screen buffering

#### ▶ AMAL

- Use the AMOS Animation Language to create complex sequences for sprites or screens which compile at run-

time and work on interrupt - up to 64 sequences possible

- Define sequences using the flexible range of commands or from the AMAL creator accessory

#### ▶ Music

- Play Soundtracker or GMC (Games Music Creator) tunes on interrupt
- Access the Amiga's sound chip directly
- Edit music with the easy-to-use music accessory

#### ▶ Miscellaneous

- Modify the copper list using the built-in commands or insert your own unique list
- Access the Amiga's graphic primitives
- Move screen areas around at blitter speed
- Super-fast window and text routines

#### ▶ Editor

- Use the sophisticated scrolling editor to create programs with lockable procedures, no line numbers and multi-statement lines
- Choose from more than 400 different commands to produce the results you want with the minimum of fuss
- Hold up to four programs and 12 accessories in memory at once
- Store music, sprites, IFF picture files and so on in memory banks which you can load and save independently of your program
- Add new commands with ease (3D routines for example)
- Port STOS programs to your Amiga
- Works on the A500 with a single drive
- Supports hard disc drives

#### ▶ What you get:

AMOS Basic, sprite editor, sprite grabber, music editor, copper list editor, example games, Basic manual, Accessories manual, reference card - all for just £49.95!

### The world of STOS

With sales in excess of 35,000 units, STOS has to be one of the biggest-selling packages for the Atari ST. Users have written shoot 'em ups, role playing games, adventures, dental databases, financial programs - and scientists in Toronto use STOS to conduct lightning research! In the shops you'll find STOS Compiler, STOS Maestro (for sampled sound), STOSSprites 600, Games Galore (a collection of four great STOS games) - and soon ST owners will be able to buy STOS Musician, STOS Vidi Digitizer, and more.

Again Again's Gilbert - Escape from Drill was written in STOS as was Fun School 2. Three other educational software houses are currently using STOS to create innovative teaching aids.

- ☐ Please send me more information about AMOS - The Game Creator
- ☐ Please send a demo disc. I enclose a cheque/postal order for £2 payable to Mandarin Software.

Name \_\_\_\_\_

Address \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Postcode \_\_\_\_\_

Send to: Mandarin Software, Europa House,  
Adlington Park, Adlington, Macclesfield SK10 4NP.

**MANDARIN**  
SOFTWARE

# GET LOST

**IN THE WORLD OF COMPUTER BARGAINS  
AT SABRE TECHNOLOGIES!!!  
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    01 667 0851 SHOP**

See us on stands  
C15/C16 at the  
COMPUTER GAMES &  
CARTY SHOW  
G-Mex Centre Manchester  
March 15-18

<b>A590 HARD DRIVE for A500</b> ✓ 20 Meg ✓ AUTOBOOTING ✓ (1.3 Kickstart required) ✓ SOCKETS FOR 2 Meg ✓ 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>  <b>STAR LC10 COLOUR PRINTERS</b> <b>£229 inc VAT</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	£165.50
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 Design .....	£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 SOFTWARE	SABRE
ROLAND	
CM-64 Multi-Timbral Sound Module .....	£699.99
CM-32L as above .....	£329.99
CM-32P as above .....	£399.99
CF-10 Midi Mixing Controller .....	£115.99
MA-120 Monitor Speaker (12 watts) .....	£89.99
CM54/32P Sound Library Cards .....	£39.99

CASIO	
MT 640 Mini Keyboard .....	£169.95
MT 740 Mini Keyboard .....	£179.95
HT 8000 Programmable Keyboard .....	£599.00
CSM 1 Sound Module .....	£149.95
DH 100 Digital Horn .....	£79.95
DH 800 Digital Horn .....	£99.00
DH 500 Digital Horn .....	£179.95

Full range of Casio Music Products available to order









PHONE OUR  
MAIL ORDER SERVICES ON  
01 760 0174

**3.5 DISKS**  
Inc. Labels  
100% Certified. D/S D/D 135 tpi  
10      50      100  
**£9.95   £40.00   £79.00**

**PHILIPS 8833  
COLOUR MONITOR  
WITH STEREO  
SOUND**  
**£239 inc VAT**

## HARDWARE EXCHANGE SERVICES

Phone for details on our  
latest in used hardware:  
We will also consider  
part exchanges on new  
hardware

## B2000 Packs Available

Printers, Cables,  
Covers, Stands,  
Drives and much  
much more.

A FULL SELECTION OF  
GAMES SOFTWARE IN  
STOCK, OLD AND NEW  
AT COMPETITIVE  
PRICES,

"If in doubt check us out"  
PHONE NOW ON  
01 760 0274

**SABRE ARE:**  
Licensed Credit Brokers  
and can offer credit facili-  
ties on most items.  
Phone now for details  
01 760 0274

### Order Form

Please send me: \_\_\_\_\_  
Items \_\_\_\_\_ Cost (inc.VAT & Postage) \_\_\_\_\_

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)

**Sabre Technologies**  
Units 74/75, Inshops, 68/74  
Church Street, Croydon,  
Surrey, CRO1RS

# FIRST micro

HARDWARE & SOFTWARE  
SPECIALISTS

**NEW!** SHOWROOM  
13 LANSDOWNE ROAD  
BOURNEMOUTH DORSET



EXC. VAT

(0202) 24927



**£7 DELIVERY**

## AMIGA A500 + BATMAN 2

*Give away*

INCLUDING:-  
BATMAN THE MOVIE  
NEW ZEALAND STORY  
F18 INTERCEPTOR  
Buggy Boy  
Ikari Warriors  
Barbarian  
Thundercats  
Terrapods

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

**£339**

## AMIGA A500/ PHILIPS 8833

**£476**

## AMIGA B2000

INCLUDING:-  
• MOUSE • WORKBENCH  
• BASIC • UTILITIES • MANUALS

**£749**

## AMIGA A500

INCLUDING:-  
• MOUSE • WORKBENCH  
• UTILITIES • MANUALS  
• BASIC • TUTORIAL  
• TV MODULATOR

**£289**

## AMIGA B2000/ PHILIPS 8833

INCLUDING:-  
• MOUSE • WORKBENCH  
• BASIC • UTILITIES • MANUALS  
• XT BRIDGE BOARD  
• 20mb HARD DISK

**£1250**

## AMIGA A500 BATPACK

• NEW ZEALAND STORY  
• F18 INTERCEPTOR • DELUXE PAINT II  
• MOUSE • TV MODULATOR

**£320**

### 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 Hddisk ..... £499  
★ All drives 1mb + on/off switch ★

### AMIGA ACCESSORIES

A501-512k RAM ..... £109  
TV Modulator ..... £22  
Mouse Mat ..... £4.99  
Amiga dust-cover ..... £6.89  
3.5 135TPI DS/DD ..... £9.99

**NEC 3.5" 1Mb  
2nd DRIVE  
£64**

### PRINTERS

#### COLOUR PRINTERS

Citizen HQP40 ..... £352  
Epson EX1000 ..... £543  
Hewlett Packard Paint Jet ..... £719  
NEC P5+ ..... £469  
NEC P7+ ..... £589  
Star LC10 ..... £195  
Xerox 4020 ..... £949

L  
C  
2  
1  
0



**Only £137.00**

Hugely successful 9 pin printer, the Star LC10 provides 4 NLO 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**

#### PRINTERS

Star LC10 (P) 130CDS ..... £139  
Star LC10 Colour ..... £189  
Star LC24-10 (24 pin) ..... £289  
Citizen 1200 ..... £105  
Commodore MPS 1200 ..... £119  
Panasonic KXP1124 (24 pin) ..... £279  
Panasonic KXP1081 ..... £149  
Epson LX800 ..... £158  
Epson LO500 ..... £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 Hddisk ..... £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**

### CHRISTMAS 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-5.30 pm**

All prices and manufacturer's specifications  
subject to change without notice.

To: First Micro, 13 Lansdowne Road, 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: \_\_\_\_\_



# CROSSBOW

The legend of William Tell



To his homeland—he is a symbol of hope.

To the Emperor he is a dangerous spark that must be extinguished before it can become a flame.

To the Resistance he is a figurehead, a powerful ally if they can only persuade him to adopt their cause.

To Gessler, the man who created him, he is Nemesis. Gessler pushed him beyond the limits of human endurance . . . and now he is back for revenge.

Available from all good computer software stockists. Should you experience any difficulty in obtaining the format of your choice, complete the order form and send along with a cheque or postal order made payable to: All Saints Developments Ltd to the address below.

ATARI ST £19.99  
AMIGA £19.99  
SPECTRUM £9.99

OTHER VERSIONS  
COMING SOON!



SCREEN 7 IS A TRADEMARK OF ALL SAINTS DEVELOPMENTS LTD, Units 3-7 Baileygate Industrial Estate, Pontefract, West Yorkshire WF8 2LN.

Based on the  
exciting new  
T.V. series

NAME: \_\_\_\_\_

ADDRESS: \_\_\_\_\_

FORMAT  
QUANTITY: \_\_\_\_\_

All orders will be despatched on  
day of release.

This program and its packaging are reproduced by National and International copyright law. All rights reserved. This stills reproduced with the kind permission of Robert Halm Ltd/Concord Films Ltd. 1989/90

## STAR LC10 PRINTER

Black ribbon £4.00 + VAT  
Colour ribbon £6.00 + VAT

**COLOUR £169.00 + VAT**  
**MONO £129.00 + VAT**  
(with cable & paper)

### Philips CM8833

Colour Monitor

£190 + VAT

### Acorn AKF11/2

Colour Monitor

£173.00 + VAT

### Commodore Amiga

Batpack

£312.00 + VAT

### Tenstar Pack

£21.74 + VAT

### Amiga 5051 Upgrade

£101 + VAT

### Cumana (1M) CAX54

£72 + VAT

### Panasonic KXP1081

£119.00 + VAT

### Panasonic KXP1180

£139.00 + VAT

### LC24 10 Printer

£199.00 + VAT

### Citizen 1200 Printer

£104.00 + VAT

### Citizen Swift

24 Printer

£265.00 + VAT

### Panasonic 1124 Printer

£239.00 + VAT

### All printer prices include

Cable & Paper

### DISKETTES

10 3.5" 135tpi DS/DD ..... £7.39 + VAT  
3.5" Disk box for 100 ..... £6.91 + VAT  
3.5" Disk box for 50 ..... £5.17 + VAT  
5.5" Disk box for 120 ..... £7.35 + VAT

## Hampshire Micro Computers Ltd

Phone for our latest catalogue. Fast service 12 months guarantee.

Prices subject to change

Postage £1.00 + VAT. Large items £3.60 + VAT. Secured £7.00 + VAT.

Visit our showroom at Unit 11, Kingdom Park, Brunel Way,

Segensworth East, Titchfield, Hants PO15 5TJ.

TEL: 0489 885911 or Fax 885651



FROM £349!  
Prices include VAT, delivery & warranty.  
Please add £15 for overnight delivery.  
All systems are tested before dispatch.  
On-site maintenance options available.

- Amiga A500 complete, now only £349
- Amiga A500H with A1064 £615
- Amiga A500H with A1064 16-res colour monitor £949
- Amiga B2000 latest UK model, with 1.3 floppies and 1MB chip-RAM £1495
- Amiga B2000 As above, plus A2255 PC-AT bridge board & 512 disk £1795
- Amiga B2000 With A2255, plus A2064/A2062 20MB autoboot hard disk

### ■ ■ ■ B2000 + AT Bridge Board + 40MB autoboot hard disk £2095!



- A2255 PC-AT board & 512 drive £595
- A2064 PC-AT board & 512 drive £249
- 20MB AmigaMS-Dos hard disk £229
- A2064/A2062 20MB autoboot h/d £375
- A2064/A2064 40MB autoboot h/d £675
- A2620 68020 Accelerator Card £1295
- C2016 68010 Board, 2MB installed £199
- Flicker Free Multiscan Adaptor £349
- 16" Multisync high-res monitor £445
- C2010 NEC 31" internal drive £791

- 31" DS/DD diskette, per 10 £10
- C1010 NEC 31" half-height drive £79
- A501 plug-in RAMclock 512K £119
- A1064 High-res colour Monitor £249
- A590 20MB autoboot hard disk £375
- RAM for A500, per MB ... £99
- Amidrive 20MB SCSI hard disk £339
- Amidrive 50MB SCSI hard disk £425
- Star LC10 Multiform Printer £179
- Star LC10C colour, 120 cps, NLO £229
- HP DeskJet 300 dpi inkjet, B/W £695
- HP PalmJet colour inkjet 180 dpi £889
- DVI 1200 A3 & pen plotter £1159
- Trackball Mercuri RS2 £59
- FrameGrabber Phone
- SuperImage Graphics/Digitiser Phone

### ■ ■ ■ NEW half-height NEC external drive with switch & throughput £791

Why not enjoy the free Teletext database with the MicroText Teletext adaptor. Fully programmable, with Fastest facility, instant access to last 16 pages, double page view, teletextware loader, auto-start/background operation... Pages can 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 £391!



### ■ ■ ■ SUPERBASE II half-price special offer, while stocks last... £49.95!



- SuperBase Personal
- SuperBase Personal 2
- Professional v1
- SuperPlan
- Viza/Video Desktop v2
- Professional Page v1.3
- Excellence!
- Arena Accounts
- Personal Tax Planner
- A/C Basic v1.3
- SuperBack
- B.A.D. Disk Optimizer
- Publisher's Choice
- ProTest v4
- Amiga C for Beginners
- Amiga C Advanced Programmers

- Lattice C v6 £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
- Relational database power, without programming! 39.95
- As above, plus test, mail merge, batch entry etc. 49.95
- With Forms Editor and DMS, programming language 154.95
- Pro Spreadsheet with business graphics, time planner 49.95
- High performance desktop WP, now with HQ fonts 109.95
- Includes WP, Desktop, colour separations, CAD 129.95
- WP with graphics, thesaurus, dictionary etc. 164.95
- Sales, Purchase and Nominal Ledgers plus Invoicing 39.95
- UK Income Tax computation program, from Digita By Absorb. Complex Amiga Basic... FAST! 149.95
- Backs up 20MB in 20 minutes, any Amiga hard drive 37.95
- Speeds disk access up to 500%. Workbench or CLJ 34.95
- £79.95 ■ System Programmer's Guide 32.95
- £79.95 ■ Amiga Basic Inside & Out 18.95
- £79.95 ■ AmigaDOS Inside & Out 18.95
- £79.95 ■ Amiga Tricks & Tips 14.95

### ■ ■ ■ SUPERPLAN half-price special offer, while stocks last... £49.95!



- Graphics Starter Kit
- Sculpt-Animate 4D
- Sculpt-Animate 4D Jr.
- Sculpt 3D XL
- Music-4
- Pre-Video PAL Plus
- Pro Video font sets
- TV-Test Professional
- SummaSketch Plus
- PAL Rendite Pro
- Rendite 8802 Genlock
- MiniGen
- DigView Gold
- De Luxe PhotoLab

- De Luxe Paint 3 £42.95
- De Luxe Video 3 89.95
- Digipaint 3 59.95
- Design 3D 69.95
- Animagic 64.95
- Photon Paint 2 69.95
- Amiga Images/Amiga Animator/Amiga Draw/Amiga Script 3D graphics and animation for the professional user 369.95
- As Sculpt 4D above, without HAM ray-tracing 109.95
- Much faster than Sculpt 3D, with 24-bit plane option 129.95
- Without doubt the best piece of MIDI software to date 199.95
- Professional video user with fonts, extra fonts available 189.95
- Choice of 4 sets of 4 anti-aliased fonts, each... 89.95
- Latest full-feature video filter, includes Summa fonts 139.95
- 12x12 Graphics Tablet with fast driver software 425.00
- Broadcast quality joystick for the professional user 625.00
- £199.95 ■ Fontation 34.95
- 109.95 ■ Professional Draw 114.95
- 89.95 ■ Amiga Draw 2000 179.95
- 49.95 ■ 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  
dispatch same day by FIRST CLASS  
post. Please allow 5 days for delivery  
of hardware orders. Prices are quoted  
subject to availability. See also



LAKEVIEW HOUSE, KINGSTON HILL, SURREY, KT2 7OT. TEL 01-546-7256

## TWO WAYS TO ENSURE YOU GET



## EVERY MONTH

1. Complete and mail subscription form on Page 113
2. Hand this form to your newsagent.

Please reserve me a copy of Amiga Computing magazine every month until further notice.

- ☐ I will collect  
☐ I would like it delivered to my home.

Name \_\_\_\_\_

Address \_\_\_\_\_

Note to newsagent: Amiga Computing should be obtainable from your local wholesaler, or contact Circulation Manager on 0424 430422



## Protect and survive?

SOFTWARE protection is a waste of time. If a disc is protected, crackers will almost certainly hack the protection out and spread the game worldwide. Protection will stop the average schoolboy from swapping the game in the playground, but will lead to far more copies being spread in the cracking circuit.

Protection normally means the owner of the original can't make a backup copy or transfer the game to hard disc. This means that although you may have a hard drive, you can't actually make use of the thing.

Protection hinders the game. Speedball and Xenon II for example, won't load on a machine fitted with Kickstart 1.3 even though the game would work fine if it was unprotected.

Novella protection is not very good either, as it is annoying having to search through a whole pile of books. It can be hacked out, thus the game enters the hacking circuit.

Money spent on protecting games is wasted. Take Shadow of the Beast, for example. This has some of the most advanced protection schemes, and yet was cracked days after it was released.

Although the protection means the game can't be copied, the cracked version will be copied hundreds of times and so the protection has probably led to more copies being made than there would be otherwise.

If there is going to be protection, the best type is the key-disc as used in PowerDrome. You are



Hi, I'm the new mail man. Man. It's my job to sort your scribbin's and spill the beans on the problems we all have when DF0: starts to whirl. So if you've got something to say, say it to me.

The best letters will be sent prizes of up to £100, so get a copy of ProteX into your drive pronto. Drop me a line at Ezra Surf's Postbox (ESP), Amiga Computing, Second Floor, North House, 78-84 Ongar Road, Brentwood, Essex, CM15 9BG.

**Ezra**

Could you please tell me the best and cheapest way to do this compatible with the hardware I already possess?

**Bruce Neville,  
Harringay, London.**

Since I don't know if the Amigos drive has a through bus, one option might be an internal board which fits inside the machine, not in the trapdoor. This does in the warranty but trapdoor boards which offer more than 512k need to hook on to the Gary chip to get to the extra address space do similar things to your rights.

Something like the EXP 8000+ from Progressive Peripherals and Software should fit the bill.

seen pirate versions of a game and then dismiss it as unplayable because they haven't seen the instructions.

## Adding Life

FULL marks to Philip Gibs on his version of Life on the December cover disc. Seeing that he also did the Mandelbrot program, he obviously enjoys this type of exercise.

I'd be interested to hear if he's tried any of the programs featured in the Scientific American's Computer Recreations section, I'm sure he would find some of them fascinating.

I wasted a huge amount of time entertaining myself with the problem of finding starting configurations which would grow into a worthwhile population.

I found that asymmetrical starts are generally much more successful than symmetrical, and four-way symmetry seems to be a dead loss - the tribes die almost at birth every time.

**George Crawshaw,  
East Horsley, Surrey.**

## Ram hungry

I HAVE an A500 and A501 half meg expansion plus an Amigos hard disc which is attached through the expansion port. I now want to expand my memory to 3 meg total (adding 2 megs to the one I already have), but with a facility to add more at a later date.

allowed to backup a game and then asked to insert the original once the backup has loaded to make sure you haven't pirated the game. At least the legitimate user is allowed to make a backup for safety.

It is a sad thing that software houses spend money on stopping unscrupulous people from stealing their work.

**Roy Weekes,  
Sheerness, Kent.**

Software companies really don't want to protect their software, honestly they don't. However there are so many dishonest people that there is a real need.

*I hate people who have only*

tell me where I can purchase the clones, Linetracker, Pro-tracker, Sidmon and Seq. Many thanks.

**Kevan Roberts,  
Chesterfield, Derbyshire**

Some versions of Soundtracker come with documentation files. I'm certainly not going to help you with a pirate program. All the clones are based on the original, which is available from Active Sales and Marketing (01-384 2701).

This isn't worth buying, but negotiations are under way to sell the Noisetacker clone. Seq is a complete re-write which will probably be PD if Sam finishes it.

## Listening corner

HELP blurb shull aus lubno delsh ibfelt bmuft. I'll translate for you (Double Dutch). You see I'm a musician really, and not very educated in the computer region.

I have bought an Amiga and I have acquired a pirate copy of Soundtracker because as you say in your issue number 7 volume 2 they are no longer obtainable. Because it's a pirate copy I received no instructions.

I have proceeded into Soundtracker as far as my abilities (limited) can take me and hit a stump. Could you help me and find a set of instructions for Soundtracker 2.4. Also could you

## Transformer fan

YOUR December issue attempted to answer a question about the use of Lotus 123 on the Amiga. You failed. The answer you gave was at the very best unhelpful.

To set the record straight, I am the proud owner of Amiga Transformer. This is not a failed product, neither is it unstable, as it was described in another magazine.

Transformer runs the vast majority of text-only PC programs that I have tried on it, however a few tips may be useful for potential users.

Transformer is not supplied with MSDos, therefore you will have to buy it separately, or use a copy that you already own if it is legal.

I am running Transformer under MSDos 3.20 with no problems, it is less happy if you use Dos 3.30 or higher. Nobody should be using Dos 1.X or 2.X now.

Transformer will not format discs to 720k, only 360k. You can get round this if you use Diskcopy to copy a 720k formatted disc on to a blank disc, however this will not

work with different sizes of disc such as copying from from 5.25 to 3.5.

Cumana supplies a device driver with its 5.25in drives which cures this problem, both for internal and external drives.

Transformer is slower than a PC – at about 20 per cent of the speed – and does not support graphics. It is therefore not suitable for really high-powered work, although it manages to directory a disc faster than Amigados.

Lotus 123 may well not work with the emulator due to lack of memory, however people who would like to work with Lotus files on their Amiga at home could try AsEasyAs, a Lotus 123 shareware clone which I have used successfully on the Amiga.

I have to have PC compatibility on my Amiga for my studies (it's not just masochism). This letter was written on Micro EMacs on the Amiga, ported to MSdos using PCUIs on the Extras disc, formatted with PC Write running under Transformer and printed on an Opus PCII.

A. L. Booth,  
Stockport, Cheshire.

*Using Transformer sounds a real masochists lango. I've been using a real PC, running at 8Mhz, recently and it sucks. The whole thing feels tatty and the software isn't a patch on the stuff we have for Workbench. Life is too short to wait for something which runs at a tenth of the speed.*

## Colour blues

I HAVE been especially impressed with Deluxe Paint. Determined to make the most of this great art package, I bought myself a Star LC10 colour printer. This gives great black and white graphics, but I cannot get the colour graphics to dump when using Deluxe Paint.

The colour ribbon works when I do a test dump. There isn't a description of the LC10 in preferences, so I chose Epson, since this was the suggestion given in the printer book. If anyone can help, I am sure it will be Amiga Computing.

Arnold Synnott,  
Newark, Notts.

*No worries. Select Epson JX-80 as a printer driver and save the preferences to the disc you use when you load up to run Deluxe Paint.*

## Easy learning

IN my spare time I am taking a correspondence course in computer programming in Cobol and I would like to know if there is a compiler available for my machine? Can the Amiga A500 be made IBM CP/M compatible? If so then how?

When using Amiga Basic how can I get printouts of my listings? Finally are there any recognised qualifications that can be gained in computer programming in C, as I would like a career in this field? Being too old (24) to be a trainee programmer, I feel it is now up to me to educate myself.

Do you know of any courses available in my area, or are any correspondence courses available.

Thanks for your time and a great magazine.

Mark Hampson,  
Toton, Notts.

*There are no Cobol compilers for AmigaDos. You could try to get hold of a copy of Transformer - Mr Booth likes it, so Commodore must have made a mistake when it was discontinued - or get hold of the public domain CP/M emulator. Using either of these you should be able to run a version of Cobol.*

*I'd go for CP/M, because then you can get a smaller Cobol which won't have any run problems. Softville on 0705 266509 can supply the CP/M, WACCI on 01 898*

## Demo give-away

THIS letter is going to start like most of your letters do ... Congratulations on a good job. I have every issue.

I heard people writing and talking about game demos and I think this is a good idea. Software houses should issue these at say £1 each and it should contain a playable game demo.

Joel White,  
Stanmore, Middx.

*Better than this is the scheme of free PD demos. DMS did a disc for Drivin' Force, Readysoft for Dragons Lair and Space Ace and EA for Interceptor. But they only work if the game looks decent.*

## You beast

DISGUSTING! Your Dec 89 cover disc had a fatal flaw. All the programs bar one will be useful to me and lots of readers. The one very rotten apple is the Beast hack.

The excuse rendered is that Beast is too difficult. That may be so, but barely two months after its release you have hacked into it and released the hack nationwide. The timing is the worst part, I guess. I haven't touched it, though I've been tempted. I know it would ruin the game for me.

I wonder how the authors of Beast feel about this. I suppose in time they would release the trapdoors they no doubt built in to the game... but two months?

Considering that Beast is proba-

bly in the top three Amiga games the release of the hack was tactless and inconsiderate. To round off this with a smack in the face, your cover article just happened to be "Piracy - it's only a game" and the article slagged off those who spend their time breaking program security. Hardly a fitting compliment to Mr Justin G?

John Gold,  
University of Bath School of  
Mathematical Sciences.

*Who got out of bed the wrong side this morning? Well, the programmers of Beast are probably laughing to themselves because the version we had was from the first batch and they changed the program, which means that Justin's hack doesn't work with later white labelled discs.*

*The change was necessary because the protection stopped the game from loading on some Amigas. The competition to be first with hacks means that sometimes things get out too early.*

## Super Silica

I HAD to drop a line to let you readers know how good Silica Shop are. I'm disabled and bed-bound and use my Amiga A500 to play games mainly. When I had a faulty disc drive Silica Shop checked my discs and collected and changed my Amiga within 12 days.

I had a new mouse and Amiga they even upgraded my Workbench discs to V1.3. I think I must be brain dead, because I cannot for the life of me get Workbench 1.3.2 to

1090 will provide NPS MicroCobol version 2.1 on 720k format disc. To read this you need Dos to Dos which you can get from Amiga Centre Scotland 031-557 4242.

*Amiga Basic listings? try LLIST in the main listings. The world needs C programmers; you don't need formal qualifications to get a job, and I wouldn't say you are too old to become a trainee.*

*Zortech on 01-316 7777 does a video course; you'll need a VHS video and a PC compatible. It costs £230. The Instruction Set runs intensive courses. They are very good but pricey at more than £500. For more details call them on 01-251 2128.*

work. I keep on getting ram disc full.

Lastly I have a tip for your readers, don't let anyone borrow your half meg expansions no matter how good a friend, they move house without telling you. Mine did anyway.

Paul Simpson,  
Caxton, Derby.

*Your 1.3.2 upgrade should work with no problems. Make sure you boot from the cover disc and don't have any extra drives plugged in. You could send out a private eye to pick up the chap who had nicked your half meg I suppose.*

## Name trouble

ENCOURAGED to purchase an Amiga 2000, I have eventually weakened and done so. Please tell me I haven't done the wrong thing. I am well past the age of ever becoming a techie (37) but feel that this advanced age should not preclude me from the interest and enjoyment that I've previously experienced with a ZX81, Spectrum, BBC B and a PC1512.

The Amstrad introduced me to the delights of MSdos an operating system I had originally felt was designed to punish people but which I had finally grew to accept and even feel happy with. Having since been introduced to Workbench and CLI, I now miss it deeply.

I am sure your magazine will run and run if only by offering just one more CLI snippet to us poor guru crazed OAPs. Certain files



## IF AN ADVERT IS WRONG, WHO PUTS IT RIGHT?

We do. The Advertising Standards Authority ensures advertisements meet with the strict Code of Advertising Practice.

So if you question an advertiser, they have to answer to us.

To find out more about the ASA, please write to  
Advertising Standards Authority,  
Department X, Brook House,  
Torrington Place, London WC1E 7HN.



**This space is donated in the interests of high standards in advertisements.**

# The truth about TELEX

**PRICE CUT!**  
Telex charges on  
MicroLink are now  
20% cheaper than  
on Telecom Gold.

### **How much does it cost to go on Telex?**

You could go the conventional way and buy a dedicated Telex machine. The cheapest will cost you £1,604 (the Whisper), the dearest £2,892 (the Cheetah). You will also need a separate telephone line, costing £101 to install, plus £404 a year rental. That's a total outlay over the first year of a minimum of £2,109. [All prices include VAT.]  
Or you could do what more and more Amiga Computing users are doing — use your computer to double as a Telex machine. And just use your ordinary telephone!

### **How do I turn my Amiga into a Telex machine?**

All you need is a modem and appropriate communications software (see the advertisements in this issue), a telephone, and a subscription to MicroLink. Telex is just one of a growing number of services available to Amiga Computing users on MicroLink. With MicroLink you can also read the news as it happens, go teleshopping, create your own closed user group, send telemessages and electronic mail right round the world, download free programs directly into your micro... and much more.

### **But why use Telex?**

Because it's a standard means of instant communication between businesses. Today there are 150,000 Telex machines in use in Britain — and more than 2 million worldwide. Telex dramatically speeds up business communications — it's just as quick as using the phone but far more efficient, because you have a hard copy of every "conversation" for your records.

But there's a big bonus you get when you use MicroLink for Telex that the conventional way doesn't offer.

With MicroLink you don't HAVE to be in your office to send or receive Telex messages. You can just as easily use your computer at home (or even a portable). So now you can check whether there are any Telex messages waiting for you — anywhere, anytime. How's that for your business efficiency?

For details:  
Tel: 0527 64295 ext. 2497

# 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!



Under 6s



6-8 years



Over 8s

"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

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.

Prices from  
£9.95

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

# Send a FAX on your Amiga!

Now you can use an Amiga (or any other computer) to send correspondence in seconds to ANY of the many millions of fax machines in ANY part of the world.

And if you want you can send the same fax to up to 500 different addresses simultaneously.

All you need, in addition to your computer, are a telephone, a modem – and a subscription to MicroLink.

Fax is just another of the many new services now available on MicroLink, Britain's fastest-growing electronic mail provider.

**microLink** electronic mail and much, much more!

Details from 0527 28515  
Ext 2697

have names with spaces in them. "From Arnor Ltd" is an example. When I type this, the brute informs me that it can't find the file. It works fine from the Workbench by clicking on the icon.

Also tell me again I've got a great machine and that finally I'll be writing letters of praise rather than panic.

Dave Beard,  
Cheltenham, Glos.

*You haven't done the wrong thing. There. Feel better? CLI requires a lot of patience. Soon you will be typing strings of commands like a wizard with magic spells. You have already identified the solution to your problems. Quotes. Put "s around the From Arnor Ltd to run the program.*

## Watch the birdie

EVERY weekend I shoot a marriage movie. I am using my Amiga for titling. Since I'm a working professional, the results need to be just so. I'm just a beginner on my Amiga and I have a problem.

I managed to make animations, using Lights, Camera, Action to assemble my pictures and animations in one intro. But (I never liked but) after each animation I get a framework of lines around my picture.

Looks like a curtain and it is unwanted, so I don't like it. Is this an incompatibility problem between DPaint III animations and LCA? Or a NTSC-PAL problem? How can it be fixed?

Can you give me some idea what software to use, in order to get perfect intros: Is there a NTSC version of DPaint III? What I need is a program that can manipulate pictures and animations, that gives nice fades and wipes, and possibly even music.

One last question I'm thinking about buying a genlock and Digiview Gold. Can you tell me about how much this would cost, which would be most useful for intros and exactly what I can do with it.

Luc Depraetere,  
8690 Moorslede, Belgium.

*Lights, Camera, Action was a good when it first appeared, however it has been superseded and to be honest I don't know much about it.*

*Deluxe Video III is the newest and snaziest of the video packages. It does all you want, including sound. Your local dealer should be*

*able to get you a copy. If you have problems call Electronic Arts on 0753 49442.*

*It costs £80, if you are on a tighter budget Fantavision is great value for money at £40. In the UK this is sold by Domark who are on 01-780 2222.*

## Questions, questions

Why isn't there a PD section in your mag? How come you never print any of my letters? Why do companies like Datel advertise hardware like the "SP11 scanner/Printer/Photocopier" when they don't even sell it any more.

Please explain how a thermal printer works, as I've phoned up everywhere and no one can tell me the technical side of things.

Why don't you have a software house section every month, say write about how they started and what are their latest games out, including interviews. Thanks for reading this letter.

Neil Mansell,  
Canvey Island, Essex.

*'Cos most Amiga PD columns are mega-boring. When we found someone who could write knowledgeably and interestingly about Amiga PD he wrote a few articles and then fled the country.*

*Who said I never print your letters Neil? OK so I cut them into little pieces first. Datel think we are such nice people (and they are right) that they love spending money on advertising in Amiga Computing, and have to find something to fill the page with.*

*Thermal printers use special*

*paper or ribbons and burn the image on using an electric current. When the current goes through the paper it goes black. When it goes through the ribbon the wax ink melts and sticks to the paper.*

*Yes, a house call might make a good regular feature. I'll speak to TPTB.*

## It's a hamster

MIXING hobbies is fun and I want to connect my Amiga with an HF (shortwave) radio receiver and a suitable RTTY to ASCII converter to receive radio teletype press broadcasts.

A couple of problems have cropped up. Broadcasts run at 50 or 75 baud - Workbench only goes down to 110 baud. Would a buffer be required to receive this?

It's not just press broadcasts that are available, there's meteorology and merchant broadcasts to mention a couple. Would it be possible to run a story on the subject? I think it would make interesting reading.

I would like to know if anyone has tried using GLOBE on October's free disc using 180° for the latitude. For some reason the globe is drawn upside-down, must be for the Australian users!

VC Langley,  
CS Division, HQ Iberiant, BFPO.

*No worries. A chap called Geoff Browne from Devon is working on a suitable program called RATTY. It uses the parallel port and a sound sampler with special software. The program isn't ready yet but when it is you can be sure that Amiga Computing will be the first to let you know.*

## Fun boy four

RUNNING to the rescue of Cpl Eldson. In your November issue, who wanted to play Gauntlet II together with as many people as possible. I send this description of an interface that lets him do so.

*I strangely advise a tripple check of pin numbering and solder points before connecting his homework to the Amiga. Ignoring this point may have some permanent ill effects.*

Christer Bau Iarla Hergard,  
Nacka, Sweden.

Joysticks	Parallel-port	Joystick 4	Parallel-port
Pin 1	Pin 6	Pin 1	Pin 2
Pin 2	Pin 7	Pin 2	Pin 3
Pin 3	Pin 8	Pin 3	Pin 4
Pin 4	Pin 9	Pin 4	Pin 5
Pin 5	Pin 13	Pin 5	Pin 12
Pin 6	Pin 14 (+5v)	Pin 6	Pin 14 (+5v)
Pin 7	Pin 25 (GND)	Pin 7	Pin 25 (GND)
Pin 8		Pin 8	

## Point of view

WHY oh why print a letter announcing another groovy new crew man? They are going to churn out largely illegal, and definitely boring, demos. I wouldn't recommend diving in and out of hardware the way Jolyon does it. He uses bits of assumed 680x0 protocol, and bits of -C6xBase that aren't necessarily guaranteed to work in exactly the same way all the time (we have two copper pointers).

Matt Adams,  
Radlett, Herts

## An expert writes

JOLYON'S article about the blitter in the Jan 1990 issue was quite good. I'm glad to see British computer magazines covering such techie topics. I do have a few quibbles which I'd like to take up with you however.

The BTST instruction only works with byte quantities when used with memory addresses, but you assume that it is words, and only get away with it due to a bug in Devpac that doesn't notice your BTST #14,\$dff002 error. (Blit Check). Naturally, ArgAsm would have told you of this error.

If you were BTSTing any bits lower than 8 you would not have been saved by Devpac's bug.

I admire your brave examples of going low level to the hardware chips, but please please use Labels! In particular the ones Commodore supply such as BLTCONO or BLTSIZE. You mention them in your source but you don't use them in your programs very much. Please set a good example!

Some Amiga hardware registers are read-only and some are write-only registers. You must take note of this fact, and not read write-only registers. This messes up the bus, and potentially could cause annoyance to other hardware that was attached. It doesn't do the bus any good having a write only register read, as garbage gets on there for a few cycles.

At least two cases in your program use the CLR instruction to zero registers. This is a thing to avoid, since CLR does a Read-Modify-Write cycle, and as such is taboo (like the TAS instruction).

OK, it is the fault of the processor, but to Clear registers you must write explicit zeroes there. To save time you can MOVEQ #0,D0 then do a few MOVE.L D0s in a row. See



# *The dawn of a new age in electronic communications*

# MicroLink

*This autumn has seen a vast expansion in the number of services available on MicroLink – together with the opening of new telephone access points all over the UK. Today 98 per cent of subscribers can connect their computer to MicroLink at the cost of a local phone call. Find out more about what MicroLink offers by mailing the coupon below.*

Please send me  
more information  
about the services  
now available on  
MicroLink


Name \_\_\_\_\_  
Address \_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

**Find  
out  
all the  
facts . . .**

SEND TO: MicroLink, Europa House, Adlington Park, Adlington, Macclesfield SK10 4NP.

AMC3

**Phone enquiries:  
0527 64295  
Ext 2697**



**M**icroLink turns any make of computer, from the inexpensive home micro to the most sophisticated business machine, into a complete communication centre. It becomes a telex machine, a fax machine, an electronic mail terminal, a retrieval tool that lets you search out and store data from the world's leading electronic libraries. It gives you instant access to the credit status of every company in Britain. It keeps you up to date with all the latest news, sport and weather. It becomes a giant catalogue that lets you order goods directly from your keyboard. *And it is always in action – 24 hours a day, seven days a week.* Through MicroLink you can key into more than 1,200 business databases. And you can communicate directly with other services, from Britain's Telecom Gold to electronic mail networks all round the globe. And the cost? From as little as 25p a day.

What the NEW  
**MicroLink**  
also offers:

- Send a telex for 20% less than Telecom Gold
- Exchange mail with 100,000 users of the JANET network
- Global links with all leading electronic mail systems
- Fast, efficient and economical translation service in any language
- Error-free file transfer using Kermit, Xmodem or Ymodem protocols
- Local access points in 70 countries throughout the world

*PLUS the myriad of productivity tools and leisure facilities that have helped to make MicroLink the service it is today – from business advice to free downloaded software, from mortgage quotes to digitised satellite weather maps.*

the Amiga Hardware Reference Manual for more details.

Keep up the good work of teaching how to do low level programming on the Amiga, but please keep hardware legal, at least.

Jeremy San,  
Argonaut Software, Mill Hill,  
London.

*Jolyon replies: Thanks for your comments Jez. I apologise for using BTST #14 I only found out that it was an illegal instruction when I was reviewing your assembler, and it didn't work! Must remember in future that just because something works it doesn't mean it should.*

*As for the bit about the CLR.W of hardware registers, you are right again. I saw this documented for the first time in the new hardware reference manual, which I got after writing the article.*

*As for label names, I can always remember \$df102, \$df180 but can never remember what they stand for. Just because I don't like using them myself I suppose I should in future use all the proper labels. I tried to do it all like that with the source for my ZOWEE demo, but I must of slipped out of good habits back to my old ones.*

## The listener

PRO-SOUND Designer Gold won't play ball with sound as IFF instruments. To work properly with Aegis Sonix (v2), I save the sounds as five octave instruments, adding the extension .instr, but when loaded into Sonix there seems to be an element of hit and miss as to whether instruments play throughout the whole range. Upper keys often only play the lower octaves. Lower keys produce no sound at all.

Once in a while the instrument will load with all octaves in their proper place. The problem occurs with my own samples sounds or with the instrument on the Pro-sound disc.

Kevin McCullen,  
Camberly, Surrey.

*Since my musical talents stop short of a Rolf Harris stylophone I asked around. Jim Hawkins, who wrote the Opus music program, came up with this answer through Cix, the online service: Sonix assigns octaves to the instruments so you will need to tweak them in the synth section. I assume you are saving them and reloading them after Sonix has created the .ss file?*

## Hack attack

OUCH! I have just read the article No Harm Done in the December issue. I decided to write to you to set some things straight. I am in a new group called Digital Holography. We consist of a coder, musician and graphic artist (me). Although we probably won't do any actual cracking, you could class us as a hacking group.

You said demos were the modern irritation of computing, and that most were nothing more than a pretty picture, repetitive music and daff scrolling text.

This made me really annoyed. If they are so bad, then why is it that you have had them on the coverdisc for the last 3 months? Isn't this a little hypocritical?

You said that "crackers think you'll be impressed by 64,000 bobs on the screen. I'm not." Well some of us are! If you think that flashy coding is sensationalistic, then you should have a look at your front cover this month "17 sensational programs - no one gives you more".

You had great fun taking the

mickey out of hackers' names. Real names would be boring and wouldn't stay in people's minds. It is the same reason software houses have strange names (Bitmap Brothers, Electronic Arts etc). Nobody is going to buy a game by Joe Buggs Software Writing Company.

You claim demo writers do not cater for people who do not have a meg or extra drive. At least we do not sell demos. Look at game manufacturers, who do not cater for people with PAL systems, but sell the games. This is much more serious.

I think the article was right - crackers help the industry, by making more people buy hardware. It's also nice to see the soundtracker getting recognition. It knocks the socks off the commercial software.

What the article really missed was the fact that we only make demos for our own enjoyment. If people don't like them, then they don't have to copy them.

I'd like to be involved in writing games, but it's difficult to get into the industry, so I do the next best thing.

I am giving my real name because I have nothing to hide. People who write to magazines giving only pseudonyms only lower the image of hacking groups.

Mark Otway (alias Stylo),  
Chapperton, Middlesex.

## The right stuff

CAN I make an appeal through your letters page to anyone writing software for the Amiga please?

C'mon guz, give a little thought to compatibility before you rush your product on to the market. Just because it runs on your 512k A500 doesn't mean it'll run on your 3Mb B2000, or a machine with ECS, or for someone running morerows, or with a 68020 installed, or in the US where they have NTSC-sized screens.

Us Brits are getting a big slagging off on the various US networks because some of our major products don't work on their machines.

Is it really excusable that the

## You named that tune

IN the January issue Jeff asked you to name the song that the MusicBox program on the cover disc played. It sounded a bit like a Peter Gabriel tune here and a bit like a Dire Straits track there, and none of us in the office could quite place it.

A number of you rose to the challenge. Leon Stringer, Sandy Munro and Christopher Peel all wrote to say that it was from the Pan demo by the TSK Crew. This is certainly true, but where did it originate before that? Dummies! Clifford Williams and Adam Liddell reckon it came from the SoundFX music package. Which is really intelligent of them because MusicBox is a utility for playing SoundFX tunes. Sheesh!

Another very stupid person, who lives in Upminster, said it was from Sledgehammer by Peter Gabriel. Wonder what gave him or her that idea? I say him or her because he or she didn't sign his or her letter.

Kevin Twyman of Canterbury thought he'd hedge his bets and have two guesses - the beginning of Funeral for a Friend by Elton John and the end of Ride Across the River by Dire Straits. Wrong and wrong.

Andrew Gibbs of Basingstoke freaked us out by saying that was Truth Open Our Eyes by Marshall Jefferson from the Hip House album. Nice try, Andrew. Are there any more like you in Basingstoke?

The weirdest reply was from Mike Atter in Boston who tells us that his wife thinks it's Jesu Joy of Man's Desire. We had great difficulty in checking this one out, so it may very well be true for all we know.

Now, if you remember rightly, the rule of the competition was that you had to convince Jeff that you knew what you were talking about. Daniel Mata from Farnborough in Hampshire attempted just that:

*Dear Mr Walker, I have been instructed by Mr Mark Knopfler to initiate legal proceedings against you as a result of the breach of copyright regulations made on your January cover disc. Please refer to Mr Knopfler's classic Brothers in Arms and listen to the introduction to Ride Across the River carefully.*

*In order to convince you that this is not a flippant accusation by Mr Knopfler, please turn up the volume bloody loud and imagine it*

*a couple of octaves higher.*

*As Mr Knopfler's legal representative I have been authorised to say that formal proceedings will be made against you should adequate recompense not be forthcoming. Mr Knopfler has indicated that the two MusicBox discs will do nicely. Otherwise we'll see you in court, matey-boy.*

*Yours, etc.*

Nice one, Daniel. We think you're wrong, but we're sending you the MusicBox discs anyway for sending the wittyest letter and not because the editor thinks you're telling the truth about being Mr Knopfler's legal representative. (You aren't, are you?)

The correct answer, we think, is that the music was by Tangerine Dream and stolen from the soundtrack to the fantasy film Legend. Didn't any of you watch it? It was on over Christmas.

The only person to spot it was Peter Sapwell from Castleford who is sorry to say that he has no bribes or bootlegs. And I'm sorry to say that I've already given the MusicBox discs to Daniel Mata. Hard cheese, Peter, but that, as they say, is life.

AMIGA/ATARI/PC COMPATIBLE

# 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.

THE TIPSTER covers National Hunt and Flat Racing.

**TAM Marketing (S/West)**

**Dept AMC**

**7 GD UNITS**

**Marsh Barton Trading Estate**

**Exeter**

**DEVON EX2 8QW**

**Telephone: (0392) 215485**

# 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 information 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 screen dump.

**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 will also 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 its excellent value for money. Make sure you're always up to date, and get yours now from:-

**MICROTEXT**

Dept AG, 7 Birdlip Close, Horndean, Hants PO8 9PW

Tel: (0705) 595694

Fax: (0705) 593988



# ASHCOM

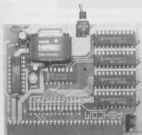


**0530 411485**

**ASHCOM RAM expansion  
without clock  
£73.95**

**24  
HOUR  
ANSWERING  
SERVICE**

**44C256-12  
DYNAMIC RAMS  
£10 inc. VAT  
each**



All prices include VAT and Delivery.  
British made. Trade Enquiries Welcome.  
Please make cheques & PO's payable to  
Ashcom

**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  
£79.95**

**Only from ASHCOM, 10 The Green, Ashby-De-La-Zouch, Leicestershire, LE6 5JU**

**Telephone: (0530) 411485**

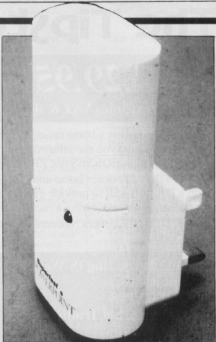
## Save on batteries!

For your personal stereo, radio or TV

You know  
how expensive  
it is to replace your  
batteries when they run  
down. Even with rechargeable  
batteries you still have to wait 14 hours  
for a full charge.

We have solved the problem with the unique  
superfast powerful battery and charger kit.  
This amazing device will completely charge four standard  
AA size rechargeable batteries in under 2 hours and each  
battery can be recharged at least 1,000 times.  
Further, for a limited period we can sell the charger and  
four rechargeable batteries at the staggeringly low cost of  
£19.95 (plus £1 p&p).

*It will pay for itself within weeks*



Place your order today, using the form on Page 113

SONIX Songs, with player/graphic screen  
Duetting, Electric Dream, Wonderful +  
Human Power, MindBreaker, Robocop +

SLIDESHOWS with background music  
Heroes' tune + 16 hi-res pictures  
Fantasy pictures by The Dark Lord

MUSIC at it's best, with graphics  
Ten original tunes, brilliant!  
Metromania, Sahara, Lonely + 3 others

INTRO'S and Demo's, some of the best  
O.G.D. PARTY!, EUROPE + 7 others  
TEARDROPS, MAGIC FIELD + 5 others  
COMBINATION, SUBWAY, WEAPON + 4

GREAT GAMES for you to play at home!  
COSMORIDS, ROLLERBALL, LADYB  
FLASCHBER - the game, brilliant  
LINGO, BALLY, NIGHTWORKS & YOUPI

SOME of the best ANIMATIONS around  
SPACE animation - needs 1meg RAM  
UGA and STAMP animations, good!  
RUNNING MAN, TURNING MAN, UGA  
HAPPY GUY, WINDOW, F15 MIRROR

SPECIAL disks in a special collection  
ZOUNDMONITOR, like ST but better  
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

Britains  
**No.1**  
PD &  
Shareware  
Service

official UK distributor

**UGA**

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

FULL of utilities you can't get elsewhere  
UTIL1 SinusCreator, Booscontrol, CLIWizard,  
UTIL2 Iconish, CRLoad, Mandelbrotom, Boonane  
UTIL3 Teapack, Showfont, Bootback, Diskcalc,  
UTIL9 TrackerX, Iconizer, SceneryMaker etc. etc.  
KickSaver, Terrainsculpt, StarEditor, BOMBEAL,  
Sonospeck, Flowripper, Linkiller etc. etc.

We stock over 50 of these fabulous UGA disks, all  
easy to use, menu driven and exclusive to us!

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

A 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

Unit 5, Strathfield Park, Electra Ave, Watlington, Hants PO7 7XN.

Ring for advice or to order on

0705 266509

Fax 0705 251884



**SOFTVILLE**

Welcome

VISA



► copy protection on Populous breaks on a machine with a 68020 installed? Commodore has set up a lab at Maidenhead with all sorts of different configuration machines available and which any of you can use, so c'mon guys, let's start to give UK software some cred eh?"

**Paul Ockenden,  
Brighton, Sussex.**

## I've been framed

One day, because I was feeling rich, I went out and upgraded my old A1000 to an Amiga 2000 with the hard disc controller that your magazine called "the best on the market". The Microbiotics Hardframe. It doesn't work. My Amiga is the latest one, revision 6.0 with the new Agnus chip, and yet when I switch on the hard disc won't auto-boot.

**Chris Moss,  
Bramhall, Stockport**

Erm, you don't have the latest A2000. Commodore discovered a problem with the bus timing on 6.0 machines and went to 6.1 and then 6.2 to solve this. It is not the fault of Microbiotics, contact Commodore at Maidenhead on 0628 770088 who will sort out the incompatibility for you.

While the UK policy has yet been sorted out indications from the US show that Commodore have been incredibly helpful towards owners with this problem.

## Steady telly

Forget games. My fave prog is DPaint, I'd like to use the 640 by 400 mode but can't stand the interlace shimmer. I've heard of a Flicker Fixer and want to know where I can get one and what it will cost.

**Peter White,  
Ludlow, Shropshire.**

Unless you have an Amiga 2000, forget the Flicker Fixer - it needs the video slot on the right of the big machine. This is a wonderful device which double-buffers screens and then displays them on a VGA type monitor. This means you need a very strong bank account.

The Flicker fixer costs £399 and a suitable monitor at least £300. If I haven't put you off contact Microway, designers of the device on 01-541 5466. Flicker is actually the wrong word, proper TV engineers use the term to mean a large

## Getting so much bigger

MEMORY expansion confuses me. I own a one meg A500 and would like to upgrade but don't know which is the best buy. George Thompson aka Mast offer an external cartridge up to 2 megs. Second, several companies offers cards up to 1.8 meg. Third, others offer boards up to 8 megs.

As memory expansion is an expensive business, could you answer the following questions: What is the difference between a card and a board, and where do they fit?

Ideally I would like another 2 meg, but I doubt if I can afford it in one go. Bearing this in mind, which type would you suggest?

At the moment, I don't see a need for a hard drive and I doubt if I ever will. But supposing I change my mind, could I take the memory chips and put them in the A590?

What does Auto-configure mean?

I have an external drive fitted which uses power from the computer. Presumably the memory expansion will also draw power from the computer. How much extra memory can I have without causing too much strain on the power pack?

I had considered another external drive (a pure luxury item I, admit), would the power pack cope with both drives and 2.5 meg

extra? The main reasons for this extra ram is to use with Dpaint III and to create a RAD: to copy my Workbench disc to. Any advice on the best type to use? I hope you can help me, as I said before, memory costs money and I want to make sure I spend my hard earned dosh wisely.

**Jon Campey,  
Brentford, Middlesex.**

Expansions come in three flavours. External, internal and A2000. The terms card and board are used interchangeably. An internal unit replaces the A501 you already have in the trapdoor under the computer.

This is the neatest solution, but means you can't use the half meg expansion. An expensive solution. A2000 expansions use the slots in the big Amiga. These can only be used with an A500 if you buy an expensive expansion box. There are technical problems with such expansions, so they are best avoided.

This leaves you with an external unit. It plugs on to the side of the Amiga and should pass the connector through so that you can add other peripherals. They are all much of a muckness, I'd recommend buying from a local dealer in case you have problems.

The MAST Minimegs (077-082

234) looks like a good bet. You can buy a small one and then send it back to be upgraded when you can afford more ram. Assuming it has a through connector, a hard drive can be added on; there is no need to take the chips out. The A590 uses expensive chips and it would not make sense to buy an expansion which took these just in case you wanted to upgrade.

Your power requirements depend on the types of drive and ram you are using. Commodore recommends that you only power a one meg machine and a single drive off the standard Amiga supply.

This is partly playing safe and partly because the Commodore external drive is very power-hungry.

It is usually safe to use two external drives if they have a low power rating. However two drives and lots of ram is pushing things a bit. If you want a third drive go for one with its own power supply.

When you add ram the computer needs to know what memory addresses to use. Two expansions in the same place would clash. This can either be done by running a special program or by having auto-configure circuitry on the expansion which looks to see which addresses are already used and chooses a free space for itself.

area of colour, erm, flickering. The term they use for what we suffer with an interlace picture is "twit-tering". There now you can use the real term and no one will understand you.

More practical solutions are a long persistence monitor which will blur whenever anything moves quickly on the screen, or to wait for the Enhanced Chip Set.

While the first of the two chips you'll need is already available, no dates for the availability of the second of the new chips have been announced. My guess is April.

It will need a multisync monitor, and some software (including DPaint) will have to be modified to take advantage of the new modes.

## Angry protest

HELLO, I am a co-sysop of one of the "infantile" bulletin board services which one of your writers indirectly categorised in the sup-

plement last month. I disagree with what you said.

Most bulletin boards are run totally FREE. You don't pay for anything, time on the board, entering messages, or for downloading files.

Most boards are run by amateurs for amateurs. We don't make any kind of living from it. OK?

If people don't like a bulletin board after using it once then they won't come back to it. This is what determines the success of a bulletin board, and NOT by some overpaid, slobbering hack writing articles. If a bulletin board, is no good it won't survive.

Computer hardware does not come cheap, but someone has to pay for a modem, a hard disc and the software running a BBS. None of my favourite bulletin boards have tried to force users to pay for their facilities.

If a donation is made (and people don't send money to boards which have no potential) then it

will be gratefully received. As far as I am concerned, there is no need to pay for the use of any bulletin board.

Those which charge a subscription are simply trying to exploit the many inexperienced users of computer communications which arrive on the scene.

The only other exception is when the sysop has to pay for a facility such as international net mailing where the sysop is charged for making use of a central international mailing point.

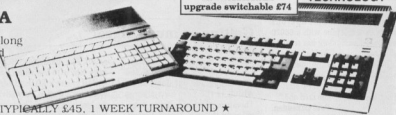
I hope the above has set you thinking a little about using bulletin boards, the ideal phrase being "you shouldn't look a gift horse in the mouth". Just because a BBS is free, that does not mean it isn't good. The users, and only the users, have the right to criticise a BBS and not some hopeless idiot who have no clue about the real world.

**Eric Cox,  
co-sysop, The Equaliser BBS**

# COMPUTER REPAIRS

## ATARI ST/AMIGA

Simply send your machine along with a £15 diagnostic fee and you will be sent a written quotation for the cost of repairing your machine.



**STOP PRESS:**  
A500 512K RAM  
upgrade switchable £74

**FIRST AID  
FOR  
TECHNOLOGY**

★ TYPICALLY £15, 1 WEEK TURNAROUND ★

**W.T.S. ELECTRONICS LTD, CHAUL END LANE, LUTON, BEDS LU4 8EZ**

**Tel: 0582 491949 (4 LINES). Fax: 0582 505900**

## A500's ★ £54.05 FIXED PRICE REPAIR ★ ST's

Includes parts, labour, full service and V.A.T.,  
12 month warranty, 7 day turnaround

(Subject to our terms of trade, copies available on request.)

All our engineers are fully experienced in 16 bit technology

**Don't risk damaging your ST.**

**Ask about our all inc. Ram and Drive Upgrades**

Repairs undertaken on Amiga 2000, Atari Mega ST, Printers,  
Monitors, V.D.U.'s etc. and most Business & Home Computers

**SHIELD COMPUTER SERVICES LTD**

50 Flixton Road, Urmston, Manchester M31 3AB

Tel: 061-747 3185 Fax: 061-747 0515

## 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 (AM3)  
KING AND QUEEN STREET  
WALWORTH, LONDON SE17 1DR

# AmigaTEX

AmigaTEX provides a powerful alternative in document preparation. It enables you to typeset complex or long documents, especially those of a technical nature such as user manuals or journal papers. It gives you true typeset quality with kerning, ligatures, full floating accents, mathematical and technical symbols and the ability to produce tables and special formats. AmigaTEX will accept input from any text editor or word processor and with its built-in screen previewer, a document formatter of mainframe power becomes available. Also included with AmigaTEX are LaTeX - a document formatter with dozens of preformed styles, SlrTEX - a slide generating macro, and BibTEX - a bibliography database program. AmigaTEX is fully file compatible with other versions of TEX.

Printer drivers are available for most printer types and the complete set of Computer Modern Fonts is included. A companion program METAFONT is available for those who wish to create new fonts or modify existing ones.

AmigaTEX is £125 and printer driver sets (laser series, Epson FX series, NEC P6 and Epson LQ series, HP DeskJet) are priced at £75 each. METAFONT is £50.

All prices include VAT and carriage.

Access and Visa accepted.

For further details and free demo disk write or call:

**THE TEXT FORMATTING COMPANY**

SUFFIELD WORKS, 1 SUFFIELD ROAD, LONDON N15 5JX  
TEL: 01-802 4470

??  
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 1LB  
(0533) 510066

# AMIGA SOUNDBLASTER



Everyone knows that the Amiga has excellent sound capabilities. Televisions and monitors do not produce hi-fi sound output, so until now it has been impossible to connect your Amiga to an amplifier to appreciate the sound quality. The Amiga SOUNDBLASTER is a small amplifier that comes complete with two high quality 50 watt 3-way speakers. It is easily connected to your Amiga and adds a new dimension to all your games.

#### The Amplifier

This unit has been designed and built in the UK specifically for use with the Amiga. It uses the latest microchip technology to produce a hefty 5 watt per channel of high quality sound. Twin volume controls allow both volume and balance to be set and a LED indicates that the unit is in operation. The amplifier connects to the Amiga via the monitor socket. It also has a through connector to allow the amplifier and a monitor to be plugged in together.

#### The Speakers

The speakers that come with the SOUNDBLASTER are 50 watt 3 way speakers and are contained in an attractive hi-fi enclosure. The speakers sound as superb as they look thanks to a powerful 3" woofer for all the low tones, a 2" mid-range speaker for all the middle notes and a tiny 1" tweeter for all the top of the scale tones. The speakers connect to the amplifier via 2.5M of cable.

AVAILABLE NOW ONLY £44.99 + £2 for postage

#### FREE STEREO HEADPHONES

We are giving away a pair of stereo headphones free with every SOUNDBLASTER for a limited period. These headphones plug into the SOUNDBLASTER allowing you to listen without disturbing the neighbours!

The SOUNDBLASTER package is completed with a mains adaptor to power the amplifier and full instructions.

Payment is accepted over the telephone with VISA & ACCESS cards or through the post by cheque, postal order, eurocheque, bank drafts etc.

#### Send to:

SIREN SOFTWARE, 84-86 PRINCESS STREET, MANCHESTER M1 6NG

## NEW NEW

## X-COPY II Version 2.1

## NEW NEW

X-COPY II is the ultimate disc duplication system for your Amiga. This superb program is not just a back up system, it also incorporates a full disc editing program.

Just look at its features:-

- ★ Adapts itself to any configuration
- ★ Mouse controlled
- ★ The most comprehensive back up tool available
- ★ Also backs up Atari ST, Archimedes, IBM and other discs

- ★ Checks discs for errors
- ★ Formats discs in 36 seconds
- ★ Optimises data, re-organises files for faster loading
- ★ Works with 1 or more disc drives
- ★ Full upgrade service

### X-COPY II IS THE BEST, GUARANTEED

OUR GUARANTEE:- At the time of purchase if you can find a program that is more powerful than X-COPY II, we will refund your money.

X-COPY II now available only £19.99 (plus £1.00 for postage)

X-COPY II HARDWARE VERSION available now only £29.99 (plus £1.00 for postage). The hardware version requires two disc drives.

Orders can be sent to our address below. Please enclose a cheque for the required amount and state your name, address and your order. Or telephone 061 228 1831 for immediate despatch with credit card orders.



SIREN SOFTWARE, 84-86 PRINCESS STREET, MANCHESTER M1 6NG  
TEL 061 228 1831



WARNING 1988 Copyright Act:-

Siren Software neither condones or authorises the use of its software for the reproduction of copyrighted material. The facilities offered by X-COPY are intended to back up users own software, PD software and other such programs where permission has been explicitly given.

It is illegal to make copies of copyright material with the permission of the copyright holder.



in association with

# INFOGRAMMES

## PRESENTS



### SIM CITY

You are in control of a city. Build the metropolis. Live your imperialist dreams. Can you rule for 100 years? The thinking man's Populous. **SAVE £5!**

RRP £29.99

OUR PRICE

**£24.99**



### DRAKKHEN

The fate of the world lies in your hands. Magic, animation and monsters add up to a game which no role-playing enthusiast should miss. **SAVE £5!**

RRP £29.99

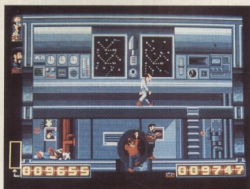
OUR PRICE

**£24.99**

# Buy both and save

# £15!

PLEASE USE THE ORDER FORM ON PAGE 113

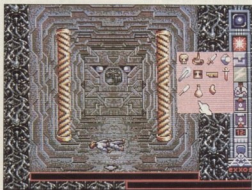


## TIN TIN

From cartoon to computer game with graphics to match. Help TinTin and friends on their quest to reach the moon. Snowy is on your side, but watch out for the evil Colonel Boris. Blistering Barnacles!

## SPECIAL SUBSCRIPTION OFFER

**Order either Tin Tin or Kult (but not both) for the stunning price of £4 – but only when you subscribe to Amiga Computing**



## KULT

Lively, colourful and challenging. The unexpected humour and puzzles promise many sleepless nights



# SUBSCRIPTION

## ORDER

### FORM

Valid to  
March 31, 1990

Please tick the  
appropriate box

Valid to  
March 31, 1990

Please tick the appropriate box

*Please register my subscription to  
Amiga Computing:*

## 12 MONTH SUBSCRIPTION

		New	Renewal
UK	£24.95	9568	9567
Europe & Eire	£34.95	9570	9571
Overseas Airmail	£49.95	9572	9573

## 24 MONTH SUBSCRIPTION

		New	Renewal
UK	£54.95	<input type="text"/> 9568	<input type="text"/> 9569
Europe & Eire	£63.95	<input type="text"/> 9574	<input type="text"/> 9575
Overseas Airmail	£91.95	<input type="text"/> 9576	<input type="text"/> 9577

Orders received by February 15  
will commence with April issue

***I would like to take advantage  
of ONE of your special offers:***

*Tin Tin*

£4.00 ☐ 944

or

## Kult

£4.00 ☐ 9449

Payment: please indicate method (✓)

Cheque/Eurocheque made payable to Database Publications Ltd

☐ Access/Mastercard/Eurocard/Barclaycard/Visa/Connect

No.

Expiry

Name \_\_\_\_\_

Signed \_\_\_\_\_

Address

Post Code \_\_\_\_\_

Daytime telephone number in case of queries

Send to: Database Direct, FREEPOST, Ellesmere Port,  
South Wirral L65 3EB (No stamp needed if posted in UK)

Order at any time of  
the day or night

Orders by phone: 051-357 1275

Don't forget to give your name, address and credit card number

Orders by Fax: 051-357 2813

Orders by MicroLink: MA0001

General Enquiries: 051-357 2961

**PLEASE USE THIS ORDER FORM**



## TURBOSOFT

Dept (Amiga Computing)  
41 South Street  
Leighton Buzzard  
Beds. LU7 8NT  
**MAIL ORDER ONLY**  
TEL 0525 377974  
FAX: 0525 852278

### NEW RELEASES HOT NEWS

Player Manager	£13.99
Wall Street	£14.99
Dr. Doom's Revenge	£11.99
Heart of Shadow	£11.99
Galaxy Force	£16.99
Turbo	£16.99
Calad	£16.99
European Super League	£13.99
Pool of Radiance	£19.99
Dragons of Flame	£16.99
Demonies	£16.99
Addes Golden Shoe	£16.99
U.M.S. II	£16.99
Unsubstantiated	£16.99
Bleat Warrior	£16.99
Commando	£16.99
Newsprint	£16.99
Onslaught	£16.99
Iron Land	£16.99
Stryx	£16.99
TV Sports Basketball	£13.99
Chess Strike Back	£16.99
Draxxon	£16.99
Fast Lane	£16.99
Magic Mansion	£16.99
Land N' Sea	£20.99
Manhattan in San Francisco	£16.99
Tin Tin on the Moon	£16.99
Turbo	£16.99
Vampire	£16.99
Barbarian II (Progressive)	£16.99
Neurocrusher	£16.99
Lost Planet	£16.99
Risk	£16.99
Cyberball	£13.99
Full Metal Planet	£16.99
World Walker	£14.99
First Contact	£16.99
Midwinter	£16.99
Rocks 'N' Roll	£13.99
Rainbow Islands	£16.99
Over Force	£16.99
Xenophobe	£16.99
Ph47 Thunderbolt	£13.99

### TOP 30 CHART

1. Hard Drive	£13.99
2. Continental Circus	£13.99
3. Shadow of the Beast	£23.99
4. I Came From The Desert (1 Meg)	£19.99
5. Pro Tennis Pro	£16.99
6. Xenon II	£16.99
7. Double Dragon II	£13.99
8. Start Car Racer	£16.99
9. Sift City	£19.99
10. F-20 Retaliator	£19.99
11. Altered Beast	£13.99
12. Chase HQ	£16.99
13. Beach Volley	£16.99
14. Space Ace	£26.99
15. Interphase	£16.99
16. Ghostbusters II	£16.99
17. Bomber	£19.99
18. Batman The Movie	£16.99
19. Omega	£19.99
20. F-16 Combat Pilot	£16.99
21. Gauntlet Super Soccer	£4.99
22. Ghosts 'n' Ghouls	£16.99
23. Turbo Outrun	£16.99
24. Operation Thunderbolt	£16.99
25. North and South	£16.99
26. F. Freddy's Big Top Fun	£16.99
27. Ninja Warriors	£13.99
28. Storm Lord	£13.99
29. Power Drift	£16.99
30. Future Wars	£26.99

### MAGNUM 4-ONLY £16.99

Operation Wolf, Double Dragon, Batman  
Caped Crusader, Afterburner

### COMPUTER HITS II-ONLY £8.99

Tetris, Backyard, Golden Path, Joe Blade

### PRECIOUS METAL-ONLY £15.99

Captain Blood, Xenon,  
Anroid II, Crazy Cars

### ART & SOUND

A Drum	£27.99
Big Band	£13.99
Icon Paint	£13.99
Studio 24	£13.99
Track 24	£39.99
Photon Paint II	£39.99
Deluxe Paint III	£39.99
Deluxe Video	£39.99
Deluxe Music Const. Set	£39.99
Arts Parts I	£7.50
Arts Parts II	£7.50
Trisplan Auto. Creator	£14.99
A.M.O.S.	£24.99
Fontavation	£26.99
Studio Magic	£26.99
Pro Sound Designer	£26.99

### TOP 30 SPECIALS

1. Alternate Reality	£6.99
2. Brian Clough's Football	£6.99
3. Strip Poker	£6.99
4. Football Manager II	£6.99
5. Kristal	£6.99
6. Time & Magic	£6.99
7. Padland	£7.99
8. Running Man	£7.99
9. Pacmania	£6.99
10. Tetris 2.2	£6.99
11. Roger Rabbit	£12.99
12. TV Sports Football	£12.99
13. Phobias	£6.99
14. Casino Roulette	£6.99
15. World Class Leaderboard	£6.99
16. Trivial Pursuit New Beginning	£7.99
17. Carrier Command	£6.99
18. Rastardis	£7.99
19. Shadowgate	£9.99
20. Peter Beardley's Soccer	£9.99
21. Entombed	£6.99
22. Rocket Ranger	£10.99
23. Sorcerer Lord	£6.99
24. Shuttle Puck Cafe	£9.99
25. Phobias	£6.99
26. Speedball	£10.99
27. Dragon Spirit	£9.99
28. Fernandez Must Die	£5.99
29. Bismark	£6.99
30. Hunt For Red October	£9.99

### PREMIER COLLECTION II-ONLY £16.99

Eliminator, Custodian, Backlash, Mercenary

### PREMIER COLLECTION-ONLY £12.99

Epsilon, Nebulus, Thunderbolt, Zyraps

### LIGHT FORCE-ONLY £16.99

Voyager, R-Type, Captain Caped Crusader, I.K.

### UTILITIES & BUSINESS

A-Max (Mac-Emulator)	£10.99
A-Max With 2.8K Rooms	£20.99
Devapack 2	£44.99
CPA Basic V.3	£27.99
CPA Basic V.2	£29.99
Hisoft Basic	£59.99
Advent V.4	£59.99
Letter C V.5	£164.99
Mavis Beacon's Typing	£19.99
Kindred V.2	£27.99

### EDUCATIONAL

Discover the Alphabet	£14.99
Discover Numbers	£14.99
Fun School 2 Under 6	£13.99
Fun School 2 6-8	£13.99
Fun School 2 8-10	£13.99

Please Note: Some titles may not be released.

\* These will be despatched within 24 hours of release, subject to availability.

Please make Cheques & Postal Orders payable to:

**TURBOSOFT**  
P&P in UK FREE  
elsewhere please add  
£2.00 per item.  
N.B. Please state make of  
computer when ordering

### CLASSIC COLLECTION

30 Pin	£13.99
Antares Ranger	£15.99
Batfred	£15.99
Colossus Chess X	£16.99
Hillside	£16.99
Kick Off Extra Time	£7.99
Dungeon Master (1 Meg)	£15.99
Master Master Editor	£9.99
Fight Simulator II	£26.99
Dragons Lair (1 Meg)	£26.99
Lords of the Rising Sun	£19.99
Lords of the Rising Sun	£19.99
Lonely Rally	£15.99
More Soccer	£9.99
Society Disc 7, 9 or 11	£13.99
Society Disc Japan or Europe	£13.99
Steel Dice Snooker	£13.99
War in Middle East	£13.99
Operation Wolf	£15.99
Warrior	£15.99
Snider	£24.99
King Quest Triple Pack	£24.99
Batfred	£16.99
Leisure Suit Larry I	£16.99
Leisure Suit Larry II	£16.99
Deluxe Scabbler	£24.99
Dragons Lair (1 Meg)	£26.99
Ban's Tale II	£16.99
Final Fantasy	£16.99
Grand Prix Circuit	£16.99
Kingdom of England	£13.99
Final Fantasy	£16.99
Sword of Sediton	£16.99
Urbane IV	£16.99
Jack MacKracken	£16.99
Manhattan in New York	£16.99
Rock Off	£16.99
New Zealand Story	£16.99
Kick Off	£16.99
Forgotten Worlds	£13.99
Rick Dangerous	£13.99
Bored Money	£13.99
Indy Jones Adventure	£16.99
Test Drive II	£16.99
Gunsling	£15.99
Lightning	£19.99
Balance of Power 1990	£16.99

## RAMSOFT

AMIGA & ST SPECIALIST

### A500 BAT PACK

A500, TV modulator, Joystick, 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: Ikar Wars, 6: Insanity  
Flight, 7: Mercenary Comp, 8: Terrapods,  
9: Thundercats, 10: Wizball

### R.S. PRICE! £379.00

Commodore 1084S £225.00  
Philips CM88331 £234.00  
ALL MONITORS INCLUDES LEADS!

### Class of 90s Now in stock Only £525.00

### MONITOR PACK

Buy any pack & we will offer a  
Philips CM8833  
For only £225.00 inc lead

### Universal Monitor stands Only £16.50

### PRINTERS

Star LC10 Mono £159.00  
Star LC10 Col £199.00

PRINTER RIBBONS.  
ALL MAKES AVAILABLE LOW PRICE  
EG: STAR LC-10 MONO £4.99

ALL OUR PRINTER PRICES ARE INCLUSIVE OF LEADS

NEC 1Meg 3.5" Ext. Drive, low power, throughput, slimline, ONLY £79.95  
MARCONI \* RB2-TRACKER BALL - ONLY £52.00  
TARGET RAM EXPANSION WITH CLOCK - ONLY £79.95

ACCESS  
VISA &  
STYLE  
WELCOM

Please note. All our prices include VAT & Courier delivery. All hardware items  
despatched within 24hrs. Dependant on availability & cheque clearance, prices subject  
to change without prior notice at any time. Personal calls welcome. We are open from  
09.00 - 17.30 Monday to Sat. Late night closing Friday 20.00 E & O.E.



## RAMSOFTS - BOOKSHOP

→ Amiga DOS Quick Reference (Abacus)	£9.95
→ Motorola 68000 Programmers Ref Man (Motorola)	£9.95
→ 1001 Things To Do With Your Amiga (Tab)	£9.95
→ Amiga for Beginners (Abacus)	£12.95
→ Kickstart Guide to the Amiga (Ariadne)	£12.95
→ Kids and the Amiga (Computer)	£12.95
→ Elementary Amiga BASIC (Computer)	£12.95
→ Amiga Machine Language (Abacus) (D)	£12.95
→ Amiga Programmers Guide (Computer)	£14.95
→ Amiga DOS Reference Guide (Computer)	£14.95
→ Amiga Applications (Computer) (D)	£14.95
→ First Book of the Amiga (Computer) (D)	£14.95
→ Amiga DOS - Inside & Out (Abacus) (D)	£16.95
→ Advanced Amiga BASIC (Computer) (D)	£16.95
→ Amiga Users Guide to Graphics, Sound, Telecom (Bartman)	£16.95
→ Becoming an Amiga Artist (Scott-Forrester - New)	£17.95
→ Amiga 3D Graphics Programming in BASIC (Abacus - NEW) (D)	£17.95
→ Amiga Machine lang Programming Guide (Computer) (D)	£17.95
→ Using Deluxe Paint II (Computer)	£17.95
→ Using Amiga C - Graphics on Amiga & Atari ST (Computer) (D)	£17.95
→ Amiga BASIC - Inside & Out (Abacus) (D)	£18.95
→ Amiga Microsoft BASIC Programmers Guide (Scott-Forrester)	£18.95
→ Inside the Amiga with C (Balm)	£18.95
→ Amiga DOS Manual (Bartman)	£22.95
→ Programming the 68000 (Sydex)	£22.95
→ Amiga Disk Drives - Inside & Out (Abacus) (D)	£24.95
→ Programmers Guide to the Amiga (Sydex)	£24.95
→ Amiga Programmers Handbook (Sydex)	£24.95
→ Amiga Programmers Handbook, Vol 2 (Sydex)	£24.95
→ Amiga ROM Kernel (Alan J. Man.) Includes & Autodocs (A.W. NEW)	£29.95
→ Amiga C for Advanced Programmers (Abacus - NEW)	£29.95
→ Amiga System Programmers Guide (Abacus) (D)	£29.95
→ Amiga Graphics Inside & Out (Abacus - New)	£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: £9.99  
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

# UNBEATABLE PRICES FROM MANSFIELD COMPUTERS

## BULK DISKS WITH 2 FOR 1 LIFETIME WARRANTY

### 3.5" DISKS & BOXES

10 3.5" D/S, D/D 135 TPI disks in white box .....	£8.30
25 3.5" D/S, D/D 135 TPI disks in 40 cap disk box .....	£22.95
40 3.5" D/S, D/D 135 TPI disks in 80 cap lockable box .....	£32.95
75 3.5" D/S, D/D 135 TPI disks in 80 cap lockable box .....	£54.95
10 3.5" High Density (2 meg) disks in white box .....	£16.95

### SPECIAL OFFER

When you purchase one of the above items why not treat yourself to our super accessories

De-lux Mouse Mat .....	£3.99
3.5" Head Cleaner .....	£1.99
100 Address Label 3/2" x 17/16" .....	£60p
50 3.5" Disk Labels .....	£50p
Mouse Holder .....	£1.99
1,000 Address Labels 3/2" x 17/16" .....	£4.50

### ATARI 520 ST

Memory upgrade - fitted ..... £84.99

A - B switch ..... £24.99

OR both together including return carriage ..... £99.99

Remember all disks are certified 100% error free and are supplied with full user sets. Plus our amazing 2 for 1 lifetime warranty

Send or phone your order to:

Mansfield Computers, 33 Albert Street, Mansfield, Notts. NG18 1EA.

Tel: 0623 31202/23043 Fax 0623 422968

All prices include VAT & Delivery in U.K.

24 hour answering service

After 6pm phone 0623 653512 and leave your order



TEL: 0983 79 496

<b>ACCOUNTS</b>			<b>Movie Setter</b>	51.98	<b>SOUND</b>		
Amiga Int. Accounts 1MB	129.95		Photo Paint 2 1MB	57.96	DeLuxe Music Const. Kit	50.90	
Desk Top Budget	34.95		Photo Paint 3 1MB	57.96	Instant Music	22.77	
Home Accounts	23.92		Scalpt 3D 1	99.82	Musix X (UK version)	179.86	
Personal Accounts	39.79		Scalpt 3D 2	99.82	Studio Music	49.91	
Personal Accounts Plus	79.90		Scalpt 3D 3D 1MB	359.82	<b>SPREADSHEETS</b>		
Personal Tax Planner	34.96		Scalpt 3D 4D 630 Junior	359.82	DGCALC	31.97	
Small Business Xtra 1MB	89.93		The Director	39.79	Masterplan 500	74.98	
Small Business Cash 1MB	54.97		Video Studio	69.93	Masterplan 1MB	61.97	
<b>BOOKS</b>			Video Studio II	69.93	VIP Professional (123)	69.92	
Phone call			<b>UTILITIES</b>				
<b>COMMUNICATIONS</b>			AmigaDOS Toolbox	39.79			
A Talk 3	64.86		Amiga Fax Backup	79.90			
885 PC	68.78		Alpha Macro Interpreter	34.86			
K Com 2	25.92		S.A.D. Disk Optimiser	31.57			
Ruby Comm (ViewTerm)	88.77		BBC Emulator	39.79			
<b>COMPUTER AIDED DESIGN</b>			Calligrapher Font Designer	44.86			
Design 3D 1MB	57.96		Disk Master Housekeeper	37.95			
Draw 2000	149.96		DOS 2 DOS File Transfer	29.90			
Professional Draw 1MB	99.82		Enhancer 1.3 SW Upgrade	14.77			
X Cad Designer 1MB	79.81		Face 2 Disk Caching Syst.	23.95			
X Cad Plot 1.5MB	339.94		Genie 3 Gnu Interpreter	79.90			
<b>DATABASE MANAGERS</b>			MAC 2 DOS File Transfer	29.90			
Acquisition	159.85		Masterpiece Fonts	129.95			
Data Retrieve Pro	179.86		Movie Beamer Typing	77.43			
Mailbird Plus	37.95		Masterpiece Workbench Utilities	12.77			
Micro Base	19.78		Project 2 Backup/Editor	31.95			
Microfile File	49.91		Superback 2	39.79			
Prodact	54.97		Virus Infect. Protection	34.96			
Race Horse Form Master	39.79		Wordperfect Library	88.09			
Superbase Personal	39.79		X Copy 2 Backup/Editor	17.94			
Superbase Professional	129.85		Your Family Tree Gen.	34.96			
Superbase Personal 2	62.79		<b>WORDPROCESSORS</b>				
Who What When Where	29.90		Kindwords 2	35.88			
<b>DESKTOP PUBLISHERS</b>			Microtext	19.79			
PageCenter	59.80		Outline Ideas Organizer	29.90			
PageStream 1MB	129.95		Pumpkin (NEW)	29.96			
Professional Page 1.5MB	174.80		Protest	64.96			
<b>EDITORS</b>			Scrubble (Platinum)	41.96			
CygnedEd Professional	59.80		Transcribe	29.96			
Elan Performer	44.85		Wordperfect	159.85			
Elan Performer 2	44.85						
Elan Performer 3	44.85						
Elan Performer 4	44.85						
Elan Performer 5	44.85						
Elan Performer 6	44.85						
Elan Performer 7	44.85						
Elan Performer 8	44.85						
Elan Performer 9	44.85						
Elan Performer 10	44.85						
Elan Performer 11	44.85						
Elan Performer 12	44.85						
Elan Performer 13	44.85						
Elan Performer 14	44.85						
Elan Performer 15	44.85						
Elan Performer 16	44.85						
Elan Performer 17	44.85						
Elan Performer 18	44.85						
Elan Performer 19	44.85						
Elan Performer 20	44.85						
Elan Performer 21	44.85						
Elan Performer 22	44.85						
Elan Performer 23	44.85						
Elan Performer 24	44.85						
Elan Performer 25	44.85						
Elan Performer 26	44.85						
Elan Performer 27	44.85						
Elan Performer 28	44.85						
Elan Performer 29	44.85						
Elan Performer 30	44.85						
Elan Performer 31	44.85						
Elan Performer 32	44.85						
Elan Performer 33	44.85						
Elan Performer 34	44.85						
Elan Performer 35	44.85						
Elan Performer 36	44.85						
Elan Performer 37	44.85						
Elan Performer 38	44.85						
Elan Performer 39	44.85						
Elan Performer 40	44.85						
Elan Performer 41	44.85						
Elan Performer 42	44.85						
Elan Performer 43	44.85						
Elan Performer 44	44.85						
Elan Performer 45	44.85						
Elan Performer 46	44.85						
Elan Performer 47	44.85						
Elan Performer 48	44.85						
Elan Performer 49	44.85						
Elan Performer 50	44.85						
Elan Performer 51	44.85						
Elan Performer 52	44.85						
Elan Performer 53	44.85						
Elan Performer 54	44.85						
Elan Performer 55	44.85						
Elan Performer 56	44.85						
Elan Performer 57	44.85						
Elan Performer 58	44.85						
Elan Performer 59	44.85						
Elan Performer 60	44.85						
Elan Performer 61	44.85						
Elan Performer 62	44.85						
Elan Performer 63	44.85						
Elan Performer 64	44.85						
Elan Performer 65	44.85						
Elan Performer 66	44.85						
Elan Performer 67	44.85						
Elan Performer 68	44.85						
Elan Performer 69	44.85						
Elan Performer 70	44.85						
Elan Performer 71	44.85						
Elan Performer 72	44.85						
Elan Performer 73	44.85						
Elan Performer 74	44.85						
Elan Performer 75	44.85						
Elan Performer 76	44.85						
Elan Performer 77	44.85						
Elan Performer 78	44.85						
Elan Performer 79	44.85						
Elan Performer 80	44.85						
Elan Performer 81	44.85						
Elan Performer 82	44.85						
Elan Performer 83	44.85						
Elan Performer 84	44.85						
Elan Performer 85	44.85						
Elan Performer 86	44.85						
Elan Performer 87	44.85						
Elan Performer 88	44.85						
Elan Performer 89	44.85						
Elan Performer 90	44.85						
Elan Performer 91	44.85						
Elan Performer 92	44.85						
Elan Performer 93	44.85						
Elan Performer 94	44.85						
Elan Performer 95	44.85						
Elan Performer 96	44.85						
Elan Performer 97	44.85						
Elan Performer 98	44.85						
Elan Performer 99	44.85						
Elan Performer 100	44.85						

Richard Howe & Angela Hammett

Applied Research Centre

Cove Farmhouse, Chase Green, Ventnor, PO38 1LA, U.K.

POSTAGE: UK Free. Europe £4/1000 grams. World £10/1000 grams

CHEQUES: London Sterling Payable to A.R.K. please

EXPORT & BFPD: Remove UK V.A.T. (+Price) 15%

V.A.T.: All prices include UK V.A.T. at 15%

PHONE: Monday to Saturday 9.30-6.30pm

DESPATCH: Within 48 hours

PRICES: Are subject to change

# NEW HI-TEK MONITOR FILTER

STOCK MODELS: COMMODORE 1081 : 1084S : PHILLIPS 8833 : 8854 : ATARI 520/1224  
ALL OTHER TYPES TO ORDER

- TOTALLY ELIMINATES MONITOR GLARE
- ENHANCES ON SCREEN COLOURS
- MAKES INTERLACE MODE TOTALLY VIABLE
- RESOLVES LONG EXPOSURE ADVERSE EFFECTS
- PROTECTS FROM R.S.I. (EYE STRAIN)
- INCREASES IMAGE SHARPNESS



MADE IN AUSTRALIA  
10 YEAR GUARANTEE

OUR HIGH QUALITY FILTER IS MADE FROM OPTICAL GRADE 3 MIL ACRYLIC SPECIALLY TINTED.  
ITS UNIQUE FILTERING QUALITIES HAVE BEEN EXTENSIVELY TESTED AND APPROVED BY  
AMIGA USER GROUPS, DOCTORS, HIGH SCHOOLS AND GOVERNMENT OFFICES.

LOW COMMUNITY SERVICE PRICE  
\$A 59.95 - £26 INC P&P

## HI-TEK EUROPE LTD.

CROWN SHIELD HOUSE, 143 ST LEONARDS ROAD, WINDSOR  
BERKSHIRE SL4 3DW, UK  
TEL: 0753 851269 or FAX 0753 850897  
Credit Card Orders Same Day Shipping

## AUSTRALIA-NEW ZEALAND OCEANIA HARRIS HI-TEK PTY LTD

P.O. BOX 112, ERINA N.S.W. 2250 AUSTRALIA  
TEL OR FAX 043 852051 / 02671 1856  
Credit Card Orders Same Day Shipping

"Can't wait?"

"OK go to Australia's top Computer Retailers".  
Harvey Norman Discounts.

MONITOR TYPE		PAYMENT: PLEASE INDICATE METHOD <input checked="" type="checkbox"/> PLEASE DEBIT MY CREDIT CARD	
VISA - MASTERCARD - BANKCARD			
OR		EXPIRY DATE	
U.K. & EUROPE		CHEQUES, P.O.'S, EUROCHEQUES, PLEASE MAKE PAYABLE TO: HI-TEK EUROPE LTD	
AUSTRALIA & N.Z. TO HARRIS HI-TEK PTY LTD.			
MR/MRS/MRS	SURNAME	INITIALS	SIGNATURE
ADDRESS		POST CODE	
TELEPHONE No. IN CASE OF QUERIES			

# Reader offers

SAVE £5

## Mavis Beacon Teaches Typing

Learn to type quickly, easily and perfectly – the fun way!

This is an artificial intelligence software system from the writers of Chessmaster 2000 – winner of the US Chess Federation Computer Chess Championship.

It checks your progress lesson by lesson, every step of the way, through a typing course tailored to your individual needs.

Mavis makes the learning fun when creating your lessons by selecting quotes from history's greatest writers, countless riddles, rhymes, jokes and hundreds of fascinating facts from the Guinness Book of World Records

If you feel your typing could be better, this is the ideal way to learn!

RRP £29.99  
OUR PRICE  
**£24.99**

## MiniGEN – Genlock

SAVE  
**£15**

The MiniGEN takes the output from your Amiga and combines it with an external source such as TV, video or camera, to give a rock-steady image

This is the ideal way to overlay titles or animation created with packages such as Zoetrope.

Once you've plugged in your Mini GEN you'll be well on the way to having your own professional Desktop Video system!

RRP £113.85  
OUR PRICE  
**£98.85**

## AMIGADOS: A Dabhand Guide

is a comprehensive guide to the Commodore Amiga's disc Operating System (Versions 1.2 and 1.3). It provides a unique perspective on this powerful system in a way which will be welcomed by the beginner and the experienced user alike.

Rather than simply reiterating the Amiga manual, this book takes a genuinely different approach to understanding and using the Amiga and contains a wealth of practical hands-on advice and hints and tips.

The many features of this book include:

- Full coverage of Amiga DOS 1.3 functions
- Filing with and without the Workbench
- The Amiga's hierarchical filing system
- Pathnames and Device names
- The Amiga's multitasking capabilities
- The AmigaDOS screen editor
- AmigaDOS commands
- Batch processing
- Amiga Error code descriptions
- How to create new systems discs
- Use of the RAM discs
- Using AmigaDOS with C

Amiga Computing approved reading



**£14.95**

## SAVE on batteries

For you personal stereo, radio or TV



You know how expensive it is to replace your batteries when they run down. Even with rechargeable batteries you still have to wait 14 hours for full charge. We have solved the problem with the unique superfast powerful battery and charger kit.

This amazing device will completely charge four standard AA size rechargeable batteries in under 2 hours and each battery can be recharged at least 1,000 times.

Further, for a limited period we can sell the charger and four rechargeable batteries at the staggering low cost of £19.95 (plus £1 p&p).

It will pay for itself within weeks!

## WordPerfect

SAVE  
**£50**

This is THE word processor for the Amiga. It features all the power and flexibility of the PC version, and is specially adapted to the strengths of the Amiga itself.

WordPerfect works the way you do. It can be controlled with either the mouse or function keys, and you can display up to five text columns, side by side on a screen.

Plus, all the extra features so often missing from other word processors are fully implemented – such as footnotes, endnotes, a thesaurus, spelling checker, mail merger, over 200 printers supported – and FREE

SUPPORT is available should you need it.

If you're in any way serious about word processing WordPerfect is the program you need. And with a £50 saving it represents exceptional value for money.

RRP £228.85  
OUR PRICE  
**£178.85**

SAVE £20

## Publishers' Choice

Whether you are designing a simple flyer, creating a newsletter, banners, posters, or even producing a magazine, Publisher's Choice offers a comprehensive solution to your Desktop Publishing and presentation requirements.

With the program you can easily combine text in a variety of styles, in multiple columns and with customised graphics. It comes with over 200 professionally designed images, and high quality 'Headline' fonts.

In fact, Publishers' Choice combines the Kindwords 2.0 wordprocessor, PageSetter 1.2 page composition package, Artists' Choice art program, and the Headline fontpack.

Because the Amiga is multi-tasking you can have all the programs working on the screen at the same time, or just use them individually as powerful stand-alone programs.

RRP £99.99  
OUR PRICE  
**£79.99**

## Watch TV on the move – SAVE yourself £20!



... with the unique CASIO Colour Pocket TV

Look what it offers:

- 2" HQM LCD colour screen
- Internal loudspeaker
- Volume control
- Brightness control
- Colour control
- Extensible aerial
- External aerial socket
- Earphone socket
- Automatic tuning
- External power supply socket
- Takes four standard AA size batteries
- 1 year guarantee

RRP  
£114.95  
OUR  
PRICE

**£94.95**

Plus £1.50 post and packing

Please note: The TV400 is tuned for UK PAL broadcasts. Therefore we can only accept orders from the UK.

SAVE £25

## SBA Xtra

SBA Xtra is designed for the many small businesses with both credit and cash customers, who need a system for providing quick lists of Debtors and Creditors and individual account histories, without the effort of keeping a complicated Sales and Purchase Ledger system.

Among its many features are:

- Profit and loss statements
- Day books
- Balance sheet
- VAT reports
- Trial Balance
- Account group reports
- Budgets
- Transaction listings by batch or account heading
- Full audit trail
- Constants on-screen update of cash position and profit figure

What the press say

"SBA Xtra is a winner in the low-cost accounting stakes." – What Personal Computer

"If you're running a small business, SBA Xtra should be just fine for you." – PC User

RRP 114.95  
OUR PRICE  
**£89.95**

TO ORDER  
PLEASE USE  
THE FORM  
ON PAGE 113

# EXCLUSIVE!

RRP £99.95  
OUR PRICE  
£79.95

# SAVE £20

## Just how good is Protext?

'...merely the best wordprocessor for the Amiga'

— Reviewed in  
Amiga Computing,  
January 1989

Protext is acknowledged by many as THE word processor for most home micros, and the Amiga version is no exception. What you get with Amiga Protext is a powerful workhorse with a proven track record. Plus a saving of £20 off the retail price of the new version 4!

### Press comments

"For power and value for money, I don't think that Protext can be beaten. It can be used as simply as you choose, or can handle the most complex mailmerge routines... in short, it can be what you want it to be". — **Micronet**

"Anyone with a professional interest in words is likely to find it pays dividends". — **PC Business World**

"It is a refreshing change to review an inexpensive WP package which lives up to every expectation". — **Which PC**

"Protext deserves to be the system by which all other word processors are judged". — **Your Computer**

"The great strength of the package is its ease of use". — **CPC Computing**

"Deserves very serious consideration". — **Amstrad Professional Computing**

### Some of Protext's features

- Automatic reformatting of text
- Page breaks shown during editing
- Can spell check as you type
- Over 75,000 word English dictionary
- Macro record mode
- Footnotes
- Menu driven configuration program
- Auto indent for program editing
- Line drawing
- Fast and flexible find and replace
- Powerful mailmerge facility
- Box mode for creating columns
- Edit two files at a time
- Keyboard or mouse operation

## Reader offers

### Keyboard dust cover (A500)

£4.95

Protect your Amiga with this top-quality

cover made from clear, water-resistant vinyl. It's bound with strong cotton and features the Amiga Computing logo.



### Binder

£5.95

Twelve rods hold your issues in place and keep them in pristine condition in this smart PVC binder.



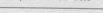
### Mouse mat £6.95

The perfect desktop environment for your mouse with its specially-designed, perfect-grip surface. It ensures much smoother movement, gives super-positive control and protects your table top from scratches.



### Disc storage box £4.95

This luxury padded box is the ideal storage medium, holding up to FIFTY 3.5" discs



## Need some extra discs?

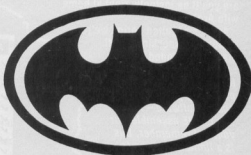
There's always a demand for spare Amiga discs – and at Amiga Computing we have lots we will be happy to sell off at a really exceptional price. They are all discs that have been prepared as monthly cover discs, but they are brand new and have never been used, so you can safely reformat them and use them for any purpose you like. Look at these prices:

5 for £7.50!

25 for £20!

# Pow!

Batman the Movie  
computer game at  
a knock-out price



# Only £14.95

Place your order NOW – this exceptional offer is only available whilst stocks last

## Home Accounts

## Day by Day

Home Accounts has been designed to make full use of the Amiga's features, giving you the widest range of home accounting facilities available at this price.

The program lets you set budgets and control up to 13 separate accounts, with optional printouts of any data. Within seconds of loading your data disc you can check your budget or any account, and even display or print the data in bar or pie charts.

Day by Day replaces your manual system for diary, business organiser, notepad, planner, reminder and so on.

It's suitable for both business and home applications, including numerous useful functions which serve every requirement.

It's suitable for both business and home applications, including numerous useful functions which serve every requirement.

Among its many features are:

- ★ Calendary/planner
- ★ Categories such as bills, birthdays and letters
- ★ Appointment sorting
- ★ 'Urgent' notice board
- ★ 'Overdue' notice board
- ★ Advance notice of forthcoming events

- ★ Updating of regular appointments
- ★ Comprehensive search facility
- ★ Automatic reminders
- ★ At-a-glance week and month summaries
- ★ Print option
- ★ Grouping of related messages

RRP £54.90  
OUR PRICE  
£34.90

SAVE  
£20

Both of these powerful programs are excellent value on their own, but if you buy this exclusive combination package we'll knock £20 off the combined retail price.

# ArgAsm

**Probably the fastest assembler ever for the Amiga!**

When you're developing software, the last thing you want is to hang around for ages while your assembler processes your code – when you could be getting on with further program development.

But now all that waiting's a thing of the past, because ArgAsm from Argonaut Software is a revolutionary machine code development system.

It assembles at an incredible rate of 250,000 lines a minute! – at least five times faster than anything else, and over 100 times faster than the original Commodore assembler – and it remains fully compatible.

What's more, ArgAsm is the first assembler to be compatible with all the three major assemblers; Assem, Devpac and Cape. So if you're looking to upgrade, the chances are you'll be instantly right at home with ArgAsm.

And for a limited period we're exclusively knocking £5 off the recommended price.

*If you're serious about producing professional quality software – fast, this is THE assembler for you. But remember, this is a limited offer, so to be sure of your copy place your order today.*

**Exclusive price for readers of**



**£54.95**

RRP £59.95

**SAVE £5!**

## ASSEMBLER

- ✓ Fast one-pass design
- ✓ Code limited only by memory
- ✓ Unlimited number of labels
- ✓ Long label names
- ✓ Unlimited macro nesting
- ✓ Unlimited include nesting
- ✓ Include binary data
- ✓ Extra-helpful error messages
- ✓ Instruction cycle timings
- ✓ Processor flag display

## EDITOR

- ✓ Multi tasking
- ✓ Full multi-file capability
- ✓ Unlimited split views of files
- ✓ Cut/paste between windows
- ✓ Insert/delete blocks etc.
- ✓ Full configuration facilities
- ✓ Save/restore environment
- ✓ Extremely fast text scrolling
- ✓ Fast page update rates
- ✓ Assemble from any window
- ✓ Works on Workbench screen

**Place your order today, using the form on Page 113**



Offers subject to availability  
All subscriptions include cover disc



# READER OFFERS

Valid to 31.3.90

## Back issues

September 1989-February 1990 bundle £17.00 9889

(Add £3 Europe & Eire / £12 Overseas)

* September 1989	£3.10	9715	<input type="checkbox"/>
* October 1989	£3.10	9716	<input type="checkbox"/>
* November 1989	£3.10	9717	<input type="checkbox"/>
* December 1989	£3.10	9718	<input type="checkbox"/>
* January 1990	£3.10	9719	<input type="checkbox"/>
* February 1990	£2.10	9720	<input type="checkbox"/>

\* Includes cover disc

Cover Discs August-January £9.00 9881 ☐

## Protext Version 4

(see page 111)

£79.95 9530 ☐

## Casio Pocket TV400 colour TV

(see page 76)

£94.95 9865 ☐

Plus post and packing £1.50 ☒

## Hi Soft

(see page 81)

Basic Compiler £89.95 9896 ☐

## Battery charger

(see page 152)

NEW

£19.95 9861 ☐

Plus post and packing £1.50 ☒

## Amiga DABhand Guide

(see pages 110-111)

A comprehensive guide to the Amiga's disc operating system (versions 1.2 and 1.3)

£14.95 9866 ☐

## Amiga cover discs

(see pages 110-111)

5 assorted discs £7.50 9887 ☐

25 assorted discs £20.00 9888 ☐

Send to: Database Direct, FREEPOST, Ellesmere Port, South Wirral L65 3EB

(No stamp needed if posted in UK)

Products are normally despatched within 48 hours of receipt but delivery of certain items could take up to 28 days

Order at any time of the day or night

Order by phone: 051-357 1275

Order by Fax: 051-357 2813

Don't forget to give your name, address and credit card number

Order by MicroLink: MAG001

General Enquiries: 051-357 2961

## Mail Order offers

(see page 110/111)

Publishers Choice	£79.99	9867	<input type="checkbox"/>
Mini-Gen	£96.85	9869	<input type="checkbox"/>
Word Perfect 4.1 version	178.85	9870	<input type="checkbox"/>
X-Cad	£89.85	9871	<input type="checkbox"/>
Small Business Accs Xtra	£89.95	9873	<input type="checkbox"/>
Mavis Beacon Typing	£24.99	9874	<input type="checkbox"/>
Home Accounts/Day by Day	£34.90	9851	<input type="checkbox"/>

## Sim City

(see page 106)

NEW

£24.99 9883 ☐

## Drakkhen

(see page 106)

NEW

£24.99 9884 ☐

## Sim City and Drakkhen

(see page 106)

NEW

£44.99 9885 ☐

## Batman - The Movie Game

(see page 111)

£19.99 9882 ☐

## Tank Attack

£19.99 9848 ☐

## ArgAsm

(see page 112)

£54.95 9858 ☐

## Dust covers

£4.95 9507 ☐

## Mouse mats

£4.95 9508 ☐

## Binders

£5.95 9509 ☐

## Disc boxes

£4.95 9860 ☐

Addition for postage: Europe & Eire add £3

Overseas add £5

Unless otherwise indicated

TOTAL

Payment: please indicate method (✓)

☐ Cheque/Eurocheque made payable to Database Direct

☐ Access/Mastercard/Eurocard/Bardicard/Visa/Connect

No.

Expiry Date

Name  Signed

Address

Post Code

Daytime telephone number in case of queries

AM3

## TWO WAYS TO ENSURE YOU GET



## EVERY MONTH

1. Complete and mail subscription form on Page 107.
2. Hand this form to your newsagent.

Please reserve me a copy of *Amiga Computing* magazine every month until further notice.

- ☐ I will collect  
☐ I would like it delivered to my home

Name:

Address:

Postcode:

Note to newsagent: *Amiga Computing* should be obtainable from your local wholesaler. If not, contact Circulation Manager on 0424 430422

**S**OME AmigaPhiles are getting very, very excited about Unix. To understand why means you have to know what it is and why the Amiga is special.

Unix is a very old operating system, one designed for minicomputers. But as micros have become more powerful they have proved themselves capable of running such software. You may think AmigaDos is big, defining a whole Workbench disc along with more code in the rom and other bits on the Extras disc. Unix is huge. It fills an 80 meg hard disc.

But why would anyone want to jump AmigaDos in favour of Unix? Well plenty of us wouldn't. However as computers get more complicated and users demand more from them, software needs to improve.

Some people - many of them within IBM - see Unix as the logical next step.

Even the standards are pretty well sorted out. The idea is that a Unix program written for any machine will run on any other Unix machine.

This should be very simple, easier than an ST-to-Amiga port. And

# So what is all this fuss about Unix?

with the next revision of Unix. Known as System V.4 (pronounced five-point-four), everything will be as simple as that. This is where the Amiga comes in.

Commodore is in the forefront of V.4 development. Only three companies have shown machines running V.4, all at a Unix exhibition in New York last November. One of them was Commodore. The other

two, AT&T and Sun, are long established as Unix users. AT&T owns the copyright.

While programs may be compatible, it would be much more useful if they looked the same on all machines. To this end a standard windowing system, much like Workbench, is used. Called X-Windows it means the programmer doesn't need to try every Unix machine to be sure that the results will be the same, and yet the program can take advantage of any special features a machine has. Like a blitter.

It is this which makes the Amiga a super way to provide Unix.

A standard Amiga can't do it, although there is a version of X-Windows which works with AmigaDos. Unix needs at least a 68020, and preferably a 68030. The go faster chips work with a memory management unit to look after multi-tasking.

When an AmigaDOS program crashes, all the other programs usually go with it. An MMU stops this. The program which crashes shuts down and the rest of the computer is free to carry on.

The machines destined to run

Unix are not current Amigas, although A2000s can be upgraded. Amiga Unix will be supplied for the A3000 and A3500 being launched in Germany soon. Using a Motorola 68030 at 16 or 25MHz depending on the model it will have a big and fast hard disc, be capable of taking a lot more ram than the 9 meg the current range is limited to, and mark the entry of Commodore into the world of top-flight computing.

So Unix is important to Commodore because it will allow it to sell a lot of very expensive machines into a new market. It is not very important to the traditional customer who has upgraded from a C64 to an Amiga 500. At least not yet.

Once upon a time 4,096 colours and even a mouse were things you only saw on the very best of workstations. Now they are common. We will see Unix, and faster more powerful Amigas in the home but not for a while.

Today's companies with deep pockets will finance our home computers of the mid 90s - and the Amiga will be there leading the way.



## COMPUTERWISE BRIGHTON

## AMIGA SPECIALISTS

WE HAVE 100s OF SOFTWARE TITLES (MANY ARE NOW  
DISCOUNTED), BOOKS  
AND PERIPHERALS IN STOCK AT ALL TIMES.  
CALL IN TODAY FOR YOURS

£1000 INSTANT CREDIT AVAILABLE  
TO PERSONAL CALLERS

 **0273 674626**

OPEN 10 AM TO 6 PM MONDAY TO SATURDAY  
44 GEORGE STREET, KEMPTOWN, BRIGHTON  
OPPOSITE THE AMERICAN EXPRESS BUILDING




## ADVERTISERS' INDEX

17 Bit Software.....	84	Infogrames.....	116
Accolade.....	25	KLR Electronics.....	68
Amigatex.....	104	Kritalis.....	115
Amiga User Group.....	104	Llamosoft.....	21
Applied Research Kernel.....	109	Manor Court Supplies.....	10
Armor.....	32	Mansfield Computers.....	109
Ashcom.....	101	M D Office Supplies.....	6
Byteback.....	69	Memory Expansion Systems.....	56
Castle Software.....	85	Microsnips.....	46
Calco Software.....	92	Microtext.....	101
Casual Computers.....	10	Midland Microsoft.....	80
CDS.....	57	Naksha.....	8
Club 68000.....	32	Overseas Media.....	3
Computer Bookshop.....	74	Power Computing.....	13
Computerwise.....	114	Ramssoft of Rochdale.....	108
CP Software.....	27	Rombo.....	66
Database Software.....	13, 88, 96	Sabre 16 Discount Centre.....	89
Datel Electronics.....	14-17	Shield Computer Services.....	104
Diamond Computers.....	30-31	Silica Shop.....	57
Digicom.....	41	Siren Software.....	105
Digipro.....	47	S K Marketing.....	39
Digitia International.....	73	Softmachine.....	84
Evesham Micros.....	87	Softsellers.....	55
First Micro.....	90	Softville PD.....	102
Fremlin Graphics.....	75	Special Reserve.....	64
Hampshire Micro Computers.....	96	T.A.M. Marketing.....	101
Harris Hi-Tek.....	109	Third Coast Technologies.....	81
Hi-Soft.....	65	Trilogic.....	46
Homebased Business.....	104	Turbosoft.....	105
HSV Computer Services.....	62	WTS Electronics.....	104

# MANCHESTER UNITED



## THE OFFICIAL COMPUTER GAME



1.5 MB OF GRAPHICS OF WHICH 480K USED TO CREATE THE MANCHESTER UNITED FOOTBALL CLUB STADIUM OVER 15 SCREENS.



### FEATURES INCLUDE:

1. FULL ARCADE GAME: PENALTIES, THROW-INS, CORNERS, FREE KICKS, ACTION REPLAY, SEE GOALS SCORED VIA REAL TIME DIGITISING, REFEREE AND LINESMEN.



2. MANAGEMENT GAME: FULLY ANIMATED ICON DRIVEN, TEAM SELECTION, INJURY LISTS, PLAYER STATUS, PLAYER TRAINING, MANAGEMENT REPORT, CUP DRAW WITH DIGITISED SPEECH FROM 5TH ROUND, TRANSFER MARKET, BUY AND SELL PLAYERS, LEAGUE TABLE.



**AVAILABLE NOW:** AMIGA AND ATARI ST.



**COMING SOON:** IBM PC, ARCHIMEDES, KONIX MULTI-SYSTEM, SPECTRUM (Cassette and Disk), CBM 64 (Cassette and Disk), AMSTRAD CPC (Cassette and Disk) and MSX (Cassette).

KRISALIS SOFTWARE, TEQUE HOUSE, MASON'S YARD, DOWNS ROW, MOORGATE, ROTHERHAM S60 2HD



SCREEN SHOTS  
FROM AMIGA  
VERSION.

**KRISALIS**  
SOFTWARE LTD.





## HAVE YOU THE RIGHT STUFF TO BE A FULL METAL PILOT ?

**F**ULL METAL PLANETE. 8:54 am. You will have to prove that you are the Cobra Steel Company's best pilot... Your mission : land your spaceship, get a maximum load of

spaceship bursting with ore. Under your command a whole steel armada : barges, attack boats, tanks (amongst them the famous T99 known as the "Big Heap"), transporter crabs and the unique "Weather Hen". This extraordinary machine, the technological pride and joy of Ludodelirium Motors & Co., is able to transform the ore into material. Not

get stuck or your tanks flooded in the next turn !



Free game piece enclosed !

It is imperative that you lift off before the Big Flood, announced for the 25th turn... Ground contact in 50 seconds. Welcome on Full Metal Planete ! Action, fights, strategy and diplomacy in a fantastic Sci-Fi world where up to 4 players (humans and robots) affront each other in a thrilling competition.

The computer plays not only the part of a referee but also



The FULL METAL PLANETE'S pack mule is the barge which can transport ore and vehicles.

offers you adversaries who are always available : 6 robot-players each having their own character, but they are all programmed for a sole aim : beating you !

Furthermore this game contains a graphic tool to create your company's blazon and strategical problems for you to solve in order to get trained. A superb adaptation of the board game in the style of the games created by the Cobra Soft team : Bertrand Brocard and Roland Morla.



In a previous campaign, this attack boat got stranded on a reef, now it is abandoned : "The ore goes first".

ore, disintegrate or get hold of the precious equipment of the rival companies and, if possible, capture their own



In the ultimate flood, though a turret is destroyed, this space-ship of the TATOU Consortium manages to lift off.



Isolated by the high tide, with its defenders neutralized, the "Delirium galaxy" may be your next victim.

only that, it also foreshadows the changing tides. On Full Metal Planete ignoring the rising tide means foolhardiness. How easily your attack boats could



A situation overview appears on the radar screen. Beware of threatening "Black Star" ! What about an alliance ?



Stuck in the mud ! This venturesome crab has been surprised by the flood and can only hope for the next low tide.

Available on ATARI ST & STE - AMIGA - PC COMPATIBLES

# INFOGRAVES

