

AMIGA

COMPUTING

January 91

Issue 32

£2.95

desktop video

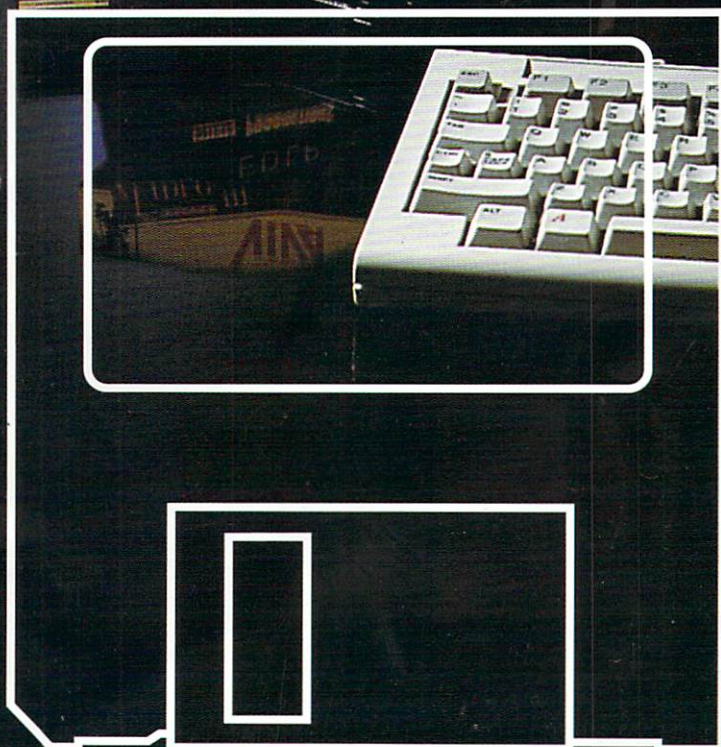
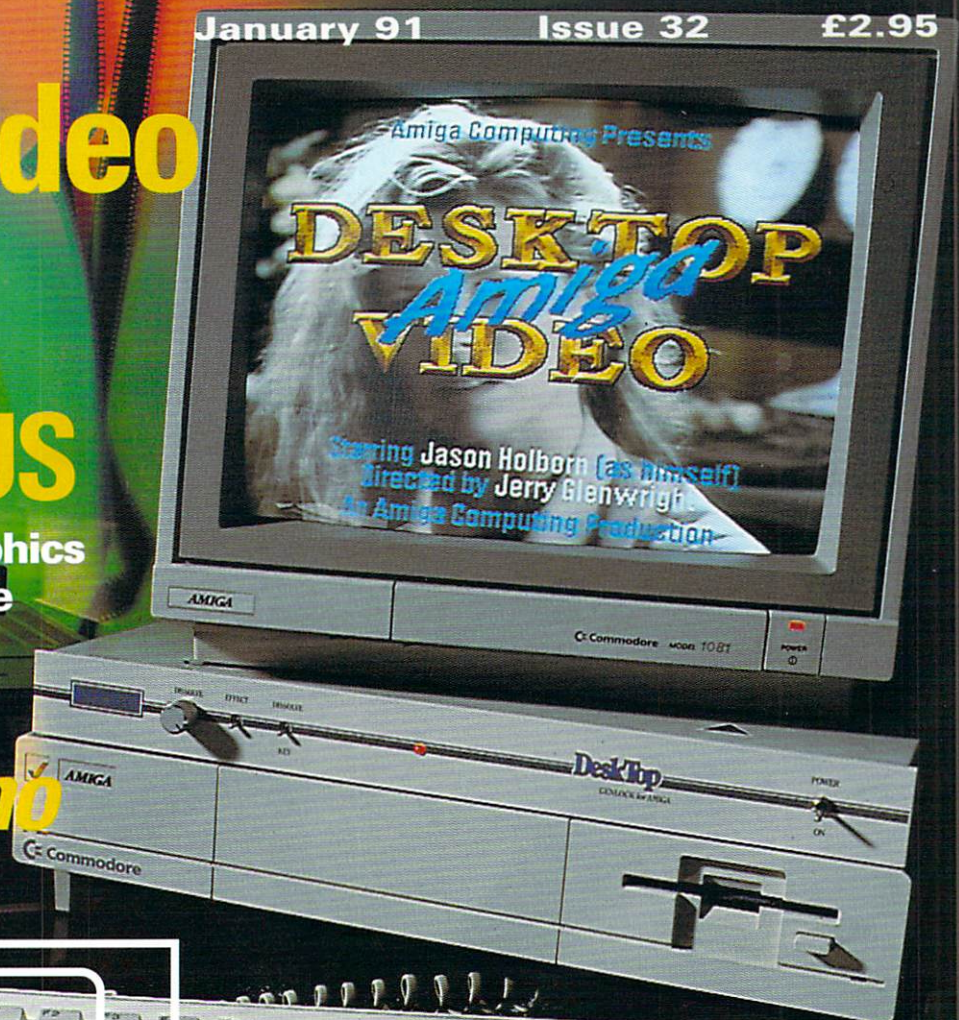
a trio of genlocks
taken to task

Graphics-R-US

we turn the camera on graphics
supremos. *Alternative Image*

Commodore's Christmas beano

full report and pics



PUBLIC DOMAIN

Shown below is just a selection from over 500 PD titles, carefully chosen for their quality content...and all at Exceptional Prices. Phone for listings NOW! Everything from Demo's to full blown programmes...OUR 'sets' are unique and at BARGAIN PRICES!

'TOP 10' DISKS Shown in this mag.

PHONE NOW FOR FULL LISTINGS! **£9.00**

GAMES SET 1 5 Disk Set

RISK, MONOPOLY, TETRIS, 2 x 10 FANTASTIC GAMES DISKS...23 GREAT GAMES! **£4.95**

GAMES SET 2 5 Disk Set

STAR TREK 1&2, COLOSSAL WORLD ADVENTURE, BATTLEFORCE, TENNIS, MORIA **£4.95**

TOP 5 DEMO's 5 Disk Set

Updated Daily **£4.95**

UTILITIES SET 5 Disk Set

MESSY DOS, POWER PACKER, VIRUS KILLER, EUROPA DISK, ARP (Brilliant!) **£4.95**

BUSINESS PACK 5 Disk Set

BANK, SPREADSHEET, DATABASE, WORDWRIGHT + AMIGA SPELL + CLERK **£4.95**

MUSIC PROGRAMS 5 Disk Set

GAMES MUSIC CREATOR, SOUNDTRACKER (All Vers), OKTALIZER (6 Channels), NOISETRACKER V2 (Midi Compatible) M. E. D. **£4.95**
Highly Recommended!

MUSIC SAMPLE FILES (FOR ABOVE) 99p Ea.

GRAPHICS 5 Disk Set

MANDELBROT MOUNTAINS, MANDELBROT SHOW, GRAPHICS UTILITY DISK, VIDEO APPLICATIONS DISKS 1 & 2, Progs for the Graphics Enthusiast **£4.95**

ANIMATION SET 5 Disk Set

SOOT, SPACE CHASE (Great!), STEALTHLY 2, STAR TREK MANOEUVRES, THE RUN **£4.95**

OLD FAVOURITES 5 Disk Set

PUGGS IN SPACE, SPACE ACE, FLASH DIGI CONCERT 3, RED SECTOR MEGA DEMO 1 & 2 **£4.95**

LANGUAGE 5 Disk Set

NORTH C, SOZABON C, PASCAL COMPILER, C UTILITY DISK, VC + A68K ASSEMBLER **£4.95**

EDUCATION 1 to 5 5 Disk Set

The Best selling education around **£4.95**
Learn & Play 1-2 (under 7's) **99p Ea**

TRACK

COMPUTER SYSTEMS

'THE TRACK EXPERIENCE'

Try the 'Track Experience' TODAY and enjoy your purchase TOMORROW. Our superb back-up will see to that!

Experience the unique professionalism from the most famous team in the country. It goes without saying our advice is useful; AND IT'S FREE!



THE ENGINE DRIVER
Chris Harvey.



THE LINE GANG
Phone...Marlin Galloway, Ian Lane, or Allen Hughes.

A500 AMIGA

SCREENGEMS
Std. Amiga A500 with some Great New Software...

BACK TO THE FUTURE II, BEAST II, DAYS OF THUNDER, NIGHTBREED, DELUXE PAINT II, PLUS AMAZING 20 GAME PACK!

Great Value Only... **£369**

SCREENGEMS TRACKPAK
As above but with a TRACKPAK exclusive to Track Computers...YOU get EXTRA VALUE!

BACK TO THE FUTURE II, BEAST II, DAYS OF THUNDER, NIGHTBREED, DELUXE PAINT II, 20 GAME PACK

1-Disk Storage Box, 1-Mouse Mat, 1-Joystick, 1-Dust Cover, 5-PD Disks*, 5 Blank Disks, Free Track Membership

£389

Exclusive Track Value!

1Mb A500 AMIGA

SCREENGEMS
Std. Amiga A500 with some Great New Software (Screenem pack shown above) + 0.5Mb. upgrade to a full 1Mb.

1Mb Power at only... **£399**

Add a 'Trackpak' for only **£20!**

A500 AMIGA SOFTWARE/ACCESSORIES

At TRULY FANTASTIC prices...from Track

SUPERBASE PERSONAL (rrp £59.95) **£15.00**
SUPERBASE II (rrp £99.95) **£29.95**
SUPERBASE PROFESSIONAL & SUPERPLAN (rrp £350.00) **£149.95**
BBC TRANSFER UTILITY A Real Translation Program to get those BBC files to an Amiga, complete with cable to link both machines together. **£24.95**
TRACK BBC TRANSFER UTILITY + BBC EMULATOR S/W **£49.95**

512K MEMORY UPGRADE Track Scoop Purchase **£44.95**

OVER 2000

Amiga products always on stock AT LOW LOW PRICES PHONE US NOW!

Phone our Fast Order Line using your Access, Visa or Lombard Charge Cards or send us a Cheque/Postal Order with your order details.

Credit terms are available to customers over 18 (subject to status), just phone for written details & an application form. Requests for credit are required in advance and are available to UK Mainland residents only. APR 36.8% (Variable)

Postal delivery and VAT are included in the prices shown, but Next Working Day courier service is available at an additional cost of £7.50/large item (UK Mainland Only) All goods are despatched same day payment is confirmed, but note cheques need bank clearance before goods can be despatched.

We are officially appointed agents for TDL's extended warranty scheme which can be purchased either for new or older computer products for periods of one year or more. Phone us now for details and prices!

TDL
EXTENDED WARRANTY
Approved Agents

0332 41817

TRACK COMPUTER SYSTEMS

Department ACO/FP3
Blacksmiths Yard
Sadler Gate Derby DE1 3PD
Telephone: (0332) 41817
FAX No: (0332) 44001



VISIT OUR SHOP IN DERBY...
Open Mon to Sat 9am to 6pm
Thurs to 9.30pm

OVERSEAS MEDIA DISTRIBUTORS LTD

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

TEL: (0533) 313188 FAX: (0533) 873999



OVERSEAS MEDIA DISTRIBUTORS LTD

MINIMUM ORDER VALUE £12.50

3 1/2" DISKS

		25	50	100	200
D6010	OMD 3 1/2" DSDD 135TPI	£19.50	£33.50	£59.50	£115.00
D0110	SONY (UNBRANDED) 3 1/2" DSDD 135TPI	£10.50	£34.50	£60.50	£119.00

****BUY 100 UNBRANDED SONY DISKS & GET A FREE 100 CAPACITY STORAGE SYSTEM - WORTH £9.90****

3 1/2" DISK STORAGE SYSTEMS



A0023	50 CAPACITY	£7.90
A0053	100 CAPACITY	£9.90
A0063	120 CAPACITY	£10.90

****BUY 5 DISK STORAGE SYSTEMS & GET 1 FREE!****

ACCESSORIES

COLOUR SCREEN FILTER
FOR 14" MONITOR

A1101 £16.50

MICE

NAKSHA suitable for
Amiga & Atari

X2009 £34.00

EXTERNAL DISK DRIVES

X1110	3 1/2" AMIGA, D/SIDED	£79.00
X1112	5 1/4" AMIGA, D/SIDED, 40/80T	£125.00
X1100	3 1/2" ATARI, D/SIDED	£85.00
X1102	5 1/4" ATARI, D/SIDED, 40/80T	£125.00

AMIGA HI-RES.
REPLACEMENT MOUSE

X2006 £24.50

ATARI HI-RES.
REPLACEMENT MOUSE

X2005 £24.50

PRICES FULLY INCLUSIVE OF VAT & DELIVERY (UK MAINLAND ONLY)

COPY HOLDERS



Desk Top
Ref. A0301
£7.90
With
adjustable arm
80 Column
Ref. A0302
£13.50
132 Column
Ref. A0303
£19.50

A copy
holder that
can hold
a book

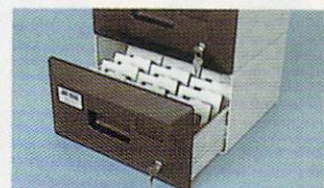
A0300
£12.50



NEW

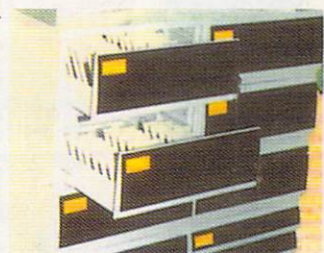
STACKABLE DISK STORAGE SYSTEMS

- STACKABLE • LOCKABLE
- IMPACT RESISTANT



3 1/2" 150 CAP Ref. A0084
5 1/4" 180 CAP Ref. A0194

£24.50



3 1/2" 220 CAP. Ref. A0085
5 1/4" 260 CAP. Ref. A0195

£32.50

MONITOR STAND

HOLDS 14" MONITOR £14.50



Ref. A0701 All monitor stands
revolve 360° and tilt up to 25°

£2.50 DISCOUNT

(OR VOUCHERS)
FOR EVERY £20.00 SPENT
ON OMD DISKS



SONY

- BRANDED DISKS
- BOXED IN 10's
- 3 1/2" DSDD

D5110 £9.90

Prices valid for any quantity!
(Boxes cannot be split)

SPECIAL
ELECTRIFYING
OFFERS FROM
OMD

H0000 STAR LC10 (MONO)
PRINTER

£158.00 (£137.39 Ex. VAT)

H0202 PANASONIC KXP 1124 PRINTER

£250.00 (£217.39 Ex. VAT)

INCLUDES FREE PARALLEL PRINTER CABLE!

Naksha MOUSE

280 dpi • suitable for Amiga, Atari & Amstrad
Includes: • Mouse Pad • Mouse Pocket

X2009 ONLY £34.00

PRINTERS

star

H0000 LC10 (MONO)	£158.00
H0009 LC10 MK II	£195.00
H0001 LC10 (COLOUR)	£205.00
H0002 LC24-10	£245.00

CITIZEN

H0100 CITIZEN 120D+	£139.00
H0101 SWIFT 24	£320.00
X0900 SWIFT 24 COLOUR KIT	£38.00
H0102 PRODOT 9	£375.00

Panasonic

H0200 KXP 1081	£155.00
H0201 KXP 1180	£170.00
H0202 KXP 1124	£250.00

ALL PRINTERS INCLUDE A FREE PARALLEL PRINTER CABLE.
REMEMBER ALL OUR PRINTER PRICES INCLUDE VAT & DELIVERY.

PRINTER RIBBONS

R4820 AMSTRAD DMP2000	£2.75
R4260 AMSTRAD DMP4000	£4.50
R4880 CITIZEN 120D	£4.25
R4770 EPSON LQ 500/800	£3.90
R4540 EPSON LX80	£2.90
R2730 EPSON MX80	£2.90
R8440 NEC P2200	£4.50
R2280 PANASONIC KXP 1081	£4.50
R9040 PANASONIC KXP1124	£4.90
R8610 STAR LC10	£3.90
R8696 STAR LC10 COLOUR ORIG.	£7.90
R8680 STAR LC24-10	£4.50

Ribbons available for many other
printers, please call for details.

PRINTER STAND

SPACE
SAVER

Made of moulded
plastic.
Feeds and refolds paper
underneath the printer.
Takes up hardly more
space than the printer
itself.



YUS-25A for 80 col. printer. Ref. A0203 £32.50
YUS-25B for 130 col. printer. Ref. A0204 £34.50

PRINTER BUFFER

A simple low cost solution to increase
the size of your printer's buffer.

X0200 £76.00

MANUAL DATA SWITCHES



All metal case with rotary switches.

	Ref.	36pin.	Ref.	25pin
2 way	X0001	£17.50	X0011	£16.50
4 way	X0003	£22.50	X0013	£21.50
X way	X0004	£24.50	X0014	£23.50

DUST COVERS

C0102 Amiga A500	£5.50
C0108 Atari 520 STFM	£5.50
Printer 80 column*	£4.50

Please specify which printer you have.

CABLES

A0801 25 Male/36 Male	£7.50
A0804 25 Male/25 Male	£8.50
A0805 25 Male/25 Female	£8.50
A0806 36 Male/36 Male	£8.50

All cables are 2 metre.
Longer lengths available on request.

HOW TO ORDER IMPORTANT PLEASE REMEMBER TO QUOTE THE REFERENCE NUMBER,
WHERE AVAILABLE, OF THE ITEM(S) THAT YOU WISH TO ORDER.

ALSO PLEASE QUOTE THE PRICE OF THE ITEM, ESPECIALLY IF IT IS ONE OF OUR SPECIAL OFFERS.

PAYMENT TERMS: *CHEQUE: Please make cheques payable to OMD Ltd. and send them to
the address above. Please allow 3 days for cheques to clear.

*CREDIT CARD: We accept Access & Visa Credit Cards. To place your order please
telephone on (0533) 313188. Please allow up to 5 working days for delivery.

NEXT WORKING DAY DELIVERY SERVICE AVAILABLE FOR £3.75
EDUCATIONAL DISCOUNTS AVAILABLE. PLEASE CALL FOR DETAILS.

ALL PRICES INCLUDE VAT & DELIVERY (UK, MAINLAND ONLY)



52 PAGE FULLY ILLUSTRATED CATALOGUE NOW AVAILABLE - CALL NOW FOR YOUR COPY



This month's cover feature is all about desktop video, the process of mixing your favourite video images with Amiga-generated displays to provide a stunning visual extravaganza. What you need, where to go, what to do, it's all there starting on page 17

WHO'S WHO

MANAGING EDITOR: Derek Meakin
STAFF WRITERS: Paul Austin, Stevie Kennedy
PRODUCTION EDITOR: Peter Glover
ART EDITOR: Terry Thiele
ADVERTISEMENT MANAGER: John Snowdon
ADVERTISING SALES: Tracy Carroll

PUBLISHED BY: Interactive Publishing Ltd
 Europa House, Adlington Park, Adlington,
 Macclesfield SK10 4NP.

CHAIRMAN: Derek Meakin
MANAGING DIRECTOR: Hugh Gollner
COMMERCIAL DIRECTOR: David Hirst

Editorial: 0625 878888 **Advertising:** 0625 878888
Subscriptions: 051 357 2961 Fax: 0625 879966

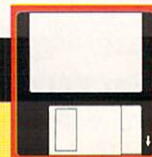
Amiga Computing welcomes articles for publication. Material should be sent on Amiga readable floppy disk. The return of material cannot be guaranteed. Contributions can only be accepted for publication by Interactive Publishing Ltd on an all-rights basis.

© 1990 Interactive Publishing Ltd. No material may be reproduced in whole or in part without written permission (that means you smooty). 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 (U.K.) Ltd is not responsible for any of the opinions expressed.

News trade distribution: Comag (0895-444055)

THE DISK



The disk that leaves all others with their electro-magnetic heads bowed. Every month, we present some of the best free software around and this month's no exception!

To begin with, we've got some fantastic network software which enables you to connect two or more Amigas and share programs and data between them. There's an unreal automatic telephone dialler and, following our visit to graphics supremos Alternative Image, a truly outstanding animated demo of a revolving computer-generated head that will leave you breathless. All this and a catchy revamp of an old favourite Christmas singalong - tune in and dance!

CONTENTS

REGULARS

AMIGApeople

All that's new and innovative from the world of Amiga computing6

Public Domain

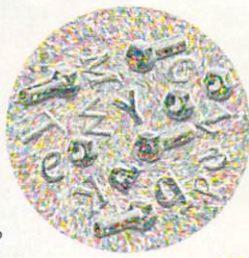
Stewart C Russell looks at some corking software and gets it free, gratis and for nuthin'193

Dispatches

Where you tell us what you think about life, the Universe and everything123

Technical Help

Computer cracking up? Printer all out of puff? Check out our technical help139



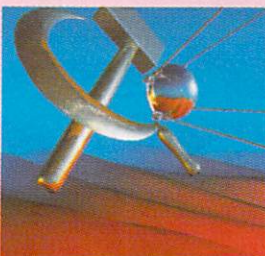
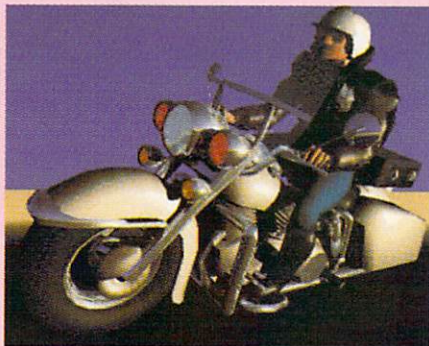
GAMES

The latest and best in the world of electronic entertainment (and you don't need batteries). James Pond, Betrayal, Battle Command, Days of Thunder, Indie 500 and much, much more37

GALLERY

And now, a visual treat in the shape of some of the best graphics we've ever seen in the long years of the Gallery.

Strong colour, brilliant composition and an incredible eye for detail. Turn to page 102 now



REVIEWS

Chamaleon

Strange spelling sure, but there's nothing wrong with the ST emulation provided by this baby61

Prodata

The latest addition to Arnor's successful business range of software80

Protex V5

The other to Arnor's business twins. Protex V5 is the latest incarnation of the popular word processor90



ColourPic

JCL's comprehensive video digitiser put through its silicon paces106

ATonce

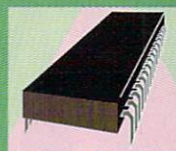
The powerful PC-AT emulator. Does it live up to its poower claims? Find out on page115

ALMANAC

Something for everyone, every month in Almanac

MACHINE CODE

.....127



CODE CLINIC

.....129



MUSIC

.....131



COMMUNICATIONS

.....133



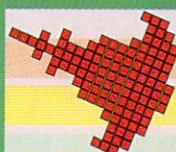
DESKTOP PUBLISHING

.....135



AMOS

.....137

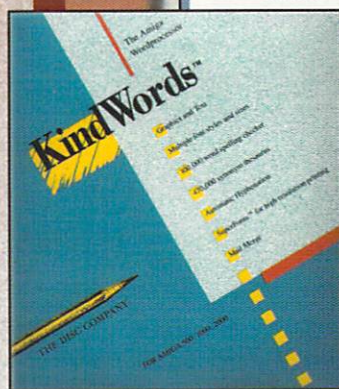


THE DISC COMPANY

POWER WORKS

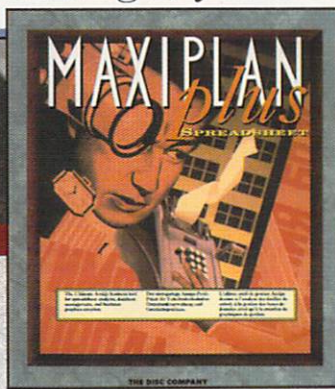
Suggested
Retail Price:
£99.95
including VAT

MAKE THE AMIGA WORK FOR YOU!
*WordProcessor, Database and Spreadsheet
all in one package, for one low price.*



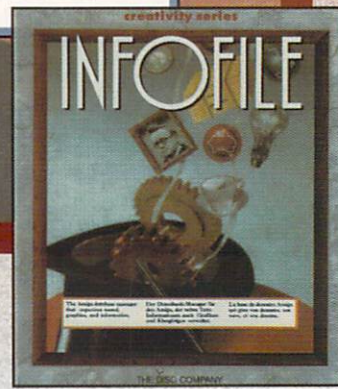
KINDWORDS 2.0
Word Processor

- Powerful and Easy to Learn and Use
- Color Graphics with Text
- High Quality Printing



MAXIPLAN PLUS
Spreadsheet

- Spreadsheet Analysis
- Business Graphics including Charts
- Lotus 1-2-3 Capability



INFOFILE
Database

- Graphic Storage and Retrieval
- Flexible Database Structure
- Powerful "Forms" Capabilities

THE DISC COMPANY - 60 RUE DE MARCEL DASSAULT, BOULOGNE 92100 FRANCE, PHONE: 33-1-49-10-99-95

AMIGA people

AMIGA Computing has been named as one of the official UK sponsors for the prestigious European Computer Leisure Awards 1991.

It will be responsible for nominating UK entries in the Amiga categories and a senior member of staff will join representatives of other leading European computer titles for the final judging.

Linked to the European Computer Trade Show, the Oscar-style awards will take place at London's popular nightclub The Hippodrome on Sunday April 14, 1991.

Amiga Computing nominations will be for five non-games and technical excellence categories - Best Art Package, Best Music Package, Best Home Education

Package, Best Home Productivity Package and Most Innovative Peripheral of the Year.

Other publications taking part in judging are TILT (France), Amiga Magazine (Germany), Det Nye Computer (Denmark), MikroBitti (Finland), Compupress (Greece), Amiga Magazine (Italy), Mega Ocio (Spain), Dator Magazine (Sweden) and Amiga Nieuws (Holland).

Also involved in special awards are Compute! in America and Log-In of Japan. In all, the publications involved have a combined worldwide readership of eight million.

The European Computer Trade Show '91 takes over London's Business Design Centre from April 14 to 16. Yet again, it is destined to



Business Design Centre, home of the European Computer Trade Show

WHAT'S new

TRUE FAMILY COMPUTER

BILLED as "the first true family computer", the latest offering from Commodore is the Amiga 1500 Personal Home Computer. Based on the A2000, it has two floppy drives instead of one floppy and one hard drive, but the loss of the hard drive is compensated for by an attractive bundling deal.

For a price of £999.99, which is cheaper than an A2000, it includes wordprocessor, database and spreadsheet package Platinum Works, paint and animation program Deluxe Paint



The new Amiga 1500

III, top games Populous and Sim City, flight simulator Their Finest Hour and cerebral offering Battle Chess. Two Amiga books are also included in the bundle.

Commodore are aiming the new 1Mb machine at the whole family, intending it for both games and business use in the home. They predict that more than a quarter of a million homes will have an Amiga 1500 in the next four years.

"Commodore recognises the importance and growth of the family market and with the Amiga 1500 has developed a machine that addresses the needs of all members of the family", said managing director of Commodore UK, Steve Franklin.

"Commodore computers now touch people in all walks of life, from the home to school and

AMIGA people

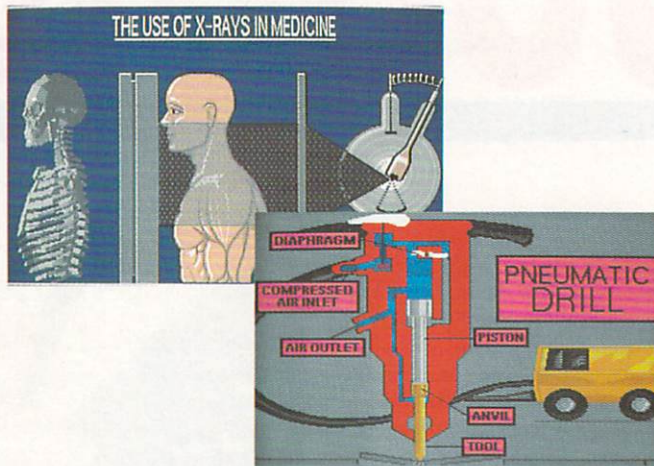
be a major launchpad for Amiga products. Big names already signed up include Ocean, Mirrorsoft, US Gold, Virgin Mastertronic, Electronic Arts, Impressions, Microprose, Psygnosis, CDS Software, Domark and Arc Software.

MULTI-MEDIA COMPARISON

WHEN the news of Commodore's CDTV first broke in America few people in the UK knew that two Amiga people from Britain were already playing an important role in its software development.

From the very first developers meeting in Los Angeles through to private demonstrations at the giant CES shows in Las Vegas and Chicago, Lee Gibson and Kevin Stevens have been working closely with Commodore US for 12 months.

The success of CDTV will depend on the quality and quantity of available programs, but their development is a complex business. Lee and Kevin



have come up with a practical solution and have now decided to talk about it.

Their company is Digigraphic (0455 558855) and the result of their year's work is Living Book Publisher, an innovative answer to the needs of multi-media development.

It differs from most multi-media development systems such as Amiga Vision because it is more than a compositional tool, being a complete production system

from story boarding through to final product. It allows a fully interactive book to be developed from start to finish within a single environment.

Lee started Digigraphic in 1986, to be joined by Kevin six months later. They already had a number of creative Amiga packages under their belts before CDTV emerged, including Prosound Designer, Pro Midi Plus and Video Magic.

"We now feel the impetus for

CDTV/CDI is irreversible, and due to our broad base development experience are directing Digigraphic towards that emerging market", said Lee. "We also feel the time is right to talk about our major development work in this area.

"The problem with development of this kind is the lack of support from good software. The system we have put together is the first complete environment from start to finish.

"In December 1989 we flew out to Los Angeles under invitation from Commodore US to the very first CDTV developers' meeting to talk to US developers and publishers about our work in the areas of software motion video for CDTV.

"Our programming department spent six months researching motion video before the CDTV was a twinkle in anyone's eye".

Following the Los Angeles meeting, Lee, Kevin and their team produced a multi-media demonstration which was shown to a selected few at CES in Las

WHAT'S new

through to the workplace. This ubiquity is a vital part of our long term strategy - to provide computers for life".

In addition to the speed, colour, sound and graphics features needed for a games machine and Amiga Dos environment for business applications.

The 1500 will also run industry-standard MS Dos applications by the addition of an AT or XT bridgeboard. It is expandable to 9Mb.

Based on a 16/32 bit Motorola 68000 chip running at 7.14MHz, the 1500 has eight expansion slots

for both Amiga and PC options plus parallel, serial, video, audio and mouse interfaces as standard.

CHECKMATE

OWNERS of an A500 who want to treat themselves to Checkmate Digital's A1500 conversion kit can take advantage of a special offer which reduces the cost of the kit from £230 to £199.

Checkmate Digital's James Campbell described the offer as "a special Christmas treat". It runs out soon, so Amiga buffs wanting to expand their A500s will have to

act quickly.

For those who can't afford the complete kit, Checkmate Digital (071-923 0658) are also offering the separate keyboard element for £59.

It allows the A500 keyboard to be lifted out of the machine and includes twisted cable and blanking plate which slots into the space where the keyboard used to be.

"It immediately gives you a separate keyboard for your existing machine", said James. "In the future, if customers want to buy the full-blown system, they just send in their keyboard invoice

and buy the rest at a 20 per cent discount. It's a useful two-stage way to buy the system".

HIGH RATE SAMPLING

TRILOGIC (0274 691115) has produced a new version of Audiomaster including Audio Engineer, which can sample at very high rates using up to 8Mb of memory.

It also includes a CD player simulator which can play up to 70 sequences of samples in any order.

New software developed in

M. ALIM & CO. Accountants

VAT, Taxation Accountancy, Book-keeping, Management Accounts, PAYE
(081) 543 7827

A PERFECT ACCOUNTANT™

COMPUTER SOFTWARE

TAILOR MADE PROGRAMMES AT OFF-THE-SHELF PACKAGE PRICES

Integrated Pack: A complete book-keeping system with various types of reports including P&L, Balance Sheet, Trial Balance, Sale/Purchase and Nominal Ledger, Budget, Cash Flow, plus VAT return. Also featuring Stock Control and Payroll for a bigger system (ie Multiuser on Unix Xenix Novel. Price £3000 onwards.

We will also convert your old system into our faster and comprehensive system with a little or no extra cash..

- Integrated Accounting Software
- Easy to use pull-down menu or by pressing first letter of menu
- Help message at each menu and input (option to turn it off)
- Initial set-up is done for you
- Up to two billion records in file
- UP to 999 departments
- 99999 plus posting codes
- 3000 plus accounts group codes
- Compatible with many databases, spreadsheets and wordprocessors (option to be requested)

**Demo Disk
Available**

£135

Works on IBM and compatibles, Atari STs, Amiga (Commodore). Minimum requirements: 512k RAM, 360k Floppy disk drive.

Write to Abbey Freeman & Co, 15 Parkleigh Court, Wimbledon, London, SW19 3BX.
Tel: 081-543 7827

FEATURES

SET-UP

Accounts group codes
Posting accounts codes
Department codes
VAT rate codes

SALES LEDGER

Summary invoice posting
Itemised invoice posting
Cash sales posting
Credit notes posting
Cash received posting

NOMINAL LEDGER

Opening balances
Bank (non sales/purchase ledger)
Journals
Prepayments
Accruals

PURCHASE LEDGER

Summary invoice posting
Itemised invoice posting
Petty cash expenses

Debit notes posting
Cash payments posting

REPORTS

Transaction file report
Sales day
Aged debt analysis
Statements
Purchase day
Aged creditors analysis
Trial balance
Monthly management accounts
Profit & loss with tax calculation

Balance sheet
Nominal ledger
Bank reconciliation
VAT return
Source report
Account enquiry

OTHERS

Budgets
Cash flow
Transaction
Code correct routine
Back-up

ORDER FORM

Company name:

Address.....

..... Postcode.....

Atari ☐ IBM..... ☐ Amiga..... ☐

One Floppy ☐ Two Floppies..... ☐ Hard Disk ☐

Allow 28 days for delivery

Write to Abbey Freeman & Co., 15 Parkleigh Court,
Wimbledon, London SW19 3BX. Tel: 081-543 7827

Requests for modification or tailor made programs are welcomed

Please write with your specification to:

**A PERFECT
ACCOUNTANT
SOFTWARE**

**15 Parkleigh Court,
London SW19 3BX**

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 52 columns, giving you up to 26624 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, programmable 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. Well now all that's 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!) 9 labels across, 999 copies of any label. This has to be the simplest and most effective method of creating a mailshot available.

£24.95

FINAL ACCOUNTS

The program will take information prepared by Cashbook Controller and produce a complete set of accounts including: * Trial 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 comparative/budget figures if required. The facility to produce these documents quickly, accurately, and regularly is of enormous help in 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 type-styles. Because it can display and print text 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

CASHBOOK COMBO

Money saving combination pack featuring both Cashbook Controller and Final Accounts – Save £10.00.

£69.96

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 (4 tax years included) and provide pertinent facts about your tax position. You can perform 'what-if?' calculation to discover ways to minimise your tax liability. In fact, the program will advise you on 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 over £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 simplicity itself 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 overdue appointments, month and week summary at a glance. For less than £30 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 this simple integrated suite of programs. 1. CASHFLOW CONTROLLER: Keep track of the most important aspect of business – cash flow. Essentially a debit/credit ledger, its flexibility lies in its ability to produce account balances instantly for creditors (from invoicing), transactions, dates and descriptions. A management aid designed to run alongside your existing accounting system. 2. INVOICE & STATEMENTS: This program will greatly reduce time and cost of preparing invoices and statements. Professionally printed invoices and statements. Integrates with Stock Control. 3. STOCK CONTROL: Effectively control your stock, purchasing and suppliers and produce re-order reports, stock valuation, price lists, etc.

£49.95

CASHBOOK

Use your computer as a powerful business tool and take the drudgery out of book keeping! In its simplest form, the program will replace your Cash and Petty Cash books BUT information includes: * Summary of VAT information to enable completion of VAT Return. * Monthly summaries and departmental analyses of sales and purchases. * Total expenditure analysis. * Journal routine for entering transfers and debitors and creditors. * Income and which are user definable. * Observes accounting procedures and meets legal requirements, assuring correct approach to book keeping. * Full audit trail and integrates with Final 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 10 types of income (e.g. Bank, credit card) and 60 types of expenditure (e.g. rates, mortgage, gas, food), with optional budgeting and forecasting. The program will handle Standing Orders and Direct Debits, and automatically warn if your credit limit. 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

VISA

Post: Digita International Ltd
Black Horse House
Exmouth Devon
EX8 1JL England
Fax: 0395 268893

AMIGA people

➤ Vegas, then to Commodore's leading lights Gail Wellington, Nolan Bushnell and Irving Gould at CES Chicago in June.

To coincide with the launch of LBP in March, Digigraphic have also produced the first application on the subject of technology. The working title is Everyman's Technology Living Book, but for sexist reasons, they are thinking of changing the name. Its launch is timed to show just what the LBP system can produce and there are seven more programs in the pipeline.

This first Living Book covers many aspects of technology, including communications, entertainment, industry, medicine and the military.

Features used in the Living Books include graphics, computer animation and full motion video of any size and display mode, contents and index pages, a comprehensive searching system and a narration facility to read out pages aloud.

Then there's a magnifier for users with impaired vision,

unlimited video animation and audio length, electronic bookmarks for easy movement between references and "hot words" which can be selected for cross reference.

Digigraphic will licence the publishing system and will also continue with their own application development on it. Pricing has yet to be agreed.

KONIX CRASHED

AS Amiga Computing went to press, receivers Peat Marwick McLintock were just days from making an announcement on the future of failed joytick firm Konix, which fell into receivership at the beginning of October.

A number of companies are believed to be interested in buying the company, one of which is Spectravideo which have been marketing Konix products for the past year.

"There are five or six other people looking at it at the same time as ourselves", confirmed Spectravideo boss Ashwin Patel. "The company is up for bids and

the price is in the hands of the receivers. There is nothing concrete on who will get it and no figures have been mentioned, but we expect some further news very soon".

A spokesman for Peat Marwick McLintock said there had been a lot of interest in the company and that negotiations to sell off Konix were in an advanced stage.

Konix went into receivership on October 2, reputedly owing in excess of £1 million. Partly to blame for its failure were heavy development costs on its new Multi System games console which never reached the market

BIG KIDS

OLDER Amiga kids may still go for the shoot-em-up fun of the more violent games but there is still a market for younger computer children who have not lost their interest in the traditional colouring book.

That's the opinion of Trevor Scott from I-D (0207 71417) who is now selling a range of computer colouring books for the Amiga

from Dallas-based Merit.

Trevor has field-tested the Merit colouring packages with under elevens in this country and found them to be very popular - a fact backed up by sales of more than half a million in America.

"There are few companies in the UK who have successfully addressed the under elevens market", he said. "These colour packages are something a little different. As well as being educational, they are extremely entertaining and most important of all, they are easy to use".

There will be seven packages in the series. Due to be launched the week after Amiga Computing went to press, the first is based on the current Turtles craze. It will be followed in January by three offerings from Sesame Street complete with Big Bird and other colourful characters.

Running through to Spring, titles will be released at monthly intervals and will also include Dinosaurs Forever, At The Zoo and All Dogs Go To Heaven.

Using the packages is a simple

WHAT'S new

Britain is provided free with the sampler for an inclusive price of £39.99. Audiomaster 3 costs £89.99.

NEW HARD DRIVE

AS an addition to its GVP range, Power Computing (0234 52207) has launched a new hard disc drive for the Amiga 500 which uses the new series two controller. With a completely fresh slimline style, it fits snugly beside the Amiga and offers an impressive turn of speed.

The new drive comes in 20Mb version to £499, 50Mb version for

£599 and 80Mb version for £849.

Also new from Power is a two inch internal hard disc for the 500. As Amiga Computing went to press, the price of the new hard disc had not been fixed

CUT-PRICE PHOTON PAINT

YOU'VE all heard of Star Wars, but what about Paint Wars? Over at The Software Business, Jeremy Cooke is ready to do battle with a New Year resolution to hit Electronic Arts' Deluxe Paint 3 head on by pitching the latest version of

Photon Paint at the same price.

While full details of Photon Paint 3 are not yet available from MicroIllusions in America, Jeremy confidently predicts: "It will be the most superior paint package on the market".

Extensively re-written by a Canadian development team, the main claim to fame of the new package is that it will work in both Amiga resolution and Ham.

"It is the natural successor to Photon Paint 2", he said. "Originally it was intended to be in the UK by the middle of December but with design work

still to be done on the packaging, we will probably have it on the market by the end of January or early February.

"We intend to pitch it directly against Deluxe Paint at £79.95. We sold Photon Paint 2 at £89.95 - £10 higher than Deluxe Paint which we thought was the right decision since we had a superior product. This time, we'll hit Deluxe Paint head on".

Having recently released version 1.1 of MicroIllusions' Midi sequencing system Music-X, The Software Business (0480 496497) is already setting its sights on version 2, but it could be a year away.

AMIGA people

point and click exercise. Children select the colour they want from the screen palette, move to the area they want to colour and click. A mix facility gives them more than 200 colour to choose from, there is a print-out facility and the programs are backed up with information leaflets. Price, £19.99.

BUCKETS AND SPADES

"THE problem with Cumana is that we never have time to sit with buckets and spades. No time for holidays", says the company's marketing manager Steve Dickenson.

Well-known in the Amiga world, Steve joined data storage specialists Cumana in April 1989, and his workload reflects the success which Cumana has enjoyed since it was founded by managing director Don Bolton in 1979.

At a time when interest rates are biting and many employers are shedding jobs, the people at Cumana are actively seeking

more staff to take advantage of the strong growth in exports to France, Italy, Germany and Scandinavia. From that record, their evaluations of the market and their views of the future are worth investigating.

Along with moves into the PC world and investment in CD Rom drives, Cumana remains a staunch supporter of the Amiga, with new products coming thick and fast.

All the company's new drives, including Winchester and opticals, are adapted for use with Commodore machines, and looking into the future, Don sees the industry creating a new market for optical storage devices.

"Cumana will drive part of this market with new fast read-write drives", he said, "but ordinary magnetic media will be here for some time yet". That's looking further into the future, but Steve has revealed some of Cumana's more immediate plans.

Following the launch of the COM201 board featured in October's Amiga Computing, there are plans for a smaller

version. The COM201 gave A500 users an MFM ST506 hard disc interface as well as 512k memory expansion. Just half the length, its successor the COM202 will come in two versions.

COM 202 version A will offer half a megabyte of ram alone and version B will give half a megabyte of ram and realtime clock.

"What we have done is to make COM202 smaller", said Steve. "There is no controller interface, only ram and realtime clock. We hope to have it on the market by January. The price has not yet been fixed".

Also in the future is COM203 for the Amiga 2000, a full-length card complete with SCSI controller. There will be four versions - an unpopulated one with SCSI and no ram, and three others offering 2, 4 and 8Mb of ram.

Along with more expansion boards for the Amiga range and CD rom drives for Commodore machines, this wealth of new product is evidence of Cumana's stated confidence in the future of the Amiga market.

"A few years ago we had very much an Atari sales base, but now it is just the other way round in favour of the Amiga", said Steve.

CDTV RENTAL

COMMODORE have confirmed that a rental scheme for their CDTV (Commodore Dynamic Total Vision) is among a number of avenues being explored for when the new system hits the market.

They are negotiating with High Street rental companies for an arrangement which will allow customers to enjoy the educational and entertainment capabilities of the interactive system without have to shell out the £700 purchase price.

CDTV is currently undergoing massive field trials with 2,000 machines placed in homes, businesses and schools for three months. It will probably hit the market in April. If the rental system goes ahead, charges could be between £25 and £30 a month, according to trade sources..

WHAT'S new

(P)American development recluse David Joiner is presently working on CDTV projects for Commodore so has had to shelve Music-X 2 for a while. One bit of information filtering across The Atlantic is that it will feature a front end notator.

Due for a spring launch by The Software Business is a new fractal landscape generator which will go under the grand name of Genesis - The World Creator.

Genesis is nearing completion in the States and is awaiting work on the manual.

A useful tool for Amiga owners who want to create landscape

graphics for their own programs, it enables them to plot pixel points on screen, produce valleys and mountains and combine them into a whole landscape.

GREAT T-SHIRT RAID

Retailer's Heaven would have been a fair description of the Commodore show, with the assembled spending money hand over sweaty fist, as the box-shifting community scrambled to relieve the punters of their hard-earned.

But did we say Heaven? In the

case of Dowling Computers, make that Heaven with a double helping of Paradise bolted on for good measure! The company's contribution to the Christmas spirit consisted of opening up Amiga Screen Gems bundles supplied by Commodore removing the T-shirt which Commodore supplied as a little extra surprise for the already deliriously happy new owners.

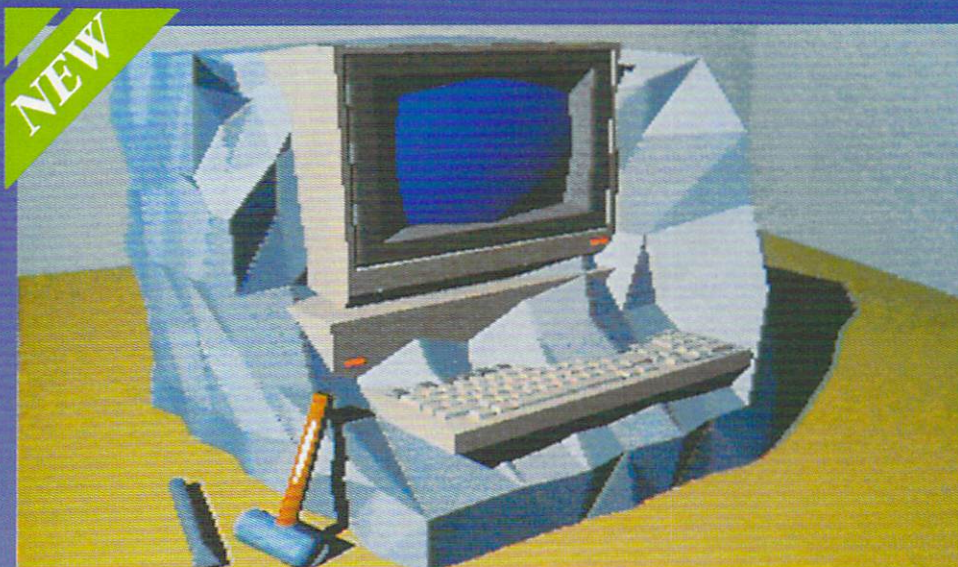
Because of the lack of detail concerning the contents of the Screen Gems bundle, it was a relatively simple operation for Dowling to remove the sticker and rip off the punters by selling the T-shirts contained therein at

massively inflated prices - a reported price of £15 being asked for a T-shirt which should have been free. A time of giving? Bah, humbug!

Mr Andrew Ball head of press and publications, and official spokesperson for Commodore said "Commodore does in no way support the action taken by Dowling Computers." Mr Ball went on to mention that although the action was not strictly illegal, it was however morally wrong, and if Commodore was in a position to take legal action, which unfortunately they weren't, they certainly would have done so.

ANNOUNCING THE A5000

FREE
INFORMATION PACK
TELEPHONE
(0933) 650677



IS YOUR AMIGA STILL IN THE STONE AGE?

"UNLEASH THE POWER OF YOUR AMIGA"

▼ JUST ADD TO YOUR AMIGA FOR ▼

- *Faster than the Commodore A3000* ●
- *600% Faster than your Amiga* ●
- *Massive 4Mb of superfast memory* ●
- *100% Software Compatibility* ●
- *Plug-in upto a 50 MHz Maths Co-Pro* ●
- *Advanced 32-bit design* ●
- *32-bit Kickstart – Six times Faster* ●
- *Three models – 16.67/20/25 MHz* ●

● THE MACHINE ●

CPU: 16.67 MHz Asynchronous MC68020RC16 2-3 MIPS (8 MIPS peak)
FPU: 12.5 MHz – 50 MHz Asynchronous MC68881RC or MC68882RC
RAM: 4 Megabytes of 32-bit zero-wait-state 256 x 4 80ns DRAMs
SHADOW ROM: Move your Kickstart into 32-bit SUPER-FAST-RAM
SOFTWARE: 68000 Fallback mode for 100% software compatibility
HARDWARE: 100% compatible with Amiga 500/2000 and add-on cards
INTERFACE: Plugs into 68000 processor socket inside your Amiga

68881 – £99 1 Mb RAM – £69

£399

(INC VAT & DELIVERY)

BASIC MODEL – 68020 (16 MHz) + 1 Mb RAM



SOLID STATE LEISURE LIMITED

Commodore's Christmas beano

Commodore has already launched its big surprises for this year, and the third-party manufacturers didn't promise to make too many hearts flutter. With this in mind, we scoured the show for new stuff and found it all rather more interesting than it had first appeared.

At long last Commodore has seen fit to throw its weight, and indeed cash, into the Amiga music scene. To aid the company in this noble quest, it's joined forces with Roland, a long established member of the music industry. In order to promote this new venture, the partnership has signed up a new band of fresh-faced young popsters, called The Jazz Amiga to wave the corporate flag.

The band's name is a bit of a coincidence and it's not entirely unconnected with their being sponsored by Commodore (they were formerly known as Juvenile Jazz). The change of name is, of course, entirely of their own volition, and nothing to do with Commodore forcing a financial arm up their back or anything like that. Honest.

Unfortunately, there's no doubt that in the long run the band will - probably - regret the decision. Credibility is worth its weight in gold disks as anyone in the music biz will tell you (just look at Bucks Fizz. They couldn't possibly have made all that gelt if they hadn't had street credibility by the bucketful, right kids?), and such obvious bottom kissing doesn't do a lot for your credibility.

So much for the free A/R advice, what were these young musical funsters like? Well, the

Venue for box shifting, or important Commodore showpiece? Paul Austin and Stevie Kennedy mingled with those quick to hand over their cash...

marketing manager of Commodore should not be the happiest man on the planet. During the press briefing hacks were informed that the 'boys' would not be playing live due to a lack of ahem, space. After casting a critical eye over the rather amateur video provided as a replacement, we were not impressed.

If the Amiga is to be sold as an equal, indeed a superior to the ST, which given the software it will be, The Jazz Amiga will do nothing for its cause, if the music they provide is to herald the Amiga's entry into the music industry.

To be fair to the boys in the band, they are not entirely to blame for the rather sad state of affairs. Given a couple of years they will no doubt be a reasonable 'act'. They have simply had a large carrot dangled in their faces a little too early in their careers.

On a more positive note, the partnership between Commodore and Roland has got to be seen as a great move for the musical development of the Amiga. In order to promote this new initiative, Roland has produced a new package of instruments which includes the PC-200 MIDI control keyboard, CM-32L sound module,

plus software and even matching speakers. A full review of the equipment and supporting software should be in next month's issue.

The next big launch at the show was Commodore's new advertising campaign which features two glossy adverts. The first consists of an aboriginal tribesman who, for reasons best known to himself, throws his boomerang over a cliff and then proceeds to blindfold

himself prior to patiently awaiting its return. When it does, the noble tribesman casually catches his weapon a split second before it would have removed a large portion of his skull. If anyone out there can relate this scene to a computer you're a better man or woman, than me.

The second ad is to be used exclusively in the cinema, and features another tribesman leaping off a 270 foot bamboo platform, in a desperate attempt, one can only assume, to escape the boomerang. The press release informs me that the campaign is an attempt to break free from the usual format of computer advertisement - it certainly does that.

Anyway, Commodore has certainly made a bold move in the musical field, and we can only hope that, despite The Jazz Amiga and the ads, that it's a huge success. The more Amigas out there the better.

Earth calling Commodore

The actual Commodore presence at the show was a little thin on the ground, with a somewhat sparse selection of the company's wares on display. This consisted of a few Amigas, and the games console, which strongly resembles a large plastic Victory V with a cartridge stuck in to it.

There was no sign of the mythical CDTV which, if rumours are to be believed, would have made the trip worth while in itself. The general atmosphere was somewhat similar to that of a car boot sale, which considering the time of the year, is somewhat



Lay down your joystick... you have fifteen seconds to comply

inevitable. It would be fair to say that the show was more for the box-shifters and bargain-hunting punters than for those interested in new product releases. But there were enough goodies on show to excite the average compu-junkie's pleasure centres, and chief among these were one or two rather tempting pieces of hardware. Solid State Leisure's A5000 accelerator board made its much-heralded debut on a stand which was otherwise sparse in the extreme.

Due to a last minute production hitch, it was found that the unit had problems with some hard drives, and the resulting delay meant that all A5000s coming off the production lines were being boxed and dispatched to clamouring customers before the solder had cooled. The only reason there was a unit on display at all was that it had been found to be faulty at the quality checking stage. The assembled finally given a glimpse of the fully finished

The company claims for example, that the accelerator will do four hours of ray-tracing in only 45 minutes, and that's without adding the optional 32-bit 68881 maths co-processor. With a standard 16Mhz 68881, it's claimed that this is reduced to only 14 minutes. As the top of the range model with 68882 co-processor and 4Mb of 32-bit RAM is an almost-affordable £1039, the A5000 threatens to become the most desirable add-on the Amiga has had anywhere near this price.

If it lives up to its promise, the A5000 should revolutionise the way the A500/2000 is used in all maths-intensive areas such as 3D graphics, ray-tracing, DTP, and even the latest applications in virtual reality. Look out for a full review soon.

Multi-tasking PC?

Another interesting launch was the Vortex Amiga version of the ATOnce 286 PC emulator. Claiming to be a '286 on a

memory. It also offers several display options and full use of all Amiga hard drives. It will also auto-reconfigure the mouse, parallel, and serial ports to their MS-DOS equivalents, allowing PC hardware to be plugged in.

For the moment, these are claims we haven't been able to fully test ourselves, but the board seemed happy enough running Windows 3.0 and Microsoft Word on the Silica Systems stand. Rest assured that a full review is on its way as soon as we can get our grubby little hands on one.

Nuts 'n' bolts

On a less technical note, the final production version of the A1500 made its first appearance. Up until now, the unit had been prototyped and then sold by Checkmate Digital. However, a dispute has arisen as to whether or not they had any right to sell the A1500 in the first place and a new company, A1500 Ltd, is now selling it while injunctions fly back and forth between the two.

For those who missed our review of the A1500 a few months back, it is an add-on which turns your Amiga 500 into a sexy system box and separate keyboard, then enables you to slot in a hard drive. Further expansion options are available with the Dual User Configuration (DUC) board, making it possible to mount, for example, a flicker fixer, a hard drive, and a second floppy internally. The unit offers several improvements over the prototype, and full details of these can be found in this issue's update review.

Desk top video (DTV) is, at the moment, one area in which the Amiga triumphs over all comers, and there were a few interesting bits and pieces around at the show. Marcam was showing off its newest genlock, the Super 8802. Based on the flagship 8802, it adds S-VHS compatibility and hardware controls for fades and wipes, and is set to compete with the G2 Video Centre. The Super 8802 will retail for about £550, and the good news for existing 8802 owners, is that they will be able to upgrade their systems for about £350, although Marcam stresses that these prices are still provisional.

Spanish truckers' dispute delays ensured the hardware was not

entirely ready, but Marcam assures us that the unit on show was complete in just about every respect except the knobby bits, and was performing exactly as will the finished unit. The S-VHS quality certainly was impressive, and playing about with the slides gave gratifyingly wipey and fadey effects, but for the final word and a comparison with the G2, you'll have to watch this space.

Silica Systems was showing Videocomp's Video Effects System Two (VES 2), offering Digi-View Gold, genlocking, video titling, and an RGB splitter in one integrated package. It looks like a worthwhile attempt to deal with all your DTV needs in one package, using existing and new products, but we didn't get a close enough look at it to judge how close it came. Look out for it in future issues.

On the video software front, we saw two fantastic new packages. Amiga Centre Scotland was showing off its Broadcast Titrer 2 package from InnoVision Technology.

It promises 320 colours per screen, 16 anti-aliased fonts without a jagged edge to be seen, multiple screen effects such as wipes, flips, and tumbles, text scrolling, random access to 600 pages, a selection of backgrounds, and many other goodies with which to produce client-pulling presentations and video professionalism.

The demo we witnessed was going through what looked like a CBS American Football programme, and appeared to be smooth enough to coat a frying pan. More on this next issue.

All in all then, a worthwhile show, and a relative success despite Commodore's apparent attempts to dispense cold water from a great height.

The Commodore stand was subdued and without new products, there were very few representatives around, and enough has already been said of The Jazz Amiga. On the other hand, the linking of Commodore's name to Roland was a smart move which can only boost the Amiga's standing with the music industry, and third party launches were of sufficient number and quality to generate a buzz of sorts.



This certainly makes my stylophone look a bit sad

product on the second day of the show.

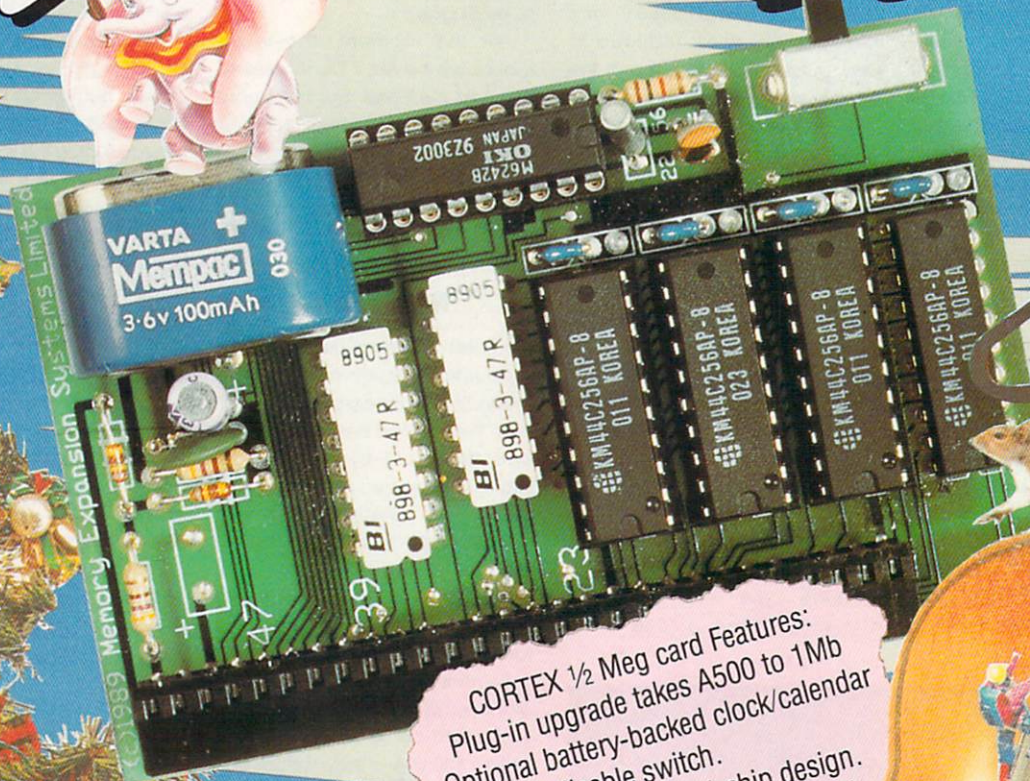
The amount of interest the stand attracted despite its appearance, is a testament to the mouth-watering performance offered by the A5000. Utilising a 68020 chip running at 16.67Mhz and 1Mb of 32-bit RAM, the standard model costs £399, and if that sounds expensive, then consider that for the price you are upgrading your A500 or 2000 to something approaching an A3000.

board', the ATOnce was a rave success on the ST and looks set to enjoy the same success on the Amiga. Again, the price will make the man in the street cringe a bit, but for £199 (or £249 if you don't already have MS-DOS) you get a lot of computing power.

The board sports an 8Mhz 80286, which should out-run most other PC emulators and claims to be fully multi-tasking with the ability to use all available RAM as either expanded or extended

1/2 Meg Expansion £32

CL. VAT
& P&P



CORTEX 1/2 Meg card Features:
Plug-in upgrade takes A500 to 1Mb
Optional battery-backed clock/calendar
Enable/disable switch.
Super low-power 4-chip design.
Fast-mem/Chip Mem compatible
3 year guarantee.

£32



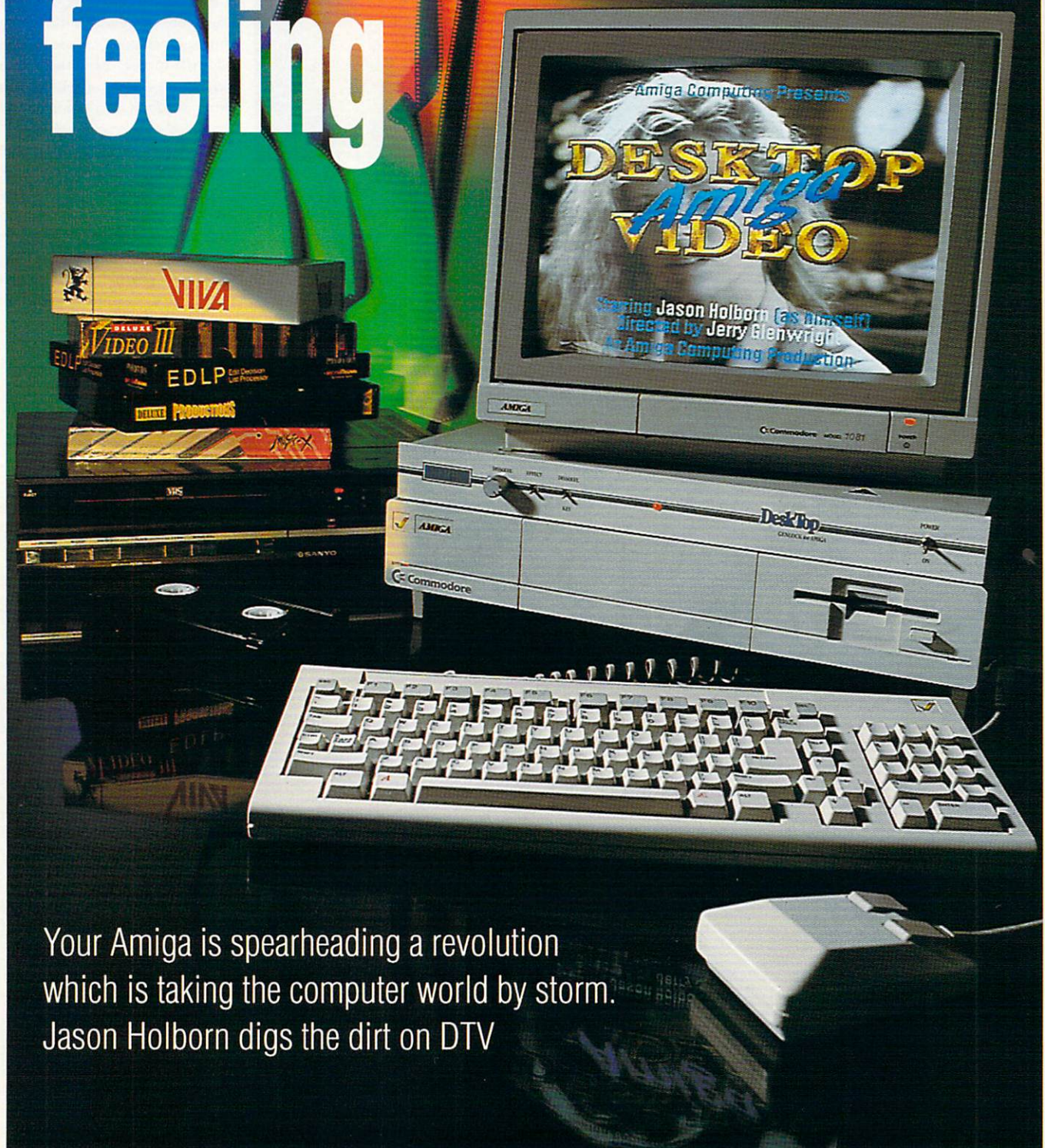
CORTEX

Send cheques to: Dept AC
Memory Expansion Systems Ltd.
Britannia Buildings, 46 Fenwick Street,
Liverpool L2 7NB
(051) 236 0480



(051) 236 0480 • 24 Hour Sales
(051) 227 2482 • 24 Hour Fax

That syncing feeling

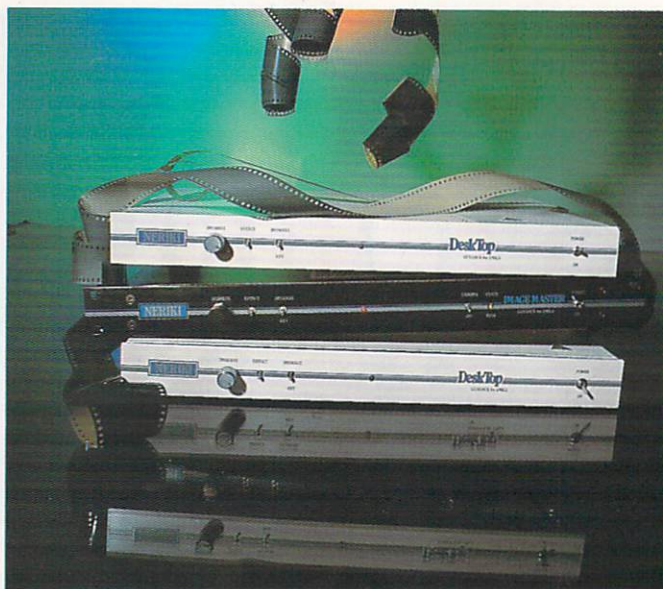


Your Amiga is spearheading a revolution
which is taking the computer world by storm.
Jason Holborn digs the dirt on DTV

Sitting on your desk is one of the most important developments in video technology since the arrival of the domestic video recorder. Since its release back in the mid '80s, this wondrous device has revolutionised video post-production, bringing the power of a £100,000+ video studio within the reach of the person in the street. That device is none other than the Amiga.

Throughout the world the Amiga is recognised as the number one choice for the discerning video engineer. You'll find Commodore's baby in some of the most advanced video studios around, happily rubbing shoulders with equipment costing tens of thousands of pounds.

Indeed, chances are that much of what you see on TV and at the cinema has been produced with a little help from the Amiga. All pretty heavyweight stuff, but that's not to say that desktop video is only for the pros – no sree, you too can get in on the action with little more than a low-cost genlock and



Each genlock is housed in a tasteful, slim case

a bit of decent software.

You've probably read endless articles about desktop video in other publications, but few seem to have addressed the subject

from the point of view of the average home user. After all, very few of us could afford such incredible devices as video mixers and time base correctors. The aim of this

article then, is to discuss the possibility of DTV for the masses (and that means you! – Ed).

What is it that makes the Amiga so special? Why aren't machines such as the PC and Macintosh stealing the limelight? After all, the Amiga's graphics capabilities are now no longer regarded as state of the art. Both the PC and Macintosh offer higher screen resolutions and larger colour palettes, so it would seem only natural that they're better qualified for the job.

As always though, looks can be deceptive. Hidden away within the Amiga hardware is a little piece of circuitry that makes the Amiga a natural for video work. It doesn't matter how flash your video hardware is, without this little slither of silicon your computer will be something of a none starter.

Without getting too technical, this bit of circuitry allows the Amiga to synchronise itself with an external video source – in the case of desktop video, a genlock. And as you'll learn later on, synchronising is the all-important factor, a case of sync or swim (!) Even today the

Getting into desktop video needn't be expensive. OK, if you're intending to use your Amiga for professional applications then expect to write out some pretty hefty cheques, but otherwise you need little more equipment than that which you already own.

The diagram on the right shows a typical home DTV setup – it's about as simple as things get, so don't expect to produce the kind of results that you see on the opening credits of Wogan. The heart of the system is obviously the Amiga, but the genlock is the device that does all the hard work.

Note that you actually need two videos – one to play the source tape, and another to record the complete genlocked output. As an option, there's also an audio mixer in there.

One of these will set you back as little as £40, so it's well worth investing in one just so it's there if you need it. The Amiga supplies the sound in this set-up, but it's also perfectly possible to connect up MIDI devices such as synthesisers and samplers to get truly professional sounding results.

You may have also noticed that

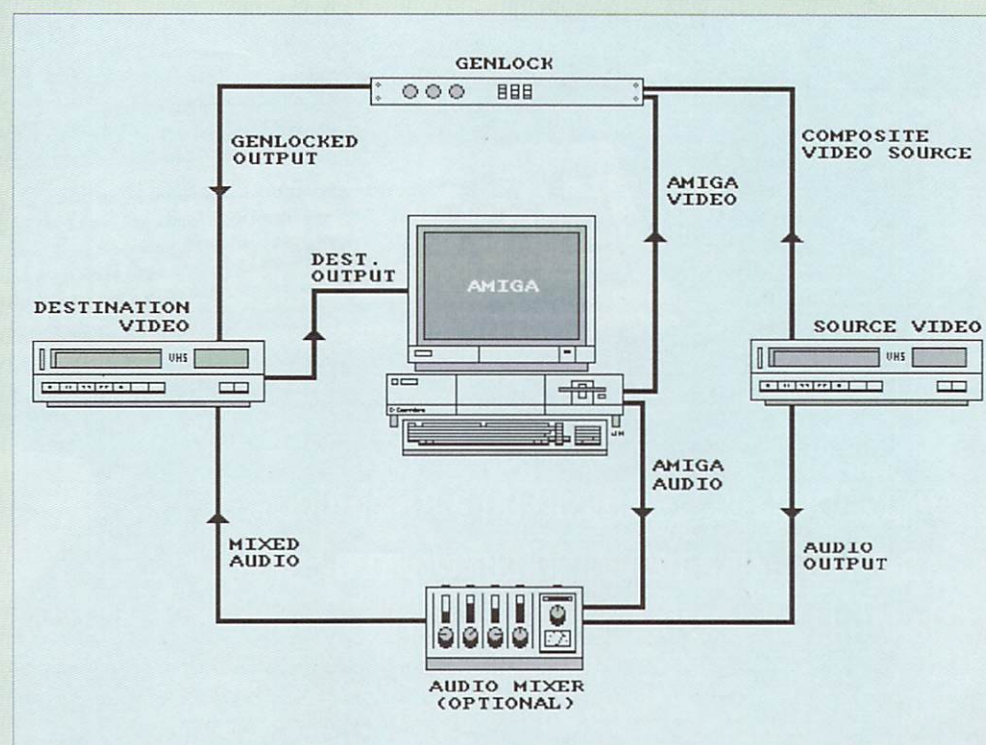
A typical Amiga DTV setup

the Amiga monitor is connected to the output from the destination video.

This is necessary if you wish to view the mixed video signal. Most

monitors will take a composite signal, so just connect the destination composite output to the appropriate input on your monitor and you'll be in business, if you're

using a Commodore monitor, then you'll also need to set the monitor to CVBS mode by pressing the video mode button hidden behind the monitor's front panel. TV modulator users will have to use the RF output from their videos instead.



Software Scene

We've already mentioned three or four packages which are ideal for desktop video, but there are so many more that will also fit the bill. Here's a quick run down of the best.

- **Deluxe Paint 3.** The acclaimed paint system from Electronic Arts is a must for every desktop video engineer. It can be used to prepare just about all your graphic material, both static and animated. If you can afford only one package, then this is the one to buy.
- **Deluxe Video 3.** The companion product to DPaint, DVideo 3 is a

powerful presentation system that can handle graphics, animations, music and sampled sounds.

All operations are carried out from within a nice user-friendly environment, so constructing professional-looking presentations is an absolute doddle.

- **TV*Text Professional.** Definitely the best video titling package currently available. Will use both colour and mono Amiga fonts. Even mono fonts can be 'tarted up' using TV*Text's extensive font

rendering tools.

- **Music-X Junior.** Music-X Junior is ideal for adding MIDI and Amiga sound to your video productions. At current prices, you can pick it up for as little as £50!
- **Elan Performer.** A simple to use yet powerful presentation package that can handle both static and animated graphics. Perhaps not as powerful as DVideo 3, but still worth investigating.
- **AMOS.** Yes, AMOS can indeed be used for desktop video. Now

that it's been fixed to work with genlocks (you'll need versions 1.2 upwards), AMOS is ideally suited to desktop video. Smooth scrolling, full IFF support, sampled sounds, interrupt-driven music, what more could you ask?

- **Frame grabber.** A video digitiser is well worth investing in. If you can, go for a real-time video digitiser (Rombo's VIDI-Amiga is a good bet). Imaginative use of the video digitiser can produce some stunning effects.

For off-line digitising, NewTek's Digi-View is also a good digitiser to own.

competition is only just starting to get its collective desktop video acts together - Atari has since built exactly the same external syncing options into the STE, so it should be only a matter of time before Atari owners can also get into desktop video.

If the STE is to match the Amiga, however, Atari has got an uphill struggle on its hands. The Amiga has been around for nearly five years now, so Amiga developers have had time in which to perfect their skills.

Of course genlocks are available for other machines - the PC, Mac, Archimedes and ST all have them - but the Amiga still remains the best bet in terms of price and performance. Not only are Amiga genlocks better equipped, but they're also considerably cheaper. Only on the Amiga can you pick up a genlock for under £100!

Another good reason why an Amiga is the videophile's choice is the flexibility of its screen display hardware.

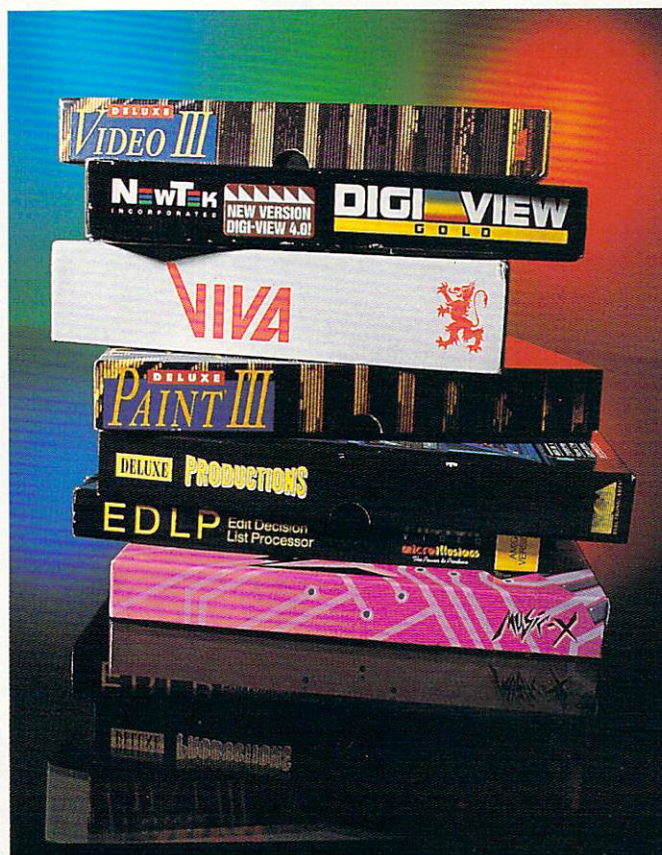
Interlacing may do terrible things to your eyesight, but it was deliberately built-in to make the Amiga video output more compatible with video equipment.

Then, of course, there's also built-in overscanning, so Amiga graphics fill the entire screen - something that even today most of the competition can't manage!

The heart of any desktop video system is the genlock, which is a sophisticated device that can combine two or more incoming video signals into one. By treating a particular colour as transparent - usually colour 0, although more expensive genlocks will allow you to change this - the genlock



Neat and tidy outlets make connection a breeze



A selection of the best grabbing software available

replaces all occurrences of that colour with the secondary video source. The computer's signal is treated almost as a stencil which is laid on top of the secondary signal. You'll find genlocks in use constantly on TV - for example, genlocks are used to overlay English subtitles on to foreign films and so on.

The Amiga certainly isn't starved of its fair share of genlocks. Depending upon your particular requirements, you can pick one up for as little as £100 or as much as £1,000 plus.

If you're serious about using your Amiga for desktop video, then it's probably worth shelling out a bit more cash for a genlock with a few more features. Later on we'll be taking an in-depth look at three genlocks from Neriki, all of which are ideal for serious desktop video.

Source signals

Once you've got your genlock all plugged in, you now need a source signal. This can come from just about any device that outputs a composite signal - anything from a domestic video camera to an expensive video-disk player, or even another Amiga will do, as long as the signal is composite. For most of us though, the source signal will usually come from a video recorder. Most people now have at least one VCR to their name, so this medium is ideal.

Many seem to think that you can store a desktop video presentation on a floppy disk. This just isn't true - the Amiga has nothing to do with the process of genlocking, it merely provides the video signal which is superimposed over



SK MARKETING

COMPUTER SUPPLIES



AMIGA HARDWARE

SCREEN GEMS PACK

Star LC10, cable, Kindwords 2, Fusion Paint, Miniature Golf, Super Ski, Crazy Cars

ONLY £599

10 STAR GAMES PACK - £30

NEW PHILIPS TV/MONITOR

- ★ MEDIUM Resolution Monitor Input
- ★ Infra-Red Remote Control
- ★ 15" FST Teletext TV
- ★ 60 TV Tuner Presets
- ★ Scart Input/Output connector

SPECIAL OFFER £279.95

A590 20MB Hard Drive	£289.95
Philips 8833 Monitor	£230.00
Commodore 1084S Col. Monitor	£259.95
A501 Ram Expansion/Clock	£129.95
Video Digitizer	£99.95
Cumana 3.5" Drive	£94.95
MES Half Meg Ram Expansion	£50

FLIGHT OF FANTASY

- ★ Amiga 500 + TV Modulator
- ★ Deluxe Paint II
- ★ Escape from Robot Monsters
- ★ F-29 Retaliator
- ★ Rainbow Islands
- ★ Dust Cover & Mouse Mat

ONLY £385 inc VAT

AMIGA B2000P.O.A.

AMIGA HARDWARE

SCREEN GEMS PACK

Philips 8833 + lead, Kindwords 2, Fusion Paint, Miniature Golf, Super Ski, Crazy cars

ONLY £649

FLIGHT OF FANTASY - £385

SCREEN GEMS + 10 STAR GAMES PACK - £399

FIRST STEPS - £539

JOYSTICKS call for prices and availability

DOT MATRIX PRINTERS

Star LC10	£173
Star LC10 Colour	£213
Panasonic KX-P1124	£260
Panasonic KX-P1180	£190
LC200 9 pin col.	£230
LC24-200 24 pin mono	£265
LC24-200 24 pin col.	£310
LC24-10	£265

CONTROL CENTRE

Instantly transform your Amiga 500 into an A1000/2000 'look a like' without any modification to the computer. Simply slip the 'control centre' over the Amiga 500 and by reason of its colour match and contour hugging design it becomes an integral part of the computer itself.

- Hides untidy connections at rear of A500
- Holds disk drives, genlocks etc...
- Easy access to joystick parts
- Monitor sits about A500

£54.95

BOOKS

Advanced Amiga BASIC	£18.95
Advanced Syst Prog Gde Amiga	£32.45
Amiga 3D Graphics Prog BASIC	£18.45
Amiga Applications	£16.95
Amiga Assembly Lang Prog	£14.45
Amiga BASIC Inside & Out	£18.95
Amiga C Advanced Programmers	£32.45
Amiga C for Beginners	£18.45
Amiga DOS Inside & Out	£18.45
Amiga DOS	£14.95
Amiga DOS Quick Reference	£8.95
Amiga DOS Ref Guide	£14.95
Amiga Desktop Video	£18.45
Amiga Desktop Video Guide	£18.45
Amiga Disk Drives Inside & Out	£27.95
Amiga For Beginners	£12.95
Amiga Gd Graphics Sound Teleco	£17.45
Amiga Graphics Inside & Out	£32.45
Amiga Hardware Ref Manual Rev	£21.95
Amiga Machine Lang Guide	£21.95
Amiga Machine Language	£14.95
Amiga Microsoft Basic Prog Guide	£18.45
Amiga Prog Handbook Vol. 1	£24.95
Amiga Prog Handbook Vol. 2	£23.95
Amiga Programmers Guide	£17.45
Amiga Programmers Guide	£20.45
Amiga ROM Kernel Ref Man Autod.	£28.95
Amiga ROM Kernel Ref Manual	£29.95
Amiga ROM Kernel Ref Man Lib	£32.95
Amiga System Programmers Guide	£32.95
Amiga Tricks and Tips	£14.95
Becoming an Amiga Artist	£18.45
Beginners Guide to the Amiga	£16.95
Compute's 1st Book of Amiga	£16.95
Compute's 2nd Book of Amiga	£16.95
Elementary Amiga BASIC	£14.95
Inside Amiga Graphics	£16.95
Inside the Amiga with C 2nd Ed	£24.50
Kickstart Guide to the Amiga	£13.95
Kids & the Amiga	£15.95
Mapping the Amiga	£20.95
More Tips & Tricks for Amiga	£18.45
Programmers Guide to the Amiga	£23.95

PROFESSIONAL AMIGA SOFTWARE

9 out of 10	£29.95
Animator/Images	£99.95
Animator	£39.95
Animator 3D	£99.95
Arena Accounts	£149.95
C-Light	£39.95
Comic Setter	£44.95
Deluxe Paint II	£49.95
Deluxe Paint III	£64.95
Deluxe Print 2	£39.95
Deluxe Music Construction	£54.95
Deluxe Productions	£99.95
Deluxe Photolab	£54.95
Deluxe Video	£65.95
Digipaint III	£54.95
GFA Basic Compiler	£39.95
Distance Suns	£37.99
GFA Basic Interpreter III	£39.95
Hisoft Devpac V2	£39.95
Hisoft Lattice C	£175.95
Home Accounts	£22.95
Home Office Kit	£104.95
Infotile	£34.95
Instant Music	£21.95
K-Data	£34.95
K-Gadget	£19.95
K-Seka	£29.95
K-Spread III	£75.00
K-Text	£14.95
Kind Words V2	£33.95
Mailshot Plus	£40.95
Maxiplan Plus	£49.90
Music X	£169.00
Photon Paint 2	£54.95
Prodota	£59.95
Protect	£64.95
Protect V5	£110.00
Publishers Choice	£74.95
Quartet	£39.95
Sound Express Stereo Sampler	£39.99
Starter Kit	£54.00
Superbase Personal	£54.95
Superbase Personal II	£65.95
Superplan	£69.95
TV Show	£59.95
Word Perfect	£185.00
Workbench 1.3	£15.00
Zetrop (5 in 1 package)	£79.95

LEISURE SOFTWARE

688 Attack Sub	£16.99	Dragons Breed	£17.50	Hardball 2	£16.99	Mega Maths	£19.99	Second Front	£20.90	TV Sports Basketball	£19.99
*Action Stations	£19.99	Dragons Breath	£19.99	Heroes	£19.99	Midnight Resistance	£16.99	Shadow of the Beast II	£23.99	Time Soldier	£16.45
*Adidas Championship Football	£16.99	Dragon Flight	£17.50	Herewith the Clues	£16.45	Midwinter	£19.99	Shockwave	£16.99	Toobin	£14.99
Amos - Game Creator	£35.99	Dragons of Flame	£16.99	Heroes Quest	£24.99	Might & Magic 2	£19.99	Silkworm	£14.99	Treasure Trap	£16.99
Anarchy	£14.99	Drakhen	£19.99	Harley Davidson	£19.99	*Murder	£19.99	Shadow Warriors	£16.99	Triad III	£19.99
Answer Back Junior Quiz	£15.99	Dungeon Master	£16.99	Hot Rod	£16.99	Murder in Space	£17.50	Sherman M4	£17.45	*Ultima V	£19.99
Apprentice	£17.50	Dungeon Master Editor	£8.99	Hound of Shadow	£16.99	Mad Professor Mariati	£17.50	Sim City	£19.99	*UMS 2	£19.99
Armour-Geddon	£17.95	Dynasty Wars	£16.99	Honda RVF	£16.99	Nitro	£17.50	Sim City Terrain Editor	£11.95	Unreal	£19.99
Atomix	£13.99	Dyer 07	£13.99	Hypermania	£16.99	*Necronom	£16.99	Skid 2	£14.99	Untouchables	£16.99
Ant Heads Data Disk	£11.99	East v West	£16.99	Imperium	£16.99	Newcomer	£19.99	*Sly Spy	£16.99	Ultimate Golf	£16.99
*A.W.E.S.O.M.E	£23.99	Edition 1	£19.99	Impossamole	£14.99	New Zealand Story	£16.99	*Snowstrike	£17.50	*Universe 3	£16.99
Back to the Future II	£16.99	Emlyn Hughes Int. Soccer	£16.99	Indiana Jones Adventure	£16.99	New York Warriors	£19.99	Space Ace	£32.95	UN Squadron	£17.50
Bad Company	£17.50	Elite	£16.99	Indiana Jones Action	£14.99	Night Breed	£16.99	Space Harrier II	£17.50	Vaxine	£17.50
Badlands	£17.50	E-Motion	£16.99	Infestation	£16.99	Ninja Spirits	£16.99	Space Quest 1	£17.45	Venom Wings	£17.50
Bar Games	£19.90	Everton F.C. Intelligensien	£14.99	Intact	£17.50	Ninja Warriors	£16.99	Space Quest 2	£17.45	Venus Fly Trap	£13.99
Battlemaster	£16.99	F-16 Combat Pilot	£16.99	International 3D-Tennis	£16.99	Nuclear War	£17.45	Space Quest 3	£24.99	Voodoo Nightmare	£17.50
Battle of Britain (Finest hour)	£19.99	F-19 Stealth Fighter	£19.99	International Soccer Challenge	£17.50	Operation Harrier	£17.50	Space Rogue	£19.99	War Head	£16.99
Battle Squadron	£16.99	F-29 Retaliator	£16.99	It Came from the Desert	£20.99	Operation Spruce	£19.90	Spell Book (4-9 yrs)	£13.99	*War Jeep	£16.99
Battle Chess	£16.99	Fighter Bomber	£19.99	Ivanhoe	£16.99	Operation Stealth	£16.99	Star Wars Trilogy	£20.95	Wayne Gretzky Hockey	£19.99
*Battle of Austerlitz	£16.99	Final Conflict	£17.50	Jack Nicklaus Golf	£16.99	Overrun	£20.90	*Street Hockey	£16.99	*White Death	£19.99
Black Tiger	£16.99	Final Countdown	£17.50	Jack Nicklaus Int. Courses	£10.99	*Oriental Games	£16.99	Strider	£17.50	Wild Streets	£16.99
*Betrayal	£19.99	Fools Errand	£17.50	James Pond	£17.50	Pipemania	£16.45	Stunt Car Racer	£16.99	Wings of Death	£17.50
Better Spelling (8-Adult)	£18.95	Falcon	£19.99	Jumping Jackson	£13.99	Pirates	£16.99	Sword of Aragon	£19.99	Wolfpack (1Mb)	£21.50
*Blade Warrior	£16.99	Falcon Mission 1	£14.99	Kick Off 2	£16.99	Photon Storm	£13.99	Sword of Twilight	£19.99	Xenomorph	£16.99
Blitzkrieg May 1940	£17.45	Falcon Mission 2	£14.99	Kings Quest IV	£24.99	Player Manager	£13.99	*Starblade	£16.99	Xenon II Megablast	£16.99
Blood Money	£16.99	Flood	£16.99	Klax	£14.99	Police Quest	£17.45	Storm Lord	£13.99	Xenophobe	£16.99
BSS Jane Seymour	£16.99	*Final Battle	£16.99	Knights of Crystallion	£19.99	Police Quest 2	£24.95	Teenage Mutant Turtles	£17.45	Xipos	£17.50
*Cadover	£16.99	Fiendish Freddy	£16.99	Leisure Suit Larry	£14.99	Populus of Radiance	£20.90	Tennis Cup	£16.99	X-OUT	£14.99
*Carthage	£16.99	Fire & Brimstone	£16.99	Leisure Suit Larry 2	£24.99	Populus	£16.99	Test Drive 2	£16.99	Zombi	£16.99
Castle Master	£16.99	Flight of the Intruder	£21.50	Leisure Suit Larry 3	£27.99	Populus Data Disk	£9.99	Test Drive Euro Challenge	£11.99		
Castle Warrior	£16.99	Flimbo's Quest	£16.99	Let's Tell X-Mas Stories	£16.90	Primary Maths Course	£19.99	*The Killing Game Show	£17.50		
Champions of Kryn	£19.99	Fire Brigade	£19.99	Lombard RAC Rally	£16.99	Precious Metal	£16.99	The Punisher	£16.99		
Chaos Strikes Back (1Mb)	£17.45	Fun School II (under 6's)	£13.99	Loom	£19.99	Projectyle	£16.99	The Third Courier	£17.50		
Chess HQ	£16.99	(6 to 8's)	£13.99	*Legend of the Lost	£16.99	Pro Soccer 2190	£17.50	*The Spy Who Loved Me	£16.99		
Chess Champion 2175	£19.99	(Over 8's)	£13.99	Lost Ninja 2	£16.99	Pro Tennis Tour	£16.99	*The Ultimate Ride	£16.99		
Codename Iceman	£27.99	Fun School 3 (under 5's)	£16.45	Lost Patrol	£16.99	Puzzle Book	£13.99	Theme Park Mystery	£16.99		
Conqueror	£17.45	(5 to 7's)	£16.45	Lotus Esprit Turbo	£17.50	Pyramid	£13.99	Third Courier	£16.99		
Colonels Bequest	£27.99	(Over 7's)	£16.45	Magic Maths (4-8yrs)	£18.99	Red Storm Rising	£16.99	Thrill Time Platinum II	£19.99		
Corporation	£16.45	Future Wars	£16.99	Manhunter	£19.99	Resolution 101	£17.45	Thunderstrike	£16.99		
*Cartoon Capers	£14.99	Ghostbusters II	£16.99	Manhunter 2	£19.99	Rick Dangerous	£16.45	Tie Break	£16.99		
*Chrono Quest II	£19.99	Gold of the Realm	£14.99	Manchester United	£16.99	*Rick Dangerous II	£17.45	Trivial Pursuits	£17.50		
Curse of RA	£17.50	Grand National	£13.99	Maniac Mansion	£16.99	Riders of Rohan	£21.50	Turrican	£13.99		
Cyberball	£14.99	Grand Prix Circuit	£16.99	Mastermix	£19.90	Rings of Medusa	£17.99	Tusker	£16.99		
Days of Thunder	£16.99	Gunship	£16.99	Maths Mania (8-12yrs)	£18.99	Rorkes Drift	£16.99	The Plague	£16.99		
Death Trap	£17.50	Hammerfest	£16.99	Matrix Marauders	£14.99	Rotox	£16.99	TV Sports Football	£19.99		

24 hour hotline for credit card orders



All prices subject to change without notice

All goods subject to availability. Titles marked * may not be released and will be sent on the day of release (subject to availability).

SALES HOTLINE

0923 89 69 69/071 381 6618

(MAIL ORDER)

To order: Please send cheque/PO/Access or Visa details to SK Marketing Ltd, 13 Moneyhill Parade, Uxbridge Road, Rickmansworth, Herts, WD3 2BE.

All prices include VAT and carriage is free (UK mainland)

South London:
10 Fulham Broadway
London SW6 1AA
Tel: 071 381 6618
Fax: 071 381 0528

North London:
13 Moneyhill Parade
Uxbridge Road
Rickmansworth
Herts WD3 2BE
Tel: 0923 896969
Fax: 0923 771058

PERSONAL CALLERS WELCOME AT BOTH SHOWROOMS

MONDAY-SATURDAY 9.30am - 5.00pm

the secondary video signal. You can of course keep all your Amiga generated graphics on disk, but if you wish to 'store' the complete genlocked presentation, then the only way is to record it onto video tape.

As you've probably already guessed, this is impossible with just a single video recorder. Ideally you need at least two VCRs, one to generate the source signal and the other to record the output from the genlock. VCRs can be rented very cheaply these days, so this shouldn't represent too much of a problem.

But what can it do?

So far we've discussed the mechanics of desktop video, but we haven't actually mentioned what all this hardware can actually do.

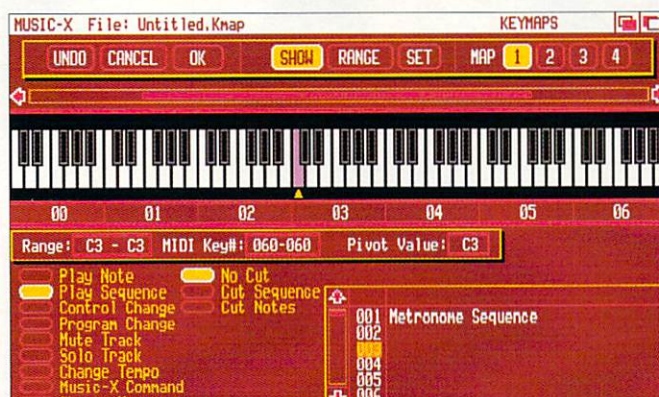
The classic example is video titling, but there's so much more you can do. Even this seemingly limited application can be extended beyond merely adding static text to your home videos of granny at the beach.

Of course the Amiga is well catered for if you do just want to add titles to your home movies. Companies such as Zuma and Aegis (now Oxi) have been selling video titling packages for years, so there's plenty to choose from.

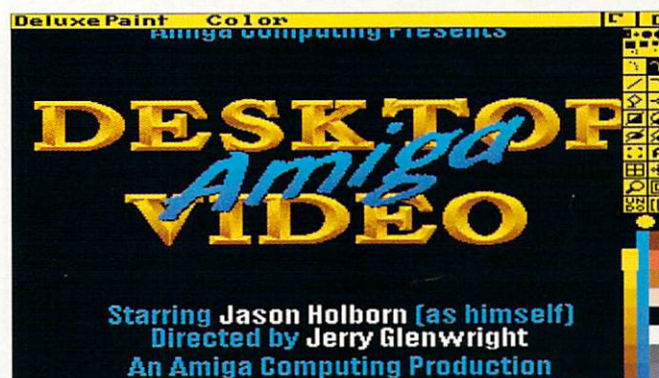
I use Zuma's TV*Text Professional, which allows you to use all sorts of rendering effects to standard mono Amiga fonts. It can create impressive effects such as glints, sheens and metallic-looking text automatically, which is ideal if your artistic talents leave something to be desired. In some ways, you don't really need a dedicated



DIGI-View is one of the best art packages around



Add sounds to your creations using Music-X



Amiga Computing launches themselves into TV

video titling package, any package which allows you to manipulate fonts will do the job perfectly well - DPaint for example.

After a while though, you'll soon realise that a title generating package just isn't enough. If you want your titles to appear at precise moments, then you'll also need some form of presentation package.

These can be set up to display IFF screens - and perhaps even animations - on cue. One of the best is Elan Performer which can handle both static raster files - pictures to you - and animations.

Performer allows you to assign these to the Amiga keyboard, so all you do is hit the corresponding key when a particular graphic event is required.

If you're a home movie maker, then an Amiga desktop video system could also be used for creating special effects that would have been previously impossible. Because you can literally draw directly onto video, you could use a package such as DPaint to create any number of special effects.

Enter the lasers

This is precisely what many top film companies use DTV for - if they're making something like a Sci-Fi film, then they can use a machine such as the Amiga to generate such things as laser blasts etc. As with anything of this type, the only limitation to the kind of effects you can create is your own imagination.

As a general rule, try to create your presentations in the highest screen resolution possible, with full overscan and interlacing. If it's available. This may entail losing a

Video used to be an expensive medium with which to work, but with advances in technology achieved over the space of little more than a couple of years, you can build up a high quality system relatively cheaply.

The current number one choice for most home enthusiasts will be trusty old VHS, which has established itself as the consumer standard. VHS isn't exactly ideal for professional desktop video - believe it or not, Betamax was far superior - but better quality systems such as Super-VHS and Hi-8 are starting to become available.

Super-VHS, or S-VHS as trendies call it, offers a much higher resolu-

tion which will produce better quality results. Even if you use only a single S-VHS deck, the destination tape will be closer in quality to the source. Super-VHS recorders are currently rather expensive, so it may be worth renting instead of buying. Genlocks are already starting to appear that take advantage of the Super-VHS format so for those you can afford it, going for S-VHS is a good bet.

Hi-8 also looks very promising indeed. This new system uses high bandwidth 8mm video tapes offering very high quality picture

and stereo sound recordings. Coupled with the fact that the tapes are very compact, this too looks like a favourable alternative to the ageing VHS standard.

Then of course there are video cameras and camcorders. Every week sees more and more of these pouring onto the market, so it's only a matter of time before it'll be possible to pick up a camcorder for little more than a couple of hundred pounds. If you can get a camcorder which offers built-in playback, then it's possible to use this in place of a source

video recorder. This is perhaps a more favourable set-up, as it also allows you to grab your own video material.

If you intend buying a second VHS video recorder, then a good bet is the new Amstrad Double Decker twin video system which costs approximately £400. This rather groovy bit of kit features not one, but two video recorders in one box.

It's an ideal machine for home DTV enthusiasts. Not only can you play and record simultaneously with the same machine - on two separate tapes, of course - but it also offers tape to tape transfer of video material.

few colours, but the results often look considerably more professional. Because of the huge amounts of memory that such displays swallow, 512k users may want to invest in a decent sized RAM expansion. If you can afford it, go for at least 2 Mb.

Then, of course, there's sound, in the form of both music and effects. Most videos offer a separate 'audio out' connector, so you can also mix in your own sounds to the existing sound track using an audio mixer such as the one produced by Omega Projects, which is the one I use.

This way you just feed the output from the audio mixer into the destination video recorder and both sound and vision will be recorded back to a single video tape.

Software neglected

The best package for this kind of thing is currently Deluxe Video 3, as it can handle both graphics and audio. Unfortunately current Amiga desktop video software tends to neglect the audio side of things a tad, so it's really a matter of experimenting with multi-tasking to get both audio and visual materials working together.

Hopefully when ARexx takes off – which it should now it's an integral part of Workbench 2.0 – we'll see presentation packages that can control software such as sequencers and samplers, but until then it's a case of working around limitations.

The MicroIllusions package Music-X (and Junior) is great for adding music and sound effects to desktop video presentations.



Genlocks enable you to combine computer-generated pictures...



...with those from a video to produce a stunning display

Because Music-X has a 'real' clock which represents time in terms of hours, minutes and seconds, it's possible to build up a sort of cue sheet for sound effects simply by storing them as samples within Music-X and then using the Bar editor to lay down play note events at the exact time that the samples are required.

The same goes for music – just compose your tunes within Music-X and then use the program's unique 'Play Sequence' event to start the score when it is required.

If you're lucky enough to own a MIDI keyboard, you could even assign samples, and indeed entire scores, to your keyboard using Music-X's unique keymapping facility. This way you just strike a key whenever you want Music-X to play a sample or start a tune playing.

Professional video engineers will probably laugh at such an unreliable system of syncing sound and video, but it's about the best way possible when your budget is rather limited. In the professional world, video engineers use a synchronising system called SMPTE (Society of Motion Picture and Television Engineers) which is used to weld music and video together.

Music-X does support SMPTE, but the hardware which uses it is very expensive.

Desktop Video is an exciting application that would have been practically impossible before the arrival of machines such as the Amiga.

Although it may seem rather limited in scope at first, experimentation with different video techniques can reap wondrous

Video solutions

DPL Video Services of Wembley is a company who specialise in low cost but high power video solutions. If you're a video engineer who has £3,000 to spare, then DPL's complete video system could well be what you've been looking for.

The heart of their system is an Amiga B2000 with 3Mb of RAM, of which 1Mb is chip RAM, and a 40Mb A2091 auto-booting hard drive.

Also thrown in is a Commodore 1084 monitor which offers both RGB and composite inputs, making it ideal for viewing both Amiga and genlocked displays.

Obviously you'll be wanting a genlock, so DPL supply the Neriki Desktop genlock (which you can



With a suitable art package all kinds of art package all kinds of effects are available

read more about within the main body text).

Software wise, DPL have selected what they feel to be the state of the art in Amiga DTV software including DPaint III (paint and animation), TV*Text Professional (titling) + 3 Zuma Font packs, NewTek's Digi-View 4 digitiser and DigiPaint HAM paint system, Pro-Video Titler and a selection of public domain utilities.

Obviously three grand is a lot of money to anyone (even the Editor!), but DPL believe that the combination of Neriki genlock and Amiga makes for the most cost effective video system available. For professional users, things have never been so good.

DPL are on 081 900 1866.

CUMANA HAS THE DISK DRIVE TO SUIT YOUR AMIGA, AS WELL AS YOUR POCKET



The Cumana Pedigree Includes

CAX 354

3½", SLIM 25mm DRIVE UNIT
FORMATTED CAPACITY 880K
AMIGADOS COMPATIBLE
DAISY CHAIN CONNECTOR
DATA ENABLE/DISABLE SWITCH
LOW POWER CONSUMPTION
QUIET, HIGH SPEED ACCESS
ACTIVE INDICATOR
DATA LEAD

CAX1000S

5¼", SLIM 42mm DRIVE UNIT
FORMATTED CAPACITY 360/880K
AMIGADOS & MS-DOS COMPATIBLE
DAISY CHAIN CONNECTOR
DATA ENABLE/DISABLE SWITCH
LOW POWER CONSUMPTION
QUIET, HIGH SPEED ACCESS
ACTIVE INDICATOR
DATA LEAD
40/80 TRACK SWITCH

Designed and manufactured in the UK to the highest standards, all Cumana disk drives include 12 months warranty and are available from area distributors and a national dealer network.

Look out for the distinctive packaging in your high street, today!



CUMANA LIMITED, THE PINES TRADING ESTATE, BROAD STREET, GUILDFORD, SURREY GU3 3BH TEL: GUILDFORD (0483) 503121

All trademarks are recognised and acknowledged



Create a fantastic pop video using your Amiga and a video of your favourite band

rewards. It really is down to you to find just how far your video presentations can go. With a minimal outlay you too can produce results that would have made video engineers green with envy little more than a few years ago.

Future tense

The Amiga may have already established itself as the de-facto standard in video computing, but the software and hardware we have today is little more than a taster of the goodies that we'll have tomorrow. Indeed, the future has only just begun.

In many ways desktop video is very closely associated with the latest buzz word application, multi-media. Indeed the genlock is an integral part of many multi-media systems. Because the two are so closely associated, the development of multi-media software is good news for desktop video users. Many multi-media packages are

ideally suited to desktop video applications, so it's up to you to use them to their fullest.

More immediate is the impending release of several major DTV applications. First up is Gold Disk's long-awaited ShowMaker system,

which promises to be something very special indeed. ShowMaker is very much the DTV package Amiga users have been waiting for. It provides full support for ARexx, therefore allowing it to control other applications. Not only

that, but with the addition of some extra hardware, it can directly control your video recorders, therefore providing perfect synchronising of your presentation. Expect a review as soon as it is released.

Next up is Video Toaster from NewTek, the company responsible for the acclaimed Digi-View video digitiser. Many industry pundits believe that 'Toaster could well be the most revolutionary product yet devised for the Amiga. For £1,500 – it ain't cheap! – you get a seven-input broadcast quality genlock, a powerful digital effects system, 24-bit frame grabber and buffer, 24-bit painting and full 3D animation.

Rumour has it that those who have been lucky enough to see it have suffered for weeks from 'knock your socks off' syndrome. If you're after a genlock that offers that bit more than the rest, then Neriki are a name to look out for. Neriki, of New South Wales in Australia, has been producing

Genlocking on the cheap

Neriki genlocks may be the best, but they're certainly not the cheapest. If you're after little more than a simple genlock that will overlay your graphics onto video, then there are much cheaper alternatives available. Here's a quick run down of a few for those of us with somewhat less demanding needs.

ASAP's Mini-Gen is a simple, no frills affair that can be picked up for just over £100. It certainly isn't the best quality genlock you could find; but is worth investigating if you're on the bread line. For

the rest of us, it may well be worth shelling out a few pounds more for a better quality unit.

Rendale produces a couple of genlocks in the shape of the 8802 and the 8806. The 8802 is the cheapest of the two. It offers near broadcast quality, both background and foreground keying and can be picked up for around £290.

It's big brother, the 8806, offers full broadcast quality output and selectable colour keying. Price for this one is a bank braking £800.



DEAL DIRECT



DEAL DIRECT



AT LAST!!

A PREMIER TRADE SUPPLIER COMES DIRECT TO YOU - THE PUBLIC!



3.5" DISKS

Large or small users - we have the prices for you!

SONY D/S D/D 135 tpi		
50's.....42p each.....	£21.00	
100's.....41p each.....	£41.00	
400's.....39p each.....	£156.00	
800's.....36p each.....	£288.00	
1200's.....35p each.....	£420.00	
MITSUBISHI		
50's.....37p each.....	£18.50	
100's.....36p each.....	£36.00	
400's.....33p each.....	£132.00	
800's.....30p each.....	£240.00	
1200's.....29p each.....	£348.00	

3.5" DISKS FROM 29p inc VAT

All disks are PIN numbered and carry a 100% quality control/no quibble guarantee. Disk labels supplied

ACCESSORIES

Printer Stands (80 col)	£6.50
Printer Stand with tray	£9.95
Tilt 'n' turn monitor stands for Amiga	£9.95
Monitor Arms (fully adjustable with keyboard keeper)	£69.95
Data Switches (2-way serial or parallel)	£12.95
Copy Holders (Thing! III)	£3.95
A4 Desk Top Holder	£7.90
Mousemats (boxed 8mm) red, blue, grey	£2.95
Mousemats 5mm packaged	£1.95
Mousebrackets	£1.95
Amiga printer leads	£5.95
3.5" cleaning kits	£1.95
Amiga Dust Covers	£2.95
Amiga Screen Filters	£12.95
Roll of 1000 3.5" labels	£7.50
1000 Tractor feed labels	£9.95
Fastrack II (attaches to side of monitor for easy swapping of diskettes)	£2.95
Keyboard Cleaner	£2.95

RAM EXPANSIONS

1/2 meg upgrade (without clock).....	£34.95
1/2 meg upgrade (with clock).....	£39.95

Features include: ON/Off memory switch, auto-recharge battery backed clock, 4 low power fastrams.

AMIGA SCREEN GEMS

Pack includes: Days of Thunder, Shadow of the Beast II, Back to the Future II, Nightbreed, Deluxe Paint II, T.V. Modulator, etc.

ONLY £349.95

Plus Special Xmas Offer of free Mouse Mat or 10 3.5" D/S Discs

POWER SUPPLY

Fully compatible replacement Power Supply for Amiga 500
ONLY £38.95

JOYSTICKS

Quickshot II Turbo	£7.95
Quickshot III Turbo	£8.95
Competition Pro Colour	£9.95
Quickjoy Superboard	£14.95
Quickjoy Jetfighter	£12.95
Quickjoy III Supercharger	£7.95

XMAS SPECIALS

Star LC10 Printer	£159.95
Star LC10 Colour Printer	£199.95
Listing Paper	
11" x 9.5" S.P. Plain 70 GSM Micro Perf.	
Pack of 100	£2.50
Pack of 250	£3.95
Pack of 500	£5.95
Pack of 1000	£8.95
Pack of 2000	£16.95

DISK DRIVES

3.5" External disk drive for Amiga, Slimline design colour co-ordinated throughport connector.
1 year guarantee
ONLY £58.00

MICE

Amiga mouse, two button fully compatible as replacement	£19.95
Atari ST mouse, two button fully compatible replacement	£19.95
Nakshua	£39.00
IBM cordless	£49.95
"OMC MOUSE DEAL" Replacement mouse + mouse bracket + mousemat	ONLY £22.95

STORAGE BOXES

3.5" (10 capacity box) "Simpak"	£0.95 each
3.5" (10 capacity box) see through "Vision 10"	£1.00 each
3.5" (40 capacity box) lockable disk storage box	£3.50 each
3.5" (50 capacity box) lockable disk storage box	£3.95 each
3.5" (80 capacity box) lockable disk storage box	£4.30 each
3.5" (100 capacity box) lockable disk storage box	£4.95 each
3.5" (120 capacity box) lockable disk storage box	£6.50 each
3.5" 'POSSO' stackable box (holds 150)	£15.95
3.5" 'BANX' lockable/stackable (holds 90)	£9.95

All disk boxes are anti-static, Amiga beige, contain keys, dividers and rubber feet (with the exception of 10's)

PRINTER RIBBONS

	QTY1	QTY5	QTY10
Amstrad DMP 2000/3000	£2.90	£2.60	£2.20
Amstrad DMP 4000	£3.90	£3.60	£3.20
Amstrad PCW 8256/8512	£3.50	£3.20	£3.00
Amstrad PCW 9512	£2.90	£2.60	£2.20
Brother HR15/20/25/35	£2.50	£2.30	£2.15
Brother M1009/1109	£3.90	£3.60	£3.20
Citizen 1200/LSP10	£2.90	£2.70	£2.40
Epson MX/FX80/85/800	£2.90	£2.70	£2.40
Epson FX100/105/1000	£3.60	£3.40	£3.10
Epson LX80/86	£2.90	£2.70	£2.30
Panasonic KXP 1080/81/82	£3.90	£3.70	£3.20
Star LC10	£2.90	£2.70	£2.40
Star LC10 4 colour	£5.90	£5.30	£5.00

PLEASE NOTE THAT THIS IS JUST A SMALL SELECTION OF OUR LARGE RANGE. TELEPHONE 0530-813591 FOR PRICING ON OTHER RIBBONS NOT LISTED

AMIGA

OMC AMIGA STARTER PACK

COMPRISES:
500 Flight of Fantasy/Batman
1/2 meg additional RAM upgrade
3.5" external disk drive
10 3.5" D/S D/D 135 tpi diskettes
1 (40 cap) lockable storage box
1 mousemat
1 mouse
1 mouse bracket
1 joystick
1 Amiga dustcover
PLUS the usual 4 great software titles
PHONE FOR DETAILS ON CLASS OF 90's PACK

NO NEED TO SHOP AROUND
R.R.P. £679
OMC All inclusive price of £465.00 inc. VAT
A saving of £214.00

SOUNDBLASTER

Turns your Amiga into a powerful sound emitting system, pack includes:
50 watt 3-way speakers
3" woofer
2" mid range 1" tweeter
power supply
cables
full instructions

Free stereo headphones

£49.99 inc VAT

TO ORDER

CHEQUES AND P.O.'S PAYABLE TO OMC LTD
AND SEND TO ADDRESS BELOW
CREDIT CARDS SIMPLY TELEPHONE YOUR ORDER ON 0530 813591 (8 LINES)
FAX 0530 813595 FOR OUR IMMEDIATE ATTENTION



THE ORIGINAL MEDIA COMPANY LTD
DEPT AC, MEDIA HOUSE, UNIT 14, ASHBY ROAD,
COALVILLE, LEICS LE6 2LA

TEL: 0530 813591 (8 lines) FAX: 0530 813595

Trade a/cs welcome. All prices include VAT. Corporate, education orders welcome. Personal callers welcome



POSTAGE: £3.50
CARRIAGE: £8.50



DEAL DIRECT



DEAL DIRECT



Amiga genlocks for years now, so you can bet that the company knows a thing or two about producing a decent bit of kit.

In independent tests conducted by a well known Amiga technical journal, Neriki genlocks came out on top in nearly every test category. With a pedigree such as this, you'd be right to expect something pretty special.

Neriki genlocks come in two flavours, although these themselves also come in two flavours! At the bottom of the scale is the company's Desktop Composite genlock which offers near broadcast quality output for around £750 plus VAT.

Next up is the big brother to Desktop Composite, in the form of the Desktop Y-C at £850 plus VAT. The Y-C series have special connectors to allow them to take advantage of the higher resolutions offered by the new breed of Super-VHS decks now becoming available.

Both the Y-C and composite models allow background keying with full fade control. In plain English this basically means that you can control whether colour 0 is to be made transparent or not. If it's turned off, then the second video source will not appear behind your Amiga generated graphics. One nice feature is the ability to fade in and out the Amiga graphics using a built-in dissolve knob. This allows the input signal to be replaced gradually by

Money no object

If our look at desktop video is too basic for your needs, then you may wish to invest in some professional video kit. Here's a run down of the kind of hardware you'll need.

If you want to be really posey, then a video mixing desk is a must. With it you can mix two of more composite signals into one, therefore, allowing you to create such effects as those seen on TV and at the movies. News programs use them extensively to overlay a picture of the news reader on to video footage relating to the news story.

Desktop Video often requires

you to transfer video material from one tape to another several times. As you'll probably already know, this inevitably leads to a degradation in picture quality. With a time base converter, picture quality is kept constant by digitally sampling the incoming video signal in real-time.

Although a TBC isn't really needed with a single video input, when you start your multiple inputs one is required to keep the signals in sync. Sounds like the perfect piece of kit, right? Problem is, TBCs aren't cheap. Expect to pay about £100 per day just to hire one!

the computer image (or vice-versa) by slowly turning the dissolve knob either left or right. This is particularly effective when using the genlock in conjunction with video titling software.

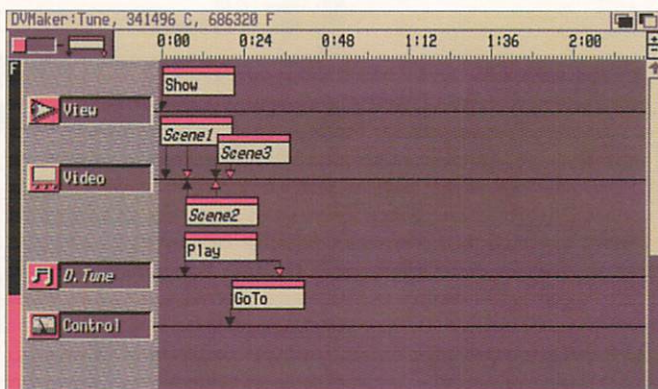
At the other end of the Neriki spectrum is the Image Master genlock, which is also available in both composite and Super-VHS compatible Y-C formats. This professional standard genlock offers all the benefits of the Desktop range, but features a full broadcast quality encoded output of 600 lines, thus making it ideal for high end video applications.

Sounds like a very nice piece of kit, right? Problem is, they don't come cheap. Expect to pay around £1,150 for the basic composite Image Master.

Both the Image Master and Desktop series genlocks come in 19 inch 1U rack-mountable format, so they'll slot in nicely with both professional music and video hardware.

OK, most of us don't possess such gear, or even the racks to store them in, so you'll be pleased to know that they also sit underneath your Amiga monitor quite nicely. If you've got either an A1000 or A2000, you can stack both genlock and monitor on top of the system unit.

Neriki genlocks are distributed by DPL Video Services Wembley Park Business Centre North End Road, Wembley Middlesex, HA9 OAG Tel: 081 900 1866.



Mix and match perfect effects for a stunning whole

TV*TEXT PROFESSIONAL

Create/Edit Pref

Gold

Colors

Solid Full Mid Split

Cyc1 Diag FILL

Use Fnt

Face

Out line

Shadow

Light

Use

Save

Cancel

Face Color Range

RGB HSV

RANGE 1 2 3 4

COPY SWAP SPED UNDO CANCEL

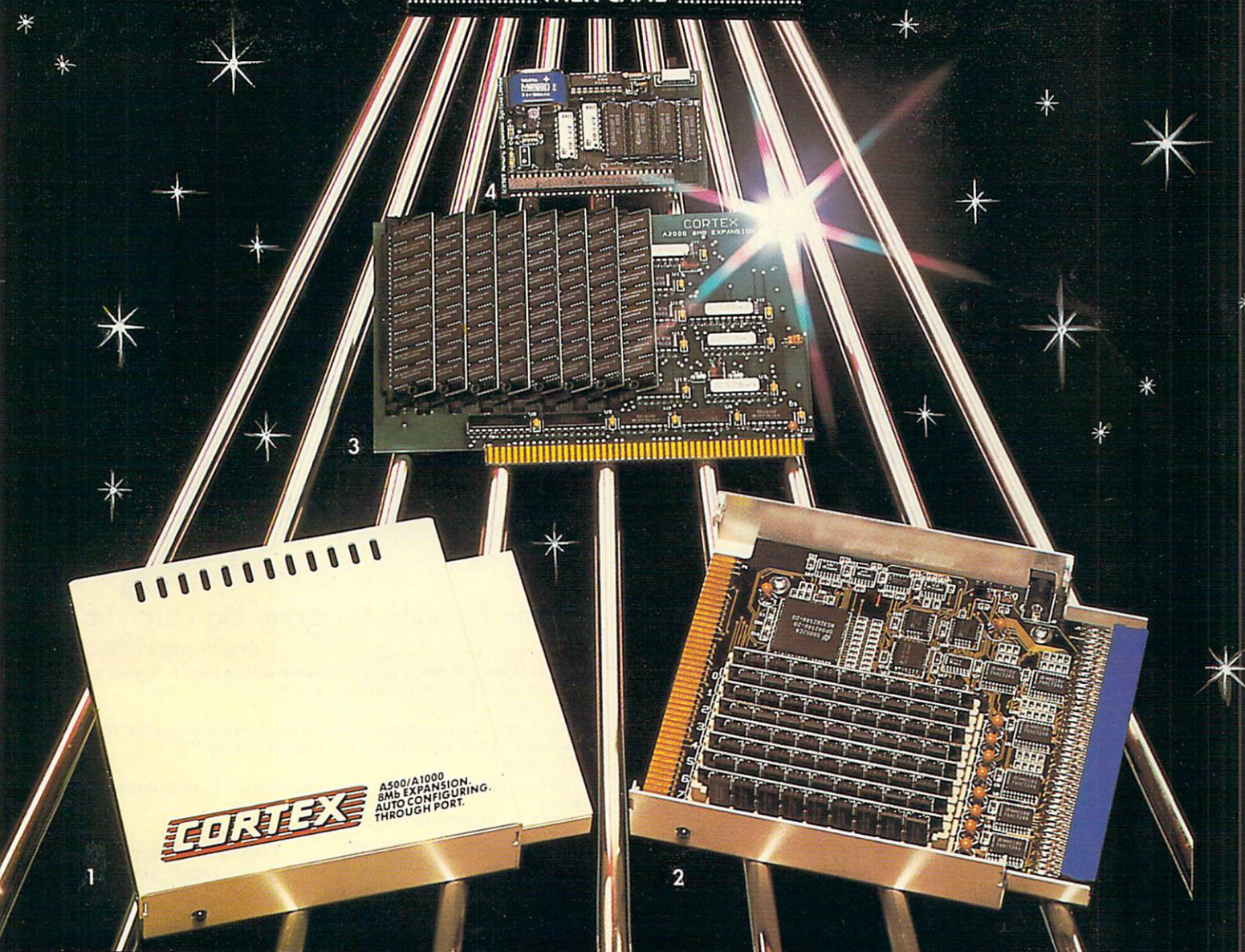
RATE

DESKTOP VIDEO

A host of useful and simple to use tools facilitate easy creation of video-genlocked images. No need to waste time learning the software!

**A LONG TIME AGO IN A GALAXY FAR FAR AWAY, IT WAS DECIDED
THAT THE WAY TO EXPAND AN AMIGA A500 BEYOND ONE MEGABYTE WAS TO
OPEN THE HOST MACHINE AND FIX THE EXPANSION MEMORY INSIDE, THUS
INVALIDATING THE WARRANTY, OVERLOADING THE POWER SUPPLY AND OFTEN
CAUSING DISASTEROUS HARDWARE INCOMPATIBILITY PROBLEMS**

THEN CAME



..... the

CORTEX

rebellion!

1. A500/A1000 8Mb Expansion (2, 4, or 8Mb). Fully implemented autoconfigure. Fully operational through port for compatibility with other autoconfiguring hardware (e.g. CBM A590). Complete with its own power supply (U.K., U.S. or Euro). **£299**
(2Mb FITTED).

2. As above, but with the cover removed.

3. A2000/A2500/B2000 8Mb Expansion (2, 4, 6 or 8Mb). Fully implemented autoconfigure. Uses 1M x 8 bit or 1M x 9 bit SIMM's. **£249**
(2Mb FITTED).

4. A500 1/2 Mb Expansion. The essential A500 upgrade. A high quality A501 equivalent using low-power 1Mbit DRAM's. The unit has a "enable/disable" switch and is available with or without NiCad battery-backed clock/calendar module. **£35**
(CLOCK VERSION £41)

5. External 3.5" Floppy Drive (not pictured). High-quality silent mechanism. Extra drive port and "enable/disable" switch. **£68**

Hard disks. Systems available for all Amiga variants call for details and pricing.

CHIP UPGRADES

"Fatter Agnus" chip (8372A) for A500/A2000. Enables up to 1Mb of Chip RAM. Fitting requires some skill and will invalidate your warranty. **£60**

1.3 Kickstart ROM. Upgrade for A500/A2000 **£33**

A590 Upgrade chips: 1/2Mb **£34**, 1Mb **£62**, 2Mb **£120**

SIMM's. All types available. Call for pricing.
A3000 4 Mbit Static Column Dram call for pricing.

All prices include VAT and postage & packaging. Prices may be subject to change without notice. All products carry a 12 month guarantee. Dealer enquiries are welcome.

CORTEX products are marketed in the U.K. by
Memory Expansion Systems Ltd. Britannia Buildings,
46 Fenwick Street, Liverpool L2 7NB. Tel. (051) 236 0480.
Fax: (051) 227 2482. Make cheques payable to M.E.S. Ltd.



THE BEST ST HOME FINANCE PROGRAM
NOW AVAILABLE FOR THE AMIGA



AMIGA VERSION

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

—The World's Most Sophisticated Personal Finance Program—

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

AS EASY TO USE AS A CALCULATOR

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

STANDING ORDERS & DIRECT DEBITS EATEN ALIVE

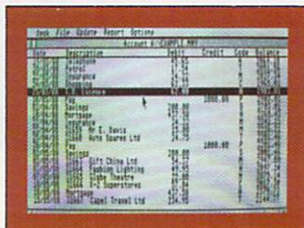
PFM handles Credit and Debit - Monthly, Quarterly, Yearly and even complicated regular payments like 12 payments of £52.99 followed by one of £12.50, PFM will check the date and automatically insert standing orders as they become due.

BUDGET WITH EASE, AT A CLICK OF A MOUSE.

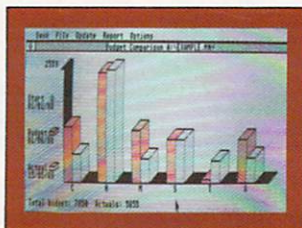
If you're the type that likes to look ahead then PFM allows you to set budgets for both expenditure and income. Over 100 budgets can be set over a year, a quarter or a month and then 10 can be displayed either in figures or as a bar graph for a given period. Expenditure for these budgets can also be shown as a pie chart so you can tell at a glance where your money's gone. PFM also allows you to display or print your budget groups selectively so you can see your expenditure quickly and easily.

BALANCING WITH YOUR BANK ACCOUNT IS NO LONGER A JUGGLING ACT

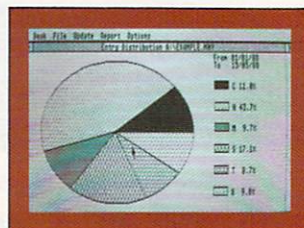
When you get your bank account statement or a balance from an autobank machine you can confirm it with PFM quickly and easily. Simply select PFM's unique "Auto Balance" option and type in the balance as given by the bank and PFM will attempt to balance and highlight entries that have not yet been processed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



MAIN ACCOUNT SCREEN



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



PIE CHART SHOWING SELECTED ENTRIES OVER CHOSEN DATES



BALANCE DISPLAY SHOWING HIGHS & LOWS OVER SELECTED DATES

OTHER FEATURES

- * The number of entries is limited only by memory size
- * You define the file size
- * Old entries are automatically deleted
- * Automatically places entries in date order
- * European or U.S.A. date formats
- * Balance of account graph
- * Moveable and re-sizeable windows
- * Run multiple bank accounts by simply using different file names. Multi-Tasking allows Multi-Account access.
- * Facility to check off items against statements
- * Locates cheques written months ago in seconds
- * Selective print features for dates/statements/standing orders and budgets.



Personal Finance Manager

£29.95



Home Finance Program By Peter Veale.

Here's what the critics say:

Amiga Version by Dan Lennard.

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

Ron Massey, ST USER

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

ST UPDATE.

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

POPULAR COMPUTING WEEKLY.

Free 30-Day Trial

Order direct from MICHTRON and if you are not 100% satisfied, return within 30 days for a full refund.

TO ORDER:

SEND TO: MICHTRON
PO BOX 68, St. Austell,
Cornwall, PL25 4YB.
Allow 28 Days for delivery.



BY PHONE:
WITH CREDIT CARDS.
TELE: (0726) 68020.
£30.95 (incl P&P).



AMIGA VERSION

Please send me **Personal Finance Manager** at £30.95 (incl P&P)

☐ Cheque enclosed made payable to MICHTRON

☐ Please debit my credit card account:

Expiry date:

Name _____

Address _____

Signed: _____



AMIGA

COMPUTING

THE DISK

Stuffed to overflowing with sumptuous software, we're having trouble finding sticky tape strong enough to hold it on the cover!

RadioDemon

This tune was created with MED, the tracker we gave you on the last cover disk. Alex Van Starrex reckons that with its strong and consistent monotony and carefree abandonment of both interest and worthwhile value, the music on our cover disk invokes strong images to the listener, transporting him far away from the everyday world to a magical dreamland where

memories of filing tax returns and reading telephone directories are constantly and vividly evoked.

With stirring march rhythms reduced to a level of absurdity that even John Cage would be envious of, and enveloped in the almost gut-wrenching dissonances of the major and minor keys, our cover disk tunes manifest themselves as possessing all the qualities that make Amiga computer music so familiar and yet so attainable by

almost anyone who can lay their hands on a music program.

He sincerely doubts whether Igor Stravinsky or Maurice Ravel could possibly have re-orchestrated these works without losing any of the appeal that comes from their being pieces churned out by a glorified adding machine, thus bringing a level of ultimate truth through to all, and without the need for descriptive words or lyrics.

I still can't work out whether

that's a compliment or an insult. Alex is an Australian, so he was probably on a XXXX drip at the time. Nice one, Alex. More please.

Are you a budding musician looking for fame and fortune? If so, perhaps the Amiga Computing cover disk can give you a little push up the ladder. You never know who might be listening to your music...

If you insist on sending executable tunes, then try not to send the kind which freeze the mouse pointer or use the left mouse button to quit - right button or both is better. If your tune needs a separate Play utility, please include that on the disk as well.

Parnet 2.40

Parnet is here by popular demand. To be honest I considered it a little too specialised and a little too advanced for the cover disk, but there have been too many requests to ignore.

Networking is a deeply wonderful experience. Imagine being able to have access not only to your own machine, but to your friend or colleague's machine on the desk opposite. Imagine being able to run software from his/her hard drive. Imagine being able to write him a message and save it in



So Alex is an Australian is he? Obviously far more talented than his country's rugby league and cricket teams

Phonedir

Phonedir is a short and simple telephone directory program with one important addition – it will actually dial the telephone number for you!

This is because the program can produce standard DTMF dialling tones, allowing it to dial any telephone number as long as your telephone and local exchange supports tone dialling (System X), and many do nowadays.

If your telephone is of a modern design, it will have a switch of some kind on it to allow you to toggle between pulse and tone dialling.

If you don't know whether your local exchange is on System X or not, take your receiver off the hook and listen to the dial tone for a while.

if you have already created a phone directory file and if so, loads it into memory.

There's nothing to stop you having several phone directories in different drawers. PhoneDir will load the one in the drawer that you are currently CD'd to.

When PhoneDir is up and running, you will see two string gadgets on the left (one labelled Name, the other Phone) and a cluster of buttons to the right.

Now I'll go through the buttons one by one explaining their functions.

SAVE: Selecting this button will save the entries held in memory to a file named directory.data in the current drawer.

ADD: This allows you to add a name and associated phone number to the phone directory. First click in the Name gadget and type in a name, then click in

displays the previous entry, if there is one. Selecting the right arrow displays the next entry, if there is one.

FIND: This button provides a limited search function. Select the Name gadget and type in a string. Now click on the Find button and the program will attempt to find an entry which begins with the string you typed. For this reason I would suggest that if you are storing peoples' names – John Smith for example – enter them in the form Smith John so that they are sorted alphabetically by surname and can thus be searched for by surname.

END: If you have some entries in the directory, selecting this – button will display the last one in the list.

QUIT: Hitting this button quits the program. If you have an

currently shown in the Phone string gadget will be dialled. If you have stereo sound output, a stereo monitor, hi-fi or Soundblaster for example, then first decide which speaker the tones should come out of with the L & R buttons.

Make sure the number you want to dial is displayed in the Phone gadget, then hold the microphone part of your telephone receiver (that's the bit you talk into) very close to the speaker from which the tones will be produced. Then click the Dial button or hit the spacebar.

You should pick up the telephone receiver, place it next to your chosen speaker and hit the Dial button or spacebar as quickly as possible otherwise the dialling tone may disappear. If you delay too long – about 20 seconds with my exchange – you'll get a recorded message from the telephone requesting you to replace the handset and try again.

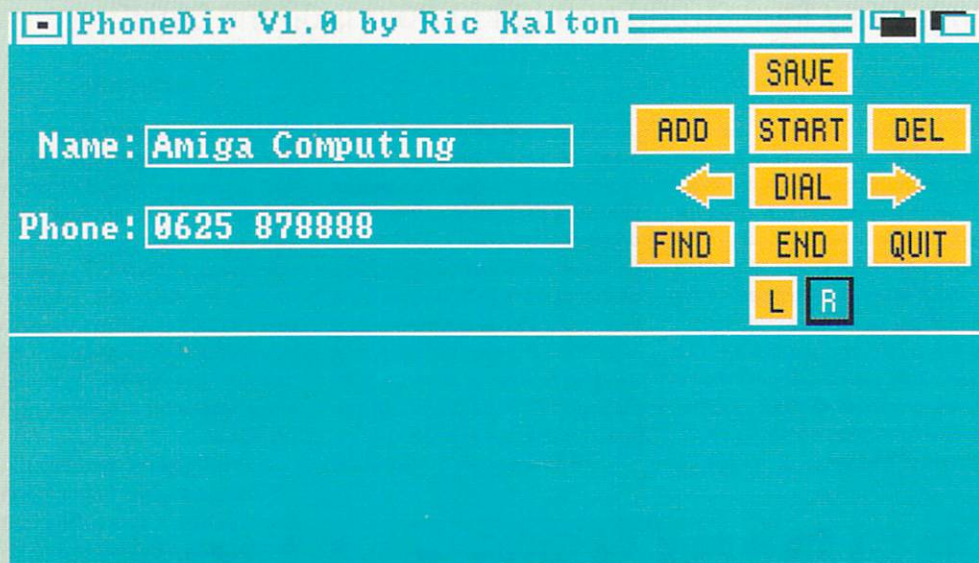
If you can still hear the dial tone from the telephone when the computer has finished dialling, try increasing the volume of your monitor, hi-fi or whatever. If this doesn't help then it's probably because your phone line isn't on System X yet and doesn't support tone dialling.

If you hear nothing but silence from the phone once the computer has finished dialling, try increasing the volume again or changing the position of the handset. If this doesn't help, try swapping speakers.

You don't actually have to add a name and phone number to the directory in order to tone dial that phone number. A number can be dialled simply by selecting the Phone gadget, typing the desired phone number into it then hitting the Dial button or the spacebar.

PHONEDIR was written in Lattice C V3.10 by Richard Kalton. The program is freely distributable so long as no money changes hands in the process. PhoneDir and its source code may not be included for sale in any public domain, shareware or freeware disk library.

It may be offered for download on Bulletin Boards provided it is made available as a free download.



By all means use this program to ring us, but please, please ask for John Smith

If you're on System X, after about 20 seconds you'll hear a series of high tones and a recorded message.

To run the program from Workbench simply double-click on its icon. From CLI, first use CD to change the current drawer to that which contains PhoneDir (CD015:PHONEDIR on the cover disk) then type 'run phonedir'. The reason for changing the current drawer is that if you save the phone directory which you have created with PhoneDir it is placed in the current drawer. When you first start PhoneDir it checks the current drawer to see

the Phone gadget and type in a phone number. Finally, click on the Add button to include the name and phone number in the directory. Entries are automatically sorted into alphabetical order.

START: If you already have some names and phone numbers in the directory then selecting this button will display the first in the list.

DEL: To delete an entry in the directory, move to the entry for deletion using the Start, End and arrow buttons, then select the Del button.

ARROWS: Selecting the left arrow

unsaved phone directory in memory don't forget to select the Save button first. Sorry, there's no reminder – 10 brownie points deducted from Richard Kalton's account.

L & R: These two gadgets are mutually exclusive. They allow you to decide whether the DTMF dialling tones are sent to the Left or Right speaker. Obviously only useful if you have some sort of stereo sound output. When the program is first run the sound output is directed towards the right-hand speaker.

DIAL: If you click on this gadget, or hit the spacebar, the number

his messages directory on his hard drive. Imagine (Imagine being able to squeeze even more 'imagines' into this short piece - Ed) being able to do all this, and more, from your own keyboard. That's what networking does for you.

Parnet sets up a network using the parallel port. Don't let its apparent complexity put you off. You've got all the festive season to get it together. And whether you get Parnet working or not, you'll have lots and lots of fun and games trying!

Computer Head

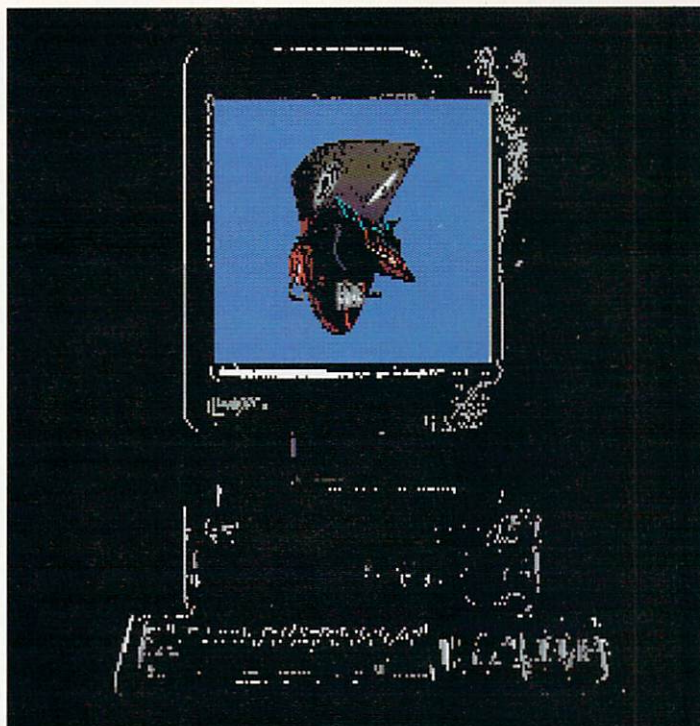
Alternative Image is the company when it comes to generating the kind of graphics previously unseen outside a Dire Straits video is until now.

Exclusively Amiga-based, Alternative Image create fantastical animated displays guaranteed to knock your socks off. And just for your favourite magazine, 'Image agreed to construct a stunning animated sequence and mount it on our cover disk.

The amazing result is Computer Head. Drool at those colours, thrill to the smooth animation and swoon to the effects of 'extraneous' light sources reflecting from the silicon bust.

And when you've recovered, turn to an amusing and exclusive company profile and interview we did with them.

And now a veritable feast for your visual senses



Rummy

Rummy started life as a noble and ancient Spanish card game called Conquien. It crossed the Atlantic with the early Spanish colonists to Mexico. From there it wandered into Texas, where it gave birth to a child, Rummy.

Nearly a century ago it took Europe by storm, gaining for a while as popular a place as Contract Bridge occupies today, but it passed out of favour after a few years. The object of Rummy is

to collect 'sets' of at least three of a kind, and 'sequences' of at least three cards in the same suit. The full rules and scoring system are explained in the file Rummy.DOC.

In this excellent Amiga implementation, you can play a game with either two or three players. Any or all of the players can be controlled either by the Amiga, by yourself, or by friends. If you've set up the Amiga to control all three players, don't forget to select Continuous Play from the Special menu else you'll have to click on

Continue after each player's turn.

The computer players have 10 skill levels. The default level on running Rummy is Level 4. The skill level for each player is selected from the Intelligence menu.

At level 10 the computer plays a mean game, remembering cards that have passed out of play and making educated guesses as to whether the card it wants is in someone else's hand or still in the pack.

I'm keeping a long-term running score of my points against the computer's, penny a point. At the moment I owe it £3.65. When it gets to £20 I might buy it a game.

An excellent program but a shame there's no load or save option. Rummy was written with Lattice C V5.05 by Simon Preene. This program is freely distributable so long as no money whatsoever changes hands in the process.

Rummy, its source code and its documentation may not be included for sale in any public domain, shareware or freeware disk library. It may be offered for download on Bulletin Boards provided it is made available complete with source code and documentation as a free download.

Fancy yourself as a card shark, but bored with Poker and Black Jack? Rummy may be the answer to your prayers



THE WORLD'S MOST POWERFUL NOW EVEN



**AMIGA ACTION REPLAY SIMPLY PLUGS INTO THE
EXPANSION PORT OF YOUR AMIGA AND GIVES YOU THE
POWER TO FREEZE MOST ANY PROGRAM**

JUST LOOK AT THE UNMATCHED RANGE OF FEATURES

● SAVE THE ENTIRE PROGRAM IN MEMORY TO DISK

Special compacting techniques enable up to 3 programs to fit on one disk. Now saves directly to disk as Amiga Dos - reloads independently of the cartridge - even transfer to hard drive! Works with up to 2 Megs of Ram - even 1 Meg Chip Mem (Fatter Agnus).

● UNIQUE INFINITE LIFE/TRAINER MODE - NOW MORE POWERFUL

Allows you to generate more and even infinite lives, fuel, ammo, etc. Perfect as a trainer mode to get you past that "impossible" level. Very easy to use.

● IMPROVED SPRITE EDITOR

The full Sprite Editor allows you to view/modify the whole sprite set including any "attached" sprites. RANGE OF IMPROVED FEATURES.

● VIRUS DETECTION

Comprehensive virus detection and removal features to protect your software investment. Works with all presently known viruses.

● SAVE PICTURES AND MUSIC TO DISK

Pictures and sound samples can be saved to disk. Files are saved directly IFF format suitable for use with all the major graphic and music packages. Samples are displayed as screen waveform.

● SLOW MOTION MODE

Now you can slow down the action to your own pace. Easily adjustable from full speed to 20% speed. Ideal to help you through the tricky parts!

● RESTART THE PROGRAM

Simply press a key and the program will continue where you left off.

● FULL STATUS REPORTING

At the press of a key now you can view the Machine Status, including Fast Ram, Chip Ram, RamDisk, Drive Status, etc.

● POWERFUL PICTURE EDITOR

Now you can manipulate and search for screens throughout memory. Over 50 commands to edit the picture plus unique on screen status "overlay" shows all the information you could ever need to work on screens. No other product comes close to offering such dynamic screen handling of frozen programs!!

● MUSIC SOUND TRACKER

With Sound Tracker you can find the complete music in programs, demos, etc. and save them to disk. Saves in format suitable for most track player programs. Works with loads of programs!!

WARNING 1988 COPYRIGHT ACT WARNING

Datel Electronics Ltd., neither condones or authorises the use of its products for the reproduction of copyright material.

The backup 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 backups has been clearly given. It is illegal to make copies, even for your own use, of copyright material, without the clear permission of the copyright owner, or the licensee thereof.

FREEZER-UTILITY CARTRIDGE BETTER!!



**STILL ONLY
£59.99**

**POST FREE
FOR THE A500/1000**

**A2000 VERSION
AVAILABLE
£69.99**

**PLEASE STATE WHICH COMPUTER
YOU HAVE WHEN ORDERING**

THE NEW MK II VERSION IS HERE!!

**NOW WITH A MASSIVE 128K OPERATING SYSTEM IN ROM OFFERING
EVEN MORE COMMANDS...**

● **AUTOFIRE MANAGER**

From the Action Replay II preference screen you can now set up autofire from 0 to 100%. Just imagine continuous fire power? Joystick 1 and 2 are set separately for that extra advantage!

● **DISKCODER**

With the new "Diskcoder" option you can now 'tag' your disks with a unique code that will prevent the disk from being loaded by anyone else. 'Tagged' disks will only reload when you enter the code. Very useful for security.

● **PREFERENCES**

Action Replay II now has screen colour preferences with menu setup. Customise your screens to suit your taste. Very simple to use.

● **DISK MONITOR**

Invaluable disk monitor - displays disk information in easy to understand format. Full modify/save options.

● **DOS COMMANDS**

Now you have a selection of DOS commands available at all times - DIR, FORMAT, COPY, DEVICE, etc.

● **DISK COPY**

Disk Copy at the press of a button - faster than Dos Copy. No need to load Workbench - available at all times.

● **BOOT SELECTOR**

Either DF0 or DF1 can be selected as the boot drive when working with Amiga Dos disks. Very useful to be able to boot from your external drive.

PLUS A MACHINE CODE FREEZER MONITOR WITH EVEN MORE POWER!!

MORE FEATURES INCLUDING 80 COLUMN DISPLAY AND 2 WAY SCROLLING...

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

**REMEMBER AT ALL TIMES YOU ARE INTERROGATING THE PROGRAM IN IT'S
"FROZEN" STATE WITH ALL MEMORY AND REGISTERS INTACT
- INVALUABLE FOR DE-BUGGING
OR JUST THE INQUISITIVE!**

HOW TO GET YOUR ACTION REPLAY II FAST...

TELEPHONE (24 Hrs) - 0782 744707 - CREDIT CARD ORDERS

WE WILL DESPATCH YOUR ORDER QUICKLY & EFFICIENTLY TO ENABLE YOU TO START RECEIVING THE BENEFITS OF YOUR PURCHASE WITHIN DAYS, NOT WEEKS.
ORDERS NORMALLY DESPATCHED WITHIN 48 Hrs. ALL PRICES INCLUDE V.A.T. ALL CHEQUES/POSTAL ORDERS MADE PAYABLE TO...

D&TEL ELECTRONICS LTD.,

**GOVAN ROAD, FENTON INDUSTRIAL ESTATE, FENTON, STOKE-ON-TRENT, ST4 2RS, ENGLAND
TECHNICAL/CUSTOMER SERVICE 0782 744324**



A NEW WORLD OF POWER

THE ANSWER
TO YOUR
DISK
DUPLICATION
PROBLEMS

FOR ONLY

£34.99*

*PC VERSION £69.00

AVAILABLE FOR

- AMIGA
- ST
- PC COMPATIBLES

THE

SYNCR0 EXPRESS II

IS HERE!

- SYNCRO EXPRESS IS A HIGH SPEED DISK DUPLICATION SYSTEM THAT WILL PRODUCE COPIES OF YOUR DISK IN AROUND 50 SECONDS!!
- Syncro Express requires a second drive & works by controlling it as a slave device & ignoring the computer disk drive controller chip whereby 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 LATEST CUSTOM LSI CHIP TECHNOLOGY

By using an on-board Custom LSI Chip, Syncro Express has the power to transfer an MFM image of the original disk directly to your blank disk - quickly, simply and without any user knowledge. One external disk drive* is required for AMIGA/ST.



SYNCRO EXPRESS IS AVAILABLE FOR THE ST/AMIGA/PC SYSTEMS - PLEASE STATE WHICH REQUIRED WHEN ORDERING

WARNING 1988 COPYRIGHT ACT WARNING

Datel Electronics Ltd., neither condones nor authorises the use of its products for the reproduction of copyright material.
The backup 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 backups has been clearly given. It is illegal to make copies, even for your own use, of copyright material, without the express permission of the copyright owner, or the licensee thereof.

***If you don't have a second drive we can supply
SYNCRO EXPRESS together with a drive for
ONLY £104.99 (AMIGA)
ONLY £119.99 (ST)**

HOW TO GET YOUR SYNCR0 EXPRESS II
TELEPHONE (24 Hrs) - 0782 744707 - CREDIT CARD ORDERS

WE WILL DESPATCH YOUR ORDER QUICKLY & EFFICIENTLY TO ENABLE YOU TO START RECEIVING THE BENEFITS OF YOUR PURCHASE WITHIN DAYS, NOT WEEKS.

ORDERS NORMALLY DESPATCHED WITHIN 48 Hrs. ALL CHEQUES/POSTAL ORDERS MADE PAYABLE TO...



DATTEL ELECTRONICS LTD.,



GOVAN ROAD, FENTON INDUSTRIAL ESTATE, FENTON, STOKE-ON-TRENT, ST4 2RS, ENGLAND
TECHNICAL/CUSTOMER SERVICE 0782 744324

QUALITY GUARANTEE

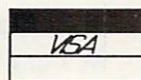
All our products carry our full replacement no quibble guarantee
REMEMBER !!!
We only supply Quality
Beware of cheap imitations

MEDIA DIRECT

TELESALES HOTLINES
0782 208228

Cheques and PO's to:-
Media Direct Dept AMC
Unit 19 The Business Park
Bedford Street, Shelton
Stoke-on-Trent, ST1 4PZ

All Prices inc VAT
Please add £2.95 P&P per Order
Next Day delivery £10.00
U.K. ORDERS ONLY



STACKABLE STORAGE BOXES

BANX BOX

holds 90 3.5" disks
can be stacked horizontally
and vertically
1 off.....£9.00 each
3+.....£8.50 each
5+.....£8.00 each

THE AMAZING POSSO BOX

holds 150 3.5" disks & can be
stacked horizontally or
vertically
only £15.95

AMAZING OFFERS ON 3.5" DSDD DISKS

25 DSDD 135 tpi.....	£10.95
50 DSDD 135 tpi.....	£20.95
75 DSDD 135 tpi.....	£30.95
100 DSDD 135 tpi.....	£39.95

SPECIAL OFFER

200 DSDD DISKS &
2 X 100 CAP. BOXES
£81.95

AMIGA 512K (0.5 meg.) RAM EXPANSION

only £35.00
(including battery backed
clock & disable switch)

KICKSTART CARD.....£19.95
VIRUS PROTECTOR...£19.95
BOOT SELECTOR.....£14.95

DATEL ACTION REPLAY

(The ultimate cartridge)
only £57.95

DISK STORAGE BOXES

3.5" 100 CAPACITY.....	£5.50
3.5" 50 CAPACITY.....	£5.00
5.25" 100 CAPACITY.....	£5.50
All the above have lock & dividers	
3.5" 10 CAPACITY.....	£0.95
or 10 for.....	£7.50

FOR BULK BUYERS 3.5" DSDD 135tpi DISKS

500.....	£187.50
750.....	£269.95
1000.....	£330.00

DISK DRIVES

AMIGA 3.5" EXTERNAL DRIVE
Slimline and very quiet
only £59.95

ATARI 3.5" EXTERNAL DRIVE
Slimline and very quiet
(Requires no external power supply)
only £59.95

£1:00 off

★★ Standard 50 or 100 capacity boxes when
purchased with disks ★★

LIMITED OFFER ONLY BRANDED DISKS SONY or VERBATIM

100 3.5" DSDD
only £69.95
100 5.25" DSDD
only £59.95

3.5" HIGH DENSITY DISKS

All disks 100% cert. & error free	
10.....	£9.95
25.....	£24.45
50.....	£47.50
75.....	£69.75
100.....	£89.95
inc. Labels	

5.25" DSDD DISKS

All disks 100% cert. & error free	
50.....	£12.95
100.....	£23.95
150.....	£35.25
200.....	£45.95
Labels & Envelopes supplied	

5.25" DSHD DISKS

All disks 100% cert. & error free	
50.....	£22.45
100.....	£43.95
150.....	£62.95
200.....	£79.95
Labels & Envelopes supplied	

SONY BULK 3.5" DSDD

25.....	£13.25
50.....	£24.45
75.....	£36.95
100.....	£46.95
200.....	£89.95
500.....	£199.95
1000.....	£369.95

RAINBOW PACK DISKS (Red, Green, Blue, Yellow, Orange & White)

3.5" DSDD (100% error free)	
25 DSDD 135tpi.....	£15.45
50 DSDD 135tpi.....	£29.45
75 DSDD 135 tpi.....	£42.95
100 DSDD 135 tpi.....	£55.95
5.25 DSDD (100% error free)	
25 DSDD.....	£10.45
50 DSDD.....	£18.95
75 DSDD.....	£27.95
100 DSDD.....	£34.95

COLOURS AND QUANTITIES
OF YOUR CHOICE

GENERAL

ACCESSORIES

QUALITY MOUSE MATS.....	£2.50
MOUSE POCKETS.....	£1.50
3.5" CLEANING KIT.....	£1.80
5.25" CLEANING KIT.....	£1.80
AMIGA DUST COVER.....	£3.95
ATARI DUST COVER.....	£3.95
2 PIECE PRINTER STAND.....	£6.95
LABELS per 1000.....	£9.95
TILT AND TURN MONITOR STAND	£12.95

JOYSTICKS

PRO 5000.....	£12.95
NAVIGATOR.....	£12.95
KONIX SPEEDSTICK.....	£9.95

RIBBONS

STAR LC10 MONO.....	£3.50
STAR LC10 COLOUR.....	£6.95

AMIGA PUBLIC DOMAIN

UTILITIES, GRAPHICS & MUSIC
GRAPHIC & MUSIC DEMOS

100's of disks from £1.20 per disk
10 Public Domain disks in storage
box £9.95

SEND FOR FREE CATALOGUE
P.D. disks are inclusive of p&p

SWITCHES AND CABLES

2 WAY DATA SWITCHES:-
SERIAL.....£12.95
PARALLEL.....£12.95
PAR. PRN CABLES...£7.95

WORLDWIDE SOFTWARE

106A Chilwell Road, Beeston,
Nottingham, NG9 1ES



WORLDWIDE SOFTWARE



WORLDWIDE SOFTWARE

106A Chilwell Road, Beeston,
Nottingham, NG9 1ES

- FREE Catalogue Disk (Plus latest demos when available) with every order over £10.00
- All orders despatched by 1st class post
- 7 day 24 hour ordering
- Quality products at keenest prices
- Credit card accounts debited only on despatch of goods
- Complete customer satisfaction is our aim

Order by Telephone: Credit card order lines
0602 252113 0602 225368
by Fax: Fax your order with credit card details
0602 430477
by Mail: Send payment with order
Please give your name, address, telephone no., software title, price advertised and computer type.

Worldwide Pack 1

Amiga Second Drive
+ Any three software titles with our
advertised price of £17.95 or less
ONLY £109.99

Worldwide Pack 2

Amiga Second Drive
+ Any two software titles with our
advertised price of £17.95 or less
ONLY £99.99

Worldwide Pack 3

Amiga 1/2 meg upgrade
+ Any two software titles with our
advertised price of £22.95 or less
ONLY £89.99

AMIGA SOFTWARE		AMIGA SOFTWARE		AMIGA SOFTWARE		AMIGA SOFTWARE		AMIGA SOFTWARE	
1st letters and Words (3-8 years)	17.95	Duck Tales	17.95	Killing Cloud	17.95	Puzznic	17.95	World Soccer	7.99
4 Player Adaptor	5.95	Dungeon Master Editor	7.99	Killing Game Show	17.95	Rainbow Islands	17.95	Wrath of the Demon	22.95
688 Sub Attack	17.95	Dungeon Master (1 Meg)	17.95	Knights of Crystallion	22.95	Raxerox	17.95	Xiphos	17.95
9 lives	17.95	Eagles Riders	17.95	Last Ninja 2	17.95	Rick Dangerous 2	17.95	Zirax	14.95
Accolade in Action	22.95	ECO Phantoms	17.95	Legend of Billy Boulder	17.95	Riders of Rohan	22.95	Z-Out	14.95
Action Stations	22.95	Edition One	17.95	Legend of Faerghail	22.95	Robocop 2	17.95		
Adidas Championship Football	17.95	Elite	17.95	Legend of the Lost	17.95	Rogue Trooper	17.95		
Advanced Tactical Fighter 2	17.95	Elvira Mistress of the Dark	22.95	Leisuresuit Larry 2	26.95	Second Front	22.95		
Alpha Waves	17.95	Epic	17.95	Leisuresuit Larry 3 (1 Meg)	29.99	Sega Master Mix	17.95		
Amazing Spiderman	17.95	ESWAT	17.95	Leisuresuit Larry	17.95	Shadow of the Beast 2	28.95		
Aminos	14.95	European Super League	17.95	Lemmings	17.95	Shadow of the Beast	17.95		
AMOS	39.99	F16 Combat Pilot	17.95	Lets Spell at Home	14.95	Shadow Warriors	17.95		
Armour Geddon	17.95	F16 Falcon and Mission Disk	28.95	Lets Spell at the Shops	14.95	Shock Wave	17.95		
Atomic Robokid	17.95	F16 Falcon Mission Disk 2	14.95	Lets Spell Out and About	14.95	Simulcra	17.95		
A.W.E.S.O.M.E.	28.95	F16 Falcon Mission Disk	14.95	Lets Tell Christmas Stories	14.95	Sly Spy Secret Agent	17.95		
Back to the Future 2	17.95	F16 Falcon	22.95	Life and Death	22.95	Snowstrike	17.95		
Badlands Pete	14.95	F19 Stealth Fighter	22.95	Line of Fire	17.95	Soccer Mania Compilation	17.95		
Badlands	14.95	F29 Retaliator	17.95	Loom	22.95	Speedball 2	17.95		
Bards Tale 2	9.99	Ferrari Formula 1	7.99	Loopz	14.95	Spell Book (4-9 years)	14.95		
Battle Command	17.95	Final Battle	17.95	Lost Patrol	17.95	Spell Bound	14.95		
Battlemaster	22.95	Final Command	17.95	Lotus Esprit Turbo Challenge	17.95	Spiderman	17.95		
Battlestorm	17.95	Final Conflict	22.95	M1 Tank Platoon	22.95	Spindizzy 2	17.95		
BAT	26.95	Final Whistle	9.99	Magic Fly	17.95	Sporting Gold	22.95		
Betrayal	22.95	Finest Hour Battle of Britain	22.95	Magics Maths	17.95	Spy Who Loved Me	17.95		
Better Maths (12-16 years)	17.95	Fire Brigade 1 Meg	22.95	Manchester United	17.95	Strider 2	17.95		
Better Spelling (9-14 years)	17.95	Flight of the Intruder	24.95	Master Blazer	17.95	Star Command	22.95		
Billy the Kid	17.95	Flight Sim 2 Hawaii Scenery	11.99	Maths Mania	17.95	Starlight	17.95		
Blade Warrior	17.95	Flight Sim 2 Scenery 11	14.95	Maths (5-13 years)	17.95	Storm Across Europe	22.95		
Blinkys Scary School	7.99	Flight Sim 2 Scenery 7	14.95	Mathtak	14.95	Stormovik	22.95		
Blitzkrieg Battle at Ardenns	22.95	Flight Sim 2 Scenery 9	14.95	Mean Streets	17.95	Street Hockey	17.95		
Blitzkrieg May 1940	17.95	Flight Sim 2	28.95	Mickeys Runaway Zoo	17.95	Stridor 2	17.95		
Bomber Bob	17.95	Flipit and Magnose	17.95	Midnight Resistance	17.95	Stun Runner	14.95		
Bomber Mission Disk	14.99	Flood	17.95	Midwinter	22.95	Super Off Road Racing	17.95		
Breach 2 1 Meg	17.95	Frontline	17.95	Mig 29 Fulcrum	26.95	Supremacy	22.95		
Bridge Player 2150	22.95	Full Blast Compilation	22.95	Mindgames Strategy Compilation	17.95	SWIV	17.95		
BSS Jane Seymour	17.95	Fun School 2 (6-8 years)	14.95	Monty Python	17.95	Team Suzuki	17.95		
Buck Rodgers	26.95	Fun School 2 (Over 8 years)	14.95	Mr Do Run Run	11.99	Team Yankee	22.95		
Bukokan	17.95	Fun School 3 (5-7 years)	17.95	Murders in Space	17.95	Teenage Mutant Turtles	19.99		
Cadaver	17.95	Fun School 3 (Over 7 years)	17.95	Murder	17.95	The Final Conflict	17.95		
Captive	17.95	Fun School 3 (Under 5 years)	17.95	Mystical	17.95	The Immortal	17.95		
Carthage	17.95	Fun School 2 (Under 6 years)	14.95	M.U.D.S.	17.95	The Last Starship	17.95		
Car Vup	17.95	Future Basketball	17.95	NARC	17.95	The Light Corridor	17.95		
Challengers Compilation	22.95	Gazzas New Soccer Game	17.95	Necronom	17.95	The Ultimate Ride	17.95		
Champions of Kryn 1 Meg	22.95	Gettysburg	22.95	Neuromancer	17.95	Things to do with Numbers (5-10 years)	22.95		
Champions of the Raj	17.95	Ghenghis Khan	22.95	Never Ending Story	22.95	Things to do with Words (5-12 years)	14.95		
Championship Run	17.95	Gold of the Aztecs	17.95	New York Warriors	14.95	TNT Compilation	22.95		
Chaos Strikes Back (1 Meg)	17.95	Golden Axe	17.95	Night Breed	17.95	Toki	17.95		
Chase HQ 2	17.95	Goolys Railway Express	17.95	Night Shift	17.95	Torvak the Warrior	17.95		
Chess Simulator	17.95	Greg Normans Ultimate Golf	17.95	Nitro	17.95	Total Recall	17.95		
Chessmaster 2100	22.95	Gremlins 2	14.95	Obitus	26.95	Tournament Golf	17.95		
Chronicles of Omega	14.95	Gunboat	17.95	Omicron Conspiracy	17.95	Toyota Celica GT Rally	17.95		
Chuck Yeager Flight Trainer	19.95	Gunship	17.95	Operation Harrier	17.95	Turrican	14.95		
Colonels Bequest (1 Meg)	29.99	Hard Drivin 2	17.95	Operation Spruance	17.95	TV Sports Baseball	22.95		
Corporation	17.95	Harley Davidson	22.95	Operation Stealth	17.95	Ultima 5	22.95		
Crime Does Not Pay	17.95	Harpoon (1 Meg)	22.95	Oriental Games	17.95	UN Squadron	17.95		
Crime Wave	17.95	Helter Skelter	14.95	Over the Net	22.95	Unreal	22.95		
Days of Thunder	17.95	Heroes Compilation	22.95	Pang	17.95	U.M.S. 2	22.95		
De Luxe Scrabble	14.95	Hollywood Collection	22.95	Paradroid 90	17.95	Vaxine	17.95		
Death Trap	17.95	Horror for Henrietta (Maths 5-12 years)	17.95	Pirates	17.95	Venomwing	14.95		
Debut	17.95	Horror Zombies	17.95	Plotting	17.95	Voodoo Nightmare	17.95		
Defender 2	14.95	Imperium	17.95	Polio Quest 2 (1 Meg)	26.95	War Jeep	17.95		
Dick Tracy	17.95	Indianapolis 500	22.95	Pools of Radiance	22.95	Welltris	17.95		
Dinosaur Discovery (3-8 years)	17.95	Indy Last Crusade + Zak McKracken	22.95	Populous New Worlds	7.99	Wheels of Fire	22.95		
Distant Armies	17.95	International 3 D Tennis	17.95	Populous	17.95	White Death	22.95		
Donalds Alphabet Chase	17.95	International Soccer Challenge	17.95	Power Pack Compilation	17.95	Wings of Fury	17.95		
Dragon Breed	22.95	Isido Way of the Stones	17.95	Powermonger	22.95	Wings (1 Meg)	22.95		
Dragon Flight	22.95	It Came From the Desert (1 Meg)	22.95	Pro Tennis Tour	17.95	Wings (612K)	17.95		
Dragon Force 1 Meg	22.95	Jack Nicklaus Unlimited Golf	22.95	Prof Looks at new Words	14.95	Winning Tactics	6.99		
Dragon Wars	22.95	James Bond Underwater Agent	17.95	Prof Plays a new Game	22.95	Wolfpack (1Meg)	22.95		
Dragon Breath	22.95	Judge Dredd	14.95	Projectyle	17.95	Wonderland	22.95		
Dragons Lair 2	36.95	Kick Off 2 Expanded	17.95			World Championship Soccer	17.95		
Dragons of Flame	17.95	Kick Off 2	14.95						

BUDGET TITLES

Advanced Fruit Machine Sim	6.99
Advanced Pinball Sim	4.99
Afterburner	7.99
Arkanoid 2	7.99
Batman Caped Crusader	7.99
Conflict	4.99
Cosmic Pirate	7.99
Double Dragon	7.99
Fast Lane	4.99
Formula One Grand Prix	4.99
Guardian Angels	6.99
Hitchhikers Guide	9.99
Hostages	7.99
Impact	4.99
Leather Goddess	9.99
Maya	7.99
On Safari	4.99
Planetfall	9.99
Postman Pat	7.99
R Type	4.99
Rock Star Ate My Hamster	4.99
Rotor	7.99
Ruff n Ready	6.99
Silksworm	7.99
Skrull the Barbarian	4.99
Spidertronic	4.99
Super Hang On	7.99
Super Ski Challenge	4.99
Treasure Island Dizzy	9.99
Wishbringer	4.99
Wizzball	7.99
Yogis Great Escape	6.99
Zork	9.99

CITIZEN PRINTERS

Citizen 120D Plus	139.99
Citizen Swift 9	230.00
Citizen Swift 24	320.00

(includes free connecting cable)

MANNESMANN TALLY PRINTERS

MT81 (130/26 cps 80 column)	159.00
MT130/9 (300/75 cps 9 pin 80 column)	399.99
MT130/24 (300/150 cps 24 pin 80 col.)	499.99

(includes free connecting cable)

LOCKABLE DISK STORAGE BOXES

40 Disk Storage Box	7.95
80 Disk Storage Box	8.95
100 Disk Storage Box	9.95

JOYSTICKS

Cruiser (Black, Blue or Multicolour)	8.99
Quickshot 3 Turbo	9.95
Zip Stick Autofire	14.95
Competition Pro	12.95
Competition Pro Clear	13.95
Competition Pro Extra	14.95
Competition Pro Glo (Green)	17.49
Competition Pro Glo (Pink)	17.49
Cheetah 125 Plus	7.49
Quickjoy Jetfighter	12.99
Speedking	9.99
Speedking Autofire	10.99

Europe (other than UK)

Shipping costs are
£1.50 per disc for normal airmail
£2.50 per disc for express airmail

Please make cheques or postal orders payable to WORLDWIDE SOFTWARE

All prices include postage and packing in the UK

Not all titles released at time of going to press. Titles and prices subject to change

Outside Europe shipping costs are

£2.00 per disc for normal airmail
£3.00 per disc for express airmail

you are now entering
theGame
Zone...

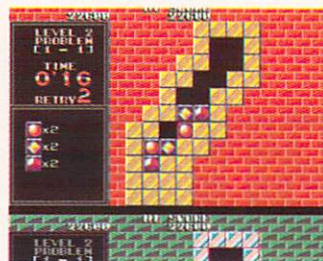
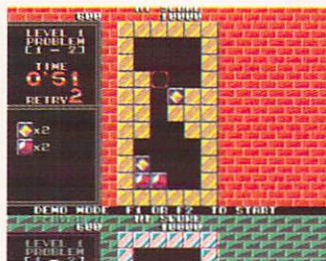


MINI REVIEWS 38, WELLTRIS 40,
CADAVER 43, BATTLE COMMAND 45,
INDIANAPOLIS 500, ROBOCOP 2,
PANG 50, POWERMONGER 51,
SUPREMACY 53, DAYS OF THUNDER 54,
MINI REVIEWS 55

Puzznic

Supplier: Ocean

Price: £24.95

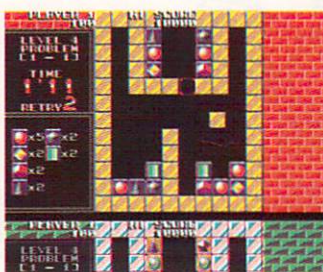
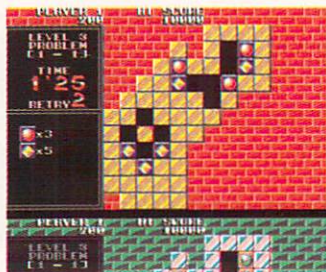


Transportation plays a major part in this Ocean puzzle game. As with all games of this type, there is a time factor involved. In Puzznic there's a count-down while you struggle to match up blocks of the same colour or pattern. When two or more likewise blocks rest adjacent, either vertically or horizontally, they all flash and disappear. The object of Puzznic is therefore to remove all the blocks from the screen by careful manoeuvring.

The game does need real care, since you can only move your blocks sideways. To get them to go down just push them over an edge

and gravity takes its course. With only two of each type of brick it is simplicity itself to sort out a screen. Where it starts to get tricky is when there are three blocks, and two are very near each other. Remove those two, whether by design or accident, and you're scuppered, with one block remaining.

Puzznic doesn't boast great graphics or sound, but after a couple of screens it becomes fiendishly clever, requiring more and more forethought before you continue playing. Thumbs up time as this is a refreshing alternative to Tetris, Welltris et al.



Betrayal

Supplier: Microprose

Price: £24.95

Give me a game where treachery is the altar on which friends are sacrificed, where nefarious deeds are not just the order of the day, but one of the Ten Commandments, and where tongues have more forks than a set of stainless steel cutlery from Sheffield, and I'll give you a knife in the back.

Generosity is a strong character trait of mine. In games like Betrayal, I give away a lot of knives.

This Rainbird offering has been touted as the next biggy after Midwinter, but alas lacks the cutting edge to take it there. The aim is to secure a majority of courtiers in both the court of the king and

bishop, and then install your own puppet rulers, making you Mister/Ms Big. To this end, you travel around the poorly drawn land of the West Marches, capturing villages belonging to the other knights – four players, in any human/computer combination – flogging your own peasants and harvesting the land for cash, then eventually buying more seats in the two courts. Alternatively find blasphemous evidence against someone and blackmail them out.

Betrayal is a reasonable game, but is hardly distinctive or impressive in any way, and those graphics look like they were designed on a C64.



Wolfpack

Supplier: Microprose Price: £24.95

Achtung, achtung, das Engländers vost dropping das depthun chargin, mein Kapitan! And 30 seconds later it was all over for poor Fritz as U-141 collected a one way ticket to the bottom of the ocean. Unfortunately I happened to be the German

captain that was going down, in the Mirrorsoft tale of aquatic service during World War II.

As captain of a U-boat, you not only have to worry about what the Allies are doing over your head, and whether you can fulfill your mission objectives – there are

loads including a design your own scenario kit – but also where you left the other submarines in your wolfpack. If you leave them to the vagaries of computer intelligence they can end up anywhere, and usually it's on the sea bed, so you need to take control

of each while arranging elaborate traps and manoeuvres to fool the Allied escort ships.

One main screen is utilised in Wolfpack, which explains why the game has a fiddly nature – compounded by the slight unresponsiveness of the mouse clicks – but if you can be bothered learning them, there are keyboard equivalents for all the controls.

Graphics are pretty good until you get close up to something, then the image simply becomes a jumble of bit mapped blocks. For all its faults this is still a fab game and will keep you happy until Silent Service II surfaces on the Amiga.



Amiga repairs

The official Commodore repair centre is now open for business.

At the Commodore National Repair Centre we have over 100 highly trained technicians committed to repairing and maintaining your Amiga and C64 computers.

Our expertise and experience ensures that your computer is repaired to the highest standard for the lowest cost. And we will repair your equipment within 12 days.

One low payment covers diagnosis, repair, parts, labour and return carriage.

And as an extra bonus, if you reply before December 10th we'll send you an award winning software title.

To schedule a repair simply call the number below.

Be ready to give us your name, address, computer type, serial number and type of fault.

Call the Commodore National Repair Centre NOW on

0733 361216

Payment accepted by cheque, PO and credit card. The charges are £39.95 for the C64, and £49.95 for the Amiga 500 and remember, all calls prior to December 10th receive FREE SOFTWARE

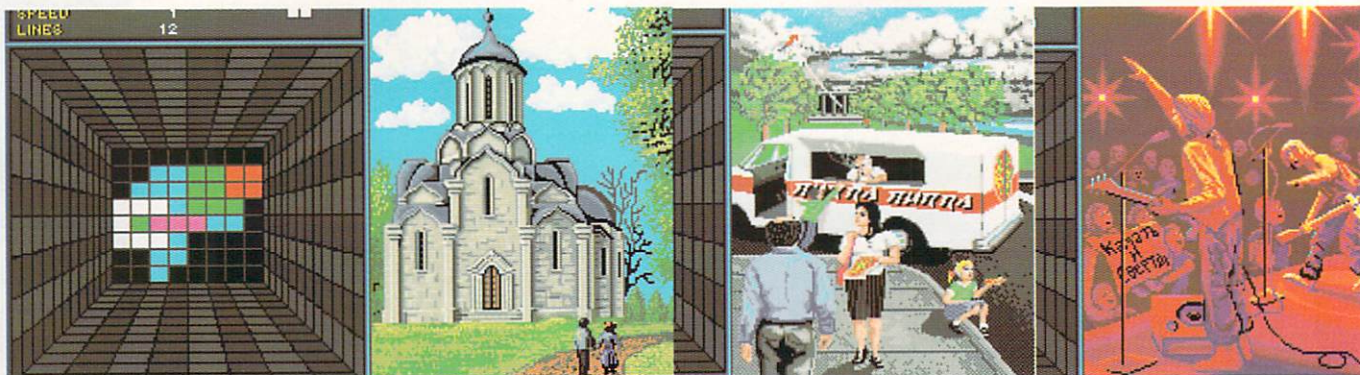


Repair
within
12 days

A500
£49.95
inc. VAT

C64
£39.95
inc. VAT

Free
Software



Ordinary people doing ordinary things, so Russians don't have three heads and eat babies as we've been told

Welltris, or 'Tetris: the Sequel' if you prefer, is the long awaited follow up to the arcade classic Tetris, one of the most successful logic games ever.

The action takes place in the 3D well on the left of the screen. The aim of the game is to guide the various shapes down the walls of the well, rotating them if necessary, so that they fit perfectly with the pieces already on the floor. You have to do this without leaving gaps, or pieces resting against the walls of the well.

Allow a piece to come to rest on the wall of the well, and the entire wall section is blocked for the next three falling pieces. When all four walls are blocked it's time for the immortal words 'Game Over'.

Sounds simple? If you can think

and react fast enough it is, if you can't, however, it can be a very different story.

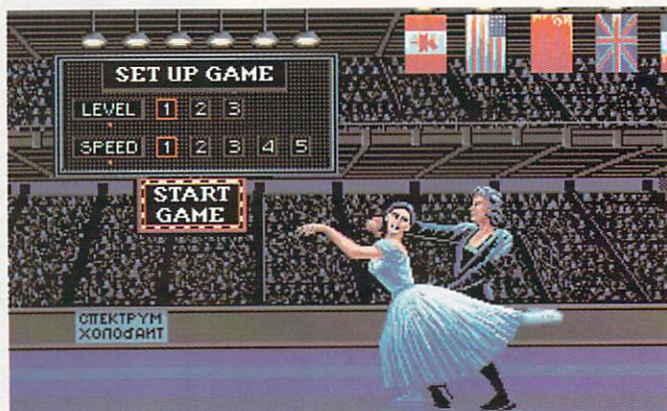
After sliding down the wall of the well, pieces continue to slide across the floor until they're either stopped by coming into contact with another piece or the opposite wall of the well. As a piece falls it can be moved around the walls of the well, providing they're not blocked, and

when it reaches the desired point of entry to the well floor, pressing the space bar sends the piece flying down to a perfect fit with its companions.

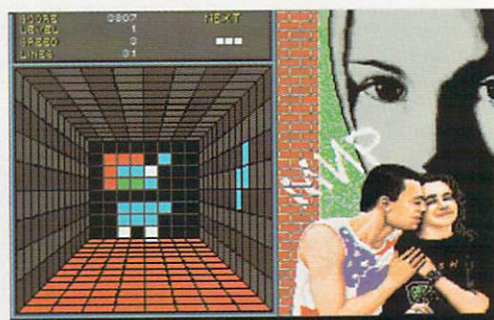
The higher the piece on the wall when released, the more points scored. When a line is completed across the well floor either horizontally or vertically, it disappears, allowing room for more pieces to fall.

The screen displays depict various aspects of Soviet society and as the difficulty levels change, so does the scenery. Anyone able to make it past Alexey should contact MENSA, and start donating to a sperm bank immediately (er, unless you're a girly - Ed).

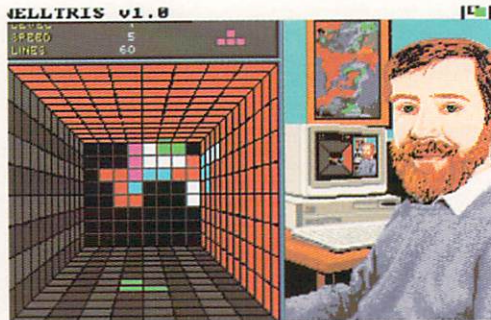
Like many essentially simple concepts, the closer you look the more complex things become. Any game which possesses these qualities is invariably a good one. No doubt Alexey Pajitnov will do for home computing what Professor Rubik did for coffee tables.



Be careful where you start, or you could be skating on thin ice



When you're in the red, getting around can be a real problem, things could be worse



Here's the man himself, watching you, watching him, watching you, eh?

WELLTRIS

Publisher: Infogrames Price: £24.99

Graphics

Strange would not be an unfair description. The actual gameplay graphics are adequate, being more functional than decorative. As for the screen shots, they're pleasant enough and do add an extra goal to the game rather than just increasing your score.

Sound

Thin on the ground, mostly short samples, with a jingle at the end of each level. The samples are played, for example, whenever a line is completed just before it disappears. My personal favourite is a nice metallic crunch as blocks slam together when a line is removed. There is music, again with a Russian flavour but unfortunately, it's dreadful (thankfully you can turn it off).

Gameplay

Basically simple and repetitive, which nevertheless requires considerable co-ordination of hand and eye, especially when things start to speed up. The real game is played in your mind as you desperately try to calculate the possibilities while the piece makes its inevitable slide to the floor of the well.

Be warned, you could become addicted, it's the sort of game you may tire of but will always come back to. If you're a Tetris fan, the game's a must, and I've no doubt you will find it worth every penny, literally adding a new dimension to an already classic game.

If you're new to Alexey's work but are looking for something different and challenging for your collection, this could well be the one.

EUROPE'S BIGGEST 16 BIT DEDICATED EVENT

**4 - 5 - 6
JANUARY
1991**

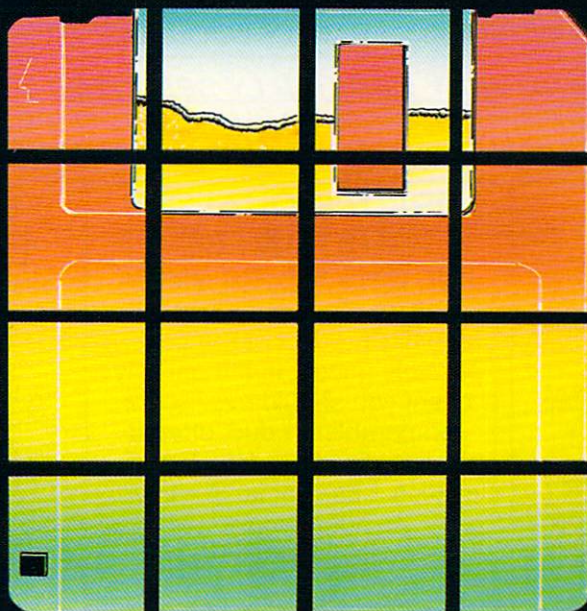
**SHOW OPEN
10-6 EVERYDAY
CLOSES 4PM
SUNDAY 6th**

*3rd
16 Bit
Computer
Fair*

**NEW LARGER VENUE
NOVOTEL
HOTEL
HAMMERSMITH
LONDON W6**

NEAREST TUBE STATION
HAMMERSMITH
(PICCADILLY, METROPOLITAN
& DISTRICT LINES)
ORGANISERS WESTMINSTER
EXHIBITIONS LTD
SURREY HOUSE,
34 EDEN STREET
KINGSTON,
SURREY. KT1 1ER
PHONE 081-549-3444
FAX 081-547-1311

**THE ONLY
EUROPEAN
SHOW
DEDICATED
TO THE
SERIOUS &
ENTERTAINMENT
SIDES OF THE
ST & AMIGA**



OVER 140 EXHIBITORS INCLUDING

ADAMSOFT, ADVENTURE SOFTWARE
AUDIO VISUAL RESEARCH
CASPELL COMPUTERS,
CAVENDISH DISTRIBUTION
CHECKMATE SYSTEMS, COMPUTER MANUALS
DS&K DESIGNS, ENSONIQ
ECLIPSE COMPUTER SUPPLIERS
FRONTIER SOFTWARE, GFA MEDIA DATA
GASTEINER TECHNOLOGIES
H.B. MARKETING, HI-SOFT, HI-TEC MODEMS
INFOGRAMMES, INTERCEPTOR, KUMA
LOGIC SALES, MEMORY EXPANSION SYSTEMS
MICRO MART, MICRODEAL, MUTANT SOFTWARE
NADI SYSTEMS, PANDAAL MARKETING
POWER COMPUTING, PROTON SOFTWARE
PSYGNOSIS, RAD TECHNOLOGY
RIVERDENE PDL, SILICA SHOP, ST CLUB
SIREN SOFTWARE, SOFTWARE SELECTION
STAMPEDE, TAKE CONTROL, U.S ACTION
U.S GOLD, VIDEK

**SAVE TIME & MONEY BY PRE-PURCHASING
A FAST LANE TICKET BEFORE DECEMBER 17th**

SAVE £2 PER TICKET

REGULAR TICKET PRICE £5 (At door or after December 17th)

FAST LANE TICKET £3 (Purchased before December 17th)

CHILDREN UNDER 10 ADMITTED FREE WITH ADULTS

POST TO - 16 BIT FAIR, P.O.BOX 68 ST AUSTELL, PL25 4YB
PLEASE SEND ME.....FAST LANE TICKETS AT £3 EACH

CHEQUE/ P.O. ENCLOSED FOR £.....MADE PAYABLE TO 16 BIT FAIR

NAME.....

ADDRESS.....

POSTCODE.....



OR PHONE **0726 68020** With Credit Card No.

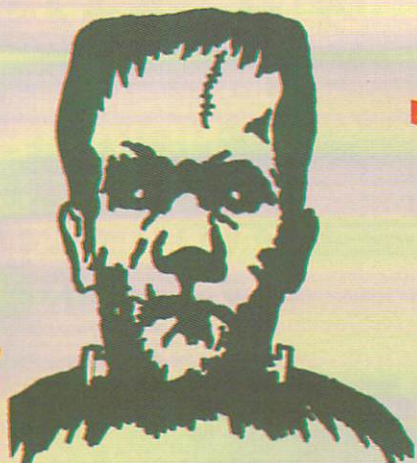


**SAVE
£2 PER
TICKET**

PRE-PURCHASE
YOUR TICKETS
AND SAVE

OFF REGULAR
DOOR PRICE

**FAST LANE
TICKET
HOLDERS
HAVE THEIR
OWN PRIORITY
ENTRANCE
A "FAST LANE
TICKET HOLDERS
ONLY" ENTRANCE
WILL BE SITUATED
ON THE 1st FLOOR
OF THE HOTEL
ADJACENT TO
THE RECEPTION
DESK. TAKE NO
NOTICE OF THE
QUEUE OUTSIDE.
SIMPLY WALK INTO
THE HOTEL LOBBY.**



Frank and Stein says - 'Look at these electrifying disk prices'

3.5" DS-DD DISKS WITH DELUXE STORAGE BOXES

35 3.5" DS-DD 135 TPI WITH 100 CAPACITY LOCKABLE STORAGE BOX	£21.95
45 3.5" DS-DD 135 TPI WITH 100 CAPACITY LOCKABLE STORAGE BOX.....	£27.95
55 3.5" DS-DD 135 TPI WITH 100 CAPACITY LOCKABLE STORAGE BOX.....	£32.95
65 3.5" DS-DD 135 TPI WITH 100 CAPACITY LOCKABLE STORAGE BOX.....	£38.95
75 3.5" DS-DD 135 TPI WITH 100 CAPACITY LOCKABLE STORAGE BOX.....	£42.95

100 3.5" DS-DD 135 TPI WITH 100 CAPACITY LOCKABLE STORAGE BOX.....	£49.95
150 3.5" DS-DD 135 TPI WITH 100 CAPACITY LOCKABLE STORAGE BOX.....	£69.95
200 3.5" DS-DD 135 TPI WITH 100 CAPACITY LOCKABLE STORAGE BOX.....	£79.95

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

ACCESSORIES

NEW 250 capacity lockable stackable box only£19.95
Deluxe 100 capacity 3.5" box.....£7.95

Amiga replacement drive (inc external power supply)£59.95

Amiga replacement mouse£19.95

Head cleaners.....£2.95

Neoprene Mouse Mat£2.95

1000 3.5" Labels£12.95

PRICE & QUALITY GUARANTEE

MD Office Supplies prides itself on offering the highest quality product at the best possible prices. In the unlikely event you should ever see a comparable product offered cheaper DO NOT HESITATE, give us a call because we will not match it

**WE WILL BEAT THAT PRICE
WE ABSOLUTELY GUARANTEE IT**

LOW LOW PRICES FOR BULK BUYERS

For all you large users we have some **unbeatable BULK RATES** ON OUR SUPERB DS-DD 3.5 DISCS

400 DS DD 135 tpi	£155.00
500 DS DD 135 tpi	£170.00
600 DS DD 188 tpi	£210.00
800 DS DD 188 tpi	£269.00
1000 DS DD 135 tpi	£295.00

AS ALWAYS LIFETIME GUARANTEED UNQUESTIONABLE RELIABILITY. EACH DISC IS SUPPLIED WITH LABEL.

SONY DISC OFFER

We have very limited supplies of **GENUINE SONY BULK DISKETTES** at give away prices. These diskettes come in Sony outers to prove authenticity this is the real thing. Please quote Sony offer when ordering.

100 genuine Sony diskettes DS-DD 135 tpi	£44.95
200 genuine Sony diskettes DS-DD 135 tpi	£82.95
400 genuine Sony diskettes DS-DD 135 tpi	£159.95
800 genuine Sony diskettes DS-DD 135 tpi	£309.95

With every 100 Sony discs why not buy a deluxe 100 box at only £2.99 1 box per 100 discs (Max 2 per person)

**This offer must end soon
Hurry
Hurry**

With every 100 Sony discs why not buy a deluxe 100 box at only £2.99 1 box per 100 discs (Max 2 per person)



Trade Accounts Welcome

M.D. OFFICE SUPPLIES
18 CRESCENT WAY, FARNBOROUGH, KENT BR6 9LS
TELESALES HOTLINE: 0689-861400

All prices include VAT and delivery UK only. E/OE



Education Orders Welcome



One of the many foes to be faced



There's a hole in your boat and no way back

CADAVER

Publisher: Imageworks Price: £24.99

Does the thought of wandering alone through a deep, dark, dungeon fill you with the urge to wet your armour and shout for your Mum? You're not alone! Fortunately, the good old Bit Map Brothers have come up with the wimp's alternative: Cadaver.

Yes, I know it's a silly title, and no it isn't some form of rhyming slang. It is however, an excellent graphic adventure. Produced in the - now familiar - 3D isometric format (in the style of Treasure Trap) and for those people with very long memories, the Ultimate series on something called a Spectrum.

Fortunately we've come a long way since the days when everything was in one colour and the sound was enough to make you turn the game off. Cadaver is a fine example of the state of the art.

It's based upon the continuing adventures of Karadoc. Fancy calling a kid that. Some people, honestly!

Anyway, your mission and indeed his, is to explore Castle Wulf, dealing with the objects, monsters and people you meet on

your travels, as well as the numerous puzzles which need to be solved before you encounter the final task, namely, killing the evil necromancer Dianos. Familiar scenario for adventure freaks?

What Cadaver lacks in originality, it more than makes up for in real quality. The action takes place in the 3D dungeons, rooms and passages of Castle Wulf and Karadoc is moved around this little world with a joystick (as indeed are all his functions).

If you want to pick up an object, move Karadoc next to the required item. This activates a number of icon options relevant to that particular object, you can then pick it up, use it, drink it, examine it and so on, depending on the icons activated.

Certain items however, cannot be picked up and may only be pushed, dragged, or used in the room in which they were found. There are a large number of icons which become available depending upon the item being used and the situation Karadoc is presently involved in. This can make interaction with both characters and

objects quite complex and also makes for some interesting puzzles.

Many items can be found on your travels and these fall into four broad categories, the first being food and drink.

Food is usually found in chests and drink usually in barrels, but be careful, always examine what's in the barrel before you guzzle it down.

The second category is best described as a collection of utilities, items which are needed to proceed in the quest, such as keys, ropes, weapons and so on.

The third section consists of magical items, and these can be weapons, healing potions, and various spells for more abstract uses such as learning what certain potions may be used for.

The Main Screen is the window to Karadoc's world, it displays your present position in the game, giving all the details you need to know concerning Karadoc and the items he finds.

There's a rucksack which, in the interests of safe keeping, stores all your goodies. They can be viewed as a whole, or scrolled individually.

Graphics

Excellent, giving real texture to the game, and creating a wonderful atmosphere with subtle additions such as the flickering lamps, and mushrooms growing as Karadoc wanders by.

Sound

This takes the form of individual samples - footsteps, screams and the like. All the sounds are extremely convincing, but, and this is probably the only 'but' in the game, there is no background music.

OK, it's not a big problem, and it probably would've been turned off if it was there anyway. However, it may have added significantly to the atmosphere of the game.

Gameplay

Again, excellent. Controlling Karadoc and the items he uses is quite straightforward, given a little practice. One of my favourite aspects of the game's design is the difficulty level, which is pitched just right - hard enough to be a challenge, but not impossible. Which in the long run will save you lots of money on Valium and smashed up computer equipment. The game, like a good book, seems to have real depth.

What else can I say apart from 'buy it!' If you're looking for a stocking filler for Crimbo, you would have to go a long way to beat this one.

In the first room of the adventure you'll find a personal log book. Examining it provides details on your health, score, and the percentage of completion of the present level.

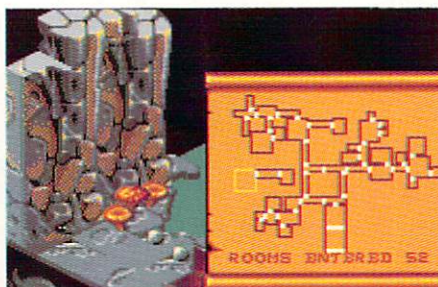
A map is activated by pressing F1 and the result is a display of the rooms you've entered. Maps can be scrolled and zoomed at will.

Up to 10 individual quests can be saved via a separate disk and loaded as required, however there is a price to be paid.

The further you progress in the quest, the more money a subsequent save will cost. There is some good news, at least loading is free!



Solve the difficult puzzle and you can claim a wonderful prize (Crackerjack, right?)



With such a corkingly perfect map, no more scribbling on bits of paper!



It may be in your incredibly stuffed rucksack but what do you do with it?

MICROTEC

DOUBLE
PACK
£12.99

ENTERTAINMENT

PRESENTS

In conjunction with Mutation Software

FOR
THE
AMIGA



B y P o s t B y P h o n e

Please rush me a copy of Bug-Bash/Nucleus
I enclose a cheque/postal order for £12.99
plus £1.00 post and packaging

NAME _____

ADDRESS _____

POSTCODE _____

To order by Access or Visa

RING

071 - 281 9022

Also available from your local computer store

MICROTEC ENTERTAINMENT, 61 STROUD GREEN ROAD, LONDON N4 3EG.

BATTLE COMMAND

Publisher: **Ocean** Price: **£24.99**

When Carrier Command was released a couple of years ago mouths dropped open in amazement. It was one of the few games that could honestly be described as awesome!

It wasn't until weeks later that everyone realised it had bugs and playability flaws.⁹ Realtime Software, the creators of that epic, haven't done anything since then, except work on Battle Command which, they hasten to point out, is not a sequel. It just has the word 'Command' in it.

Battle Command will appeal to lovers of Battlezone, and to northerners who harbour resentment against southerners. Why? Because the plot has north facing south, deadlocked in an Ultra War.

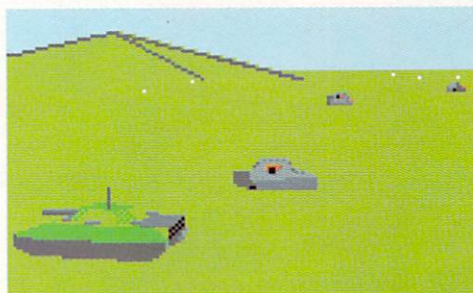
You, as a Northerner in your one-man tank full of sophisticated electronics, are dropped behind enemy lines and have 15 or so missions to try to alter the course of the war. Or get blown up, which is the more likely.

The missions on offer range from straight blasting exercises to destroying particular objectives. You're also racing to pick up a satellite from behind enemy lines, leaving time-bombs on runways, shelling inaccessible bases, and – possibly the most varied – defending a bridge while your own forces pull back across it, then getting across yourself and blowing it up.



A majestically-sweeping landscape is the theatre in which you'll play out thrilling battles

From foreground to horizon, tanks of every side are rumbling into play...



You can tool up with a number of infra-red and radar guided missiles, a time-bomb, anti-missile lasers, a mortar, wire guided missiles, IR decoys, chaff and anti-armour systems. You don't get mines though, which is a serious oversight. You can't install everything because you only have four weapon pods, so armament needs to reflect mission requirements.

Once you get dropped off and are under way, you'll notice the screen has become 320 x 200 pixels – ie, sized to suit the American market. A scanner, your weapons pods,

speed indicators and the main 3D display outside are your primary sources of information, as well as a damage display screen just like Carrier. Except you can't repair damage, and there is no way you can re-arm, capture armament, or organise a supply drop – something of a pity really.

The 3D graphics are smooth and decidedly impressive when there are large numbers of tanks on the move at once. They travel at a fair lick too, and the action is always thick and fast. Geographical features are minimal, the odd tree and

Graphics

Fast and smooth, but the scenery often looks like MacDonalds has paid a visit at times. It's flat and empty, save for the odd shrub and low hill. The installations are nicely realised, and the tanks themselves all zip around impressively.

Sound

The music is a little flat, but the sound effects are crisp enough, without you sitting there gob smacked. It's all rather rudimentary really.

Gameplay

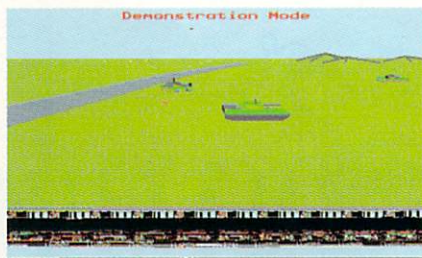
The game isn't going to win any Oscars for depth, as it consists of firing away at tanks and installations. However it is frantic fun, and the missions give the game considerable variety and increase its longevity no end. Simple, but satisfying.

hill here and there. You cannot drive up the hills or hide on the down-slopes and ambush anyone, but you can disappear behind them to avoid being shot at.

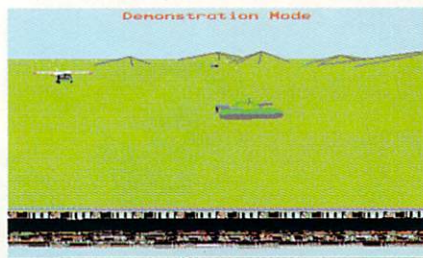
The missions make the most of what is, despite the interesting missiles and weapons, a simple game. If you were hoping to get a tank version of Carrier Command then you're in for a disappointment, since it comes across more as Battlezone with solid graphics and missions.

It is a good game however, and completing the 15 or so missions will take you no little time. These are what lend variety, because one minute you're sneaking towards a hidden base, ready to fire mortar shells at it because you can't actually see it, and then the next you are frantically trying to defend a bridge while your own troops straggle across.

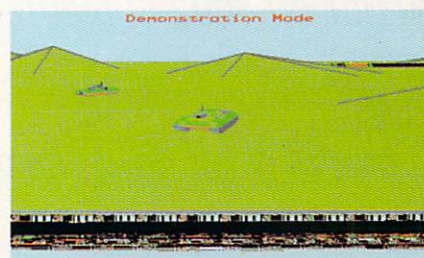
If you were hoping for a sequel to Carrier Command, you've done so in vain, but if what you were looking for was an all action, tank blasting, monster battle simulation, Christmas has just arrived...



Although the graphics are not especially...



...impressive, this is an all-action, blaster...



...of a game which will thrill to the last shell

Cat and mouse



Sometimes the
SO WHEN ITS LIFE OR DEATH

Situation Allows
CONFLICT ON YOUR COMPUTER GAME

No Second
YOU CAN RELY ON CONTRIVER!

Chances . . .
BREEDER OF SMART MICE!

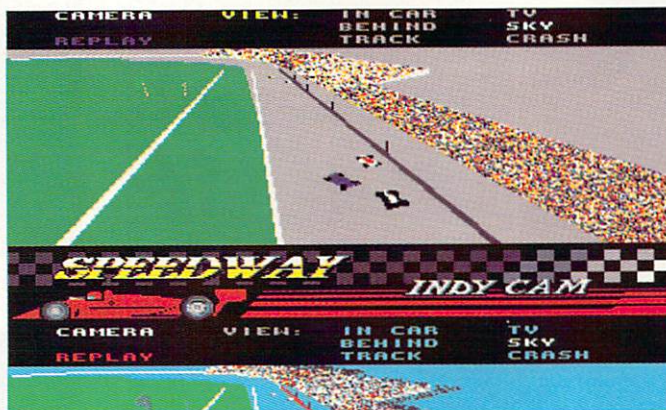


By



Indianapolis 500 is the latest game from Electronic Arts and focuses, strangely enough, on the legendary American speedway race. Now you may think that to base a game idea on 200 circuits of an oval track which might take three hours to complete is the mobile equivalent of a text-only adventure about coarse fishing, but you'd be (mostly) wrong. Although the idea itself is boring in the extreme to anyone but a total speed-freak, EA's implementation of the racing experience is rather more exciting.

The scenario is simple. You are a driver with one of three teams, hoping to steer your car to victory. And apart from a few fine tuning options, whereby you can fiddle with things such as tyre pressures, wing angles, and the number of sandwiches you'll need for the trip, there appears to be nothing more to this game than driving as fast as you can without crashing until the bloke with the chequered flag tells



Exciting action can be replayed so you don't miss anything...

trackside wall, while worrying about other drivers lapping you rather than slamming into your rear end, the game becomes something more than a high speed merry-go-round. What it becomes, in fact, is the most challenging and addictive racing game to appear for a long time.

Speed is what makes this game work. Your cockpit is little more than

few laps hopelessly oversteering until I grew used to it. After that, you soon realise that the ability to make small repeated changes to your cornering line is essential if you are to negotiate the long, sweeping bends without losing yards of paint to the boundary walls.

Ten minutes of practice with a clear track should see you competent enough to tackle a ten

Graphics

Excellent. The cars look like real racing cars and they move like them too. Screen update is fast, if a little jerky, and there are nice touches like IndyCam and the bits which fly off when you crash.

Sound

Good enough for what it does. The engine noises are throaty and you can actually hear other cars getting louder as they catch you, with nice doppler effects when they zoom past. Crashes are a bit duff, but you can sometimes hear clanging noises as exhausts and things fly off.

Gameplay

The biz. Fast and ferocious action, especially when mixing it with a pack of competitors, coupled with sensitive and responsive controls.

INDIANAPOLIS 500

Publisher: Ocean Price: £24.99

you to stop. Until you start driving that is ...

At this stage the game's filled with vector graphics really steal the show. From the moment you push forward on the joystick to accelerate out of the pit lane on practice day, the sheer speed of play is gob-smacking. When you're nose-to-tail at 225mph and trying to judge the gap between the car in front and the ever-present

a foot or so from the track surface, so everything tends to blip past you at nauseating velocities, and this effect is aided by the very slightly jerky screen update. It's notoriously difficult to convey the feeling of speed but Indie manages the task very well.

Steering can be controlled by joystick, keyboard, or mouse, and in all cases is very responsive. In fact, it's so responsive that I spent my first

lap novices' race, with no yellow flags to slow things down and no car damage (this is a godsend) should you, heaven forbid, collide with another car or a stationary distraction, such as spectators. This is where IndyCam comes in.

IndyCam is the obligatory action replay facility, and allows you to freeze the action at any time to review the last 10 seconds or so of the race from almost any angle

and camera position. This is loads of fun and adds considerably to gameplay because it also enables you to replay your cornering efforts and judge how close you came to the optimum line (or alternatively, how much carnage you caused).

Unfortunately, this is the only added extra the program offers, and it's in this department that I have the most gripes. Why is it that we can fly head-to-heads in F-16s but not in lowly automobiles? With a two player, split-screen option or even a team management section, this game would have been the dog's vitals of the genre.

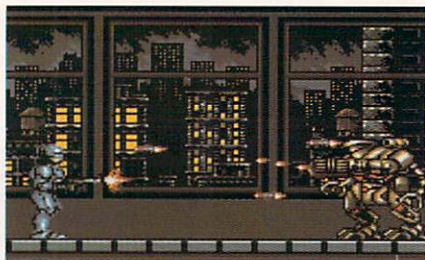
As it stands, it is a (slightly) flawed masterpiece which I can recommend to any fan of the sport, but if you're not particularly into race games or motor sport, then you'd be advised to try before you buy, as the otherwise limited scenario and gameplay probably won't grab your interest for very long.



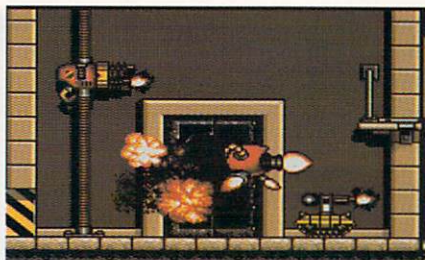
1001 eager fans and a clear track ahead



Crash the car and watch those bits fly off!



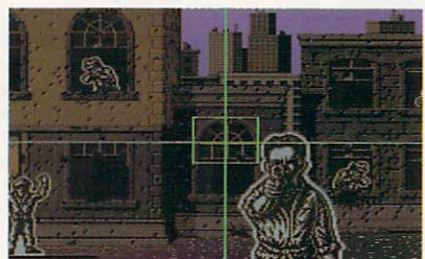
An endless sideways-scrolling procession...



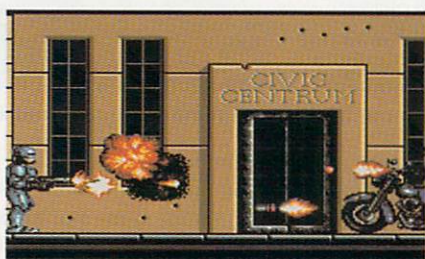
...of heinous cyborg foes dog Robo's...



...every step as he tries desperately to...



...redress the balance of power between...



...good and evil. What will be the...



...outcome of this vicious battle?

Whether it was due to cross media marketing, or whether the video inspired thousands of would-be Murphys to rush into their local software supermarket, or indeed whether it was simply a very good game, there's no denying that Robocop (the game) has been an astounding success story for Ocean. Can the sequel possibly live up to that sort of performance? Read on and find out.

Robocop is a man in a can with a mission. A mission to clean up the streets and stop the flow of designer drug 'nuke' through the arteries of old Detroit. This takes place over a scant three levels, inside various nuke producing factories, and ending with a confrontation with the Robocop 2 model on the streets of Detroit.

On the first level the object is to arrest a sidekick of the drug lord Cain, while collecting 10 packets of nuke for destruction. This accomplished, you can go on to find the actual drugs laboratory and destroy it while going on to arrest Cain.

In the final showdown, you fight your way through another of these warehouses to confront Cain again,

now firmly chopped up and fitted inside the Robocop 2 casing, and hopefully blow him to bits. Alas you don't get to see Cain go on the murderous rampage that he did in the film, but that's memory limitations for you...

Memory also plays a part in one of the two sub-games which appear between the levels. After a digitised picture of Murphy's wife, a simple board containing chips and obstructions appears. The object is apparently simple. Just move from one chip to another in whatever order you like, until you have covered all of them.

It would be simple if it wasn't for the fact that you cannot retrace your steps, and some chips are positioned so the there is only one way in. There's a

time limit too. There are three of these circuits to complete, each of which restores a picture of Murphy's pre-mutilated face as he starts to remember his former life. Complete all three and you get a bonus continue option when you've lost all three lives in the main game.

The other sub game involves targeting your weapon on criminals who pop up in a firing range-like screen. The more hits you make, the easier the villains will be to kill in the next level. Conversely, make a mess here and the game suddenly gets hideously difficult.

The main sprite for our man in a can is hugely impressive as he plods his 16-coloured way around the screen blasting hither and thither. Sampled sound effects for the weapon, which can be

upgraded to produce three-way fire and rapid fire, make for violent and exciting entertainment. Robocop has the usual range of moves, being able to fire at diagonals as well as up and sideways, and he can squat to duck from fire, while still spraying it around himself.

Energy can slowly crumple as Robo takes hits, but this can be replenished by walloping containers which may disgorge extra energy, a weapon power up, or something fiendish like reversing direction.

A status line can be called up to give the situation on how many cans of nuke are still required to be collected, and how many hostages have been rescued. Rescue enough hostages and you get an extra life.

There may only be three main levels, but what's packed into them is going to keep you occupied for some time. Boy is this game tough. There are hundreds of villains out to ventilate you, stomper platforms can squash you like a bug, and collapsing platforms and other traps can dump you in rather messy situations.

It is by far the best film conversion of the year and should be number one for months.

ROBOCOP 2

Publisher: Ocean Price: £24.99

Graphics

Graphics are razor sharp. Digitised screens abound as you start each level, try to remember your missus, and finally complete the game. The sprites for the characters are excellent, with Robocop gleaming away, and the totally impressive animation.

Sound

There are three slices of aural accompaniment (er, sound I think - Ed) to the game, though none run while the game is being played. All are good enough to one degree or another. The sound effects do stand out though, mainly because they have been sampled, and the resounding bark of Robocop's gun is suitably crisp.

Gameplay

Like the Scales of Justice, the gameplay is finely balanced. Sure, it's tough, sure, you keep getting squashed or falling into vats, but it's fun. It's worth dusting yourself off, girding your all-metal codpiece and giving those evil drug dealers a taste of lead-jacketed justice. Robocop 2 is just a wonderful orgy of non-stop violence.

RETURN THE COUPON FOR FREE COLOUR BROCHURES!

NEW! - AMIGA PACK

Commodore A500
Flight Of Fantasy

£399

INC
VAT



A500 BATMAN PACK



The Commodore A500 Batman Pack must surely rank as one of the most popular computer packs ever! The pack features the Commodore Amiga 500 computer with mouse controller and TV modulator, plus four top software titles. The software includes: 'Batman The Movie' - Rid Gotham City of the cunning Joker, in Ocean's top selling title based on the blockbuster Batman film; 'New Zealand Story' - high quality conversion of the leading arcade game; 'Interceptor' - Dogfight with two F-16's in this leading flight simulator; 'Deluxe Paint II' - top quality Amiga graphics package which set the standard for others to follow. Return the coupon for further details.

PACK INCLUDES:
A500 Computer & Mouse £399.99
A520 TV Modulator £24.99
Batman The Movie £24.95
New Zealand Story £24.95
Interceptor £24.95
Deluxe Paint II £49.95

TOTAL RRP: £549.78
Less Pack Saving: £150.78
PACK PRICE: £399.00

£399 INC VAT

AMIGA 2000



For the more serious or professional applications user, Commodore have a selection of systems based around the expandable Amiga 2000, at prices from £1295 + VAT. The A2000 features a full 1Mb RAM (expandable to 9Mb), 9 system expansion slots, plus IBM compatibility with the use of PC-XT or PC-AT bridgeboards. Complete and return the coupon, putting a tick in the A2000 box, for details of A2000 computer systems.

£1295
+VAT= £1489.25

FLIGHT OF FANTASY

Flight of Fantasy is the very latest Amiga 500 pack from Commodore, featuring BRAND NEW software releases, to make this the most spectacular A500 pack ever! The pack features the Amiga 500 computer with mouse controller and TV modulator, as well as four top software titles. These include the following:

DELUXE PAINT II:

The high quality graphics program that set the standard for other Amiga art packages. Deluxe Paint II includes powerful, easy to use tools that bring out the artist in you. Create masterpieces, presentations, 3D perspectives or just doodle.

ESCAPE / ROBOT MONSTERS:

Here's something completely different - a science fiction story with comic book style graphics. Our heroes Jake and Duke are on the Planet X rescuing Humans who have been captured by the Robot Monsters and forced to create an evil Robot Army to DESTROY EARTH! Jake and Duke fight their way through hordes of evil Robots to help the Humans escape.

RAINBOW ISLANDS:

Slip on your magic shoes, practise throwing a rainbow and you're ready to go island hopping. From the Island of Don to Monster Island, you will encounter Don himself, stinging insects, lethal combat machines, mechanical assassins, the formidable beings of legend and folklore. Finally enter the world of darkness and its inhabitants.

F29 RETALIATOR:

The ultimate in flight simulation with a choice of two aircraft and four battle environments with dozens of different tactical missions. Aerial combat, strategic bombings, interactive ground based battles, seagang carriers... the list of features is endless. Real time cockpit displays, including 'true radar' enhance the realistic feel of this stunning simulation.

PACK INCLUDES:

A500 Computer & Mouse £399.99
A520 TV Modulator £24.99
Deluxe Paint II £49.95
Escape/Robot Monsters £19.99
Rainbow Islands £24.95
F29 Retaliator £24.95

TOTAL RRP: £544.82
Less Pack Saving: £145.82

PACK PRICE: £399.00

£399 INC VAT

FOR FURTHER DETAILS OF THE AMIGA RANGE, COMPLETE THE COUPON AND RETURN IT TO SILICA SHOP THE UK's No1 AMIGA SPECIALISTS

SILICA SHOP OFFER YOU

FREE OVERNIGHT COURIER DELIVERY: On all hardware orders shipped in the UK.
TECHNICAL SUPPORT HELPLINE: Team of Amiga technical experts at your service.
PRICE MATCH: We normally match competitors on a "Same product - Same price" basis.
ESTABLISHED 12 YEARS: Proven track record in professional computer sales.
£13M TURNOVER (with 60 staff): Solid and reliable with maintained growth.
BUSINESS/EDUCATION/GOVERNMENT: Volume discounts available for large orders.
SHOWROOMS: Demonstration and training facilities at our London & Sidcup branches.
THE FULL STOCK RANGE: All of your Amiga requirements from one supplier.
FREE CATALOGUES: Will be mailed to you with offers and software/peripheral details.
PAYMENT: By cash, cheque and all major credit cards.
CREDIT PAYMENT TERMS: Silica is licensed credit brokers - return coupon for details.
Before you decide when to buy your new Amiga computer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after buying your Amiga, when you may require additional peripherals or software, or help and advice with your new purchase. And, will the company you buy from contact you with details of new products? At Silica Shop, we ensure that you will have nothing to worry about. Silica have been established for over 12 years, and have an annual turnover of £13 million. With our unrivalled experience and expertise, we can now claim to meet our customers requirements with an understanding which is second to none. But don't just take our word for it. Complete and return the coupon now for our latest Free literature and begin to experience the "Silica Shop Service".

RETURN THE COUPON NOW FOR
FREE BROCHURES

**SILICA
SHOP**



MAIL ORDER: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX Tel: 081-309 1111
Order Lines Open: Mon-Sat 9.00am-6.00pm No Late Night Opening Fax No: 081-308 0608
LONDON SHOP: 52 Tottenham Court Road, London, W1P 0BA Tel: 071-580 4000
Opening Hours: Mon-Sat 9.30am-6.00pm Late Night: Thursday until 8pm Fax No: 071-323 4737
SIDCUP SHOP: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX Tel: 081-302 8811
Opening Hours: Mon-Sat 9.00am-5.30pm Late Night: Friday until 7pm Fax No: 081-309 0017
BUSINESS/EDUCATION: 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX Tel: 081-308 0888
Order Lines Open: Mon-Fri 9.00am-6.00pm Closed on Saturdays Fax No: 081-308 0608

To: Silica Shop, Dept AMCOM-0191-32, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

PLEASE SEND INFORMATION ON THE AMIGA

Mr/Mrs/Ms: Initials: Surname:

Address:

Postcode: Tel:

Which computer(s), if any, do you own? A2000 ☐

£&OE - Advertised prices and specifications may change - please return the coupon for the latest information.

Dig out your Safari hat when playing Pang, but if you're into bloodsports forget it. In keeping with the sweet nature of Pang the animals have been substituted with a series of bright, cheerful and cute bouncing balloons.

The fun starts when you manage to strike the balloons with the futuristic harpoon you're armed with, as on impact the spheres divide into smaller balloons. These bounce at varying speeds and cost you a life if you're unfortunate enough to be hit by one.

Your mission is to wipe the bouncing bunnies off the face of the screen in order to progress in the game. There is a time limit though, which becomes tighter as you move through the levels, displayed at the top right hand corner of the screen.

To make your task more interesting, the balloons are well travelled and you have to seek them out in 17 locations from Japan to the island of Paques. There are 50 levels and although the scenery varies from the mountains of Mt. Fuji to skyscrapers in New York, it isn't particularly striking.

The platforms which contain the bouncing balls are rather like Arkanoid. Until such times as you've worked out which direction to attack, it seems a little out of place in this game.

What does work well in the scenery is the generous use of colour as there are 32 background colours to cheer up the duller of days. The destination map which you return to after the completion of each level is simply drawn, but elsewhere the graphics blend in well with the design of the game.

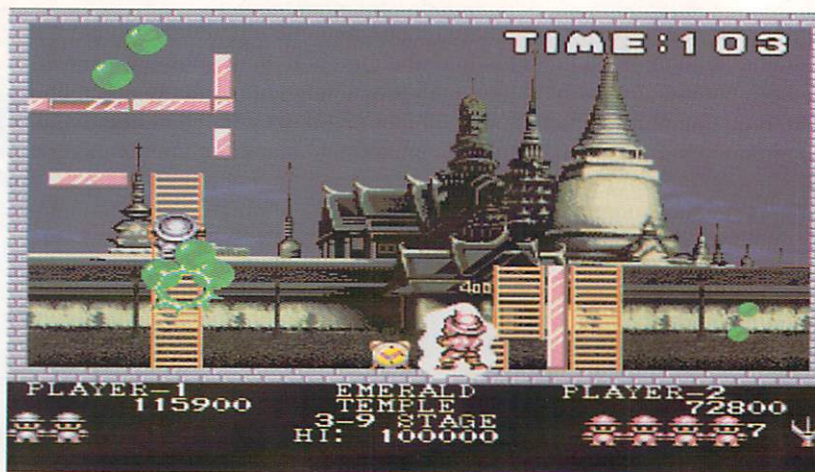
The time, for example, is clearly

displayed at the top of the screen, while the bottom section illustrates whether you have opted for a one or two player game, how many of your six lives you have left and your score. By having Easy, Normal or Difficult modes you can play at whatever speed suits you best, although you'll need reactions faster than the speed of light to progress by the aptly named Difficult route.

Your weapon can be cashed in and upgraded depending on which icon you pick up. There are

masses of them including guns, dynamite, fruit and vegetables. So many in fact, that you are best not to collect too many different ones as changing firing methods in the middle of a tight situation often causes a loss of life. And you have start the current screen again from the start.

The laser attachment is good for zapping a multitude of large spheres provided you remember to keep to either side of the balloons and don't fire from too close a range if you don't want to get



Balloons aren't the only hazard

PANG

Publisher: Ocean

Price: £24.99

wasted. The icons not only enhance your arms capacity but give you other plus advantages like an hour glass which gives you extra time, and stop watches which freeze animation giving you the chance to give the bouncing blobs all you have.

Balloons aren't the only hazard though. A wide variety of birds and crustaceans like owls and crabs flap and scuttle around the screen but are easy to deal with whatever their nature.

The only problem with this game is that although it isn't very taxing skill wise, just calling for a little strategy and fast reactions, it is addictive in the same manner as Bubble Bobble or Rainbow Islands.

Graphics

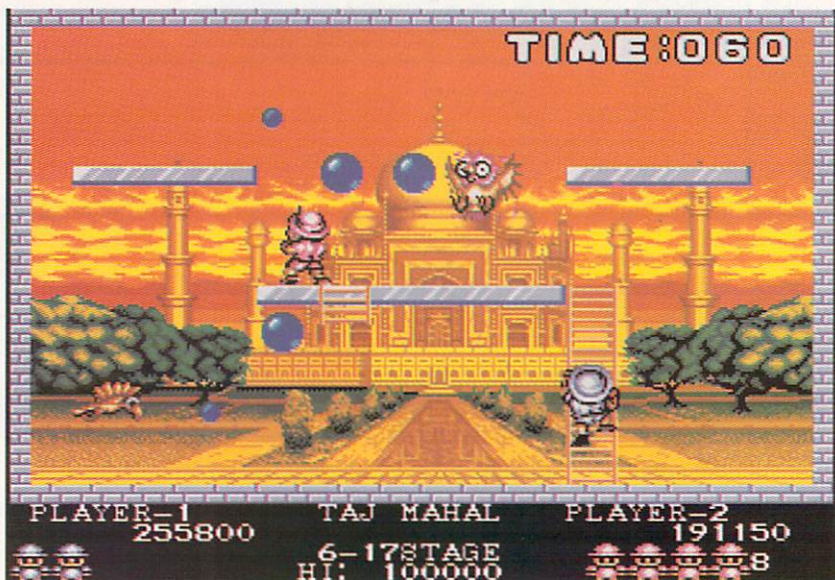
Plenty of different locations with appropriate features but crudely drawn in places enhance the game. Still, cartoon like and enjoyable with nice animation of the bouncing balls, and neat vignettes of the characters between levels.

Sound

Sound is basic in terms of effects, but there's catchy background music continually playing, which as time starts to run out suddenly becomes more up beat.

Gameplay

Gameplay ensures Pang is horribly addictive. Easy to play skill-wise, it becomes increasingly more difficult as more and more balloons and obstacles appear. There are four skill levels to choose from which affect the speed of the balloons, but when there are 20 or so of the blighters closing in, even the slowest setting is fast enough.



Time is running out

POWERMONGER

Publisher: Electronic Arts Price: £24.99

For a long time it was as if Powermonger was going to be Populous 2. After all, the game featured the same style of graphics, and was being programmed by the same programmers. As it transpires, Powermonger is anything but Populous 2, and any familiarity with the original Populous will count for little in this game.

Miremer, your ex-kingdom has gone up in flames and molten ash, making you take your people to the seas in order to find a new home. Arriving at the top left corner of a large map containing 195 islands, your mission is to conquer each and every one, by trade, espionage, and naked steel in the vitals.

The first few islands are quite easy to conquer (if two thirds of the population are under your sway, this counts as conquered), but getting down towards the bottom right hand corner of the map, the opposing armies get bigger and nastier, requiring food and resources need to be skillfully managed. Conquer the final island in the bottom right corner of the map and overall victory is yours.

The display is familiar territory for Populous players, a 3D filled vector centre display shows the rolling landscape, numerous surface features, towns and centres of population, wildlife (sheep!) and of course, armies. This can be zoomed into and out, but if you try to move the map while on max zoom, you can easily lose track of what it was you were looking at. It's best to keep at maximum distance until a fight breaks out, as all your men and Captains are displayed anyway, no matter what the scale.

Initially you start with one Captain, who is in fact yourself. So if you get killed in battle then it doesn't matter how many others you have, its game over time, and a particularly gory end scene. Captains have three aggression levels (peaceful, neutral, aggressive) which affect how they trade, the numbers of men they will recruit in one session and quite

how bloodthirsty they are when attacking a settlement. Although initially its great fun to send your men off on a mad killing spree, when you get to the harder islands you need to keep them to the minimum force so that all those defeated troops either end up forming a new army on your side, or are put to work harvesting the fields.

Troops can be recruited from any of your established settlements, but leaving them empty simply invites an attack by a rival. The troops will faithfully follow your Captain, but only as long as morale is high, food

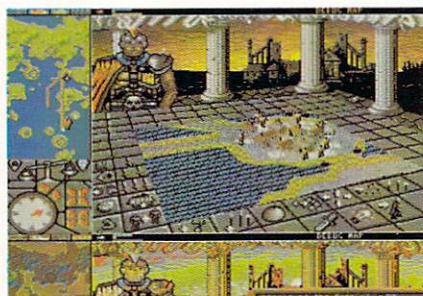
is plentiful and the weather is nice.

Forcing an attack in winter (yup there are seasons along with snow and rain) can lead to mass desertions if food is scarce, so food management as well as battle tactics need to be incorporated in to the successful powermonger's strategy.

The detail in the graphics and the continuously evolving world is astonishing. Every person in the game has a name, profession, allegiance and health rating, sheep wander the meadows, birds flock to and fro, and fishermen go out to sea. Added to this the sound

effects are just brilliant. You can hear the livestock making their own particular noises, the sound of wood sawing comes from forests where inventions are being made, and your Captain grunts 'Yeah', in tones designed to tell you how happy he is with your orders.

Powermonger really is a step beyond Populous, but it isn't as immediate. You have to read the manual, and work out and experiment on courses of action. Initially, the game is intriguing but baffling however, bit by bit you get drawn into the intricate, evolving and utterly marvellous world of Powermonger.



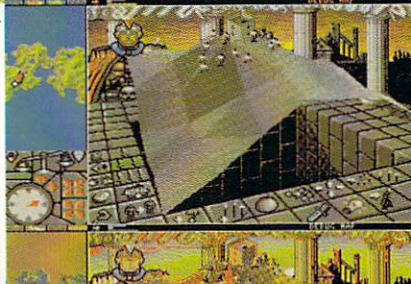
A budding career in rape and pillage begins

That's me!



You can examine any part of the map...

... from all angles!



Graphics

It isn't that the graphics look good, it's that there is just so much detail. In fact the small map of the current land is a bit too small for you to really see where everything is, and only the clever sound effects lead you to attack a nearby settlement rather than half a dozen stunted trees.

Sound

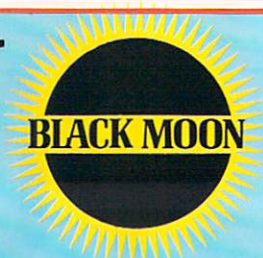
Sound is fabulous and no mistake. Where the graphics become too congested it is the effects that save the day. A large variety of effects alert you the various events taking place in your neck of the woods, and even the tone of your Captain's voice has meaning.

Gameplay

Powermonger is nowhere near as simple as Populous, and the straightforward, up and dice 'em approach may work initially but is doomed to failure later. If you like managing resources as well as fighting battles then this is a treat because the detail and interaction are amazing. I suspect everyone will buy this game, but a sizeable number will not play it for very long. For myself, and many other people though, Powermonger is nothing short of sensational.

BLACK MOON

COMPUTERS



AMIGA 500
399.95
SCREEN GEMS

+ BLACK MOON PACK
512K RAM, 1 MEGABYTE DISK
DRIVE, TV MODULATOR, MOUSE,
MANUALS & TUTORIAL DISK,
KICKSTART 1.3, WORKBENCH 1.3,
BACK TO THE FUTURE II, DAYS OF
THUNDER, SHADOW OF THE
BEAST II, NIGHT BREED, DELUXE
PAINT II, DISK BOX, MOUSE MAT,
DUST COVER, 10 BLANK DISKS
AND TWO SUPERB JOYSTICKS.

349.95

AMIGA 500, KICKSTART 1.3, WORKBENCH 1.3, MANUALS
& TUTORIAL, MOUSE, MODULATOR.

AMIGA 500
SCREEN GEMS
(Standard pack)
369.95

AMIGA 500
399.95
FLIGHT OF FANTASY

+ BLACK MOON PACK
512K RAM, 1 MEGABYTE DISK
DRIVE, TV MODULATOR, MOUSE,
MANUALS & TUTORIAL DISK,
KICKSTART 1.3, WORKBENCH 1.3,
F29 RETALIATOR, RAINBOW
ISLANDS, E.F.T.P.O.T.R.M. DELUXE
PAINT II, DISK BOX, MOUSE MAT,
DUST COVER, 10 BLANK DISKS
AND TWO SUPERB JOYSTICKS.

CM 8833 COLOUR, STEREO
MONITOR **249.95**
1 MEGABYTE d.s.
EXTERNAL DRIVE **69.95**
512k MEMORY EXPANSION
+ CLOCK **49.95**
COMMODORE GS GAMES
CONSOLE **99.95**
SEGA MEGADRIIVE **189.95**

AMIGA 500
FLIGHT OF FANTASY
(Standard pack)
369.95

All our
hardware comes with
1 years **GUARANTEE**
and **FREE**
delivery

AMIGA 500
599.95
CLASS OF 90 1st STEPS

+ BLACK MOON PACK
AMIGA 500, MOUSE MODULATOR,
MANUALS, A501 MEMORY
EXPANSION, PRO WRITE 2.5,
D PAINT II, D PRINT II, INFO FILE,
LOGO, MUSIC MOUSE, TALKING
TURTLE, BBC EMULATOR, BOX OF
10 DISKS, MOUSE MAT, RESOURCE
FILE, INTRO VIDEO, LET'S SPELL AT
HOME, DUST COVER AND TWO
SUPERB JOYSTICKS.

AMIGA 500
BATMAN PACK
(Standard pack)
369.95

3.5 40 holder with 10 3.5 d.s.d.d	11.99
3.5 40 holder with 20 3.5 d.s.d.d	15.99
3.5 40 holder with 40 3.5 d.s.d.d	27.99
3.5 80 holder with 10 3.5 d.s.d.d	13.99
3.5 80 holder with 40 3.5 d.s.d.d	29.99
3.5 80 holder with 80 3.5 d.s.d.d	49.99
Cheetha 125	7.99
Cheetha starprobe	14.99
Pro 5000 extra	14.99
Konix navigator	14.99
Replacement mouse	29.95

AMIGA A590
299.95
HARD DRIVE

+ BLACK MOON PACK
20 MEGABYTE HARD DRIVE WITH 2 MEGABYTE
UNPOPULATED BOARD, DISK BOX, MOUSE MAT
AND DUST COVER FOR AMIGA 500.

36A Osborne Street, Colchester, Essex. CO2 7DB

PHONE (0206) 560638

CHEQUES AND POSTAL ORDERS PAYABLE TO BLACK MOON. POST AND PACKING FREE IN UK. Overseas charged at cost. Subject to availability and price change without notice. Some titles may not be released at time of going to press. Shop prices may vary, but personal callers can claim advertised discounts on production of cut-off slip. All prices include VAT.



TITLE	COMP	PRICE
AMC JAN	TOTAL £	

Name _____

Address _____

Tel No. _____

Have you ordered from us before (yes/no) _____

SUPREMACY

Publisher: Melbourne House Price: £24.99

Barry The Bad, ruler of four star systems, Lord and Master over millions of cowering minions, sneered contemptuously as Rorn prostrated himself at the feet of his conqueror. "Forgive me, oh Barry, for my insolent attempt to oppose your will. My life and possessions are yours in victory. Do with me as you will."

Barry's sneer became a grunt of disgust. "You unspeakable insect!" he boomed, raising his hand to strike the fatal blow, "You will die very slowly..."

At that moment, however, a strange figure appeared in the entrance to his throne room. "Barry! You haven't washed those dishes yet, you naughty boy!" Barry groaned. "For God's sake, mum, I'm playing Supremacy!"

For all you power-hungry train-spotters and match box collectors out there, Supremacy is the latest sci-fi empire building strategy game to appear on the Amiga. Not a lot to excite the old cerebral cortex there, you might think. What makes this one so different from all the others? Well, in the final analysis, just about enough to elevate the game above the average.

It's in the sound and graphics departments that it makes its biggest impact. The intro sequence, showing a God-like per-

son forming a new universe, is very nicely done, and is accompanied by mood-setting music of demo quality. From here, you might expect presentation to lapse a bit as the game gets under way, but with Supremacy this is definitely not the case.

You control things from what is basically a collection of choice screens activated by mouse clicks, and in some games these can be a tad dull. From the first screen onwards however, Supremacy is a bit of a visual treat.

Hugely colourful and packed with info, the screens are easily the best of their kind I've seen, and even include spot animation effects as an added distraction. Sound is provided as a series of one-offs, the best of which is the mellow female voice crooning 'message' every time one of your opponents wants to insult you, or a natural disaster occurs such as 'coach load of Leeds United supporters now disembarking in Bay 3'.

All very nice, and supported by excellent static graphics of the various ships you can purchase.

What lets Supremacy down a little is the gameplay. In strategy games, this is by far the most important element of all, and the best graphics in the world are to no avail if gameplay is sub-standard. I'm not



Things are looking good ... time to buy some hardware.

suggesting that Supremacy is actually sub-standard, it's just that it doesn't offer anything especially new.

Your expansionist aims must be rooted in a sound economy, and in order to achieve this elusive miracle you must balance a variety of factors from tax levels to food production and population growth. To its credit, Supremacy keeps things tightly inter-connected, such that lower tax levels will increase morale, which will lead to higher levels of 'breeding', and therefore more people to draft into the armed forces. However, you soon find that those same lower tax levels have left you so skint you can't afford to equip your new soldiers properly.

As everything happens in real time, and you can see the effects of each decision almost instantaneously, the game is given a sense of urgency often missing from others of the type.

You soon find yourself clicking away madly at the mouse in an effort to juggle all the variables which affect progress towards universal omnipotence, and if your first attempts are anything like mine, things start hitting the floor quite quickly.

That, unfortunately, is that. The presentation initially generates enough of the 'Cooooorrr!' element to keep interest levels high, but once this has worn off, content and gameplay fall just a little short of the

expectations thus created. The Amiga's sound and graphics capabilities are utilised more fully than is usual with strategy games, some of which set out to be as bland as possible, but its strategy element, on which it must stand or fall, is just not original enough to warrant the window dressing.

All in all, Probe have taken an average game system and married it to better than average graphics to produce a game which, rather than standing head and shoulders above the competition, shows just a hairline and the odd eyebrow.

Graphics

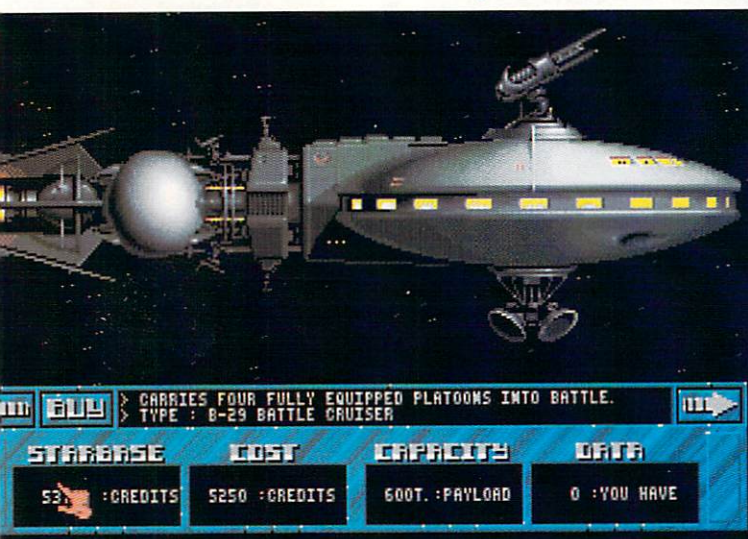
Very nice, with great use of colour and fine animated effects. The graphics are the best feature of this game and would look good anywhere.

Sound

Spot effects are good, and you're saved the normally painful use of continuously playing tunes. Limited but effective.

Gameplay

This is where the game falls down a bit. No new stuff here - it's all been done before. The real time element is OK, though.



The instrument of oppression or the answer to a despot's dream?

DAYS OF THUNDER

If I had the licence to produce a film tie-in game starring Tom Cruise and some attractive girl, I would make sure that there were plenty of digitised pics showing both leading lights. I would also incorporate some of the plot and ingredients that made the film so memorable.

Faced with the problem of finding anything memorable in Days of Thunder, Mindscape has instead side-stepped the entire problem by simply producing a stock car racing game with solid 3D graphics. No pictures of Tom Cruise with his manly jaw anywhere. Methinks this is a big lost opportunity here. Someone ought to tell the folks at Mindscape that if you proudly flag a game as being "the only official game of the film to give you all the excitement of the big screen", then you should deliver something more than a rather tepid and largely anonymous racing game.

There are five race tracks including Daytona - fast banked curves around a central lake, Atlanta - deep south, blistering temperatures and slave plantations, Phoenix - a one mile oval where speeds of over 200 mph are reached, Talladega - cost \$4 million to build and there are apparently 20 million people living nearby, and Charlotte - seats 118,000 people and is in 31 year old racing track. Those are what you have to race around to bring home the stock car Championship.

On your first appearance at a track, you need to set a fast enough time to qualify, which is easier if there are more cars racing (but that makes the actual races themselves harder). Unfortunately, you are not told the time you need to achieve in order to qualify, but at the end of a lap that is too slow, you're told that you haven't qualified.

Still, after five laps, gradually getting faster and learning how to navigate the very strange angled bends, you should be ready for the parade lap. Don't bother driving around yourself because if you get out of race order position, you're instantly disqualified. This lets you see reasonably good pictures of a

Publisher: Mindscape
Price: £24.95

stock car, but it means you have to qualify all over again in the next race. Leave the controls alone and the computer will drive you around. And after that, you're off. You have five gears, accelerator and brake

to worry about. Just getting round some of the corners takes some skill, never mind over-taking the opposition.

The graphics are solid 3D for the most part, and look like a pre-pro-

duction version of EA's Indianapolis 500. What I didn't like was the representation of the crowd in the stands. This consisted of pixels of rapidly flashing different colours. Marvellous.

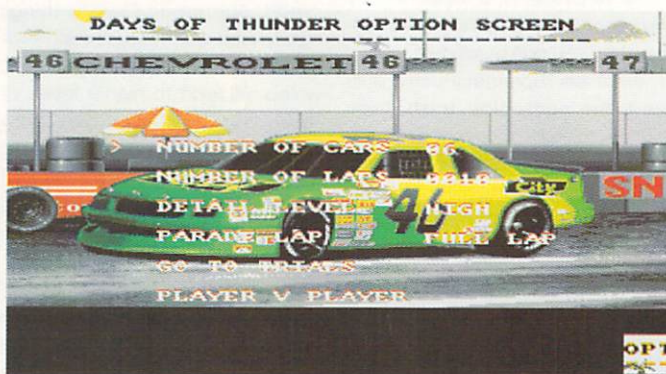
Scrapes in the car are inevitable, so pulling into the pit-stop is often required during a race. As well as being repaired, you can also alter tyres to affect handling, change the steering response, and refuel.

So it all continues around the course until the required and number of laps have been completed. You are then either on your way to the Championship, or the dole office.

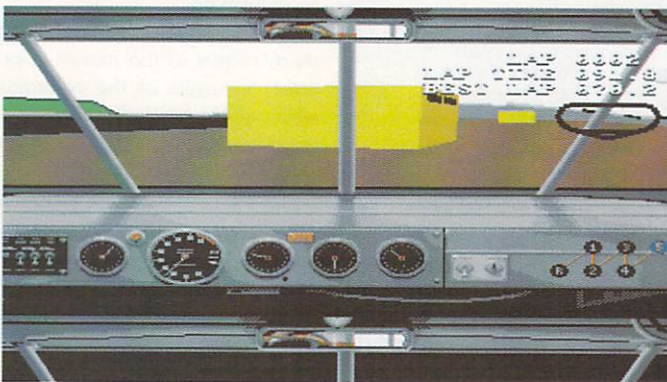
An amusing aside is that you can race against a friend on another machine via a null modem cable. Mindscape describes this as a unique feature!



This is me . . . honest!



Ready, set, crash!



If that's a car, I'm a turnip!

Graphics

The graphics are not that great to be honest. On High Detail, there simply isn't that much detail and the game is fairly pedestrian. On Low Detail there's hardly any and the game moves at a reasonable lick. The 3D stuff is average with only the pics of the cars being notable. No Tom Cruise either.

Sound

Whatever the title music is, I hope it isn't supposed to have come from the film. It does sound vaguely familiar but that is probably because David Whittaker writes an awful lot of music. Sound effects otherwise are adequate.

Gameplay

Gameplay is sort of a cross between Stunt Car Racer and Indianapolis 500, but not as good as either. Sluggish until you turn down the detail, it then lacks atmosphere. A reasonable driving game, naturally fun when going head to head with a friend, but there are opportunities missed a-plenty in this film conversion.

James Pond

Supplier: **Millenium** Price: **£24.95**

After the rannygazoo over the witless Greenpeace game, which did the environmentalists more harm than good, it's refreshing to see that most puerile of game formats, the so called 'cutie', being used to promote simplistic environmental messages. James Pond is a fish with a mission. Twelve missions in all, which range from rescuing lobsters to helping fish to safety before radioactive canisters send them on a mad feeding frenzy, plugging leaks in oil tankers and

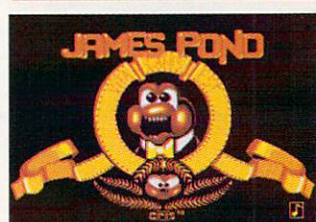
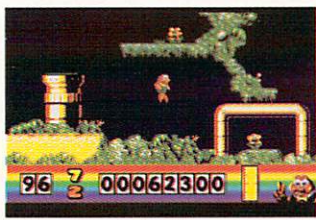
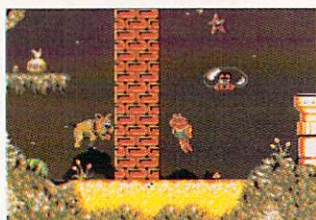
rescuing mermaids and orchids.

Well the music is suitably aquatic and impressively jolly, but it's the excellent graphics which really deserve a mention. You really feel this is an Amiga you're playing on, rather than the Sega-like graphics of games like Pang. Incredibly colourful, they also feature eel-smooth parallax scrolling.

As well as the nasty humans seeking to stop our fishy hero, there are nefarious aquatic foes to combat, which can either kill or

stun poor James, costing him valuable time. To these he can blow bubbles, which encapsulate said foe. Swimming over the bubble destroys the enemy within.

There are secret caverns to explore for bonus points, and plenty of surprises along the way. If you are looking for a bright and colourful, but most of all hugely entertaining game to play then check out James Pond, environmental messages and all. He's far more tasty than Haddock and Chips.



Team Yankee

Supplier: **Entertainment International**

Price: **£24.95**

Released around the same time as Microprose's M1 Tank Platoon, Team Yankee offers a different kind of tanking experience, one which seeks to evoke the atmosphere and tension of real tank battles. Much more so than something so realistic you have to pause the game every two minutes just to see which key to press next.

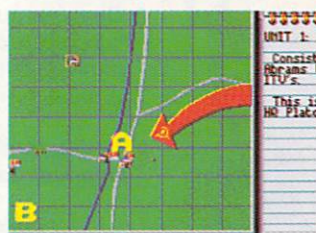
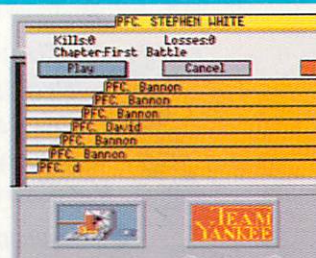
Team Yankee is based on the book of the same name by Harold Coyle, and some game packages actually contain a copy of the book. While I would recommend

reading the book prior to playing, it isn't necessary as the plot is fully explained before each battle. The game includes excerpts from the book, which is also written in a pretty turgid style, so don't rush out looking for it.

The story concerns the commander of Team Yankee, which consists of M1 A1 Abrahms tanks and mechanised sections. These are split up into four units, each containing four vehicles, which can be ordered into a variety of formations. Thankfully they do follow your lead, so the prospect of

directly controlling 16 vehicles is largely avoided.

Small screens appear for each unit leader, which can be expanded so you can see what is going on. Strangely enough, the gunnery system of simply pointing the mouse cursor and clicking, while not being in any way realistic, does stop the game from bogging down, and with Soviet shells landing all around, the objectives of simulating the tension and excitement of a tank battle are fully met. Superbly entertaining and a welcome alternative to Tank Platoon.



**Now you can own
probably the toughest
set of pens in the
world – for much
less than half price!**

(Or buy two – and get them both for
almost a quarter of the normal price)

The three pens that make up the Pentech 200 pen set can stand up to the roughest treatment you can inflict on them – and still give you best possible writing quality. The pens, made to the highest standards of workmanship, are not only robust but are of classic appearance suitable for all occasions from the home to the Board Room, from the school essay to the best selling novel

We have made a special purchase of a limited number of Pentech sets and can now offer you this unique, high-quality writing technology at a price never before possible.

The normal retail price is £37.85. But with this special offer you can buy one set for just £14.95. Buy a second to offer a colleague as a present and we'll send you the two sets for £20!

You can buy with confidence. Each set comes with a lifetime guarantee.

The three pull-top pens in their presentation case consist of

One cartridge pen

One ballpoint pen

One fine liner

**Choose from
smart matt black
or satin chrome
metal finish**

To order, please use the form on Page 114

AMIGA
COMPUTING

A VIDI SPECIAL OFFER

**SAVE
£15**

READER OFFERS

Thanks to a breakthrough by Rombo Productions in frame-grabbing technology, you can now produce good colour images quickly and cheaply with Vidi-Amiga and the VidiChrome colour software.

- Take snapshots in 16 shades live from video
- Multiple frame store
- Dynamic cut and paste
- Full palette control
- Hardware and software control of brightness and contrast
- Compatible with all video standards

"Vidi must be one of the most exciting peripherals you can buy for your Amiga" – Amiga Computing, March 1990

**FULL PAL
SCREENS**

RRP £134.95*
OUR PRICE
£119.95

* Includes colour
upgrade worth
£19.95



See order form on page 114

New Titles for Amiga

NEW!

Making Music on the Amiga

Understanding and using the Amiga's powerful, built in musical capabilities



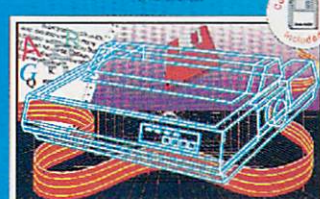
Abacus
A Data Reader Book

Making Music on the Amiga — Shows the Amiga user how to take advantage of the musical capabilities and making your own MIDI interface. Includes disk with music and utilities.

NEW!

Amiga Printers Inside & Out

Understanding and using your printer more effectively



Abacus
A Data Reader Book

Amiga Printers: Inside & Out — Learn AmigaDOS commands for simple printer control, printing tips and tricks from the experts. Includes diskette with essential printer utilities.

AmigaBASIC Inside and Out

A complete guide to learning and applying AmigaBASIC



Abacus
A Data Reader Book

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 for Beginners

A complete guide to learning and applying the Amiga



Abacus
A Data Reader Book

Amiga for Beginners — learn the essentials of the Amiga easily and quickly from opening the box to your first application. 182 pp

AmigaDOS Inside & Out

An in-depth guide to AmigaDOS and the AmigaDOS Shell



Abacus
A Data Reader Book

AmigaDOS — Inside & Out — covers AmigaDOS in depth so that you can use many of its advanced capabilities for practical applications. Includes a complete reference section detailing all of the DOS commands, information on using the DOS editors — ED and EDIT, creating and using script files and taking advantage of the Amiga's multitasking features. 280pp

Amiga Machine Language

A practical guide to learning 68000 assembler language on the Amiga



Abacus
A Data Reader Book

Amiga Machine Language — is a thorough introduction to 68000 assembler programming and is a practical guide for learning to program the Amiga in ultra-fast machine language. 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. 264pp

Amiga Disk Drives — Inside & Out — a practical guide to disk drive operations. Information about data security, disk drive speedup routines, disk copy protection, boot blocks and technical aspects. 360pp

Amiga Disk Drives Inside & Out

The most thorough coverage of Amiga Disk Drives ever.



Abacus
A Data Reader Book

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

- no commitments
- no obligation to buy
- no fuss replacement
- free call hotline
- free game for every new member

(P.Plague RRP £14.95)

Name _____
 Signature _____
 Address _____

 Postcode _____ Tel. No _____



Head Start!

Emulators, emulators, emulators! Seems that not a single month goes by without yet another emulator appearing on the scene. We've got PC emulators – read the review of ATonce elsewhere in this issue – C64 emulators, BBC emulators, Macintosh emulators, QL emulators and even a Spectrum emulator. Makes you wonder when someone will come up with a Cray emulator!

The latest machine to receive emulation treatment is the Amiga's closest cousin, the Atari ST - you'd be surprised how closely they are related!

Last month saw the release of the Medusa Card, a software and hardware combination that transformed the Amiga into an ST. This certainly worked, but there was one major problem with it: the price.

Coming in at just under £200, it certainly wasn't cheap. You could easily pick up a real Atari for just a few pounds more.

Hot on its heels is Chamaleon from German software publisher Maxon. Hoping to steal sales from Medusa, Maxon claims that Chamaleon will work just as well as the Macro Systems hardware-based emulator, yet it still manages to sell for £100 cheaper than its rival.

Sounds pretty impressive so far, but the thing that makes Chamaleon so special isn't its price, although that too is impressive, but the fact that the whole process of emulating the Atari is handled entirely by software.

The Chamaleon package consists of two disks and a rather short manual describing the process of setting up. For those of you who

Jason Holborn puts the latest software-based ST emulator through its paces

have never had the pleasure of using a real ST, there's even a tutorial section covering the basics of using the Atari desktop.

So you've got no excuse to pop around and beg your friendly Atari owner for a crash course in all things ST.

Setting up Chamaleon would be pretty straightforward if it wasn't for the fact that Maxon doesn't actually supply the necessary utilities to make this possible.

The reason for this is simple - Chamaleon, just like the Medusa Card, needs the Atari TOS operating system to work.

Obviously Maxon couldn't just hand this out with the rest of the Chamaleon programs - after all, it is the property of the Atari Corporation - so you'll need to find a friendly ST user who is willing to let you rip TOS from their machine.

Thankfully this isn't as painful as it sounds, and all that's needed is a small utility that will dump TOS to disk as a binary file. Problem is, Maxon doesn't even supply you with this utility, so expect problems.

According to a source in Germany, Atari's lawyers are already looking very closely at both Chamaleon and Medusa, so Maxon are wise not to give Atari a chance to pounce on them. Such happenings aren't exactly news - Apple has been trying to put a stop to the use of its ROMs within emulators for years now, so Atari too has decided to try their luck.

Whether it is successful in stopping software like Chamaleon is uncertain, but it may end up as a test case for deciding the legality of other emulators. If you really need a particular emulator, you'd be well advised to take the plunge

now. Leave it too late and you may find that it's been withdrawn from sale.

Once you've found a program which will extract TOS from an ST - I used the GETTOS program that came with Medusa - the resulting TOS file must be copied to an ST disk under the filename TOS.IMG.

Virtually all versions of TOS should work fine, although I was unable to test this as my review copy refused point blank to work with English TOS files. Thanks to a friendly ST user in Germany though, I was eventually up and running.

With luck, you shouldn't have to suffer the same frustration as Maxon assure me that fixed versions should be available by the time you read this article - check this when ordering though.

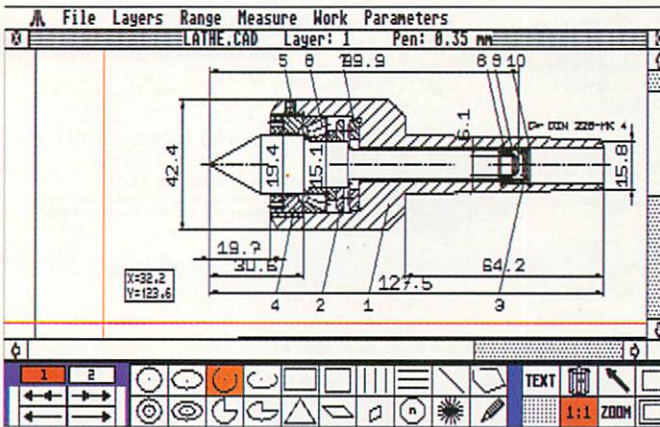
Getting started

Turn on your Amiga, insert the program disk into the internal drive and Chamaleon will then boot. After a few seconds disk access it will then ask you to insert the Atari-format diskette containing the TOS.IMG file.

If you do as it asks, Chamaleon will blank the screen and start to read the file into memory. If everything goes well, you'll now be that bit nearer to ST emulation.

All that now remains is to choose the resolution you wish to work in. The ST supports three screen resolutions – 320 x 200 with 16 colours, 640 x 200 with 4 colours and 640 x 400 with two colours – although you need two monitors to display all of them.

Thankfully though, Chamaleon allows you to use all three on a standard Amiga monitor, so there's no reason to buy any extra equip-



Try a bit of ST computer aided design courtesy of BeckerCAD and Chamaleon

WE ONLY STOCK
GENUINE UK
PRODUCTS!!!



Choices to Keep you Spellbound at Truly Wizard Prices!

MERLIN

AMIGA A500 SCREENGEMS PACK

SCREENGEMS



'BIG SCREEN' BLOCKBUSTERS BROUGHT TO YOUR AMIGA FOR SMALL SCREEN ACTION!

COMPLETE WITH FIVE
GREAT SOFTWARE TITLES
Back to the Future II, Beast II,
Days of Thunder, Nightbreed,
& for arts' sake Deluxe Paint II

Amiga A500 with Modulator, Mouse,
1 Meg Internal Disk Drive, 512K RAM,
All Connecting Leads, Kickstart 1.3,
4096 Colours, Built-in Speech Synthesis
Multi Tasking, Workbench 1.3 System Disk,
and a full set of manuals.

£365

Including VAT and Postal Delivery!

NEW! AMIGA 1500 THE COMPLETE PERSONAL COMPUTER BUSINESS EDUCATION DESIGN LEISURE

THE SUPREME AMIGA PACK FOR GENERATIONS TO COME... PLUS SOME GREAT SOFTWARE...

CENTRAL PROCESSING UNIT (CPU)
The heart of your computer system with 1Mb of RAM, two 3.5" floppy disk drives, and 8 expansion slots. Fully expandable accepts all Amiga 2000 peripherals.

CBM 1084S COLOUR MONITOR
Stereo, High Resolution monitor

KEYBOARD AND MOUSE
Keyboard with numeric pad, 4 cursor keys, complete with 2 button mouse

THE WORKS: Fully integrated Word Processor, Spreadsheet, & Database
DELUXE PAINT III - 'The New One!'
THEIR FINEST HOUR - The Battle of Britain, POPULOUS - The Promised Lands, SIM CITY - Terrain Editor, and BATTLE CHESS - 3D Animated!

A superb value pack, in fact the ultimate! **£1069**

ENDORSED BY THE NATIONAL ASSOCIATION OF PRIMARY EDUCATION

The Totally New 1Mb... AMIGA CLASS OF THE 90's

First Steps

Amiga A500 Computer
AS01 0.5Mb Upgrade
Pro-Write 2.5 (W.P.)
Deluxe Paint II
Deluxe Print II
Infote (Obase)
Music Mouse
Amiga Logo
Talking Turtles

Let's Spell at Home
BBC Emulator
10 Commodore Disks
Mouse Mat
Resource File

An introductory Video Tape approved by the National Council of Education Technology

£539

Add a Sorcerors Pack Tool

NEW NEW NEW NEW NEW

NOW WITH COME'S & GO! 0.5MB UPGRADE TO 1MB

AMIGA CLASS OF THE 90's
Amiga A500 Computer,
AS01 0.5Mb Upgrade,
Mid Interface,
BBC Emulator,
Deluxe Paint II, Amiga Logo,
Superbase Personal,
Maxiplan, Publishers Choice,
Dr Tr's Mid Recording Studio,
10 Blank Disks, Mouse Mat,
Diskette Wallet

£529

Add a Sorcerors Pack Tool

NEW NEW NEW

MONITORS

All including FREE Amiga Leads!

COMMODORE 1084S
14" Stereo Colour Monitor
As a Great Price of... **£259**

PHILIPS CM 8833/II
14" Stereo Colour Monitor
Successor to the popular CM8833 the new Mark II version is sleeker looking than the old model.

CM 8833/II Artist
This designer version is colour keyed and includes a matching kit to apply to YOUR keyboard! ABSOLUTELY FREE! **£249**

WE SAY CHOICE... and we mean it.

Add one or more of our 'SORCERORS PACKS' to extend your choice and SAVE EVEN MORE... Only from MERLIN!
(Only available when you buy an Amiga, see notes on individual packs*)

CHOICE 1

SORCERORS PACK 1

Mouse Mat
Amiga Dust Cover
Megablast Joystick
Ten Blank Disks in Library Case

Only... **£16**
(*When purchased with an Amiga)

CHOICE 2

SORCERORS PACK 2

10 GREAT GAMES (Worth £219.50)
Datastron, E-Motion,
Dungeon Quest,
Kid Gloves,
Grand Monster Slam,
Powerplay, RVF Honda,
Shuffleback Cafe,
Tower of Babel,
Micropro Soccer

Only... **£25**
(*When purchased with an Amiga)

CHOICE 3

SORCERORS PACK 3

TOP SOFTWARE TITLES
Select ONE or MORE software title from our 'SORCERORS SEVEN' and pay LESS than the already discounted prices shown! CHOOSE...
HOLLYWOOD COLLECTION,
TEENAGE MUTANT HERO
TURTLES, F19 STEALTH
FIGHTER, BETRAYAL,
ROBOCOP II, GREMLINS II,
INT. SOCCER CHALLENGE
BUY AS MANY AS YOU
LIKE... at LESS THAN the
Discounted Prices Shown
Below! Phone for Details
(*When purchased with an Amiga)

CHOICE 4

SORCERORS PACK 4

THE ULTIMATE IN AMIGA EXTRAS
Mouse Mat, Amiga
Dust Cover, Megablast
Joystick, Ten Blank
Disks in Library Case,
Ten Great Games (as
Pack 2), PLUS... your
choice of one of our
'Sorcerors Seven'
Games!

Only... **£38**
(*£42 if ordering £23.99 Games
(*When purchased with an Amiga)

FREE with EVERY Amiga
...from MERLIN EXPRESS
you'll receive this...

Free from Merlin!

HOLIDAY
Accommodation Vouchers
for UK Hotels, London
Breaks etc. (Phone and ask
for full details)

This offer is limited and
made only subject to
availability (Check with
us prior to ordering)

BULK BUY DISCOUNT!

If you buy your Amiga WITH
other hardware (eg Printer
or Monitor etc etc) ASK
ABOUT YOUR EXTRA
DISCOUNT!

PRINTERS

STAR RANGE: Merlin are Star Registered Dealers

STAR LC 10 Mono **£159**
STAR LC 24/10 Mono **£219**
STAR LC200 Colour **£205**
9 Pin Dot Matrix, 180/45cps COLOUR
STAR LC24/200 Mono **£255**
24 Pin Dot Matrix, 200/67cps MONO
STAR LC24/200 Colour **£289**
24 Pin Dot Matrix, 200/67cps COLOUR

CITIZEN

CITIZEN 120D+ **£139**
-9 Pin Dot Matrix, 120/25cps MONO
CITIZEN 124D **£219**
-24 Pin Dot Matrix, 120/40cps MONO
CITIZEN SWIFT 9
-9 Pin Dot Matrix, 160/40cps
MONO VERSION **£199**
COLOUR VERSION **£229**

CITIZEN SWIFT 24
-24 Pin Dot Matrix, 160/53cps
MONO VERSION **£289**
COLOUR VERSION **£319**

Merlin Express are pleased to announce that we are now an
Authorised Citizen Dealer and of course the CITIZEN 2 YEAR
WARRANTY means an even better back up for you!

AMIGA DISK DRIVES

CUMANA CB 354 1Meg. 3.5" Single Internal **£69**
CUMANA CAX 354 1Meg. 3.5" Single External **£85**
CUMANA CAX 1000 1Meg. 5.25" Single External **£129**

COMMODORE 1011
3.5" SECOND DRIVE
Compatible with ALL Amigas
880K Formatted Capacity
No external power required **£89.95**

MERLINS "SORCERORS SEVEN" SOFTWARE

SEVEN OF THE LATEST SOFTWARE RELEASES BROUGHT TO YOU BY MERLIN EXPRESS AT A PRICE TO BEWITCH...

Please note the titles listed are advertised now based on the release dates issued by software distributors. Each title should be available on or before the sale date of this magazine. We do not, however, accept responsibility for delays in release dates by software houses or distributors. We strongly recommend you check availability before placing your order. Faulty software will ONLY be replaced with the same title. NO REFUNDS CAN BE GIVEN.

F-19 **£19.99**
ROBOCOP II **£19.99**
GREMLINS II **£19.99**
TEENAGE MUTANT HERO TURTLES **£19.99**
THE LAST CRUSADE **£19.99**
ROBOCOP I & GHOSTBUSTERS II **£19.99**
INTERNATIONAL SOCCER CHALLENGE **£19.99**
(£69 for the grand show down are Amiga £24.99 or £29.99)

INCLUDE PRICES
POSTAGE

80 Cap. DISK BOX **£8.95**
MOUSE MATS **£4.95**
DUST COVERS (All Types) **£5.95**
SPEEDKING-Autofire **£10.95**
CBM A501 RAM **£69.95**
Including FREE 1Mb Captive Game!
WTS 0.5Mb RAM **£39.95**

Commodore 3.5" DISKETTES

BOX OF 10 **£9.45**
FIFTY (50) **£44.95**

HUNDRED (100) **£84.95**
With FREE Lockable
80 Cap. Storage Box

A590 20Mb HARD DISK DRIVE **£279**
At a Great NEW LOW PRICE!
(Coming Soon! Official CBM 1Mb & 2Mb upgraded versions at super prices! Ask for details)

ALL MERLINS PRICES INCLUDE V.A.T. AND POSTAGE (UK Mainland)

Whilst every effort is made to ensure that the information shown in our advertisement is correct, you should ALWAYS confirm any Offers, Prices, Availability etc. prior to placing your order. We endeavour to supply everything as shown and we will ONLY change anything should it be forced upon us by manufacturers or our suppliers. Because our advertising is booked so far in advance, Merlin therefore reserve the right to alter equipment specifications, withdraw any product/offer or update prices (and that can be either up OR down), without prior notice. PLEASE CHECK DETAILS PRIOR TO ORDERING.

ORDERING: Just phone our 24 hour order line using your Access/Visa card, OR, send a cheque/postal order with your requirement details. (Cheques need clearance unless issued by Bank/Bulldog Society for you)

DELIVERY: Goods will be despatched by post FREE OF CHARGE to UK Mainland addresses unless you request courier service (up to 25kg) as follows:
NEXT WORKING DAY... add £6 to order, TWO WORKING DAYS... add £5
THREE WORKING DAYS... add £4, SATURDAY DELIVERY... add £12
(Merlin will ALWAYS despatch goods day of order unless otherwise specified)

WARRANTY: Goods that prove faulty within 30 days will be exchanged for NEW. After 30 days, and within 12 months from purchase (8 months for software), faults will be rectified by the relevant manufacturers' repair agent and returned to you by courier. 'Sorcerors Seven' s/w will ONLY be swapped for the SAME TITLE; refunds can't be granted (...due to piracy of software by a minority who spoil things for everyone)

COLLECTION: Merlin Express are predominantly a mail order company but we welcome customers to our trade/collection counter who wish to pick up goods from us. Why not pay us a visit, we will always be pleased to help you with your enquiries.

24 HOUR
0602 441442
HOTLINE

MERLIN

EXPRESS LIMITED

DEPTACO T10, UNIT C7, THE ROPEWALK INDUSTRIAL CENTRE,
STATION ROAD, ILKESTON, DERBYSHIRE. DE7 5HX
TELEPHONE: 0602 441442 FAX: 0602 440141

UNTIL CHRISTMAS OPEN SAT & SUN... THAT'S THE MAGIC OF MERLIN!

Review

ment. A quick tap on the appropriate function key then brings Chamaleon to life.

From here on, you now have what amounts to a real Atari ST. Obviously, you can't use ST peripherals, excluding things like printers and modems, of course, but the world of ST applications software is now within your reach. First though, a look at the Atari desktop.

For those of you who haven't been lucky enough to play with an Atari, the Desktop is a WIMP-based front end - the Atari Workbench, if you like - that uses the same basic principles of pull down menus, windows and icons for most of the machine's operation.

There's not a great deal of difference between the Desktop and the Amiga Workbench, although I feel it is fair to say that the Atari Desktop is somewhat simpler than Workbench - especially Workbench 2.0!

I don't want to get into any 'my machine's better than yours' debates, but I'm sure that even quite a few ST owners would agree that the current Desktop environment stinks - the TT's Desktop is very sexy though!

After a quick trip to my friendly ST neighbour, I came back to Chamaleon arms filled with software to test on it. I was actually pleasantly surprised at how well Chamaleon coped.

Most applications ran without problems, although some did 'bomb out' or even guru the emulator completely. This is hardly surprising. After all, Chamaleon is completely software based.

ST compatibility

The list of what did actually work was still pretty impressive. I managed to test programs such as Becker CAD, GFA BASIC, Deluxe Paint ST, Protext 5 and even Pro-24, all of which appeared to work fine.

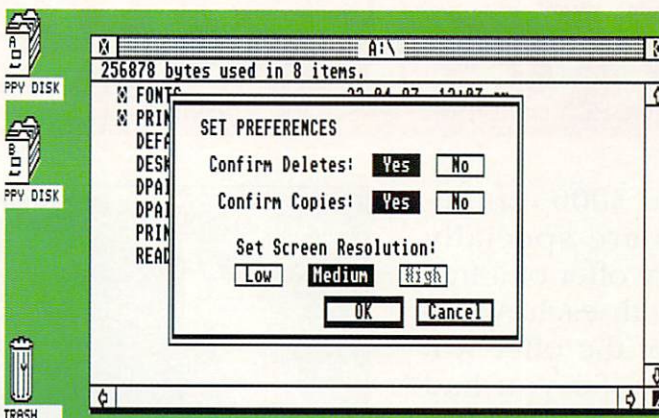
The emulator seemed to run them slightly slower than a real ST, but the difference wasn't really that noticeable. Quite an achievement when you realise that the Amiga itself runs 10 per cent slower than an Atari - the Amiga custom chips make up for this.

Chamaleon appears to run about the same speed as the Medusa Card, which Macro Systems claims to run about 90-95 per cent of the speed of a real ST.

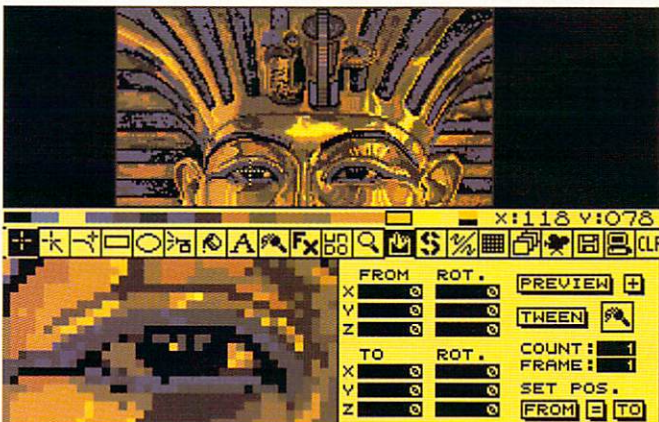
Some programs don't work unmodified, however. Supplied on the Atari-format disk that comes with Chamaleon are a number of



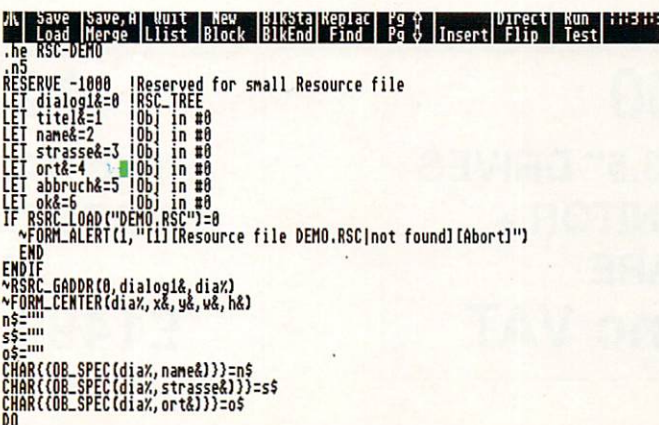
The Chamaleon title screen



Yes folks, here's the ST Desktop in all its glory - but this time running on an Amiga



Even the ST's premier paint system ran without problems



Now you can convert all your Amiga GFA programs to work on the Atari!

patch programs that fix certain well known programs to work with the emulator. Patches are supplied for such programs such as GFA-BASIC, Signum Script! and so on.

Using them is pretty simple. Just click on the appropriate patcher program and the application is automatically fixed. Obviously it goes without saying that you should only feed back-up copies of your Atari software through these patcher programs, otherwise you could well end up with an Atari program that won't even work on a real Atari!

Now for the bad news. There are of course some programs that don't work under Chamaleon. For starters Atari games won't work.

Even if Chamaleon managed to cope with the heavy disk protection systems used, the game would fall over as soon as it realised that there's no ST hardware to address. Some PD games that don't 'bash the metal' might just run, but the general rule is that games are a non-starter.

This isn't exactly surprising. After all, no matter how advanced the Amiga hardware, the fact is that it isn't an Atari. If you want to run ST games, then you're probably better off buying a real Atari. Although any Amiga owner who does buy an Atari to play games on needs his head examining.

In the early days of the Amiga, people cried out for an ST emulator because the Atari had all the decent software such as word processors, databases, MIDI sequencers - the list could go on.

These days though, the reverse is true. Atari owners look on enviously at such packages as DPaint 3 - ST DPaint doesn't really compare to the Amiga version - Music-X, DigiPaint 3 and Professional Page.

So what is the point in emulating an ST? There are a few decent applications out there, Calamus and Cubase spring to mind, but not enough to warrant spending almost £100 on an emulator.

In the end the fact remains that Chamaleon does what it sets out to do - to provide a reliable and fast ST operating environment on the Amiga. It's highly compatible, fairly easy to set up once you've found a TOS ripper, and runs software at an acceptable speed.

If you really need ST emulation, then Chamaleon is the one to go for.

Chamaleon
£80

George Thomson Services
(077082 234)

Greater London Computers

The AMIGA Specialists.

AMIGA 3000's

The complete Amiga 3000 range, available now and we are specially extending our introductory offer of a free 15" Multisync Monitor with each A3000 bought. This extension of the offer will last only until Christmas. So you had better hurry as we have only limited supplies of the machines on this offer.

A3000 16Mhz/40Mb
+ FOC Monitor 2499.00 + VAT
A3000 25 Mhz/40Mb
+ FOC Monitor 2999.00 + VAT
A3000 25 Mhz/100 Mb
+ FOC Monitor 3299.00 + VAT
A3000 25 Mhz/100Mb
Hard Disc + FOC 14"
VGA Colour Monitor 2999.95 inc VAT



(Note the A3000 is approved by Cosmo)

CLASS OF THE 90's PACK £549.95

FIRST STEPS PACK £549.95

A1500

**1Mb RAM, TWIN 3.5" DRIVES
COLOUR MONITOR +
SOFTWARE
£1049.95 inc VAT**

A2000 HD

**1Mb RAM, 40Mb SCSI –
HARD DISC + COLOUR
MONITOR
£1499.95 inc VAT**

Greater London Computers, 481 Hale End Road

TEL 081-527-0405

AMIGA 500

NEW

★S★C★R★E★E★N★G★E★M★S★

Pack.

ONLY £379.95

including:

Days of Thunder, Back to the Future II, Night Breed, Shadow of the Beast II & Deluxe Paint II.

Delivery on all items is free to UK addresses. All purchases of £1000 or more; earns a free Teddy Bear – "Cosmo"

All enquiries about Bears should be made to Cosmo in our Teddy Bear Department.

Please note: All our machines are new UK models NOT grey imports or second hand models

COMMODORE C286 PORTABLE

PC AT Portable 286 12.5 Mhz 1Mb
ram 20Mb Hard Disc

£1999.95 inc VAT

X-COPY II

GLC would like to apologise but we have had to raise the price on this popular item.

£24.95

(X Copy is COSMO Approved)

Business Customers

Our Business Division can help you with all your computer needs. From Hardware to Software and Supplies

For more information and a credit account application, call 081-527-0405 and ask for Business Sales.



*Merry Xmas
to all our Customers*



COSMO'S MESSAGE FOR THE MONTH

"Yo Dudes, it's crigimo time again! It's dead cool 'ere! Mr Mike Nilbog and Nigel the manic munchkin have put up the tree and there's loads of pressies round it, most of them for me! But it aint too late for you to get your pressies from the GLC crew, they still got some stuff left.

By the way dudes, sorry I missed yous at the Commodore show, but I was naughty so Mr Mike made us all stay in. No fair!

Ta ta for now dudes.

Highams Park, Chingford, London. E4 9PT

FAX 081-503-2341

THE £3.99

GAME IS HERE!

NO CLUBS TO JOIN, NO
HIDDEN CHARGES, JUST
£3.99 A GAME PLUS 50p
POST & PACKING
**ALL THE GAMES
REALLY ARE JUST
£3.99 EACH.**

I OWN AN

ST ☐ AMIGA ☐

Please send me:

Qty

- GOLDRUNNER ☐
- ELECTRONIC POOL ☐
- JUPITER PROBE ☐
- KARATE KID PART 2 ☐
- AIRBALL ☐
- GOLDRUNNER 2 ☐
- LEATHERNECK ☐
- TETRA QUEST ☐
- MAJOR MOTION ☐
- SLAYGON ADVENTURE ☐
- TANGLEWOOD ADVENTURE ☐
- TIME BANDIT ☐
- 'THE GRAIL' ADVENTURE ☐
- INTERNATIONAL SOCCER ☐
- J.U.G. ☐
- ABZOO EDUCATIONAL SOFTWARE ☐

NAME _____

ADDRESS _____

POST CODE _____

SEND ME _____ TITLES

at £4.49 (50p p&p)

TOTAL ENCLOSED £ _____

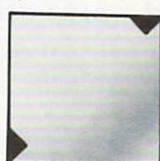
CREDIT CARD TYPE _____

No. _____

EXPIRY DATE _____

Allow 28 days for delivery

Post to:



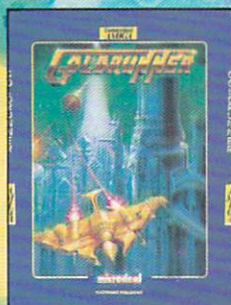
direct
software

PO Box 68, St. Austell, PL25 4YB
or phone with credit cards



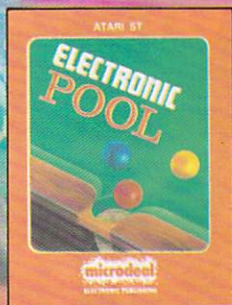
0726 68020

ALL FOR ST OR AMIGA



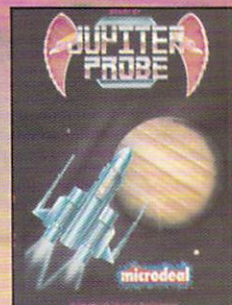
GOLDRUNNER

Our top selling shoot em up from Steve Bak and Pete Lyon.



ELECTRONIC POOL

Mono or colour version of 'Video Pool' arcade game.



JUPITER PROBE

Vertically scrolling shoot em up by Steve Bak.



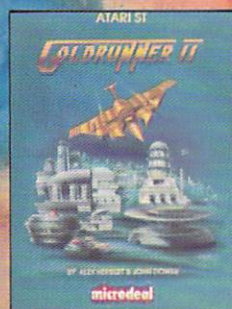
KARATE KID PART 2

Our top selling karate game.



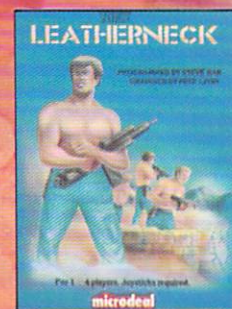
AIRBALL

Over 200 rooms of strategic arcade action, graphics from Pete Lyon!



GOLDRUNNER 2

Sequel to our top selling shoot em up, high speed action packed arcade game.



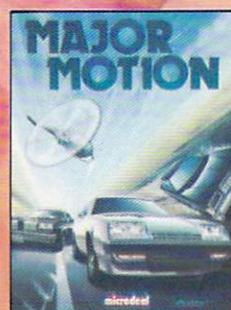
LEATHERNECK

Reviewed as the best arcade war game, program by Steve Bak.



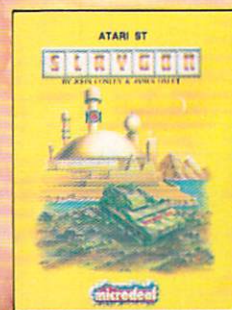
TETRA QUEST

Over 300 screens of arcade strategy.



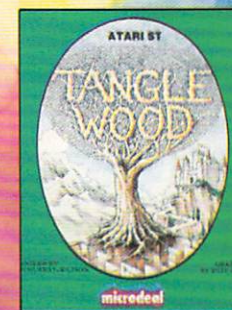
MAJOR MOTION

Spy car chase arcade game.



SLAYGON ADVENTURE

Stop Cyber Dynamics ruling the world in this graphic adventure.



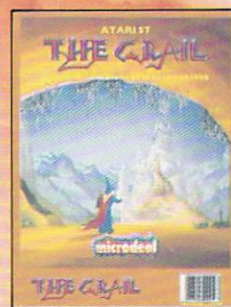
TANGLEWOOD ADVENTURE

Rated as one of the best 16 bit graphic adventures.



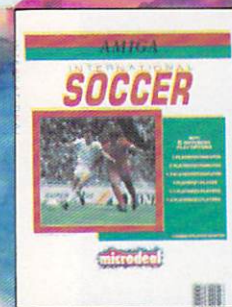
TIME BANDIT

Top selling arcade adventure, the original ST Mega game.



'THE GRAIL' ADVENTURE

Full size adventure programmed using our Talespin development system.



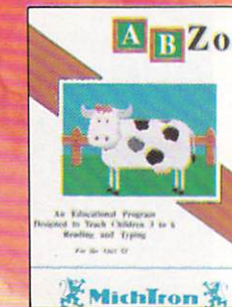
INTERNATIONAL SOCCER

Soccer action at its best in our own soccer game.



J.U.G.

Highly rated arcade game with 4 way scrolling.



ABZOO EDUCATIONAL SOFTWARE

Preschool to 8. Helps character recognition and spelling with funny and serious A to Z pictures.

AMIGA Version Requires 1 MEG

Musical MEDley

OK, all you lucky folks who bought Amiga Computing's December issue are probably familiar with Med213, the great music utility we gave away on the cover disk. If you're not, get hold of a copy now!

The main aim of this article is to take a complete musical beginner from first notes to a finished piece of music. To do this we'll be working with Med213, which dedicated readers already have, don't you? We gave it away on the cover disk, but you don't have it, check out any good PD library. I'm – hopefully – going to take some of the mystery out of the process of creating music.

Basically, putting together a tune is a simple process which, through technology and its inevitable jargon, has become somewhat a secondary consideration in comparison with equipment. As a result, most beginners are left with the idea that to create anything worth doing, you need a huge pile of MIDI equipment, and a First in Electronics, as well as music. This is not the case, as I hope you'll find.

There's thousands of would-be talented musicians out there who have never played a note, simply because of a lack of opportunity, or perhaps because of the conventional skills required. Much to the disgust of many an old guard muso, these conventional skills are no longer required in certain areas, thanks to your Amiga, and the sequencing packages it can support (Med213 being a fine example).

I hope to provide a guide to the

From Chopsticks to Chopin – it's all in Amiga Computing's guide for the musician...



Remember, large amounts of CPU time can be saved by turning off screen effects

production of a piece and creative technique rather than a second manual for Med. With this in mind, I suggest you print it out if possible, as this will speed things up considerably, until you're familiar with the program. Use fan-fold paper as there is quite a lot of it to print, but don't let that worry you. If you don't have a printer you could always load the document file before Med213. You can then alternate between the program and the instructions using the Amiga key and N or M. This will use up RAM but at first, though I doubt it will cause too many problems.

After loading Med213, you may be struck by two features, the worrying complexity of the control panel, and how incredibly ugly the

whole thing looks. The first thing to do is click on the Misc button and alter the preferences. After that things may look a bit more friendly and the preferences will be stored and reloaded with your master-piece.

The next step is to load in some samples. This is done by loading the Song24 demo on last month's cover disk. Not only will you have its component samples in memory, but also a chance to pick up a few ideas, or perhaps what you should avoid from the demo. When you're ready, clear the song in the Misc section, making sure you leave the samples in. Now the fun really starts.

The first thing to do is pick a sample, let's say 'Ahh Vox', then play

around until you find a little melody you like, the theme tune to Close Encounters say, which requires you to press w, e, q, z, b. If you can come up with something original it would be better, as this tutorial is not based around a particular tune. Once you're comfortable playing the piece, it's time to start.

Tempo

One of the most important things to do before recording anything, is to set the tempo, so your first job must be to give yourself a stick count to give you a point of reference when you start to play. I suggest you do this on a separate block, with, let's say, a clap sample on one track to count you in.

Select a new block, enter edit mode, and Play Song. The present block will scroll by. Wait until the stick count, the new block will appear, then play your tune.

Now one or more things may have happened depending upon how diligently you constructed the tune.

Either the piece when played back may be perfect, and the block may cycle perfectly without interruption – this is unlikely – or the piece was too long for the block, and the cycling of the block caused the end to overwrite the beginning of the piece. This can be rectified by clearing the channel, lengthening the block in the Block section and re-recording the piece.

A third possibility is that the block was too long for the piece, producing a long pause between plays. Simply delete the additional steps in the block until the the block cycles smoothly.

Tempo hints

When you first play back the tune you may find that it sounds different to what you actually played. Notes may have been moved slightly and the track in general may sound regimented and mechanical. This is a sure sign that the tempo is too slow. Because of this, your Amiga has been forced to place notes, which fell between two steps in the sequence, into the closest free step, causing the changes you can hear.

The easiest way to combat this is to re-record, increasing the tempo until you hear exactly what you played. This will possibly require the lengthening of the block and the stick count, if you're using one.

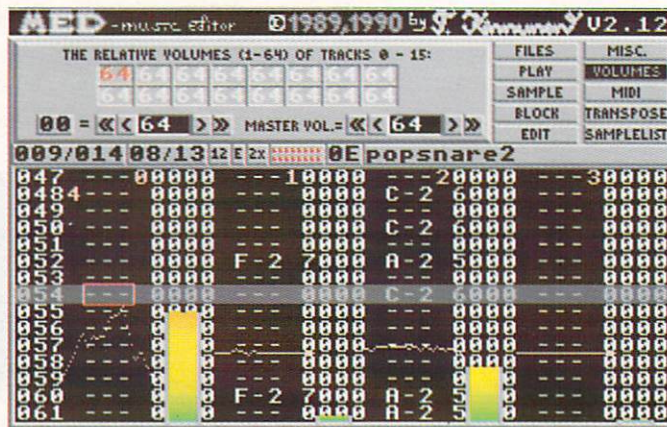
Sometimes, it can be a good idea to place the first note in step time on the first step of the block, rather than trying to play it live. Thus, when you come to play the tune you will hear the count and the first note, enabling you to fill in the rest live. This makes life a lot easier when you start copying blocks by keeping everything in the same time signature.

When you first record a tune you may find that the gaps between the notes are relatively short, perhaps only two or three spaces on average. The tune may sound perfect, but it probably a good idea to double the gaps between the notes. I know it sounds a bit drastic, but you'll thank me in the end.

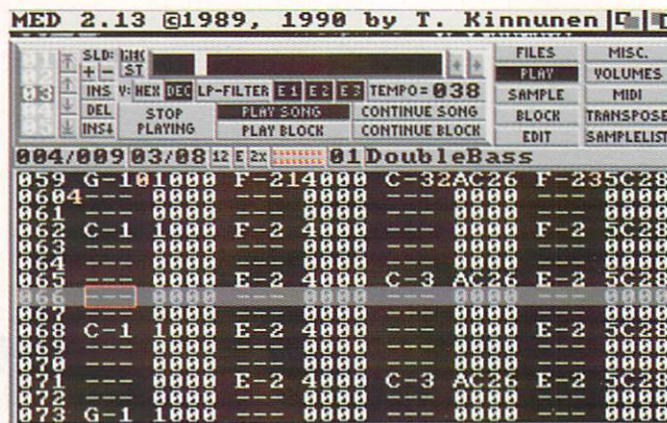
If you're lucky, your tune will fit in a block under 128 steps. If so, you can use the Expand option in the transpose section to double the spaces between the notes. The problem with having the notes too close together, even when they're correct, is that when you progress with the piece you'll no doubt want to add fiddly bits (technical term). With other samples, it's at this point you may discover that there is simply not enough space in the sequence to put the new notes where you want them.

When this happens there is nothing else to do but reach for the hankies, followed by the off switch, and start all over again. Increasing gaps will mean lengthening the block, altering the stick count and doubling the tempo, the end result sounding exactly as before. Ten minutes of work at this stage, can save hours of misery later.

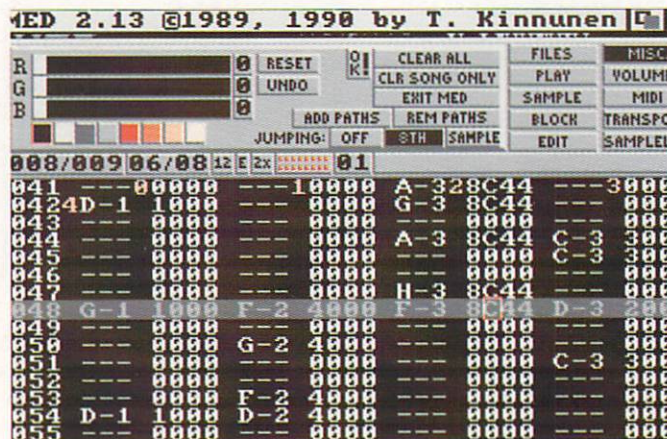
When writing a piece don't feel



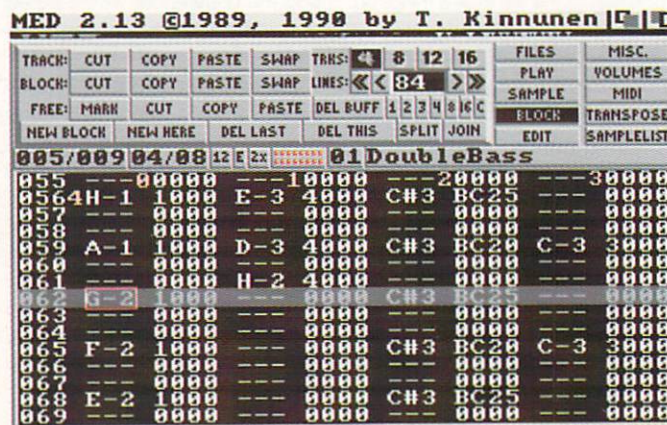
Don't forget to set instrument volumes before you start to compose



Try to keep gaps at the beginning, you'll never know what you'll want to add later on



Add that personal touch with some new preferences - it certainly needs them



The block section, once mastered, can save hours of drudgery

it's necessary to record everything live on each channel. Often it's easier and quicker to enter the notes step by step rather than spend your valuable time recording and re-recording the same block over and over again.

Song construction

Most of the readers who've dabbled in music may be thinking at this point, "why hasn't he done the drum track first? I always do that first" Well, I admit that having something to keep you in time is useful, so I suggest you use a click track. This is simply an extended stick count which runs through the piece.

The trouble with producing the drum track first is that they can dictate the way the rest of the track is arranged. If the drums are one of the main features of the piece you're working on you may want them to dictate the pace, so by all means do them first, but if not they're better written around the tune.

The reason for this is to keep things original rather than predictable. This can happen if you're forced to work around the music rather than write the music around the drums. You could find yourself writing drum patterns you may never have thought to otherwise use.

By now you'll probably have noticed my obsession with trying to keep the creative flow as free as possible and this really is essential. Original ideas are the life blood of good music, which is why restrictive practices, and consequently habits, must be avoided. The end result of such practices is invariably boring, predictable and repetitive.

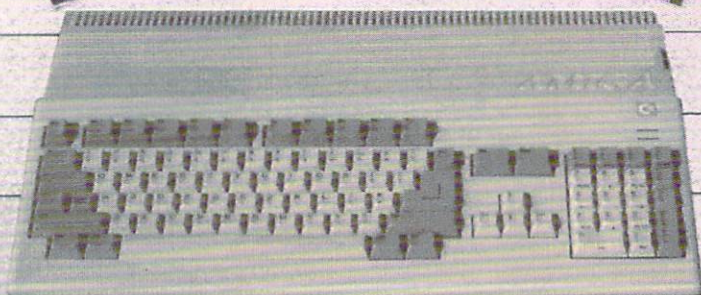
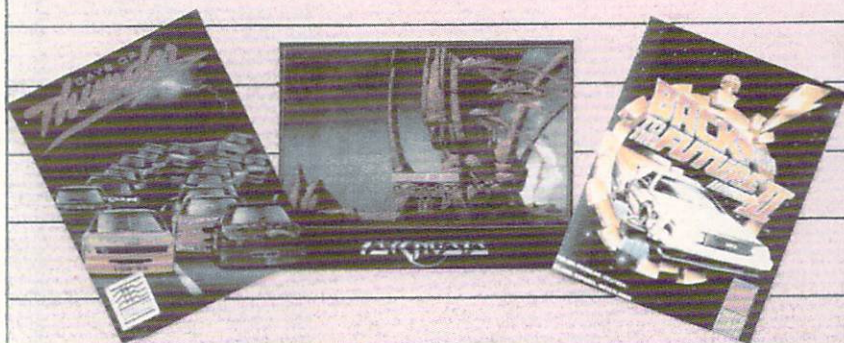
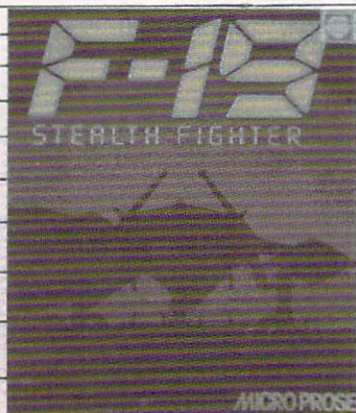
To help combat falling into the trap of producing predictable arrangements, I have produced the three note major and minor chords. First save your piece, then clear the song, leaving the samples. Now enter a note, say G on the first channel, and listen to it. Sounds fine? Now add the B and the D on channel two and three to form your first G major chord. Play the block and hear the difference. Try messing around, perhaps stagger the notes on each channel, experiment with a short tune, just single notes at first then build the notes into chords. Using chords can open many opportunities - have fun!

For some strange reason the note B appears as H in Med213. I haven't the faintest idea why this

NEW

Commodore SCREEN GEMS

AMIGA 500



**SCREEN GEMS is
the only NEW
Official Amiga A500 pack
from Commodore !**

pack includes

- ☐ Amiga A500 Computer Keyboard
 - ☐ 512K Random Access Memory
 - ☐ Built-in 1 meg double-sided disk drive
 - ☐ Superb 4096 Colour Graphics
 - ☐ 4 Channel Digital Stereo Sound
 - ☐ Speech Synthesis
 - ☐ Multi-Tasking Operating System
 - ☐ Kickstart 1.3 and Workbench 1.3
 - ☐ Three Owners Manuals
 - ☐ Extras 1.3 and Tutorial Disk
 - ☐ Amiga BASIC Programming Language
 - ☐ Notepad Mini Word Processor
 - ☐ Commodore Mouse
 - ☐ Power Supply Unit with mains plug
 - ☐ TV Modulator
- ..and all connecting cables to get you up and running on your home TV set!

plus

- ✓ Shadow of the Beast II
- ✓ Days of Thunder
- ✓ Back to the Future II
- ✓ Night Breed
- ✓ Deluxe Paint II Art Package

plus FREE DIGISTAR pack

10 great software titles and accessories worth over £235 - Only from DIGICOM!

- | | |
|--------------------------|----------------------|
| ★ Microprose Soccer | ★ Grand Monster Slam |
| ★ RVF Honda | ★ Powerplay |
| ★ Kid Gloves | ★ Tower of Babel |
| ★ Datastorm | ★ Shufflepuck Cafe |
| ★ Dungeon Quest | ★ E-Motion |
| ★ Microswitched Joystick | ★ Mouse Mat |

and exclusive to DIGICOM!!!

F-19 Stealth Fighter

The Ultimate Flight Simulator game from Microprose worth £34.99!

**Total package price includes VAT and Next Day Delivery by Courier*
Don't delay - Order now! 24Hour Credit Card Hotline Telephone (0908) 378008**

How to Order



By Phone - Call our Credit Card Order-line on (0908) 378008 and quote your card number and expiry date along with the details of the goods you require. We accept ACCESS, VISA, EUROCARD, MASTERCARD, AMEX the new Direct Debit cards like Barclays Connect and we also accept Lombard CreditCharge Cards.



By Mail - Simply write down your requirements and send in your order to us by post along with a personal cheque, bankers draft, building society cheque or postal order made payable to "DIGICOM COMPUTER SERVICES LTD".
*Please note: Personal cheques require 7 days clearance before despatch.

Catalogues!

Ring or write in for our latest Amiga catalogue listing hundreds of products available for this versatile Home Computer. We stock COLOUR PRINTERS, STEREO COLOUR MONITORS, EXTERNAL DISK DRIVES, MEMORY EXPANSIONS, HARD DISK DRIVES, AMIGA BOOKS, FRAME GRABBERS, DIGITISERS, SCANNERS, WORD PROCESSORS, DATABASES, SPREADSHEETS, ACCESSORIES and of course hundreds & hundreds of games and all at well below recommended retail prices!

Service you can depend on!

Digicom offer you the very best in customer after sales support with 12 month warranty on all Computer Hardware. All units are full UK specification with 30 day replacement guarantee on faulty items and FREE collection of the defective units within this period. And should you ever need any technical advice our experienced and helpful staff are available on the telephone or in our showroom. Remember - there are no hidden extras all prices are fully inclusive of VAT and next day courier delivery.
Prices & Specifications are subject to change without notice E&OE.

only.....

£399

* or spread the cost with our finance facilities - written details on request.

DIGICOM

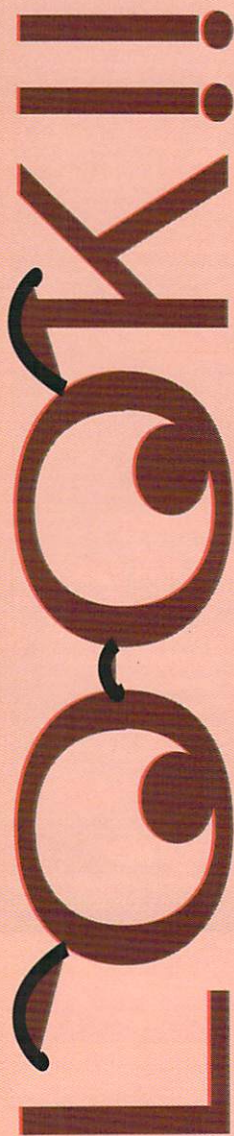
36-37 Wharfside Watling Street
Fenny Stratford Milton Keynes MK2 2AZ
Telephone (0908) 378008 - Fax (0908) 379700
Showroom Hours - Mon to Sat
9.00am-5.30pm

99^P
per disk

Strictly P.D.

99^P
per disk

The Christmas Party starts here!!



DEMOS

D003 ACID Demo (outsiders)
D004 Adams Family
D102 Adventures Disk I
D005 Agatran Star Wars (1Mb - 2 disks)
D006 Alcatraz Mega-Demo IV (3 disks)
D007 Alf Demo
D008 Alf Mix II
D009 Amos Games Creator Demo
D010 Anarchy Demo
D124 Arnold Schwarzenegger (2 disks)
D011 Arsewipe
D012 Assassin's Demo Mix VIII
D013 Avenger Mega Demo
D014 Beastie Boys
D113 Bloodsucker Volume III
D015 Budbrain Demo (2 disks)
D016 Buggy Commander
D017 Car and Unicycle Animation
D019 Cave Megademo
D020 Cebit90/Coma/Victory (1Mb)
D021 Charon (1Mb - 2 disks)
D023 Comic Strip Presents
D024 Crionics Demo
D116 Crionics Neverwhere
D026 Cult Mega Demo
D027 Darkness Mega Demo
D029 Deathstar Mega Demo (2 disks)
D139 Derek and Clive Live
D103 Diggy Piggy's Slideshow
D133 Donald Duck Animation
D031 Donald Where's Your Trousers?!?
D033 Dragons Mega Demo
D134 Eddie Murphy (2 disks)
D034 Education of Cool Cougar
D035 Elvira Demo
D106 Equaliser Demo
D150 Fillit the Fish
D036 Fraxion Horror
D037 Fractal Flight (1Mb)
D038 Forgotten Realms Slideshow I
D039 Forgotten Realms Slideshow II
D040 Garfield Demo
D041 Gate Mega Demo
D042 Ghost Pool
D131 Giants Megademo (2 disks)
D043 Golem's Gate Slideshow II
D044 Gymnast (1Mb)
D045 Holsten Pills Demo
D101 Ian & Mick Mega Demo
D151 Intuition Demo
D047 Jarre Docklands Demo
D048 Juggler Demo
D049 Juggette Demo
D104 Kickoff 3
D050 Knight Demo (1Mb)
D128 Kylie Demo (2 disks)

D052 Laurel & Hardy (2 disks)
D111 Light Cycle Demo (2 disks)
D053 Luxo Teenager
D054 Madness Demo
D055 Madonna Demo
D056 Magnetic Fields
D129 Maria Whitaker
D058 Mental Hangover
D059 Miller Light Demo
D060 Mirage 18
D062 Monty Python (2 disks - 2 drives)
D063 Monty Python's Nudge Nudge!! (2 disks)
D065 Newtec Demo-Reel (1 meg)
D066 Nightmare on Elm Street
D067 Not Being Again (1Mb)
D069 Not the Nine O'Clock News (2 disks)
D070 PD Spectacular
D071 Popeye meets the Beach Boys
D073 Predators Mega Demo (2 disks)
D074 Probe Sequence
D075 Puggs in Space
D077 RAF Mega Demo (2 disks)
D078 Real Things 'Birds' Demo
D079 Real Things 'Horses' Demo
D080 Robocop Demo
D081 Rocket Ranger Demo
D083 Safe Sex Demo
D130 Sam Fox (nice!)
D105 Sargon Mega Demo
D084 Sculpt 3D Animations
D085 Shell Shocked
D086 Silents Slideshow (2 disks)
D087 Space Ace Demo
D088 Space Fighter (1Mb)
D089 Star Trek Animations
D112 Stealthy II (1Mb)
D091 Sun Slideshow 3
D092 The Run (1Mb)
D093 Tomsoft Trip to Mars
D094 Trilogy Mega Demo (2 disks)
D095 Turtle Mania!!!
D096 Visit Merseyside!!!
D097 Viz Slideshow
D098 Walker Demo 1 (1Mb)
D099 Walker Demo II (1Mb)
D100 Warriors Hot Demo

UTILITIES

U001 Action
U002 APDL 17 (Home Utilities)
U003 APDL 28 (Midi Collection)
U004 Bank n
U005 Boot Block Champion III
U006 Business Pack (3 disks: Wordprocessor, Spreadsheet, Database)

U007 C Manual (3 disks)
U033 Crunchers
U008 Dark Star 3
U009 Dark Star 4
U010 Dark Star 5
U011 Dark Star 6
U012 Dope Intro Maker
U031 Ghost Writer
U013 Gurubuster
U014 Intro Maker
U015 Jazz Bench
U016 Journal
U017 Mandel Mountains
U036 Noise Tracker
U019 Pagesetter Clip Art
U022 Perfect Sound Utility
U023 Ram Manager
U024 Ray Tracer
U025 Sid V1.6
U034 Star Trekker
U026 TV Graffiti (2 disks)

MUSIC

M001 Beatmasters Club Mix
M002 Beatmasters Remix
M003 Crusaders Bacteria
M004 Cryptoburners
M043 Danish Knowhow
M005 D-Mob Music 4 (2 disks)
M006 Depeche Mode
M007 Digital Concert II
M008 Digital Concert III
M009 Digital Concert IV
M010 Digital Concert V
M011 Digital Concert VI
M012 Games Music Creator
M014 Godbrains House Disk
M015 Genesis
M042 Kim Wilde
M017 Mahoney and Kaktus
M018 Miami Vice Remix
M048 Queen & Black Box Remix
M019 Pet Shop Boys
M041 Silent Sounds
M020 Sonix Jukebox I
M021 Sonix Jukebox II

M022 Sonix Jukebox III
M023 Sonix Jukebox IV
M024 Sonix Jukebox V
M025 Sonix Jukebox VI
M045 Sound Tracker (3 disks)
M027 Technotronic Remixes
M029 Van Gels Demo (1Mb)
M030 Vision Music Masters
M031 The Wall - Pink Floyd
M032 Walk this Way
M033 8-Channel Soundtracker

GAMES

G001 All New Star Trek Game (2 disks)
G002 APDC III
G003 APDC VIII
G004 Board Games
G005 Blizzard
G006 Colossus - The Adventure Game
G007 Chinese Checkers
G038 Cribbage
G008 Eat Mine
G009 Flaschier
G010 Function I
G011 Fish 260
G012 Gravattack
G013 Golden Fleece Adventure
G014 Hack V1.0.3
G015 Jumpy
G016 Larn - The Adventure Game
G017 Mega Games 2 (2 disks)
G040 Monopoly - Cluedo
G019 Pacman
G020 Panorama 13a
G021 Paranoid
G031 Pipe Line
G023 Pseudocop
G024 Return to Earth
G025 Starfleet
G035 Star Trek 3 (2 disks)
G037 The Holy Grail
G027 Track Record
G041 Trek Trivia
G028 Tennis
G029 Wanderer
G030 Wraithed One

XMAS PACK:

3 Disks - Band Aid, Auld Lang Syne and Rock Around the Christmas Tree

£3.00 inc!

Please add 70p for post and packing.

Send SAE for full catalogue.

Cheques/PO's to:

STRICTLY P.D.

11 York Place, Brandon Hill,
Bristol BS1 5UT

THE MUSIC PACK:

Digital Concerts 2 to 6, plus
free post and packing

£5.00!

95^P

**for over
11 orders!!**

should be so, but it's worth remembering.

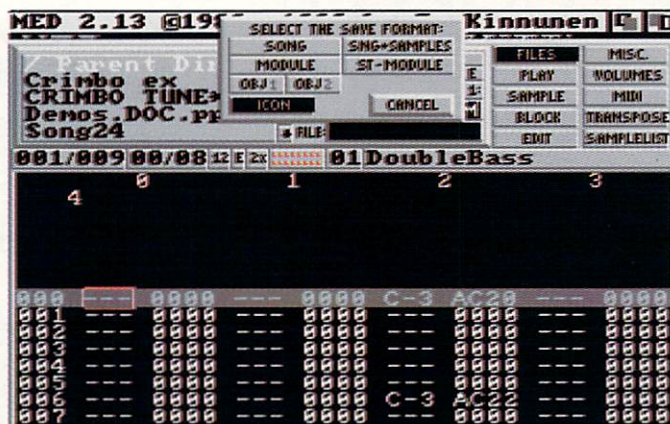
Creative use of volume

You may find it a good idea before starting a piece to reset all the volumes to around 40, reducing the general volume level by a third. The reason for this is that when you have written a piece, you'll want to mix the levels of the various samples. If your levels are already on full, pushing things up in the mix can be a tricky business.

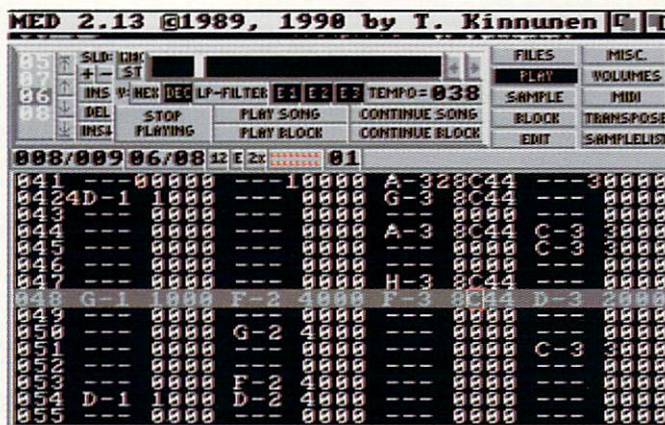
One of the main complaints about a lot of computer generated music is that they sound 'computer generated', mechanical and lifeless. This is not the fault of the machine, but rather that of the people who write the music. With a little effort it's possible to put real feeling into your creations.

One of the best methods of doing this is by varying the volume on individual notes. This isn't quite as painful as it sounds. After finishing a block make any changes before copying, then when you do copy the changes will go with it.

The best way to get an idea of how this should be done is to listen to real people playing their instruments. A bass player, for example, will play certain notes in his bass line louder than others. You should listen for this and try to do the



Be careful with save and load, time can be gained and lost with a click of a button



The letter highlighted in the central bar is just one of many effects available with Med

same. Change the volume of individual notes by using the command option described in the program docs. Experiment with various commands such as slides, arpeggio's, portamento and so on. All these effects can add life to the piece, so try them out.

On this month's cover disk, you'll find a new demo 'Crimbo Tune', written by yours truly, (but if anyone asks I'll deny all knowledge). You're more than welcome to mess around with it. Also feel free to make use of the samples I've added several extra samples, which are not part of the tune, to help you to build a sound library, feel free to use them.

So, there's a basic introduction to starting out. Armed with the above, you should be ready to enter your first tunes. Experiment and see what comes up. Working with Med does have its limitations, but it's the ideas that count. A bad idea does not get any better no matter how much money is lavished on it.

Next month I'll tell you about the construction of complete 'arrangements'.

Article and cover disk tune
written and arranged by
Paul Austin

Chord

G
G#
A
A#
B
C
C#
D
D#
E
F
F#

Major

G B D
G# C D#
A C# E
A# D F
B D# F#
C E G
C# F G#
D F# A
D# G A#
E G# B
F A C
F# A# C#

Minor

G A# D
G# B D
A C E
A# C# F
B D F#
C D# G
C# E G#
D F A
D# F# A#
E G B
F G# C
F# A C#

Public Domainia!

10 Capacity boxes 99p • 50 Rainbow labels 99p
Mousemats £2.50 • Dust covers £3.50

3.5" DS/DD 100% Certified Disks inc. labels, P+P
10 - £5.50 25 - £12.95 50 - £24.95 100 - £44.95

All PD discs

99p

Each!

499 Slabby's Music • Superb musci disk - get it
474 Spacechase • Fantastic animation!! 1 Meg
472 Crusaders Demos • New demos inc. ED-209
471 ST Bash • Smash those grey slabs of junk!
461 Yabba Dabba • The Flintstone slideshow - Brill
458 Star Trek Manuevers • Just Superb!! 1 Meg
457 Tron and Spaceship Anim • Very good 1 Meg
456 Stealthy 2 • Funny cartoon animation. 1 Meg
455 Agaton Anims 15 • 3 Brilliant 512K animations
454 Nightbreed Slideshow • Yucky spooky slides!
445 Anarchy CES music • Superb music by 4-Mat
444 Start demo pack 5 • Inc. Crusaders latest!
440 Tropical Sunset • A great demo from Silents!
426 Cronics Neverwhere • Very Impressive!
425 Digital concert 6 • Another Brilliant remix!
424 Sound of Silents • music by Jesper Kyd. Get it
252/253 Budbrain megademo • Just terrific!
242 100 64 songs • Old C64 tunes on the Amiga!
227 Jarre Docklands • Music with slideshow
225 Digital concert 5 • 4 Superb Chart songs
218 Kefrens Jukebox • Brilliant music disk
164 Mental Hangover • Mindblowing vectordemo
153 Puggs In Space • Great cartoon animation
133 Crusaders Bacleria • Brilliant Music disk

496 Visicalc • A Great PD spreadsheet
180 Wordwright • Wordprocessor, labelprinter
495 RIM • Powerful relational database
460 Iconmania • Superb Icons and icon tools
434 Amibase • Simple to use database.
377 North C compiler • Version 1.1
378/379/380 C Manual on 3 disks. Brilliant!
345/346 Video Applications • Utilities and fonts
356 Fish 327 • Messidos. read/write to PC disks
354 Sid 1.6 • Brilliant Directory Utility. Get it
340 Jazzbench • Great new workbench tools
330 Pendle Utills 7 • Superb Utilities disk.
331 Pendle Utills 6 • More utills inc. Sid, Newzap
332 Pendle Utills 5 • 28 Great Utilities
123 ST-91 • Samples disk compiled by Start
122 ST-90 • More Mega samples by Start
118 Noiseltracker • The Best music composer!
114 Dope Intromaker • Create your own demo

Hot Pack • 5 disks of the LATEST and BEST
demos - so new they are not even listed yet!
and the hot pack is updated every week!

So order a HOT PACK now! for only £4.99!

SEE US ON STAND 125 AT THE COMMODORE CHRISTMAS SHOW, NOVOTEL, LONDON - NOV 16-18

ALL PD DISKS ARE 99p PER DISK • PLEASE ADD 60p P+P TO TOTAL ORDER VALUE
ORDERING BY PHONE • SIMPLY CALL US WITH YOUR CREDIT CARD DETAILS
ORDERING BY POST • JUST SEND US YOUR ORDER WITH A CHEQUE OR P/O
please note our minimum credit card order is 5 disks

START

COMPUTER SYSTEMS

DEPT AC1 • BARBICAN HOUSE
BONNERSFIELD • SUNDERLAND
SR6 0AA

091 564 1400

AMIGA

COMPUTING

NEWSAGENTS ORDER

Please reserve 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 available from your local wholesaler. If not contact Carolyn Wood on 0625 878888

commodore

AMIGA

Prices include VAT, delivery & warranty.
Please add £15 for overnight delivery.
All systems are tested before despatch.
On-site maintenance options available.

■ A1500 IN STOCK!
■ Amiga A3000-25/100, 6MB £3145
■ Amiga A3000-25/40, 3MB £2895
■ Amiga B2000 latest UK model £845
■ Amiga A1500 as above, plus £945
2nd floppy, DPaint3, Works Platinum etc
■ Amiga B2000 with A2091 40MB £1295
Quantum 11ms autoboot hard disk
■ Amiga B2000 with A2286 PC-AT £1445
bridge board & 5 1/4" disk drive

■■■ B2000 + XT Bridge Board + 20MB autoboot hard disk £1295!

AMIGA

■ A2620 68020 Card + 2MB 32-bit £995
■ A2286 PC-AT board & 5 1/4" drive £645
■ A2088 PC-XT board & 5 1/4" drive £349
■ C2058 8MB Board, 2MB installed £224
■ RAM for above, per 2MB ... £104
■ RAM for A3000, all types ... Phone
■ A2091 + 40MB 11ms Quantum £495
■ A2091 + 105MB 11ms Quantum £845
■ RAM for A2091, per MB ... £48
■ Quantum ProDrive 40MB 11ms £349
■ Quantum ProDrive 100MB 11ms £695
■ Quantum ProDrive 170MB 11ms £995

■ Amiga A500 v1.3 complete ... £349
■ KCS PC Power Board £299
■ RAM for A590, per MB ... £48
■ Supra Modem 300-2400 baud £159
■ Supra 2400zi internal modem £159
■ A1084SD colour stereo monitor £259
■ 14" MultiSync monitor 1024x768 £475
■ NEW! A2320 de-interlacer £115
■ CBM 1270 inkjet 192 dpi 160 cps £225
■ HP DeskJet 500 inkjet, 300 dpi £495
■ HP PaintJet colour inkjet 180 dpi £925
■ Rendale 8802 Genlock £199
■ Rendale Pro Genlock £575
■ SketchMaster 18x12 dwg. tablet, 1000 lpi, with stylus & 4-button cursor £595
■ FrameGrabber all colour modes, overscan, up to 640x400 resolution £549

■■■ B2000 + XT Bridge Board + 40MB autoboot hard disk £1495!

Why not enjoy the free Teletext databases with the MicroText Teletext adaptor... Fully programmable, with Fasttext facility. Instant access to last 16 pages, double page view, teletext software loader, auto-start/background operation... Pages can be spoken, printed as ASCII or graphics, saved as ASCII or IFF files... And it turns your 1081/1084/8833 monitor into a digital TV! Available now for only £139!

■■■ Amstrad FX9600AT Fax + Printer + Copier + Scanner £115 off!

AMIGA

■ SuperBase Personal Handles data & graphics, with easy VCR style controls
■ SuperBase Personal 2 Relational database power, without programming!
■ Professional v3 "The Rolls-Royce of Amiga databases" (NCE)
■ SuperPlan Pro spreadsheet with business graphics, time planner
■ C64 Emulator v2 Don't throw your C64 software away!
■ Doctor Ami Guru stopper... disables bad disk blocks and RAM!
■ Excellence 2 New improved version... Word Perfect with graphics!
■ Pagestream 2 With major new features incl. Agfa/Adobe fonts
■ Professional Draw 2 Now much faster, with auto-trace, curved text & more...
■ Professional Page v1.3 Includes WP, Desktop, colour separations, CAD
■ CG Outline Fonts 35 Agfa CG fonts for ProPage, ProDraw 2, PageSetter 2
■ Gold Disk Type Choice of 4 sets of 3 Agfa CG fonts, per set ...
■ Professional Page Templates £39.95
■ PageSetter 2 59.95
■ Pen Pal 79.95

■ NEW! Lattice C v5.10 £159.95
■ A/C Fortran 179.95
■ A/C Basic v1.3 109.95
■ APL 68000 Level II v7.30 299.95
■ Dos-2-Dos 34.95
■ Workbench v1.3 Enhancer 12.95
■ Handles data & graphics, with easy VCR style controls 24.95
■ Relational database power, without programming! 39.95
■ "The Rolls-Royce of Amiga databases" (NCE) 154.95
■ Pro spreadsheet with business graphics, time planner 49.95
■ Don't throw your C64 software away! 49.95
■ Guru stopper... disables bad disk blocks and RAM! 39.95
■ New improved version... Word Perfect with graphics! 129.95
■ With major new features incl. Agfa/Adobe fonts 139.95
■ Now much faster, with auto-trace, curved text & more... 89.95
■ Includes WP, Desktop, colour separations, CAD 139.95
■ 35 Agfa CG fonts for ProPage, ProDraw 2, PageSetter 2 89.95
■ Choice of 4 sets of 3 Agfa CG fonts, per set ... 39.95
■ Works Platinum Edition 99.95
■ System Programmer's Guide 24.95
■ Amiga Logo 39.95

■■■ PAGESTREAM 2 PRODRAW 2 EXCELLENCE 2... In stock now!

AMIGA

■ Introcad Plus Powerful new version of popular CAD program
■ Broadcast Titrer 2 Real broadcast quality titling with 4-level anti-aliasing
■ Pro Video Post The ultimate in video presentation, titling & effects
■ Pro Video font sets Choice of 5 sets of 4 anti-aliased fonts, per set...
■ TV-Text Professional Latest full-feature video titler, includes Zuma fonts
■ TV-Show v2.02 Video presentation, special effects & transitions
■ Video Effects 3D v1.2a Smooth playback, unlimited 3D effect combinations
■ 3D Professional £259.95
■ Turbo Silver 89.95
■ The Art Department 59.95

■ AmigaVision v1.53G £99.95
■ Digiview Gold v4.0 99.95
■ PageFlipper + F/X 39.95
■ De Luxe Paint II 24.95
■ Fantavision 24.95
■ Walt Disney Animation Studio 99.95
■ Powerful new version of popular CAD program 79.95
■ Real broadcast quality titling with 4-level anti-aliasing 179.95
■ The ultimate in video presentation, titling & effects 209.95
■ Choice of 5 sets of 4 anti-aliased fonts, per set... 89.95
■ Latest full-feature video titler, includes Zuma fonts 89.95
■ Video presentation, special effects & transitions 54.95
■ Smooth playback, unlimited 3D effect combinations 129.95
■ RGB Splitter 69.95
■ ColourPic Digitiser 475.00
■ SuperPic Genlock/Digitiser 595.00

■■■ IF YOU WANT IT TOMORROW... CALL US TODAY! ON 081-546-7256 ■■■

Prices are POST FREE & include VAT.
Order by phone with your credit card, or send cheque/PO or your credit card number. We welcome official orders.
Software sent same-day by 1st Class post, but please allow five days for hardware delivery, unless overnight.
Prices subject to availability. Ref. A78



Calco Software

LAKESIDE HOUSE, KINGSTON HILL, SURREY, KT2 7QT. TEL 081-546-7256

GFX 90 : The year of the Amiga?



There is always one event that is well documented in any graphics aficionado's diary. Try to meet them on those days and you'll hear stories of sick aunts, sudden and violent flu attacks – unavoidable business elsewhere perhaps. Written in bold legend among the nether regions of their personal organisers however, will be just three letters: GFX.

This is the time when the graphics world unites in a desperate attempt to persuade everyone that it isn't all just about pretty pictures, which of course, it is.

DTP, CAD (computer aided design) and graphic design are represented by names from sever-

Widely acclaimed as the only computer graphics event worth visiting, Jason Titchberry found out what the future holds for pixel punchers

al continents. You're not likely to catch the likes of Agfa at a 16-bit show but you'll find them here along with names like Dowty, Hewlett Packard, Ashton Tate, Sony and Hitachi. Pretty pictures are big business.

As anyone in the know knows, the area where Amigas have had the biggest impact so far, at least

professionally, is in graphics, particularly desktop video. While the Amiga may still lag behind Apple's Mac and the PC in terms of business sales, the machine has become really popular with animation houses which explains why IFFs keep appearing on Channel 4.

This year brought not only the launch of two new Amigas, the

A3000 and the A1500, but also the promise of two even more powerful machines, the Tower A3500 and the Unix-compatible A3000UX. This commitment to leading-edge hardware ensures a solid position for Commodore's Amiga.

Harlequin

One of the most exciting pieces of kit for anyone interested in professional standard graphics was displayed by Amiga Centre Scotland.

The Harlequin is a 32-bit frame buffer on a Zorro II card ie, – it fits internally into a 1500/2000/3000 but you can't use it with a vanilla A500. This allows you to display



broadcast-quality images at a maximum resolution of 910 x 576. But wait, there's more. The frame buffer handles up to an amazing 16,777,216 colours.

A few quick calculations will reveal that this is the number of colours available for a 24-bit image. So why does the ACS Harlequin use 32-bits? The extra

eight bits make possible a whole range of other functions – as an alpha-channel to provide 256-level linear keying for anti-aliasing the signal or perhaps as control data for other video sources and gen-locking.

The Harlequin comes with software enabling IFF files to be transferred to the frame buffer including

24-bit IFFs which you are likely to get from ray-tracers, scanners, digitisers and so on, and a library and device driver for programmers. The price? A mere £1,395.

Virtuality

If you were tired of the real world you could always enter a virtual

reality, courtesy of Virtuality Limited. A snip at £20,000 and apparently the cheapest of its kind, the Virtuality system consists of a base unit and a large headset containing two miniature colour ultra-high quality liquid crystal displays.

Two versions are available, a stand-alone unit where the user



SOFTMACHINE



HARDWARE

A500 SCREEN GEMS

Back to the Future II
Days of Thunder
Shadow of the Beast II
Nightbreed
Deluxe Paint II
£369.99

A 500 FLIGHT OF FANTASY

F29 Retaliator
Rainbow Islands
Escape from the Planet
of the Robot Monsters
Deluxe Paint II
£369.99

AMIGA 500 FIRST STEPS

A501 Ram Expansion
Deluxe Paint II + Print II
Pro Write + Info File
Let's Spell at Home
Amiga Logo + Talking Turtle
Mouse Mat + 10 Blank Disks
ProWrite V2.5
Music Mouse
BBC Emulator
£539.99

COMMODORE AMIGA 1500

Amiga 1500 c/w 1Mb Ram
10B4S Colour Monitor
Platinum WORKS!
Deluxe Paint III
Populous, Battlechess,
Sim City, Their Finest Hour,
A-Z of Computer Jargon,
Getting the most
from your Amiga with
Populous + Promised Lands
also Sim City + Terrain Editor
£1064.99

CLASS OF 90's

A501 Ram Expansion
Midi Interface
Deluxe Paint II
Publishers Choice
Maxi Plan 500
Superbase Personal
Dr. T's MRS
Amiga Logo
BBC Emulator
Mouse Mat
10 Blank Disks
£539.99

SOFTMACHINE POWERPACK

Tower of Babel
Shufflepack Cafe
Microprose Soccer
Grand Monster Slam
E-Motion, Kid Gloves
RVF Honda, Powerplay
Datastorm, Dungeon Quest
ONLY £25*

AMIGA 3000 SERIES

A3000 c/w 16MHz 40Mb HD
£2079.99
A3000 c/w 25MHz 40Mb HD
£2494.99
A3000 c/w 25MHz 50Mb HD
£2744.99
AMIGA 2000
Complete with:
A2091 Hard Disk Controller,
capable of taking 2Mb Ram
on board + 40Mb, 19m/s
Quantum HD
£1269.99

SOFTMACHINE STARTER PACK

Deluxe Mouse Mat
Tailored Dust Cover
Drive Head Cleaner
10 TDK MF2DD Disks
80 Cap Lockable Disc
Storage Box
ONLY £20*

*When purchased with any
Amiga
computer. Offer limited to 1
Starter/Power pack per
Amiga purchased

PERIPHERALS

1084S Colour Monitor.....£259.99
A1011 Disk Drive.....£89.99
A590 20Mb Hard Drive.....£279.99
A501 Ram Exp/Clock.....£59.99
1230 Dot Matrix.....£134.99
1270 Inkjet.....£184.99
1550 Colour Dot Matrix.....£209.99
A520 Modulator.....£24.99
A1352 Mouse.....£34.99

Cumana 1Mb 3.5" Drive.....£69.99
Cumana 1Mb 5.25" Drive.....£104.99
Microbotics M501/S.....£49.99
AT Once/286 Emulator.....£184.99
Digidroid.....£59.99
Camera Stand w/lights.....£79.99
Sound Trap 3.....£29.99
Perfectsound.....£47.99
TL Mono Digitiser.....£24.99
TL Stereo Digitiser.....£32.99
Audio Engineer Plus.....£169.99
Alter Audio.....£79.99
Midi Interface II.....£29.99
Midi Connector.....£29.99
Midi Master Interface.....£29.99
Phantom SMPTE/Midi.....£209.99

Contriver Mouse.....£22.50
Naksha Mouse.....£34.99
Marconi Trackerball.....£49.99
Contriver Trackball.....£32.50
Mouse Mat.....£3.99
Optical Mouse.....£34.99
10 x Sony Bulk 3.5".....£5.99
10 x Sony MFD2 DD.....£10.99
10 x TDK MF2DD 3.5".....£11.99

3.5" 40 Cap Lockable Box.....£5.99
3.5" 80 Cap Lockable Box.....£7.99
3.5" 150 Cap Posso Box.....£19.99
Printer Cable.....£4.99
3.5" Head Cleaner.....£3.99
Mouse Mat with Amiga Logo.....£5.99

NEW

Philips 8833 Mk II 14"
Stereo Colour Monitor with
Earphone Socket and cable

8833 Mk II.....£244.99
8833 Mk II Artist.....£244.99

VIDEO/IMAGE PROCESSING

Hitachi Camera + Lens.....£219.99
Digiview 4 Special Offer
While Stocks Last.....£84.99
Vidi Amiga.....£97.50
Vidi Chrome.....£18.99
P.P. Colour Frame Grabber.....£519.99
Colorpic.....£434.99
A4 Flatbed Scanner.....£579.99
Type 2 Handy Scanner.....£104.99
Type 10 Handy Scanner.....£209.99
Minigen.....£97.50
Rendale 8802 Genlock.....£187.50
Cherry A3 Tablet.....£479.99
Podscat 12" x 12" Tablet.....£196.99

PRINTERS

DOT MATRIX
Epson LX400.....£169.99
Epson LQ400.....£249.99
Epson LX850.....£244.99
Epson LQ550.....£334.99
Seikosha SP-2000.....£174.99
Seikosha SL-92AI.....£284.99
Citizen 120D + P.....£134.99
Citizen 124D.....£219.99
Citizen Swift 9.....£199.99
Citizen Swift 24.....£294.99
Swift Colour Kit.....£35.00
Panasonic KXP1180.....£169.99
Panasonic KXP1124.....£274.99

BOOKS

40 Great Flight Sim Adv.....£13.95
40 More Great Flight Sim Adv.....£14.95
68000 Assembly Lang.....£17.95
68000 Assembly Lang Prog.....£21.95
68000 Hardware + Software.....£12.95
68000 User Guide.....£8.95
Advanced Amiga Basic.....£18.95
*Adv Sys Prog Guide.....£32.45
*3D Graph Prog Basic.....£18.45
Amiga Applications.....£16.95
*Assembly Lang Prog.....£14.45
Amiga Basic Inside & Out.....£18.95
Amiga C for Adv. Prog.....£32.45
Amiga C for Beginners.....£18.45
Amiga DOS.....£14.95
Amiga DOS Inside & Out.....£18.45
Amiga DOS Quick Ref.....£8.95
Amiga DOS Ref. Gde.....£14.95
Amiga Desktop Video.....£18.45
Amiga Desktop Video Gde.....£18.45
*Disk Drives Inside & Out.....£27.95
Amiga for Beginners.....£12.95
*Gde Gra./Sound/Comm.....£17.45
Graphics Inside + Out.....£32.45
*Hardware, Ref. Manual.....£21.95
Amiga Mach. Lang. Guide.....£21.95
Amiga Machine Lang.....£14.95
*Microsoft Bas. Prog. Gde.....£18.45
Printers Inside + Out.....£32.95
*Prog. Handbook. Vol. 1.....£24.95
*Prog Handbook Vol 2.....£23.95
Programming the 68000.....£23.95
Amiga Prog Gde Compute.....£17.45
Amiga Prog Gde Weber.....£20.45
*ROM Kernel Ref Man Inc.....£28.95
*ROM Kernel Ref Man Lib.....£29.95
Amiga Sys Prog Guide.....£32.95
Amiga Tricks and Tips.....£14.95
Becoming an Amiga artist.....£18.45
Beginners guide to Amiga.....£16.95
Computes 1st Book of *.....£16.95
Computes 2nd Book of *.....£16.95
Elementary Amiga Basic.....£14.95
F19 Stealthfighter handbook.....£13.95
Falcon Air Combat.....£14.95
Flight Sim Odyssey.....£14.95
Flying Start Sim.....£7.95
Gunship Academy.....£14.95
Inside Amiga Graphics.....£16.95
Inside the Amiga with C.....£24.50
Jetfighter School.....£11.95
Jetfighter School II.....£14.95
Kids and the Amiga.....£15.95
Learning to Fly.....£14.95
Mapping the Amiga.....£20.95
Prog Guide to Amiga.....£23.95
Sub Commander.....£12.95
Take Off Flight Sim.....£15.45

* Indicates Amiga in Title

LANGUAGE/COMPILERS/ETC

AMOS.....£35.95
A-Rexx.....£32.50
Argasm.....£42.50
Aztec C Developer.....£199.95
Aztec C Professional.....£112.95
Benchmark Modula 2.....£137.50
Benchmark Libraries.....£72.50
Devpac 2.....£43.50
GFA Basic v3.5 Compiler.....£22.95
GFA Basic v3.5 Interpreter.....£39.95
Hisoft Basic.....£56.95
Hisoft Extend.....£15.95
K-Seka Assembler.....£34.95
Lattice C V5.....£174.95
Lattice C++.....£259.95

DESKTOP PUBLISHING

G.D. Type Decorative.....£32.50
G.D. Type Designer.....£32.50
G.D. Type Publisher.....£32.50
G.D. Type Video.....£32.50
Gold Disk Office.....£104.95
Pagesetter V2.....£49.95
Pagestream v2.....£142.50
Professional Page v2.....RING
Professional Page V1.3.....£159.95
PP Outline fonts.....£104.95
PP Structured Clip Art.....£35.95
PP Templates.....£35.95
Proclips.....£20.95

MUSIC

Audiomaster III.....£57.50
Bars and Pipes.....£184.95
Deluxe Music.....£54.95
DR. T's Copyist App.....£72.50
DR. T's Copyist DTP.....£184.95
Dr T's KCS.....£229.95
Dr T's MRS.....£47.50
Dr T's Tiger Cub.....£79.95
Music X v1.1.....£89.95
Music X Junior.....£62.50
Pro 24.....£265.95
Quartet.....£35.95
Sonix.....£49.95

COMMUNICATIONS

BBS PC.....£97.50
GP Term.....£57.50
K-Comm 2.....£34.95
Ruby Comm.....£54.95

ACCOUNTS

Cashbook Combo.....£49.50
Cashbook Controller.....£34.95
Final Accounts.....£21.95
Home Accounts.....£21.95
Small Business Acc. Cash.....£56.50
Small Business Acc. Xtra.....£79.95
System 3.....£34.95

AUDIO DIGITISING/SAMPLING

A.M.A.S.....£79.99
Broadcast Titrer.....£184.95
Futuresound.....£74.99
Mastersound.....£34.99
Omega Midi Mini Interface.....£19.99

MODEMS

Designer Modem.....£104.99
Pro 4 Modem.....£389.99
WS 4000 Modem.....£164.99
Linnet Modem.....£144.99
Linnet 1200 Modem.....£244.99
Linnet 2400 Modem.....£164.99

UTILITIES

B.A.D.....£32.50
B.B.C. Emulator.....£39.95
Calligrapher.....£67.95
Disk Master.....£39.95
Dos2 Dos.....£29.95
Cross Dos V4.....£28.95
Gomf V3.....£27.95
Power windows V2.5.....£54.95
Project D.....£29.95
Quarterback.....£39.95
Superback.....£41.95
X-Copy + Hardware.....£24.95
X-Copy Professional.....£36.95

WORD PROCESSING

Excellence 2.....£132.50
Kind Words 2.....£35.95
Pen Pal.....£104.95
Protext v5.....£102.50
Pro Write V.3.....£102.50
Scribble Platinum.....£41.50
Transwrite.....£32.50
Word Perfect.....£176.95

DATABASES

Acquisition 1.3.....£169.95
K-Data.....£34.95
Prodata.....£56.95
Superbase Personal.....£27.50
Superbase Personal 2.....£69.95
Superbase Professional.....£169.95

SPREADSHEETS

Advantage.....£79.95
DGCalc.....£27.95
K-Spread 2.....£42.50
Superplan.....£69.95

EDUCATIONAL

Designasaurus.....£32.50
Distant Suns.....£52.95
Fun School Under 6.....£14.95
Fun School 2-6-8 years.....£14.95
Fun School 2 Over 8.....£14.95
Fun School 3 Under 8 yrs.....£17.95
Fun School 3 5-7 years.....£17.95
Fun School 3 Over 7.....£17.95
Mega Maths GCSE.....£20.95
Micro English GCSE.....£20.95
Micro French GCSE.....£20.95
Micro Maths GCSE.....£20.95
Play and Read.....£20.95
Primary Maths.....£20.95
Spell at Home.....£15.95
Spell at The Shops.....£15.95
Spell Book 4-6 years.....£15.95
Spell Book 7+.....£15.95
Things to do with Numbers.....£15.95
Things to do with Words.....£15.95
World Atlas.....£44.95

CAD/GRAPHICS/ANIMATION

3D Professional.....£394.95
Animagic.....£54.95
Broadcast Titrer.....£184.95
Can do.....£101.95
Comic Setter.....£39.95
Comic Setter Clip Art.....£17.50
Deluxe Paint III.....£59.95
Deluxe Photolab.....£54.95
Deluxe Print II.....£36.95
Deluxe Video III.....£74.95
Design 3D.....£62.95
Digi Paint 3.....£54.95
Disney Animation Studio.....£81.50
Fantavision.....£32.50
Imagine.....RING
IntroCAD Plus.....£81.50
Movie Setter.....£39.95
Page Flipper + F/X.....£69.95
Page Render 3D.....£81.50
Photon Paint 2.....£29.95
PIXmate.....£39.95
Professional Draw V.2.....£104.95
Pro Video Post.....£215.95
Spectracolour.....RING
The Director.....£47.50
The Director's Toolkit.....£27.50
TV Show V2.....£57.50
TV Text Prof.....£104.95
Video Generic Master.....£54.95
Video Titrer 3D.....RING
Video Wipe Master.....£54.95
X-CAD Designer.....£86.95
Zoetrope.....£74.95

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 items subject to availability.
All prices include V.A.T. & U.K. Delivery. All prices subject to change without notice. E.&O.E.

SOFTMACHINE Dept. AC1, 20 Bridge House, Bridge Street, Sunderland SR1 1TE. Telephone: 091-385 7426

VISA

PHONE ANYTIME FOR FAST FRIENDLY SERVICE

**FREE WITH EVERY AMIGA
PURCHASED 16 DAY HOLIDAY
ACCOMMODATION FOR TWO
PEOPLE - CHOICE OF 250 HOTELS**

AMIGA SCREEN GEMS BUMPER PACK

A500 AMIGA 512K RAM Computer - Built-in 1Mb Disk Drive, Workbench 1.3, Mouse, A520 TV Modulator, Speech Synthesis, Basic 1.3 Disk, Extras and Tutorial Disks, Joystick, Tailored Quality Monogrammed AntiStatic Dustcover, Mouse Mat, Mouse Holder, 10 Blank Disks, 40 Lockable Disk Box. All Leads, Three Manuals and even a 13A Plug Plus SCREEN GEMS SOFTWARE PACK CONTAINING

Back to the Future 2, Shadow of the Beast 2 Knight Breed and Days of Thunder, Deluxe Paint II Art Package
ALL FOR ONLY £389.99
Add NEW ASTRA PACK if Required
DataStorm, Dungeon Quest, Grand Monster Slam, Powerplay, Microprose Soccer, RVF Honda, E-Motion, Tower of Babel, Kid Gloves, Shufflepack Cafe. Value £250
£220 ONLY if ordered with BUMPER PACK

AMIGA CLASS OF 90'S EDUCATION PACK

Consists of A500 Computer, Mouse etc Plus Midimaster Interface, Mouse Mat, 10 Blank Disks, Deluxe Paint II, Publishers Choice, Maxiplan 500, Superbase Personal, Dr Tr's Midi Recording Studio, Amiga Logo and BBC Emulator. **£529.99**

AMIGA CLASS OF 90'S FIRST STEPS PACK

Consists of A500 Computer with A501, 512K RAM Expansion Pack, Mouse, Mouse Mat, T.V. Modulator, 10 Blank Disks, Deluxe Paint II, Infodile, Infodile Database, Prowrite 2.5 Word Processor, Music Master, Let's Spell at Home, Amiga Logo, Talking Turtle, BBC Emulator RRP of Hardware and Software over £1000
£529.99

ALL NEW AMIGA 1500

For Home, Business, Education, Design & Leisure Fitted with 1Mb RAM, Twin Disk Drives and complete with 10845 Monitor, Separate Keyboard and CPU case as A2000.

SOFTWARE pack includes
THE WORKS - PLATINUM EDITION
Spreadsheet, Database, Word Processor and Comms Package Deluxe Paint III Art Package and 1 Mb Strategy Games:
Their Finest Hour, Battle Chess, Sim City plus Terrain Editor, Populous plus Promised Lands ONLY **£1049.00**

LEISURE SOFTWARE

Billy the Kid £16.99
Chaos Strikes Back £16.99
Chase HQ 2 £19.99
Dragons Lair 2 £31.99
Elvira Mistress of the Dark £19.99
Golden Axe £16.99
Goofy's Railway Express £16.99
Hard Drivin 2 £16.99
Life & Death £16.99
Mickey's Runaway Zoo £16.99
Ninja Turtles £16.99
Powermonger £19.99
RoboCop 2 £16.99
Simulacra £16.99
Total Recall £16.99
Ultima V £19.99
Wolfpack £19.99

**NEW GAMES RELEASED DAILY
PLEASE ASK FOR ANY ITEM NOT LISTED**

MONITORS

COMMODORE 1084S Stereo
incl Leads. £249.99
PHILIPS CM8833/II New Model High
Resolution Stereo incl Leads. £249.99
Philips TV Tuner to convert either
of above Monitors to High Quality
T.V. complete with Aerial £64.99

1Mb - 3.5" DISK DRIVES

CUMANA
CAX354 Disk Drive £63.99

**EXTRA SPECIAL - AMIGA EXTERNAL
SECOND DRIVE SUMLINE AND FULLY
GUARANTEED ONLY £57.99**

HARD DISK DRIVES

AMIGA A590 20 Mb
Plug In Drive. £269.99

RAM EXPANSIONS

512K RAM Expansion, Clock and Switch
(Total 1Mb Memory Capacity) £32.99
Very easy to fit and does not invalidate
warranty. Can be fitted and tested FREE of
charge if purchased at same time as Com-
puter.

GENLOCK RENDALE 8802

Genlock. £159.99

MIDI EQUIPMENT

DATEL Midi Master Interface £29.99
Midi Leads. Per Pair £5.98

PRINTERS

STAR LC 10 MONO £159.99
STAR LC-200 COLOUR £209.99
STAR LC24/200 MONO £259.99
STAR LC24/200 COLOUR £299.99
PANASONIC KXP1124
24 Pin. £249.99

**We are CITIZEN SUPER DEALERS
and Authorised to Offer their
FULL 2 YEAR GUARANTEE ON ALL
CITIZEN PRINTERS**

CITIZEN 120D + Serial or Parallel Interface
Please State which when ordering. £134.99
CITIZEN 124D Lowest Cost 24 Pin
Letter Quality Printer £235.99
CITIZEN SWIFT 9 COLOUR High Spec. 9 Pin
with 4 Fonts and 240 x 240 dpi Colour
Graphics. £229.99
CITIZEN SWIFT 9 MONO as above except
Mono until Colour Kit Fitted £199.99

CITIZEN SWIFT 24 COLOUR High Spec 24
Pin for Perfect Quality Text and 360x360
dpi Colour Graphics. £319.99
CITIZEN SWIFT 24 MONO as above except
Mono until Colour Kit Fitted £289.99
SWIFT 9/24 COLOUR KIT easily fitted
converts SWIFT 9/24 Mono printers into
Colour Versions. £34.99
SEIKOSHA SP-2000 9 Pin NLQ
RRP £228.85 £159.99
CASPELL RIBBON REFRESH
Ink in a tin. £8.95
CASPELL RE-INK
Ribbon treatment. £12.95
All Printers are Supplied with Ribbon, Con-
necting Cable and Plug and Ready to Go to
Work.

**Please Ring for Prices of Printer
Ribbons - Full Range Stocked.**

JOYSTICKS

CHEETAH Extremator £5.99
CHEETAH Mach 1 £10.99
CHEETAH Starprobe £12.99
KONIX Speedking £9.99
ZIPSTICK Superpro £11.50
ZIPSTICK Superpro Auto £11.99
QUICKSHOT 2 Turbo £9.99
QUICKJOY Infrared £34.99

AMIGA BOOK SPECIALS

Advanced Amiga Basic £16.49
3D Graphics Programming in Basic £16.99
Amiga Applications £14.49
Amiga Assembly Language Program £11.49
Amiga Basic - Inside and Out £17.99
Amiga C For Beginners £14.49
Amiga C For Advanced Programmers £27.99
Amiga Disk Drives-Inside and Out £24.99
Amiga DOS - A Dab Hand Guide £13.99
Amiga DOS Quick Reference Guide £8.99
Amiga for Beginners £11.99
Amiga Graphics Inside & Out £25.99
Amiga Hardware Reference Manual £25.49
Amiga Machine Language £12.49
Amiga Programmers Handbook £22.99
Amiga ROM Kernel Libraries & Devs £27.99
Amiga System Programmers Guide £28.99
Amiga Advanced Systems Prog. Guide £25.49
Amiga Tricks and Tips £13.99
Amiga More Tricks and Tips £16.49
Computes First Book of the Amiga £13.99
Computes Amiga Programmers Guide £15.99
Beginners Guide to the Amiga £13.99
Elementary Amiga Basic £12.49
Inside Amiga Graphics £14.49
Kids and the Amiga-Kids 8 to 80 £13.49
Programmers Guide to the Amiga £22.49
Using Deluxe Paint 2nd Edition £17.49
Amiga Desktop Video Guide £15.99
Kickstart Guide to the Amiga £13.99
Learning C - Programming Graphics £16.99
Inside the Amiga with C £18.99
Becoming An Amiga Artist £15.99

NEW
Amiga Printers Inside & Out + Disk £24.99
Making Music on the Amiga + Disk £24.99

SERIOUS SOFTWARE

Kind Words V2.0 £29.99
Scribble Platinum £35.99
Pen Pal £9.99
Protext V4.0 £64.99
Advantage £69.99
The Works - Platinum Edition £79.99
Gold Disk Office £99.99
Home Accounts £19.99
Digitia System 3 £31.99
Personal Accounts Plus £21.99
Small Business Accounts £55.99
Small Business Accounts Extra £79.99
Page Setter V2 £49.95
Publishers Choice £65.99
Disney Animation Studio £72.99
Digi-View Gold £112.99
Deluxe Print £9.99
Home Office Kit £94.99
HiSoft Basic £55.99
HiSoft Basic Extend £14.95
AMOS Game Creator Plus FREE Disk £37.99
Deluxe Paint III £59.99
Deluxe Video III £59.99
Spritz High Quality Paint Pack £24.95
Dr Tr's Midi Recording Studio £38.99
Instant Music £17.99
Perfect Sound £45.99
Music X Jnr £49.95
Music X £89.99

EXCLUSIVE! THE AMIGA TUTOR VIDEO

**For new and not so new Amiga Users - shows in clear graphic detail all
you need to know to become proficient in using the Amiga**

SUBJECTS COVERED INCLUDE:

- Setting-up Monitors - Mouse Expansion
- Workbench Customisation - Copying - Renaming - Formatting
- Notepad - Menus - Fonts Saving - Printing
- Icons - Clock - Sizing - Moving - Scrolling Windows
- CLI Directory Structure - Start-up Sequence - Multi-Tasking
- Printer Set-up - Preferences
- Virus Protection

**For the cost of a game you will learn techniques that will entertain you for years
to come. Make sure you get the best from your expensive investment**

£19.99 inc POST & PACKING

DUST COVERS

**TOP QUALITY COLOUR CO-ORDINATED
DUST COVERS TAILORED AND WITH PIPED
EDGING. PROTECT YOUR
EXPENSIVE INVESTMENT**

AMIGA Keyboard Dust Cover £4.99
AMIGA Monitor Dust Cover £4.99
STAR LC10 Printer Dust Cover £4.99
STAR LC200 Printer Dust Cover £4.99
STAR LC24-200 Printer Dust Cover £4.99
CITIZEN 120D Printer Dust Cover £4.99
CITIZEN Swift 9 Printer Dust Cover £4.99
CITIZEN Swift 24 Printer Dust Cover £4.99
Quality Soft Boxed Mouse Mat £4.99
Mouse Bracket (to Hold Mouse) £1.99
3.5" Disk Drive Head Clean Kits £3.99
PREMIERCONTROL CENTRE-Sits over
Amiga's Monitor Stand & Second Disk
Drive Holder. Colour Matched to Amiga and
supplied with extension Plugs and Sockets to
bring Ports forward to front side. £45.99
CONTRIVER Trackball £34.99
TWIN Joystick/Mouse
Extension Lead £5.99
AERIAL SWITCHING BOXES fit in TV lead
to eliminate constant disconnection and
wear on TV. £3.99
NEW Game Protector Plugs £11.99
PRINTER Cables £7.99

DISKS - DISKS - DISKS - DISKS

**FULLY GUARANTEED DSDD BULK DISK 100% Certified - either SONY, TDK or
MITSUBISHI UNBRANDED - ALL INDIVIDUALLY WRAPPED & WITH LABELS
STAMPED MADE IN JAPAN. DO NOT CONFUSE WITH INFERIOR UNCERTIFIED**

Pack of 10 £5.49 Box of 50 £19.99
Pack of 20 £9.49 Box of 100 £37.99
Pack of 20 in Our Top Quality Lockable 40 Disk Holder £12.99
10 Flip Top Disk Holder 89p
40/50 Disk Holder Lockable Top Quality £3.99
80 Disk Holder Lockable Top Quality £5.99
Spare Labels. Ass'd Colours 60 for £1.00

EDUCATIONAL & CHILDRENS

NEW Fun School 3 - Under 5 £16.49
NEW Fun School 3 - 5 - 7 Years £16.49
NEW Fun School 3 - 7 and Over £16.49
Junior Typist £12.99
Better Maths 12-16 (GCSE) £19.99
Micro English (GCSE) £17.99
Micro Maths (GCSE) £17.99
Micro French (GCSE) £17.99
Mega Maths (GCSE) £17.99

Primary Maths £17.99
Things to do with Numbers £15.99
Things to do with Words £15.99
AB Zoo £3.99
First Letters and Words £19.99
Kid Talk £19.99
Spell Book 4-9 £13.99
Let's Spell at Home £14.99
Let's Spell at the Shops £14.99
Puzzle Book Vol 1 £13.99
Amiga Logo £39.99
Mavis Beacon Teaches Typing £18.49

Answer Back Junior £13.99
Answer Back Senior £13.99
Donalds Alphabet £19.99
Kosmos - The German Master £17.49
Kosmos - The Spanish Tutor £17.49
Kosmos - The Italian Tutor £17.49
Fact File 500 - General Science £8.99
Fact File 500 - 20th Century History £8.99
Math Talk - Fractions (8-12) £19.99
First Shapes (3-5 Years) £19.99
Puzzle Story Book (3-8 Years) £19.99
Trivial Pursuit £14.99

AUDITION COMPUTER SERVICES

Unit 8, Far Wharf, LINCOLN LN1 1TJ. Tel: 0522 511343

MAIL ORDER ONLY

Send cheque or phone credit card details for same day despatch

All prices include VAT and Delivery

These prices are Mail Order only and may not apply at our shop at Stamford



Show Report

can actually walk around his unreal world, and a sit-in unit, where users control a vehicle of their choice.

The heart of the system is an Amiga 3000, although Virtuality aren't really keen on letting people know this – the fact wasn't mentioned when the system was previewed on BBC TV's Tomorrow's World.

The Amiga handles all the sums and control electronics, while a custom graphics board drives the stereo-visual displays. A big plus for the engineering fraternity is the ability to enter standard CAD designs and actually walk around them. The system is already being sold to deep-sea divers, nuclear physicists and anyone else with enough dosh.

The assembled were treated to the most exciting computer displays some of them had ever seen – when these babies hit the arcades, it's going to be a whole new ball-game. The only drawback with the system (apart from the price) is the weight of the headset – hardly portable and a bit painful on the nose!

Commodore

Apart from demonstrating some interesting CAD software, Commodore had the A3500 on show again, still without its production casing of course.

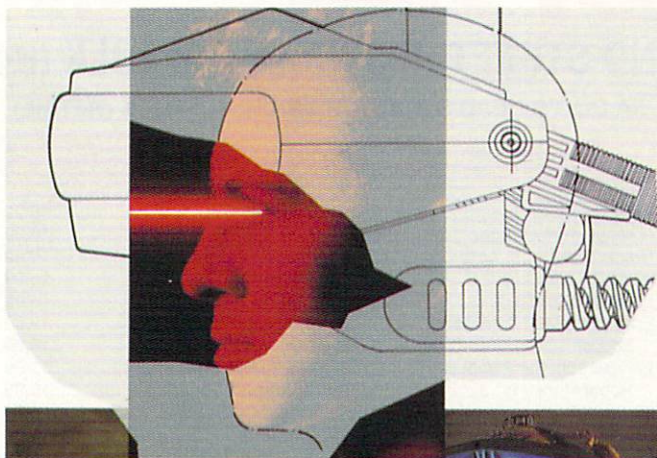
Also there were a few networked A3000s running Amiga vision to show its potential as a true multimedia authoring system.

Hiding on the CBM stand, apart from Real Time Graphics, was Chromacolor, whose animation story-boarding set-up features in the very popular Rolf's Cartoon Club. A cut down home user system is still in development, presumably with the backing of Commodore, but Managing Director Dave Prudence wants to be sure to get it right before the product hits the streets.

Also making a discrete appearance was a prototype version of Professional Page 2.0, as mentioned in last month's Almanac. The new version includes such features as object rotation, style tagging and Pantone colour matching. Perhaps its presence on the CBM stand means some sort of bundle deal is in the offing?

Real Time Graphics

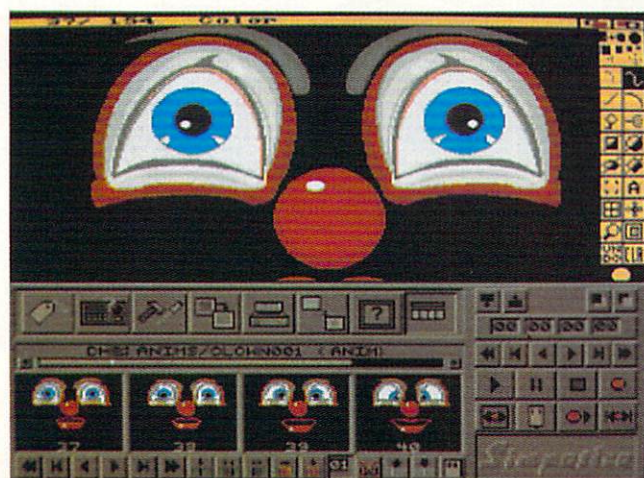
Real Time Graphics is a company specialising in television and makes



Yes, but does it work?



Sit down, strap on the goggles and you're in a world of your own...



Simpatika in action

extensive use of Amiga Video. Chances are you've already seen some of their work without realising that it was generated by the same piece of hardware that you play Meenage Tuant Hero Burples on. Real Time productions include Star Test and ITV's Chart Show. Keep a sharp lookout for their name at the end of some Channel 4 programmes.

ArtBeat

The people behind Simpatika were at the show. This is an animation controller, facilitating the transfer of IFF animations to video tape at the correct speed.

Anyone familiar with Dpaint knows that the frames-per-second count is a little optimistic at the best of times. This might not be so critical when showing demos and the like on your Amiga but is potentially, financially lethal in the realms of serious animation which is all about timing.

Simpatika works in conjunction with a professional video deck to transfer your animations automatically to video at a smooth 25fps. It provides full timer code support and many other video tools, which you may or may not find useful.

Lustechnik GmbH.

Amiga owners on the move were delighted when they visited the Graf-Card display. The German Graf-Card uses miniature transistors in each of the primary colours to provide a full colour, 25fps 5cm x 7cm display.

Although hardly state-of-the-art when compared with the current crop of LCD TVs, the Graf-Card is special because it can be fitted internally to an Amiga 500 with the display showing through a specially cut hole on the top. If you want a portable Amiga, this is definitely the way to go about it.

The next generation?

A short Star Trek film displayed on a projection TV drew the crowds at the Commodore stand. Not especially noteworthy perhaps, except for the fact that it was generated entirely on an Amiga.

Requiring 25 days to render, and taking over 60Mb of animation data, the film was proof that the Amiga could produce TV-quality special effects. All 15 minutes were a joy to behold, and put the original Star Trek series effects to shame.

MAIL
ORDER

SOFTSELLERS

MAIL
ORDER

6 BOND STREET, IPSWICH, SUFFOLK IP4 1JE

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



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

*9 Lives.....16.99	*Epic.....16.99	Magic Fly.....16.99	*Speedball II.....16.99
688 Attack Sub.....16.99	*Escape from Colditz.....16.99	Man Utd.....16.99	*Spin Dizzy II.....16.99
*Action Fighter.....15.99	*Eagle Rider.....16.99	Manic Mansion.....16.99	Spy Who Loved Me.....13.99
*Adidas Championship Football.....16.99	*Ecstasy.....13.99	Matrix Marauders.....16.99	*Stun Runner.....16.99
*Adidas Champ Tie Break.....16.99	Edition 1 (Comp).....19.99	Mean Street.....16.99	Supremacy.....19.99
*Alcatraz.....16.99	Emlyn Hughes International.....16.99	M1 Tank Platoon.....19.99	*Sword of Samurai.....16.99
*Alpha Waves.....16.99	Soccer.....16.99	*Moon Blaster.....16.99	Shadow Warriors.....16.99
*Amnios.....13.99	Escape from the Planet of.....13.99	Monty Python.....13.99	*Skate or Die.....16.99
Anarchy.....13.99	Robot Monsters.....13.99	Murder.....16.99	Starflight.....16.99
*Ancient Art of War.....16.99	*Full Blast.....19.99	Murder in Space.....16.99	*Star Trek 5.....24.99
*Ancient Art of War At Sea.....16.99	*Ford Q8 Rally.....16.99	*Mystical.....16.99	Storm Across Europe.....19.99
Ants Head (Datadisc).....12.99	*Flash Dragon.....13.99	Midnight Resistance.....16.99	*Street Fighting Man.....13.99
*Aquaventura.....24.99	F29 Retaliator.....16.99	Midwinter.....19.99	Shadow of the Beast.....16.99
*Armouredgeddon.....16.99	F19 Stealth Fighter.....19.99	*Myth.....16.99	Sherman M4.....16.99
*A.T.F. II.....16.99	F16 Combat Pilot.....15.99	*Night Shift.....19.99	Snow Strike.....16.99
Atomics.....13.99	Falcon.....19.99	*Narc.....16.99	Star Blaze.....13.99
*Atomic Robo Kif.....16.99	Falcon Mission II.....13.99	*Navy Seals.....16.99	Super Cars.....16.99
Awesome.....24.99	Federation Quest I.....16.99	*Nebulus II.....16.99	*Silver Blades.....16.99
*BAT.....16.99	*Final Battle.....16.99	Night Breed.....16.99	Sim City.....19.99
*Back to the Future III.....16.99	*Finale (comp).....16.99	Nitro.....16.99	*Steven Hendry
*Bards Tale III.....16.99	*Flight of Intruder.....19.99	New York Warrior.....13.99	Championship Snooker.....16.99
Back to the Future II.....16.99	Flip it Magnose.....16.99	North and South.....15.99	Subbuteo.....16.99
*Bad Lands.....16.99	Flood.....16.99	Nuclear War.....16.99	*Super League Manager.....16.99
*Bad Blood.....19.99	*Football Simulator.....13.99	*Omicrom Conspiracy.....16.99	Team Yankee.....19.99
*Barbarian II (Psygnosis).....16.99	*Fourth Dimension.....16.99	*Obitus.....24.99	*Torvak the Warrior.....16.99
Battlechess.....16.99	*Future Basketball.....16.99	*Operation Harrier.....16.99	*Toyatta Celicia.....16.99
Batman (The Movie).....16.99	Gremlins II.....16.99	*Outboard.....16.99	*TV Sports Baseball.....19.99
Battle of Britain.....19.99	Gold of the Aztecs.....16.99	Operation Thunderbolt.....16.99	*Team Suzuki.....16.99
*Battle Command.....16.99	Golden Axe.....16.99	Oriental Games.....15.99	*Teenage Turtles.....16.99
Battle Master.....19.99	*Guns & Butter.....19.99	Power Pack (Comp).....16.99	TNT.....19.99
*Betrayal.....19.99	*Hunt for Red October.....16.99	*Predator II.....16.99	*Tokki.....16.99
*Billy the Kid.....16.99	Halls of Montezuma.....16.99	*Parig.....16.99	*Tournament Golf.....16.99
*Blade Warrior.....15.99	*Hard Drivin' II.....16.99	Photon Storm.....13.99	Tennis Cup.....16.99
Bomber.....19.99	Harley Davidson.....19.99	Pinball Majic.....16.99	*The Keep.....16.99
BSS Jane Seymour.....16.99	*Harpoon.....19.99	Police Quest II.....24.99	*The Plague.....16.99
*Buck Rogers.....16.99	Heroes (Comp).....19.99	Planet Busters.....13.99	Thunder Strike.....16.99
Budakhan.....16.99	Hollywood Collection.....19.99	Player Manager.....12.99	Time Machine.....16.99
Captive.....16.99	Immortal.....16.99	Plotting.....16.99	*Toyoties.....13.99
*Challengers.....19.99	Imperium.....16.99	*Pop up.....13.99	Triad III or IV.....19.99
*Conquest Camelot.....29.99	Indy 500.....16.99	*Powermonger.....19.99	*Total Recall.....16.99
*Cruise for a Corpse.....16.99	*Interceptor.....16.99	Powerdroid 90.....16.99	*Turbo Buggies.....13.99
*Chase HQ II.....16.99	Int. Soccer Challenge.....15.99	*Panic Station.....13.99	Turrican.....16.99
*Codename Iceman.....29.99	Invanhoe.....16.99	Projectile.....16.99	Tusker.....16.99
*Colonels Bequest.....29.99	International Championship.....16.99	Pyramax.....13.99	*The Gales.....16.99
Cabal.....16.99	Wrestling.....16.99	*Rocky Horror Show.....16.99	Ultimate Golf.....16.99
Cadaver.....16.99	International 3D Tennis.....16.99	*Rogue Trooper.....16.99	Universe III.....15.99
*Carthage.....15.99	Iron Man.....13.99	*Rotator.....16.99	Untouchables.....16.99
*Champion of Raj.....19.99	Judge Dread.....13.99	Rotox.....16.99	*Ultimate Ride.....19.99
Chase HQ.....16.99	Italy 1990.....13.99	*Railroad Tycoon.....16.99	*UMS II.....19.99
*Chaos Strikes Back.....16.99	Jumping Jackson.....12.99	*Rally.....16.99	*Ultima V.....19.99
Chess Champion 2175.....19.99	Kick Off II.....12.99	*Ramrod.....16.99	*Up & Away.....16.99
*Chess Simulator.....13.99	Kick Off II (1 Meg).....16.99	*Reach for the Sky.....19.99	Vaxine.....13.99
*Chuck Jaegers AFT.....16.99	Kick Off II World Cup Ed.....16.99	Rick Dangerous II.....16.99	*Vendetta.....16.99
Combo Racer.....16.99	Kick Off Extra Time.....9.99	*Riders of Rohan.....16.99	Voodoo Nightmare.....16.99
Conqueror.....16.99	Killing Game Show.....16.99	Rainbow Islands.....16.99	Venus Fly Trap.....13.99
*Corvette.....19.99	Klax.....13.99	Red Storm Rising.....15.99	*Yolanda.....16.99
*Commandos Compilation.....15.99	Knights of Crystalian.....19.99	Resolution 101.....16.99	*Walker.....16.99
*Crimewave.....16.99	*Krypton X.....12.99	Risk.....13.99	*Wildfire.....19.99
*Cutipo.....16.99	*Line of Fire.....16.99	*Robo Cop II.....16.99	*Wrath of the Demon.....16.99
Death Trap.....16.99	*Lords of Chaos.....16.99	Rourke's Drift.....16.99	*War Jeep.....16.99
*Dragons Lair II.....34.99	*Leaving Terramis.....16.99	*ST Dragon.....16.99	*Weltris.....16.99
*Dick Tracy.....16.99	Legend of Faerghail.....16.99	*Soccer Mania.....16.99	Wheels of Fire.....19.99
Damocles.....15.99	*Legend Billy Boulder.....16.99	*Solid Gold.....19.99	Wings.....19.99
Days of Thunder.....19.99	*Lemmings.....16.99	*Search for the King.....16.99	*WLF.....16.99
Defenders of the Earth.....12.99	*Light Corridor.....13.99	*Secrets of Monkey Island.....19.99	*Wolfpack.....19.99
Dragons Breath.....19.99	Lotus Turbo.....16.99	*Secrets of Luftwaffe.....19.99	*Wonderland.....19.99
*Dragons Breed.....16.99	Leisure Suit Larry III.....24.99	*Silkworm IV.....13.99	*World Champ Soccer.....16.99
Dragon Flight.....19.99	Last Ninja II.....16.99	*Skull & Crossbones.....13.99	*Warmonger.....16.99
*Dragon War.....16.99	*Life & Death.....19.99	*Stun Runner.....16.99	World Cup Soccer '90.....13.99
Dungeon Master Editor.....9.99	Lost Patrol.....16.99	*Strider II.....16.99	Warhead.....16.99
*Duster.....16.99	*Last Stuntman.....12.99	S.E.U.C.K.....19.99	*Warp.....12.99
Drakken.....19.99	Loom.....16.99	Secret Agent Flies By.....16.99	Xenomorph.....16.99
*Dynamic Debugger.....15.99	*Muds.....16.99	*Shadow Sorcerer.....16.99	*Z-Out.....13.99
Dynasty Wars.....16.99	Magician.....19.99	Simulcra.....16.99	
*E Swat.....16.99		Sly Spy.....16.99	

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. *Some titles may not be released at time of going to press. Shop prices may vary, but personal callers can claim advertised discounts on production of cut-off slip.

ATARI 520 STFM DISCOVERY PACK

Bombjack, Carrier Command,
Outrun, Space Harrier, STOS,
Neochrome, First Basic, ST Tour,
Discover the ST
£269.95

ATARI 520 STE Turbo Pack

STOS, Basic, Music Maker II,
Hyperpaint II, Indiana Jones,
Impossible Mission II, Human
Killing Machine, Supercycle.
Outrun, Dragons Breath,
Anarchy, Bloodmoney.
£349.95

ATARI 1040 STE EXTRA

Prince, Hyperpaint, STAC, ST Word,
ST Basic, ST Calc, ST Graph
£449.95

ATARI LYNX HANDHELD

Portable Games Machine California Games
£179.95

ATARI SM124

Monochrome Monitor
£99.95

PHILIPS 8833

Colour Stereo Monitor
£249.95

ATARI EXTERNAL DRIVE

1 Megabyte DS
£79.95

DISC BOXES WITH DISCS

3.5" 40 Holder Lockable with
10 3.5" dsdd discs£11.99
3.5" 40 Holder Lockable with
20 3.5" dsdd discs£15.99
3.5" 40 Holder Lockable with
40 3.5" dsdd discs£27.99
3.5" 80 Holder Lockable with
10 3.5" dsdd discs£13.99
3.5" 80 Holder Lockable with
40 3.5" dsdd discs£29.99
3.5" 80 Holder Lockable with
80 3.5" dsdd discs£49.99

JOYSTICKS

Cheetah 125£7.99
Cheetah Starprobe£11.99
Pro 5000 Extra Glo Green£13.99
Pro 5000 Extra Glo Red£13.99
Pro 5000 Black£11.99
QS Turbo III£9.99

PERIPHERALS

Replacement mouse + mouse
holder + mouse mat£29.95
Four Player Adaptor£5.95
Mouse Mat£4.95
Joystick Extender£5.95
Dust Cover£4.95

DISCS

	Qty 10	Qty 20	Qty 50	Qty 100
3.5" dsdd Unbranded	£6.99	£11.99	£29.99	£49.99
3.5" dsdd Sony Branded	£11.99	£22.99	£54.99	£99.99

DISC BOXES

3.5" 40 Holder Lockable£4.99
3.5" 80 Holder Lockable£6.99
5.25" 50 Holder Lockable£4.99
5.25" 120 Holder Lockable£6.99

AMIGA 500 STANDARD £339.95

AMIGA 500 SCREEN GEMS

Back to the Future II, Days of Thunder,
Shadow of the Beast II,
Night Breed, Deluxe Paint II
£369.95

AMIGA 500 FLIGHT OF FANTASY

F29 Retaliator, Rainbow Islands,
E.F.T.P.O.T.R.M., Deluxe Paint II
£369.95

AMIGA 500 CLASS OF 90'S 1st STEPS

A501 Expansion Pro-Write 2.5, D Paint II, D Print II,
InfoFile, LOGO, Music Mouse, Talking Turtle, BBC
Emulator, Box of 10 Discs, Mouse Mat, Resource File,
Intro Video, Lets Spell at Home
£549.95

COMMODORE 1084S Stereo Colour Monitor £249.95

AMIGA EXTERNAL DRIVE 1 Megabyte DS £69.95

AMIGA MEMORY EXPANSION 512k with clock 512k without clock £49.95 £39.95

A590 HARD DRIVE 20 Meg Hard Drive £279.95

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. *Some titles may not be released at time of going to press. Shop prices may vary, but personal callers can claim advertised discounts on production of cut-off slip.

TITLE	COMP	COST
TOTAL COST £		

Name
Address.....
.....
.....
Tel No.
Have you ordered from us before Yes ☐ No ☐
AMC JAN

CDL A1500

Checkmate Digital bring you the Ultimate peripheral for the A500. The A1500 Mini-Workstation

CDL A1500

A1500 Workstation Examples

Home Station :-

A1500 Base Unit with 1 Meg Amiga
Internal second Floppy Disk Drive
Commodore A1084 Stereo Colour Monitor
Only £969.00

Business Station :-

A1500 Base unit with 1 Meg Amiga
A590 Hard Drive 20 Meg with 2 Meg Ram
CDL A590 internal fitting Kit
Commodore A1084 Stereo Colour Monitor
Only £1395.00

New A1500 Base Unit Price Pre- Xmas Offer !! £199.00 inc vat !!

CDL 68030

Ram Chip Prices

256x4 (A590 etc) £49.00 /Mb
B2000 Ram, 2 Meg £112.00
A3000 4 Meg of 1Mb x 4 £299.00

Colour Monitors

Commodore A1084S Stereo	£ 249.00
NEC Multi-Sync 2A	£ 399.00
NEC Multi-Sync 3D	£ 549.00
Microway Flicker Fixer B2000	£ 299.00
Microway Flicker Fixer A1500	£ 349.00

Hard Drive Systems and Ram Cards

A590 Adaptor Kit (A1500)	£ 99.00
A590 20 meg drive 0K Ram	£299.00
A590 with 2 Meg ram	£399.00
ST506 Hard Drive 44Mb (A1500)	£499.00
ST506 Hard Drive 66Mb (A1500)	£549.00
Spirit Inmate SCSI Controller + 8 Mb Ram	
Board 2mb installed + optional 68881	£299.00
Spirit SIN500 2 Meg Populated	£199.00
Spirit 512K Ram card inc. Clock	£ 49.95
Spirit Fat Trapper 4 Meg Card un-populated	£ 99.00
Floppy Disk drives 3.5 inch	£ 79.95
150 Watt Power Supply	£ 69.00
!! Ring for prices and details of the latest A500 packs !!	

Cheapest 68030 Card In The World From C.S.A.

AT THE 16 BIT SHOW IN JANUARY, WE WILL BE SELLING THE LOWEST
PRICED EVER 68030 ACCELERATOR CARD FOR THE A500 AND B2000 RUNNING
AT 25 MHZ. THE PRICE STARTS AT AN AMAZING. **£ 375 inc VAT**

Forget all the other slower and more expensive 68020 cards. Now you can have A3000
performance with a sensible price tag. This card has sockets for the 68882 Maths processor
allowing speeds of upto 50 MHz, and for 32 bit SRAM.. Ring about our 33MHz 68030
cards, and our wide range of 32 Bit Ram Cards, which allow upto 8 Meg.

200 Mb SCSI Drive £ 499.00

Includes case, fan, leads, and power supply



80 Mildmay Park, London, N1 4PR
England.
Tel 071-923 0658
Fax 071-254 1655

CDL A1500

Can't afford the initial cost of the A1500 system, but
you need the separate keyboard. Why not buy the A1500
keyboard kit, this includes all the cables, and the Keyboard
case of the A1500, plus the blanking plate for your A500.
£59.95 + P&P.

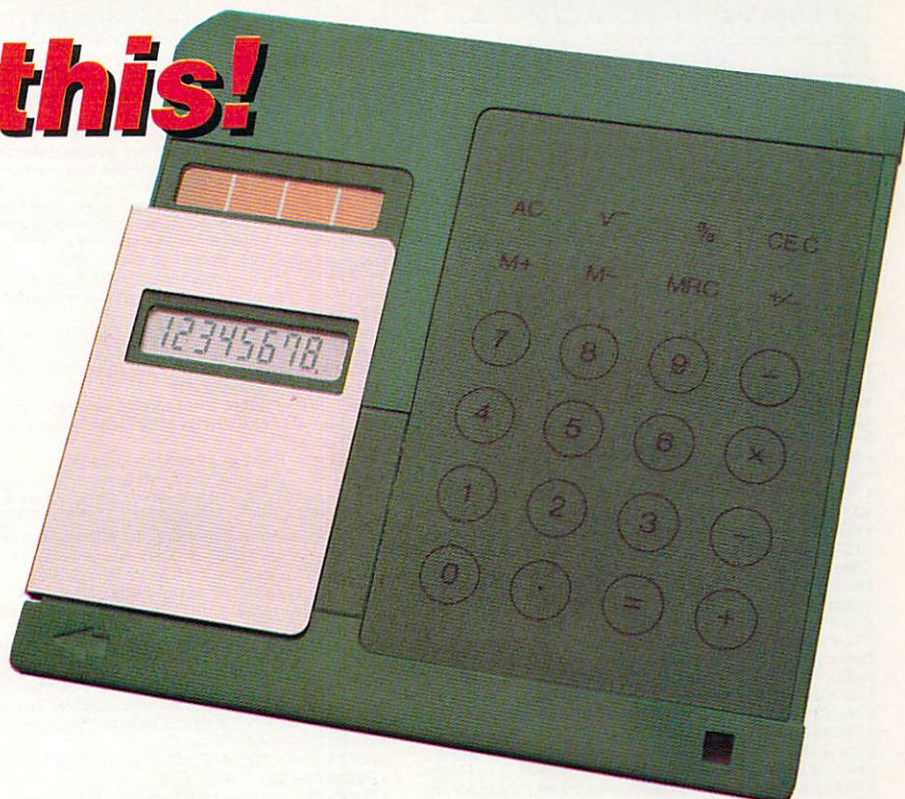
But that is not all, should you decide to upgrade to
the full A1500 system, then Checkmate will give you a **20%
discount** on the full price, for the balance of the kit.

All Prices include Vat but exclude P&P

Ask MMG about Project X

You've never seen a disk like this!

- ★ It adds, subtracts, multiplies and divides
- ★ It works out VAT and other percentages
- ★ It has a powerful three-key memory
- ★ And it's solar powered!



(But just don't put it in your computer!)

... and it's
FREE*
when you
subscribe
to...

AMIGA

C O M P U T I N G

* UK Only

ORDER FORM

Valid to January 31, 1991 Please tick the appropriate Box

12 Months Subscription – UK (including free calculator disc)

		New	Renewal
With cover disc	£29.95	<input type="checkbox"/> 9582	<input type="checkbox"/> 9584
Without cover disc	£24.95	<input type="checkbox"/> 9583	<input type="checkbox"/> 9585

12 Months Subscription – outside UK

		New	Renewal
Europe/Eire (with cover disc)	£34.95	<input type="checkbox"/> 9543	<input type="checkbox"/> 9544
Rest of World – Airmail (with cover disc)	£49.95	<input type="checkbox"/> 9545	<input type="checkbox"/> 9546

Subscription orders received before December 20 will commence with January issue

Payment: please indicate method (✓)

☐ Cheque/Eurocheque made payable to Interactive Publications Ltd

☐ Access/Mastercard/Eurocard/Barclaycard/Visa/Connect

Expiry Date

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

By phone: 051-357 1275

By fax: 051-357 2813

By MicroLink: MAG001

Don't forget to give your name,
address and credit card number

General Enquiries: 051-357 2961

If you prefer to have the
magazine delivered with
your morning paper, cut
out this form and give it
to your newsagent

Dear Newsagent

Please reserve

AMIGA
C O M P U T I N G

every month

Name

Address

Pdom PD Amiga Public Domain & Shareware Software

Suppliers of Public Domain and Shareware software for nearly 5 years, watch out for imitations!
Pdom PD Amiga AC, PO Box 801, Bishops Stortford, Hertfordshire, CM23 3TZ. Tel: 0279 757 692

APPLICATION

- **AMP1 - Home Business Pack**: UEdit wordprocessor, Visicalc spreadsheet, RIM and Hyperbase databases and spell checkers etc. 3 disks only £750!
- **FFISH 176 - AnalytCalc V2.3.2a** of the large and powerful spreadsheet. 1MB. External Drive Required.
- **AMICUS 17** - Communication packages: COMM v1.33 - XMODEM/WXMODEM, Aterm V7.2, VT-100 V2.6 Vtek V2.3.1, Amiga Host V0.9 for CompuServe.
- **FFISH 195** - Micro Emacs V3.10 the text editor which is very comprehensive.

UTILITY

- **FFISH 366** - PrintStudio V1.2 print any text file in many styles, print part of or a whole picture, screen or window, also control printer and much more.
- **FFISH 362** - ArchEdge V1.5 a shell that can be configured for most programs. Already setup for ARC, ZOO, LHARC etc.
- **FFISH 327** - MSH handles MSDOS formatted disks exactly the same way as you use files on native AmigaDOS disks. Fully functional, read/write version.
- **FFISH 342** - IE V1.0 is an icon editor which can create and modify icons upto 640x200 pixels.
- **PDOM 278** - LHARCA V0.99a data compression program hat is 100% compatible with MSDOS LHARCV1.13c.
- **PDOM 279** - European Software Agency Utility 1: Amiga Tool V1.5, Boot Dintro V1.0, BootGenerator V1.5, BootLeg V2.1, Character Editor V1.0, Coder Board V4.0, Cosaque V1.1, DCopyll, Deluxe Pressed V2.0, BlockV1.3, Font Ripper, Guru Maker V1.0, ISC Amiga v1.5, memory Searcher V1.0, Menu Maker v1.0, No1 Sctracker V1.0, Power Utility V2.0, PowerPacker V2.3a, PPMore V1.2, Pseudo Ops. Save IFF, Scanner V2.0, Scroll Maker 2, Seek Destroy V1.0, Seka Source Rescuer, StartUpCoder V1.0, Structure Hunter V1.0, Time Cruncher V1.1, TVFieldWriter V1.1, Vector Check V1.0, View Boot V1.0, Virus Expert V1.4, Virus Slayer V1.0, Virus Killer V3.10.
- **PDOM 280** - The Champions Total Utilities Vol 1: Boot Generator, Boot Girl, Bootmaker, BootWriter, Character Editor, Demo Maker, DiskX v2.2, Flash Ripper, Font Ripper, Guru Maker, Guru Master, Icon Master, Make A Menu, NoiseTracker, Power Packer V2.3b, PPMore, PPSHOW, Sceneray, Graphics Searcher, SetKey, SlideShow Maker, Time Set, Tristar Virus Killer TxD.
- **TBAG 28** - MachII features: configurable, your help screen, mouse accelerator, PopCLI, Screen Blanker, Mouse OFF, Sun Mouse (activates a window by placing mouse it), Click To Front (bring window to front by clicking on it), Cycle (move a window or screen to back with left then right mouse button click), Window and Screen Shuffler, Clock, Alarm, Beeper etc. DiskSalv V1.32 is a disk recoverer, NewZip file sector editor.
- **TBAG 30** - MyMenu create your own menu on WB to run any commands. Icon Meister V1.4 THE Icon editor. SYSCheck checks your boot disks libraries. Disk Storage Deluxe V1.10 shows details of ALL mounted devices.
- **TBAG 31** - ShoWiz V2.0 show ANY picture with or without a script 1 picture or several disks full, also play a music file in the background! Also show text files in any colour!
- **PDOM 59** - Ametuer Radio Disk: StarTerm V3.0, P81 and P1027 2 packet terminal programs, TA Term V5.0a HAM Database for the Amiga Amateur Radio Group, Morse Code, Satellite Tracking and loads of HAM utilities. A must for serious HAM user.
- **PDOM 300** - The Master Virus Killer V1.9. Recognises 62 viruses, a full list is on our DiskCat.
- **PDOM 62** - The Public Dominator Anti Virus Disk: Virus X V4.1, VCheck V1.2 (for memory), VCheck V1.9 (for disk drives), Zero Virus V1.3 the fully integrated virus detector and killer. Also Boot Block Champion the utility and information on boot blocks.
- **PDOM 93** - ARP v1.3. The AmigaDOS Replacement Project includes text manual files.
- **FFISH 243** - ImageLab V2.2 is an IFF pictures manipulator. NoClick V3.5 stops the disk drive clicking if there is no disk in the drive. PassWord V1.2p you specify the password for your system security. Pcopy V2.0 the excellent disk copier. SimGen adds a 2 or 4 colour picture to your WB screen.
- **FFISH 244** - BBChampion V3.1 load, save and analyze boot blocks. BootIntro V1.2 you specify The headline text of upto 44 characters and the scrolling text of upto 300.
- **FFISH 279** - MRBackup v3.3d the hard disk backup utility.
- **FFISH 300** - TitleGen v1.6 excellent script language that creates scrolling text on screen in any font and upto 500 lines long!
- **FFISH 213** - 300 8 colour program icons!
- **FFISH 168** & **FFISH 169** - Matt Dillon disk special includes loads of utilities and source: Config V1.0, Clock V1.0, DME V1.31,

- **DMouse V1.1**, Backup V2.01, SUPLIB, LIBREF, DRES V1.0, DASM V2.1, FILES V1.2, SHELL V2.1, FINDIT V1.0, LIBS V1.0, SCAT V1.0, ADDR V1.0, REMCR V1.0 & CMP V1.0 you need both disks.
- **FAUG 41** - ARC V0.2 compatible with MSDOS ARC V5.0.
- **AMICUS 22** - Printer Driver Generator V2.3.
- **FFISH 158** - MSDOS V0.1 lists files written in standard MSDOS or ST format, then copies them to RAM then rewrites to disk in AmigaDOS format. DiskX is a sector based disk editor.
- **FFISH 290** - XIcon a CLI command scriptor and executor.
- **FFISH 258** - DMouse v1.2 is a versatile program that includes screen/mouse blanker, auto window activator, mouse accelerator, popcli, pop window to front, push to back etc.
- **FFISH 131** - DFC is a disk copier that multi-tasks.
- **APDC 15** - Icon utilities: full of icon files and creators. Some animated!
- **APDC 18** - Floppy Disk Utils: Quick Copy V1.0, Disk Mapper, Disk Salvage, Virus check, System Utils: Blitz V1.0 text editor, TimeSet, ACalc calculator Amiga Monitor V1.1, MeM Grab fast memory grabber, Directory Master V1.1.
- **FFISH 164** - DiskSalv V1.3 excellent file recoverer and undelete utility. New Zip V3.18 the great file sector editor. Zoo V2.0 the great file archiver.
- **FFISH 106** - Funkey a function key editor.
- **FAUG 62** - Access V2.6 comms package. Hide II toggle RAM expansion. Add Icon V1.0 adds icons to files without icons.

MUSIC

- **AMP11** - 5 disk pack of Sonix files & player for £1250!
- **AMP23** - 5 disk pack of SoundTracker V3 & files £1250!
- **PDOM 281** - Oktalyzer V1.1 the music composer.
- **PDOM 285** - GAME MUSIC CREATOR Supports MIDI.
- **PDOM 299** - MED V2.01 the music editor with MIDI.

DEMO

- **PDOM 1** - The Walker I animation of the Star Wars Walker. 1MB.
- **PDOM 2** - The Walker II animation of the Star Wars Walker. 1MB.
- **PDOM 6** - Mahoney & Haktus sounds of the knome music disk II.
- **PDOM 27** - Alcatraz Mega Demo II.
- **PDOM 65** & **PDOM 66** - Red Sector Mega Demo.
- **PDOM 73** - Star Trek the Enterprise leaves dock.
- **PDOM 74** - Star Trek craft featured in 4 animations.
- **PDOM 76** - Star Trek Shuttle landing on Star Trek craft.
- **PDOM 83** - Space Ace demo.
- **PDOM 84** & **PDOM 85** - Royal Amiga Force Mega.
- **PDOM 86** - MES mega demo 1. 1MB.
- **PDOM 87** - MES mega demo 2. 1MB.
- **AMUSE 8** - The amazing Berserk demo.
- **FAUG 33** - The Juggler.
- **FAUG 61A** & **FAUG 61B** - New Tek demo. 1MB.
- **FAUG 88** - Dragons Lair.
- **FFISH 200** - NotBoingAgain. The scene is a user who puts a disk into an A1000, a Boing Ball demo loads up and the Amiga disk drive opening turns into a mouth and says 'Oh No, not again!' & spits the disk out! 1MB.
- **PDOM 32** - Amazing Demos Volume 7.
- **PDOM 40** & **PDOM 41** - Northstar Fair Light mega demo III.
- **PDOM 42** & **PDOM 43** - DeathStar Blasting II.
- **PDOM 44** & **PDOM 45** - The Walker I demo. 2MB.
- **PDOM 89** - AMOS the Amiga Games Creator product demo.
- **PDOM 104** - Complex BOBs.
- **PDOM 105** - DOC. No we are not dead!
- **PDOM 114** - Slipstream Sineintro 1+2, Equalogo II, Terminator.
- **PDOM 146** & **PDOM 147** - Monty Python Nudge Nudge sketch.
- **PDOM 148** - Escape from Singes Castle animation.
- **PDOM 150** - Scoopex Mental Hangover.
- **PDOM 188** - Crypto Burner CD Player.
- **PDOM 193** - Red Devil of Dark Star UK Muzak 4.
- **PDOM 195** - SlipStream Music 7.
- **PDOM 207** & **PDOM 208** - Kefrens Mega Demo 8!
- **PDOM 214** - Fractal Flight. 1MB.
- **PDOM 217** - Alpha Flight Demo Creator.
- **PDOM 222** - Titanics Acid House music disk.
- **PDOM 229** & **PDOM 230** & **PDOM 231** - Alcatraz Mega Demo 4 'The Devil's Key'.
- **PDOM 236** - Mr Turnip from APEX: Cebit 90, Coma and others.
- **PDOM 241** - Anarchy Compact A.
- **PDOM 242** - Anarchy Compact B.
- **PDOM 246** & **PDOM 247** - Jungle Command Music Invasion 3.
- **PDOM 250** - North Star Acid Demo 1989.
- **PDOM 251** - TSK ACCumulators: Acid House demos!
- **PDOM 252** & **PDOM 253** - Death Star Mega Demo.
- **PDOM 267** - Jungle Command Non Stop Music Selector.
- **PDOM 296** - The Dope Intromaker V1.0

- **PDOM 298** - SUCKWAYS Clapping World music compilation.
- **SOFT 73** & **SOFT 74** & **SOFT 75** & **SOFT 76** - Miami Vice digitised theme tune.

GAMES

- **AMP8** - Game Pack 1: Clue as in Cluedo, Othello, Klondike, Canfield and Cribbage, Backgammon, Yahzee, TVision, Missile Command, Cosmo 2 and 3D Breakout, Empire, Gravity Wars, Hanoi, Hockey, Bikoff, Jackland, Othello Master and Pacman. A 3 disk pack for £750!
- **AMP22** - Game Pack 2: Amoeba space invaders, CosmoRoids, Stone Age a Boulder Dash type, Back Gammon, Chain Reaction, Master Mind, Reversi, Black Jack, Crazy Eights, Klondike, Jig Saw, Keno, YachtC, Daleks and Ratmaze, Monopoly and Escape From Jovi V3.0. 3 disks for £750!
- **FFISH 194** - Moria V3.0 the single player dungeon simulation adventure game. 1MB.
- **FFISH 273** - BattleForce v3.61 game.
- **FFISH 336** - Car V2.0 is a racing game.
- **FFISH 357** - Empire V2.1w is a multiplayer game of exploration, economics and war.
- **FFISH 62** - HACK the adventure.
- **FFISH 63** - LARN the adventure.
- **PDOM 77** - Paranoid the breakout type game.
- **PDOM 90** - Tennis! 1MB.
- **PDOM 79** & **PDOM 80** & **PDOM 81** - Star Trek 3 disk game. 1MB. External Drive Required.
- **PDOM 215** & **PDOM 216** - The Star Trek Demo 2 disk version. Another totally different Star Trek game. External Drive Required.
- **PDOM 233** - The Holy Grail Adventure. 1MB.
- **PDOM 234** - The Golden Fleece Adventure.

GRAPHICS

- **AMP3 Graphics Pack 1**: Clip It! clip any part of the screen and save to disk, Filter Pics manipulate pictures with enhancers, edge definition, colour and size shifters, plus loads of excellent graphic utilities. MCAD V12.2 excellent Computer Aided Design package. IFF to pieces jigsaw program, ROT 3D drawing prog, VDraw V1.9 brilliant painting program, Ray Tracer Generator. A 3 disk pack for £750.
- **AMP21 Graphics Pack 2**: DBW Render Ray Tracing utility. Mandelbrot Explorer. Excellent full features mandelbrot designer. ST2IFF convert Atari ST pictures to Amiga IFF format. HAM Editor drawing program and prog to convert HAM pictures to IFF format. A 3 disk pack for £750.
- **FFISH 334** - FBM V0.9 image Manipulation library. Compatible with Sun, GIF, IFF PCX, PBM bitmaps. Can input raw images and output Postscript and Diablo. Also does rectangular extraction, density and contrast changes, rotation, quantization, halftone, greyscaling etc.
- **PDOM 112** - Graphic utilities: Clip It!, ShowPrint II, Snatch, HamEdit, Dissolve, AutoPics, Zapcon, ImageTools, FilterPix, IconMaker, Startle, IFF to Icon.
- **FFISH 295** - Mandel Mountains V1.1 a Mandel Brot generator.

LANGUAGE

- **PDOM 211** - NORTH C v1.2 Steve Hawkins C compiler. Features compiler, linker, disassembler, examples and tools. An excellent C compiler for the knowledgeable and beginner alike.
- **APDC 25** - Logo, XLisp, Modular 2, MVP Forth.
- **FFISH 140** - Stoney Brook PROLOG v2.3.2.
- **FFISH 141** - Contains the source code for PROLOG FFISH 140.
- **FFISH 181** - AM XLISP V2.0 of the XLISP interpreter.
- **FFISH 193** - ZC V1.01
- **FFISH 201** - Draco V1.2 the excellent programming language by Chris Gray. Documentation on FFISH 77.
- **FFISH 37** - Little Smalltalk.
- **FFISH 91** - The Adventure Definition Language (ADL).
- **FFISH 337** - CManual V1.0 is a COMPLETE C manual for the Amiga. Includes 70 fully executable examples.
- **FFISH 339** - PCQ V1.1c Pascal compiler.
- **FFISH 347** - Cursor V1.0 Amiga BASIC Compiler.
- **PDOM 60** - Modula II compiler.
- **FFISH 314** - A68k v2.61 of the 68000 macro Assembler.

PDOM CLIPIT

- **VOLI** - 3Mb of clip art images, subjects covered: sports, flags, animals, cartoons, humorous, Jewish, borders, all occasions, horses, eyes, and many many more. ALL in IFF format, ALL compatible with DPaint and Page Setter. 5 disks only £1250! Mega value Mega Quality Product!

To order, simply quote the disk code number.

Disk prices:

all disks are priced equally depending on how many you buy:

1 to 5 are £3.00 each,
6 to 10 are £2.75 each
11 or more are £2.50 each.

All prices are fully inclusive.

Please send a cheque or postal order payable to Pdom PD Amiga AC
P O Box 801, Bishop's Stortford, Herts,
England, CM23 3TZ.

Foreign Orders: EEC add 10% (minimum £1.00)
Non EEC add 30% (minimum £1.00)
Non EEC & Spain, Greece, Portugal, Eire & Italy MUST also add £1.75 for registered post.

Full indepth details of all our 1200 disks are in our disk based catalogue only

70P

Send an SAE & a 22p stamp for a

FREE

copy of our printed catalogue. Shows concise details of the top disks.



Visa & Access Credit



Card Hotline
0279 757 692
Mon-Sat 9am-5pm



Prodata is Arnor's cousin to the Protex word processor reviewed elsewhere in this issue, and as such, it shares certain of Protex's features. Luckily, it also avoids some of the disadvantages suffered by earlier versions of Protex. In other words, it is as fast as Protex, yet it remains reasonably user-friendly (this is a shortcoming which Protex 5.02 manages to overcome).

Databases in general can be dauntingly hostile beasts, snarling and scowling, and doing everything you tell them with great reluctance. But Prodata, while not exactly kissing your hand, tends at least to flip a quick salute and rush off to carry out your orders.

Yes, yes, that's all very well, but what's the point of a database program when I can easily find any number I want just be flipping through my card index?

If you're still asking questions like this, then you're missing out on the unique and powerful features offered by going 'electronic'. Simple databases are of the 'flat file' variety which means they can't do anything more than act as electronic card indices. Prodata and other more complex programs, however, can do much more, and using them could vastly change the way you use data.

It is very simple to set up a database using Prodata. Unlike some, it will allow you to create a standard layout just by typing in the names of the fields you wish to include, such as 'company name' and 'phone number'. Once you've done this you can start to feed data in until you have created a large database of simple records.

Indexing on a basic level is carried out automatically, and you will be able to sort new files by reference to the first field as soon as they have been input. This means that before you go any further, and within five minutes of picking up the instructions, you can entirely duplicate the functions of a card index, and all of this without the

slightest hint of jargonese.

The manual, through several tutorial sections, then guides you in the process of further manipulating the database. It is now that you begin to slap yourself for ever storing data in any other form.

Step one...

The first feature you'll find useful is the ability to define more than one index for the purpose of sorting and searching through your records. With an index defined, you can search for a specific field instead of having to look through all your records. The automatically

generated standard index will sort the first data field in alphabetical order, and your database will be ordered accordingly.

However, this can easily be changed to numerical, reverse numerical, date, or reverse date order, and the same on up to four extra indexes.

Now you can search the database for say a salesman whose name you can partly remember and if this brings no joy, change index and search for the company name, invoice number or even phone number.

This is all much faster than the

Find option on the main database screen, which becomes quite slow once the number of records goes much above 20.

So far so good. But things start to get really groovy when you make use of the filtering option. This allows you to filter the database so that it will select only those records which meet the filter's conditions.

For example, you could specify that you only want the businesses whose specialist area is pizza making and delivery. The Prodata filter would look something like:

pizza making and
delivery in f11

where f11 is the field containing information on specialist areas. A quick search would then gather together only the required records, making their perusal and sorting a much faster job.

The expression evaluator which defines the variables and conditions used in the filtering can be up to 70 characters in length, resulting in some very selective filters indeed.

Filters such as:

find all pizza companies
who make and deliver ten
inch with extra mushrooms
for less than £10

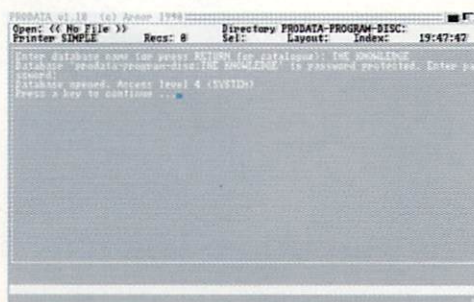
are not beyond the bounds of possibility. Once the filter has selected the desired records, you can treat them like a sub-database or switch back to the remainder of the records at will.

In this way, the filter can act, for example, as a selective trashcan. Just gather together all the undesired records and delete them, the electronic equivalent of "round 'em up, put 'em in a field, and bomb 'em!"

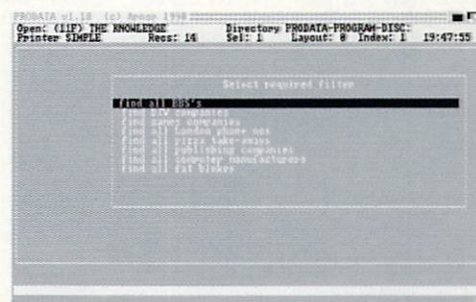
Sorting, indexing and filtering your data is useful, but to receive the full benefits of a computerised database you must be able to print out the now readily available information in a fashion as flexible

Fields, files ... ho hum!

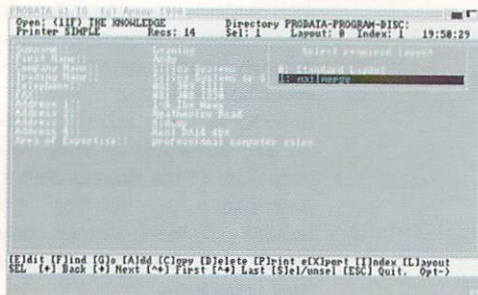
One step ahead of the Data Protection Registrar, Stevie Kennedy keeps tabs on his nearest and dearest . . . with Arnor's Prodata



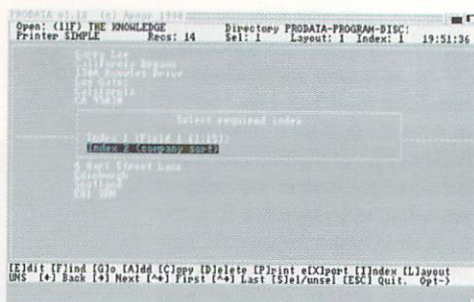
You need the password before opening a database



Filter: Filter out those pizza-parlours!



The standard layout can soon be altered....



...to the mailmerge layout

as you can sort it, and this is where Prodata's idiot-proof layout system comes into its own.

Using either the cursor keys, or by pointing and clicking with the mouse, you can arrange up to 99 extra layouts using some or all of your data fields in any order you please. Page length, record length, and the number of records on each page can be set in a list of the layout's attributes, and a number of different variables, text, or page layout attributes can be given to each field chosen for the new layout.

This means you can choose literally any layout your heart desires to display the data (within limits - Prodata doesn't yet support 3D graphics!).

We defined a new layout called 'mailmerge' and, with a couple of keystrokes, rearranged our entire database as a mailing list ready to be output as address labels.

By including only the fields we needed and leaving out phone numbers and such like, we managed to put together a rather tidy little layout which would keep lines together even if one was missing. It would also tack the first and surnames together in the correct order, rather than sending mailshots out to Bloggs Joseph and Smith John.

Any beginner would be able to do likewise in a very short time, as the manual supplied with the

package is designed with those people in mind.

Having got this far, you're now using Prodata in a productive fashion, if not fully stretching its capabilities. If you want to take things further, you can expand the use of the expression evaluator so that your stock list keeps a running total of the VAT payable on the items you hold or, if you keep a list of employees, the total company payroll (both of which would be updated automatically as new entries are made).

With this support for variables and their free use within any record, Prodata allows your database to carry out a range of functions that paper-bound systems could never equal, and adds a potentially very powerful tool for evaluating your data.

Bringing out the big guns!

This is by no means a spreadsheet or anything of the kind, but imagine that you are a club chairman, and you want to evaluate the effect on your club's finances of putting £5 on the membership fee.

If you allow that you might lose x amount of members, it is a simple task to have Prodata calculate your new income from subscriptions and display it in the epilogue at the end of the database.

Add to this the supplementary features, such as the ability to

define up to 128 macros, and give your database five separate levels of password protection with a different password for each level, and you've got a surprisingly fully-featured package for less than a ton.

OK, I've pumped this thing till its eyes are popping, and you might be thinking 'what's the down side? Well, the first thing you notice when you start building bigger databases is that the speed of searches becomes a little slow.

Even with clearly defined indexes, you can sit looking at the screen for painful periods while Prodata crunches through the records looking for the ultimate pizza parlour.

This is not a serious flaw however, as the deft application of filters will bring your search area down to more manageable proportions quite quickly.

What is a little more unsettling is the program's inability to graphically represent its data. It will happily import and export text in ASCII format, and the layout definition process allows for simple boxes to be drawn around fields and so forth. But the inclusion of even a little more 'whizz' on the graphics front would have made a lot of difference.

It seems we're destined to use databases which remain deeply rooted in their green-screen ancestors, presenting wedges of text

quickly and effectively but just a tiny bit boringly.

The traditional businessman won't mind this in the least, but these days, your average computer user is demanding that information be presented in a way that takes full advantage of a machine's capabilities. Prodata falls an appreciable distance short of this, in the Amiga's case at least.

The Arnor family is steadily gaining recognition as one of the best Amiga choices for the small businessman or self-employed person, and Prodata is as good a choice in its field as Protex is in the word processing game. And with a few reservations concerning presentation, I would recommend them without hesitation.

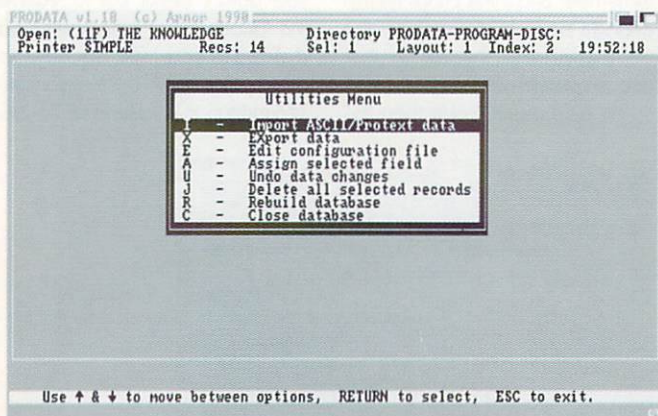
If, as Arnor claims, Prodata is to be given the Protex 5 treatment and provided with to pull-down menus and the like, then so much to the good. But I can't help thinking that if the competition starts to match Arnor's price-to-performance ratio with packages which are more pleasant to use and capable of presenting data in a way which someone other than the package user can appreciate, then Prodata might start to look a bit dated.

Prodata

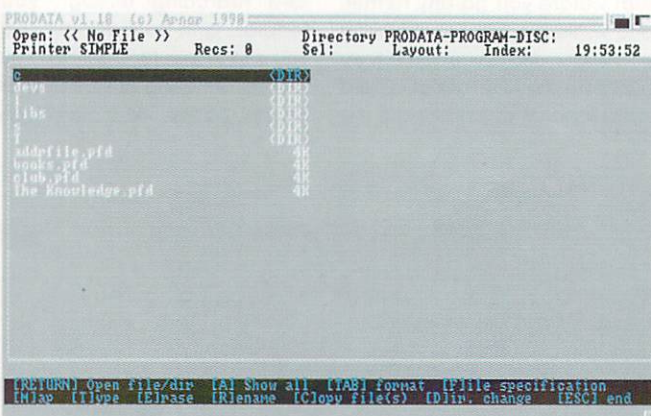
Publisher: Arnor Ltd

Telephone: 0733 68909

Price: £79.95



Import/Export of data is relatively painless



The disk management screen is identical to Protex's

17 Bit Software

That Bit Better Than The Rest!!

P0 Box 97, Wakefield WF1 1XX, England. © 0924 366982

The UK's Largest Amiga Only PD User Group, over 1,000 Top Quality Public Domain Disks and over 17,000 members in our friendly club!! Please put dept Amiga Computing on all orders

LATEST ADDITIONS TO THE LIBRARY

792 GARY TOWER SLIDE SHOW (BRILL)
791 TOBIAS RICHTER SLIDE SHOW ON
790 TWO DISKS (791, 790) STUNNING
789 ANARCHY MUSIC DISK
788 WRATH OF DEMON PRODUCT DEMO
787 WARFALCONS MUSIC DISK
786 NEUTRONS MUSIC BOX
785 OPTI UTILS 1 (ESSENTIAL UTILS)
784 BOWL V.2
783 GOLDEN FLEECE SOLUTION
782 DUNGEON MASTER SOLUTION
781 GAMES GALORE VOLUME 2
780 EXORCIST VIRUS KILLER DISK
779 ANOTHER GREAT UTILS DISK
778 MUSIC UTILS 1 (NOISETRACKER
ETC)
777 STAR WARS DEMO ON TWO DISKS
776 ONE FOR ALL STAR WARS FANS
775 PROPERTY MARKET PD GAME
774 INTRO'S 48 FANTASTIC DEMO'S
773 CAVE MUSIC DISK
772 MUSIC DISK
771 ADVENTURE GAME HINTS AND TIPS
770 GAMES SOLUTIONS AND HACKS
769 BRAND NEW COMS DISK!!
767 HOUSE MUSIC SAMPLES
766 HOUSE MUSIC SAMPLES
765 HOUSE MUSIC SAMPLES
764 1 MEG MADONNA ANIM (GREAT)
763 FONTS DISK
762 STEALTHY 2.1 MEG ANIM!!!!
761 DEMONS SLIDESHOW 3 (AMAZING)
760 UP+RUNNING UTILS
759 GAMES GALORE (10 PD GAMES)
758 100 C64 CONVERSIONS (THE BIZ!!)
757 INDY 500 ROLLING DEMO (SUPERB)
756 CRIONICS NEVERWHERE DEMO
755 SILENTS MUSIC DISK
754 WHATEVER NEXT UTILS DISK
748 MED V2.01
746 PD SHOOT EM UP
778 DIR MASTER V3.0. BETTER THAN
CLIMATE FOR A MERE 2 POUNDS

ALL ABOVE DISKS ARE JUST £2.00
INCLUDING POSTAGE AND PACKAGING.
COME TO 17-BIT PROBABLY THE ONLY PD
LIBRARY YOU WILL EVER NEED. CLUB
MEMBERS ALSO GET DISCOUNT ON ALL
MAJOR SOFTWARE RELEASES

ZYDEC RAM EXPANSION

*Upgrade your Amiga 500 to 1 Meg, of
Memory with the Zydec 512K expansion.
Fitting neatly into your Amiga this compact
unit comes complete with a One year
guarantee and an on/off switch.*

ONLY £32.95!!

**Or £39.95 with special 5 disk 1 Meg
PD pack!!!**

17-BIT TOP 10

595 AND 596 STARTREK 2 DISK GAME
645 VIZ CALENDAR
651 MENTAL HANGOVER
671 MARIA WHITTAKER SLIDESHOW
688 HORROR SLIDESHOW
722 AMAZE MUSIC DISK
761 DEMONS SLIDESHOW 3
770 GAMES HACKS AND TIPS
781 GAMES GALORE VOLUME 2
792 GARY TOWER SLIDESHOW

**17-BIT OFFER A WIDE RANGE OF PUBLIC DOMAIN SOFTWARE PACKS.
LISTED BELOW ARE JUST A FEW, PLEASE PHONE IN FOR MORE DETAILS.**

CLASSICAL MUSIC PACK

Three superb music disks, and a catalogue, all for only £6.50

MUSIC CREATION PACK

A 5 disk pack for only £7.99. Pack includes disk 778, octylizer and noise tracker, disk 440 soundtracker rippers and play routines, disk 482 games music creator, disk 478 sound mon, disk 479 samples disk for all above disks.

QS+ CD

*Popular pack that introduces you to all aspects of PD, features great music, great utils, and great games.
Available at an unbelievable £6.50*

SAMPLER PACK

As it says a selection of just about everything PD has to offer, at only £11.00 for 7 disks it represents an ideal way to try out 17-Bit.

ASTRONOMY PACK

A 3 disk pack which includes the latest catalogue and 2 superb astronomy disks, 173 Amigazer and disk 223 Starchart. Only £5.00

GAMES TIPS PACK

3 disks for only £5.00 with solutions, tips, hints for 100's of current and old game titles, with lifetime membership to 17-bit you just can't go wrong, complete all those games that you gave up on a long time ago!!!!!!

5 ISSUES OF THE LEGENDARY 17-BIT UPDATE

Yes 5 issues of the update for only £5.00 that's only a pound each, which includes all postal charges, and lifetime membership, and also special offers which arrive with each monthly update.

BLANK DISKS

Blank disks are now only £5.99 for 10 complete with labels (to club members only!!!!)

AMOS PACK

*7 disks to help you get the most out of Amos, only £9.95. A must for all those who own this excellent programming package.
Also available Demo Pack 1 and 2, Graphics Pack 1 and 2, Adult Pack., 1 Meg Pack 1 and 2, Music Pack 1 and 2 and Utility Pack. All are £11.00 each and all represent fantastic value*

**WE ALSO PROVIDE A SUPERB CHRISTMAS MUSIC DISK WHICH IS ONLY
AVAILABLE EXCLUSIVELY THROUGH 17-BIT ONLY £2.00.
EVERYTHING ABOVE GIVES LIFETIME MEMBERSHIP TO 17-BIT AND OPENS UP A
WHOLE NEW WORLD FOR YOUR AMIGA!!!! DON'T DELAY ORDER TODAY.**

WE ALSO STOCK

**FISH-1 TO 360
AMICUS-1 TO 26
AMIGAN-1 TO 23
T-BAG-1 TO 42**

*All these including the
whole range of PD in our
library are only
£2.00 EACH*

MEGA DOS

*Mega Dos is an Amiga dos manual-on-disk designed to
be an easy to use self help reference and tutorial for
understanding the CLI and WORKBENCH.*

**MEGA DOS IS NOT PD AND IS ONLY AVAILABLE
FROM 17-BIT SOFTWARE.**

OUTSTANDING VALUE AT £6.95

*IT ALSO NOW COMES FREE WITH DIR MASTER
V3.0 AN UNBEATABLE PD FILE HANDLER SIMILAR
TO CLIMATE.*

17-BIT SOFTWARE ARE OPEN

*From 9.00am to 8.00pm Mon to Friday
and 9.00am to 5.30pm on Saturdays.
We take all major credit card orders
over the phone. **TEL: 0924 366982**
Postal orders and cheques should be
made payable to 17-bit software.
10 disks are £18.00 or any one disk £2.00*



AMIGA SPECIALS

AMIGA TOP TITLES

AMIGA SPECIALS

AMIGA SPECIALS

POSTMAN
PAT
£6.99

SHADOWGATE
£9.99

FERRARI
FORMULA 1
£7.99

ZARK 1
£7.99

DYNASTY
WARS
£7.99

LAST NINJA 2
£7.99

SUPER
HANG ON
£7.99

AFTERBURNER
£7.99

HOSTAGES
£7.99

S.E.U.C.K.
£9.99

BLUE
ANGELS
£6.99

MOONWALKER
£9.99

HITCHHIKERS
GUIDE
£7.99

STEVE DAVIS
SNOOKER
£7.99

GRAND
MONSTER SLAM
£7.99

X-OUT
£9.99

THE
CYCLES
£9.99

CONQUEROR
£9.99

HAMMERFIST
£8.99

FALLEN
ANGEL
£6.99

STUNT CAR
£9.99

HONDA RVF
£9.99

WAR HEAD
£9.99

CORPORATION16.99
CADAVER16.99
NINJA TURTLES (MIRRORSOFT)16.99
ROBOCOP II16.99
AMOS.....34.99
SPY WHO LOVED ME.....16.99
WINGS (1 MEG)19.99
GOLDEN AXE16.99
4x4 OFF ROAD RACER16.99
TOTAL RECALLT.B.A.
COUNT DUCKULA5.99
CAPTIVE.....18.99
ATF 217.99
M1 TANK PLATOON19.99
JAMES POND16.99
E. S.W.A.T17.99
WONDERLAND19.99
SIMULCRA16.99
STRIDER 217.99
PANG16.99
TEAM YANKEE19.99
SUPREMACY19.99
THEIR FINEST HOUR19.99
BOMBER BOB16.99
POWERMONGER19.99
F19 STEALTH19.99
MIDWINTER.....18.99
CHASE HQ 2.....17.99
TORVAK THE WARRIOR16.99
SHADOW OF THE BEAST II25.99
UNI. MIL. SIM. II19.99
LOOM.....18.99

KICK OFF 2
1 MEG
£17.99

HOT ROD
£7.99

SILENT
SERVICE
£9.99

FALCON
£11.99

LEATHER
GODDESS
£7.99

DEJA VU
2
£9.99

CHRONO-
QUEST
£9.99

BARDS TALE
2
£7.99

SHADOW OF
BEAST
£9.99

KICK OFF
£8.99

CLOUD
KINGDOMS
£6.99

3D
POOL
£9.99

BARBARIAN
2
£7.99

SPEEDBALL II
£17.99

UNTOUCHABLES
£9.99

POWER-
DROME
£7.99

DYNAMITE
DUX
£8.99

TNT
£19.99

WEIRD
DREAMS
£7.99

CORRUPTION
£7.99

DRUM STUDIO
£3.99

SAVAGE
£6.99

FIRST
CONTACT
£7.99

BATTLE COMMAND19.99
INDY 50017.99
BETRAYAL19.99
MICROPROSE SOCCER II16.99
RICK DANGEROUS 2.....16.99
CHRONICLES OF OMEGA.....14.99
LEGEND OF THE LOST16.99
EPIC19.99
OPERATION HARRIER18.99
VIRUS4.99
IK+3.99
DICK TRACY19.99
BLOOD MONEY7.99
COMMANDO7.99
R TYPE.....7.99
TRACK SUIT MANAGER.....6.99
XENON 29.99
HONDO RVF9.99
CHRONO QUEST 29.99
THEME PARK MYSTERY8.99
GRAVITY8.99
PIONEER PLAGUE.....2.99
UMS.....6.99
SONIC BOOM6.99
PLANET FALL7.99
FLIGHT PATH 7374.99
MR HELI.....9.99
FAERY TALE ADVENTURE7.99
LOTUS CHALLENGE.....17.99
LEISURE SUIT LARRY II16.99
INFESTATION8.99
PACLAND4.99
CONFLICT IN EUROPE4.99

PLEASE NOTE: ALL GAMES ARE
NEW AND ORIGINAL, AND MANY
ARE LIMITED QUANTITIES.
PLEASE BE QUICK!

TITLE/ITEM

PRICE

Name

Address.....

Tel No:

TOTAL COST £:

AMC Jan

Dear Santa...

It's that time of year again. Retailers are cutting each others' prices (and throats) to grab the biggest slice of the market, salesmen are fighting feverishly to boost their bonuses, and advertisers are launching savage assaults on our ears, eyes, and financial libidos in an attempt to lure us into even more debt with our not-so-flexible-when-we-owe-them-money friends. Oh, and there's also the small matter of some bloke being born in a barn, but how they're going to market that I've no idea. Yes - it's Christmas!

We at *Amiga Computing* realise what a strain all this Noël stuff can be on both body and soul, and so we've taken the revolutionary step of offering our readers a guide to Christmas shopping for the Amiga nut who has everything. Within these pages you will find indispensable advice on all the best and the most gloriously naff pressies you can buy for That Boring Relative Who Never Stops Talking About His/Her Hard Drive (ahem).

£0 - £50

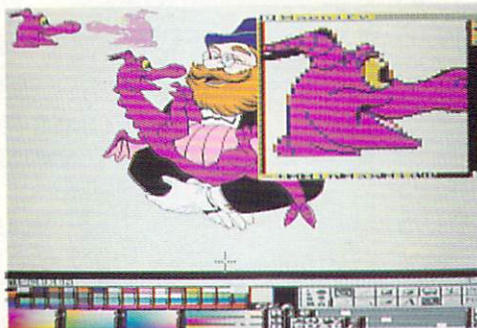
The Cheapie Zone

The first and most obvious purchase is a copy of *Amiga Computing* (£2.95 from a newsagent near you today!) which you can roll into a neat tube and wrap up to give the appearance of a bottle of Glenfiddich. This leaves £47.05 (or £32.68 in Irish money) to spend on graphics, music, and other applications and, if you stretch it, the odd add-on (and some of them are decidedly odd!).

"How do I make fifty quid go so far?" I hear you scream. Easy, just pop it in a jiffy bag and post it to me from a distance of a hundred miles or so. Seriously, though, there are plenty of useful items you could buy in this price bracket. For example, music.

Do you know anyone who's into music and has an Amiga? Did you know that any one of a number of

Here it is, the definitive letter to the old guy with the beard and red suit. Get your message to Santa, without having to sit on a pensioner's lap...



Photon Paint



Return to Earth



Startrek



The Walker II

essential music-type thingies can be yours for fifty notes or less? Mastersound for instance, does a budget sampler you can pick up for £32.95, MIDI interfaces can be as little as £19.95, and Music X Junior, Aegis Sonix, and Dr T's MIDI Studio all come in (individually) under the pony barrier.

Add to this the number of SoundTracker clones, such as the excellent MED from last month's cover disk, and zillions of disks' worth of samples, tunes and effects disks to be had from PD libraries and it's clear that you'd have to be a few bars short of a symphony to miss out on affordable Amiga music.

Graphics Again, the pixel-power available in the sub-£50 area, leaves no excuse for those boring pressies you were about to buy. I've no sympathy for anyone who is evicted from the family fold after buying a home accounts package for Dad at Christmas.

There are, for example, margin-cutting maniacs who will sell you Pagesetter II for £49.95, and I'd advise a hasty response to the offer before they're certified.

All the older paint packages, such as Dpaint II, Photon Paint, and Spritz Paint are lurking in corners of the classifieds at prices you'd have considered shocking this time last year. None of these is outdated in the least - they've simply been superseded by newer versions and continue to be perfectly viable pieces of software in their own right.

Upgrades

If you know someone lucky enough to have the Vidi-Amiga package but not the colour upgrade, you could supply this useful little beast for a mere £15.95 and banish Rudolph The Dark-Grey-Nosed Reindeer for ever.

Come on now, do I have to draw you a picture? Get out there and upgrade your sense data!

Speaking of upgrades, these have been steadily creeping into

UNIVERSAL OVERNIGHT DISTRIBUTION LTD

TEL: 0228 42373 (ext. 53)

Callers most
welcome

Fax: 514484

Unit 26, Enterprise Centre, James Street, Carlisle, Cumbria, CA2 5BB

DISKS DISKS DISKS

10+: 48p	50+: 38p
100+: 36p	250+: 34p
500+: 33p	1000+: 32p

Individually wrapped 100% certified and guaranteed 3.5" DSD 135tpi disks with labels
Add 7p per disk for genuine bulk SONY disks

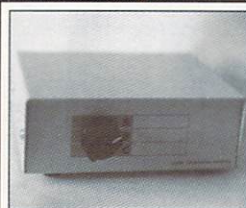
3.5" DISKS WITH BOXES

10 Disks with 12 cap library box:	£6.45
25 Disks with 40 cap box:	£15.95
35 Disks with 80 cap box:	£19.95
45 Disks with 80 cap box:	£24.95
55 Disks with 80 cap box:	£28.55
80 Disks with 80 cap box:	£38.95
160 Disks with 2x80 cap boxes:	£68.95
240 Disks with 3x80 cap boxes:	£122.95

Our claim: We are probably the cheapest disk and accessory supplier in this magazine!

Individually wrapped 100% guaranteed DSD disks
Remember - Prices INCLUDE VAT AND POSTAGE

**DON'T RISK STORING DATA ON
OTHER TYPES OF DISKS -
OURS ARE INDIVIDUALLY
WRAPPED, 100% CERTIFIED AND
GUARANTEED ERROR FREE**



DATA SWITCH BOXES

Our quality switch boxes use only the BEST connections:

1:2 parallel type	£15.95
1:2 serial type	£14.95

High tech. rotary controls

DISK BOXES



Lockable high quality disk boxes at unbeatable prices:

Qty:	1+	3+	6+
40 cap	£4.99	£4.25	£3.99
80 cap	£5.99	£5.25	£4.99

12 capacity library cases...Five for £4.75

DUST COVERS



Amiga and Atari Dust covers. High quality covers protect your Amiga or Atari keyboard

1+	3+	6+
£3.50	£3.25	£2.99

QUALITY COMES FIRST AT UNIVERSAL!

ACCESSORIES



Mouse Mat:	£2.99
Mouse House:	£1.99
3.5" Cleaning Kit:	£2.95
5.25" Cleaning Kit:	£2.95
IBM or AMIGA parallel printer cable:	£7.95
Universal plastic printer stands	£6.95
Extra disk labels (3.5") per 100	£0.95



MONITOR STAND

The monitor stand enables you to swivel your monitor in nearly any direction.

1+ £12.50 - unbeatable

High quality 14" Universal monitor stand takes any monitor from 12" to 16"

WHY BUY DISKS FROM US?

1. All disks meet ANSI standards.
2. We supply shops, PD libraries and educational establishments on a regular basis.
3. If you can find a supplier who sells disks cheaper then we will beat the price. No questions asked.



ALL PRICES INCLUDE VAT AND POSTAGE!!



To order via telephone simply quote credit card number and expiry date
To order via mail make cheque or PO payable to: UNIVERSAL OVERNIGHT DISTRIBUTION LTD



Trade customers, call for spot prices. Bulk buyers - we have great prices.
Overnight courier (get your goods tomorrow!) **£7.99**. Min order value: £10



**WE WISH YOU A MERRY CHRISTMAS
AND A PROSPEROUS NEW YEAR**



the Cheapie Zone for the last year or so. It's not so long ago that Commodore were charging £150 for the official RAM expansion cartridge, and with a straight face into the bargain. Now you can upgrade to a full megabyte of raunchy RAM complete with battery backed-up clock for less than a third the price.

External floppies are also sinking fast, as third-party peripherals manufacturers engage in outright commercial warfare over the pound in your pocket so that these days, you can expect to spend no more than £50 for your second drive.

Either of these essential upgrades is guaranteed to transform your A500, and they are easily the two best buys for any standard A500 owner. They also have the advantage of being the two most readily available pieces of extra kit in the High Street.

Most dealers, and I don't include certain washing machine and Hi-Fi retailers masquerading as computer dealers, will stock these items all year round but if you want the best bargains, look in our ads.

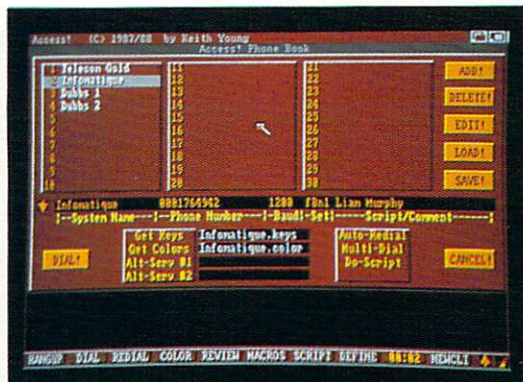
Stocking Fillers

If you're thinking 'fine, but s/he has already got everything from a mouse holder to a laser printer', then don't despair. It is a fact of computerised life for example, that no-one buys decent disk boxes except the sort of people who arrange their toothbrushes in alphabetical order.

Everyone else is too stingy to part with 10 or 20 quid for a lockable disk box when a much cheaper storage space can be utilised, which is why all my disks are missing. It follows that a disk box will suffice if your budget and/or imagination completely desert you.

It would be doubly welcome, of course, if full of blank disks. These elusive creatures hardly ever grace my desktop, and most people buy them ten at a time (some have been known to buy them singly, but they prefer not to admit it - they know who they are).

If you want to splash out a bit more, go for a printer stand which will normally be less than £15. No-one actually owns one of these things and I have never seen one in the flesh. They are useful for elevating your printer above the work



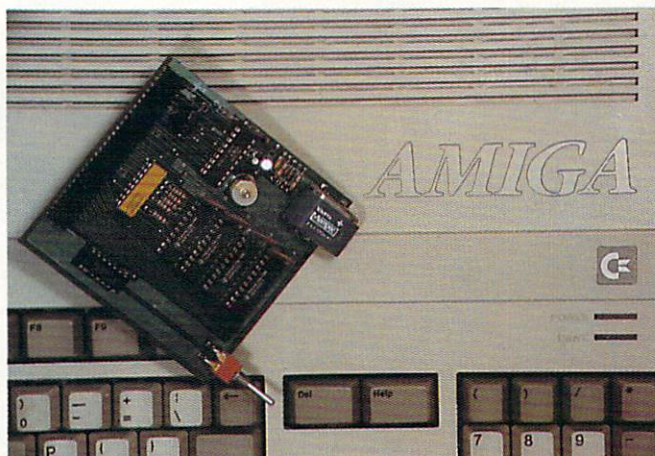
PD music



Joysticks



PD comms



Virtually a necessity these days

surface so that it is easier to lose things under it. A bit more cash will get you a replacement mouse or a tracker ball for between £20 and £45 and, as the internals of most original mice gradually become large indeterminate balls of fuzz and strange water-proof hairs (!), a nice shiny new one is usually very welcome.

£50 to £150:

The Erogenous Zone

How about a "fatter Agnus" for Christmas? No it's not some sort of new creation from Bernard Matthews, it's a splendid piece of silicon which can give your trusty old Amiga a whopping one meg of chip RAM, ideal for any RAM-hungry package such as ray tracing utilities.

For anyone who doesn't yet know, chip RAM differs from fast RAM in that it is the only memory portion which the Amiga's custom chips can access directly, and this is limited to only half a meg with the older Agnus chips (skinny Agnus?).

Do you want to capture the Christmas spirit forever? If so, Vidi-Amiga could be your answer to the Christmas shopping blues.

"Sounds great, what is it?" I hear you cry. Well, it's a reasonably inexpensive video digitiser, retailing at around £80 to £90 depending on the version you require. The end result of spending your cash will be a 16 shade mono screen grab of any domestic video image provided by any VCR with composite video output (that's the output with 'CVBS' written under it at the back of the VCR).

The grabs are all in IFF format and thus can be loaded into, for example, DPaint and completely ruined, er, I mean edited. If you are feeling particularly generous you could also invest in the colour software upgrade (as mentioned in The Cheapie Zone), which uses red, green or blue filters (supplied) with a mono video camera, or takes still colour source if used with an RGB splitter.

Continuing in the video screen grabbing direction, we have the next crimbo classic - or the Rombo RGB splitter. It will take a still colour video signal and extracts red, green and blue for use with Vidichrome or Digiview. This little item will set you back

Review

around £60.

The AMAS sampler and midi interface is the biz here. If you're in the market for a super sexy sampler in your stocking, but you don't want to burn a huge hole in same, AMAS is great. OK, it's not exactly cheap at around £75 but it does give great results.

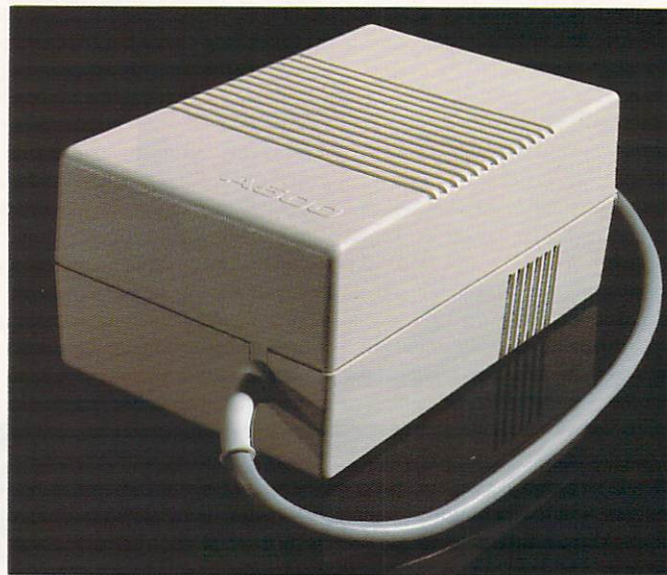
With its many features and options it can produce excellent quality sounds which can be saved in a standard IFF format. Obviously these can then be reloaded and further manipulated, or perhaps used with other music packages.

Music X version 1.1 is one of the most powerful sequencing packages available on the Amiga, and a must for anyone wishing to produce professional standard music via their Amiga.

At approximately £60 it may seem rather expensive when compared to PD music packages, but when some of the features are taken into account it is, to be honest, cheap.

Upgrades

If you are not already the proud owner of lots of MIDI equipment, however, it may be worth looking for something cheaper for the time being (again, all you



Too many add-ons and you'll need a beefier power supply

scrooges are directed to The Cheapie Zone).

If you don't mind splashing out a bit, there are lots of goodies to be stuck onto your Amiga for £150 or less. You can, for example, elevate your beloved Amy to the dizzy heights of 1.5 Meg for only £89.95 if you read our ads carefully enough, and an ADRAM board, populated to 1MB and capable of being gradually upgraded to a chillingly desirable 6MB can be had for

£139.

With one of these babies installed, you need never worry about memory requirements again. Storage-wise, you're still stuck with floppies, as no-one, despite my begging letters, can presently supply hard drives for less than about £300 (alright then £299).

However, if you want the best in floppies, you could have dual 3.5 inch drives with their own power

supply for £110. Alternatively, if you're silly enough to want an Amiga to talk (down its nose...) to a PC, you might look at external 5.25 inch drives, most of which are a bit more expensive than their 3.5 inch cousins at £100 or thereabouts.

In the £100-£150 bracket, there are now dozens of decent quality 9-pin printers to be picked up, although if you don't pay for them first you may find yourself on a shoplifting charge (don't say we didn't warn you).

Star and Citizen printers are the most commonly discounted models, but Panasonic, Mannesman, Olivetti and others can also be found heavily price-chopped for Christmas and all of them give acceptable quality print output.

At the check-out

Well, there you have it, the definitive guide to spending between £50 and £150 on Amiga software and accessories without ever having to leave your seat.

All of the items mentioned can be found in our ads, so just relax, pick up the phone, think of setting fire to a wad of fivers, and start chanting out your credit card number.



Ooh! Wouldn't this be nice?

Vidi



AMIGA 500 MAMMOTH 1/2 MEG UPGRADE

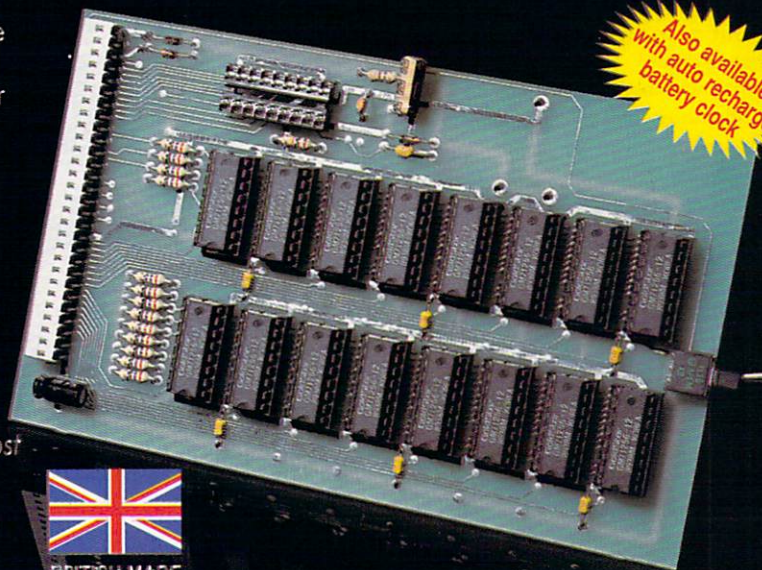
LATEST DESIGN INCORPORATES 'CHIPMEN' OPTION AT NO EXTRA COST!

- Increases computer memory from normal 1/2 megabyte to 1 megabyte
- Includes disable switch/incorporates high quality silver coated pin connector
- 16 bit technology
- Fit in minutes
- Direct replacement of Commodore A501 expansion
- Includes "CHIPMEM OPTION" - Phone for details
- 12 month warranty
- In stock now!

£29.00
Christmas Special

Price includes VAT and post and packing

Tel: 0582 491949



Send order with payment to:

WTS ELECTRONICS LTD, Chaul End Lane, Luton, Beds LU4 8EZ

PROMPT DELIVERY
85a MANSFIELD RD,
DAYBROOK,
NOTTINGHAM,
NG5 6BH

COMPUTER LAB

24 HOUR ORDERLINE

TELEPHONE: NOTTM.
(0602) 673674/673672

HARDWARE

AMIGA PACKS

INC. MODULATOR/WORKBENCH
THE VERY FIRST/ EXTRAS/BASIC.

SCREEN GEMS PACK	£349.00
CLASS OF THE 90's PACK	£499.00
FIRST STEPS PACK	£499.00
AMIGA 2000 Please ring for best prices	
AMIGA 3000 Please ring for best prices	

SEGA MEGADRIVE

MEGADRIVE £149.00
SOFTWARE ALL AT DISCOUNTED
PRICES, PLEASE RING FOR DETAILS.

PRINTERS

STAR LC10	£156.00
STAR LC24-10	£235.00
COMMODORE MPS1230	£140.00

MONITORS

ATARI SM124 HIGH RES MONITOR	£140.00
PHILIPS 8833 STEREO MONITOR	£249.00
STAR LC200	£215.00

NEO GEO

Please ring for Best discounts on Hardware
and Software - the very best games machines
in the world today!

SOFTWARE

We carry an extensive range of software for all
machines, all at discounted prices - at least
25% off RRP, for example

	RRP	Our Price
BADLANDS	£24.99	£18.50
CADAVAR	£24.99	£18.50
EUROPEAN SUPER LEAGUE	£19.99	£15.50
F19 STEALTH FIGHTER	£29.95	£22.95
GREMLINS II	£24.99	£18.50
INDIE 500	£24.99	£18.50
LOTUS TURBO ESPRIT	£24.99	£18.50
NEW YORK WARRIORS	£19.99	£15.50
NIGHT BREED	£24.99	£18.50
PARADROID 90	£24.99	£18.50
SPY WHO LOVED ME	£19.99	£15.50
VOODOO NIGHTMARE	£24.99	£18.50

ORDER BY PHONE

(0602) 673674/673672

Delivery - Please add £6.50 courier
delivery for orders over £100 Add
£2.00 p&p for orders under £100

Order by Fax
Order by cheque made payable to
Computerlab
ALL PRICES INCLUDE V.A.T.

PUBLIC DOMAIN DISKS

We have an extensive range of public domain and Shareware programs.
Please ring for details of our Amiga and ST libraries.

SEVEN DISK SPECIALS ONLY £10.95

AMIGA DEMOS PACK 4 - All of the best latest demos. Pack changes
all the time but never has same demos twice.

AMIGA BUSINESS PACK - Spreadsheet, Wordprocessor, Database,
Journal, N.A.G., Inventory.

AMIGA UTILITY PACK 2 - Virus killers, Copiers, Disk Managers,
Rippers, Boot copier PLUS Loads more!

AMIGA PROGRAMMERS PACK - C Compilers, Assemblers, Source
Codes, Pascal, LISP, C Manual etc.

BLANK DISKS

3.5" QUALITY DISKS £12.00 FOR 30*

*FULLY GUARANTEED DSDD 100% CERTIFIED

PERIPHERALS

AMIGA HALF MEG UPGRADES	£30.00
AMIGA SECOND DRIVE	£65.00
NAKSHA MOUSE	£33.50
LINNET MODEM	£145.00
LINNET 1200 MODEM	£212.00
A590 20Mb HARD DRIVE	£365.00
HARDWARE VIRUS PROTECTOR	£14.95
Please enquire for the latest prices on RAM upgrades for the A590	

MUSIC PROGRAMS

	RRP	Our Price
MUSIC X 1.1	£149.95	£110.00
MUSIC X JUNIOR	£79.99	£63.50
PRO 24		Please Enquire
KCS 3.0/DR.T	£299.00	Please Enquire
MASTER TRACKS PRO	£289.00	Please Enquire
TFMX	£44.95	£39.50

A late night had turned into an early morning, and the cold light of day shone through the smoke filled office window. "The copy's late" said the new temp as he dropped the mail onto Sam Spillane's desk. "Tell me something I don't know."

Sam grunted. A blank page and an overdue deadline were all he had to show for a night's work. There was nothing to look forward to but a whisky breakfast and another smoke.

This man needed help, and as he thumbed through the mail it appeared: Protex V5. The story continues, the culmination of Protex's five year mission to save the written word. Could it save Sam, could it save you, (will we make it to a review? - Ed) we shall see...

Those familiar with Protex in its many forms will no doubt find me wandering over old ground, but hang in there, because even the old hacks may be in for some surprises with this, the latest version.

All versions are compatible, so experienced Protex users shouldn't be in for any unpleasant surprises. All the keyboard shortcuts are still here, making production as fast as ever and even with the new features, the program seems to run as smoothly as its predecessors (touch typists shouldn't find themselves blasting away on the keys leaving the processor struggling to keep up...).

With this in mind, it may be worth while for owners of earlier versions to upgrade to Protex V5. All you would-be writers out there will no doubt want a run down of the features available on Protex - a daunting prospect. The best way to do this is to flick through the advertiser's index and find this month's Arnor advertisement. This should provide all the information required.

It may seem something of a cheat, but it means I can devote more detail to the features, and the various advantages and indeed, disadvantages of Protex.

One of the main drawbacks of the old Protex was the rather rigid operating system, which in certain circumstances required the use of the command line section of the program.

All the beginners out there are probably thinking, "God, he means CLI". In the past, that may have been the case, but no more! Protex V5 has a full complement of pull-down windows and

Protex V5

Paul Austin dons the hack's traditional garb of trench coat and trilby to take a new look at an old friend...

dialogue boxes which in version 5 cover all the options available. My personal favourite is the help window which, in these days of software house paranoia concerning their products, is refreshingly detailed, and indeed useful.

Most options can be activated by keyboard short cuts so there's no need for the hacks among you to reach for a rodent.

The Amiga version of Protex still doesn't support graphics other than simple IBM boxes. To be fair, the program has never been aimed at the DTP market. Those of you wishing to dabble in that area may do well to look elsewhere, possibly ProWrite or Pen Pal. If however, you need pure power and speed, Protex is difficult to

beat. Arnor's little gem is aimed directly at the professional user rather than someone who needs pretty pictures.

If you're writing a lot of text regularly or perhaps require options such as mail-merging or multiple file handling, Protex is great. The new version provides block marking which is simply a matter of dragging the mouse from A to B.

Auto-formatting

When it comes to the handling of pure text, it's very difficult to think of a problem which Protex can't handle. In short, a small business would find it ideal, possibly used in conjunction with Prodata the Protex-compatible Database.

Automatic page numbering,

multiple line headers and footers with odd and even printing are an author's dream, making the production of a book manuscript with a really professional look a simple 'task apart from writing it of course'. A new timed save feature auto-saves files, reducing the chances of any unforeseen disasters.

With business in mind, it's worth mentioning Protex's contribution to 1992 and the opening up of Eastern Europe. To accommodate this corking event, Arnor has incorporated 27 different languages plus 10 different keyboard layouts and 13 separate accents can be allocated to any character. A German dictionary is already available, with others to follow.

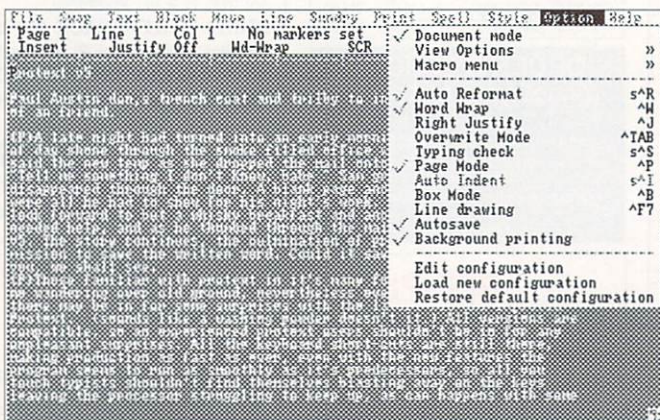
Improved printer options, multi-proportional fonts, mixing different font sizes on the same line, formatting while editing, side margins, centre tabs and a massive range of printer drivers - am I getting through to you? Protex is positively dripping with features.

But wait, there's more:- Multiple file handling, up to 36 files open at one time, split screen editing and variable window sizes while editing documents. The split screen option makes exchanging blocks of text between files simple.

Index and contents generation is a breeze. The indexer takes marked words or phrases and wraps them in printer control codes enabling them to be reproduced in various styles. There's also a new and considerably larger Collins dictionary (110,000 words+). Perhaps one of the greatest improvements however, comes in the form of a very fast phonetic look-up, which is very impressive. The previous version's pattern recognition was dreadful. In version V5 it's splendid. If, like myself, spelling is not your strong point, the spell checker is a god-send.

There are many subtle additions which generally enhance the package including adding a row, or column of figures, find word at cursor, 40 column mode support, inter-paragraph spacing, newspaper style column printing and probably some others I've missed.

Protex V5 is in fact three programs in one, Protex itself, Config, and Fsort. Both Config and Fsort can be loaded while in Protex and with Config, it's



The new improved printer options take some of the pain out of printing

possible to set all the parameters relevant to the program. Using Config, separate configurations can be saved and loaded, making it possible to load specific document styles direct from disk. No more setting tabs and margins, just load in the required configuration and it's all done for you.

Fsort is a file sorting utility with special options for names and addresses. A revised manual and tutorial have been produced to accompany the new version and both make use of the program very straight forward.

One drawback with Protex is that at least 1Mb is required to use it. An extra drive is also a good idea. With Protex retailing at approximately £150, it may seem a little expensive to a beginner, but it's worth remembering that it's unlikely you will ever need to upgrade.

And in the red corner...

Those looking for comparisons could take a peek at Word Perfect by Sentinel. The program's a firm favourite on the PC, and in the business community in general. It also runs in 512K and features a thesaurus.

Excellence is the second alternative in the serious user market, and is possibly Protex's biggest rival. It really is the ultimate system with full DTP support, fast spell check and thesaurus and even a grammar checker. If you're a professional journalist who needs all these features, this could be it, but the program isn't cheap.

If you're a beginner or perhaps an occasional writer, it may be worth while looking at the cheaper end of the market. If, however, you need speed, power and lots of options when handling text, Protex is unbeatable and a firm favourite with many an old hack.

Read the Amnor advertising, and you'll no doubt come across the usual extravagant quotes, such as: "I would rather drink a pint of ear wax than use another word processor" - Mr Fictitious. The truth is if you need a professional word processor to handle large amounts of text for what ever reason, Protex is perfect.

Protex V5

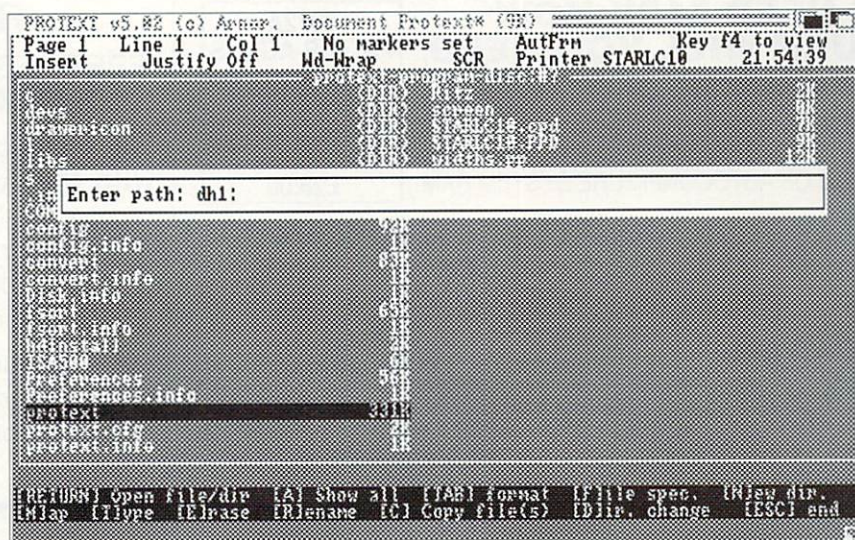
£149.99

Amnor Ltd.

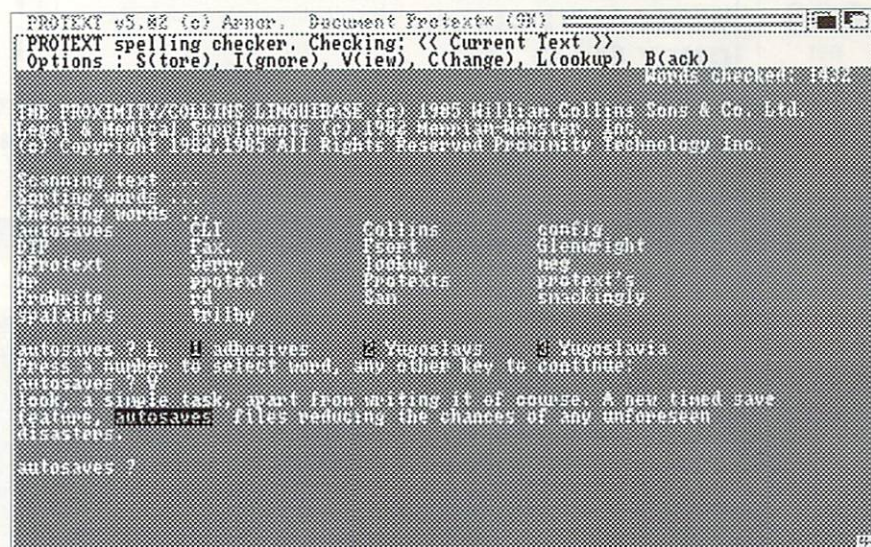
661 Lincoln rd Peterborough PE1 3HA

Tel.0733 368909

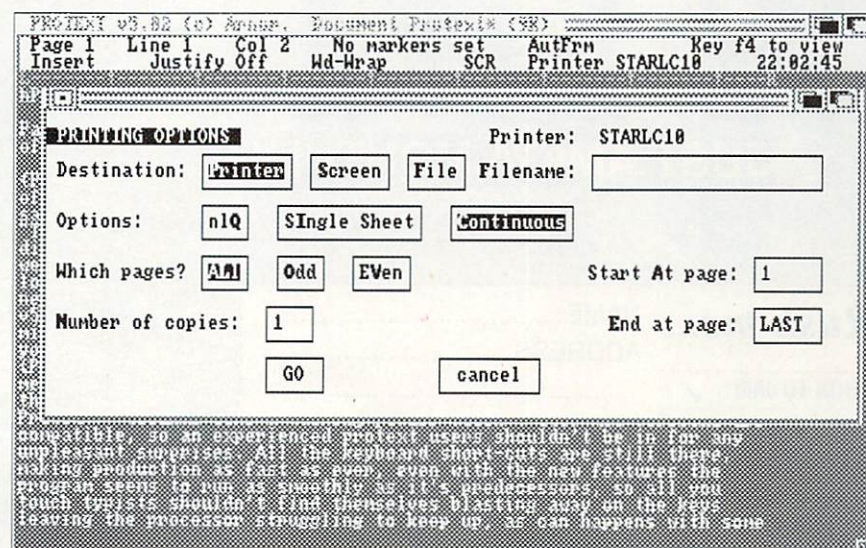
Fax.0733367299



The file requester supplies you with all the options at a single stroke



Pull down menus bigger and better than ever



Blocks now can be defined with a simple drag of the good old rodent



0530 411485

ASHCOM



0530 411485

YOU NEED 512K NOW HOW MUCH WILL YOU NEED TOMORROW?

THE NEW ASHCOM RAM EXPANSION IS EXPANDABLE
TO **1.8Mb**
GIVING YOU 2.3Mb OF AUTOCONFIGURE SYSTEM RAM

FEATURES:

- ★ Real Time clock/calendar with high capacity Nicad battery backup
 - ★ Memory disable switch
 - ★ Low power consumption
 - ★ Buffered Data Bus (Essential for high capacity Ram boards)
 - ★ Plugs in as A501 NO SOLDERING!!!
 - ★ 12 Months warranty
 - ★ Configures to 1 Mb chip ram when FATTER AGNUS is enabled
 - ★ Works with 1.2 and 1.3 kick start
- All prices include VAT and delivery.*

8372A
FATTER AGNUS
£59.00

1.3 KICKSTART
ROM
£28.00

ONLY £59.95 for 512K version.
Expander Board £15.95.
Expanded to 1Mb £99.95
Expanded to 1.5Mb £128.95
Fully expanded to 1.8Mb only £154.95

ASHCOM 512K RAM EXPANSION WITH REAL
TIME CLOCK/CALENDAR AND DISABLE SWITCH
ONLY £39.50
 WITHOUT CLOCK **£34.50**
 Gives 1Mb chip RAM with Fatter Agnus

Rams

only
£30
 per
 512K

NEW NEW NEW NEW NEW NEW NEW

**BOOT SELECTOR
WITH ANTI CLICK
ONLY £19.95**

Selects DFO or DFI as boot drive and
eliminates that annoying click when
drive is empty.
Easy to fit - just plug in!!

READ THIS

FREE REGISTRATION WITH THE ASHCOM USER CLUB

Fill in the coupon below to register
with the Ashcom User Club and
receive exclusive information on new
Ashcom products. With each free
mailshot you will receive a massive
10% discount voucher.

10% discount off any order received
with registration. No more endless
sifting through adverts for a good
deal.

Name _____

Address _____

Postcode _____

No obligation to order when registering

Only from ASHCOM, 10 The Green, Ashby-De-La-Zouch, Leicestershire, LE6 5JU
Telephone: (0530) 411485 Fax: (0530) 414433

MON-FRI
9.30-5.30
SAT 9.30-4.00

JAM

JUST AMIGA MONTHLY

75 Greatfields Drive, Uxbridge, UB8 3QN
Tel: 0895 74449

Whether you've just bought your Amiga or
whether you're already in training for Guru
status, we're sure you'll find **JAM** magazine an
informative, entertaining and honest read.

The articles, tutorials, reviews and commentaries
in **JAM** are written by your peers - Amiga users
with an almost fanatical interest in the machine.
And it's also a forum where you can have your
own say - a place to get it off your chest, pass on
something you've learned, find out what other
users think of *your* ideas.

JAM is typeset, laid-out and produced on an
Amiga 500 and an Amiga B2000 - living proof
that the Amiga is ideally suited to serious pursuits
other than playing games. **JAM** concentrates on
the applications and programming side of the
machine, never afraid to go in-depth when the
occasion calls for it.

It's a magazine written by Amiga users, for
Amiga users.

The subscription rate for **Just Amiga Monthly**
is only £19.95 (Europe £29.95) for a years supply
- that's less than 40 pence per week.

But don't take our word for how good it is, drop
us an order form plus a cheque or postal order for
£1.50 (Europe £2.25) and we'll send you an
introductory issue to check out. Naturally, there's
no obligation to subscribe, but we know you'll be
back for more!

Yes! Rush me...

NAME.....
 ADDRESS.....

POSTCODE.....
 PHONE.....

*Please post this order form (or a copy of it)
plus your cheque or postal order made out
to JAM to: Just Amiga Monthly (AC),
75 Greatfields Drive, Uxbridge, UB8 3QN*

SUBSCRIPTION TO JAM

UK £19.95

Europe £29.95

Overseas £49.95

SINGLE ISSUE OF JAM

UK £1.50

Europe £2.25

Public Domain

Stewart C Russell gets it free, gratis and for nuthin'

NEWS

● **Freely Redistributable C Update**
Two completely new C compilers landed on my desk, along with two new versions of NorthC. All of these compilers have the potential for producing good code at low cost.

Let's start with NorthC. Version 1.0 did not impress me one bit. It was slow, lumpy, and unreliable. This must have been the symptoms of 'Version 1.0 Syndrome' (an affliction of first release software, which passes after V1.01) because V1.1 is quite neat.

But that's history now, because V1.2 is neater still. NorthC is essentially a port of Sozobon's C for the Atari ST. Steve Hawtin and a few others have been busily fixing bugs and implementing new features. It now has good, fast console I/O, and produces fast, if rather large, executables.

Amiganuts now handles the distribution, and Ray has put it on two disks, with none of the mammoth archiving to be found in the Fish collection. It's also Charityware, Steve wants you to send £15 to a national spastics society.

● For those of you who dig archives in a big way, Fish Disk 351 has three of them. They contain PDC V3.33, the 'Publicly Distributable C' compiler. This has very tenuous links with the ancient curiosity known as PDC, as it has some very advanced features indeed.

Notable support is for most of the features of ANSI C. This variant of the language is touted as the ultimate portable compiler, and a solution to the old problem of compatibility between machines. It also supports precompiled header files, speeding up the software development cycle no end.

The authors of PDC, Lionel Hummel and Paul Petersen, have done a lot of good work here, and

ask for a paltry \$10 appreciation. You'll still need the Commodore Amiga Include files (as you will with NorthC) but it's an extremely neat system.

● Right. I can now reveal the glad tidings. \$40 (plus a bit more for overseas postage) will buy you the registration to Matthew Dillon's latest and greatest venture. It's called DICE - Dillon's Integrated C Environment.

Matthew's a fully paid up developer, which allows him to include the Commodore Library and Include files with his new compiler system. That means if you register you get absolutely everything you need, software-wise, to write proper C programs on the Amiga. I knew you'd be impressed.

The system is built for speed, as everything can be made resident if you have the memory. The editor, DME, is fast, efficient, and what I use for everyday writing. DCC, the compiler front-end, controls the rest of the package. First it calls the DCpp preprocessor to sort out macros. Most of the work is done by DC1, the compiler, which does huge scale optimisations for both speed and code size, and outputs assembly language source to the tiny assembler Das. The last link is DLink, which glues together the libraries and object files into an executable image.

In its initial release form on Fish Disk 359, DICE had no support for floating point, and had little in the way of ANSI features. Via the wonders of MicroLink's Internet service, I heard from Matthew that floating point and 68020/030/881/882 are now supported, most bugs have been crushed, and that more ANSI features have been implemented. This will be the last distribution to the public.



3rd Day grab

3rd Day Graphics Ripper

How many times have you seen some graphics and lusted after them? Fine, with Workbench running and a few simple tools, you can have an IFF image within seconds. But what happens if the graphics were from a game, or something else that doesn't use AmigaDos? You'd be stuck - if intuition doesn't know about a screen, then you can't save it.

But consider this - there's at least half a megabyte of chip RAM on every Amiga, and the chances

are that it won't get cleared out every time the machine is reset. So, somewhere deep in the heart of the chipmem, lurk the graphics you desire.

The 3rd Day Graphics Ripper (catchy name, huh?) allows you to wander through this memory, looking at interesting bits. There's nothing new about this, but 3rd Day is clever. It knows what to look for - if there's a valid Copper List, it will be interpreted as such.

Every screen that appears on your Amiga has a Copper List. This is a program for the graphics co-processor which tells it exactly how to display a screen. So if you can find this 'program' you're most of the way to finding the whole screen.

Usually, finding a possible Copper List results in a random mess of harmless pixels. Sometimes you get exactly the screen you're looking for. 3rd Day is extremely powerful, it found the screen of an ST Emulator I'd been playing with first time.

The colours might be a bit off, but there's a helpful option to search for colour data. Colours aren't that important, because



NorthC - see News

Richard & Angela Howe, Applied Research Kernel
Corvo Farmhouse, Corvo Lane, Chale Green, Venlor, PO38 2LA, U.K.

Visitors are most welcome by appointment
Post: UK 20 (1st Recorded), Special Delivery £2.99 (call before 12am), Securicor £6.90 (call before 12am).
Registered Air Mail to Europe £5/Item, World £12/Item. Please call about carriage on heavy items.
VAT: Prices include U.K. V.A.T. at 15% except for books. Books are zero rated.
CHEQUES: London Sterling Payable to A.R.K. please. High value ordinary cheques may require clearance.
EXPORT & 3FPU: Remove U.K. V.A.T. (+Price/1.15) except on books which are zero rated.
AVAILABILITY: Most items listed are in stock. Others can usually be obtained within 48 hours.
DESPATCH: Within 24 hours on stock items, 48 hours on non-stock but available items.
PRICES: May occasionally be subject to change.

ACCOUNTS

Arena Int. Accounts 1MB	119.83
Cashbook Combination	49.91
Cashbook Controller	36.80
Desk Top Budget	34.96
EasyLadders	149.96
Home Accounts	23.92
Personal Tax Planner	34.96
Personal Finance Manager	227.63
Service Industry Accounts	299.92
Small Business Acc. Xtra	79.81
System 3	39.79

BOOKS

1st Book of Amiga	16.95
2nd Book of Amiga	16.95
80000 Asm Lan Programming	19.95
80000 Assembly Language	24.95
Amiga 3D Gfx Prog In Basic	18.45
Amiga Adv Sys Prog Guide	32.95
Amiga Asm Lan Programming	14.95
Amiga Basic Inside & Out	18.95
Amiga C For Beginners	18.45
Amiga C For Adv Progers	32.95
Amiga Desktop Video Guide	18.45
Amiga Disk Drives In & Out	27.95
Amiga For Beginners	12.95
Amiga Graphics In & Out	32.45
Amiga Machine Language	21.95
Amiga Progra Handbook Vol 1	24.95
Amiga System Progers Guide	32.95
Amiga Tricks And Tips	14.95
AmigaDOS Reference Guide	14.95
AmigaDOS Quick Ref Guide	8.95
AmigaDOS Inside & Out	18.45
Elementary Amiga Basic	14.95
Hardware Reference Manual	21.95
Incs & Docs; ROM Kernel M1	28.95
Inside Amiga Graphics	16.95
Kickstart Guide To Amiga	14.95
Kids And The Amiga	14.95
Learning C Programming Gfx	16.95
Libs & Devs; ROM Kernel M1	29.95
Mapping the Amiga	22.95
More Tricks And Tips	18.45
Programmers Guide To Amiga	23.95
Programming The 68000	21.95
The Amiga Handbook	24.95

CABLES P=Plug S=Socket

Cross Over Box, D25S	35.88
D23S-D15P NEC MSync 2A/3D	14.95
D23S-D9P NEC MultiSyncOld	13.80
D23S-OpenEnd Monitor	10.81
D23S-Scart Monitor CM8833	13.80
D23S-D9P/2P/2P (CM8833/2)	13.80
D25P-D25P 9Wire 2M Modem	10.81
D25P-C36P 2Metre Printer	6.90
D25P-C36P 3Metre Printer	11.96
D25P-C36P 5Metre Printer	14.95
D25P/D25P 25Wire 2Metre	12.88
D25P/D25P 25Wire 5Metre	21.85
D25P/D25S-D25P/D25S 2M 25W	23.92
DIN5P-DIN5P MIDI Cable	4.83
Gender Changer; D25P	7.82
Gender Changer; D25S	7.82
Null Modem Cable	10.81
Plug 23 Pin D With Hood	4.83
Plug 25 Pin D With Hood	2.99
RS232 Mini Tester	12.88
RS232 Null Modem	8.97
RS232 Patch Box	12.88
Socket 25 Pin D With Hood	2.99
Socket 23 Pin D With Hood	4.83
Switch Box C36S 4 Way	39.79
Switch Box D25S 2 Way	24.84
Switch Box D25S 4 Way	36.80

COMMUNICATIONS

A Talk 3	69.92
K Comm 2	24.84
Paragon BBS 1MB	109.94

COMPUTER AIDED DESIGN

BoardMaster PCB Design 1MB	79.81
Design 3D 1MB	57.96
Professional Draw 2 1MB	99.82
X Cad Designer 1MB	79.81
X Cad Professional 2MB	339.94
X Cad 3D Professional 3MB	689.77

DUST COVERS

Amiga 1084/1084S/8833 Mons	8.97
Amiga 500 Computer	7.82
Citizen 1200 Printer	9.89
Epson LX80/86 Printer	9.89
Panasonic KXP1124	9.89
Star LC24/10 Printer	9.89
Star LC10 Printer	9.89
Custom Cover Medium Size	19.78

DATABASE MANAGERS

InfoFile	44.85
Mailshot Plus	37.95
Micro Base	19.78
Microfiche Filter	59.80
Prodata	54.97
Superbase Personal	34.96
Superbase Professional	164.91
Superbase Personal 2	59.80

DESKTOP PUBLISHING

Clip Art PD	14.95
E Clips Structured Clips	69.92
Gold Disk Type; Decorative	32.89
Gold Disk Type; Video	32.89
Gold Disk Type; Publisher	32.89
Gold Disk Type; Designer	32.89
Outline Fonts	99.82
Pagesetter 2	49.91
Pagestream 2	139.84
Professional Page 2	149.96
Structured Clip Art	36.80

DUST COVERS

Amiga 1084/1084S/8833 Mons	8.97
Amiga 500	7.82
Citizen 1200 Printer	9.89
Custom Cover Medium Size	19.78
Epson LX80/86 Printer	9.89
Panasonic KXP1124	9.89
Star LC24/10 Printer	9.89
Star LC10 Printer	9.89

EDUCATION

Distant Suns	49.91
Fun School 2 (Various)	15.87
Mega Maths A Level	23.92
Micro English	23.92
Micro French	23.92
Micro Maths	23.92
My Paint	19.78
Primary Maths Course	23.92

EDITORS

CygnusEd Professional 2	59.80
-------------------------	-------

GRAPHICS (Also See Video)

3D Professional	289.80
Animagic Editor/Effects	59.80



TEL: 0983 79496



Switchable voice/fax line open between 10.00am and 7.00pm Monday to Saturday

Animation Studio (PAL)	99.82
Comic Setter Publisher	39.79
Deluxe Print 2 Poster Gfx	39.79
Deluxe Print 3	57.96
Deluxe Video 3 Edit/Seamr	74.98
Digi Paint 3 (HAM Paint)	52.90
Fantastical Animation	34.96
Impact Business Graphics	49.91
Piximate Image System	39.79
Real 3D Ray Tracing	99.82
Real 3D Professional	279.91
Real 3D Turbo (60020+)	349.83
Sculpt 3D XL Ray Tracing	99.82
Sculpt Animate 4D	329.82
Sculpt Animate 4D Junior	84.87
The Director Editor/Sagncr	47.84
Video Titler	84.87

HARDWARE

1.3 Kickstart ROM	29.90
45MB A500 HD 4MB Sckts OK	289.80
A Max Mac Emulator No ROMs	109.94
Amiga 500 512K RAM	359.95
Amiga 500 1MB RAM	399.97
Amiga 500 Screen Gems	369.84
Amiga 1500 1MB 2 Drives	599.94
Amiga 1500 Inc Monitor	1049.95
Amiga 3000 16MHz/40MB	1999.85
Amstrad FAX 9600AT NEW	639.86
A590 20MB Hard Disk Drive	289.80
A590 With 2MB RAM	379.96
Citizen 124D	249.78
Citizen Swift 9	239.89
Citizen Swift 24	329.82
Sharp JX100 Scanner	619.85
Star LC200 Colour	229.77
Star LC24/200 Colour	299.92
Star Laserprinter 8/2	1380.00
Disk Drive 5.25" External	129.95
Disk Drive 3.5" Int A2000	54.97
Disk Drive 3.5" External	64.86
Fatter Agnus	64.86
MAC 2 DOS File Transfer	79.81
Naksha Mouse	34.96
Podscat 12x12 Inch GfxTab	199.87
Printer Epson Emulator	34.96
RAM A500 512K Clock/Switch	39.79
RAM Chip 256K CMOS (A590)	6.90
Z88 To Amiga Link	34.96

PACKAGES

Appetizer (Gold Disk)	29.90
Gold Disc Offer 1MB	109.94
Graphics Starter Kit	54.97
Home Office Kit 1MB	99.82
Publishers Choice 1MB	68.77
Starter Kit	59.80
The Works	69.92
The Works Platinum 1MB	99.82

PROGRAMMING

Amos Basic	36.80
Benchmark Modula 2	136.85
Devpac 2 Assembler	42.78
GFA Basic Compiler	24.84
GFA Basic Interpreter	39.79
Hisoft Basic Compiler	56.81
Hisoft Extend	17.94
Lattice C 5.1 Compiler	164.91
Pascal Compiler (PD Disk)	2.99

RIBBONS & TONER

CBM MPS 1230 (6)	23.46
CBM MPS 1500 (6)	28.98
CBM MPS 1500 Colour (3)	35.88
Citizen 1200 (MPS1200) (6)	19.32
Citizen Swift 24 (6)	31.74
Epson LX80 (6)	16.56
Epson RX/FX/MX 80 (6)	17.94
HP LaserJet 2 Toner Cart	79.81
Panasonic 1174 (6)	26.22
Star LC10 (6)	23.46
Star LC10 Colour (4)	26.68
Star LC24/10 (6)	24.84

SOUND

A.M.A.S. Stereo Sampler	74.98
Deluxe Music Composer	52.90
MasterSound Mono Sampler	34.96
MIDI Master Interface	34.96
MIDI Plug Interface	19.78
Music X 1.1 Sequencer	109.94
Music X Junior Sequencer	64.86
Quartet Composer	44.85
Sonix 2 Composer	54.97
Sound Trap 3 Mono Sampler	29.90
Tiger Cub Composer 1MB	59.80

SPREADSHEETS

Advantage 65000x65000 1MB	74.98
DGCalc 512x52	29.90
Superplan 2048x1024 1MB	59.80

UTILITIES

Amikit For Beginners	29.90
ARext Macro Interpreter	32.89
Award Maker Plus	34.96
B.A.D. Disk Optimiser	32.89
BBC Emulator	34.96
Byte & Back HD Backup	19.78
Cross DOS File Transfer	28.98
Directory Utility/Enhancer	34.96
Doctor Ami Disk Analysis	39.79
DOS 2 DOS File Transfer	29.90
Maxis Beacon Typing	24.84
Virux Infection Protection	34.96
Your Family Tree 2 1MB	64.86
X Copy & Cyclone	27.83
X Copy Professional	37.95

VIDEO (Also See GRAPHICS)

Digi View Gold 4 1MB	109.94
Hitachi Camera & 16mm Lens	199.87
Minigen Genlock	99.82
Vidi Amiga PAL 1MB	94.99

WORDPROCESSORS

Excellence 2 1MB	129.95
Kindwords 2 1MB	34.96
Microtext	19.78
PenPal 1MB	99.82
Protext 5 1MB	99.82
Scribble Platinum	41.86
Tranwrite	169.97
Wordperfect	169.97

December catalogue
and second hand list
now available...
Please send a
stamped addressed
A5 size envelope.

X-COPY PROFESSIONAL

X-COPY PROFESSIONAL is the essential program that every Amiga owner should have. X-COPY PRO is the most comprehensive back-up system. No other program offers more!! X-COPY PRO includes floppy disc back-up, hard disc back-up and full file copying facilities.

OTHER FEATURES:-

- ALSO BACKS UP ST & IBM DISCS
- CHECKS DISCS FOR ERRORS
- OPTIMISES DATA FOR FASTER LOADING
- FAST FORMATTING
- COPIES UP TO 4 DISCS IN 48 SECONDS
- VERY EASY TO USE

X-COPY PRO IS THE BEST GUARANTEED

At the time of purchase, if you can find a more powerful copier than X-COPY PRO, we will refund your money. Can any other system offer such a guarantee?

X-COPY PROFESSIONAL IS AVAILABLE NOW ONLY £39.99 + £1.00 postage and packing

ORDERING X-COPY PROFESSIONAL

ACCESS/VISA orders can be placed by telephoning 061 228 1831. For mail order, fill in the order form and send with a cheque or postal order made payable to SIREN SOFTWARE to Siren Software, 84-86 Princess Street, Manchester M1 6NG, ENGLAND. Telephone: 061 228 1831.

NAME.....

ADDRESS.....

you can always restore them with a paint package.

If you're unlucky, 3rd Day won't be able to build the screen automatically. Manual mode requires a little technical knowledge and a lot of patience. Bitplanes have to be found singly, and then stuck together in the right order – tedious!

For a program that works outside the constraints of Intuition (that means it's a hack), 3rd Day has good documentation. It takes the form of a scrolling demo with a SoundTracker tune. It may have the odd rude word in it, but it's fairly helpful and very original. Find it on UGA Utilities Disk 9.

The Amiga Coders' Club

There's a lot of people trying to learn how to program in assembly language out there. It's not difficult – after all, if a small inanimate bit of plastic can understand it, anyone who knows A from E on a keyboard should be able to comprehend it too.

The difficult bit about assembly language is getting the right attitude. And there's no better way of doing this than just messing about with some source code, seeing what happens if you change something, and then wondering why it bombed out. Or pondering quite what the subroutine called by 'JSR Format_HardDisk' does.

Getting source code is quite difficult. There's usually some on our coverdisks, but there's little to be had wandering about the entire source of a demo to see how it works. But where does this code come from?

The Amiga Coders' Club (ACC) aims to provide that service. Several of its contributors are well known demo writers, who have supplied commented source code for the benefit of humankind.

It's pretty much a club rule that all source code has to be DevPac2 compatible, which is a great idea since it's about the friendliest development system you can get. Most of the code is demo orientated, but occasionally you'll find a bit that works with the operating system intact.

Utility routines like SoundTracker players are also available, but as these are specifically built for speed, they're not built to be understood. However, I see just

CRobots

I've been playing with far too many C compilers this month. Usually this has to be remedied by a few rounds of something simple and stupid like Amoeba Invaders, but this time I'm fighting C with C.

CRobots is a game of fighting C programs. The game doesn't involve bashing two structs together to see which cracks first, but rather pitting robots against one another to see which one survives the longest.

How long your robot survives depends on how good a program you wrote to control it.

Unlike most games, the strategy of CRobots is played out before the final contest, which involves dumping the robots in the playing grid and leaving them to it.

First, write your C program. The compiler supports integer mathematics, and has only the most basic functions built in.

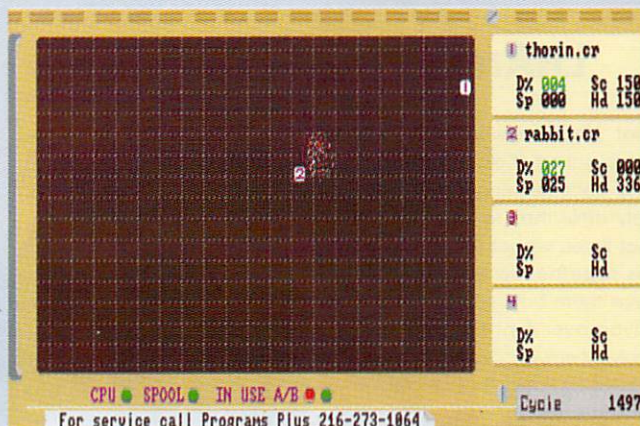
As it's really an interpreter, it won't crash the machine if you run a faulty program. In that respect, CRobots may just teach

you the basics of C. There are seven functions available to move your robot, fire its cannon, scan for enemies, check damage and locate itself.

For faster operation, robots can be precompiled, and saved as executable programs for the CRobots Virtual Interpreter, which runs at 0.000309 mips! These programs won't run on your Amiga without CRobots. Pre-compilation makes for quick games, and stops opponents peeking at your code.

CRobots will probably appeal most to programmers (especially those who think they can write the 'best' programs), computer game enthusiasts, people wishing to learn the C language, and those who are interested in compiler design and virtual computer interpreters.

The program is also lots of fun for those of you who just want to see two robots knock the living daylight out of one another. CRobots V2.3w is on Fish Disk 345.



Robotic mayhem in the form of C-encoded metal funsters

one tiny problem with ACC. Anders Bjerin has been running the Amiga C Club (also ACC) for quite some time now. The two clubs will get confused, even though they're very different.

ACC disks are produced periodically, and distribution is now handled by Ray Burt-Frost of Amiganuts UK. Amiganuts disk ACC1 contains a selection of old ACC articles, and makes good browsing – well worth a look. Anyway, it's \$4E75 for now...

Mathemusical AlgoRhythms

Everyone knows that the Amiga is the best music tool in the business. Until now though, only a few people have actually used them to write music. So, say the smug types, exactly what are all those people with Music-X doing?

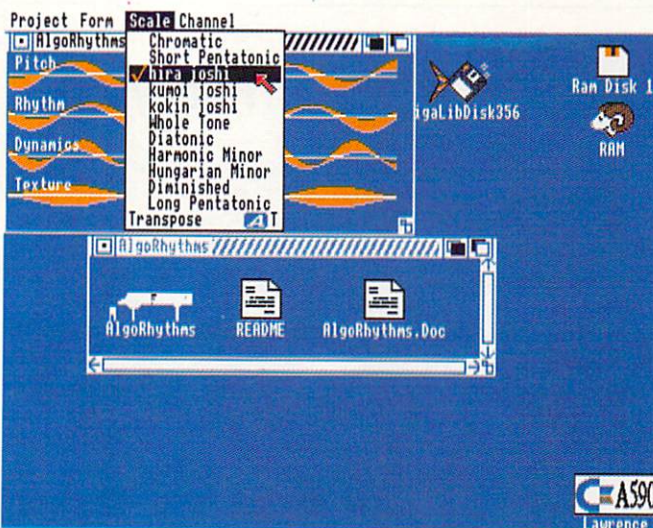
They're only using the computer to get a tune out of their heads and into the air.

AlgoRhythms uses the Amiga to write music itself. Algorithmic composition has been around for many years now, usually beyond the realm of popular appreciation. Professional music packages sometimes use composition algorithms to develop melodic fragments as an aid to improvisation.

In AlgoRhythms, the computer chooses the pitches, durations, and dynamics played to a MIDI channel. The shape of the composition is determined by the user – how the pitches, durations, and dynamics slowly change with time while the music plays.

AlgoRhythms plays music in real time while it makes choices of pitches, durations, and dynamics, and can run virtually indefinitely. The music created is different to anything you've ever heard, yet often manages to be pleasant despite its curious form.

The author of AlgoRhythms, Thomas E. Janzen, has been composing using algorithmic methods for many years. Originally, this meant transposing lists of numbers by hand from a batch-job printout, but with the wonders of MIDI the



Algorhythms – feed in some good vibes and away you go

process has been automated.

The program is presented as an introduction to algorithmic composition, and includes excellent documentation. You should have guessed by now that you need MIDI equipment to use *AlgoRhythms*. You can have up to 16 channels outputting at once for mellow soundwash experiences, right down to a single channel for startling minimalism. Look on Fish Disk 356 for *AlgoRhythms*. It can be beautiful.

LHArca

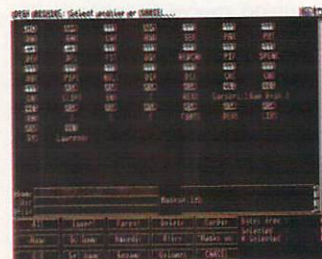
What happens when your disks start to get full of old files that suddenly become important immediately after they're deleted? Or what if you've got to keep some files together so that you can move them between machines, maybe over a phone line? You archive them, of course!

LHArca by Paolo Zibetti is currently the archiver of choice for the Amiga community. Although it's slow to create an archive, compression is the best in the business, and de-archiving is fairly rapid. Some of the space savings are remarkable. PostScript bitmaps (for DTP) often shrink to one twentieth of their former size. Text files are usually reduced to two-fifths, executable files and IFF bitmaps fold neatly in half.

Even IFF sound samples, notoriously difficult to compress, are cut down by a quarter.

These are general figures – sometimes you get better results, sometimes worse. The only thing wrong with LHArca is that it's purely command-line driven, and has lots of confusing options. What's needed, is a Naive User Interface for LHArca, something everyone can use.

Stefan Boberg has given us LHArca V0.99c on Fish Disk 331. You can do everything with the mouse, except type in file names. Storage devices appear as little icons, and any file operations are controlled by the standard ARP file selector.



LHArca grab

HyperHelp

Don't you just love loose-leaf manuals? Flip to the back to find something in the index, flip to the subject, find something you don't understand, flip to the glossary (near the back) then flip forward to the subject again. And if your manuals are anything like mine, the little metal hoops in the binder never quite join, so turning pages at all is a major exercise in getting angry.

The other thing about manuals is that when you need them, they've emigrated to Siberia. But as soon as you don't need them, they create a teetering pile which looks almost strong enough to support another of their kind. Of course, you soon find out it wasn't when you try...

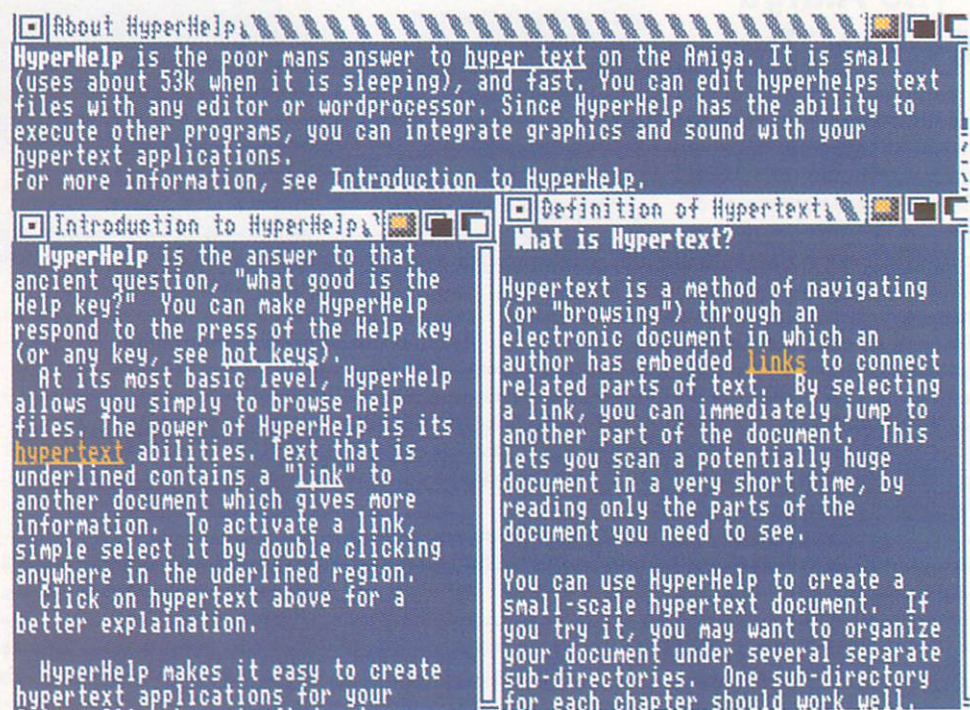
Hyperhelp can help. It's a small program designed for the presentation of information in a straightforward manner that anyone can understand. You browse through the text, and key words

are highlighted. Double click on the word, and it takes you to another window of information. Once you've found what you were looking for, you can close up the program, and it waits in memory for the next time you hit Alt-Help.

Creation of hypertext documents to use with Hyperhelp is straightforward, as they can be created with a text editor no more complex than Ed. The only complexity is that you will have to work out the structure of the documents yourself – Hyperhelp only navigates through linked files, it cannot create them.

Hyperhelp an interesting program, and could be useful to some people. It's very conservative of memory, using only the bare minimum of resources – partly due to its development on a single drive half-megabyte A1000.

Hyperhelp is hidden away in the Utilities drawer of TBAG Disk of the Month #38. Joe Porkka, the author, may develop it further if he gets enough of a financial incentive.



Hypertext grab

You'd think that this friendly version would be slower than the real thing. Not so. The compression and extraction routines are written in carefully optimised assembly language, so LHArca is not merely the most efficient, it's also one of the fastest archivers around.

The final version will support ARexx, have on-line help, and create archives which will automatically extract files from themselves.

Even though the original Amiga LHArca is free, Stefan would like the small sum of \$15 registration. This is not excessive by any means (under £10) for such a fast, easy to use product.

PCopy 2.0

PCopy 2.0 is a copying program that's just as fast as the well-known copier X-Copy, but unlike that program, is quite happily multitasking with anything else. It does require two drives (Diskcopy will work with one) but cranks out a perfect copy in just 68 seconds. If you want to make sure that the copy really is perfect, call it 100 seconds for full verification.

If that's not fast enough, you can lock out most other tasks and save a few more seconds. For real speed fiends, you can set PCopy

to autostart as soon as there are disks in the drives.

A neat feature of PCopy is that it shows a history log of the current session. That means if you've a batch of disks to do for several people, you know exactly how much aimless hanging around you still have to do before you're done.

PCopy 2.0 was written by Dirk Reisig, a name you may remember for the excellent Tracksolve we put on the coverdisk months ago. You'll find the program on TBAG Disks 40. Yes, two disks make up collection 40, to celebrate the interesting new format that the Tampa Bay Amiga Group uses.

Happy New Year

from HiSoft

HiSoft Devpac 2 Assembler/Debugger

"Devpac has it all plus a lot more" - ST Format, Dec 88

Consistently acclaimed as the best assembler development system for the Amiga, Devpac Version 2 is a complete package including:

- ✓ Powerful, extremely fast assembler with macros, conditional assembly, include, optimisations, local labels, multiple hunks, producing executable or linkable o/p.
- ✓ Advanced, multi-window symbolic debugger with single-step, dynamic conditional breakpoints, full expression evaluator, disassembly to disk etc.
- ✓ Integrated, fast and easy-to-use editor so that you can create, assemble, debug, edit, assemble etc. all without leaving the editor. CLI versions are also included for those who have strong editor preferences.
- ✓ Fast Linker, standard 1.3 Include files and full documentation.

With full technical support and constant improvement, Devpac has no rivals - most of the top software houses who develop on the Amiga use Devpac - why don't you?

SAS/Lattice C ver 5.10 New!

"... a very professional package" - Transactor May 89

Quite simply, SAS/Lattice C 5 is the best C system you can buy for your Amiga. Having sold more than 12,000 copies worldwide, the package is used by professionals & hackers alike. Upgrades from version 5.0x cost £34.95 - send your master disks back.

- ✓ Powerful, enhanced C compiler with full 68020/68030/68881/68882 support plus screen editor, faster linker, assembler, librarian, code profiler, disassembler & more.
- ✓ Advanced global optimiser which gives your programs performance improvements of up to 40%. You can optimise for execution speed or program size.
- ✓ The CodeProbe source level debugger with 4 separate windows, allowing you to single-step through source code, set source line breakpoints, examine, modify and continuously monitor your C variables and much, much more - invaluable.
- ✓ Workbench 2.0 support and environment, AREXX support, C++-style comments.

SAS/Lattice C 5 has improved ANSI compliance, function prototyping, is multi-tasking & re-entrant, has nearly 300 library functions and comes complete with full technical support.

HiSoft BASIC Version 1.05 with Extend

"HiSoft BASIC is an excellent choice" - ST/Amiga Format March 89

HiSoft BASIC is the answer to your programming prayers, an extremely fast, interactive, standard and easy-to-use system, used by many top software houses all over the world.

- ✓ Modern, structured programming with long IFs, multi-line functions, sub-programs, REPEAT, DO, CASE, full recursion, local & global variables etc.
- ✓ No limits to your program size and no limits on the size of any variable, memory permitting, plus the ability to link easily with C and assembler programs.
- ✓ Totally interactive system with easy-to-use Intuition editor allowing mistakes to be corrected simply and quickly, substantially reducing development time.
- ✓ Extremely close compatibility with AmigaBASIC and Microsoft PC QuickBASIC 3.

Complementing HiSoft BASIC, **HiSoft Extend** is a comprehensive set of library routines for IFF files, gadgets, menus, sub-menus, sound, HAM mode and more.

Normally costing £19.95, we are including this package, **for only £5 extra** until 1 January 1991, if you use the order form below.

Special New Year Offer to Amiga Computing Readers

Use the order form below to order any HiSoft products and we will send you, totally free of charge, an Amiga Starter Pack consisting of: a mouse mat with the Amiga ASCII character set, a stylish disk wallet holding up to 8 disks and 4 quality double-sided diskettes; a package worth over £14 if bought elsewhere!

Please rush me the following software together with my free starter pack:
(all prices include 15% VAT and postage and packing within UK. Please phone for export details)

- ☐ **Devpac Amiga 2** £59.95
- ☐ **SAS/Lattice C 5.10** £229.00
- ☐ **HiSoft BASIC & Extend** £84.95

Name:

Date:

Address:

I wish to pay by:

- ☐ Cheque/POs ☐ Access
- ☐ Visa

Card No:

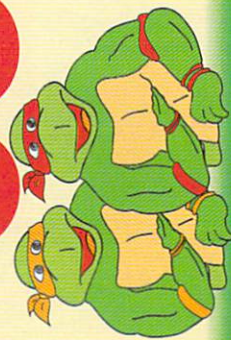
Expiry Date:

Signature:

HiSoft
High Quality Software

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

GORDON HARWOOD



Bring you "Heroes in a Half Shell"™

Amiga POWERPLAY

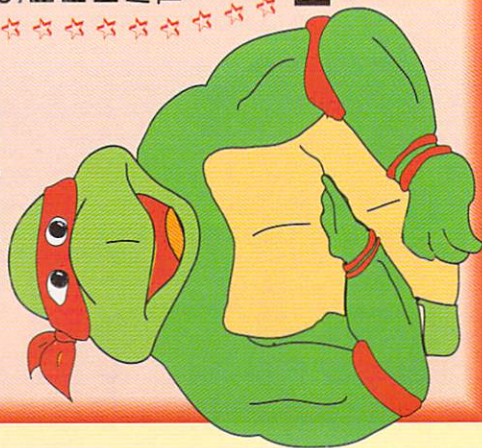
Raphael's PACK 1

THAT'S RIGHT HARWOODS HAVE PUT TOGETHER THE ULTIMATE PACKS YET AGAIN
STARTING WITH RAPHAEL'S AMIGA PACK 1 WITH 15 GREAT GAMES!

Just look at
what you get...

- ★ AMIGA 4500 COMPUTER (See standard features list at bottom of this page)
- ★ TEENAGE MUTANT HERO TURTLES ★ PLUS 10 MORE GREAT GAMES...
- ★ SHADOW OF THE BEAST II ★ Datastorm
- ★ DAYS OF THUNDER ★ Dungeon Quest
- ★ BACK TO THE FUTURE II ★ E-Motion
- ★ NIGHT BREED ★ Grand Monster Slam
- ★ MICROSWITCHED JOYSTICK ★ RVF Honda
- ★ TAILORED DUST COVER ★ AND... DELUXE PAINT II
- ★ 10 BLANK 3.5" DISKS
- ★ DISK STORAGE CASE
- ★ MOUSE MAT

RAPHAEL'S PACK
PRICED AT AN
INCREIBLE...



JUST ADD £30 TO
YOUR AVAILABLE MEMORY TO 1Mb.
WITH OUR PRO-RAM PACK! (See page 4)



Amiga MONITORS

BRAND NEW PHILIPS CM 8833/II STEREO COLOUR MONITOR

Stereo High Resolution Colour Monitor

The ALL NEW Philips CM8833/II is the successor to the ever popular CM8833. This versatile multipurpose 14-inch monitor offers excellent colour graphics performance with a wide range of home and personal computers.

The CM8833/II can also be used as a TV Monitor when connected to either a VCR or TV tuner (available separately). Please ask for further details.

- RGB/Al, TTL, Comp. Video & stereo audio inputs
- Can also be used as a TV with tuner or VCR
- Features retractable foot □ Twin Speakers
- FREE lead for YOUR computer □ Earphone Jack Socket
- FREE 12 Month on site service warranty.

GREAT NEW PHILIPS MONITOR
AT THE OLD PRICE OF ONLY...

£249*

COMMODORE 1084S STEREO COLOUR MONITOR

Commodore's Own Stereo High Resolution Colour Monitor

- RGB/Al/TTL, Comp. Video/Audio Inputs
- Can be used as TV with a tuner or VCR
- Twin Speakers for stereo output
- Supplied with cables for AS500, CGA PC, C16-64-128

£259*

Amiga

POWERPLAY

Leonardo's PACK 2

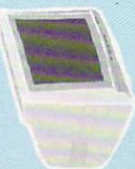
PACK 2 COMES TO YOU FROM LEONARDO AND INCLUDES THE FOLLOWING...

RAPHAEL'S BRILLIANT AMIGA PACK 1

The fantastic Amiga and ALL THE EXTRA'S detailed in Raphael's Powerplay Pack 1 above, AND then you also get...

THE ALL NEW PHILIPS CM8833/II STEREO COLOUR MONITOR

Twin Stereo Speakers, Green Screen Switch, Lead to Amiga, Free Tailored Dust Cover and 12 Months on-site warranty (See monitor panel for details)



A SPECIAL PACK FROM LEONARDO TO LET YOU SEE THOSE GAMES WITH SUPERB CLARITY AND IN FANTASTIC STEREO FOR ONLY...

£629



Amiga

POWERPLAY

Donatello's PACK 3

PACK 3 COMES TO YOU FROM DONATELLO AND INCLUDES THE FOLLOWING...

RAPHAEL'S BRILLIANT AMIGA PACK 1

The fantastic Amiga and ALL THE EXTRA'S detailed in Raphael's Powerplay Pack 1 above, and then you also get...

THE ALL NEW PHILIPS CM 8833/II STEREO COLOUR MONITOR

With FREE Dust Cover and Cable to your Amiga and including a 12 Months on-site warranty (See monitor panel for details)

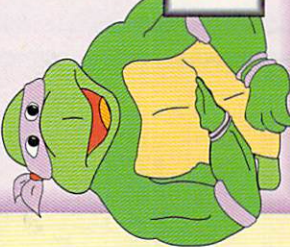
THE BRAND NEW STAR LC200 COLOUR PRINTER...

150/40 cps, Full Colour 9 Pin NLQ Dot Matrix Printer with FREE Dust Cover and cable to your Amiga (See printers on page 3 for further details)

(Or choose an alternative from our range & adjust by the difference in price)

A SPECIAL MONITOR AND PRINTER PACKAGE FROM DONATELLO TO SET YOU UP COMPLETELY AND ALL AT A PRICE THAT'S GOT REAL TURTLE POWER...

£829



Amiga 1Mb.

POWERPLAY

Michaelangelo's PACK 4

PACK 4 COMES FROM MICHAELANGELO AND INCLUDES THE FOLLOWING...

A MORE SERIOUS PACKAGE ASSEMBLED BY MICHAELANGELO AND INCLUDING ALL THE FOLLOWING...

★ AMIGA A500

★ COMPUTER WITH 1Mb.

★ TEENAGE MUTANT HERO TURTLES

★ PUBLISHERS CHOICE (DTP inc. Kindwords)

★ MIDI-MASTER INTERFACE

★ MR T'S MIDI RECORDING STUDIO

★ BBC BASIC EMULATOR

★ MAXIPLAN 500 SPREADSHEET

★ SUPERBASE PERSONAL DATABASE

★ AMIGA LOGO

★ FULLY MICROSWITCHED JOYSTICK

★ TEN BLANK 3.5" DISKS & DISK WALLET

★ DELUXE PAINT II, PLUS...TEN GREAT GAMES

★ Donatello, Dungeong Quest, E-Motion, Grand Monster Slump, RVT, Honda, Drivin' Force, Pigmania, Rock 'N' Roll, Shweek, Towers of Babel,

★ BUILD YOUR OWN PACK... PACK 5-As above with CM8833

★ PACK 6-As Pack 5 + LC200 Col. Printer

★ £999

(Or choose an alternative from our range & adjust by the difference in price)

MICHAELANGELO'S SPECIAL PACK AT A SPECIAL PRICE OF JUST...

£579

The above pack is also available with First Steps Software as an alternative for Primary School age children

PHONE NOW FOR FULL DETAILS!



Amiga 1Mb.

POWERPRO

Harwood's PACK 7

PACK 7 COMES TO YOU FROM HARWOODS AND INCLUDES THE FOLLOWING...

A PROFESSIONAL PACKAGE PUT TOGETHER FOR THE BUSINESS MINDED AMIGA USER

★ AMIGA A500 WITH 1Mb.

★ MEMORY INC. CLOCK

★ (See Standard Features List)

★ NEW PHILIPS CM 8833/II

★ STEREO COLOUR MONITOR

★ NEW STAR LC200 9 PIN NLQ

★ FULL COLOUR PRINTER

★ (Or choose an alternative from our range, and adjust by the difference in price)

★ A HOST OF BUSINESS SOFTWARE & ACCESSORIES...

★ PEN PAL V1.3 (Word Processor)... 1Mb.

★ SUPERBASE II PERSONAL (Database)

★ SUPERPLAN (Spreadsheets)... 1Mb.

★ MICROSWITCHED JOYSTICK

★ 10 BLANK 3.5" DISKS

★ DISK LIBRARY CASE

★ DAYS OF THUNDER

★ BACK TO THE FUTURE II

★ SHADOW OF THE BEAST II

★ NIGHT BREED

★ DUST COVERS

★ WE MEAN BUSINESS AT ONLY...

£899



ALL OUR AMIGA'S ARE UK SPECIFICATION AND INCORPORATE THE FOLLOWING...

- ☐ 512K RAM
- ☐ 1Mb Disk Drive
- ☐ TV Modulator
- ☐ 4096 Colours
- ☐ Multi-Tasking
- ☐ Speech Synthesis
- ☐ Amiga Basic
- ☐ Programming Language
- ☐ 4 Channel Digital Stereo Sound as standard
- ☐ ...AND ALL PRICES INCLUDE VAT AND STANDARD POSTAL DELIVERY SERVICE

IMPORTANT NOTICE
"TEENAGE MUTANT HERO TURTLES"
IMPORTANT NOTICE

Mirrorsoft's official UK Software Licence, 'Teenage Mutant Hero Turtles' is scheduled for release during Nov. '90. Orders despatched before this release will have the software forwarded the moment it is available.

'Teenage Mutant Hero Turtles' software title - UK Copyright of Mirrorsoft.

* FINANCE FACILITIES
Finance with or without a deposit, can be tailored to suit your needs. Gordon Harwood Computers offer facilities to purchase using our budget account scheme. APR 36.8% (Variable). Available to most adults of eighteen years or over, subject to status. Simply phone or write and we will send you written details along with an application form. Applications, required in advance, available to full time U.K. mainland residents and overseas British armed forces personnel. Written quotations available on request. (Please refer to Page 3)



GORDON HARWOOD COMPUTERS
DEPARTMENT ACO/1 NEW STREET
ALFRETON, DERBYSHIRE, DE5 7BP
TEL:0773 836781 FAX:0773 831040

Amiga STORAGE

COMMODORE A590 20Mb HARD DISK DRIVE WITH 0.5 Mb. MEMORY FITTED FREE!

- Commodore's own hard drive for the A500
- ☐ Autoboot with Kickstart 1.3
 - ☐ Sockets for up to 2Mb RAM expansion
 - ☐ DMA access
 - ☐ External SCSI port
 - ☐ Complete with 0.5 Mb. Memory FREE!

£299

COMMODORE A590 20Mb HARD DISK DRIVE BUT UPGRADED TO A FULL 1Mb.

As above but with a total of 1Mb memory!

£319

COMMODORE A590 20Mb HARD DISK DRIVE BUT UPGRADED TO A TOTAL OF 2Mb.

As above but with a 2Mb memory!

£349

EXTERNAL FLOPPY DISK DRIVES with the following features...

- ☐ Disable switch
- ☐ Throughport
- ☐ Access light
- ☐ For A500/1000/2000/3000

CUMANA CAX 354 3.5" SECOND DRIVE

HARWOODS SUPERSLIM 3.5" SECOND DRIVE

- ☐ With EXTRA Long Cable

£74.95

£59.95

Free...
Fully tailored
best cover with all
dot matrix printers

PRINTERS

All printers in our range include the following features...

Standard Centronics parallel port unless otherwise stated for direct connection to Amiga, PC's, ST etc. and come with a...

FREE CONNECTOR LEAD & TAILORED DUST COVER!

All the characters Per Second speeds quoted below are Draft/10 at 10dpi

When you are comparing our prices to others make sure that these essential items are included: Printer Lead, Dust Cover, Postage and VAT etc.

FREE CONNECTOR LEAD & TAILORED DUST COVER!

All the characters Per Second speeds quoted below are Draft/10 at 10dpi

NEW STAR LC 200 RANGE OF PRINTERS AVAILABLE NOW!

All the new printers in the LC200 range have the following features...

- ☐ 80 Column Dot Matrix
- ☐ Micro paper feed
- ☐ Push and Pull tractor Feeds
- ☐ Reverse paper feed
- ☐ Rear and Bottom Feeds
- ☐ Paper park with Auto Single
- ☐ Programmable from frontpanel, no dip switches
- ☐ Sheet Paper Loading
- ☐ 12 Month Warranty

STAR LC200 GREAT NEW COLOUR PRINTER - 185/40 cps

This is the one in our packs!

- ☐ 240 dpi - 9 Pin COLOUR
- ☐ Max. paper width 11.7"
- ☐ Massive 16K Buffer
- ☐ Supplied with colour & mono ribbons
- ☐ 8 Resident Fonts
- ☐ Faster than the old LC10 Colour but still at the same competitive price
- ☐ Front Panel Pitch Selection

STAR LC24-200 NEW 24 PIN MONO PRINTER - 220/55 cps

New Star 24 pin that means business!

- ☐ 360 dpi - 24 Pin MONO
- ☐ Max. paper width 11.7"
- ☐ Supplied with mono ribbon
- ☐ 7K Buffer expandable to 39K
- ☐ Faster than the old LC24-10
- ☐ 10 Resident Fonts
- ☐ Extra font cartridges available
- ☐ Front Panel Pitch Selection

AMIGA GRAPHICS AND SOUND

NEW DISNEY ANIMATION STUDIO SOFTWARE

LATEST PAL VERSION

Full featured state of the art animation program. Gives you the ability to create full length Disney style animated sequences (1 Mb recommended).

£99.95

MASTERSOUND

High quality 'Mono' Sampler. Mono samples are better than stereo when sampling instruments for your own music with soundtracker etc.

£33.95

AMAS

Combined stereo sampler and midi interface. Samples in Mono or Stereo.

£74.95

MIDI INTERFACE (5 PORT)

In, Out, Through + 2 Switchable Through/Out inc Cable

£24.95

MUSIC 'X' - Latest Full Edition Vers 1.1 SEQUENCING S/W

NOW WITH FREE 5 PORT MIDI INTERFACE (As above)

£79.95

AUDIOMASTER II

High quality sampling software, The Professionals Choice

£64.95

DIGIVIEW GOLD V.4 (Inc Cable & Digipaint I)

Digitises static images in black & white or FULL COLOUR (Using fillers provided). All resolutions supported (including pen plotting). Creates IFF & HAM files. Uses B&W for colour with B&W Mode video cameras

£99.95

VIDI with Vidichrome B/W Grabber colour digitiser

Grabs black & white frames (in grey scales). 5.6 frames per second. Will store as many frames as you have RAM (16-20 on 1Mb, 60 with 3 Mb) Inc. FREE Vidichrome colour digitising s/ware (worth £19.95) & cables

£99.95

COLORPIC... The best colour grabber by far!

Instant colour frame grabbing from moving video. Capture superb digitised video images in a range of resolutions from standard composite video source eg domestic TV video rec. or camera in a 50th of a second.

£439.95

RENDALE 8802 Including Cables & Deluxe Video Animation Software

Home/Semi Pro standard, allows computer display to be mixed with any incoming composite video signal.

£189.95

PODSCAT 12" x 12" Graphics Tablet complete

Supplied with driver software, it replaces your mouse and thus works with ALL applications software. Also available for IBM PC & Compatibles

£219.95

ORDERING MADE EASY

Before you choose from whom to purchase, please give us a call. We are always more than happy to discuss your requirements, and answer any queries you may have...

ORDER BY PHONE: Phone our Order Hotline with your Access, Visa, Mastercard or Lombard Credit Charge Card quoting number & expiry date.

ORDER BY POST: Make cheques, bankers building society drafts or postal orders payable to GORDON HARWOOD COMPUTERS. (Personal or business cheques take 7 days to clear from day of receipt whereupon your order will be despatched)

Please send Name, Address, and most importantly if possible, a Daytime Telephone Number along with your order requirements. Please check you are ordering from one of our latest advertisements before posting (phone if you require confirmation).

Please remember that for example many September publications appear during August, therefore prices you see may have changed (either up or down).

FREE POSTAL DELIVERY: Goods in UK Mainland (5-7 day delivery).

OR COURIER SERVICE: Add £5 per major item for next working day delivery, UK Mainland most regions.

(Goods normally despatched on day of ordering or payment clearance)

EXPORT ORDERS: Most items are available at TAX FREE PRICES to non UK residents when visiting us or for export shipment. Please contact us for ordering information.

REMEMBER AFTER YOU'VE BOUGHT FROM HARWOODS, WE'LL STILL BE HERE...

TECHNICAL SUPPORT: You will be given our Exclusive Technical Support Phone Number to call should you require any help or advice on any aspect of the system you have purchased.

12 MONTH WARRANTY: Items proving faulty within 30 days of purchase are replaced with NEW UNITS unless otherwise stated. For the whole guarantee period, warranty service will be completely FREE OF CHARGE and a FAST turnaround is GUARANTEED by our OWN ENGINEERS!

COLLECTION FACILITY: Any computer, monitor or printer requiring warranty service can be collected from your home FREE OF CHARGE during the guarantee period (UK Mainland only)

FULL TESTING PROCEDURE: All computers are tested prior to despatch, and all items are supplied with mains plug and leads as required - just connect up and use straight away.

REMEMBER WE'RE NOT JUST ANOTHER MAIL ORDER COMPANY...

All listed prices are what YOU PAY, and there are NO HIDDEN EXTRAS. VAT and postage are included, and prices are correct at time of going to press (Pack details may vary from time to time). Offers are subject to availability and to being the latest advertised packs and prices. Our offers are NOT supplied on a trial basis. £80E

*** FINANCE FACILITIES**

Finance with or without a deposit, can be tailored to suit your needs.

Gordon Harwood Computers offer facilities to purchase using our budget account scheme. APR 36.8% (Variable). Available to most adults of eighteen years or over, subject to status.

Simply phone or write and we will send you written details along with an application form. Applications, required in advance, available to full time U.K. mainland residents and overseas British forces personnel. Showroom visitors, please ask for details of our in-store 'Instant Account' - Written quotations on request.

If you are already the holder of a Lombard Credit Charge Card you can use this to purchase from us (subject to your personal card limit)

VISIT OUR NEW SHOWROOM

Please pay us a visit where our full range of advertised products, AND MORE, is on sale. 'ALL UNDER ONE ROOF', in pleasant surroundings at our new purpose fitted showroom. There's plenty of parking close by.

OPENING TIMES: 9.00 til 5.00 Monday to Saturday 9.00 til 1.00 Wednesday

Closed on Sundays

STAR LC24-200 NEW COLOUR PRINTER - 220/55 cps **£299.95**

Colour version of the new LC24-200 Mono

- 360 dpi - 24 Pin COLOUR
- 30K Buffer expandable to 62K
- 10 Resident Fonts
- Front Panel Pitch Selection

STAR LC10 - Up to 120/25 cps **£159.95**

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

- Multiple font options easily accessible
- Simultaneous, continuous and single sheet stationery
- Excellent paper handling facilities

STAR LC 24-10 - Up to 180/60 cps **£239.95**

24 Pin version of the Star LC Series with

- Exceptional letter print quality
- 360 x 360 dpi Graphics

STAR XB PRINTER RANGE Up to 240/80 cps - 24-10 COLOUR, OR 24-15 COLOUR **£619.95**

Two very fast 10/24Pin Colour Printers

- (15" Wide Carriage versions 41 exp. to 201K buffer)
- Exceptional print quality
- 4 x 48Pin super letter quality fonts
- 24 x 24Pin near letter quality fonts

STARSCRIPT - 8ppm POSTSCRIPT LASER **£1995.00**

Up to the minute technology Laser Printer

- 300 DPI, 24mb. Upgradeable to 5Mb.
- Emulations inc: HP Series II, Epson
- EX800, IBM Proprinter & Diablo 630
- Every desktop publishers dream

HEWLETT PACKARD PANTJET A4 **£899.00**

Best quality full colour printer at a realistic price

- Parallel, Centronics or Serial RS232C I/F (please specify with order)
- For presentation graphics, CAD and technical/scientific applications
- Full page colour of graphics on paper in 4 minutes (typical)
- Non impact printing
- Will print transparencies
- virtually silent, 43dba
- 12 Months on-site warranty (UK Mainland)

CITIZEN SWIFT 24 PIN COLOUR - Up to 160/50 cps **£319.95**

24 Pin Colour Printer

- Push and pull tractor built-in with bottom feed for labels & multi-part stationery
- 360 x 360 dpi Colour Graphics
- 2 Year Citizen warranty

CITIZEN SWIFT 9PIN COLOUR - Up to 160/40cps **£229.95**

New super high spec 9Pin colour printer

- 8K Buffer 4 Fonts
- 240 x 240 dpi Colour Graphics
- Push and pull tractor built-in
- Feed for labels/multi part stationery
- 2 Year Citizen warranty

CITIZEN 120D+ - Up to 120/25 cps **£149.95**

Very reliable low cost printer (please specify interface on order)

- Interchangeable interfaces for Centronics
- Full 2 Year manufacturers warranty
- RS 232C or Serial type for IBM 64 etc

We are proud to announce that Star have appointed Gordon Harwood Computers as both a Star Corporate Preferred Reseller and Star Gold Dealer in recognition of our commitment to their products and the levels of service and support we provide...

MAKE HARWOODS YOUR FIRST CHOICE FOR STAR PRINTERS

RIBBONS	PRINTER RIBBONS	SINGLE	6 PACK
STAR LC10 - LC10 Colour	STAR LC10 - LC10 Colour	£4.95	£24.95
STAR LC10 - LC10 Mono	STAR LC10 - LC10 Mono	£6.90	£34.95
STAR LC24-10 - LC24-10 Colour	STAR LC24-10 - LC24-10 Colour	£6.90	£34.95
STAR LC24-10 - LC24-10 Mono	STAR LC24-10 - LC24-10 Mono	£14.95	£74.95
STAR LC24-10 - LC24-10 Mono	STAR LC24-10 - LC24-10 Mono	£7.49	£39.95
CITIZEN 120D/120E/120F/120G	CITIZEN 120D/120E/120F/120G	£4.95	£26.95
CITIZEN 120D/120E/120F/120G	CITIZEN 120D/120E/120F/120G	£4.95	£26.95
CITIZEN 120D/120E/120F/120G	CITIZEN 120D/120E/120F/120G	£4.95	£26.95
CITIZEN 120D/120E/120F/120G	CITIZEN 120D/120E/120F/120G	£6.95	£39.95
CITIZEN 120D/120E/120F/120G	CITIZEN 120D/120E/120F/120G	£12.95	£69.95

BLANK DISKS with labels

- 10 Equine Commodore 3.5" branded
- 10 Unbranded 3.5" certified
- 10 Unbranded with library case 3.5" certified
- 80 Unbranded 3.5" certified
- 80 Unbranded with lockable storage case 3.5" certified
- 100 Unbranded 3.5" certified

MICROSWITCHED JOYSTICKS

- Competition Pro Mean Green
- Zipstick (autofire)...The Best!

NAKSHA MICROSWITCHED MOUSE-Amiga/ ST Amstrad PC **Only £29.45**

GOLDEN IMAGE OPTICAL MOUSE-Amiga **Only £39.95**

MODE SWITCHBOX-For rendale 8802 **Only £34.95**

BOOKS For beginners and Experts alike!

- AMIGA FOR BEGINNERS - VOL. 1 ABACUS BOOKS. From unpacking your Amiga to creating your own icons. Includes first use of basic and extras disk.
- AMIGA BASIC INSIDE AND OUT - VOL. 2 ABACUS BOOKS. The definitive step by step guide to programming your Amiga in basic.
- AMIGA MACHINE LANGUAGE - VOL. 4 ABACUS BOOKS. Practical guide to learning 68000 assembler language on the Amiga.
- AMIGA DOS INSIDE AND OUT - VOL. 8 ABACUS BOOKS. The complete guide to Amiga DOS and the CLI.
- AMIGA PROGRAMMERS HANDBOOK II - SYBEX. In depth reference to device I/O programming for the Amiga series of computers.
- AMIGA HARDWARE REFERENCE MANUAL - ADDISON WESLEY. Written by the technical experts at Commodore Amiga Inc. USA...The people who designed your Amiga. Hardware level machine code prog. at advanced level.

EDUCATIONAL SOFTWARE For most age groups!

- PLAY AND READ - Ages 4 to 9. The complete reading tutor. Part 2 teaches spelling to the beginner reading.
- UNIQUE D'S CON-SOUND-TRATION - Ages 4 and up. Three graphical concentration games. 4 skill levels each.
- DINOSAUR DISCOVERY KIT - Ages 3 to 8. Zug the talking Dinosaur helps children build early reading skills.
- THE THREE BEARS - Ages 5 to 10. Develops imaginative thought/reading skills.
- SPELL BOOK - Ages 4 to 6. Developed with the help of a Primary School Head Teacher to aid spelling skills.
- PRIMARY MATHS COURSE - Ages 3 to 12. Complete 24 Programme Course.
- MATH BLASTER PLUS - Ages 6 to 12. Maths fundamentals, teacher designed.
- BETTER MATHS - Ages 12 to 16. Higher level to Linear/Quadratic Equations.

Shown above is ONLY a selection of books and software...phone for details of lots more!

PRO-RAM PACK

DEALIN' DIEGO'S DYNAMITE DEAL!

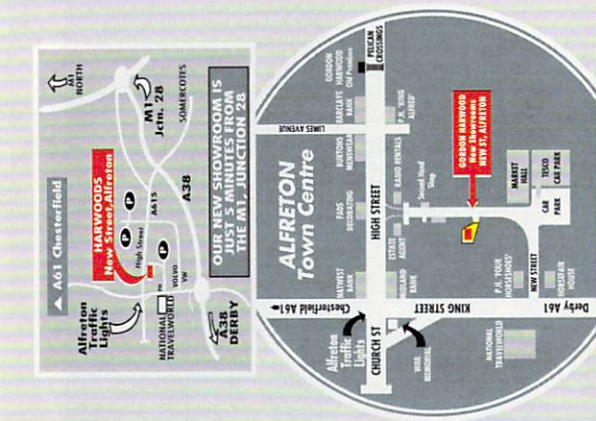
512K MEMORY EXPANSION

16 Chip, not 4 (extremely important), some configuration as Commodore AS01 for guaranteed full compatibility with latest version 8372A Amiga 1MB Blitter. Compatible with all AS01's as a real alternative to Commodore's own AS01 RAM Expansion but at a very much lower price.

British. Made with Enable/Disable Switch and Auto recharge battery backed real time clock.

£32.95

A special deal to celebrate our introductory Dealin' Diego Price of only...



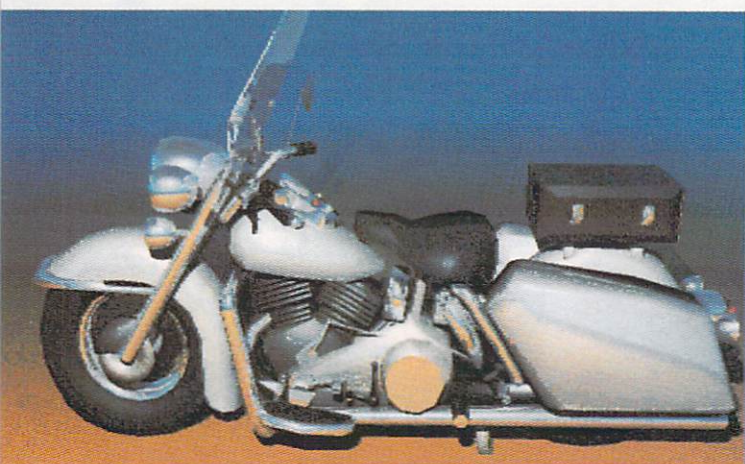
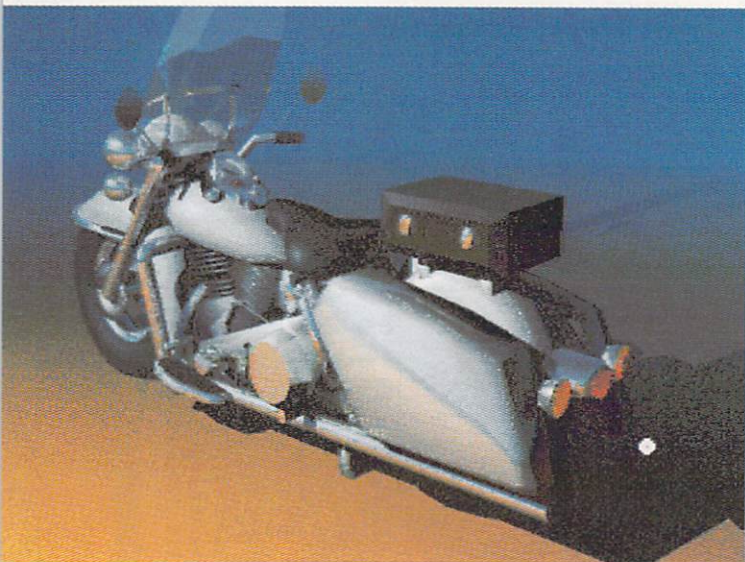
OUR NEW SHOWROOM IS JUST 5 MINUTES FROM THE A1-JUNCTION 60

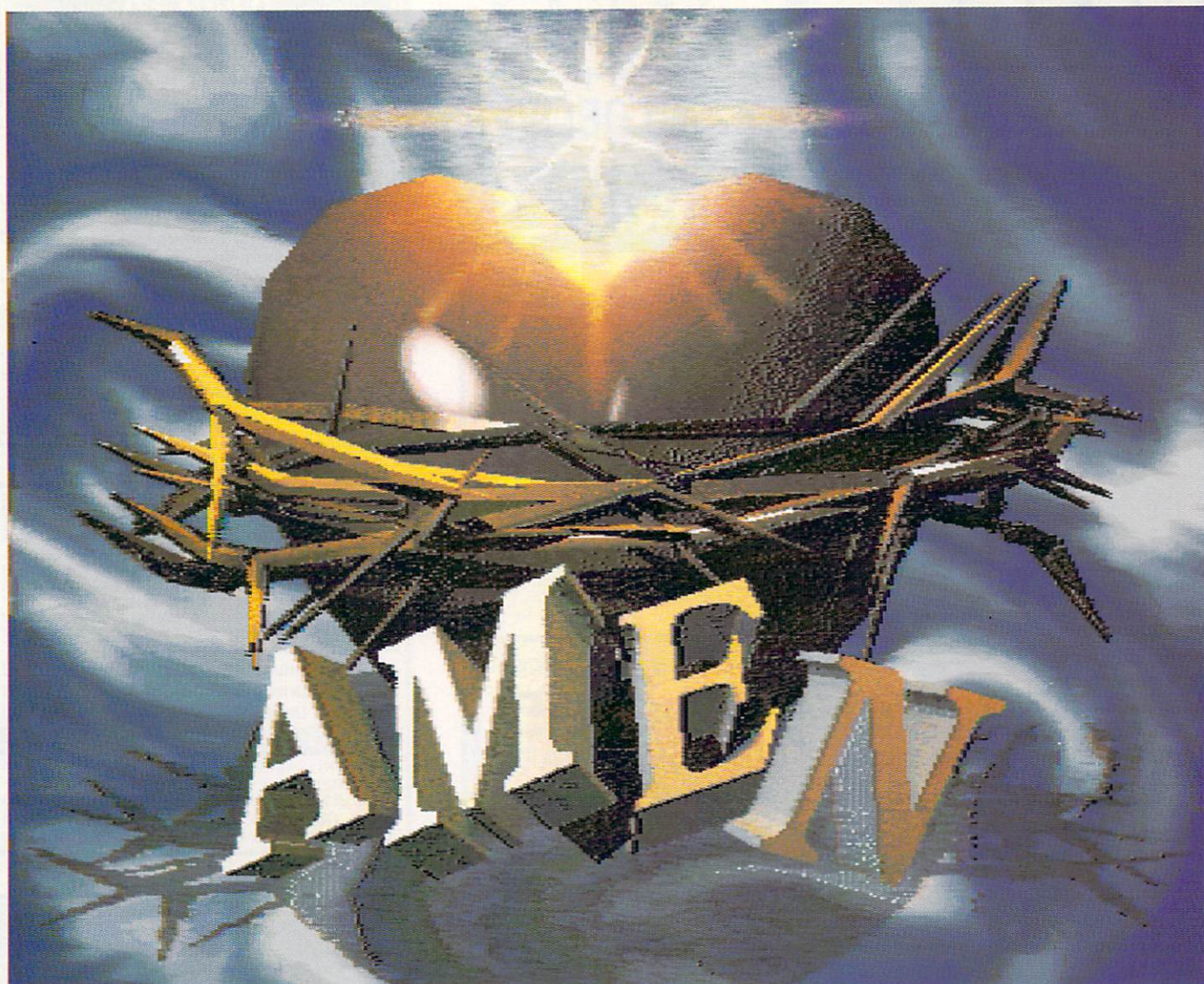
Come and see for yourself amazing Amigas and a whole host of peripherals, along with our vast range of software & accessories. Our helpful team are always on hand. We look forward to welcoming you.

GORDON HARWOOD HARWOOD HARWOOD Computers

ORDER HOTLINE
0773 836781

GORDON HARWOOD COMPUTERS
DEPARTMENT ACO/1 NEW STREET
ALFRETON, DERBYSHIRE, DE5 7BP
TEL:0773 836781 FAX:0773 831040

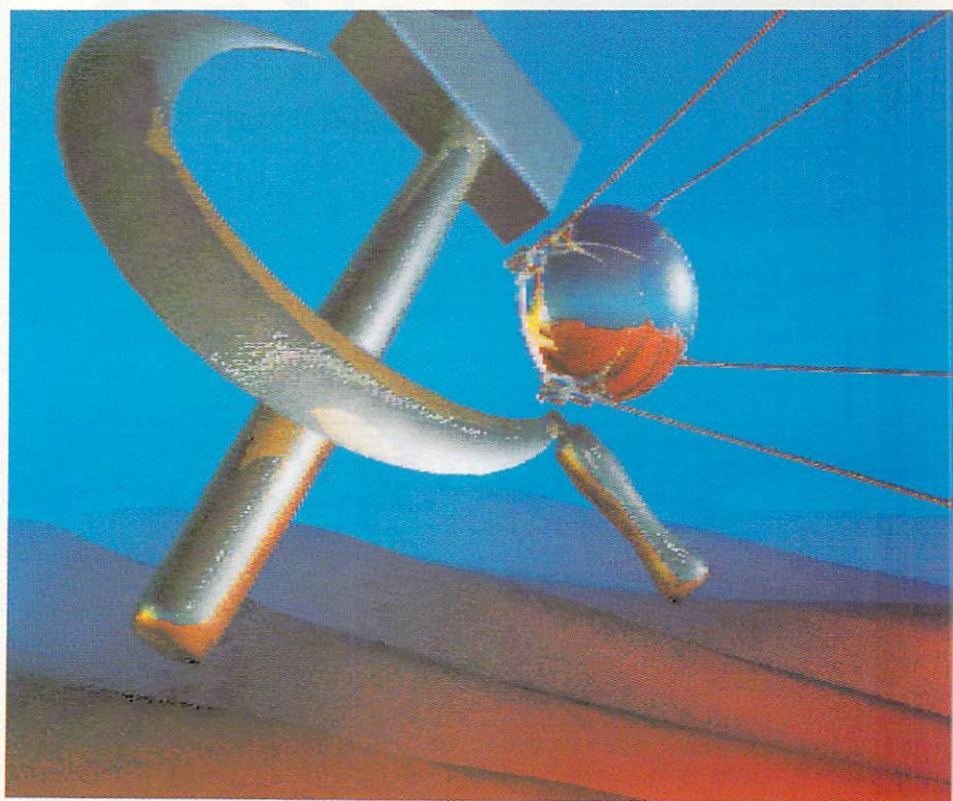




the Gallery

This month's Gallery is entirely given over to the work of Señor Curro Astorza from the fair city of Barcelona. Normally, we prefer to give as many readers as possible the opportunity to display their talents, especially if they have not done so before, but when we saw these piccies we decided to make an exception.

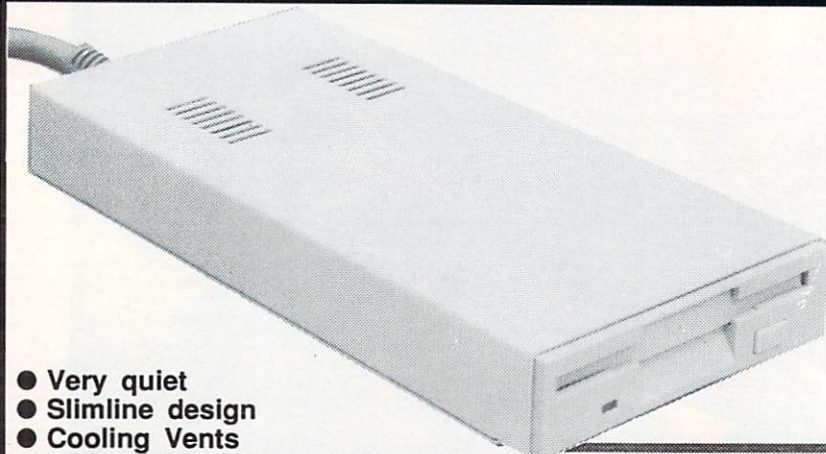
Curro tells us that he uses a 9Mb Amiga 2000 with a GVP hard drive, designing his *objets d'art* in Sculpt 4D before rendering them in Turbosilver, and adding textures with DPaint III. This three-stage process, he says, is a bit like a computer triathlon event, and if that's the case Curro, then I reckon you're a real gold medal prospect. Feast your eyes on these...



Evesham Micros

ALL PRICES INCLUDE VAT AND DELIVERY

3 1/2" EXTERNAL DRIVES



- Very quiet
- Slimline design
- Cooling Vents
- Sleek, high quality metal casing
- Suits any Amiga
- Quality Citizen drive mechanism
- On / Off switch on rear of drive
- Full 880K Formatted capacity
- Throughport connector
- Long reach connection cable

Amazing low price!

£54.95

including VAT
and delivery

5.25" External 40/80 Track Drive also available, only £99.00

AMIGA ACCESSORIES

Philips CM8833 colour monitor inc. cable	£249.00
Vidi-Amiga video digitiser package	£95.00
Vidi-Chrome colour accessory for above	£16.00
Vidi-RGB splitter accessory unit for VIDI	£59.95
MiniGEN Genlock Adapter	£95.00
KCS Power Board PC emulator package	£289.00
Vortex AT-Once PC emulator package featuring fast 8MHz 80286 processor	£179.00
5 1/4" External Floppy Drive 40/80 track switchable (360/720K) with throughport ...	£99.00
TrueMouse superb quality replacement mouse, excellent value for money	£17.95
Naksha Mouse Package (also compatible with Atari ST and Amstrad PC)	£28.95
Kickstart 1.3 Upgrade pack	£29.95
Amiga Replacement Power Supply Unit (Genuine Commodore Amiga Type)	£39.95
Amiga A500 Dust Cover	£ 4.95

CBM A590 HARD DISK

Good quality Commodore Hard Disk unit, including its own PSU and built-in cooling fan. Features sockets for up to 2Mb of on-board FASTRAM expansion (see below). 80ms Access time, with up to 2.4Mb/sec transfer rate. Autoboots when used with Kickstart 1.3. We are now supporting specially upgraded versions of the A590 incorporating new NEC high capacity SCSI drives, featuring an excellent access time of only 25ms!

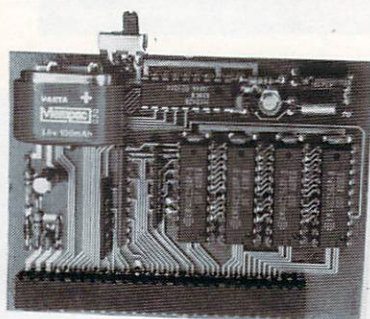
A590 Hard Drive (20Mb)	£279.00
A590 Hard Drive (40Mb NEC disk)	£399.00
A590 Hard Drive (110Mb NEC disk)	£599.00

A590 RAM UPGRADES

Upgrade kit comprising of D-RAM FASTRAM IC's. We will fit the upgrade free of charge when bought with an A590.

A590 512K RAM Upgrade kit	£31.95
A590 1Mb RAM Upgrade kit	£59.95
A590 2Mb RAM Upgrade kit	£99.95

AMIGA A500 SOLDERLESS RAM UPGRADES



512K RAM UPGRADE

ONLY £34.95

including VAT & delivery

512K RAM/CLOCK UNIT FEATURES :

- ☆ Direct replacement for the A501 expansion
- ☆ Convenient On / Off Memory Switch
- ☆ Auto-recharging battery backed real-time Clock
- ☆ Compact unit size : Ultra-neat design
- ☆ Only 4 low power consumption FASTRAMs

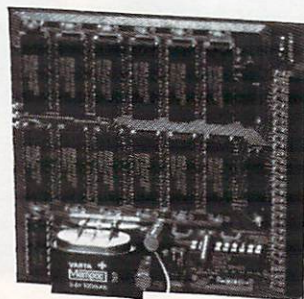
512K RAM Expansion
also available without
clock for only
£29.95

1.5MB RAM BOARD

- ☆ Fully populated board increases the total RAM in an Amiga 500 to 2MB !
- ☆ Plugs into the trapdoor expansion (as with 512K unit) and connects to GARY chip
- ☆ Includes Auto-recharging Battery Backed Real-Time Clock
- ☆ Socketed FASTRAM ICs for accommodating up to 1.5MB RAM

Unpopulated RAM Board with Clock	£39.95
RAM Board as above, with 512K FASTRAM installed ...	£59.95
RAM Board as above, with 1 Mb FASTRAM installed	£74.95
RAM Board as above, fully populated, with 1.5Mb FASTRAM installed	£89.95

N.B. : The expansion board Requires Kickstart 1.3 to operate -
Kickstart 1.3 Upgrade available from us for £29.95



GOLDEN IMAGE HANDY SCANNER WITH TOUCH-UP PACKAGE

Top value package including a high quality 100-400 dpi scanner with dither options. Scanner includes viewing window with backlight, plus a start control button, for accurate scanning every time. Scans either line-art (mono) or one of three greyscale options, at 100/200/300/400 dpi. The package includes the amazingly powerful, well featured 'TOUCH UP' graphics program which drives the scanner directly as one of its many facilities. Includes many image enhancement tools. Please note that this package is not Amiga 1000 compatible.

ONLY £149.00 including VAT
and delivery

PRINTERS

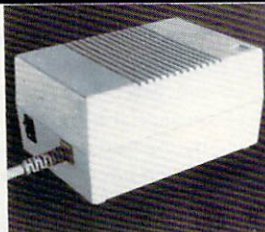
Prices include VAT, delivery and cable

EVESHAM MICROS SPECIAL OFFER - ALL STAR PRINTERS INCLUDE 12 MONTHS ON-SITE MAINTENANCE !

Star LC10 top-selling 9-pin printer	£159.00
Star LC200 replaces LC10 colour, features bottom feed option and push/pull tractor, 180/45 cps	£209.00
Star LC24-10 24 pin, excellent value	£215.00
Star LC24-200 improved version of LC24-10: 200/67cps bottom feed option and push/pull tractors	£249.00
Star LC24-200 Colour version of above LC24-200	£289.00
Star FR-10 9pin 300/76cps 16 NLQ fonts	£369.00
Star FR-15 as FR-10, wide carriage	£429.00
Star XB24-10 24pin; 4 SLQ, 25 LO fonts	£429.00
Star XB24-15 as XB24-10, wide carriage	£569.00
Star LC15 wide carriage vers. of LC10	£299.00
Star LC24-15 wide carriage vers. of LC24-10	£369.00
Star Laserprinter 8, 8ppm/300dpi	£1329.00
Star Laserprinter 8 Starscript upgrade inc.2Mb RAM ..	£1599.00
Olivetti DM100S 9 pin printer 200/30 cps price includes 1 year on-site warranty !	£129.95
Olivetti cut sheet feeder for DM100S	£79.95
Olivetti PG-306 laser; 512K RAM, HP compatible	£976.35
Olivetti PG-306 as above, with PostScript fitted	£1749.00
Epson LX400 budget 10"	£159.00
Epson LQ550 10" 24pin	£349.00
Epson LQ400 24pin printer	£229.00
Panasonic KXP1180 multi-feature 9 pin	£179.00
Panasonic KXP1124 24pin printer	£259.00
Panasonic KXP1624 24pin wide carr. printer	£399.00
NEC P2+ 192/64cps multifont 24 pin printer	£239.00
Hewlett Packard Deskjet 500 - Includes 3 years 'Return to Hewlett-Packard' Warranty	£459.00
Hewlett Packard Laserjet III superior 300dpi laser	£1595.00

REPLACEMENT A500 P.S.U.

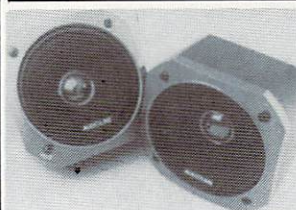
Genuine CBM
Amiga A500 type
replacement
power supply unit.
Good quality
switch mode type.
Super low price!



ONLY £39.95

'TESSA'

twinn ergonomic stereo speakers, amplified



HEAR THAT STEREO!

Your Amiga produces
excellent quality hi-fi
stereo sound. Enjoy
sound reproduction to
the full with this twin
speaker system! Uses
a specially designed
amplifier with volume
control, to obtain the
best sound.

ONLY £34.95 including VAT
and Delivery

TRUEMOUSE

WE GUARANTEE that this is the smoothest,
most responsive and accurate replacement



mouse you
can buy for
the Amiga.
Excellent
design,
incredible
low price!

ONLY £17.95

MIDI INTERFACE

GET CONNECTED!

Our new fully compatible, high quality
MIDI interface connects directly with the
Amiga serial port and provides IN, OUT
and THRU ports for good flexibility.
Features LED indicators on each port to
assist ease of use and also for diagnostic
purposes. Superb compact design.

ONLY £19.95

KRAFT TRACKBALL

**EFFICIENT MOUSE OPERATION -
IMPROVED GAME PLAY!**

Very high quality trackball,
directly compatible to any
Amiga, ST or CBM64, plus
many others. Operates from
the mouse or joystick port,
and features selectable drag
control / autofire button for
versatility and better action.
Left or right hand use, with
total one handed control.
Top quality construction and
opto-mechanical design,
delivering high speed and
accuracy every time. No
driver software required!



ONLY £44.95

STEREO SOUND SAMPLER

S-S-SAMPLE THIS!

Offering full compatibility with almost any Amiga
audio digitiser software, our Sound Sampler features
excellent circuitry, yielding professional results. The
main A/D converter gives a digitising resolution of up
to 50 KHz, with a fast slew rate. Two phono sockets are
provided for stereo line input, plus an option for
microphone. Adjustable gain is achieved with built-in
control knob. Complete with public domain disk
containing sound sampling applications / utilities.

ONLY £29.95

AMIGA SOFTWARE

WORDPROCESSING

Protext Version 5 £119.95
Kind Words Version 2 £39.95

ACCOUNTING

Digita Home Accounts £18.95
Digita Cashbook Controller £39.95
Digita Final Accounts £23.95
Digita Cashbook Combo £55.95
SBA Cash £62.95
SBA Extra £89.95
SBA Plus £179.00

GRAPHICS

Deluxe Paint 3 £59.95
Deluxe Video 3 £59.95

MUSIC

Dr.T Tiger Cub £84.95
Music-X £110.00

PROGRAMMING

AMOS Game Creator £37.50
AMOS Sprites £11.95
HiSoft Lattice 'C' £179.00
GFA BASIC Version 3 £39.95
GFA BASIC Compiler £34.95
HiSoft Devpac 2 £44.95

GAMES AND SIMULATIONS

Battle Squadron £16.95
Damocles £18.95
Emlyn Hughes £18.95
F-19 Stealth Fighter £22.50
F-29 Retaliator £18.95
Kick Off 2 £18.95
Sideshow £14.95
Treasure Trap £16.95

MISCELLANEOUS

Super-Plan Spreadsheet £74.95
Superbase Personal Version 2 £69.00
Digita DG-Calc £31.95

AMIGA SPECIAL DEALS

All our A500 Packages include:

Goldrunner	Jaws	Wordprocessor + Spr sheet
Leatherneck	Defcon 5	Nigel Mansell's Grand Prix
Karate Kid II	High Steel	Better Dead than Alien
Battle Squadron	Night Walk	Super Huey

Amiga 500 512K SCREEN GEMS Pack includes 'Night Breed', 'The Beast 2',
'Back to the Future 2', 'Days of Thunder', 'Deluxe Paint 2' and TV modulator £379.00

Amiga 500 1MB Screen GEMS Pack includes our 512K RAM upgrade with clock fitted £409.00

Amiga 500 512K Screen GEMS Pack With Drive includes our 3 1/2" External Drive £430.00

Amiga 500 1MB Screen GEMS Pack With Drive
features our 512K RAM upgrade plus our 3 1/2" External Drive £465.00

Amiga 500 1MB CLASS OF THE 90's Pack includes A501 512K RAM Upgrade,
TV Modulator, 8 software titles, 10 Disks, Mouse Mat, Video Tape and more £549.00

Amiga 500 1MB CLASS OF THE 90's Pack With Drive includes our 3 1/2" External Drive ... £600.00

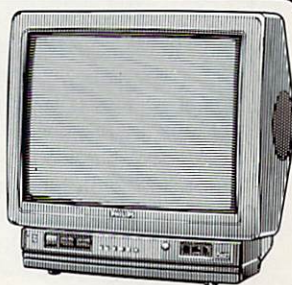
NEW! AMIGA 1500 STARTER PACK includes A1500 computer (1Mb RAM, 2x3 1/2" drives, 8
expansion slots), Hi-Res colour monitor; plus software including: 'Deluxe Paint III', 'Battle
Chess', 'Populous', 'Sim City' and 'The Works' (business software). All for only £999.00

PHILIPS 15" FST TV/MONITOR (MODEL 2530)

With its dedicated monitor input, this model
combines the advantages of a high quality medium
resolution monitor with the convenience of remote
control teletext TV - at an excellent low price!

- ✓ Full infra-red remote control
- ✓ SCART Input/Output Connector
- ✓ Audio/Composite Video inputs
- ✓ FASTEXT Teletext
- ✓ 60 TV tuner presets
- ✓ Headphone private listening jack

ONLY £269.00
price includes VAT,
delivery & cable



Buy with confidence from one of the longest established companies in their field, with a reputation for good service and prices. We have invested heavily
in a computer system to enable our Telesales staff to provide up-to-the-minute stock information, coupled with highly efficient order processing. Our fully
equipped Workshop enables us to carry out almost any repair on our premises. We feel sure that you won't be disappointed if you choose Evesham Micros.

Evesham Micros

RETAIL SHOWROOMS

Unit 9 St Richards Road
Evesham
Worcs WR11 6XJ
☎ 0386-765180
fax: 0386-765354
Open Mon-Sat, 9.00 - 5.30

5 Gilson Road
Cambridge CB1 2HA
☎ 0223-323898
fax: 0223-322883
Open Mon-Sat, 9.30 - 5.30
Specialist Education Centre

1762 Pershore Road
Cottrelidge
Birmingham B30 3BH
☎ 021-458 4564
fax: 021-433 3825
Open Mon-Sat, 9.00 - 5.30

ALL PRICES INCLUDE VAT AND DELIVERY
Same day despatch whenever possible. Express Courier delivery £5.00 extra.

MAIL ORDER DEPARTMENT

Unit 9 St Richards Rd, Evesham, Worcs WR11 6XJ



Call us now on ☎ 0386-765500

8 lines, Open Mon-Sat, 9.00 - 5.30. Fax: 0386-765354
Technical support (open Mon-Fri, 9.30 - 5.30): 0386-40303



Send an Order with Cheque, Postal
Order or ACCESS/VISA card details.
Allow 5 working days personal chq. clearance.

Government, Education & PLC orders welcome
All products covered by 12 Months Warranty
All goods subject to availability, E. & O.E.

In the not too dim and distant past, if you wanted to grab an image from a moving source such as a video camera, TV or VCR, it was a simple process as long as all you wanted was straightforward black and white. If, however, you required a colour image it was a different story. Black and white images could be easily captured by a so called 'real-time' digitiser such as Digipic, but in order to generate a colour picture, three separate images were required, each filtered through a colour filter using an RGB colour wheel.

Due to the need for three exposures of the same image, the subject had to be kept perfectly still while each component of the colour image was digitised. Needless to say, the finished product was often a bit less than perfect - usually rather dull in fact. An alternative to the stone age colour filter approach was desperately needed and into the arena stepped ColourPic.

You may think such add-ons for the Amiga are like furry dice and go-faster stripes on an X-reg Escort - an illusion of power. Given a little thought however, numerous applications soon arise adding picture files to a database for example. It's also possible to reduce pictures generated with ColourPic to a quarter screen or less, making storage of large numbers of captured images possible even on with a floppy-based system.

Pictures produced using ColourPic are saved as IFF files and can be used in many popular paint packages. The feature also allows access to DTP software, making it possible to import TV or video images direct onto the page. Picture composition and general educational programs can also be greatly enhanced using the equipment. And last but not least there's always pulling stupid faces, harassing people by grabbing them at inopportune moments and generally being a pain in the behind - hard to resist.

Fine, but how does it work and what can it produce? Well you can import a captured image direct into the Amiga. This can be done in several formats including 320 x 256 HAM, HAM+ and 32 colour mode. If you're really rolling in cash, you could always go the whole hog and invest in JCL's RAM expansion, which will allow you to use interlace mode producing high quality images, but the sub-

At last, real-time colour video digitising at a reasonable price. Paul Austin investigates ColourPic...

ject must be completely static as the image is digitised in stripe mode and imported directly into the Amiga. Interlace mode can take several minutes and the usual problems associated with interlace still persist (ie the famous flicker) which occurs if any movement takes place between the two fields of the interlace image. The finished product however, is very impressive.

Monochrome images can also be captured via ColourPic and this is achieved by adding together the three elements of the RGB data from the video signal, the

result of which is then imported as a 16-level monochrome, grey-scale image. A particularly useful pull down menu in the ColourPic software allows access to various tools for manipulation of a monochrome image and with a little practise, some very interesting and professional results can be achieved.

Lower resolution formats, such as HAM and HAM+ (which I found gave the best instantaneous results) sample every one fiftieth of a second which is as fast as the signal is generated by the camera or VCR. At these kind of speeds,

movement is captured with the minimum of blurring and this alone is a big plus for the system.

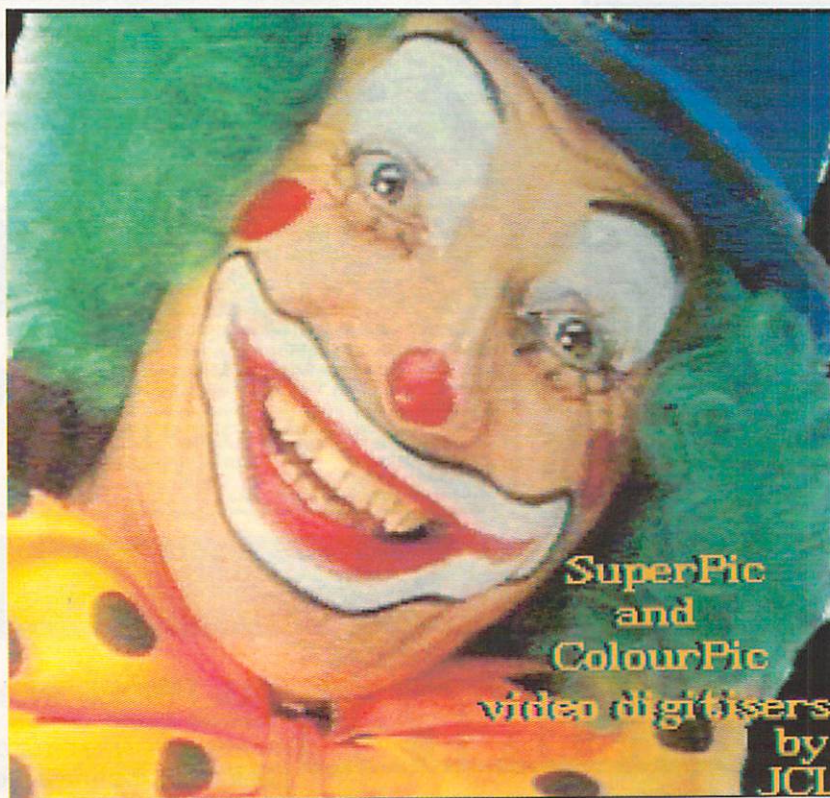
ColourPic's hardware is, in effect, an instantaneous frame store (or image buffer if you prefer), which takes snapshots of the subject. The image is overwritten by the next until the appropriate Amiga key is pressed, and the image frozen. When a good result is achieved, the image can be imported into the Amiga and from then on, the choice is yours.

When an image is imported, there is a reduction in picture quality due to the screen format being used and the display restrictions imposed by the computer. Even so, images produced on the Amiga in HAM or HAM+ mode with 4096 possible screen colours are still very impressive (although there are certain restrictions on the colours which can be displayed together).

Getting it up and running

If you can control your excitement long enough to read the instructions, installing the equipment is a relatively simple process. I couldn't, and consequently spent an entire afternoon pressing the wrong buttons.

Once the system is set up the real-time signal from the video input can be viewed on your monitor. With a 1084 monitor however, the live video signal will not work



A clown he may be, but not many would laugh at quality like this.

Review

properly due to synchronisation problems. It is possibly to use ColourPic with a 1084 monitor, you'll just have to view the live signal via a separate monitor or TV.

If, however, you do have a monitor which is compatible with the system, it's then possible to monitor the live signal and the frozen image stored in memory by simply alternating between the two via the CVBS button on your monitor.

The chaps from JCL have been thoughtful enough to provide separate connections at the rear of the unit which enable a separate monitoring signal of the live video image to be piped out to either a second monitor or TV. This can be very useful because when an image is frozen prior to being imported into the Amiga, the live signal is lost until the system is unfrozen. If you're trying to capture movement you can miss some golden opportunities while watching a frozen screen.

ColourPic is capable of excellent results, as you can see from the grabs on this page, but it's worth bearing in mind that as with most things, you only get out what you put in, and ColourPic in no exception. I personally found that good lighting was essential in order to produce a quality result.

In most respects using ColourPic is exactly the same as any photographic project and a certain amount of experience in the field is a definite advantage. If you're serious about importing the real world into your machine, you could consider taking stills in the conventional manner and then using a scanner to import your imagery into the Amiga. This method though longer, would still give better quality when capturing movement.

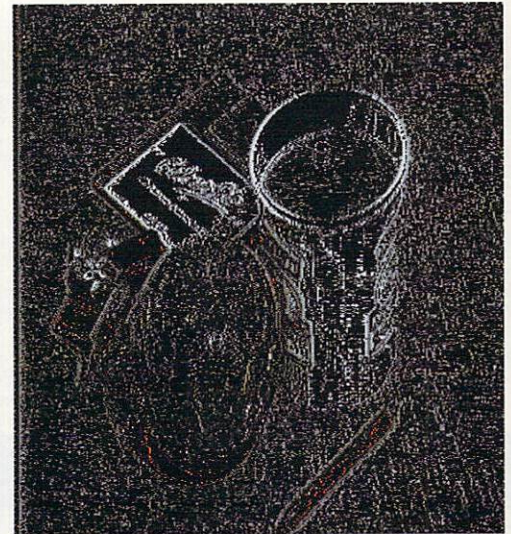
Nevertheless, ColourPic is an impressive product and you pay your money and takes your choice. One of my main worries lay with the lack of any Genlock facilities but I needn't have worried, because JCL has produced a big brother for ColourPic, namely, SuperPic which does exactly that (although it will set you back an extra £100 for the privilege).

If you'd like any further information, give JCL a ring, they're a helpful bunch, and will be more than happy to sort out any questions.

JCL Business Systems LTD
Tel: 0892 75791



The fab four, a small sample from JCL's show reel. All of which were created via ColourPic with no extra image processing

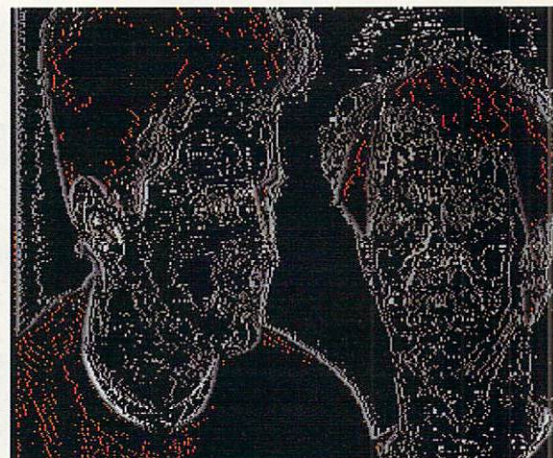
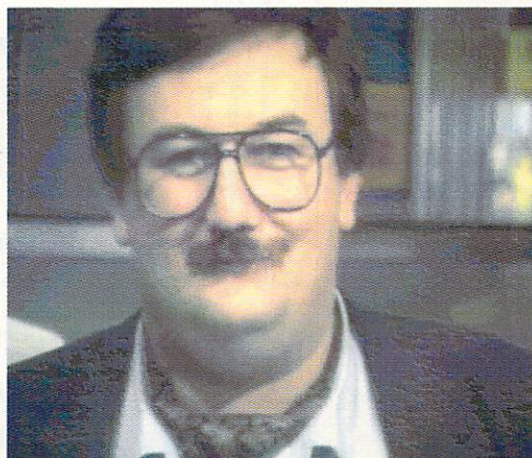


Two products of ColourPic's instant imagery, both grabbed using a standard VCR camera.

A. Using Ham+ mode. B. Using interlace ham+ The first being grabbed instantly, the second, imported directly in stripe mode



An example of what can be produced by a pro, photographer using the system.



On the right we have the wee scottish bloke Stevie Kennedy, on the right little old me. On the left a passing punter at the commodore show, he said he was a coach driver but I think that's a porky myself.

NEW! - "NEW DIMENSIONS" - NEW!

Amazing 3D effects make your Amiga come alive. You will find that graphics and pictures float before your eyes in front of your screen! The depth of the pictures extends up to ten feet into the screen! These fantastic effects have to be seen to be believed. Included on the disc are generous numbers of 3D pictures, 3D graphics and 3D games. We even provide a tutorial to help you design your own 3D effects on a paint package or write your own 3D programs. Included in the package are two pairs of 3D specs so you can experience these amazing effects with a friend. Probably the most impressive pictures/graphics you have ever seen on a computer! New Dimensions package - **Excellent value at £13.95.**

NEW! - DESIGN-A-TEESHIRT - NEW!

Have you ever wanted to put YOUR art work on a T-shirt? Just send us a disc with your picture/logo/slogan on and we will send you back a high quality white cotton/polyester T-shirt with your art work printed on it. (We will of course return your disc!) Ideal presents with your own individual design. Artwork from paint packages or digitisers is ideal. Please state your size - small, medium, large, extra large. **Outstanding value at £14.95.**

THE NEW - "BEGINNER'S GUIDE TO AMIGADOS"

This is a highly effective way to take you from a beginner to an expert on AmigaDOS. This very popular package has now been COMPLETELY updated to cover all AmigaDOS versions. The package consists of a guidebook, a tutorial DISC, a crib card and FREE software worth over £80. This is a clear and well thought out guide to AmigaDOS. It takes you by simple steps, with many examples through the powerful AmigaDOS commands. The emphasis is on learning through experience and doing - not just reading like most other books. In no time at all you will master a fast, powerful and customised operating system... you can easily include your own pictures, messages and programs.

The guide includes an incredibly fast picture loader, a password system, a gallery of high quality pictures, a variety of boot up sequences, other high quality programs and much, much more... Guide book, Disc, Cribcard etc. **only £13.95.**

WIZARD'S GUIDE TO BASIC

This is a very effective and enjoyable way to learn BASIC. The whole concept is designed to help you learn quickly and achieve impressive results in no time. Your confidence and skills will rise rapidly as you make your way through this course. The Wizard's BASIC guide comes on two discs with a sophisticated electronic book - You can get help in the form of text, moving demonstrations, graphics, sound or speech with just a touch of a button. The course starts at beginner level and carefully rises to expert level. You will learn to master graphics, colour, sound, movement, speech, windows, menus, dataprocessing etc. Hundreds of example programs and demos are included. This is a value packed package which will leave you with a wealth of knowledge and expertise. **Excellent value £13.95.**

MASTERPIECE

"THE BEST PICTURES I HAVE EVER SEEN ON THE AMIGA" reported a recent review. This package takes you on a spectacular trip through the world of art. Every picture is of true quality and is displayed using thousands of colours. To help you enjoy the world's heritage of art to the full we have included comprehensive notes on each artist and painting. Whether you are an art expert or know nothing at all about art, this is a wonderful way to appreciate the great paintings of the world (and appreciate the graphic capabilities of your Amiga as well). The package comes with two discs packed full of pictures and information. **Outstanding value £8.95.**

EXTRA VALUE!

Buy two or more of the above products and benefit from the following discounts... 2 products - £2 discount, 3 products - £3 discount, 4 products - £4 discount etc. Discounts are given on the TOTAL value of the order.

UK P&P - FREE and by FIRST CLASS post. Overseas orders welcome - Europeans please add 50p. Outside Europe please add £1.50 for airmail. All payments in pounds sterling please.

Cheques/P.O.'s to:

Wizard Software (Dept. ACC)
20 Hadrian Drive, Redhills, Exeter, Devon. EX4 1SR

*Amiga
Genlock
Mixer*

VIDEOCENTER VC1

Video Mixing & Keying - Fade to Black
True S-VHS Key
RGB Buffered Output
Software Controllable
Transparent Colours Adjustable
Price £645.00 exc. VAT

VIDEOCENTER VC2

As VC1 but with 20 Wipe Patterns
Circular
Diagonal
Wipe/Insert
Wipe Position via Joystick
Price £995.00 exc. VAT

Upgrade VC1 to VC2 £425.00 exc. VAT

All available from:

G2 Systems, 5 Mead Lane, Farnham, Surrey GU9 7DY

Tel: (0252) 737151

Reach the top
with...

LCL
Self-Tuition Courses

NATIONAL
CURRICULUM

World leaders • Hons graduate/teacher authors • At all
major shows • Excellent reviews - £5 off total for 2,
£10 off for 3

PRIMARY MATHS COURSE

Complete course of 24 programs and 2 books. Only £24 for:

- Counting
- Addition using units
- Subtraction using units
- Tens and units
- Hundreds tens and units
- Addition using tens and units
- Additions using
- hundreds, tens and units
- Subtraction using hundreds tens and units
- Subtraction using tens and units
- 2-10 times tables (taught separately)
- Multiplication
- problems
- Division
- Short Multiplication.
- Long Multiplication.
- Fractions and Decimals
- Addition, subtraction, multiplication and division of fractions

NATIONAL CURRICULUM Ages 3-12yrs

MICRO MATHS

Complete course of 24 programs and 2 books. Only £24 for:

- Percentages and fractions
- Averages and histograms
- Ratio and proportion
- Polygon properties
- Simple algebraic equations
- Simplification in algebra
- Interest
- Solutions of triangles using sine and cosine formulae
- Profit and loss
- Similar triangles
- Geometric of the circle and its chords
- Advanced statistics
- Applications of Pythagoras theorem
- Trigonometry
- Factorisation of algebraic equations
- Graphs
- Simultaneous equations
- Indices in algebra
- Indices in arithmetic
- Vectors
- Matrices
- And much much more

Ages 11 - GCSE

MICRO ENGLISH

Complete course of 24 programs, 2 books and a voice tape
Only £24 for:

- Punctuation
- Elementary spelling
- Advanced spelling (like an advanced "Speak-and-Spell" machine)
- Vocabulary tests (meanings of words)
- English grammar
- From phrases to words
- Words commonly confused (e.g. effect and affect)
- Irregular plurals
- 8 comprehension tests, each passage
- having 20 questions
- 4 programs on making notes (summarising)
- ORAL COMMUNICATION
- Speaking (3 programs on reading aloud)
- Listening

Ages 8 - GCSE

NEW

MICRO FRENCH

Complete course of SPOKEN and written French. 24
programs, 2 books and a voice tape. Only £24 for:

- Pronunciation
- Colours
- Articles
- er verbs
- Wordsearch in French
- ir verbs
- Learning by pictures
- re verbs
- Signs found in France
- oir verbs
- Plurals
- Time
- Graphics adventure game
- Oral exam
- Commands
- Adjectives
- Future tense
- Dictation
- Perfect tense
- Imperfect tense
- Opposites
- Comprehension tests
- Direct object pronouns

Ages 8 - GCSE

MEGA MATHS

Complete A-level course of 24 programs and 2 books, 105
topics! Far too many to list. Includes everything on
Calculus and much more. Only £24

A-level Course

Send coupon and cheques/PO's or phone orders or requests for free
colour poster/catalogue to:

LCL (DEPT AMC) THAMES HOUSE, 73 BLANDY ROAD,
HENLEY-ON-THAMES, OXON RG9 1QB

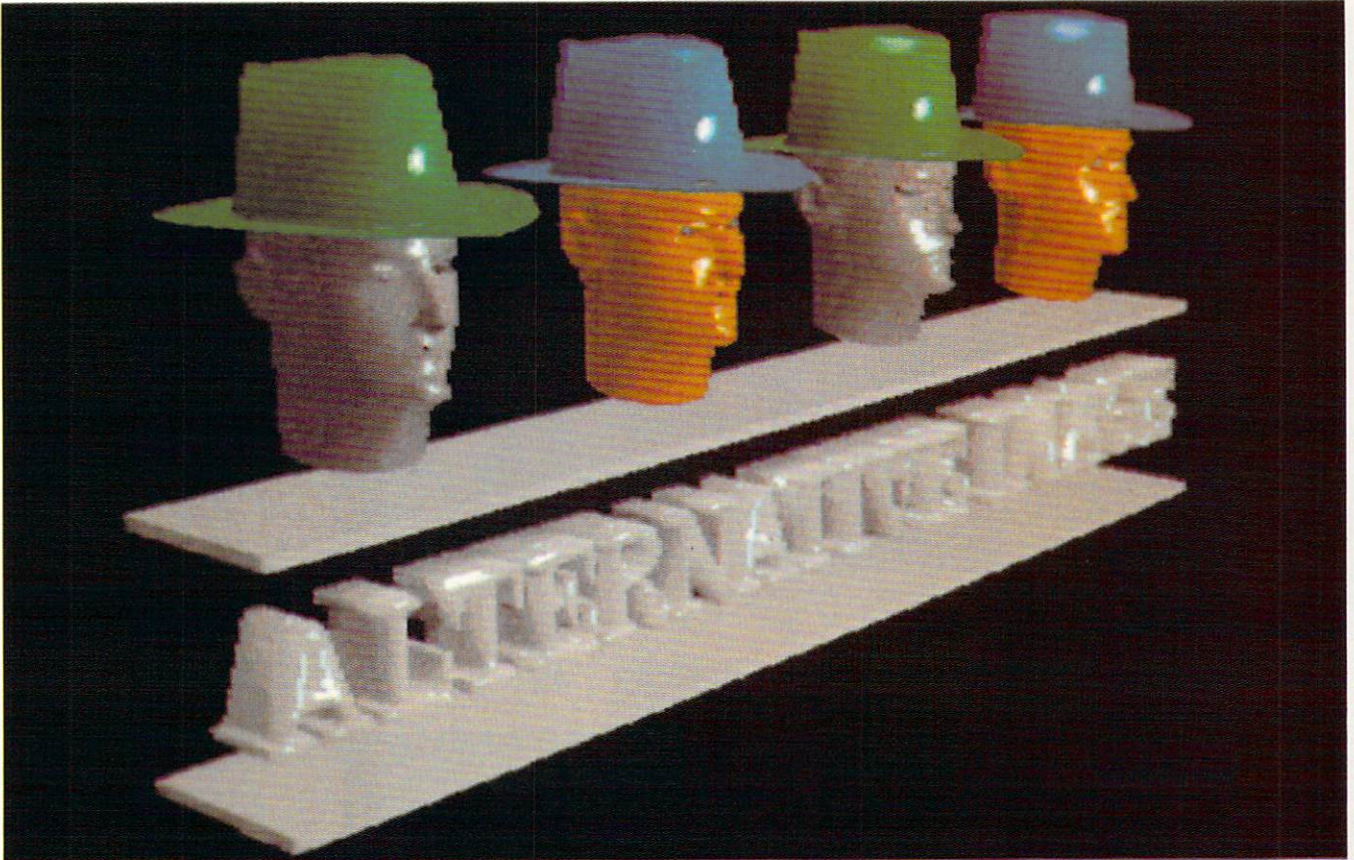
Phone now for
immediate
despatch

VISA

or ring 0491 579345 (24 hrs)

Name
Address
Title
Computer

Graphics-R-Us



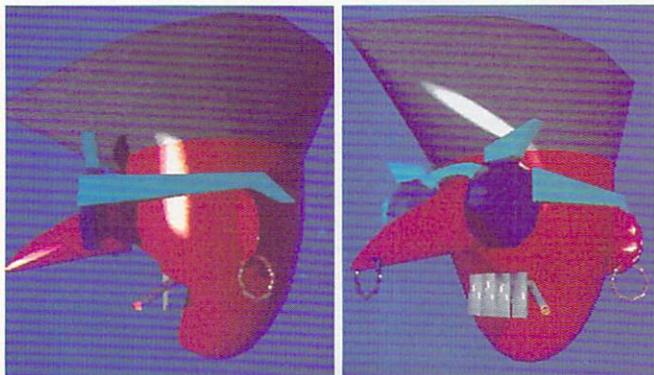
The public image of the alternative graphics company

After the sort of train journey horror movies are made of, I found myself at the door of Alternative Image, Leicester's answer to Saatchi and Saatchi. I discovered very quickly that first impressions can be somewhat misleading, as the business is based in a back street terraced house. I assumed the outfit inside would be, well, slightly amateur.

Once inside I realised that the house possessed the same dimensional double-tricks as the Tardis, and two minutes of conversation with Henri Bujko and Stuart Hicking convinced me that guys with that sort of cynical arrogance most certainly know what they're taking about!

The duo are two of the three-man partnership which constitutes Alternative Image. The company caters for various media require-

Don't say "graphics manipulation",
say "Alternative Image"!
Paul Austin made the hellish journey
to Leicester to find out why



The head man at Alternative Image mini animation on this month's cover disk

ments including DTP, audio visual displays, video production, photography and last but not least, computer graphics the latter being the main reason for me boarding the train to Leicester.

All the graphics they produce are created solely on the Amiga, using software that is available to everyone. When the results are viewed on their show reel, even an old cynic like me was suitably impressed. If you'd like to see your own creations on slides, as prints or even on video, the company can provide them at very reasonable rates.

Aside from expert opinions on graphics, which I'll get to later, Alternative Image is in the process of branching out and releasing software which it has designed itself. The reason for this is that they simply could not find commercial

software to do what it required. Being rather clever chaps, the trio wrote their own and the end result of these endeavours will soon be available to everyone.

Utility city

The first of the range, ready just in time for Christmas, and is a caption scroller program which creates titles for use on video. All the text is produced in hi-res, with four definable colours, and each colour can be used on separate characters if required, using eight separate fonts each in two sizes.

Text can be re-sized, even when the program is running, with just a single key stroke, and all alteration to text or font occurs instantly. Thanks to the use of a type ahead buffer even the biggest fonts appear immediately when you type them in.

Scrolling can be either horizontal or vertical and can be speeded up or slowed down to the required speed again with a single stroke.

Several keys control the entire package, which is very fast, professional and easy to use. It retails at around £50, with a minimum 1mb required. The only other package capable of doing this sort of thing is ProVideo Plus although it can be a little tricky to use.

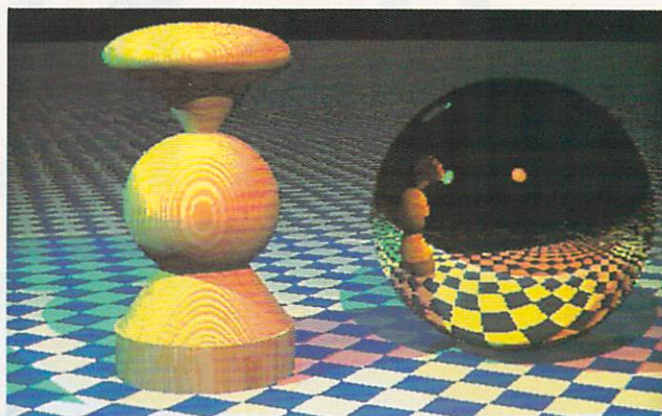
The next product Image is working on is a title sequence designer which should be ready for release later this year. It's hoped this will bring the home user the sort of whacky tricks presently only available to outfits like the BBC.

The dynamic trio assured me that this wonderful thing will send words and letters flying and spinning around the screen at your command. The end result should be a very professional look to home produced video.

The next release could be an autocue available around the same time. This is obviously a more specialised utility which will be capable of reverse text for mirror-imaging onto glass. It will also be possible to import ASCII.

Writers need only take an Amiga to the studio or wherever it's required, plug it in, load up the text from any word processor – providing it's saved as an ASCII file – and the result will be an instant autocue, ideal for TV, video, conferences or even amateur dramatics. South Pacific may never be the same again.

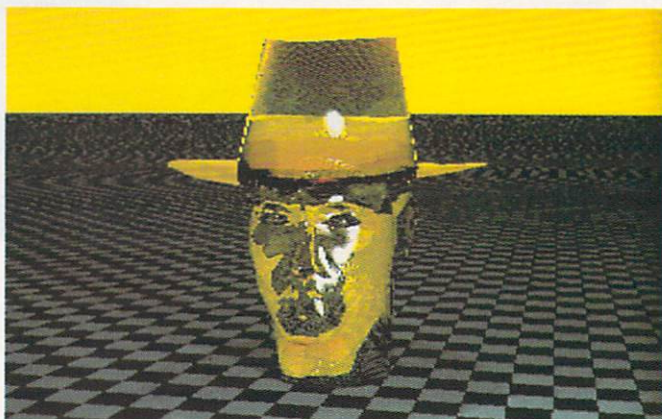
The fourth and final project planned for this year will be a new clip art disk. Not a new concept



A pepper mill and shiney ball – they had to appear somewhere



Showing their true colours, everyone wants to be a rock star



Sam Spade in the twenty first century



What the pro's use, but you can still do a lot with less

perhaps, but designed to fill a hole in the market due to the fact that clip art now available leave a lot to be desired.

The disk will have vector objects, backgrounds, and various groovy things that have been produced as a result of 'Image's work.

As an addition to all the other irons already in the fire, the chaps are about to start a consultancy for people needing help and advice in the general graphics arena. The reason for this is the large amount of time spent answering the phone when the trio should be earning cash.

At the time of my visit to the company, it didn't have any details of possible cost, but I'm sure the guys will furnish you with the facts if you give them a ring.

Give 'em a call

Are you having problems with dot angles and densities in DTP or a moiré pattern where it shouldn't be? If so, 'Image could be the people to end your misery. Unfortunately, the graphics gurus would not tell me how such problems are solved, but they may tell you for a small fee.

They did mention, however, that if you're looking for a DTP package, then in their opinion, you need look no further than ProPage – I'm assured it's the best desktop publisher available.

If you're willing to wait a while ProPage 2.0 should be on the shelves soon, and judging by the excited way Henri was describing it, it's well worth the wait.

According to him, no matter what anyone else says, Sculpt 4D is still the best ray tracing package due to its excellent object modeller and a very fast rendering time. He did admit, however, that the animation can be a little dodgy, and the lack of texture mapping was a real problem.

It's worth bearing in mind that these people have to work fast and may have to produce in a week what the rest of us take a year over.

Real 4D was the next topic of conversation. Henri agreed that the program's texture mapping is brilliant, although he thought the rendering very slow compared to Sculpt 4D.

In general he didn't think much of it, due mostly to the massive amounts of memory required to produce relatively simple animation. He did feel, however, that the package would improve in time

Ear shattering offers for Amiga Computing readers

Make the most of your Amiga's superb sound capabilities by connecting Soundblaster's high quality stereo amplifier and speakers.

Using the latest microchip technology, the specially designed amplifier can deliver an ear-shattering five watts of music power, with twin controls provide complete control over volume and balance.

The fifty watt speakers consist of a woofer, a mid-range and a tweeter for the highest possible sound quality. Thumping bass, crisp trebles: You'll hear them all with incredible clarity.

The Amiga Soundblaster comes complete with mains adaptor and full instructions. No alterations to your computer are required – just plug in and switch on to re-discover sound on your Amiga.

SOUNDBLASTER

Boost your computer's sound with an **AMIGA SOUNDBLASTER**

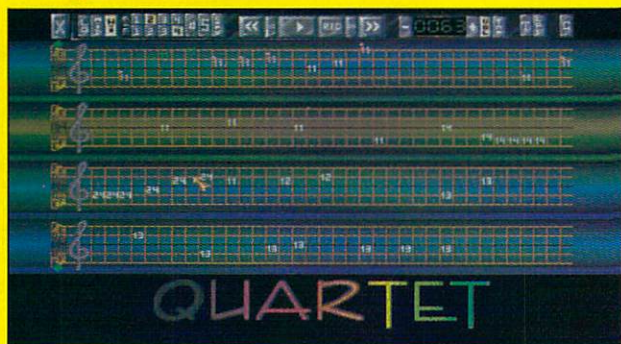


RRP £59.95

**ONLY
£44.95**

Buy all 3
for just
£99.95

QUARTET



**Make beautiful music
on your Amiga**

Quartet is a stunning sequencing package that will allow you to compose anything from a jingle to a symphony.

Making full use of the Amiga's unique four channel stereo sound system, Quartet is equally at home playing Depeche Mode or Debussy. Quartet comes complete with complete instructions, a disk of full of sound samples and full source code to allow you to intergrate your tunes into your own programs.

What's more, Quartet is MIDI compatible, so you can connect a suitable keyboard or synthesiser to enter notes directly.

**It's the ideal sequencer package to complement
the excellent Master Sound sampler**

– Amiga Computing, August 1990

**Quartet comes with full instructions
and two disks for £39.95**



Master Sound

*Capture any sound you hear
and replay it in seconds*

It's so easy to use: Simply connect the sampler to your Amiga, load the software and immediately you have the ability to capture sounds with amazing accuracy.

Connect your compact disc player or personal stereo and digitise sounds to incorporate into your own games and tunes.

The supplied software provides complete control over the sampled sounds: Cut and paste them, flip and fade them and you're still only using a tiny fraction of the sound processing tools available.

Best of all, the comprehensive instructions will soon have you creating your own public domain demo disks complete with IFF picture files.

The perfect sound sampling package for beginners and experts alike.

Master Sound is a complete hardware and software sampling system for only **£34.95**

"Is it real or is it Master Sound?"

– Amiga Computing, May 1990

See order form on page 114

Profile

once memory management problems were solved.

Turning to Turbo Silver, he felt that although excellent results could be produced, the main problem was the program's front-end which, in his opinion, was very badly designed and tricky to use.

The next program to come under the critical microscope was 4D Professional – criticised for the strange animation problems concerning textured objects which, in Henri's experience, caused the object to move but the texture to stay where it was, as if these objects were rotating inside a strange stationary skin.

If you're interested only in animation, Henri's top tip is VideoScape. He admits the rendering is not up to the standard of some of other packages, and it doesn't really ray-trace, but the animation sequence I was shown produced with VideoScape was very impressive. Henri assured me that to produce something similar on even Sculpt 4D, would have taken ten times as long.

Another big advantage with VideoScape was its excellent memory management, allowing very long and complex animation

sequences to be created using tiny amounts of memory. This effect is achieved by creating the model, then performing the required calculations for movements via ASCII file co-ordinates. The model is then altered according to the co-ordination data supplied by the ASCII file.

This is a massive advantage as the resulting file is tiny in comparison to some other packages available, and editing is a very swift, simple process. Re-rendering the whole image is not required.

In most other packages, each frame of movement is saved individually, which then has to be separately rendered. This can take a very, very, long time and an excessively large amount of disk space – something which is at a premium as every Amiga owner knows.

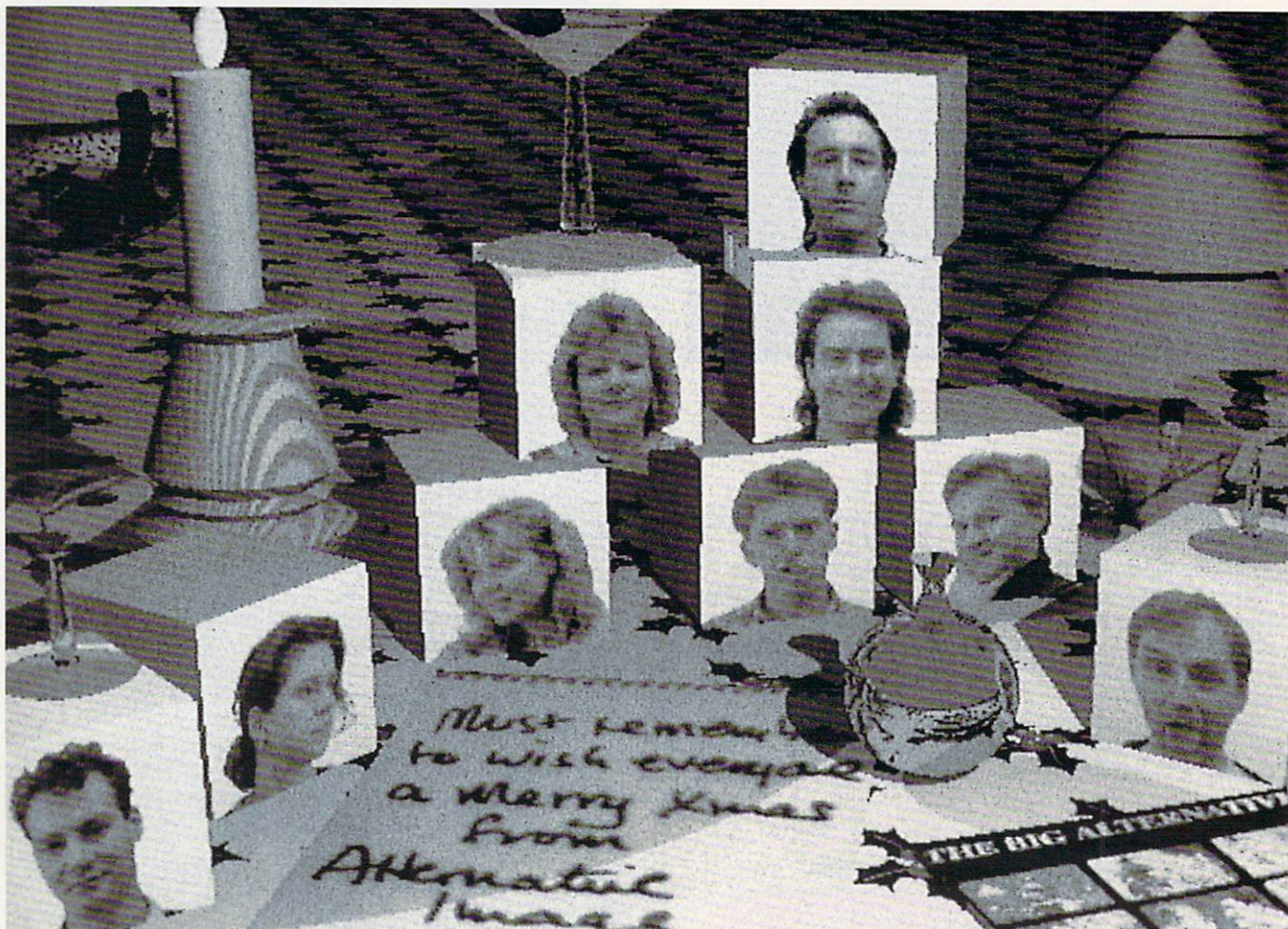
All animation in VideoScape is controlled via x, y and z co-ordinates, which require a certain amount of getting used to. But Henri thinks it's brilliant.

For more information concerning the company and its products give them a ring 0533 440041.

Finally, many thanks to Henri and Stuart for all their help, coffee, and pizza...



Here's the guy who does the real work, some of it hung tastefully in the background



The Christmas card conversion, featuring the good and the bad, and the rest of the staff

It's Amazing!
It's Radical!
It's the Rolling Ruler!

**Two rulers
for only £5.95**



A complete drawing board in one simple unit. With a rolling ruler you can draw:

- ★ Horizontal parallel lines
- ★ Vertical parallel lines
- ★ Perfect right angles with ease
- ★ Any other angles from 1° to 359°
- ★ Clever circles

Available in two sizes 22cm (8in) and 30cm (12in) this great offer gets you both rolling rulers for just £5.95 (RRP £9.99)

It's innovative design gives the new rolling ruler the ability to draw vertical and horizontal lines without lifting it off the paper, parallel lines, angles, circles, musical staves and graphs with ease, making it ideal for the home, the office, schools, workshops and 3D design work.

**Reader
offers**

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.

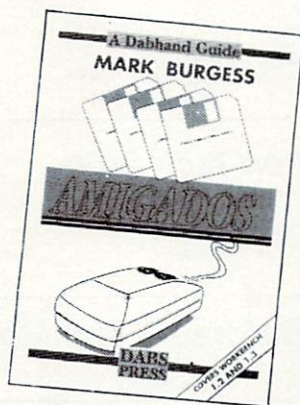
Rather than simply reiterating the Amiga manual, this book takes a genuinely different approach to understanding and using the Amiga and contains a wealth of practical hands-on advice and hints and tips.

The many features of this book include:

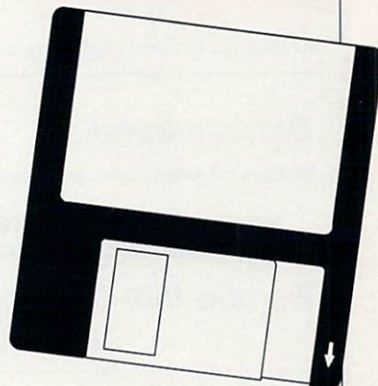
- Full coverage of Amiga DOS 1.3 functions
- Filing with and without the Workbench
- The Amiga's hierarchical filing system
- Pathnames and Device names
- The Amiga's multitasking capabilities
- The AmigaDOS screen editor
- AmigaDOS commands
- Batch processing
- Amiga Error code descriptions
- How to create new systems discs
- Use of the RAM discs
- Using AmigaDOS with C

Amiga Computing approved reading

£14.95



Need some extra discs?



There's always a demand for spare Amiga disks – and at Amiga Computing we have lots we will be happy to sell off at a really exceptional price. They are all disks that have been prepared as monthly cover disks, 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:

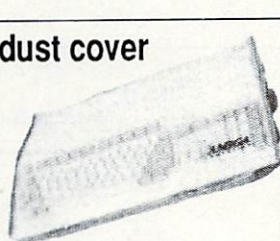
5 for £7.50!

25 for £20!

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

ArgAsm Probably the fastest assembler ever for the Amiga!

Exclusive price for readers of

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 level views of files
- ✓ Out/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

**AMIGA
COMPUTING**

£54.95

RRP £59.95

SAVE £5

**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 AmigaBASIC
- ★ Produces stand alone programs
- ★ Compatible with PC Quick Basic & AmigaBASIC

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.

Offers subject
to availability

AMIGA
COMPUTING

READER OFFERS

Back Issues

July 1990	£3.10	9725	<input type="checkbox"/>
Aug 1990	£3.10	9726	<input type="checkbox"/>
Sept 1990	£3.10	9727	<input type="checkbox"/>
Oct 1990	£3.10	9728	<input type="checkbox"/>
Nov 1990	£3.10	9729	<input type="checkbox"/>
December 1990	£3.10	9730	<input type="checkbox"/>

All these back issues include cover disk.

Bargain bundle

Six issues of Amiga Computing (July-Dec)	£17.00	9936	<input type="checkbox"/>
†Add £3 Europe & Eire/£12 Overseas			<input type="checkbox"/>

Rombo Vidi-Chrome

NEW	£119.95	9891	<input type="checkbox"/>
------------	---------	------	--------------------------

Protex Version 4

£79.95	9530	<input type="checkbox"/>
--------	------	--------------------------

Hi Soft Basic

Basic Compiler	£69.95	9896	<input type="checkbox"/>
----------------	--------	------	--------------------------

Battery charger

£19.95	9861	<input type="checkbox"/>
Plus post and packing £1.50		<input checked="" type="checkbox"/>

DG Calc

£14.95	9875	<input type="checkbox"/>
--------	------	--------------------------

Amiga Music

NEW	£44.95	9912	<input type="checkbox"/>
Soundblaster	£39.95	9913	<input type="checkbox"/>
Quartet	£34.95	9914	<input type="checkbox"/>
Master Sound	£99.95	9915	<input type="checkbox"/>
Package of all three			

(See page 110)

Amiga DABhand Guide

A comprehensive guide to the Amiga's disc operating system (version 1.2 and 1.3)	£14.95	9866	<input type="checkbox"/>
--	--------	------	--------------------------

Mail Order offers

Extra discs (set of 5)	£7.50	9887	<input type="checkbox"/>
Extra discs (set of 20)	£20.00	9888	<input type="checkbox"/>
Publishers Choice	£79.99	9867	<input type="checkbox"/>
Mini-Gen	£98.85	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	£89.85	9873	<input type="checkbox"/>
Mavis Beacon Typing	£24.99	9874	<input type="checkbox"/>
Home Accounts/Day by Day	£34.90	9851	<input type="checkbox"/>
ArgAsm	£54.95	9858	<input type="checkbox"/>
Flight Simulator	£35.95	9868	<input type="checkbox"/>
Pair of Scenery Discs	£31.90	9872	<input type="checkbox"/>
Flight Simulator+Scenery Disc	£65.85	9878	<input type="checkbox"/>
Rolling Ruler	£5.95	9930	<input type="checkbox"/>

Disc Bargains

Chess Simulator	£19.95	9932	<input type="checkbox"/>
Welltriss	£19.95	9933	<input type="checkbox"/>
American Dreams	£17.95	9934	<input type="checkbox"/>
Future Dreams	£17.95	9935	<input type="checkbox"/>

Pen Tech 2000

(see pages 106)

NEW	Matt Black	£14.95	9918	<input type="checkbox"/>
	Silver	£14.95	9919	<input type="checkbox"/>
	Silver + Black	£20.00	9920	<input type="checkbox"/>

Batman – The Movie Game

£14.95	9882	<input type="checkbox"/>
--------	------	--------------------------

Dust covers

£4.95	9507	<input type="checkbox"/>
-------	------	--------------------------

Mouse mats

£4.95	9508	<input type="checkbox"/>
-------	------	--------------------------

Binders

£5.95	9509	<input type="checkbox"/>
-------	------	--------------------------

Disc boxes

£4.95	9860	<input type="checkbox"/>
-------	------	--------------------------

Addition for postage: Europe & Eire add £3	<input type="checkbox"/>
Overseas add £5	<input type="checkbox"/>
Unless otherwise indicated	



TOTAL

**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**

By phone: 051-357 1275

By Fax: 051-357 2813

By MicroLink: MAG001

Don't forget to give your name,
address and credit card number

General Enquiries: 051-357 2961

Payment: Please indicate method (✓)

☐ Cheque/Eurocheque made payable to **Database Direct**

☐ Access/Mastercard/Eurocard/Barclaycard/Visa/Connect

No.

Name Signed.....

Address.....

Post Code

Daytime telephone number in case of queries.....

Expiry Date:

AMC1

POWER PC

No one ever got fired for buying IBM or so the old saying goes. It's a sad fact that IBM has gained itself that sort of power. First time corporate computer buyers are duped into buying under-powered PCs just because everyone says that IBM compatibles are 'the safe option'. Even when someone tries to bring a breath of fresh air to the corporate computer scene, the old guard trundle out and slam the machine just because it won't run IBM software.

In the early days, the Amiga suffered terribly from this syndrome. Commodore unwisely pitched the machine directly at the business computer market, which brought it into direct competition with the established PC standard. Everyone loved the machine's graphics and sound capabilities, but few corporate buyers bought one because it wasn't IBM compatible.

Indeed, if it wasn't for a change in marketing direction, and brand loyalty from existing users, the Amiga could well have died long before the birth of the second generation machines, the A500 and 2000.

Emulation solution

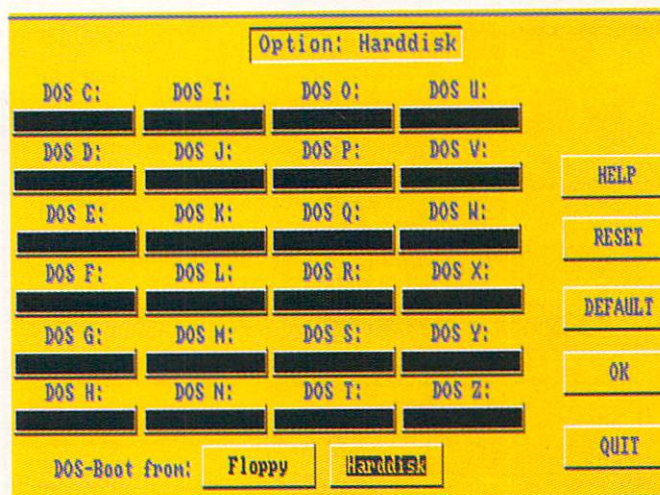
Commodore's answer to those concerned about the lack of IBM compatibility was a nifty little device that plugged into the side of the machine. SideCar, as it was called, was a clever box of tricks that effectively transformed the Amiga A1000 into a PC-compatible computer without the need for major open heart surgery.

For about £600 you got a snail-paced 4MHz XT emulator and a 5.25 inch drive, all of which was housed within a case nearly half the size of the machine itself.

This then was the Amiga's first ever emulator. It weighed a ton, cost a fortune and to top it all, was very slow.

Thankfully things aren't as desperate these days, but that's not

Vortex's long awaited ATonce AT emulator is finally here. Jason Holborn gets it on the test bench



The main installation screen

to say there's no more need for a good PC emulator. Far from it. The latest arrival is Vortex's ATonce, an emulator that certainly boasts an impressive specification. It is as the name suggests, a PC emulator which emulates an Intel 80286-based AT compatible computer.

OK, nothing particularly special so far, but there's one thing that really makes ATonce stand out, its price. At just under £200, it is not only one of the cheapest PC emulators available, but it also just happens to be one of the most powerful.

Apart from Commodore's own AT bridgeboard which costs considerably more than either ATonce or KCS, it is one of the first PC emulators to take advantage of the powerful Intel 80286 processor, which is the 68020 of the PC world.

Once you've handed over your £200, you'll be presented with a tiny box containing little more than two disks, an even tinier manual and the ATonce hardware.

The first thing that will strike you

about it is its size - if you thought Bitcon's KCS card was small, just wait until you see ATonce. It really is tiny. The card itself is so small that it could quite easily get lost under a floppy disk. But, as the old saying goes, the best things in life come in small packages, so you'd be wrong to judge ATonce on size alone.

The hardware actually consists of two separate items, both of which must be installed internally inside an Amiga 500 or 2000 using a separate adaptor. The second item is a Gary Module - that's what the manual calls it anyway - which is basically a chip holder with a resistor bridging two of the contacts that sits between the Gary chip and its socket.

According to Vortex, this extra piece of hardware is necessary to allow ATonce to run at its maximum speed.

The presence of this Gary Module is one reason why ATonce won't work with the A1000. The machine doesn't have a Gary

chip. Gary, or MOS 5719 0189 42 to the techies among you, didn't actually join the rest of the Amiga custom chips until the release of the 500 and 2000 series machines. As a result, A1000s are out in the cold. Oh well, such is the price of technological progress.

Vortex is justifiably proud of the ATonce PCB. Using the latest SMT - Surface Mounted Technology to you - circuit design, Vortex has managed to keep the size of the ATonce hardware to a minimum. As a result the board draws very little power so your Amiga power supply isn't put under too much strain.

Nuts and bolts

Installing ATonce certainly isn't a job for the faint hearted. For starters, it certainly isn't a plug in and go affair like its main rival, the KCS card. No sir, instead you have to open up the A500 - thereby invalidating your warranty - remove the 68000 chip from its socket and replace it with the ATonce PCB. Surprisingly, it comes complete with its own 68000 chip soldered on the underside, so your old 68000 can be stored away for possible future use - if you can find one.

Vortex claim that this was necessary to maintain compatibility with all Amigas. Personally, I'm not convinced. What do you do if your Amiga is fitted with a 16MHz 68000 or a even 68010? Well folks, there's a simple answer to that question you're stuck.

About the only solution would be to try and find someone who produces a device that allows two 68000s to be installed simultaneously. I haven't actually seen such a device, but it shouldn't be too hard to knock one up yourself.

Be careful when installing the ATonce PCB. The card uses CMOS technology which is very sensitive to static electricity, so take precautions when handling it. If you don't I can virtually guarantee you that

you'll fry ATonce at once. Better still, get an experienced electrical engineer to do the job for you.

Installing the Gary module is the second job, which is actually pretty straightforward. This time you have to remove the Gary chip and then install it onto the module. This is then plugged back into the slot previously occupied by Gary.

Once this is done you can put everything back together and start thinking about running all that lovely PC software.

Software express

If everything goes well, you're now ready to get ATonce up and running. Boot up the program disk, double-click on the ATonce icon and your new acquisition springs to life.

After a brief memory check, the PC displays a few lines of system information and then sits back waiting for a boot disk. A quick search through the bundled disks soon reveals a major problem you don't actually have a boot disk. Vortex, in its infinite wisdom, don't actually bundle MSDOS with ATonce, so you're going to have to look elsewhere for this.

If you already own a PC, then it isn't too much of a problem. After all, you can use the copy of DOS that came with that machine, as long as you don't use both machines at the same time, of course!

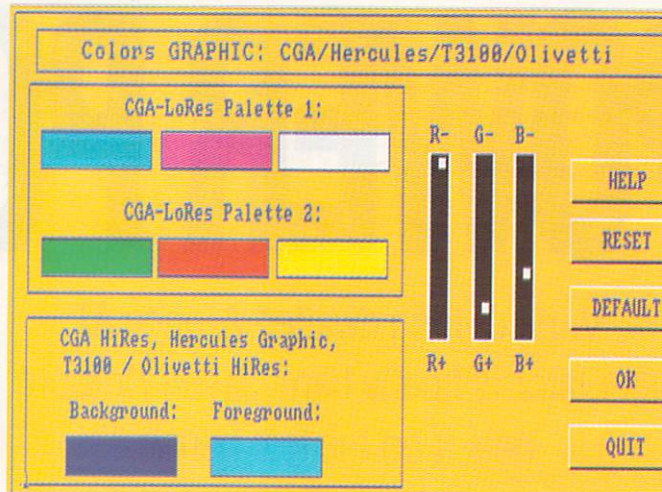
However, if you don't have access to a copy of MSDOS, then you'll have to dig deep once again and fork out around £40 for a copy of the PC's operating system – the latest 4.01 version of MSDOS will actually cost you £80.

Thankfully, SDL can also supply this, so you may want to add this to your shopping list when you order ATonce.

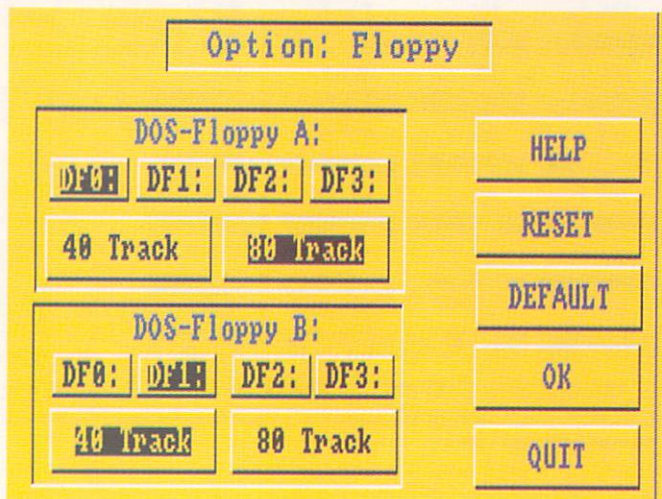
PC plus

MS-DOS problems sorted out, your hybrid Amiga-based PC should now boot up to the familiar MS-DOS A> prompt. From here on, things are exactly the same as they are on a real PC. But hang on a moment, there's something strange here. Every time you put a disk in the drive the Amiga still performs the usual read check. Surely this isn't necessary under PC emulation? After all, real PCs don't do it!

Well, in some ways you'd be right, the PC side doesn't need to access the disk each time a disk is



Lots of options, but CGA is slow



Control your floppies with ease

inserted, but AmigaDOS does. Put simply, ATonce is the first ever truly multi-tasking PC emulator for the 500.

OK, such things are old hat to A2000 owners, but AmigaDOS and MSDOS running concurrently on a 500? Some thought it impossible, but here it is in glorious technicolour, a fully multi-tasking PC environment for the 500.

At last you can run both PC and Amiga applications concurrently – memory permitting of course! – something that is sure to make PC owners green with envy. Being able to run PC software on an Amiga was bad enough, but to run it as a task?

It really is adding insult to injury. Multi-tasking support is the one feature that really makes ATonce shine.

Also on the program disk is an additional installation program, which allows you to alter different aspects of ATonce's operation. For

starters you can specify the screen emulation to be used. Four major screen modes, are supported: CGA, Hercules, Olivetti and Toshiba 3100, with up to 16 colours.

For most applications, it's best to use a mono screen mode because screen update tends to slow down considerably when using ATonce in 16 colour CGA mode. It's a shame there isn't support for some of the more recent PC screen modes. EGA would be possible, but VGA would certainly need extra hardware to be emulated successfully.

You can also assign Amiga drives to their MS-DOS equivalents. By default, ATonce treats DF0: as drive A, although this can be changed to DF1: through to DF3: if you feel the need.

This can be particularly handy if you're lucky enough to own an external 5.25 inch drive. Although most PCs now come with 3.5 inch drives, there's still a large number

of PC applications that are only available in the larger 5.25 inch format.

And it works

Ultimately, the most important aspect of any emulator is how well it can emulate. The good news is that ATonce certainly seems highly compatible. I managed to run applications such as Ashton Tate's dBase III+, Lotus 1-2-3, Borland's Turbo C, Turbo Pascal and Microsoft QuickBASIC, all of which ran first time. Due to disk protection, NextBase's acclaimed journey planner AutoRoute didn't work, which is a great shame.

I must admit that ATonce didn't seem to be quite as compatible as its rival, the KCS Card. Quite a few software titles which would run under KCS would just lock up under ATonce, leading me to conclude that perhaps KCS is the more compatible of the two.

Admittedly though, most of these were games, so I wouldn't be too worried about not being able to run them under ATonce – anyway, PC games are appalling!

Worth it?

It's been a long wait, but it was worth it. ATonce is quite simply stunning, but, and it's a big but, it certainly isn't the ideal choice for everyone. If the thought of wiring a plug sends shivers down your spine, then ATonce most definitely isn't for you unless you can talk someone else into installing it.

Then of course there's the problem of having to purchase MS-DOS separately. Vortex probably had a very good reason for taking the decision not to bundle this all important part of any PC system, although I'll be damned if I can suss out the reasoning behind it.

I also managed to find a few quirks that spoil its otherwise spotless image. Because both AmigaDOS and MS-DOS share the same drives, ATonce managed to screw up quite a few PC disks.

After losing one very major disk, I eventually decided that perhaps it's not a good idea to feed first generation disks to ATonce.

Another problem I found was that it occasionally seemed to lock up the keyboard for no apparent reason. This can be a barrel of laughs if you're using it to run professional applications software. I lost quite a bit of Turbo C code at one point something I was not happy about.

I originally thought this was a problem with my Amiga keyboard, but it continues to work on the Amiga even after the PC side has locked up, so it can't be a hardware fault. Mind you, I once had a Tandon PC that would do much the same thing if you managed to overflow the keyboard buffer. Maybe the ATonce is just emulating the terrible PC too well?

All things considered though, ATonce is an impressive product which only just loses out to the KCS card. From an emulation point of view the two are very well matched, but KCS pips ATonce to the post because it is comprehensive and easy to use. If Vortex was to obtain a distribution licence from MicroSoft and start bundling MSDOS for no additional charge, I'm sure the scales would tip in its favour. It is for precisely this sort of situation that MSDOS was written for in the first place

ATONCE vs KCS

There are now two PC emulators on the market, both of which seem to offer a stable PC environment. But when it comes to the crunch, which one is best, ATonce or KCS?

Well, from a technical point of view ATonce is the better product. It's 286-based, supports full multi-tasking, although you really need 2Mb to make this feasible, and will run a high proportion of PC software. However, the fact is it doesn't appear to be that stable.

Even with the presence of the 286 processor, ATonce doesn't seem any faster. Screen updating is much slower than KCS.

To find out their precise speeds, I

Option: Graphicadapter

Graphicadapter:

CGA	Olivetti	HELP
Hercules	T 3100	RESET

Number of CGA-Text Colors 80x25:

16	8	4	DEFAULT
----	---	---	---------

Hercules Text-Fonts:

H	L	HML	OK
---	---	-----	----

Screen: Invers Blinking

QUIT

Screen modes are flexible, if a bit pedestrian

Option: Memory/Mouse/RS232/LPT1

Memory: Step: 10 KB

Base: 640 KB << < > >>

Extended: 0 KB << < > >>

Expanded: 0 KB << < > >>

Mouse: COM1 COM2

RS232: ON OFF

LPT1: OFF &378 &278

HELP

RESET

DEFAULT

OK

QUIT

Memory and I/O control

fed the respected Norton Utilities SysInfo program through both emulators. To my surprise, both came out with exactly the same performance rating - 2.8, for those of you who are interested.

So what's the point in having this wizzo processor if it's no faster than a V30-based XT emulator?

Another advantage of KCS is its completeness. For £300 you get a ready to plug in and go emulator that could be fitted and working in a matter of minutes.

Included in the price are several items of software including MSDOS 4.01, MSDOS Shell and GWBASIC. In addition this emulator kit also doubles up as a 512K RAM expansion, making KCS even better value for money.

Oh well, decision time. Which should you buy? Well, I must admit that I'm not totally convinced by ATonce. It may be £100 cheaper, but the KCS card offers so much more for the extra money.

There are some acceptable excuses for opting for the ATonce though. Remember that the trap-door space, which is the only possible home for many of the new memory expansion systems, is left free by the Vortex device. The possibility of a true multi-tasking purpose for a PC emulator is another legitimate excuse.

True power users will buy ATonce just for the pose value of a 286 based PC emulator, but I think I'll stick with KCS.

ATonce (Amiga 500. Amiga 2000 needs separate adaptor)

£200

Silica Distribution 081 309 1111

THE COMPETITION

PC emulators have been with us since time began, at least it certainly seems that way, so there's a fair old selection to choose from if ATonce isn't your cup of tea.

- Bridgeboard. A2000 users have a choice between both an XT and an AT emulator card that fits internally to the Amiga A2000 upwards. Both come with a single 5.25 inch drive which can also be fitted internally, making it quite a nice compact solution. Problem is though, they certainly aren't particularly cheap. The basic XT emulator is nearly £400, while the AT version is nearer £800.

- Transformer. If you're totally and utterly skint, then Commodore's feeble software-based Transformer emulator is about the cheapest available. It runs at about 0.00001 MHz, making even the performance of a ZX81 look impressive. Unless forced by poverty, steer well clear of this dodo.

- KCS Power PC Card. Bitcon's acclaimed KCS Power PC card is about the only emulator that can challenge ATonce.

It runs at a very respectable 8 MHz, reads and writes PC disks and it even doubles up as a half

meg RAM expansion! It costs £100 more than ATonce, but you also get MSDOS 4.01, MSDOS Shell and GWBASIC software thrown in.

- SideCar. For A1000 users - don't knock it, the A1000 is still a fine machine - Commodore's aged SideCar is about the only option available.

If you search hard, you may be able to pick one up - at a car boot sale probably! - for about £200.

- A real PC! Time to face the facts. PCs can be picked up quite cheaply these days, so you

shouldn't ignore the option of buying a real PC compatible.

Amstrad pioneered the cheap PC market, but even they have since been beaten in the who-can-produce-the-cheapest-PC stakes. If you look around you could pick up a PC for as little as £300!

Obviously, a real PC is the best bet in terms of compatibility, but you must also consider that buying an extra machine will take up a lot of extra desk space.

Most importantly though, you'll also have to fork out for another monitor if you intend using both machines simultaneously.

Diamond Computers

**** Call your local branch now! ****

**Southampton (0703) 232777 Poole (0202) 716226 Midlands (0926) 312155
London 081-597 8851 Bristol (0272) 693545 Southern Ireland 061-376744
Manchester 061-257 3999 Export Hotline: 0272 693545**



Diamond's Screen Gems!

AMIGA 500 computer with all the following!

Shadow Of The Beast II, Days Of Thunder, Back To The Future II, Night Breed, Deluxe Paint II, Datastorm, Dungeon Quest, E-Motion, Grand Monster Slam, Kid Gloves, Chessplayer, RVF Honda, Shufflepuck Cafe, Microprose Soccer, Rick Dangerous + 100 PD Programs & a Joystick!
Special bonus: Two mystery games!

All for **£399** including VAT

Diamond's Flight Of Fantasy!

AMIGA 500 computer with all the following!

F29 Retaliator, Rainbow Islands, Escape From The Planet Of The Robot Monsters, Deluxe Paint II, Datastorm, Dungeon Quest, E-Motion, Grand Monster Slam, Kid Gloves, Chessplayer, RVF Honda, Shufflepuck Cafe, Microprose Soccer, Rick Dangerous + 100 PD Programs & a Joystick!
Special bonus: Two mystery games!

All for **£399** including VAT

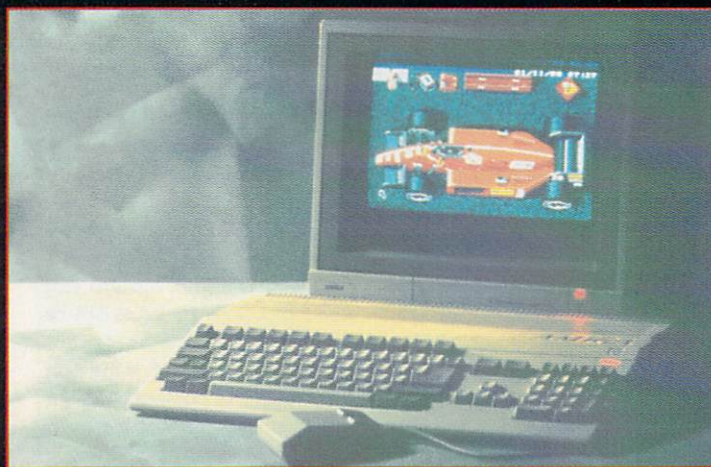


Diamond's Flight Of Fantasy 2!

AMIGA 500 computer with all the following!

F29 Retaliator, Rainbow Islands, Escape From The Planet Of The Robot Monsters, Deluxe Paint II, Blood Money, Menace, Ballistix, Total Eclipse, Dark Side, Clown-o-mania, Table Tennis, Saint & Greavsie, BAAL, Paperboy, Netherworld + 100 PD Programs & a Joystick!

All for **£399** including VAT



Commodore A590
20Mb Hard disk with 2Mb memory on board for the AMIGA 500

*** New give away price**
£299!



Diamond's Vision Pack

If you thought the Diamond Screen Gem Pack was good value for money then look:

Diamond's Screen Gem Pack

PLUS

New Philips 8833 Mk II Colour Stereo Monitor

PLUS Cables

£575

All for including VAT

AMIGA 500 + Philips Monitor £559

Diamond Word Processing Pack

The most complete Amiga pack:

Amiga 500, PSO, Mouse, Colour Stereo Monitor, Cables and High Quality Dot Matrix Printer. Inc. Word Processing software

£659

All for including VAT

Add an extra disk drive and half meg to your Amiga for just **£79** inc. VAT

First Steps AMIGA 500 Education Pack

Includes:

Deluxe Paint II, Deluxe Print II, Pro Write 2.5, Infofile, Music Mouse, Let's Spell at Home, Amiga Logo with Talking Turtle, BBC Emulator, TV Modulator + Introductory video. 0.5 Meg Upgrade!

£P.O.A.

Please call.

Only while stocks last!!

Stop Press!!!

Special Buy!

AMIGA 500 computers from only £259

Ring your nearest branch to order yours before it's too late!

Okimate 20

High Quality 24-pin colour printer

£149.95

including VAT, delivery, start-up disk, two ribbons & paper!

Order NOW! Next shipment due shortly

AMIGA

external drive

with thru-port & on-off switch!

£49.95

including VAT

Diamond are a Premier Commodore Dealer

The AMIGA 3000



AMIGA 3000 - 25 - 40

25Mhz clock speed with 40Mb hard disk
£P.O.A.

AMIGA 3000 - 25 - 100

25Mhz clock speed with 100Mb hard disk

£P.O.A.

Part exchange your AMIGA 2000 for an
AMIGA 3000 - 25 - 100 and pay
as little as **£1899**

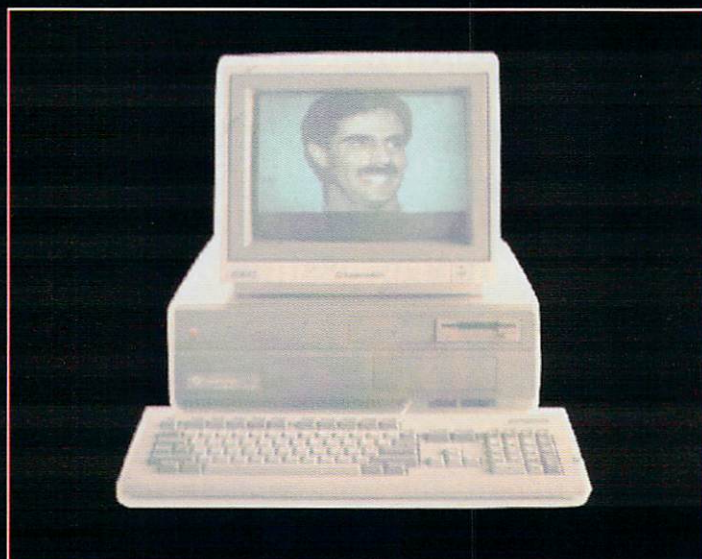
The AMIGA 2000

Call for prices of your 2000
system.

Part exchange your existing
AMIGA 500 system and get an
AMIGA 2000 from

£499 including VAT

Full range of peripherals
stocked – call for prices &
advise.



Call our expert sales team on your local number!

Amiga Storage Devices

40Mb HD – **£295**

40Mb HD + 2 Meg Ram – **£339**

100Mb HD – **£699**

200 Mb HD – **£ Too low to print**

THE ULTIMATE

44 Mb Removable hard disk, unlimited storage
capacity, each cartridge only **£99**

Controller, Syquest & cartridge only **£999** inc VAT

CD ROM PLAYERS NOW AVAILABLE

Amiga 2000 – 8 up Board – 2 Meg Pop

ONLY **£250** inc VAT

VIDEOS FROM DIAMOND

Pod Scat Graphics Tablet – **£Too low to print**

Rendalf 8802 Genlock – **£189** inc

New SVHS Rendale Genlock – **£399**

Rendale 8806 Genlock – **£499**

G2 Genlock – **£595**

Vidi Amiga inc Colour Kit – **£99**

Digiview Gold V4 – **£95**

Colour Pic – **£499** inc

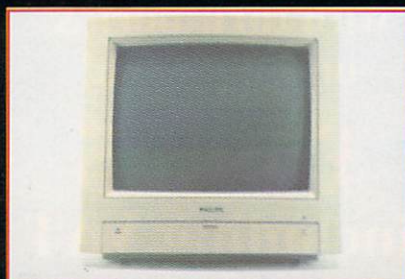
Markham Frame Grabber – **£499**

Panasonic Ave5 Video Mixing Desk – **£799** inc

Professional Amiga Software

Just a sample of our Prices, Call for the Title of your Choice

Professional Page V1.3 – **£99** Audio Engineer – **£179** inc Sculpt 4D – **£309**



The New Philips 8833 II

£199

with on-site maintenance

New Low
Price!

AMIGA 500 half meg upgrade

£29.95 including VAT

or £39.95 inc VAT with Comicsetter, Spritz Paint or Fantavision

AMIGA 500 8Mb ram board with 2Mb populated

Exclusive
to Diamond

Easy to install – fits under your computer in the trap door!

£149.95 including VAT

OR – POPULATE IT TO YOUR OWN REQUIREMENTS

A500 8Mb Board O.K. Pop. – **£99 inc.**

8Mb Board 4Mb Pop – **£249.95 inc.**

8Mb Board 2Mb Pop. – **£149.95 inc.**

8Mb Board 6Mb Pop – **£349.95 inc.**

8Mb Board 8 Mb Pop **£449.95 inc. VAT**

Deduct £30 if you part exchange your old 512K Ram Board

Fed up of Unplugging your Printer?

2 Way Switch Box inc. Lead – **ONLY £34.95 inc.**

4 Way Switch Box inc. Lead – **ONLY £49.95**

AMIGA

external

drive

£49.95

including
VAT

with through port & on/off
switch

Printers

Citizen Swift 24	£234
Philips NMS1432	£99
Canon Bubblejet	£438
Star LC10	£118
Star LC10 colour	£154
Star LC200 colour	NEW £169
Star LC24/10	£188
Star LC24-200	NEW £219
Star XB24/10 colour	£364
Panasonic KXP1124	£194
HP Deskjet 500	£379
HP Paintjet	£699
Citizen 120D	£102
Epson LX-400	£121
Epson LX-850	£168
Epson LQ-550	£249
Okimate 20	£130

STOP PRESS – NEW JUST IN

OKI 880 24 pin Sheet Feeder **£295**
OKI Laser **Too Low to Print**

Monitors

Philips 8833 (UK)
colour stereo monitor – **£199**

NEW

Philips 8833 Mk II – **ONLY £199**

Commodore 1084S
colour stereo monitor – **£189**

New Commodore 1084SD – **£209**

Diamond Multisync 2 – **£295**

Diamond Multisync 3D

Super VGA 1024 x 768 – **£379**

NEC colour monitor (for BBC B &
Master, C64, Amstrad PPC, IBM PC)

**TUNER FOR ANY MONITOR WITH
CUBS INPUT**

ONLY £49.99

HOW TO ORDER:

Phone through with your Access or Visa card, or send a cheque or P.O. to your local branch.

Diamond Computer Systems Ltd., 84 Lodge Road, Southampton, SO2 2QS.

Diamond Computer Systems Ltd., 406 Ashley Road, Upper Parkstone, Poole, Dorset, BH14 0AA.

LHC Microsales, 121 Regents St., Leamington Spa, Warwickshire.

LAN Computer Systems Ltd., 1045 High Road, Chadwell Heath, Romford, Essex.

Diamond Computer Systems Ltd., 227 Filton Avenue, Horfield, Bristol.

Diamond Computer Systems Ltd., 1022 Stockport Road, Levenshulme, Manchester

Diamond Computer Systems Ltd., Ballina, Killaloe, Co. Clare, Eire.

Southampton (0703) 232777

Poole (0202) 716226

Midlands (0926) 312155

London 081-597 8851

Bristol (0272) 693545

Eire 061-376740

Manchester 061-257 3999

**All prices exclude VAT unless otherwise stated. Courier delivery £7.50.
Next day service £10. E&OE. All prices correct at time of going to press
and subject to change without notice.**

AMIGA ATARI & PC SOFTWARE

The Tipster

This HORSE RACING software was used to select the 100/1 NORTONS COIN outsider in this years GOLD CUP. Data for this program requires the RACING POST. An INTERNATIONAL version is available for AMIGA & ATARI computers using the DAILY MIRROR for data on UK races.



£29.95



The Punter

Let your computer WIN THE POOLS for you with our latest software. We have used the same sums that the TIPSTER proves can beat the odds to give you a better chance with on any pools coupon. The AUSTRALIAN version is included on the disk which also contains the LATEST ENGLISH leagues.



£29.95



The Dogs

This GREYHOUND RACING program is available on the AMIGA and ATARI ST. Using data from either the DAILY MIRROR or RACING POST, you can rate races over HURDLES and the FLAT. Very easy to use, this program will rate 5 races in under 1/2 an hour



£29.95



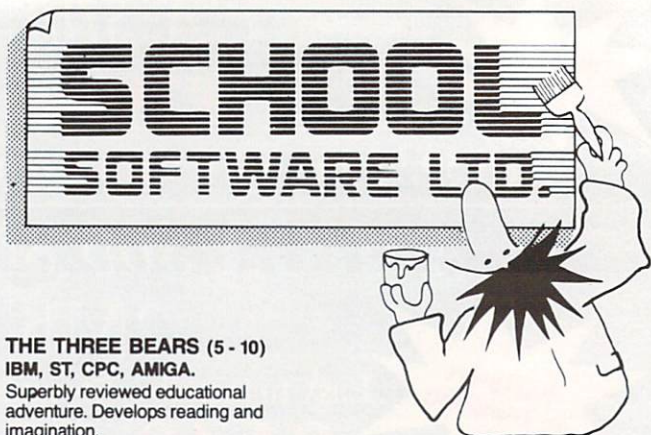
★ ★ PART TIME PROGRAMMERS REQUIRED ★ ★

If you have games, utilities or business programs written on the Amiga, Atari ST or PC, please send details and a demo.

TAM Marketing
7 GD UNITS, Marsh Barton
Trading Estate, Exeter Devon
SALES: 0392 427186
ENQUIRIES: 0392 215485

PLEASE QUOTE

AMIGA COMPUTING



THE THREE BEARS (5 - 10)

IBM, ST, CPC, AMIGA.

Superbly reviewed educational adventure. Develops reading and imagination.

MAGIC MATHS (4 - 8)

IBM, PCW, ST, AMIGA.

Highly rated primary maths programs. Selection of games. Add and Subtract.

MATHS MANIA (8 - 12)

IBM, PCW, ST, AMIGA. "The best primary programs I have yet seen." Multiply, Divide, Maths Skills.

BETTER SPELLING (8 - 18)

IBM, ST, PCW, AMIGA, CPC, BBC, CBM (D). Highly acclaimed tutor. Received excellent reviews. Challenging.

BETTER MATHS (12 - 16 GCSE)

IBM, PCW, ST, AMIGA, CPC, CBM (D). Very comprehensive coverage of all the major aspects of maths for this age group. Excellent.

JUNIOR TYPIST (4 - 10)

IBM, ST, AMIGA. Keyboard trainer which helps spelling.

THE BEST IN EDUCATION

HOW TO ORDER

1. Post your order.
2. Fax your order.
3. Ring credit card number.
4. Ring for advice.
5. Ask your dealer to order.

Prices:

IBM 5¼ or 3½, ST & STE, AMIGA £22.95
CPC, PCW, CBM (disks) £16.95
FREE CATALOGUE

ORDER DIRECT TO:
School Software Ltd.,
Tait Business Centre,
Dominic Street, Limerick, Ireland.
Tel: (U.K.) 010 353-61-45399.
Fax Orders: 010 353-61-44315.
Credit Card Hotline (U.K.):
010 353-61-45399.
Others Tel: 010 353-61-45399.

AUTHORISED DEALER FOR * AMIGA * STAR *

PRINTERS

Citizen 120D+	129.95
Star LC-10	159.00
Star LC-200 Colour	209.00
Star LC24-10	239.00
Star LC24-200	259.00
Star LC24-200 Colour	299.00
Star XB24-10 24 pin	481.85
Okimate 20 Ribbons/Heads/ Paper	PHONE

DISK DRIVES

A590 Autoboot 20Mb + S/W	279.00
A2000 Internal 3.5" ...p&p	£2 69.95
A500 Replacement Internal 3.5" ...p&p	£2 69.95
High Quality Amiga Ext 3.5"	
Metal Cased ...p&p	£2 69.95

MONITORS

Commodore 1084S Stereo	239.00
Philips 8833-II Stereo Colour	249.00
Quadram Hi-Res Multi-scan	329.00

MISCELLANEOUS

A500 RAM/Clock 512Kb with Disable Sw	39.00
A500 RAM/Clock 1.8Mb (Internal Connect)	149.00
RAM Chips for A590/2091 per 512Kb	29.00
A500 Compatible Power Supply	49.00
Kickstart V1.3 ROM for A500/2000	28.00
1Mb Fat Agnus 8372A	69.00
CIA Chip 8520	15.00
Rendale 8802 Genlock	199.00
Vidi-Amiga PAL Frame Grabber inc filters	129.00
RGB Composite Video Splitter	69.95
Surge Protector 4-Way	
Block/ 3-Way Adaptor	15.95/19.95

ALL PRICES INCLUDE 15% VAT
CARRIAGE £5 (EXPRESS £10)
Price subject to change without notice. E. & O. E.

Delta Pi Software Ltd



8 Ruswarp Lane, WHITBY, N. Yorks YO21 1ND
TEL/FAX: 0947 600065 (9am-7pm)



NEW FROM THE CREATORS OF STOS MAESTRO

TECHNOSOUND AMIGA

STEREO SOUND SAMPLER



- * FREE SAMPLES DISK WITH 57 SAMPLES
- * TRUE AND SIMULATED STEREO
- * REAL TIME EFFECTS
- * COMPREHENSIVE EDITING CAPABILITY
- * EXTENSIVE LOOPING FACILITIES
- * SAMPLING BY MUSICAL NOTE OR FREQUENCY
- * STUNNING STUDIO STYLE EFFECTS
- * ECHO-REVERB-HALL-ROOM-PHASE

PLUS **FREE** AUDIO TUTORIAL CASSETTE

NEW DIMENSIONS

BROOKLANDS HOUSE
BRYNGWYN
RAGLAN
GWENT NP5 2AA
0291-690933/690901

£34.99
£24.99 WITHOUT CARTRIDGE
+ £1.50 POST AND PACKING



Adlington Park, Macclesfield SK10 4NP

Despatches — Write to Amiga Computing, Europa House,

Exam time

I am a third year student at Napier Polytechnic studying printing (administration and production). As part of my course work I have to complete a project The Implications for Colour in Desktop Publishing using an Amiga I would be very grateful if you could give me any information on the following questions.

1. Just how effective do you feel colour desktop publishing is compared to traditional typesetting methods?
2. What are the advantages to the magazine designer using a colour desktop publishing system?
3. What are the new design possibilities offered by colour desktop publishing systems?
4. What does colour desktop publishing imply for the production of the magazine?
5. What do you think the implications are for the magazine industry regarding advancing technology in desktop publishing?

Any help with the above would be most appreciated. I look forward to hearing from you.

Andrew Markin, Edinburgh.

Jeez, you didn't even attempt to disguise the exam questions did you? Lifted straight from the paper as I live and breathe!

Well, Andy, I'm not going to help you to cheat by answering your questions in full - here's a potted version.

Colour desktop publishing compares favourably with traditional methods in terms of quality. Old printing sweats will probably tell

you that there's nothing like the old way of doin' fings, but to the untrained eye, there's very little difference (particularly in magazine and newspaper publishing).

As for speed and freedom of production, silicon beats hot metal hands down. The supreme flexibility of a computer DTP system has to be experienced to be believed.

And that is as far as I'm prepared to go. You'll just have to spend a few nights in the library, reading the relevant studies and papers and formulate your own answers - have fun!

We've got nice paper!

It has been in my mind for some time to write and congratulate you and your staff on producing a continually improving magazine. It was only when I picked up the December issue today that I decided to do something about it.

I don't intend to go on at length, merely to stress that having bought or subscribed to just about all the Amiga magazines available in this country and America over the years, I consider that you are worthy of the number one position. Both the new layout and quality of paper are impressive indeed! Long may you flourish.

R C Medford, Cheshire.

Thank you Mother...

Upgrade path

Has anyone stopped to consider how many Amigas there seem to be now (forgetting the excellent CDTV for a moment)? Apart from

Commodore's own A500, A1000, A2000, B2000, three A3000s and an A3000-UX, there are also three other boards and peripherals that claim to be Amigas. These are Checkmate's A1500, GVP's A3000 and the new A5000 from SSL. That makes 11 configurations in total. With that kind of choice, how can the Amiga fail to succeed?

The answer is that it can! The only machine that is supported is the A500, usually with .5Mb of RAM as well, which is a very primitive machine when compared with VGA PCs. Of course, machines like the A3000, A3001 and A5000 are vastly superior to the PC but the A3000 is vastly over-priced and the A3001 and A5000 will probably not be supported.

In the case of the A5000, it is claimed that your Amiga will run six times faster. How many programs can you think of that need that kind of speed? Spreadsheets, databases, DTP, art and animation programs maybe. But what about games? Would you really want Xenon II or F-29 Retaliator to be six times faster? They'd be completely unplayable, as would most other games.

Now I'm not saying that the faster machines can't have better games, look at 20MHz VGA PCs for instance. 256 colours on screen which really make the processor work for its money while still keeping a lively speed.

The point that I'm really trying to get at in this letter is that there is no clear upgrade path for the Amiga after the A500. The B2000 is, after all, exactly the same in performance, while the A3000 is too expensive for all but the serious user. Cards like the A3001 and A5000 are all very well, but since they are third party, will

probably not be supported. After all, can you see Ocean bringing out a conversion of an arcade game that uses the boards allowing a game to be indistinguishable from the original in HAM mode?

What Commodore needs to produce is a machine that replaces the B2000 but still offers a cheapish machine (\$600 extra) upgrade for A500 owners. This machine needs to be 32-bit, with a 20MHz 68020 and the ability to put in maths co-processor later. It should have a 1Mb of super-fast RAM as standard, upgradable to 4Mb and a separate keyboard and processor with lots of connectors.

Sounds impossible? What I've just described is a combination of an A1500 and an A5000 costing about £730 together. Obviously, they don't cost that much to make so why can't Commodore put all that in a package for around £1,000 and call it the A2500?

And while the company is about it, two more sound channels wouldn't go amiss. This new graphics mode could be introduced into a new baby Amiga as well (the fabled B500?), thus allowing full software compatibility. As it is, I can only see a machine like this being considered as a games machine in the future and never as an entertaining and serious one like the PC.

Jason Glover, Basingstoke, Hampshire.

Surely the point is that anyone laying out megabucks for one of the top-end machines or upgrades does so because they have a pressing need for a computer offering immense power? No one who simply wants to play games is going to bother to spend cash on a heap of power they don't need, right?

Software houses have to appeal to the lowest common denominator so that they don't exclude anyone.

What do the rest of you think? How many of you bought upgrades or powerful machines in the hope that software houses would convert their games to incorporate better resolutions, a larger memory quotient and so on?

Any takers?

I have just acquired my City and Guilds certificate in applications programming, receiving two distinctions and two credits so if anyone is looking for a trainee computer programmer in or around London, would they please contact me? Thanks for the plug. (No problem. Good luck! - Ed). And now for some questions.

1. The Pagesetter II demo is great and I am considering buying it. My deciding factor however, will depend on the form of protection employed. Does it use a dongle?

When I first had a Commodore 128, I had more dongles than sockets and if I lost one, my software became worthless.

2. Is there an analogue joystick available that will serve as a direct replacement for the Amiga mouse?

3. Do you think you could set a programming problem each month? The emphasis would be on technique rather than volumes of code.

4. In your recent questionnaire you asked

about how many other people read one copy of Amiga Computing. If someone else reads my copy of Amiga Computing, that's piracy isn't it?

Mark Ford, 22 Farley Hill, Luton, Beds LU1 5HQ.

Gold Disk has - sensibly - decided not to copy protect Pagesetter. The result is that you can make a backup without problems. An analogue joystick to replace the mouse? Not as far as we know.

We could set programming problems, what do the rest of you think? If you want a programming problem write and tell us.

The question about other readers was an attempt to determine how many people we reach, not how many more we could sell to. Not everyone can afford to buy a magazine, we understand that, and welcome those who must resort to reading someone else's copy.

Short sighted?

I was just reading the November issue and thinking how much I like Amiga Computing, the news, reviews and of course the letters page. In fact, I have recommended your magazine to several new Amiga users (jolly decent of you! - Ed). This time I happened upon a very strange thing. One of your adverts is actually for Atari ST software! In the same advert, in brackets and very small print is written 'Amiga and PC also available'.

Not only does this rub salt into the wounds as a dedicated Amiga user, but as I recommend your magazine as the best Amiga-only magazine very often, it also doesn't do a lot for your credibility or mine come to that!

The advert is on page 80 but your advertisers' index states that it is on page 68 - another boob?

The question is, does anybody actually proof read your magazine? If so, when does s/he get his/her new glasses? If you require somebody to check the adverts etc., I willingly volunteer my service (perhaps in return for some blank cheques...).

Graham D Morecroft, North Yorkshire.

Ho hum, that old chestnut. Many advertisers cater to both the Amiga and ST markets and consequently, run one advert in both ST and Amiga mags. Unfortunately, the particular advertiser you're talking about has given more emphasis to the ST side of the biz. In fact, the company also offers a corking service for Amiga owners too.

We've got a proof reader. Problem is, the only glasses he's familiar with are cylindrical and have foaming, creamy heads on them - oh well...

Down with games!

Congratulations! I'm glad to see someone exercising that grey matter between their ears (I won't use the term 'lug holes' as this is an up-market magazine...). What am I talking about? This is the first magazine that I've read that has not printed its questionnaire to be cut out and

returned on the back page of the magazine.

I'd say this is the top Amiga magazine out at the moment. It's not full of rubbish on games and you don't need a dictionary to read it.

Talking about games, I think I'll have a dig at them. Picture this. You are built like a brick wall, someone you know has been kidnapped or the world has been taken over by the evil Lord Shoutalot (I was tempted to say 'that git Harris', my form master, but I won't because I'm such a nice person). Anyway, you have to walk from A to B to complete the game, kicking and hitting everything that moves. Every now and again, some bloke about ten feet tall will come along and guess what? You have to hit him.

That has just about summed up 99.9 per cent of all games. A demented peanut that's brain dead could complete this...(edited here to save the terminally bored...Ed)

Chris Webb, Southampton.

Yeah, yeah - if only you could spell as well as you can play games, right? Perhaps you ought to pay a little more attention to Mr Harris and stop worrying about Amiga owners who like to play the occasional game.

Copyrights

Could you please help me on a matter of the copyright of files which appear on your coverdisks?

The query I have is with reference to the piece of music entitled Marilyn by Steve Cooper. Am I allowed to use this or other pieces of music in my own programs, as long as I make no financial gain from them?

The author of the piece will get a credit in the program as will Amiga Computing. The program would then be released into the public domain.

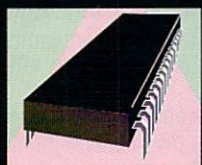
As I presume the disks on the front of your magazine are already public domain (I have seen them for sale in various public domain libraries for instance), I see no problem in using files from them in non-commercial programs, but could you please confirm this point?

Matthew Norman, Warley, West Midlands.

You can use the stuff on the disk without problems. To remain within the definition of public domain, you shouldn't alter any PD programs from our coverdisk, and if you pass them on, you should include any associated documentation and so on. Music samples and so on can be used and abused.

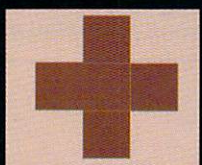


amiga almanac



MACHINE CODE127

The way to the heart of any hi-tech machine is via the lowest level - the machine code level. Jolyon Ralph presents his continuing adventures in all things 68000.



CODE CLINIC129

This month, Paul Holmes delves deep into the Amiga's music making capabilities and how they relate to programming. SMUS, SHDR, TRAK and so on, bared for all to see.



MUSIC131

Silver silicon songster Jason Holborn discusses what's new and best from the world of Amiga music, presenting a tuneful whole that is simply hard to resist.



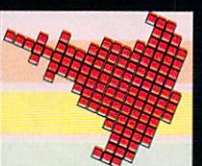
COMMUNICATIONS133

News from the airwaves. This month, Eddie Mckendrie presents and in-depth exploration of British Telecom's popular public access service, Micronet.



DESKTOP PUBLISHING135

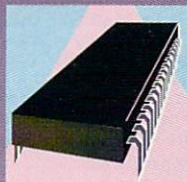
Throw away your scalpel, spray mount and set square, Nick Vietch wields the electronic pages using nothing more than a standard Amiga and some funky software.



AMOS137

Games ideas, but no programming skill? Halfway through that arcade corker but don't know how to finish? Don't sweat it, all the answers and more are here.

This month, Jolyon reveals the secrets of Soundtracker and gives you the best (and worst) from the world of assemblers . . .



Machine Code

Assemblers Look out for:
1. Integrated Environment. Some assemblers only operate from the CLI. That means you'll have to execute several (long-winded) commands to edit a file, assemble it, link it and test it. In an integrated environment all this is looked after for you (although they should also allow you to use it via the CLI if you really have to). You run the editor and menu options allow you to assemble the current code and test it without having to leave the editor. This saves an awful lot of time.

2. Macros. Almost all assemblers have macro support. Macros are not 68000 instructions, but a sort of language to make writing your source code easier. Here is an example:

```
REPT 250
move.l (a0)+,(a1)+
ENDR
```

This would give the same results on assembly as 250 lines of MOVE.L (a0)+,(a1)+. It's important to realise that this isn't a 68000 loop, but merely an instruction to the assembler to assemble the following line 250 times.

3. Speed. OK, speed isn't that important, but if you've got 200K of source code, would you rather wait half an hour or 30 seconds for it to assemble?

4. Compatibility. Most good assemblers are compatible with the original Metacomco Assembler at least to some extent. This is useful as most public domain source codes are in this format. HiSoft Devpac 2 £59.95 is one of the oldest assemblers around and there are versions for many computers.

It's a comprehensive package, containing an assembler, integrated editor, monitor and linker and contains everything you need to start programming in 68000, including a little 68000 reference book.

Compatible with Metacomco, HiSoft is probably the most widely-used Amiga assembler around. Make sure you get the latest version (2.15).

Argonaut ArgAsm is a god assembler and costs £59.95. Argonaut, the people who brought you Starglider and Starglider II, got fed up with using slow assemblers on their Amigas, so they set out to write the fastest assembler yet on the Amiga. It beats Devpac (the next fastest) for speed by about 6:1. It also includes an integrated editor, but no monitor. It's memory-hungry. Don't expect to use it without at least 2Mb of memory for all but the simplest programs. If you have a machine with plenty of memory and a hard disk, this is the assembler to go for, I use it for most of my work.

Kuma K-Seka 68000 is another old assembler which unfortunately, it hasn't been updated for quite a while, and it shows. The editor makes AmigaDOS's Ed look professional. It's not compatible with Metacomco Assembler, and won't allow you to assemble a file with more than one section. Best advice is to avoid it.

Oxxi AssemPro has the nicest looking user interface of the bunch, with separate windows for Editor, debugger, assembler and on-line reference, however the editor saves files out in a non-standard format and is not compatible with Metacomco. It's not terribly fast either.

A68K is a public domain which is the only freebie assembler in this line-up. It's a very basic affair, similar in operation to the original Metacomco Assembler. If you want a cheap way into learning assembler, this is a good place to start, but it's difficult to use and will probably put you off coding for life.

There are some places doing cheap copies of the original Devpac version 1 (you can usually pick it up for about £10). This is a much better product, although not as good as the latest version.

Monitors

When your code fails and you can't work out why, you have two choices. Either sit back with the source code and think through the whole process very carefully (the

best way), or load up a monitor and go bug hunting (the quick way).

HiSoft Monam 2, part of the Devpac 2 package. This is an excellent debugger. It's a symbolic debugger, if you assemble a program with the Debug Info option set to ON, it will add a symbol hunk to your file, which basically means when you load it into the debugger, instead of getting loads of instructions and strange hex values, you get all your original labels displayed in the disassembly. This really makes debugging easy.

The Amiga Mon, also called Rossi Mon after its author Timo Rossi, is a fully featured monitor from the public domain, allowing you to load files, single step, and disassemble, save blocks of memory, load and save raw disk tracks, search memory and so on. In fact every time I load it there seems to be another feature I overlooked.

This monitor doesn't support symbol hunks, however, but we are promised this for a future release. What other software do you need? If you want to compact your files (not a bad idea if you're short of disk space) you need PowerPacker and Titanics Cruncher.

Picture conversion

Need to convert IFF graphics or fonts into easy-to-use format files? Ask for IFF Converter and Font-2-Raw. All this and more should be available from your local public domain merchant.

Soundtracker. You either love it, or you hate it. This non-standard, non-approved, non-legal music program suffers from many faults, but it's ease of use has won out and made it (and its derivatives Noisetrapper & Protracker) the most popular Amiga music package around.

Unfortunately, from a programmer's point of view, there is no official documentation of the file formats, so if you wanted to use a tune in your program, you would have to use one of the widely-spread and badly-written hacker's replay routines.

Now, for the first time ever, I can

reveal the Soundtracker file format for everyone to use themselves. All recent soundtrackers save out using the module format. This is a filename with a MOD. prefix, containing the song data and the instrument samples combined into one file. The older versions of Soundtracker only supported 15 instruments:

NAME BLOCK: Offset Size
Description \$0000 20 bytes ASCII
Module title

INSTRUMENT BLOCK: Offset Size
Description \$0014 15 x 30 bytes
Instrument Data

Instrument block, starting at offset \$0014 contains 15 instruments, each 30 bytes long, the instruments have the following format:

22 bytes ASCII
Instrument name 1 word
Sample length *IN WORDS* 1 word
Sample volume, 0 to 64 1 word
Repeat start position *IN WORDS* 1 word
Repeat length *IN WORDS*, 1=no repeat

SONG BLOCK: Offset Size
Description \$01D6 1 byte Number
of patterns \$01D7 1 byte Set to 120. Not used \$01D8 128 bytes

Pattern play order list. 1 byte per pattern, max 200 \$0258 1024 bytes*number of patterns

Each pattern is made up of 64 rows. Each row consists of 4 long-words (1 for each channel) of the following format:

* \$00 1 word period value of note \$02 1 word control word.

The control word contains information on which instrument is being played, along with special effects such as volume slide. Format for this word is: \$xyzz, where x is the instrument number (0 to 15), y is the effect (Set Volume is \$C) and z is the value for this effect.

SAMPLE BLOCK: This follows immediately after the song data, and contains the 8-bit sample dumps for the instruments 0 to 15 in order.FALSE;

It's official!
READING and SPELLING
will both feature in
NATIONAL CURRICULUM ASSESSMENT
for all 7 year olds.

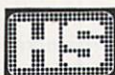
Give your child a head start with our best selling "Read-Right-Away" series. Specially designed by a team of Teachers, Psychologists and Professional Programmers, these games are used daily in thousands of schools, and are now available for the AMIGA, featuring:

- ☆ Full colour graphics
- ☆ Sampled sounds.
- ☆ 2 exciting games in each pack

READING PACK 1
Age 5-8
Price £11.95

Special Offer!
Reading Packs 1+2
for only £19.95!

READING PACK 2
Age 6-9
Price £11.95



Software, Freepost, Swansea, SA2 9ZZ
Tel.: (0792) 204519 Fax: (0792) 298283



Sagittarian PD

FOR THE AMIGA - 99p PER DISK PLUS 50p P&P PER ORDER
SAE FOR FREE PRINTED CATALOGUE - CATALOGUE ON DISK 70p

AC1 - Fish 23 Lattice CV3.03 with include files
AC2 - Fish 337 C-Manual (1 disc archived or 3 discs unarchived, please state)
AC3 - Doctor Who digitised slide show 1
AC4 - Doctor Who digitised slide show 2
AC5 - Star Trek: The Next Generation, digitised slide show 1
AC6 - Star Trek: The Next Generation, digitised slide show 2
AC7 - Red Sector Megademo (2 disks)
AC8 - Scoopsea - Mental Hangover
AC9 - Kefrens - Megademo 8 (2 discs)

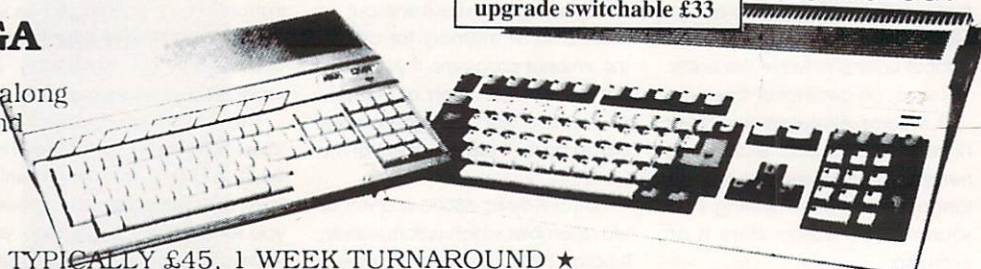
AC10 - Star Trek game 1 (3 discs, 2 drives, 1 Meg)
AC11 - Space Ace demo
AC12 - Home finance disc including Visicalc, Banker and Home Help
AC13 - Agatron slide show 8
AC14 - Fish 344 - ROM kernel reference manual companion
AC15 - Luxo teenager Raytravel Animation
AC16 - The Walker demo 1 (1 Meg)
AC17 - The Walker demo 2 (1 Meg)
AC18 - Monty Python - Nudge, Nudge Sketch (2 discs)

PLEASE ADDRESS MAIL TO: PAUL BROWN, (AC3)
104 WOOD STREET, LONDON, E17 3HX
CHEQUES/P.O.'S PAYABLE TO P.A. BROWN

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 512 RAM
upgrade switchable £33

FIRST AID FOR TECHNOLOGY

★ TYPICALLY £45. 1 WEEK TURNAROUND ★

W.T.S. ELECTRONICS LTD, CHAUL END LANE, LUTON, BEDS LU4 8EZ
Tel: 0582 491949 (4 LINES). Fax: 0582 505900

SEVEN SEAS CHRISTMAS SPECIAL

All disks at £1.30 each

50 BEST SELLERS

- | | |
|------------------------------|---------------------------|
| 01-STAR TREK GAME 1 (2) | 26-DOPE INTRO MAKER |
| 02-UNTOUCHABLES UTILITIES 2 | 27-MED V2. 01E |
| 03-STAR TREK GAME 3 (2)* | 28-PRINTER DRIVER CREATOR |
| 04-ESA UTILITIES | 29-DARKSTAR TRACKERS 2 |
| 05-SPACE WRITER | 30-GAMES HELP |
| 06-FULLFORCE UTILITIES | 31-PET SHOP BOYS DEMO |
| 07-STAR TREK GAME 2 (3)+* | 32-ROBOCOP DEMO |
| 08-BATMAN - THE DEMO | 33-THE WALL |
| 09-TBAG 41 | 34-HOLSTEN PILS AD |
| 10-DISK LABEL PRINTER | 35-CROCKETT'S THEME |
| 11-TBAG 43 | 36-MAD MONKS DEMO |
| 12-THE DESIGN FACTORY (3) | 37-MANDLEBROT DESIGNER |
| 13-ALCATRAZ MEGADEMO 4 (3) | 38-PARADROID '90 DEMO |
| 14-FRACTION HORRA | 39-PROGRAMMING DISK 1 |
| 15-AMOS MUSIC SAMPLES | 40-TBAG 40 (2) |
| 16-RETURN TO EARTH | 41-FISH 336 |
| 17-BREAKOUT CONSTRUCTION KIT | 42-FISH 337 |
| 18-TRACK RECORD GAME | 43-SOUNDTRACKER V2.0 |
| 19-LEARN TO PLAY (2) | 44-PUGGS IN SPACE |
| 20-BLIZZARD | 45-AMUSE 16 |
| 21-ASTRONOMY PACK (3) | 46-UEEDIT WORDPROCESSOR |
| 22-SPACE ACE DEMO | 47-RIM DATABASE |
| 23-TV GRAPHICS (2) | 48-MONOPOLY |
| 24-PAGESETTER CLIP ART | 49-TREASURE ISLAND |
| 25-GAMES MUSIC CREATOR | 50-PARANOID |

*1 Meg. +2 Drives. () No. of Discs

Send £1.00 for latest PD Disk catalogue

All prices include postage and packing

Make cheques or P.O.s payable to:

SEVEN SEAS, 60 CANARY ROAD, DUNGANNON, CO. TYRONE BT71 6SU. TEL: 08687 84540

WESTONING LTD

NEW LOW, LOW PRICES!

3 1/2 DS/DD
30p

5 1/4 DS/DD20p
5 1/4 DS/HD38p

3 1/2 DS/HD 70p

3 1/2 BOXES

40 cap £3.50

80 cap £4.00

150 cap £10.75

5 1/4 BOXES

50 cap £3.50

100 cap £4.00

★ NO QUIBBLE GUARANTEE - FOR LIFE! ★

ADD £4 P&P OR £9 NEXT DAY DELIVERY

AMIGAS

Screen Gems.....£349
First Steps.....£495
Class 90s.....£495
External Drive.....£55
1/2 meg upgrade with clock.....£35
1/2 meg upgrade without clock.....£29
1 1/2 meg upgrade with clock.....£90
1 1/2 meg upgrade without clock.....£90

VISA



ATARI

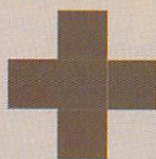
520 Discovery ...£260
520 Power.....£350
1040 Extra£420
Portfolio£210

ALL PRICES INCLUDING V.A.T.

WESTONING LTD

12 SANDERSON ROAD, WESTONING, BEDFORD MK45 5JY
TEL: 0525 718668 0836 775060

To the dying echoes of Auld Lang Syne, here's Holmes. This month he's on about music and why the amiga's so good at making it



Code Clinic

The Amiga makes and stores its musical files in a format known as SMUS. Every file has at least two chunk types SHDR and TRAK. SHDR is very simple. Take a look at this

```
53484452 00000004 3E807F02
SHDR...
```

In the format used by last month's IFF analyse program, it comes out as

```
SHDR ( ;size=4
tempo 16000
volume 127
tracks 2
)
```

The tempo is 16000 128ths of a quarter note per minute! This is 125 beats per minute in common parlance. Volume is 0 - 127, so this piece is to be played back at full volume. Finally, there are two tracks Current Amigas will play up to four at once, but the standard lets you have as many as you want, so when you get an A9000 with 2 gigabytes and 20Gb floppy, you might be able to do a whole orchestra. Good programming note - make your programs ALLOW for future developments.

Each track contains a sequence of 16-bit 'events'. An event can be a note, a rest, a time signature or one of a few other things, as we'll see later.

Each event is coded by two bytes - the first 'sID' tells you the type of event, the second 'data' depends upon the event type.

- 0-127 A number in this range means a note. 0 is the lowest.
- 128 This codes for a rest, or pause.
- 129 Select an instrument.
- 130 Set time signature.
- 131 Set key signature.
- 132 Set (or alter) volume for this track.
- 133 Set MIDI channel.

- 134 Set MIDI preset.
- 135 Set clef. Data=0 for treble, 1 for bass, 2 for alto, 3 for tenor.
- 136 Change the tempo.
- 137-143 Unused.
- 144-159 Reserved for 'Instant Music' package. If you have this package, refer to its documentation. If not ignore these values.
- 160-254 Reserved.
- 255 End-mark. You won't find these in disk files, but some programs use them in RAM to mark the end of track.

Events 0-11 denote C, C#, D, D#, E, F, F#, G, G#, A, A#, and B in the lowest octave, known (strangely) as -1 or ' '. 12-23 denote C, C#, ..., B in octave 0, and so on up to 127, which is in octave 9. Most packages, such as Sonix, use octaves 2-7. If you want to know the frequencies, A1 is a rumbling 55Hz, A4 is a lovely 440Hz, and A7 a squeaky-clean 3520Hz.

The data part of a note, or rest, is split into 5 bit fields. Bit 7 is set if the note is chorded, ie, played simultaneously with the following note, clear if not. Bit 6 is set if the note is tied with the next one. If so the two notes should be played as one note of the combined length. Bits 5-4 code for n-tuplets: 00=normal, 01=triplet, 10=quintuplet, 11=septuplet. An elementary music textbook will tell you what tuplets are if you're not sure. Bit 3 is set if the note is dotted, ie half as long as it would otherwise be. Finally, bits 2-0 give the division:

- 000 = whole note (semibreve)
- 001 = half note (minim)
- 010 = quarter note (crotchet)
- 011 = eighth note (quaver)
- 100 = sixteenth note (semi-quaver)
- 111 = a 128th note, too short to be used at all often.

At this point, let's break for a little

exercise. Run last month's IFFanalyse program on a music file from say Sonix, or Deluxe Music. Type 'IFFanalyse FurElise' at the CLI, or 'IFFanalyse > prt: FurElise' if you want a hard copy. Also, get a hex listing of the file enter 'type > prt: FurElise opt h'. See if you can identify the different durations of notes in the TRAK chunks. You will notice that tied notes chorded notes, and tuplets appear quite infrequently, if indeed at all.

Time signatures have two bit fields in the data byte. Bits 7-3 give the 'numerator-1', ie 00000-11111 codes for a numerator of 1-32. Bits 2-0 give the 'denominator', ie 000 means whole notes, 001 for half notes, up to 111 for 128th notes. Confused? Here's an example:

hex: 8212

Well, hex 82 is decimal 132, so this is a time signature. Hex 12 is binary 00110010, so the first field is 00010, and the second is 010. Therefore, the numerator is (00010 + 1) or 3; the denominator is 010, which means quarter notes; we have three quarter notes to the bar, or 3/4 time. Anyone for the next waltz?

Key signatures have a data byte from 0-14. 0-7 is a number of sharps, so assuming major scales, 0=C, 1=G, 2=D, 3=A, 4=E, 5=B, 6=F#, and 7=C#. Codes 8-14 for 1-7 flats, so 8=F, 9=Bb, 10=Eb, 11=Ab, 12=Db, 13=Gb, and 14=Cb.

I remember some of these by the mnemonics - for sharps 'Charlie goes down and cats breakfast', and flats 'For breakfast 'e 'ad damn good cornflakes.'

That's the hard bit over. Set volume has a data byte of 0-127, just like the volume code in SHDR. Use this to alter the volume of a track while it is playing. Codes 133 & 134 are for MIDI use, outside the scope of this article. Code 136 lets you change the tempo of a track part-

way through. It's NOT like the tempo field in SHDR - it gives the tempo as quarter notes per minute because it only has eight bits available. If you use this code, be careful to change the tempo of all the tracks at the same time; if you don't you will get horribly out of step.

Tunes will almost always contain 'INS1' chunks as well. These give the names of instruments used in the tune, and the register numbers to be associated with them, so that instrument events in TRAK chunks can refer to them by name. Here's one:

```
494E5331 0000000E 00000000
5069616E INS1.....Pian
6F2E3853 5658
o.8SVX
```

This means 'load in the instrument called Piano.8SVX, and refer to it from now on as instrument 0' - remember from last month that an instrument will probably be an 8SVX file.

You could also find chunks like 'NAME', 'AUTH' and 'ANNO' in a SMUS file. These are just like the ones we saw in 8SVX files last month.

Finally, you may find other types of chunk in the file; these are NON-STANDARD chunk types - see Code Clinics Oct & Nov 1990. They are quite legal, provided they conform to IFF-85 syntax. If your program finds any that it doesn't understand, it should ignore them. Alternatively, check the manual to see what they mean, and if nothing is revealed, contact the people, who published the package, and ask them for the specification of any chunks they seem to have invented. You may have to pester them, but that serves them right for not putting the information in the manual.

Next month's Code Clinic is the last for the time being on IFF, it's all about ILBM picture files, and how to read and display them.

YOU'VE HEARD THE
TAPE - SEEN THE
VIDEO - NOW TRY
THE DISK
THE WORLDS
FINEST DISKS FROM
T.D.K. & K.A.O.

KAO MF2DD Double sided 1Mb capacity

OPENING TIMES:-

MON - FRI 9.30AM - 7PM
SAT 9.30AM - 6PM
SUN 10.00AM - 3PM

3.5"	MF2DD	135 tpi double sided double density	KAO	TDK
3.5"	MF2DD	135 tpi double sided high density	£5.00	£9.00
5.25"	MD2DD	96 tpi double sided double density	£5.00	£18.00
5.25"	MD2HD	96 tpi double sided high density	£8.00	£8.50
KAO DISKARO DISK WALLET CONTAINING 10 BRANDED MF2DD DISKS 3.5" + 5.25" POSSO BOXES ONLY £14.00			£10.00	£10.00

1 MEGABYTE 3.5" MF2DD BULK 50P	£24.00	100	£48.00
2 MEGABYTE 3.5" MF2HD BULK 100	£48.00		£95.00

(Purchases of 100+ disks will include a 3.5" disk drive cleaning kit free!)

All above disks are 100% error free & warranted free from defects & as such carry a 1 for 1 guarantee

ATARI ST & AMIGA SPECIALISTS
STAR PRINTERS - LC10 = £150, LC10 COLOUR = £210, LC24-10 = £245,
LC24-200 NEW = £255, LC200 COLOUR = £210, LC24-200 COLOUR = £290

Send all prices in VAT with FREE postage & packing on orders over £50.00

NB All prices inc. VAT with FREE postage & packing on orders over £50.00

K.C. VIDEO

6 & 8 DONCASTER ROAD, SOUTH ELMSALL,
NR. PONTEFRAC, WEST YORKS, WF9 2YZ
TEL: (0977) 649100 FAX: (0977) 643312



PC EMULATOR Support Club

**ATonce
for the
ST & Amiga**

The 80286 AT Emulator that is a smash
hit with ST Users is now available for the
Amiga. Available at the low price of £189.
Ring now for full details

Can I corrupt my files? How do I make a CONFIG.SYS file?

What is a BAT file? Can I alter the search path?

Can you answer ALL these questions?

JOIN THE CLUB

Problems getting the right answers?

JOIN THE CLUB

Can retailers use the helpline? YES!

JOIN THE CLUB

Thinking of buying an emulator?

JOIN THE CLUB

What is the cost for advice? NOTHING

JOIN THE CLUB

YOUR FREE ADVICE HOTLINE

0622 677173

Wed 9am to 6pm - Sat 9am to 1pm

XT Advice Saturday mornings only

AMIGA PUBLIC DOMAIN SOFTWARE

Introductory pack only £5.00. Contains catalogue disk, virus disk
(packed with virus killers), Utills disk (packed with utilities) and an
intro disk (selection of demos).

* All our disks are £2 each. 10 or more £1.50 each *

* A wide range of disks rapidly growing *

* Immediate despatch on all orders *

* Full range of discount commercial software *

* Special hardware discounts *

* Over 600 PD Discs available *

* Amiga specialists *

FREE PD CATALOGUE or send £1.50 for catalogue disk.



WCA Business Systems

Unit 2,

250 Carmarthen Road,

Swansea, SA1 1HG

Tel: (0792) 473550



A&A SUPPLIES

Everything for the Amiga & ST including Screen
Gems, Discovery Pack, Software and Peripherals.

All at very competitive prices

Phone: (0908) 216312

Fax: (0908) 211057



14 The Green, Newport Pagnell,
Milton Keynes, Bucks. MK16 0JW



NBS

NBS Public Domain

132 Gunville Road, Newport,

Isle Of Wight PO30 5LH

Tel: (0983) 529594 Fax: (0983) 821599

THIS IS THE SMILE OF A PERSON WHO HAS EXPERIENCED
THE N.B.S. PUBLIC DOMAIN SERVICE



SPEED
RELIABILITY



VALUE
SERVICE



OUT NOW: PD UPDATE No 5. The catalogue that thinks its a magazine. This month: Special
Virus feature, tech tips, plus amazing competition with over 70 prizes ranging from a disc
drive, memory upgrade, 50 commercial games and more!

A SELECTION OF THE LATEST AND GREATEST IN OUR PD LIST

- D146 RSI MEGA DEMO...Still probably the best ever (2 DISKS)
- D153 PUGGS IN SPACE...Maybe the best ever PD disk
- D037 TOMSOFT DREAM PACK...The best from Thomas Landsburg
- D074 RED DEVIL COMP. 8 inc. amazing Fairlight Vector tunnel (1 MEG)
- D078 CRONICS NEVERWHERE a must for Madonna fans
- D081 INTUITION MEGADEMO inc. amazing acid demo
- D084 STD TURTLES DEMO best Turtles yet! but its the demo (1 MEG)
- D091 FILLIT THE FISH Brill. Another Puggs in Space?
- D519 RAIDERS FILM ANIM...Digi extract from 'The Lost Ark' (1 MEG)
- D520 FRACTAL FLIGHT...Very clever animation (1 MEG)
- D537 EPIC GAME DEMO Amazing graphics, don't miss it
- D214 GOLDFIRE MEGADEMO - New Group - great new demos
- D215 SCOOPESS CHRONIUM - Stunning graphics, get this disc!
- D217 INTUITION DEMOS - Good assorted demos
- M069 D-MOB MUSIC 4...The long awaited music demo (2 DISKS)
- M070 CRUSADERS BACTERIA...Highly rated, brilliant music
- M110 FRACTION HORROR...Absolutely brilliant cartoon horror disk!
- M170 NEWTONS MUSIC BOX...You Won't believe the amazing YU Meters!
- M174 ANARCHY CAPTURED IMAGINATION...Great new music disc. Brill presentation

GAMES

- G107 STAR TREK...The all new Tobias Richter Game (2 DISKS)
- G133 GAMES COMPO inc. Welltrix
- G141 MAYHEM - A great new game from Insignia

Also available: Full range of FISH and T-BAG discs. Full list of Demos, Music,
Utility, Games, Glamour discs in PD Update 5. Send (min. 9" x 6") stamped,
self addressed envelope for your free copy

Make cheques/PO payable to N.B.S. and send to:

N.B.S. (Dept. A),

132 Gunville Road, Newport, Isle of Wight PO30 5LH

Tel: (0983) 529594 Fax: (0983) 821599 VAT Reg.No. 566539404

or if you have a credit card you can phone or Fax your order to us. Please
remember to add 50p towards postage + packing

WE HAVE INTERNATIONAL ORDERS

Europe: Please add 25p per disc

World: Please add 50p per disc

International payments by Credit Card or any cheque
with UK cashing address

All Public Domain

99p

per disk plus
60p p/p per order

WIN WIN WIN

**PLAY TO WIN BRING YOU FOUR GREAT
COMPETITIONS EVERY MONTH**

DECEMBER PRIZES

1. £200 worth of software - YOU CHOOSE IT!
RING 0836 405108

2. A 16 BIT Mega Drive - A GAME PLAYING
DREAM
RING 0836 405106

3. A Sega Game Gear - THE FULL COLOUR
STEREO HANDHELD. THE BEST THERE IS
RING 0836 405107

4. A Nintendo Turtle Pack - HEARD OF THE
TURTLES?
RING 0836 405109

Calls are charged at 33p per minute cheap rate and 44p per
minute other times. Ask permission prior to phoning

PLAY TO WIN,

(Amiga Dept),

159 Strathmore Avenue,

Luton LU1 3QR

Competition lines open
24 hrs from 1st to 31st
December. On January
1st, four great new
competitions start on
the same numbers. All
with fabulous new
prizes.

Whether you're a Strauss with Sonix or a Mozart with Master Tracks, this is the column for you. Jason Holborn conducts...



Music

After years of blinkered marketing, Commodore finally seem to be exploiting the Amiga's potential as a tool for the serious musician. But the question on everyone's lips is still "where's the official Amiga music bundle?" We've seen games bundles, graphics bundles, educational bundles, but still no music bundle has arrived.

Commodore US has been successfully pushing its music bundle (an Amiga 2000, 1084 monitor, Dr.T's KCS and two synth patch editors) for a fair old time now, but still Commodore UK seems unable to come up with a suitable package.

The marketing brains at Commodore UK had been secretly negotiating with both Microlussions and Dr.T in an attempt to tie up a deal to bundle either Music-X or KCS Level 2 with the Amiga. Eventually Commodore managed to clinch a deal with Microlussions. The company was contracted to supply Commodore with a larger number of copies of Music-X for inclusion within its planned bundle.

Although the deal seemingly went through fine, Commodore eventually changed its mind and decided to dump its massive stocks of Music-X onto third party vendors at a vastly reduced price (which explains why Music-X can be bought so cheaply).

At the Frankfurt Music Fair held earlier this year, Commodore Germany showed off its new Funlab bundle. The pack contained a Kawai MIDI keyboard, a five-track Steinberg sequencer (Pro-5 perhaps?) and an Amiga 500.

Since then, however, we've heard little of this bundle, but it would seem logical that if it was eventually released, it may well end up on this side of the English channel.

In the meantime, Roland has already jumped on the bandwagon with their £470 Desktop Music System. Although this doesn't include an Amiga, the pack does contain Dr.T's excellent Tiger Cub Sequencer, Copyist Apprentice and Roland's own CM-32L LA sound module. If you're after a

one-stop music pack, but can't be bothered to wait for Commodore to come up with the goods, then Roland's pack may well be worth investigating.

Next month I'll be taking a look at the Roland music pack, so stay tuned (no pun intended) for that one. Meanwhile, Roland is on 081 568 4578.

ON THE RIGHT TRACK

Written by the infamous Fairlight team, Star Trekker is a new arrival that could well oust Sound Tracker from its throne. Unlike most of the competition, it uses the same proven user interface of Sound Tracker (even to the extent of using the same bass relief graphics), but adds a few tricks of its own.

After just a few minutes of playing, you'll soon realise that Star Trekker is something pretty special - feature for feature, even the Software Business' TFMX (reviewed in the November Issue) would be hard pushed to match it!

For starters, Star Trekker doesn't just include all the usual Sound Tracker song creation tools, there's also a vast range of extra tools included as well.

For those of you with audio digitisers, Star Trekker provides complete sample grabbing and editing options. There's also a preset editor built-in, so you don't have to mess around with ST-nn disks - just load in any sample and build up your own preset lists.

Most importantly though, Star Trekker is fully MIDI compatible. Previously, about the only Sound Tracker-like program that supported MIDI was Andreas Tadi's Game Music Creator, but that had a disturbing habit of crashing with some (most) keyboards.

Star Trekker supports both recording and even playing through MIDI, making it possible to create tunes that take full advantage of your MIDI-setup.

The only negative aspect of this is that it still only supports four note polyphony - so even if you have something flash like an SY77 or an M1 you can still only play four notes at once.

Gripes aside, Star Trekker is most definitely the best Sound Tracker program available. For just £3, you can own a music composition system that simply blows away commercial offerings such as Quartet and TFMX. Buy it now!

Star Trekker is available from Seventeen Bit Software on 0924 366982. Also, look out for a round up of PD Music software in a future issue.

MUSIC-X JUNIOR - £80

The Software Business (0480 496497)

After over a year of painful waiting, Microlussions' Music-X Junior has arrived. You may have read reviews of Junior in other publications, but be sure that we're reviewing the official release - and not just another pre-production back-hander.

Music-X Junior looks and feels almost identical in operation to its big brother. There's the same 250 tracks of real-time MIDI recording (albeit a few recording options such as punch in/punch out etc). Gone are the complicated syncing options such as SMPTE, but who needs 'em anyway? After all, the nearest most of us come to a 24-track tape machine is the trusty domestic hi-fi.

Junior can still record a full sixteen MIDI channels of MIDI data simultaneously. These can then be extracted and placed into their

own private tracks (don't worry, there's plenty to go round!). If like me you use a music work-station such as the Korg M1, then this is a great way of dumping performances straight from your keyboard sequencer into the Amiga.

Editing power has always been a strong point of Music-X, and Junior shares much of this power. Music-X offered two sequence editors (the stream-based Event Editor and the graphics-based Bar Editor), but Junior offers only one. Thankfully the best of the two - the Bar Editor - has been retained. Notes are represented as lines of different lengths (the longer the duration of the note, the longer the line).

Also, events such as pitch bend and note velocity can also be displayed in a graphic format. All sorts of events can be edited simply by clicking on them with the mouse when the proper editing mode is selected.

Entirely new sequences can be built up from scratch simply by drawing them in with the mouse. Alternatively, you can even record straight into the bar editor with a MIDI keyboard.

Just to keep you on the edge of your seat, and maybe also to ensure that you continue to buy *Amiga Computing*, more details of this package will be printed next month.

EXPRESS YOURSELF!

Music is all about extremes. In our round up of sound samplers in the November issue of *Amiga Computing*, I was lucky enough to be able to review RAMScan's Audio Engineer, a very powerful sampler from Australia that would leave you with little change from £200. At the other end of the pricing spectrum, Harlequin Distribution have just released their Sound Express system that is perhaps a little easier on the pocket - £160 easier, to be precise.

Samplers can be jolly tricky things to suss out, but Harlequin's unit is definitely designed with

the beginner in mind. Everything is laid out in a clear and concise manner, making Sound Express an absolute doddle to use. There's the usual cut, copy and paste operations, plus a unique real time effects section which can add effects such as echo, reverb, hall, room, phaser and church to any incoming sound signal. The sound quality is hardly ear shattering stuff, but - as the old saying goes - you gets what you pays for. Personally, I'd rather go for Microdeal's Master Sound (which is the same price!). Anyway, if you're after a sampler which requires very few brain cells to operate, then Sound Express could be the one for you.

THE AMIGA MUSIC MATRIX

A disk magazine for the Amiga Musician

Issue One has Sampled Sounds from the Korg M1 in IFF Format and 8 Trak Soundtracker Software.

Issue Two with original sequences and samples for MUSIC X and OKTALYZER. MIDI System Exclusive Dumps for the D10/D20/D110-256 new voices for all these instruments.

Also each issue has tutorials on MIDI, Music and using Amiga Basic for music playing/teaching.

Both issues available now - price £10 each or you may subscribe for four issues for only £35.

New 500 voices for Korg M1 £30.

Amiga P.D. Catalogue Update only £2 on disc.

Phone for further details 0592 714887 or write to:



THE MUSIC MATRIX(AC)
14 MAIN STREET,
EAST WEMYSS KY1 4RU



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

0273 674626



OPEN 10 AM TO 5.30 PM MONDAY TO SATURDAY
44 GEORGE STREET, KEMPTOWN, BRIGHTON
OPPOSITE THE AMERICAN EXPRESS BUILDING



ADVERTISERS' INDEX

7 Seas	128	LCL	108
17 Bit Software	83	M Alim & Co	9
A&A Supplies	130	Media Direct	35
Alternative Image	126	Merlin Express	60
Amiga PDL	138	Memory Expansion	16,27
Applied Research Kernal	94	MD Office Supplies	42
Ashcom	92	Micro APL	138
Audition Comp Services	74	Microdeal	28,41,64
Bitcon Devices	146,147	Microtec	44
Blackmoon	52	NBS	130
Calco	70	No 1 Amiga Club	58
Castle	84	New Dimensions	122
Checkmate Digital	78	Original Media	25
Commodore	39	Overseas Media	3
Comp-U-Save	126	PC Emulator	130
Computer Bookshop	57	Play to Win	130
Computer Lab	108	P Dom PD	80
Computer Products Unlimited	128	Power Computing	142,145
Computerwise	132	Sagittarian PD	132
Contriver	46	School Software	122
Cumana	23	Silica Shop	49
Datel	32,34	Siren	94
Delta	122	Softsellers	76,77
Diamond	118,121	Solid State Leisure	13
Digicom	67	Softmachine	89
Digita	10	Start	70
Electra PD	132	Strictly PD	68
Enchanter	126	SK Marketing	20
Evesham	104,105	Tam Marketing	122
G2 Systems	136	The Disc Company	6
Gordon Harwood	98,101	Track	IFC
Greater London	62,63	Universal Overnight Distribution	86
Homebased Business	132	Voltmace	126
Hi Soft	97	WTS Electronics	128,136
HS Software	132	WCA Business	130
Jam Computers	92	Waterfront Design	138
JTS PD	132	Westoning	128
KC Video	130	Wizard	136
Kosmos	138	Worldwide Software	36

JTS PD

ALL P.D. SOFTWARE ONLY £1.25 PER DISK!

Alcatraz Megademo 4	(3)	Fractal Flight Demo	(1)
Hilarious Jokes Disk!	(1)	Fraxion Horror Video	(1)
Music Editor - MEd 2.01	(1)	Digital Concert 5	(1)
Budbrain Megademo	(2)	Countach Clip Art Collection	(3)
202 Utilities Disk	(1)	All New Star Trek Game	(2)
Home Business Pack	(3)	JTS Soundtracker Set	(5)
Digital Concert 6	(1)	Child Education Disk	(1)
Drip - The Game	(1)	Raiders of Lost Ark Anim -1 Meg	(1)

PHOTON PAINT v2.0 + 5 free P.D. disks only £19.99! (rrp £89.99)

PACE EUROLINK MODEM - 2400bps, auto-answer, auto-dial, MNP 1-4
Error Correction, with cables + free software - **£154.99** (RRP £254.99)

SEND A BLANK DISK OR 70p FOR OUR FULL CATALOGUE. MINIMUM ORDER 2 DISKS

Please make cheques or postal orders payable to **JTS PD** and then send your order to:

2 ASHFIELD, WETHERBY, LS22 4TF
Telephone: 0937 63834

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 (AM21)
KING AND QUEEN STREET
WALWORTH, LONDON SE17 1DR

Computer Products Unlimited



12 Greenway, Green Lane, Bradshaw, Halifax

Tel (0422) 246788

COMMODORE AMIGA

AMIGA A500 Screen Gems	£355
AMIGA A500 Bat Pack	£355
AMIGA A500 First Steps	£499
AMIGA A1500 + 1084	£999
AMIGA A3000-16-40	£2199
AMIGA A3000-25-40	£2599
AMIGA A300-25-40 + A1950	£2899
AMIGA A3000-25-100	£2899

AMIGA RAM EXPANSIONS

A500 Cortex 8MB (2MB Pop)	£299
A500 Cortex 8MB (4MB Pop)	£419
A2000 Cortex 8MB (2MB Pop)	£269
A2000 Cortex 8MB (8MB Pop)	£599
A3000 1MB 256x4 DRAM	£65

AMIGA PERIPHERALS

3.5" External Drive	£69
1084 14" Colour Monitor	£249
A590 20MB HD 2MB RAM (0 Pop)	£299
Vision 14" Stereo Colour Monitor	£229
A2000 Microbotics 40MB HD 19ms	£599
A1950 Multi-Sync Monitor	£489
A2630 68030/68882 2MB RAM	£1299
Panasonic KXP-1081 9 Pin Printer	£179
Panasonic KXP-4420 Laser Printer	£1199
Vortex AT-Once PC Board	£199

DISKS

3.5" Unbranded 100% Error Free from 35p	
3.5" Unbranded Sony 100%	from 39p
We sell JVC/3M/Dysan/TDK/KAO disks	

We also stock Amiga/Atari ST/IBM PC products. Please call for a price list

ALL PRICES ARE INCLUSIVE OF VAT

This month, Eddie Mckendrie provides a comprehensive tour of BT's popular interactive service Micronet...



Communications

Imagine a bulletin board that is only a local number away and has callers spread out as far a field as a small croft on the isle of Skye, and an even smaller bedsit in central London.

Throw in a good measure of Teletext-style graphics and you've pretty much summed up British Telecom's Micronet. This is a country wide Videotex service which aims to provide information and entertainment for the growing number of computer users who have access to a modem.

During Micronet's early days, it was dominated by the propeller-head elite, but these days, it's a very different story. The price of modems drops daily. But listen hard and you can still hear the muffled rustling of anorak hoods coming from keyboards up and down the country.

The Net - as the psueds call it - is basically, a huge collection of Teletext-style frames. At the last count, there were more than 30,000 pages, containing information on various topics from home computing to satellite TV.

The database is divided up into a series of mini-magazines which focus on a specific area of interest. By keying in a frame number (which can sometimes be enormous!) you're presented with the relevant information.

The service is extremely well structured and it's possible to glean the information you want without ever keying a frame number directly. Instead, single or double digit selections can be made from intermediate menus which

flow down different arteries and veins of the network. This is by and large, fine as long as you are not in a hurry!

The built-in 'keyword' facility provides a more friendly way to get to the most commonly accessed areas. For example, typing *AMIGA# while on-line takes you directly to the Commodore area of the Net.

But what about the quality of the information? There's no point in getting to your frame to find it is out of date or irrelevant. Fortunately, most Micronet areas are well run, a large number of topics are updated daily with others typically being updated twice a week.

The information comes from a variety of sources. Micronet has a core editorial team which provides the main news and computer magazines, while external contributors provide news and features on special interest topics like hi-fi, music and television.

There's even a special open access section of the database called 'Gallery' which allows members to provide editorial on any topic they fancy. OK, so what makes Micronet different from Ceefax or Oracle? That can be defined in a word - interactivity.

Teletext now boasts an audience of 7 million readers, but have you tried to chat to one of them without getting out of your comfy chair? Unlike Teletext, in order to use Videotex you must be physically linked to a central computer system. This has obvious pros and cons. On the up-side your two way

link means the system knows exactly who you are. Every Micronet member has a unique personal 'Mailbox' number, rather like a 'phone number, which other members can use to get in touch individually. Most of the main Micronet areas also have letters pages which are frequently updated, allowing members to openly air opinions or waffle on about the latest burning issues. Now this is where it gets tricky. Comms is a funny old business, enthusiasts seem to hook their micros up to a board and then converse with other people who've done the same, about things of mutual interest. This usually results in lots of very boring conversations about baud rates and how much better the ST is over the Cray for MIDI sequencing, letters praising the Amiga to the ST area on-line and so on.

Most bulletin boards have a range of software which can be downloaded. Micronet is no exception, but the system it uses is unique. Telesoftware is regularly updated with public domain and shareware programs for most formats of machine, including the Amiga. Although this should not be confused with the Telesoftware service Ceefax operated, it does work on the same principle.

Unlike most other boards, you cannot upload software to Micronet (although they do welcome contributions by post). If meeting people for a chat is more your cup of tea, then it's probably worth taking a trip to Micronet's very own on-line hotel - Dialtalk. Sixty four people can link up and exchange news interactively.

Dialtalk is different to the letters areas because it's a real-time environment. Other people using the service see what you're saying as you type it, just as you can see their input.

If you've called a BBs and chatted to the Sysop you'll already have a feel for how the system works. Dialtalk is divided up into a series of rooms, laid out loosely like a typical hotel. Upon arrival, you'll be in the Dialtalk Foyer. This is where most of the regular users stand and chat. There's also a bar and some private rooms which

anyone can use should the need arise for more personal conversation.

Multi-user games form an essential part of the Micronet package. These are best described as text adventure games played with, and against, other real people rather than just your Amiga. Currently, there are two such games on Micronet. Shades is a medieval fantasy adventure and Trash is a futuristic labyrinth of puzzles.

There will be much more on these and other non-Micronet multi-user user games next month. Joining Micronet also gives you access to Prestel, the massive 300,000 frame database of which the Net is only a small part.

The bulk of Prestel's information is provided by newspapers, travel agents, educational institutes, banks, companies and of course, British Telecom. You probably won't use Prestel much, but when you do, it can be very handy for booking holidays, theatre tickets or sending flowers. The most useful part of the main Prestel service is Phonebase, a direct link to the national directory enquiries system - ideal if you want to avoid the hefty new charges for dialling 192 from April.

The most obvious drawback of using an interactive on-line service has to be the cost. In order to take advantage of Micronet you have year. There is also a time-based charge for use of the service of 1p a minute off peak and 7p a minute during the day.

The charge is waived between midnight and 8am (handy if you can't sleep because of the phone bill). Premium services like Dialtalk, Shades and Trash cost yet more with 2p a minute being the rate during off-peak hours. Add to this the cost of your phone call and your bank manager might not be as keen on Micronet as you are.

If you have a modem and viewdata comms software, call the Micronet demo. Set your modem to 7E1 (7 data bits, even parity, 1 stop bit), dial 0272 250000. Use the customer ID: 4444444444 and the password 4444.



Trash, one of Micronet's two multi-user games

100% Certified/Guaranteed

3.5" DS/DD	
25	£9.95
50	£19.95
100	£37.95

Bulk 1000+ 29p £52

5.25"
DS/HD
39p each

3.5" DS/HD	
10	£7.95
50	£34.95
100	£69.95

Bulk 1000+ £59

UNBRANDED SONY, JVC, 3M OR VERBATIM

BRANDED

Sony 100	£64.95
Verbatim 100 ..	£63.95
3M	£63.95

3.5" DISK
Special with Box
10+ Box.....£5.95
100+ Lock Box...£46.95

FIRST IN UK
INDIANA JONES MOUSE PAD
*** £9.95+VAT**
You have to see it to believe
it!!! USA TM

5.25" DS/DD

10	29p
50	27p
100	25p
1000	23p

Labels 1000 – £7.99 10 Cap Box – 99p each 100 Cap – £6.99 each

MOUSE PAD – £1.99



Credit Cards Accepted • Send £2.80 for P&P UK Sales. Disk Prices include VAT + Labels



130G Cargo Building 521

London Heathrow, Middlesex TW6 3LL
Phone: 081-759 8829 Fax: 081-897 0407

Tel: 0462 686977 24 Hour.

Fax: 0462 673227



SPECIAL OFFER
BUBBLE +
£9.99

CALL NOW AND
PLACE YOUR
ORDER

PRODUCTS IN STOCK SENT SAME DAY

NEW RELEASES
SENT ON DAY
OF RELEASE

**SPECIAL OFFER
MANCHESTER UTD
£12.99**

AMIGA	AMIGA	AMIGA	AMIGA	AMIGA	AMIGA
688 Attack Sub.....£16.99	Days of Thunder.....£16.99	Indy Jones (the arcade).....£16.99	North and South.....£16.99	Rourkes Drift.....£16.99	Time Machine.....£POA
Amos.....£35.00	Debut.....£14.99	Infestation.....£16.99	Nuclear War.....£16.99	RVF Honda.....£14.99	Tower of Babel.....£23.99
Ant ago.....£13.99	Double Dragon II.....£16.99	Int. Soccer Chall.....£16.99	Operation Harrier.....£POA	Saint Dragon.....£16.99	Treasure Trap.....£16.99
Ant Heads.....£9.99	Dragon Flight.....£16.99	Intact.....£12.99	Operation Stealth.....£16.99	Shadow Of The Beast 2.....£24.99	Triad 3.....£22.99
Atomic.....£12.99	Dragons Breath.....£23.99	International Championship	Operation Thunderbolt.....£16.99	Shadow Warriors.....£16.99	Turn It.....£13.99
Back To The Future.....£16.99	Dragons Flight.....£24.99	Wrestling.....£16.99	Oriental Games.....£19.99	Sim City.....£16.99	Turrican.....£16.99
Back To The Future 2.....£16.99	Dragon Wars.....£16.99	International 3D Tennis.....£16.99	Photon Paint II.....£19.99	Simulra.....£16.99	TV Sports Basketball.....£22.99
Badlands.....£16.99	Dungeon Master (1 meg).....£22.99	Italy 90.....£16.99	Pipemania.....£28.99	Space Ace.....£28.99	TV Sports Football.....£22.99
Balance of Power.....£19.90	ECO Phantoms.....£16.99	Ivanhoe.....£17.99	Pirates.....£16.99	Space Quest III.....£29.99	Ultimate Golf.....£16.99
Battle Chess.....£16.99	Elite.....£16.99	Jack Nicklaus Golf.....£16.99	Planet of Robot Monsters.....£16.99	Speedball.....£19.99	UN Squadron.....£POA
Battle Ships.....£9.99	Escape From Hell.....£17.99	Judge Dread.....£13.99	Plaque.....£19.99	Speedball II.....£POA	Vaxine.....£16.99
Battlemaster.....£19.99	European Super League.....£13.99	Kick Off II.....£13.99	Player Manager.....£16.99	Street Hockey.....£POA	Viking Child.....£16.99
Betrayal.....£16.99	F16 Combat Pilot.....£16.99	Kings Quest Triple.....£19.99	Populus.....£16.99	Stunrunner.....£16.99	Web of Terror.....£13.99
Black Tiger.....£16.99	F19 Stealth Fighter.....£19.99	Klax.....£12.99	Powerboat.....£16.99	Subuteo.....£13.99	Welltris.....£16.99
Block Out.....£13.99	F29.....£16.99	Knights of Legend.....£19.99	Powerdrome.....£16.99	Supremacy.....£19.99	Wheels of Fire.....£19.99
Blood Money.....£16.99	Falcon.....£16.99	Knights of the Christalton.....£22.99	Powermonger.....£19.99	Team Yankee.....£19.99	Wings.....£19.99
Bloodwych.....£16.99	Fiendish Freddy.....£16.99	Laser Squad.....£12.99	Premier Coll III.....£19.99	Teenage Mutant Turtles.....£16.99	Wings of Fury.....£16.99
Bloodwych Data Disc.....£11.99	Fire and Brimstone.....£19.99	Last Ninja II.....£16.99	Pro Tennis Tour.....£16.99	The Cyclos.....£16.99	Wipe Out.....£16.99
Bomber.....£16.99	Flight Sim II.....£28.99	Leisure Suit Larry II.....£26.99	R.A.C. Rally.....£16.99	The Killing Game Show.....£POA	World Cup 90.....£16.99
Breach 2.....£16.99	Flimbo's Quest.....£16.99	Leisure Suit Larry III.....£27.99	Rainbow Islands.....£16.99	The Spy Who Loved Me.....£13.99	World Cup Compilation.....£16.99
BSS Jane Seymour.....£16.99	Flood.....£16.99	LHX Attack Chopper.....£34.99	Red Storm Rising.....£16.99	Theme Park Mystery.....£16.99	Wrath of the Demon.....£P.O.A.
Budokan.....£22.99	Fun School 3.....£16.99	Life and Death.....£19.99	Rick Dangerous II.....£16.99	Thunderstrike.....£16.99	Xenomorph.....£14.99
Cadaver.....£16.99	Future Basketball.....£16.99	Loom.....£16.99	Rotor.....£13.99	Tie Break.....£16.99	Xenon II.....£16.99
Captive.....£16.99	Ghostbusters II.....£16.99	Lords of Chaos.....£16.99	Rotox.....£16.99	Time.....£16.99	
Castle Master.....£16.99	Ghosts n Goblins.....£16.99	Lost Patrol.....£16.99			
Champions of Kryn.....£19.99	Ghouls & Ghosts.....£16.99	Mad Professor Mariarti.....£12.99			
Chaos Strikes Back.....£16.99	Giants.....£23.99	Magic Fly.....£POA			
Chase HQ.....£16.99	Grandslam Tennis.....£16.99	Man Utd.....£12.99			
Cheetah 125 + Joystick.....£8.99	Gunship.....£16.99	Mavis Beacon Typing.....£19.99			
Chess Champions 2175.....£17.99	Hard Drivin.....£13.99	Microprose Soccer.....£16.99			
Chronoquest II.....£22.99	Harley Davidson.....£16.99	Midnight Resistance.....£16.99			
Codename Iceman.....£29.99	Helter Skelter.....£13.99	Midwinter.....£22.99			
Colonels Bequest.....£22.99	Heroes.....£19.99	Monty Python.....£13.99			
Combo Racer.....£16.99	Hound of Shadow.....£17.99	Murder.....£16.99			
Corporation.....£15.99	Hunt for Red October.....£19.99	Navigator + Auto.....£8.99			
Cyberball.....£12.99	Immortal.....£16.99	New York Warriors.....£13.99			
Damocles.....£15.99	Impossamole.....£16.99	Neuromancer.....£16.99			
Dan Dare 3.....£16.99	Indy Jones (the advert).....£22.99	Nitro.....£POA			

How do you get stunning artwork into your DTP creations?

Jason Titchberry explains...

Whatever form of publishing you are into you're bound to run across the artwork problem sooner or later. Problem? Well, it's like this...

Suppose you were compiling copy for the latest edition of your rave hit 'Guernsey Sweaters Monthly'. Someone's submitted an interesting pattern but the trouble is, they've put it on a sheet of A4 paper. How on Earth do you include it in the mag?

Actually, there are several ways. If you have a digitiser or a scanner then you can grab an image of the diagram. Of course, this means the relative expense of a camera or a scanner but there you go.

The other options all involve you drawing it, either by copying it directly or using a graphics tablet to trace over the image. The Summa graphics tablet is very good and not too expensive if you like tinkering with art packages.

But the problem isn't over yet. You still have to get the image into the DTP package. Think yourself lucky that you own an Amiga and not a PC as I can say.

The Amiga IFF system is almost unique in that it is a standard which people actually adhere to. I can't think of any package on the Amiga capable of exporting graphics which doesn't use the standard IFF format for bit-mapped graphics.

On other systems you'd have to contend with file types like TARGA, PICT, PCX, GIF, IMG, TIFF (two types), DEGAS and NEO.

Handling all these image types on lesser DTP systems is an expensive business as many publishing houses have found out. It's not enough to ignore these files though - you may need to use them yourself.

Without a scanner or digitiser there are only two sources of artwork for your publication - images drawn by yourself or those drawn by someone else. Clip art, as the latter is known, is very handy for spot illustrations to brighten up pages.

There is a surprising variety of

clip art and much of it is public domain, so it will only cost you the price of a disk and copying. Unfortunately, a lot of it has been produced with the Mac in mind so you'll find that you'll have to have to deal with all these alien file formats after all.

Pagestream2 comes with a lot of import drivers allowing you to decode some of these stranger files although I have good reason to question some of its Pro Draw conversions. If you have Pagesetter or Pro Page, then you'll have to rely on a third-party solution.

At the moment, ASDG's The Art Department is a good option, providing many different drivers for handling file types such as TIFF and GIF, but if you buy the professional version, you may have to pay extra for other file types.

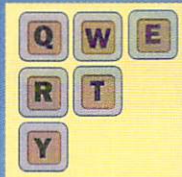
A package like TAD or Pixmate is a very useful addition to your DTP tool-chest, not only for changing between file types but for subjecting your artwork to palette changes, colour compactions, Ham to 64 conversions and for subjecting them to weird filters and effects.

It's quite easy to end up with a piece of artwork that bears little resemblance to the original.

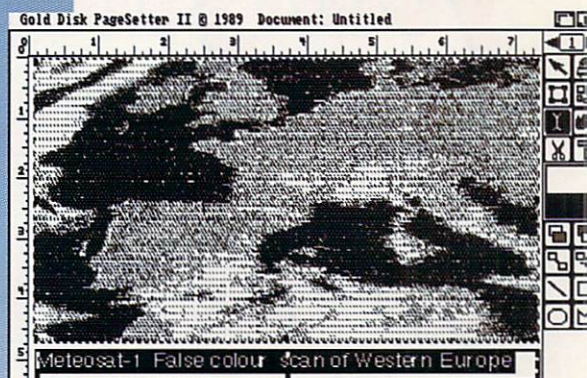
TAD will also handle 24-bit IFFs, which is more than Dpaint and the like can do, so it may be your only option for editing ray-traced images for example. Remember that these images require a lot of RAM - at least 1Mb before you consider running TAD and preferably two or three before you can use it seriously.

It is a good idea to tinker with your graphics before loading them into a DTP package. Invariably the screen refresh takes so long during page layout that it is worth your while cropping the image exactly as you want it first.

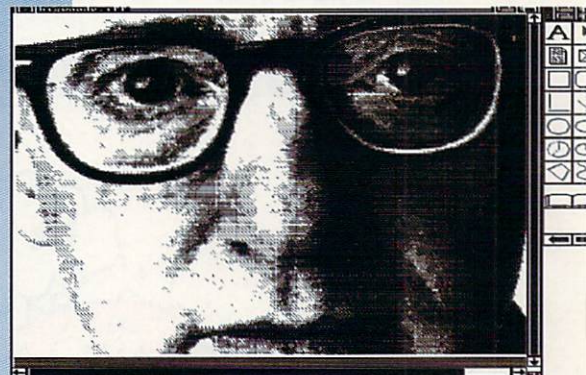
With all this to consider it's small wonder that a lot of magazines have as many staff handling the artwork as they do handling the words. Still, it was your idea to become a one-man Wapping wasn't it?



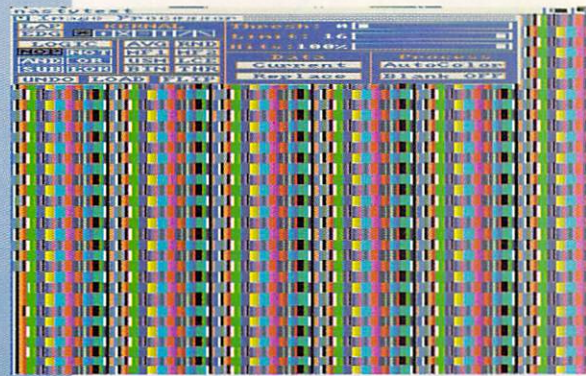
Desktop Publishing



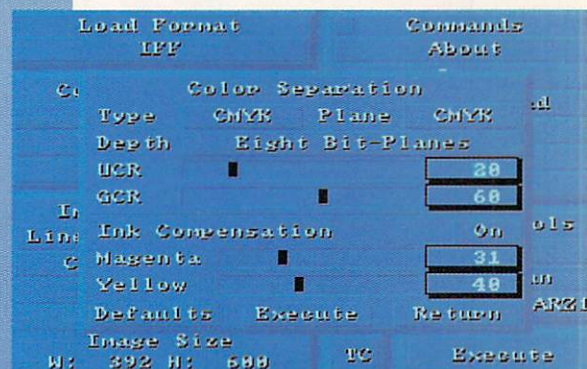
Bitmap graphic imported into Pagesetter II. Note that this is only a screen preview and bears only a passing resemblance to the actual output



An example piece of artwork supplied with Pagestream. Again, this is only a screen preview



Pixmate allows many wonderful image processes as well as the normal palette stuff

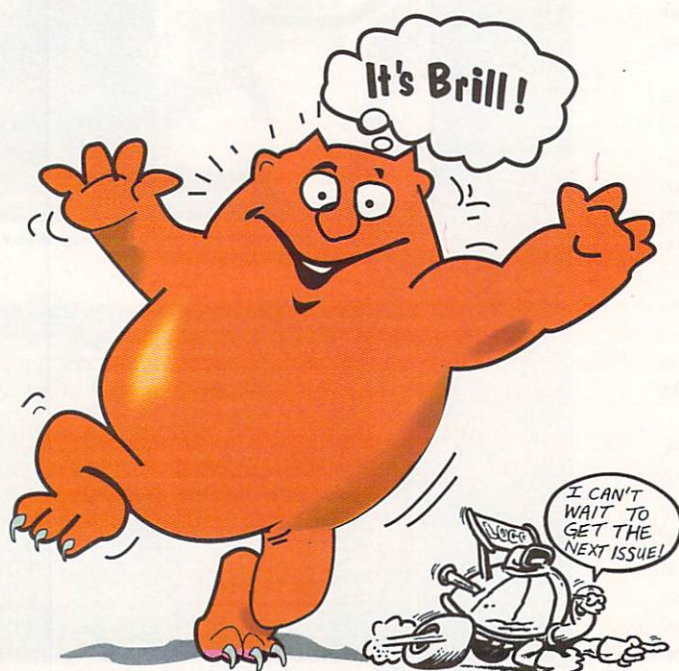


The Art Department - worth its weight in gold

Do YOU know a youngster who is mad keen on computing?



Then here's the ideal helping hand – 12 months supply of the world's **FIRST** computer comic!



All over the country parents are discovering the benefits of getting *Let's Compute!* for their children. Here are just a few of their comments:

- I was very fortunate recently to pick up a copy of *Let's Compute!* It is a publication which really allows youngsters to appreciate the fun they can get out of writing programs – **Mr D Dave, Fareham, Hants**
- I was so pleased to find a magazine my nine year old son could use and understand – **Mrs Lever, Harwich, Essex**

But these are other peoples' opinions! We'd like you to judge it for yourself. With this note is a complimentary copy of *Let's Compute!* Please give it to your children, grandchildren or friends. We're sure they'll find it a great introduction to the world of computing.

Even if they haven't got a computer themselves yet, *Let's Compute!* can help them at school. Our features are designed by a dedicated team of teachers and educationalists with the aim of giving children of ALL ages a head start in Information Technology.

Subscribe now – and guarantee a lucky youngster a whole year's computing fun!

Yes!

I'd like to get



hot off the press
each month!

Please send me the next 12 issues of *Let's Compute!* for £12

I wish to pay by:

☐ Cheque payable to Database Publications

☐ Credit card No:

Exp. date

_____ / _____

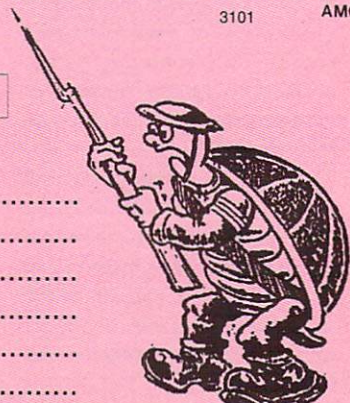
Name Signed.....

Address

.....

Post code Age

My computer is a



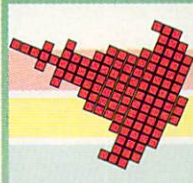
3101

AMC 1

SEND TO: Database Direct, FREEPOST, Ellesmere Port, S.Wirral L65 3EB

PHONE ORDERS: 051-357 1275

Registers, keyboard scancodes and controlling a joystick, it's all here



Amos

Have I got news for you.... AMOS has been reincarnated yet again, this time boasting the ability to run from any folder. Mandarin say that this is not the only change from version 1.2 but offers significant improvements for owners of hard drives who previously had to run AMOS from the root directory of a partition - messy!

The other major improvement of V1.21 is the introduction of an improved music extension and SoundTracker converter. To get hold of the new update contact Sandra Sharkey at the Official AMOS PD Library on 0942 495261. If you've just updated to version 1.2, Sandra says she will update your disk with 1.21 if you return your PD updater disk together with 50p to cover P&P. Sandra would like to stress that this offer is only open to those people who obtained the original update from her, not those who got a rather cut down version on another magazine's coverdisk.

Also everybody who buys AMOS should now get luvverly ring-bound manuals instead of the perfect bound ones that you and I got. This is due to general demand for a manual which can lay flat on your desk. Congrats to everybody at Mandarin Software, it's nice to find a company who listen to the end user. This issue should reach you just before the Computer Shopper Show, if you are going pop along to the Mandarin stand. All the gang should be there including Chris Payne, Richard Vanner, Aaron Fothergill, Sandra Sharkey and of course me. See ya there.

Infinite wisdom?

OK then, register time. In his infinite wisdom Francois Lionet decided to implement a series of data registers that AMAL can use in the same way as a normal variable is used in AMOS itself. He also created a special series of registers RA-RZ which can be used to communicate with the BASIC part of your program. These are known as 'external' registers, and now you know what they are it's time to use them. The first thing to

do is to sort out the AMOS Data Disk which we have been using over the past few months, stick that in the drive and type the following into the editor.

```
Flash Off : Curs Off : Cls 0 : Double
Buffer : Get Sprite Palette: LOAD
"AMOS_DATA:MAGIC_FOREST/MFSPRIT
ES.ABK"
```

OK, that sets up the initial screen, (remembering that AMOS automatically opens a default screen when any program is run) and loads in the SPRITES. Now we're going to define a simple AMAL string, remember to type this in exactly as it appears here 'cos otherwise you may get nasty errors cropping up.

```
A$="Begin: Let X=RA; Let Y=RB;
Jump Begin;"
```

Some of you will spot what I am doing in the string but I'll explain anyway. First I have set up a label called 'Begin:' which will serve as the beginning of the program. Next, I use the special register 'X', this is a special register whose only purpose in life is to control the X position of an object or screen. I then make 'X' equal to the value in the external register RA and then do exactly the same with the special register 'Y' (guess what that does!). After all that is finished, I jump back to the label we called 'Begin:' and do it all over again. Just add these few lines and we will be ready to run the program.

```
Bob 1,50,50,1 Channel 1 To Bob 1
Amal 1,A$ Amal On Direct
```

OK, run the program. Oh gosh, where has the little geezer gone? Has our program worked? Well try typing this in direct mode

```
Amreg(0)=50 : Amreg(1)=50
```

As you will see our little guy has jumped to position 50,50 on the screen. You may now have realised the relationship between RA/RB and Amreg(0)/Amreg(1) - they are the same thing! As we put

a new value into these registers the AMAL program we just wrote automatically passes the values in the X and Y coordinates of the BOB, amazing huh?

Right then this is all very nice but not too impressive is it? How about using the special 'Y' register to control the movement of a screen?

```
Flash Off : Curs Off : Cls 0 : Paper 0
Centre At(8)+ "AMIGA COMPUTING
AND AMOS" Centre At(10)+ "THE
PERFECT COMBINATION!"
```

These couple of lines just display something for us to scroll around, the bit which does the real work is next, and once again please type it in exactly as it appears (AMAL does know the difference between upper/lower case characters)

```
A$=" Begin: If RA=1 Jump Upscroll
; If RA=2 Jump Downscroll;"
A$=A$+"Jump Begin:"
A$=A$+"Upscroll: Let Y=Y-RB; Let
RA=0; Jump Begin;"
A$=A$+"Downscroll: Let Y=Y+RB; Let
RA=0; Jump Begin;"
```

This little AMAL program looks at the number contained in 'RA', if it is one then the program will jump to the label 'Upscroll'. After this the special register 'Y' is decremented by the amount stored in the external register 'RB' and 'RA' is reset to 0.

Now we need to control what values are passed into 'RA' and 'RB', Amreg(0) and Amreg(1) as the BASIC part of the program knows them!

```
Amreg(0)=5 Channel 1 To Screen
Display 0 Amal 1,A$ Amal
On Repeat TEMP$=Inkey $SCAN=
Scancode: If Jup(1) Then Amreg(0)=1:
If Jdown(1) Then Amreg(0)=2: If
SCAN=>1 and SCAN<=9 then
Amreg(1)=SCAN Until TEMP$=""
```

This part of the program assigns an AMAL channel to screen 0, and goes into a loop. Every time the loop goes round AMOS reads the keyboard to find out if a key has been pressed. If a key is detected the character is passed into the

variable TEMP\$ and the scancode of the key is passed into the variable scan. Scancodes are numbers which don't represent the actual character which is pressed, rather they represent the actual position on the keyboard.

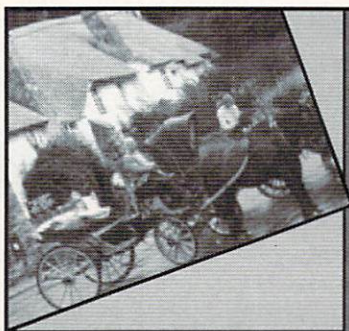
I'll go off on a bit of a tangent for a few words and give you a few more strange facts about keyboard scancodes. A few people have phoned and written to Mandarin about a strange extra key that seems to appear on their screen when using the keyboard define. This strange key is actually part of the return key on British and American Amigas, but in other countries - France for example - it is an extra key with its own scancode (43 for those with an interest) and because AMOS is designed to be easily configured for non-English keyboards I had to include this extra key in the keyboard definer!

Getting back to the program, the numbers along the top of your keyboard one to nine, just happen to have the scancodes of one to nine so it is a simple task to put this value into Amreg(1) ('RB' in AMAL) in order to control the amount of lines the screen will scroll up when the joystick is used.

Incidentally, I know I could have used the AMAL facilities to read values from the joystick but what about reading information from the keyboard? Why not try to alter the program so that pressing the up/down cursor keys does the same as moving the joystick up and down?

Anyway, try running the program. You will see a message printed in the middle of the screen telling you what is totally obvious, you can then push the Joystick up or down for a nice smooth scroll. Now try pushing the numbers one to nine and you will see the scroll slow down or speed up. Neat huh?

Well, that's about it for this month. I've got to get back to programming the very latest red hot AMOS demo which should, fingers crossed be available by the time you read this.



NEED OUTPUT? NEED INPUT?

Established in 1988, the DTP BUREAU is dedicated to serving the AMIGA Graphics & DTP program user. We can handle any Amiga formats EPS, Postscript, IFF, HAM, ARZ0, AHAM, PPage, Pagestream, etc. Just send us your disks, rough copy, photographs, etc, and any instructions and leave the rest to us.

Callers welcome.
24 Hour Service most jobs.
Phone: (0602) 420528 for more details

(This ad was created solely on an Amiga.)

the DTP BUREAU

843, Western Boulevard, Basford,
Nottingham. NG8 5FG
Tel: (0602) 420528
Fax: (0602) 420162

- Amiga Only Bureau
- 300dpi Laser Printers
- Linotronic Output (Film or Paper 2500 or 1800dpi)
- Hi Res/Lo Res Scanning (Colour/Black & White)
- Desktop Publishing
- DTP Helpline
- Pantone Colour System
- Design Studio
- Four Colour Printing (Lithographic)



APL 68000



APL.68000 costs **£99.95**
(inc VAT)

and is supplied with a comprehensive manual, reference card and keyboard stickers. P&P £3 (inc. VAT). To order, contact: Micro APL Ltd South Bank Technopark 90 London Road London SE1 6LN Tel: 071 922 8866

APL for the Commodore Amiga

The APL programming language is used by many of the world's largest corporations because it is easy to learn and extremely powerful in operation. APL's concise notation and array handling features make it ideal for applications involving large amounts of data or frequent code alterations. APL.68000 is the only version of this unique programming language which is available for the Amiga.

APL.68000

- ▶ Unique array handling language
- ▶ Symbolic notation
- ▶ Fast program development
- ▶ 15 digit accuracy
- ▶ Easy to learn

Amiga Specific Features

- ▶ Standard Amiga user interface
- ▶ APL multi-tasking. Full access to Amiga sound and graphics
- ▶ APL terminal emulator

Standard implementation 68881 support version

Versions of APL.68000 are available for most 68000-based computers

APL – the Alternative Programming Language

Public Domain Software for the Amiga from £3 per disk all inclusive

- ★ Over 750 disks!
- ★ One of the longest established Amiga PD Libraries
- ★ Membership not necessary
- ★ Fast Service

We have one of the largest collections of PD software for the Amiga in the UK. We currently stock:

- FISH 1-340
- AMICUS 1-26
- SLIPPED DISK 1-40
- FAUG HOTMIX 1-102
- PANORAMA 1-71
- AUG 1-25
- T-BAG 1-32

All the above are £3 each + 1 FREE when you order 10

3 catalogue disks available at £2.50 for the set which give details of the above collections

Write or phone for a free catalogue. Please make all cheques payable to "A.P.D.L."

★ JOIN THE CLUB! Interested in joining our user club? Write or phone for details ★

Our own special selection £4.00 each

- APDL #6 CLI HELP Confused by CLI? This one's for you
- APDL #7 LANGUAGES Lisp, Prolog, Logo, Forth
- APDL #8 AMIGA DISK DOCTOR Life saving programs!
- APDL #14 BEST ARCADE GAMES
- APDL #15 BEST BOARD GAMES Backgammon, Othello, Yahtzee etc.
- APDL #17 BUSINESS COLLECTION Editor, Spreadsheet & Database
- APDL #41 DATABASES Keep track of your data
- APDL #42 ADVENTURES Vol 2 Castle: A graphic adventure & several text adventures
- APDL #43 C COMPILER ASSEMBLER AND LINKER
- APDL #44 WORD PROCESSING Word Processor & Spellchecker
- APDL #45 PUZZLE & STRATEGY GAMES
- APDL #52 FRACTAL GENERATORS
- APDL #58 CHET SOLACE SHAREWARE EXTRAVAGANZA. Some of the best shareware programmes on easy-to-use menu driven disc
- SPECIAL. Startrek (1 MB) Superb PD game for those with 1 Mb. 3 discs £8.00
- APDL #69 BOARD GAMES Mahjong, Go, Tetris Clone.
- APDL #79 ASSEMBLER/DISASSEMBLER
- APDL #89AIR WARRIOR Great Flight Simulator.

THE AMIGA PD LIBRARY

Dept. AC10, 72 Glencoe Road, Sheffield, S2 2SR
PD Hotline 0742-750623



Your computer is the only teacher which YOU CONTROL!

Whatever your age, whatever your subject
- let your computer help you learn.

Subjects include ...

French, German, Spanish, Italian, English
History, Geography, Science, General Knowledge,
Football, First Aid, Sport, England, Scotland,
Natural History, Junior Spelling and Arithmetic

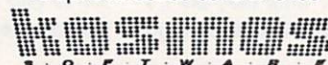
Available for most popular
home & business computers



Kosmos are specialist producers of Educational Software designed to help you enjoy learning from your computer. Our programs even allow you to add your own lesson material.

Write or telephone for a FREE 20-page BROCHURE
of our Educational & Leisure software
Please state your computer type

Kosmos Software Ltd, FREEPOST (no stamp needed)
DUNSTABLE, Beds. LU5 6BR
Telephone 05255 3942 or 5406



Computer cracking up? Printer all out of puff? We're here to help!

Write to Amiga Computing,
Europa House, Adlington Park,
Macclesfield SK10 4NP

Checked his Agnus...

The other day I decided to have a go at writing my own boot block with July's edition of the Code Clinic. First I checked my Agnus and found it was a standard PAL version. I then followed the instructions, tried the 60Hz boot block and re-booted. The disk still booted even though I don't have the fatter Agnus. Why?

Stuart Unsworth, Rochester

The answer is simple. The 60Hz boot block doesn't really mind if you don't have a fatter Agnus. It will happily pass over the code on the new boot block, as it is now redundant, and carry on with a normal boot. Oh, and for all you out there with A3000s (gimmel gimmel), please don't be alarmed if the Agnus check routine doesn't work on your machine - it has a bug which Jolyon will be rectifying in a later version of the program.

The colour of money?

I recently bought a Commodore MPS1550C printer in Bradford, England. Unfortunately, the colour ribbon has now run out and I find it impossible to get one. People in England tell me the printer is out of date. Would you confirm this for me, as I cannot afford to lose £250 after only a couple of weeks' use.

If the ribbons are not available I will have to bring the printer back over to Bradford.

Nael Nangle, Raheny, Dublin.

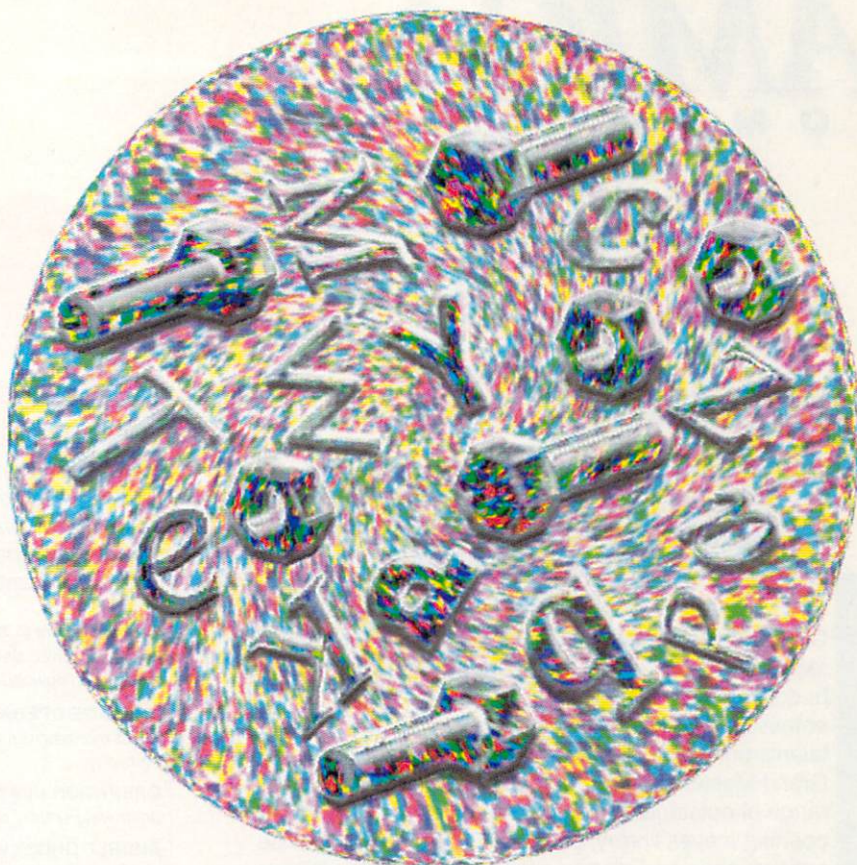
Your printer problems are over! The Commodore MPS1550C is indeed an elderly printer but is by no means out-dated. Silica Shop can supply a ribbon for £12.99 (carriage may be extra for overseas). Just phone 081 309 1111 and ask for part number RRB 3150.

Formatus Interruptus!

I have a problem with my Workbench. When I want to format a disk I click on the icon and choose initialise from the disk menu. But when I do this the computer only formats one cylinder and then it's over. I would like to know what the problem is. Is it a hardware problem or is it a software problem? I am thinking of taking my computer to a repair shop. What should I do?

Remco Andriese, Holland.

Don't, whatever you do, take the machine to a repair shop before trying the following relatively straightforward procedure. First, put the disk you want to format in the internal drive, then open a Shell by double-clicking on the Shell icon in the Workbench disk's window (the Shell is simply a souped-up version of CLI).



Now type in this AmigaDOS command line:

```
FORMAT DRIVE DF0: NAME <any name will do> <RETURN>
```

A window should now appear showing the cylinders being formatted and, at the end of the process, your disk will be initialised. You can rename the disk if you like from Workbench, but ignore the 'initialise' option in the Disk Menu - it's useless.

Driven to distraction

Recently, I have bought a GVP hard disk for my A500 (GVP Impact 45MB). The drive has an additional 2MB of RAM. However, on connecting the drive to the expansion slot of the Amiga I notice that I now have the expanded memory but it doesn't seem to recognise the hard drive.

The ASSIGN command provides me with all drives except DH0: and upon doing a DIR DH0: the Amiga requests me to 'insert volume DH0:'. Does this point towards a failure or am I doing something wrong? The drive was bought from Power Computing in the UK.

Ron Pieterse, Bangkok, Thailand

DON'T PANIC! The drive is fine. The only problem is that you cannot just plug in devices such as hard drives and expect the Amiga to converse freely with them. What you have neglected to do, is make your Amiga aware of the drive's presence with the MOUNT command. This command forces the Amiga to examine the Mountlist in its DEVS directory for a description of the new device.

If an entry for your hard drive is inserted in

the Mountlist this will ensure that the drive is recognised when you next boot up. Refer to the Enhancer Software Manual for further details and consult the information supplied with the drive. If there is none, or it is insufficient, those friendly people at Power Computing will put you straight if you call technical support (on 0234 52207) between 3pm and 5pm.

In CAMRA?

Realising I could no longer spend my spare time touring this area searching for real ale. Last year I splashed out on an Amiga 500 and all the peripherals I could afford before my lump sum disappeared.

I've bought several books allegedly for beginners but to date have been unable to make much progress. Most of the letters in your column appear to come from readers who slung their L-plates away long ago, but at the risk of seeming completely devoid of my marbles could you give the answer to the following queries?

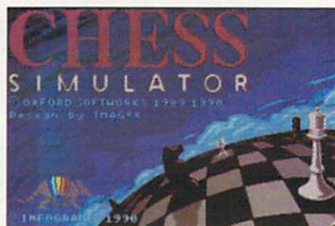
When using Kindwords, unless I remember to use the gb setmap beforehand, I get the wrong apostrophe and if I do remember I cannot obtain all the symbols required for the A590 RAM test. Presumably there is a way to obtain either whichever setmap is used, but I cannot suss it out, and the set of 18 keys on the extreme right of the keyboard is also a mystery to me.

Also, having connected the A590 after much frustration and cussing I do not fancy the job of separating it from the A500 when I eventually get around to acquiring some more RAM. Is there any way of doing this

DISK BARGAINS

Chess Simulator

Infogrames have taken this timeless classic and added a whole range of added features to bring you Chess Simulator.



Chess Simulator is the ideal partner for budding Chess enthusiasts. It's perfect for guiding and improving your talents until you ultimately attain the standard of the Grand Masters. Infogrames' game includes a whole range of outstanding features including: An intelligent opening moves library, countless levels of play, advise options, save and restore options, 3D views and a wide range of different piece designs.

**Our Price
£19.95**

American Dreams

NEW

Four action and strategy games are included in this sensational package from Infogrames.



Super Ski

Test your talent in **SUPER SKI** on the ski jump, slalom, giant slalom and downhill races.

HOSTAGE OPERATION JUPITER is a strategic operation in which you direct manoeuvres to release the hostages held by terrorists in an embassy.

OPERATION NEPTUNE involves you in underwater warfare, destroying enemy submarines and bases.

BUBBLE GHOST will keep you busy for hours trying to guide a fragile ghost through a castle's numerous traps.

Great value for money. Don't miss this offer!

**Our Price
£17.95**

Future Dreams

NEW

Four unbeatable arcade games at an unbelievable price from Infogrames.



Purple Saturn Day

PURPLE SATURN DAY – A unique game which has achieved legendary status in the arcade games arena. Participate in the Intergalactic Games – if you dare!

SPIDERTRONIC – 3D action and digitised sound enhance this fascinating strategy game.

G.NIUS – Your space station has crashed on an unknown planet. Escape the wreck before it disintegrates around you. Timed action and a frantic pace.

WARLOCK'S QUEST – An arcade adventure swarming with evil creatures and sneaky, devilish traps. If you like arcade games, this one's for you.

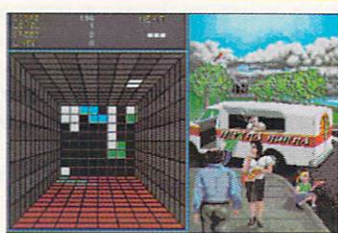
Great value for money. Don't miss this offer!

**Our Price
£17.95**

Welltris

Challenging arcade fun from Infogrames.

Welltris is a wacky puzzle game that'll have you on the edge of your seat.



After the fabulous international hit, Tetris, join Alexey Pajitnov, grand mathematician of the Soviet Academy of Sciences, and take up his new challenge, Welltris: control the falling pieces, move the volumes and ultimately master space.

Welltris has a host of options including: Three levels of difficulty (beginner, advanced and expert), amazing 3D perspective, various game speeds, scoring system with top ten scores recorded.

100% pure Glastnost!

**Our Price
£19.95**

**TO ORDER
PLEASE USE
THE FORM ON
PAGE 114**

without gaining access to the 501 already there?

Finally, could you tell me what causes a 'hard error' on a track surface and if there is any remedy. So far I have only found them on games when Disk-Doctoring a dodgy disk.

B Easter, London

First of all, were a little confused over your setmap problem. If you can't obtain all the characters you want from a single setmap, you will have to use SetMap from the Workbench system drawer. You can copy this over to the Kindwords disk if you like, and can access it by pushing Kindwords into the background with the toggle device in the top right-hand corner.

As usa1 is the standard Amiga keyboard setmap, were not surprised you can't complete the A590 RAM test with the gb setmap. Oh, and the 18 keys you refer to are those which make up the numeric keypad!

As to the A590 RAM upgrade, I'm afraid you'll have to go through the hassle of disconnecting the beast before slipping in the chips, as it's impossible to get to the chip sockets unless you do.

The hard error on your floppy is just that - a physical blemish on the disk which acts not unlike a crinkle in an audio tape. You might record something new over the corrupted piece of tape, but it's still going to sound lousy. The only thing you can do with disks like these is either throw them away or (if you're stingy/desperate) use them as backups for non-essential programs or data until you can get some new disks. Keep your disks covered and away from dusty places, and try not to spill coffee on your floppy drive if you want to avoid hard errors.

Virus? What virus?

I have read in the last issue of *Amiga Computing* about a virus on the magazine cover disk. I have disks June to November 1990 and would be pleased to know which are infected. As a newcomer to the Amiga (welcome aboard - Ed) I am worried and haven't used any of them yet.

(name unreadable) Leatherhead.

Take it easy! You got the wrong end of the stick. The letter concerning viruses on magazine disks had nothing at all to do with our cover disks - that story was about RAMPAGE, the defunct disk-based Amiga magazine whose publishers are now in liquidation.

There ISN'T a virus on ANY *Amiga Computing* cover disk. We check them thoroughly before dispatching them and take pains to ensure that they are positively antiseptic. Now that I've put your mind at rest, you might like to recall that your November cover disk contains VirusX 4.01, the latest version of possibly the best virus killer available, along with full instructions for its use. This ought to keep you safe from the viral heebie-jeebies.

Wot, no backup?

I am sure many people read this excellent magazine every month, and I am equally sure



that many more than you think are confused and baffled when they are faced with running some of the excellent utilities on the cover disk each month, or even PD disks from the CLI.

This brings me to my first cry for help. Could you please print a step-by-step guide to running a program that can only be loaded from the CLI?

The second request is again a step-by-step guide to salvaging a corrupt disk. I was in the process of saving a file to disk when some idiot blew the main circuit breakers and caused havoc on my data disk (you are quite right to be thinking 'I bet he didn't have a back-up copy').

Anyway, I eventually found about the only thing that would help me was the COPY command. It did, and now the entire (remaining) contents have been saved onto a new disk under one heading, and all the previous directories are now sub-directories. Everything used to be stored in drawers, now there isn't one in sight. Can you please help me to regain proper order on my disk.

Terry Evans, Cheltenham.

It just goes to reinforce the old proverb, "Thou shalt make backups", dunnit, huh? Don't despair, though. We'll be running a sort of "Guide to the CLI", appearing on a cover disk near you, soon! This should help with many of the basic problems often overlooked in over-technic books and letters pages.

Your second problem is slightly trickier. If power was shut off half-way through a disk access, it is highly likely that your disk is very badly corrupted. A simple COPY of all the data on the disk is next to useless. What you need to do is use the AmigaDOS DISKDOCTOR command (from CLI) or one of the many PD disk utilities, like DiskSalv. These will read as much as they can from the disk and erase what they cannot, then replace the old files with the newly checked and operational ones. The AmigaDOS command concerned is:

DISKDOCTOR DRIVE DF0:
(if you're using the internal drive)

The utility will then prompt you through the operation, which doesn't take too long, and report on any corrupted files or track errors it finds. If you COPY what's left to another disk,

you should be able to access the files as icon files (those with the '.info' suffix) will also be DISKDOCTORED and then copied.

If, as you say, there are still no icons to be seen, drawers or otherwise, it just means you may have to re-organise your files in new directories. This can be a lengthy process but you may not have much choice in the matter. If you do have to re-structure your files, I would refer you to the PD programs SID and IconMaster, both of which are readily available from any PD library and both of which have appeared on our cover disk at one time or another.

Idiot's guide?

As a subscriber to *Amiga Computing*, I write to ask if you would be kind enough to post to me an idiot's guide in the form of a set of instructions on how to install the virus-killers on your November cover disk into a startup-sequence? The instructions in the Amiga manual are by no means adequate for someone with my lack of technical knowledge.

Derek C Robinson, Barton-under-Needwood

The Amiga manual is inadequate for anyone with any level of technical knowledge! It is, how shall we say it, utter crap. The first step is to use a text editor to get the startup-sequence on screen. The ED or MEMACS utilities supplied with Workbench are sufficient, but there are plenty of superior PD editors such as JED.

Using an editor you insert a line with 'VirusX' into the sequence somewhere before the command 'loadwb', then copy the VirusX program into your C: directory using the RENAME or COPY commands, or a PD utility such as SID.

When you next boot from the disk, VirusX will run itself as the disk is loading and check all disks currently inserted in drives (including its own). It will then appear as a small window in the menu bar and will carry on automatically checking all new disks.

To get the KV utility to work, you must also copy it into the C: directory, as it will not run from the Workbench. Once you copy it to C: just follow the directions in KV.DOC (see the VIRUSX401 drawer) to find out what syntax and parameters it uses.



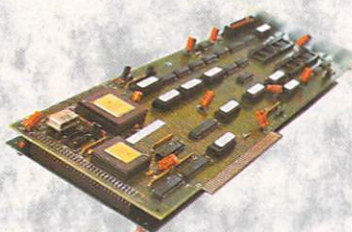
POWER COMPUTING

THE AMIGA 2000 SPECIALISTS SOLE UK DISTRIBUTOR FOR GVP

68030 POWER FOR YOUR AMIGA 2000

50MHz Now available!!

- 16MHz, 28MHz, 33MHz
- Accelerate your Amiga up to 10 times normal speed!
- Up to 8MB High speed 32 bit "nibble" RAM.
- On-board AT interface for lightning fast hard disk access
- Optional 68882 Coprocessor

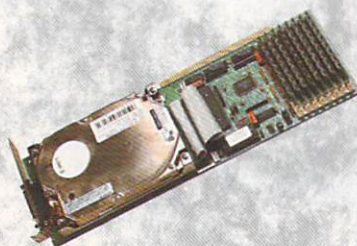


68030 ACCELERATOR BOARD	
16MHz	£499
28MHz	£599
68030 WITH 4MB 32BIT RAM	
28MHz	£1495
33MHz	£1795
50MHz	£2199
AT HARD DRIVE for 68030 CARD	
40MB	£359
80MB	£689
200MB	£999
Phone for other combinations	

GVP SERIES 2

The Next Generation in SCSI & RAM Controllers for the A2000

- Fully SCSI Compatible
- Up to 8MB FAST RAM on-board
- High Speed "FAASTROM" controller
- Auto-boot from any FFS partition
- All combinations available



HARD CARDS

40MB	£499
84MB	£699
100MB	£799
200MB	£999

RAM MODULES

2MB	£129
4MB	£219
8MB	£409

BUY YOUR AMIGA 2000 SYSTEM FROM POWER

Leaders in the Home and Business Market



VIDTECH SCANLOCK

STATE OF THE ART AMIGA GENLOCK

- Broadcast quality video output
- PAL, NTSC, SVHS Compatible
- Handles all Amiga Graphics modes
- Completely Eliminates video dot crawl

NOW ONLY £759!



Amiga B2000	£899
Extra internal floppy	£49
XT Bridgeboard	£299
AT Bridgeboard	£699
600MB Optical Drive	£3299
200MB Tape Streamer	£699

ICD HARD CARDS		ICD RAM CARDS	
40MB	£429	2MB	£239
84MB	£649	4MB	£349
100MB	£759	6MB	£459
200MB	£949	8MB	£549

SPECIAL OFFER !

BUY ANY B2000 SYSTEM &
GET A 40MB HARD CARD
FOR ONLY
£349

Power Computing Ltd • 44a Stanley Street • Bedford • MK41 7RW

Telephone **0234 273000** • Fax **0234 270133**

Orders and dealers enquiries welcome by Telephone or Fax

ALL PRICES INCLUDE VAT AND AMIGA 2000 PRICES INCLUDE 24 HOUR DELIVERY • PRICES SUBJECT TO CHANGE WITHOUT NOTICE



POWER COMPUTING

AVAILABLE NOW FROM POWER!

NEW FROM ICD!

AdSpeed Accelerator Card
for the A500 & B2000



- 14MHz Replacement processor
- 7MHz fallback software selectable
- On-board RAM Cache
- No soldering required

ONLY £199

Flicker Free Video



- Eliminates ALL flicker in interlace mode*
- Rock steady display in high resolution
- Compatible with Amiga 500, 1500, 2000
- Ideal for artists and graphic designers

Introductory Offer £279

* Multisync Monitor required - call for more info

ICD 2080 - 8MB RAM

SPECIAL OFFER!

EXPAND YOUR B2000 TO THE FULL!

FULLY POPULATED 8MB RAM BOARD

ONLY £379

**POWER'S FULL HOUSE
OF TOP QUALITY SOFTWARE.**

Our extensive range of Amiga software currently includes:

Art and Graphics

Animagic	£69
Comic Setter	£49
Deluxe Photolab	£59
Digipaint 3	£49
Elan Performer	£30
Fantavision	£29
Kara Fonts	£49
Pro Video Plus	£169
Pro Draw 2.0	£100
Sculpt 4D Junior	£149
SCULPT-ANIMATE 4D ...	£229
Turbo Silver	£99
X-Cad Designer	£75
X-Cad Professional	£229
Deluxe Paint III	£85
Deluxe Video III	£79
Digiview Gold V4	£100
Pixmate	£35
Vista	£50
Distant Suns	£35

Word Processing, DTP & Business

Home Accounts	£29
Digicalc	£29
Excellence	£160
Kindwords	£45
Pen Pal	£79
Pagestream	£139
Pagesetter 2.0	£69
Pro Write 3.0	£89

Languages and Development

Devpac Amiga	£45
Lattice C V5	£149
Lattice C ++	£250
Power Windows	£45
Hisoft Basic	£55
Benchmark Modula 2	£99

Utilities

DOS 2 DOS	£29
Cross DOS	£24
X Copy	£24
Quarterback 4.0	£34
Workbench 1.3	£15

Educational

Math Talk	£23.95
Math Odyssey	£24.50
Math-Amation	£39.95
Math WLizard	£24.50
Arithmetic	£24.50
Algebra	£24.50
Learn French	£14.95
Letters for you	£19.95
Learning the Alphabet .	£14.95
Kinderama	£24.50
World Atlas	£29.95
Word Master	£24.50
Talking Storybook ...	£14.95
Spell-A-Fari	£19.95
At the Zoo	£19.95
Aesops Fables	£24.50

Many more in stock -
phone for details



**WE ARE THE SPECIALISTS WHEN IT COMES TO
PROGRESSIVE SOFTWARE. CAN'T SEE THE TITLE
YOU'RE LOOKING FOR? CALL 0234 273000 AND OUR
SALES TEAM WILL BE PLEASED TO HELP YOU.**

Enquiries in Italy contact Power Computing Italy, Via delle Baleari, 00121 Ostia Lido, Rome
Enquiries in Australia contact ACL Engineering, Perth (09) 481 0555
Enquiries in France contact Power Computing, Paris (1) 43 75 94 00

For latest prices see our advert in New Computer Express

Power Computing Ltd • 44a Stanley Street • Bedford • MK41 7RW

Telephone 0234 273000 • Fax 0234 270133

Orders and dealers enquiries welcome by Telephone or Fax

ALL PRICES INCLUDE VAT • PRICES SUBJECT TO CHANGE WITHOUT NOTICE



POWER CO

Send in the order form Now!.....

Power's exclusive range of offers on floppy drives!

The Famous PC880 Power Drive!

£65

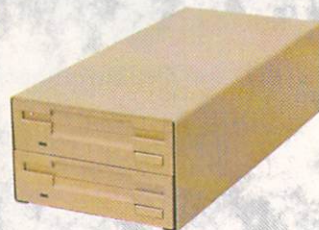
- Special NEW circuitry to prevent that annoying click when the drive is empty
- Isolating on-off switch
- Thru' port for daisy chaining
- 880K formatted!
- Comes with free utility disk
- 12 Month warranty



NEW IN!

The dual 3.5" drive with power supply

ONLY £110



We also stock fully guaranteed Verbatim disks and a range of boxes, including:

40 Disks with lockable storage box - **ONLY £29.95**

15 Disks with storage box, for an unbeatable **£9.95!**

MEMORY EXPANSIONS



The A500 Clock Card

The Power Computing 512K RAM expansion Includes Battery Backed up clock!

VERY LOW PRICE **£34.95**

RAM card without clock: **£29.95**

RAM clock card with PC880 Power Drive **£95!**

The 1.5MB Expansion Board

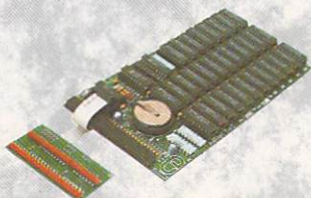
Plugs easily into your Amiga (Kickstart 1.3 & above) to give you the memory you need. Simple internal fitting

NOW ONLY £89.95



ICD ADRAM Memory Expansion

1MB **£139**
 2MB **£179**
 4MB **£249**
 6MB **£489**



RAM chips for the upgrade specialist!

1 x 1 Mbit RAMS **£6.99**
 Kickstart 1.3 ROM **£39**

256 x 4 RAMS **£5.99**
 GARY ROM **£49**

PRINTERS

We are proud to present an offer you'll be proud to accept!

Glorious Colour Kit!

The new LC200 Colour Printer!

- | | |
|----------------------|-----------------------------|
| ■ LC200 Colour model | LC200 Colour £239 |
| ■ Parallel Cable | LC24 10 £259 |
| ■ 200 sheets paper | XB 10-24 Colour £499 |
| ■ 200 address labels | Flexidump Amiga |
| ■ Delivery and VAT | now available £CALL |



PLUS
 LC10 Colour Fabric
 Printing Kit
ONLY £24.95

Also in stock, an impressive range of automatic sheet feeders, replacement ribbons and printer stands.

ALL PRICES INCLUDE VAT AND ARE SUBJECT TO CHANGE

COMPUTING

...or Telephone 0234 273000

POWER - the potential for your Amiga!



Basic Pack	As above	£379
Super Pack	With PC880 Drive	£439
Ultra Pack	With PC880 and 512K	£465
Mega Pack	With PC880 and 1.5MB	£509
Hyper Pack	LIMITED TIME ONLY	£879
With PC880, 1.5MB and A590 Hard Drive!		

SCREEN GEMS PACK ALSO AVAILABLE
COMMODORE A590 20MB Hard Disk **£379**

NEW GVP SERIES 2 HARD DRIVE
WITH UP TO 8MB RAM EXPANSION

NEW!
The "PPS" Framegrabber



	0MB	2MB	8MB
■ 20MB	£499	£619	£939
■ 45MB	£599	£719	£999
■ 80MB	£849	£969	£1289

ONLY £599 INC VAT

- Real-time Digitiser
- From Mono to 4096 Colours
- Many Image processing functions
- Compatible with major art packages

ACCESSORIES The finishing touch

Keep it covered! With this new hard wearing dust cover specially designed to fit snugly over the Amiga

Video Master now in stock

Call for details

Replacement 2 button mouse	£20
Naksha Mouse	£35
Optical mouse with pad	£35
'Anti-click' board for your internal or external drive - introductory offer	£19.95



£9

POWER HOUSE DIRECT

Power House is the fast expanding direct sales arm of Power Computing Ltd. With competitive prices, backed by large stocks and a trained sales and technical department. Our high speed computerised service makes Power the first stop for the Amiga enthusiast. Call us now on **0234 273000** for advice on the very latest in software and peripherals.



Rush in your credit card order FREE on **0800 581742**. Make the most of our "fast fax" service on **0234 270133**, or simply fill in and post this form to:

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

Name

Address

Postcode

Telephone

System owned

Credit Card No.

Expiry Date

Signature

I would like to order

Make Cheques Payable to
Power Computing Ltd

I enclose a cheque/PO for

£



Power technical helpline Monday - Friday 3pm - 5pm 0234 273248

KCS Power PC Board AMIGA 500

THE BEST OF BOTH WORLDS

What the critics say



INDEPENDENT EDITORIAL REVIEWS

"Standard XT/AT software runs with no foreseeable problems and 704K at its disposal. All normal PC function keys are also emulated, so you can run through all those bewildering Word Perfect key combinations. . . So, if it's a cheap PC you're after, don't buy one. Buy the KCS Power Board instead"
Amiga Format
Oct 1990



What our customers say

KILOWOOD LTD

Sales & Marketing Consultants
Electrical & Mechanical Engineers

Tel: (0793) 875735 Swindon
Fax: (0793) 871277 Wiltshire
Mobile (0836) 655556 SN5 8RA

23 Aug 1990

Bitcon Devices Ltd
88 Bewick Road
Gateshead
Tyne & Wear NE8 1RS
England

Dear Sir/s,

Ref: KCS Power PC Board

As someone who has used the Amiga 500 for both business and pleasure applications and who is aware of the limitations on the availability of suitable business software, I was immediately interested in the above product. It seemed like the ideal solution: no second machine to take up valuable space, retention of the superb graphic and video capabilities of the Amiga, needed for part of my business and the chance to make use of the huge range of business software available for MS-DOS machines.

Too good to be true, I thought, especially as the price is quite a lot less than even a DIY PC-XT alone!

Your advice and assistance on the telephone, prior to placing an order, was certainly of a standard that most companies have long since forgotten and the speedy dispatch of the goods was most impressive.

I fitted the board within 5 minutes and then spent a further 15 minutes reading the manual. A further 30 minutes was then spent on setting up the software to suit my particular requirements. This process was simple and trouble-free.

Hey Presto! - an IBM compatible machine sprang to life. Now for the acid test - the software.

A colleague with many years experience in the PC world had brought his disk collection along and we started the process of trying to make the board fail! No chance - we ran all sorts, amongst the programs tried was Autoroute 1.2, Word Perfect 5.1, Norton Utilities, PC Tools and Flight Simulator 4 (latest version). We also tried many PD and Shareware titles. Everything functioned perfectly, including the disk drives, video and printer ports. We then loaded Procomm, connected a modem and proceeded to download more PD software from various bulletin boards.

All in all, I can only say that I am more than satisfied with this superb product and I would recommend it to anyone who requires MS-DOS on their Amiga 500. You may use this entirely unsolicited letter for any purpose in connection with the promotion of your product.

Yours most sincerely
Nell Bristow

Greensborough
Victoria, 3088
Australia

11 Aug 1990

Bitcon Devices Ltd
88 Bewick Road
Gateshead
Tyne & Wear
NE8 1RS
England

Dear Sir/Madam

I would like to thank you for the delivery of the KCS PC Power Board. It has been installed in my computer and is working satisfactorily. It has allowed me to have the best of both worlds at a very cheap price.

I am looking forward to the upgrades in software as they are developed. I am looking forward to the hard disk software.

I was a bit apprehensive about importing goods from overseas suppliers but your prompt service is appreciated and I thank you for that. I am looking forward to hearing from you again.

Yours faithfully
BS

Hay Mills
Birmingham
B25 8NH

Bitcon Devices Ltd
88 Bewick Road
Gateshead
Tyne & Wear
NE8 1RS
England

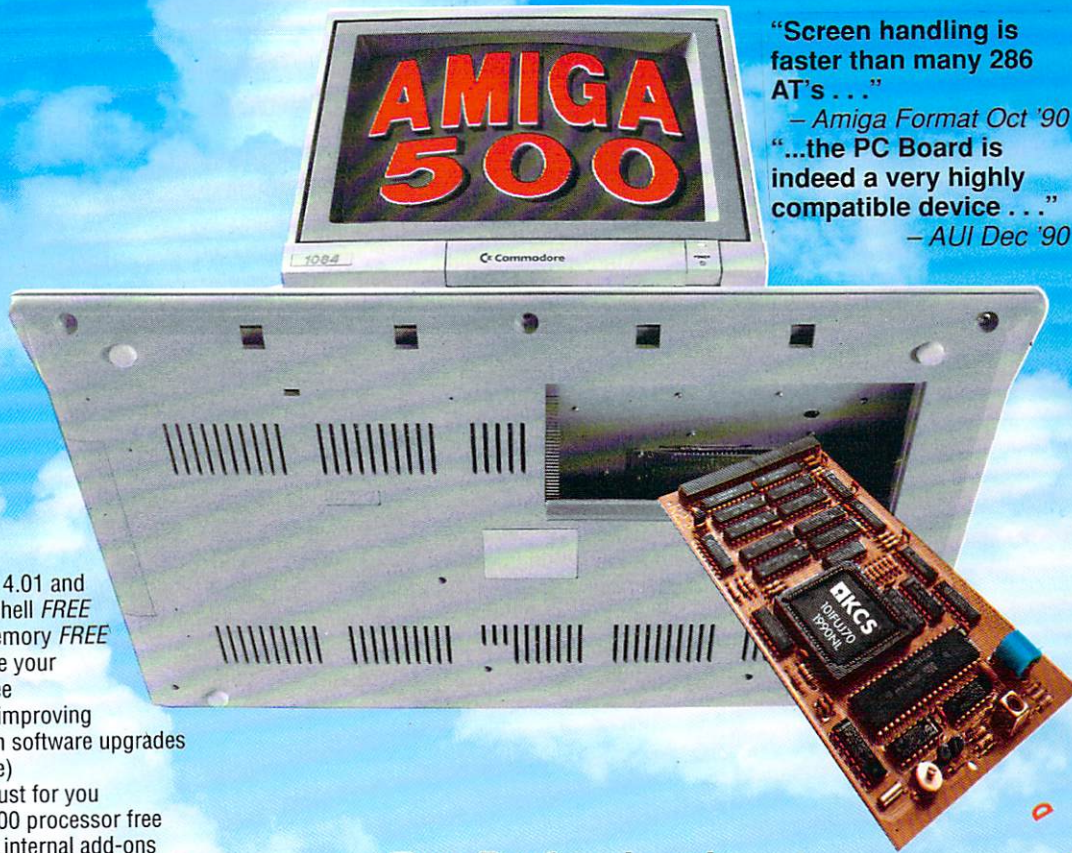
Dear Sir

I am writing to ask if it would be possible for you to send me a registration form for the PC board, as I seem to have misplaced mine! Otherwise, thanks very much for an absolutely fantastic product, one which has, in the space of only two weeks, proved its worth. Other programs not on the list which work are: Quattro, Fleet Street Publisher and Printmaster Plus. Once again, thanks very much.

Yours sincerely
K Whitchurch

Bitcon Devices Ltd, 88 Bewick Road, Gateshead NE8 1RS England
Tel: 091 490 1919/1975 Fax: 091 490 1918 Helpline 091 490 0202

THE AMIGA 500 PC/XT IS HERE



"Screen handling is faster than many 286 AT's ..."

— Amiga Format Oct '90

"...the PC Board is indeed a very highly compatible device ..."

— AUI Dec '90

WE...

- ★ Supply MS-Dos 4.01 and GW Basic and Shell **FREE**
- ★ Supply extra memory **FREE**
- ★ Do not invalidate your Amiga Guarantee
- ★ Are continually improving the product with software upgrades (nominal charge)
- ★ Run a helpline just for you
- ★ Leave your 68000 processor free for other useful internal add-ons

**Run Professional
MS DOS Software
on your Amiga 500 at
a price you can afford**

**PRICE SLASH
NOW £299.00
INCLUSIVE**

KCS

POWER PC BOARD

SUPPORT OF THE
A590 H-D AND
OTHER IMPROVEMENTS
NOW INCORPORATED
RING FOR DETAILS

Why did you buy an Amiga 500?

Of course, because of its superb graphics, music and animation capabilities. However if you want to get serious, you soon realise that it is distinctly lacking in memory and professional software.

Well – they said it could never happen – but it's here at last!

You! In your own home can transform your Amiga 500 into a real IBM compatible with Amiga memory expansion up to one and a half megabytes.

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

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

You can also rely on the correct date and time at any moment in Amiga and MS DOS mode.

- ★ Video support: monochrome, Hercules and Colour Graphics Adaptor (CGA) (4 and 8 colours)
- ★ Disk support: internal 3.5" external 3.5" external 5.25" drive. (Software-upgrade to H/D A590 in pipeline)
- ★ Including MS DOS 4.01, MS DOS shell and GW Basic (market value approx £130.00)
- ★ Including English Microsoft books + KCS manual
- ★ Further exciting software upgrades in the pipeline

- ★ Available memory: 704KB + 64KB EMS in MS DOS mode, 1 megabyte + 512KB RAM (disk) buffer in Amiga mode
- ★ No extra power supply necessary thanks to the most modern CMOS and ASIC technology
- ★ OK with TV. No special monitor required
- ★ Price: **£299.00 including VAT and Postage.**
- ★ Access and Visa accepted.
- ★ For export price please contact us
- ★ Trade enquiries welcome (UK – Scandinavia – and all English language.)

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

BDL

BITCON DEVICES LTD.

88 BEWICK ROAD, GATESHEAD,
TYNE & WEAR, NE8 1RS ENGLAND.

Tel: (091) 4901919/4901975.

Fax: (091) 4901918



VIDEO FRAME GRABBER

THE COMPLETE COLOUR SOLUTION

Vidi Amiga, Vidi Chrome
(Colour Software Upgrade)
& Photon Paint
(4096 Colour Art Package)

£129.95
inc VAT

VIDI-AMIGA SCREEN SHOT



AVAILABLE
FROM ALL GOOD
COMPUTER SHOPS



VIDI FEATURES .

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



VIDI-AMIGA SCREEN SHOT

VIDI ENABLES YOU TO ...

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



VIDI-AMIGA SCREEN SHOT

VIDI- AMIGA

ROMBO
Limited

Rombo Ltd., 6 Fairbairn Road, Kirkton North,
Livingston, Scotland EH54 6TS.

TEL: 0506-414631
FAX: 0506-414634