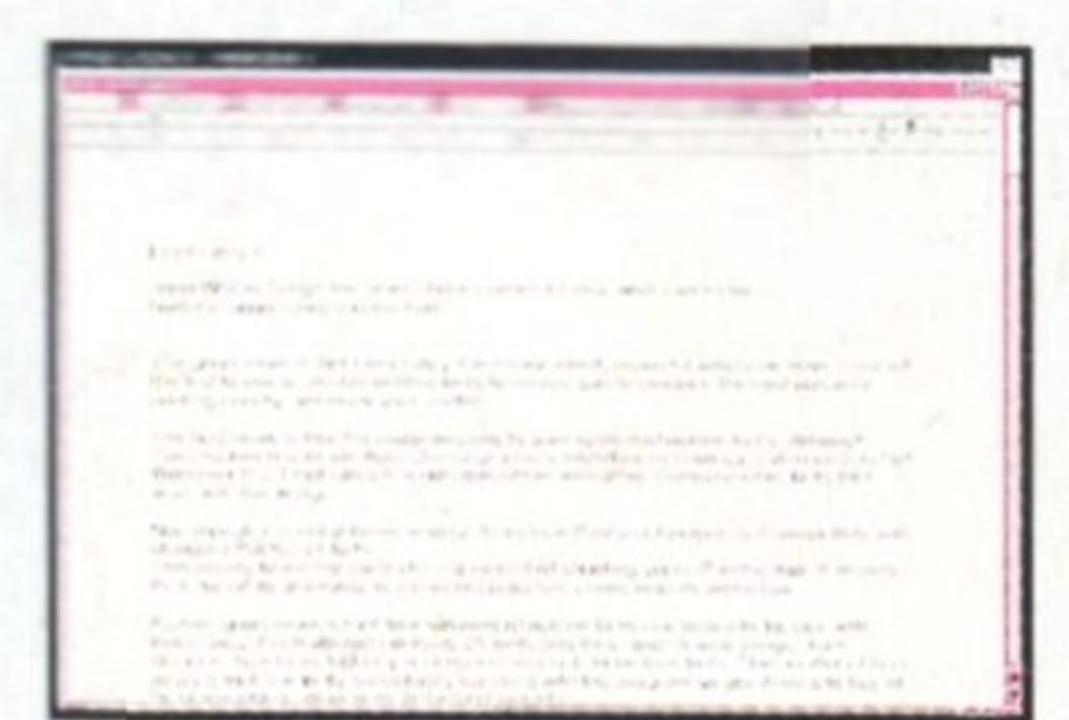




- PD Stakeout
- Cheapo Goodies
- Page 102

- CDTV Scene
- Hotting up
- Pages 60

- Final Copy II
- The word is out
- Page 34



# amiga

u s e r  
INTERNATIONAL

The Best Amiga Magazine.

£3.25  
MARCH 1993

## 3D TIPS



page  
**22**



page  
**67**

**BEGINNING HERE!**  
**18 PAGE AUI SPECIAL**  
The Amiga. Then.. Now.. and Next.

## ART EXPRESSION

page  
**50**

## COMPUTER TECHNOLOGY

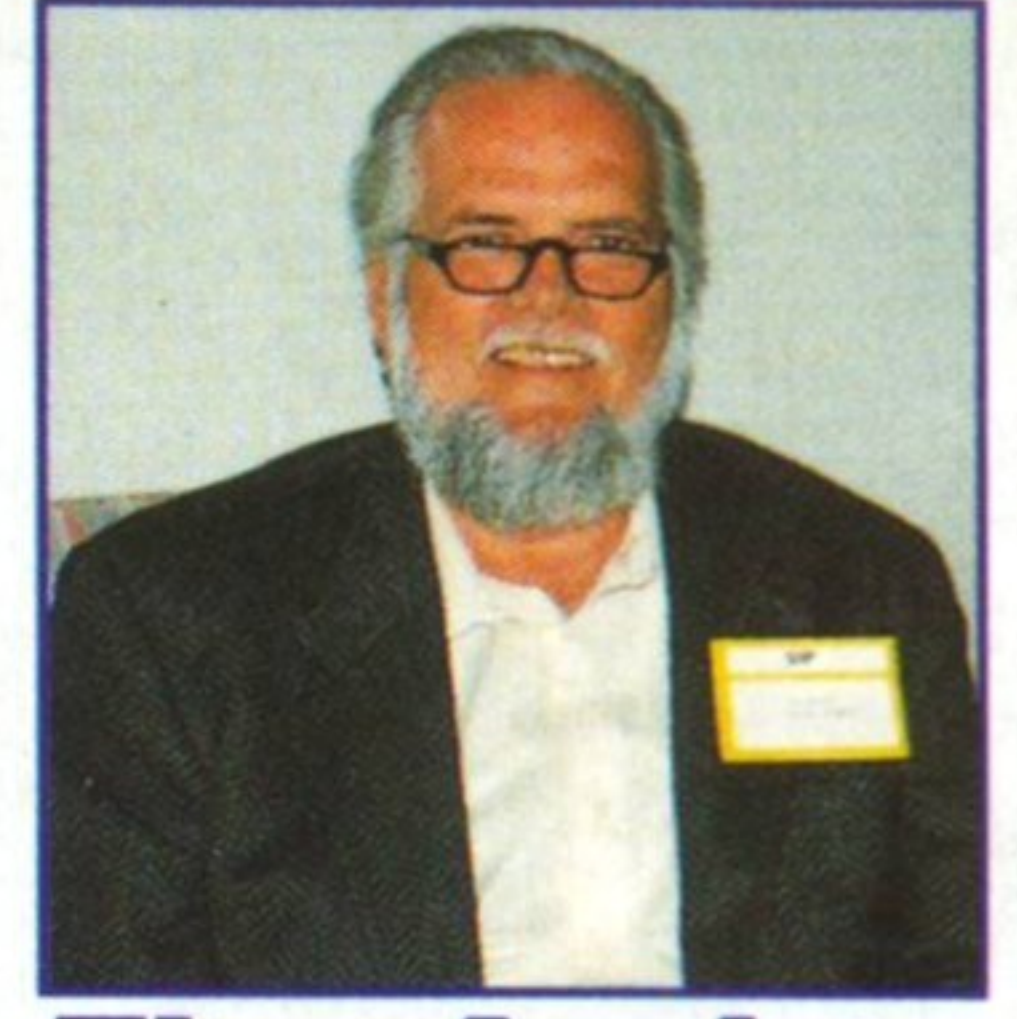
page  
**42**



## SCANNING IT!

page  
**30**

## EXCLUSIVE!



**The Amiga  
Creator Speaks**

page  
**9**

## SUPERDISK 21

Over 3.5 Megs of data on THIS disk!  
**Rend24** All the power of graphics processing and conversion!  
**JPEG Images** Over three MBytes of dazzling graphics on this disk!  
**BillBoard** Create friendly welcome messages.  
**FullView** Easy to use text and graphics viewer.

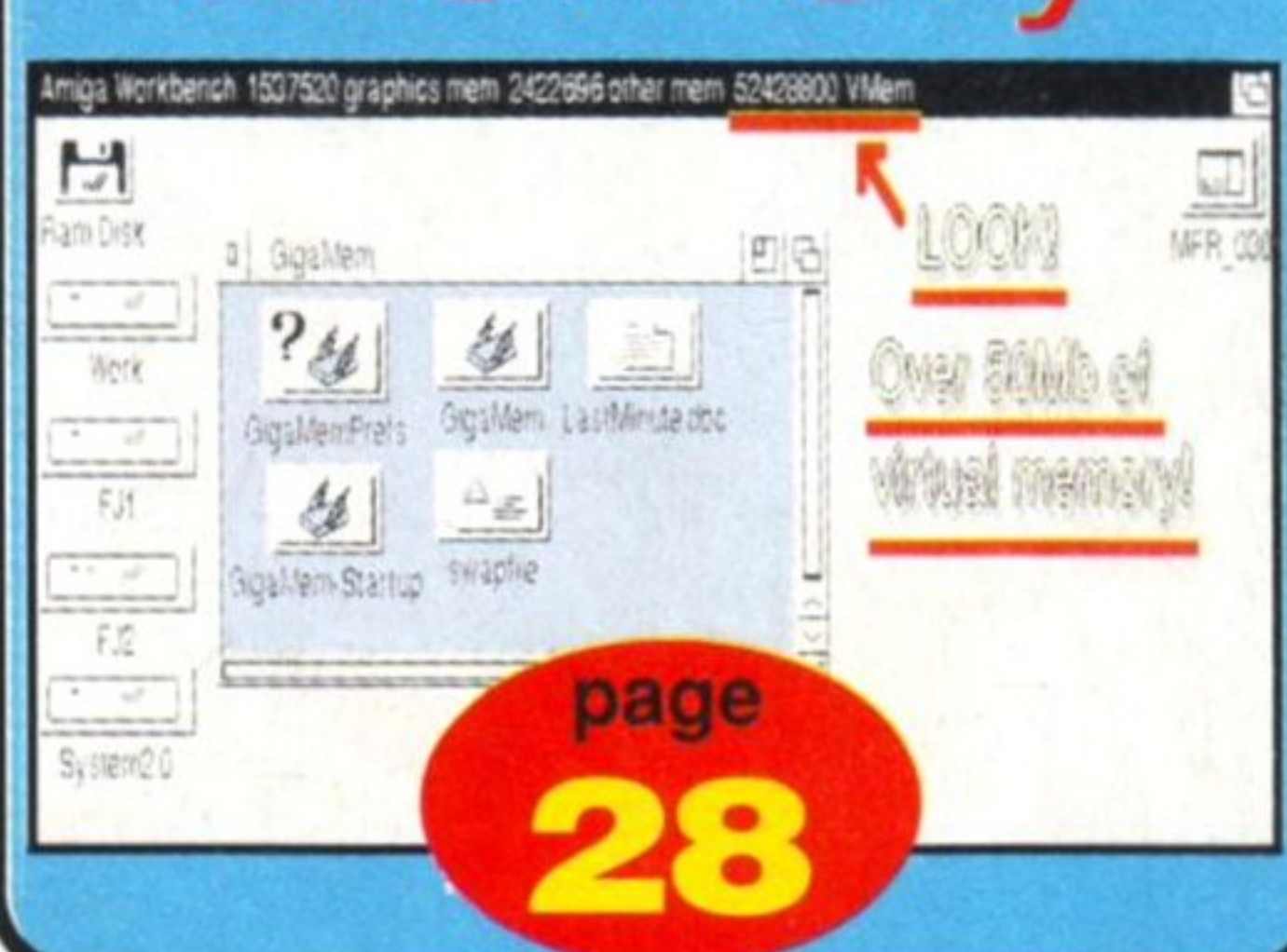


**Plus:** Spliner,  
 Onekey, Gynormous  
 Noughts & Crosses,  
 Degradar and much  
 more!

amiga  
User International

1MB RAM REQUIRED. 100% WORKBENCH 2.0x COMPATIBLE!

## GIGAMEM Multiplying Memory



page  
**28**

## ENTERTAINMENT NOW!



page  
**90**



**No Disk?**  
**Ask Your Newsagent!**  
**Or see the Superdisk**  
**page 8 in this issue.**

Win an Upgrade! Supercharge your Amiga from 1.3 or A600 and A1200!

# Morph Plus™

Finally! True Cinematic Quality Morphing For The Amiga®!



ASDG is not the first to advertise "cinematic quality morphing" for the Commodore Amiga®. Having seen the other products, there's obviously more than one way to define that term.

To us, "cinematic quality morphing" means these things:

- **Morphing must be fast.**  
In a production environment, time is money. ASDG's MorphPlus™ is the fastest morphing product available for the Commodore Amiga®. MorphPlus™ powers through complicated full overscan morphs 3 to 11 times faster than the other products.

Fastest .....MorphPlus™  
Easiest-To-Use .....MorphPlus™  
Highest Quality .....MorphPlus™

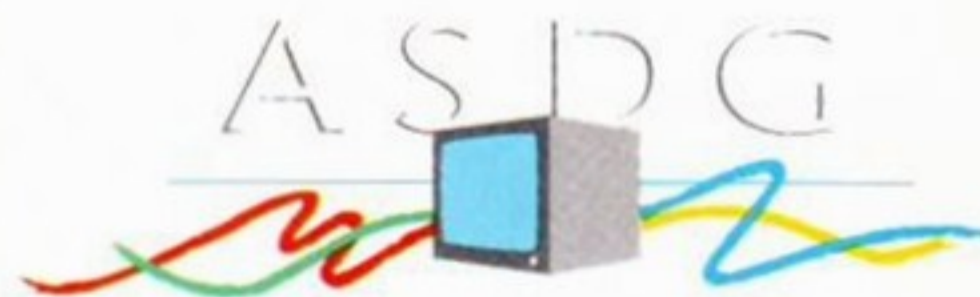
- **Morphing must be easy.**  
Experts in the field praise the intuitive design of the MorphPlus™ user interface which lets them create sophisticated full motion morphs in minutes instead of weeks.

- **Morphing must be high quality**  
(so that it truly can be used for cinematic or professional video applications). MorphPlus™ is already in use in Hollywood productions, replacing high end systems.

This is what we mean by "cinematic quality morphing."

If these are the criteria you would use, then MorphPlus™ is the choice you should make.

See it at your local dealer!



925 Stewart Street Madison, WI 53713  
608/273-6585

What's  
The  
Plus?



And  
More!

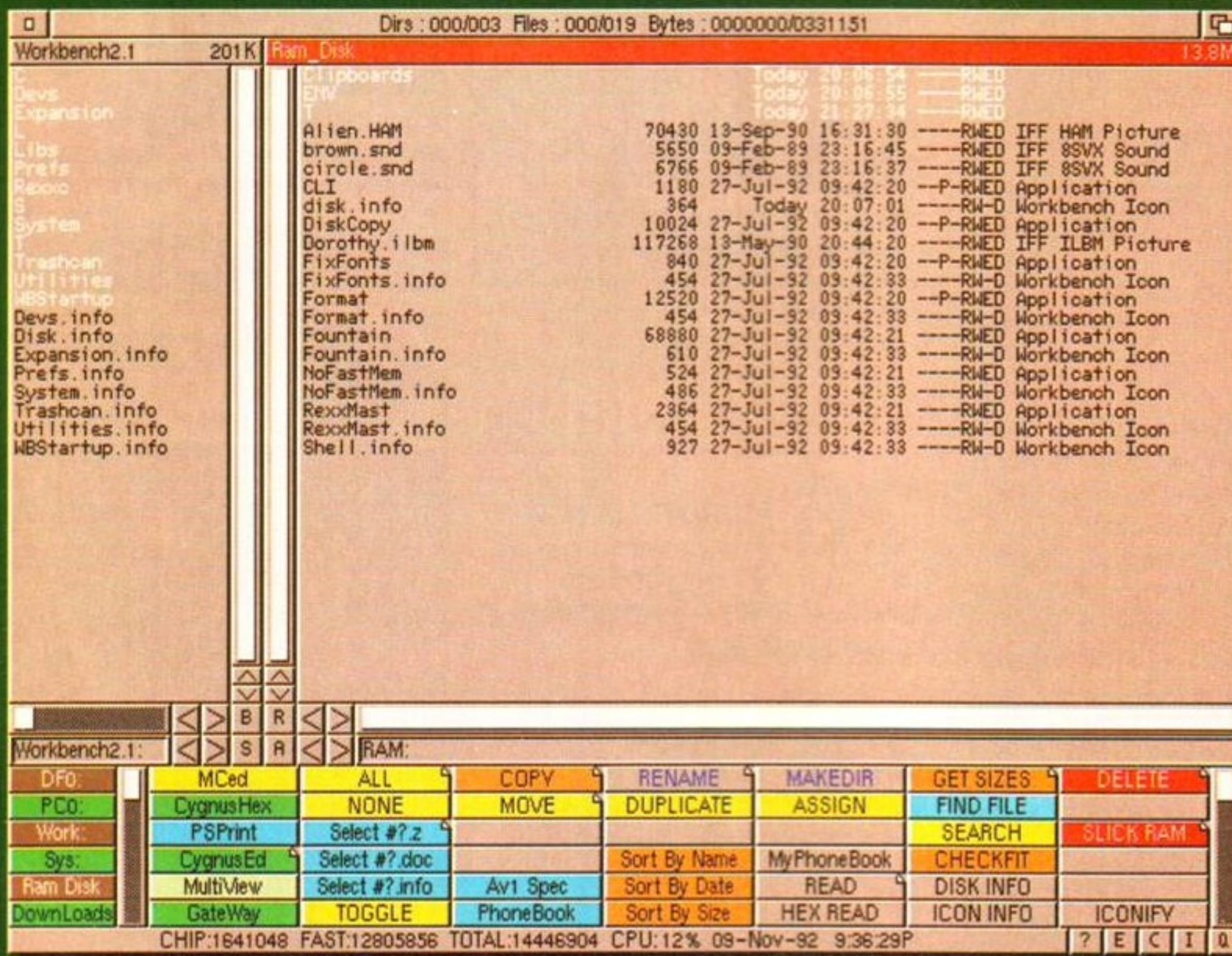
directory

# OPUS

NEW!!  
Version 4.0

The Amiga is the most configurable, dynamic personal computer on the market today. The perfect accessory for your Amiga is **Directory Opus 4.0**- the most powerful, user-friendly, user-configurable directory utility available.

**Directory Opus** gives you the flexibility and freedom to effortlessly manage all your files from an interface YOU configure to suit your specific needs and taste: *NOT limiting yourself to what some programmer thinks you need or want!*



### Directory Opus' Features Include:

- ✓ **Graphic Display Support:**
  - \*AGA/AA (A4000/A1200)
  - \*All ILBM Formats (Including SHAM)
  - \*Anim and Anim Brush Playback
- ✓ **Audio Support:**
  - \*Noisetracker
  - \*SoundTracker
  - \*ProTracker
  - \*StarTracker
  - \*MED w/MIDI
  - \*OctaMed
  - \*Oktalyzer
  - \*8SVX
  - \*Raw Data
- ✓ **Runs Executables**
- ✓ **Displays Fonts**
- ✓ **Displays Text Files**- Normal or ANSI
- ✓ **Displays HEX Files**
- ✓ **Unlimited User Configurable Buttons**
- ✓ **Unlimited Configurable Device Buttons**
- ✓ **Launches CanDo Decks**

**And a whole lot more!!**

With a completely configurable user interface, numerous built-in functions such as user definable sorts and searches, comprehensive "online" help, and full ARexx support, **Directory Opus 4.0** takes the concept of directory utilities to a new level of professionalism, power and productivity.

Pick up a copy of **Directory Opus 4.0** today, and discover why it is the **ESSENTIAL** utility for your Amiga!

**Directory OPUS 4.0 is Now Available at Better Software Shops Everywhere!**

United Kingdom Distributors

Checkmate Digital Ltd.  
0707 664-684

Meridian Software Distribution Ltd.  
081 543-3500

Micro-PACE UK, Ltd.  
0753 551-888

HB Marketing Ltd.  
0753 686-000

HiQ Ltd.  
081 909-2092



**INOVA**TRONICS  
interactive media

Inovatronics, Inc. Suite 209B, 8499 Greenville Ave, Dallas, TX USA 75231-2499 Phone 214-340-4991 FAX 214-340-8514  
Inovatronics, GmbH / Im Heidkamp 11 / W-5000 Cologne 91 / GERMANY / Phone +49-221-875126 / FAX +49-221-8704747



# amiga

**u s e r**  
INTERNATIONAL

The First UK Amiga Magazine

## Who Does What

Managing Editor and Publishing Director (AUI): Antony Jacobson  
Editorial Co-ordinator: Rico Gusman  
Technical Co-ordinator: Gary Fenton

Editorial assistance from Patrick Howlett, Aitor Ibarra and Sajit.

Contributors: Graham Baldock, Janet Bickerstaff, John Bickerstaff, Robin Bloom, Ashley Cotter-Cairns, Andy Eskelson, Peter Hayes, Anthony Mael, Barry McCarthy, Adam Moss, Andy Moss, Mike Nelson, Gideon Overhead, Paul Overaa, Alan Puzey, Bud Vennos and Martin Witton

Design: Graham Baldock

Advertisement Sales Director: Alan Talbot  
Advertisement Manager: Lorraine Stack  
Production Controller: Rachel Dixon

Publishing Director: Wendy Palmer  
Managing Director Specialist Magazines Division: Ray Lewis

Copyright  
HHL Publishing  
Editorial & Advertising:  
Greater London House  
Hampstead Road, London NW1 7QQ.  
Editorial Telephones: 071 388 3171 Ext. 6219 and 6056  
Advertising Telephones: 071 388 3171 Ext. 6158 and 6160

Subscriptions Address: HHL Subs. Dept.  
Lazahold Ltd, P.O.Box 10, Pallion Ind. Est.  
Sunderland SR14 6SN.  
Subscriptions Telephone: 091 510 2290

Published by Headway, Home and Law

Distributed by IPC Marketforce, Kings Reach Tower, Stanford Street, London SE1 9LS  
Origination and Colour Reproduction by Ford Graphics Ltd, Fordingbridge, Hants.  
Covers Printed by Spottiswoode Ballantyne. Printed and bound by BPC, Colchester.

Amiga User International - an independent magazine for Commodore computer users - is not connected in any way with Commodore Business Machines UK. It is published 12 times per year by Headway, Home and Law Publishing on the first Thursday of every month. The publishers do not accept any liability for any incorrect statement or errors contained in material from independent sources or authors which may be produced from time to time.

Printed in the U.K.

## ...And What They Used

Amiga Centre Scotland's Harlequin graphics card and VLab, Arnor's Protext, ASDG's Art Department Professional, Cygnus Ed and MorphPlus, Canon's BJ-20 Bubblejet, Commodore's Amiga A3000, A2000, A1200 and A500, Consultron's CrossDOS, Electronic Art's Deluxe Paint IV, Fujitsu's 550MB hard disk, GVP's IV-24 and A530 Turbo, Innovatronic's CanDo and Directory Opus, JCL's ColourPic Plus and Cabaret, John Veldhuis's Virus Checker, JVC's HR-D980 Video Recorder, Micro-System's Scribble!, OpalTech's OpalVision, Sony's CCD-V600 Camcorder, Tecsoft's TVPaint, 32 Bit RAM from First Choice Computers.

## CONSTANT FACTORS

### 5 The Amiga Dimension

Managing Editor Antony Jacobson comments on new readers, new ideas and new blood in the Amiga dimension.

### 6 AUI SuperDisk

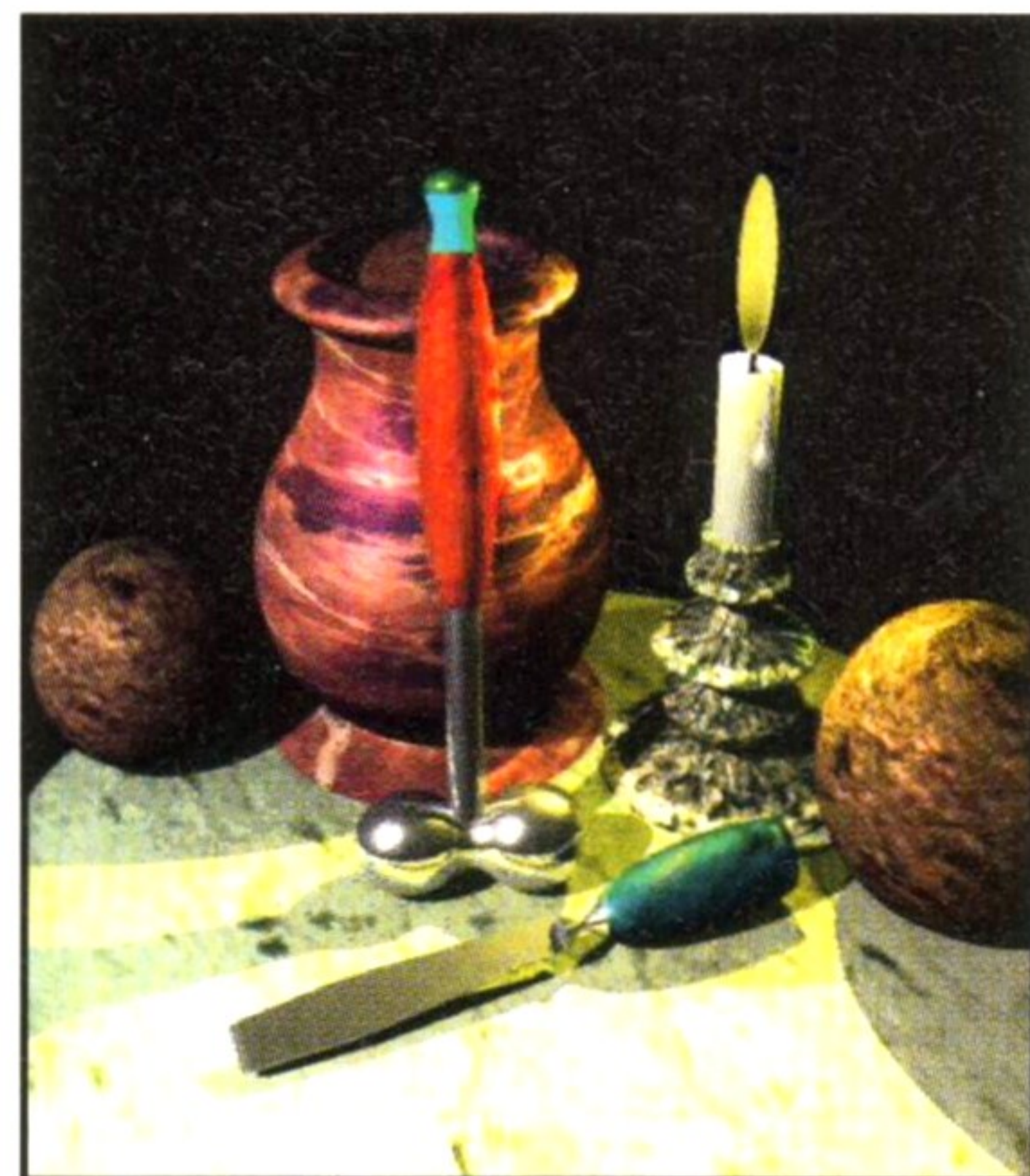
This is the disk for super goodies. There is so much in it that you will be amazed - more than 3 Megs of graphics and utilities. It's crunched, scrunched and bunched and just waiting for you to use. And yes, it's virtually all 1.3 compatible!



### 10 Newsfile

Anthony Mael and Martin Witton spend their nights hotly in pursuit of the most sensational, the newest and the most kooky ideas around. And if they're printable they are all here in the NewsFile.

### 48 The Video Column



More updates on what's happening where the Amiga hits hardest from Gary Fenton.

### 60 The CDTV Scene

As the CD revolution gathers pace, Janet Bickerstaff zooms along with it and brings in the latest releases and news.

### 102 The PD Stakeout

Gideon Overhead sifts through the goodies and the not so goodies that throng the cheapo and freeo side of the Amiga.

### 109 Amiga Answers

If you have a problem, a query, a puzzlement or bewilderment has struck you between the eyes, don't despair, Andy Eskelson has all the answers.

### 112 Write to Reply

Interface! Interact! Interfere! It's your chance to make your point, make your stand, make your name! Write in, right away. Bud Vennos is waiting for your words.

## TEST DRIVE

### 26 Epson LX100

Printer of the Month is from the world's biggest printer name and Gideon Overhead says it's worth looking at.

### 28 GigaMem

If you want memory, you may already have it. GigaMem from bsc in Germany, reports Gary Fenton, opens up a huge new world.

### 30 Scanner 6000

Epson are busy little people, aren't they? Well, not so little.. Gary Fenton goes goggle-eyed at the glories of this user-friendly scanner.



### 31 Video Backup

Gone are the days of floppiedom, your backups can now be done cheaply and easily on a VCR. Gary Fenton reviews the device.

### 32 CanDo 2.0

The favourite interactive authoring system on the Amiga has ben upgraded. Gary Fenton examines its new features.

### 34 Final Copy II

John Walker test drives the latest word processor to arrive for the Amiga and finds that it has some interesting characteristics.

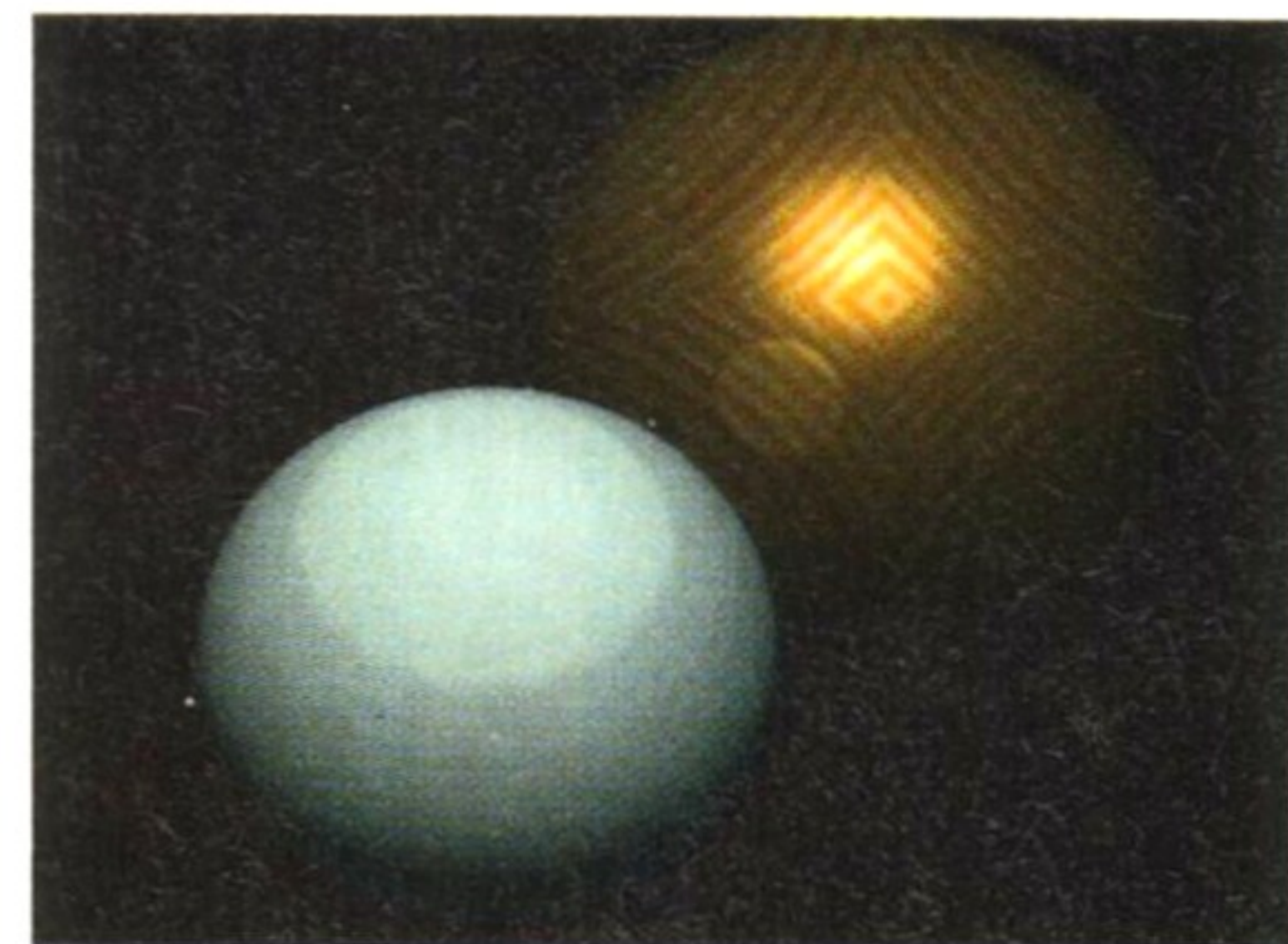
### 50 Art Expression

Soft-Logik's new structured drawing program has added some new dimensions to the Amiga's talents as Aitor Ibarra reports.

## USER PORT

### 22 Three Dee Tips

If you want to know how the experts make 3D stuff on



the Amiga look easy, Barry McCarthy can tell you - and he has some hints on what's coming soon on the graphics scene too.

### 44 Take 2 Too

When there is a low price, high talent program around it's worth learning how to use it, says Alan Puzey.



### 62 Check It Out

Chess on the Amiga? Ashley Cotter-Cairns stages a tournament to find his AUI Amiga Chess Champion.

# CONTENTS

March 1993 Vol. 7 No. 3

## The Amiga Dimension

### FIELD REPORTS

**40 Get Smart**  
Peter Hayes finds all sorts of electronic data is getting onto smart cards - even upgrades for the A600 and A1200 too.



**47 Copyright**  
Is it yours or ours or theirs? If you write something electronic, watch out for the leagle beagles. Robin Bloom, AUI's own, explains the ramifications.

### EDUCATION

**54 Reviews and News**



Martin Witton learns how Merlin did his maths, goes away on a Playday and says Hello! to Noddy and Big Ears.

**42 TechnoWorld**  
It's all getting smaller and faster and cheaper... Martin Witton adventures out into the dizzying, accelerating dimension of the computer technology coming our way.

### MENTOR

**58 Programming Tips**  
Paul Overaa gives you some more hints to help those programming writers' blocks disappear.

**Special Offers**  
21, 25, 36 & 65

All that's best in very special offers, exclusive to AUI readers.

**Competition**  
Page 93

Win an upgrade! Answer a few easy questions and take your Amiga into a superior level of power

Every year, so Commodore tell us, some 300,000 plus Amigas are sold in the U.K. alone. Some of them may be bought to replace old or no longer suitable Amigas. However, many will be for people who have never owned Amigas before. A large part of new Amiga users join the club around the holiday season at the end of the year. That's not necessarily because they are bought presents but because a substantial part of consumer spending happens at that time. It seems somehow the overwhelming publicity drives all of us into laying out loads of our hard-earned cash at that time - even if just for ourselves.

Of course, a lot of those who get given or buy electronic goods then are just interested in games - hence the epidemic of handheld toys - sorry, consoles - that has infected so many homes this year. At a somewhat higher level, the Amiga may fall into that class for the subteenage gamers too. But even they are usually conscious that there are more things to be done with an Amiga than just mindless, reaction-triggering zapping.

The more intelligent newcomers will we hope look further than the dedicated games magazines and toward AUI. That is why each year, about this time, we present some major feature that can interest those who aren't experienced Amiga users.

It may not seem too exciting to our regular readers but the Amiga community does keep on increasing and it always helps to bring in new blood and new ideas both in readership and on the magazine itself.

We do have some new blood in the magazine's staff too. Gary (*Spielberg*) Fenton is migrating to another domain of this publishing organisation where his frustrated video ambitions may well be less frustrated, for he is setting up a video studio for us. Rico Gusman - he of the easy competitions - is spreading his wings into computer-based design.

So the two new names are Aitor Ibarra - and that's one which is not quite so easy to pronounce although he hails from north London - and Patrick Howlett, who not only has a degree in software engineering but also, it is said, has a mind like a computer (no, not a ZX81!). And on this magazine he may well need one.

So it's Beginning Here! not only for new Amiga users and readers but also for AUI to some degree. New ideas are always stimulating and we welcome them from outside too. So if you have anything you would like us to do in AUI, or want to tell us how to do it better (to your taste at least), don't just write to Bud Vennos, though he loves to read and especially answer your letters, let me hear from you. In some ways, no matter how much we know about the Amiga or how much we know about anything really, in life too we're all beginning here all the time.

Antony Jacobson  
Managing Editor

### 90 ENTERTAINMENT NOW!

Leeds United Champions - CDS/Empire ★ Curse of Enchantia - Core ★

Doodlebug - Core ★ Ashes of Empire - Mirage ★ Wizkid - Ocean

Ween - Coktel Vision ★ Cytron - Pysgnosis ★ Nigel Mansell's World Championship -



Gremlin ★ Future Wars -

Delphine/Kixx ★ Alien

Breed - Team 17 ★

Premier Manager -

Gremlin Graphics ★

Bignose the

Caveman - Codemasters



### 67 BEGINNING HERE!

An AUI Special 18 Page Feature to give you the beginners' low down on all the marvels that the experienced Amiga users have already enjoyed. Or have they? From Amos to Multimedia, from Music to Programming, all you need to know begins - and ends - here.

# auisupe

**N**one of our programs has been archived this month which means you can use all of them straight away! Most programs are self explanatory but some will require you to read up on them. We have tried to

keep the software as Workbench 1.3 compatible as possible since, according to our recent Readers' Survey, at least 70% of you are still using the old operating system. Honestly, you don't know what you're missing!



**Compression is our word of the month. We've hammered over 3Mb of material onto this month's Coverdisk and there's even room for nine mega utilities! Gary Fenton**

**explains...**

the JPEG image and display it. Click on "Begin Conversion" to start the magic. It will take about two minutes to decompress each image on an ordinary Amiga and about 10 seconds on an 030 Amiga.

Please note that each image was originally 320 x 256 pixels and 24 bits deep. If you have the memory you can change the re-scaling size to 320 by 512 for the X and Y sizes. Have fun experimenting.

## rend24

Rend24 is one the best shareware programs that we've ever come across. It's essentially a graphics conversion program which supports all Amiga graphics formats (ILBM IFF) plus GIF, DCTV, HAM-E and JPEG. Put away anything else you've got and take a look at Rend24! It's sensational.sensational. Obviously Rend24 doesn't equal ASDG's remarkable ADPro. However, Rend24 is extremely powerful, as are its fast re-scaling routines and JPEG compression support. JPEG is a special file format which involves huge amounts of image data compression. Rend24 will load JPEG files and decompress them, display them and even save the files as IFF images to disk.

The DCTV and HAM-E libraries have not been included on the coverdisk version because people who have either DCTV or HAM-E will also have the libraries, anyway.

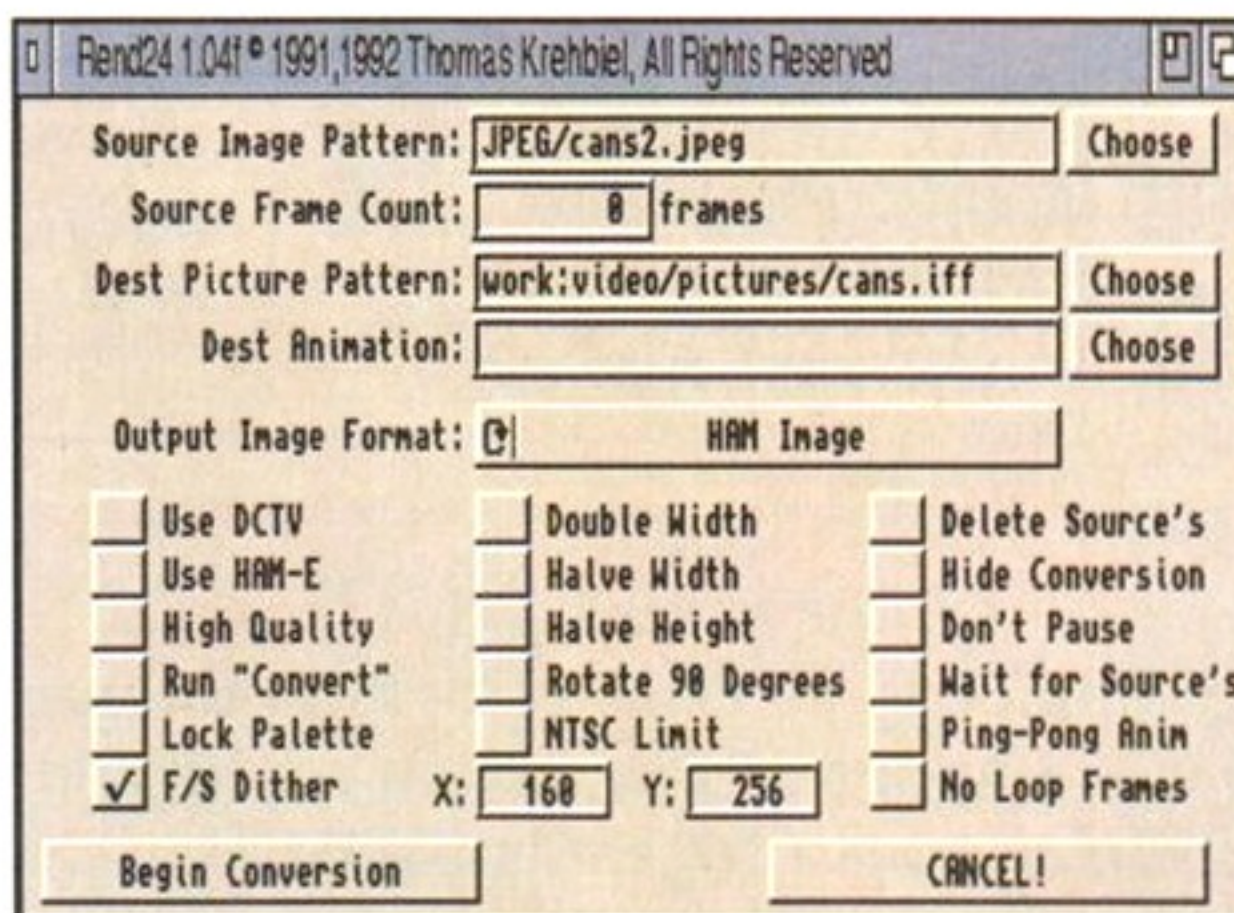
Rend24 works by loading a file that you

have selected. To select a file to load, click on the Choose gadget in the top right hand corner of the window and a file requester will appear. Alternatively, you can type in the file's path and name directly into the field object.

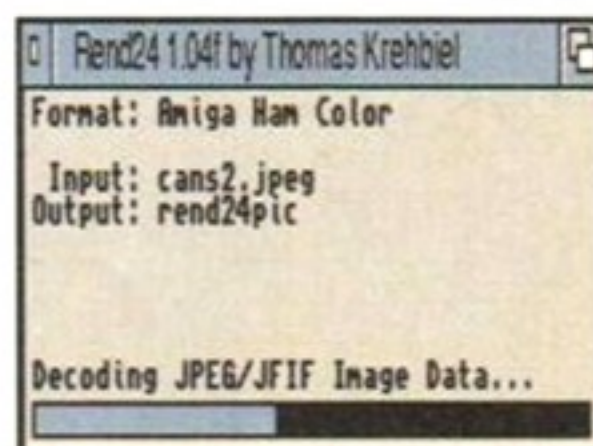
The Destination Picture Pattern is where you tell Rend24 the destination and file name of the output image. Leave it blank if you don't want it to save the picture.

The prime function of Rend24 is to sit and wait for a program to save a picture from an animation routine. Then, Rend24 will perform an operation on the image and save it again. For example,

if you have Imagine or Real3D rendering frames for an animation in 24 bit and you wanted them converted to DCTV or low-res format, you would instruct Rend24 to do this for you. Please read the documentation which accompanies Rend24 on the coverdisk for detailed instructions and a list of other features.



the Coverdisk and select the Choose gadget from the top right hand corner of the window. When the file requester appears click once on the JPEG drawer and wait for the computer to scan the directory. You should count nine or so files with the extension ".jpeg"



after each name. Double click on any file except "watches3.jpeg." That file requires at least 3Mb of RAM to process. All of the other files should work perfectly with a 1Mb Amiga. If you have an external drive connected on a 1Mb system, please disconnect it to preserve memory.

After you have selected a JPEG image to load, click on the long bar in the middle of the window which is titled "Output Image Format". The bar will cycle from Colour Image to Greyscale to Lumascale to HAM and back into Colour Image when you keep clicking on it. For this demo, make sure it says "HAM Image".

Now, near the bottom of the Rend24 window are two boxes labelled "X" and "Y". The default settings are 0 for both X and Y. This controls the re-scaling of the image. Please click in the X box and delete the number 0. Type in the number 160 and press return. Delete 0 from the Y box and type in 256. Lastly, you can turn on Floyd Steinberg dithering if you select the F/S Dithering tick box. Now Rend24 is ready to load

## jpeg images

On the coverdisk you'll find 9 JPEG images in the JPEG drawer which lives inside the Rend24 drawer. Each JPEG image is between 6k and 30k in size and each one will expand to at least 200k after decompression. Yes, 200K

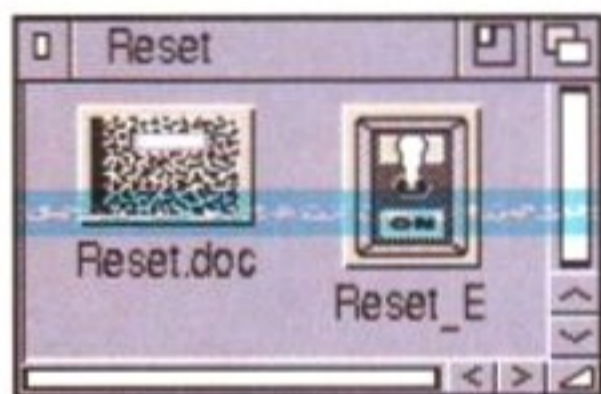
a time! You must use Rend24 (see above) if you want to view the JPEG images. If you have Art Department Professional or Imagemaster you can use them instead.

Okay, let's load up an image. Load Rend24 from



# rdisk21

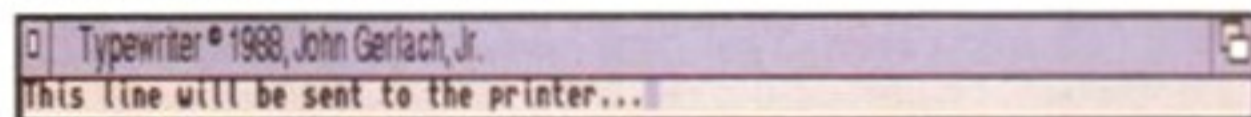
## reset



Reset is a tiny program which will perform a hard reset on your Amiga. Make sure all disk activity has stopped before you run Reset.

## typewriter

This program almost emulates a typewriter if you have a printer connected. When you press Return after each line you type, the line is printed out on the printer. Please copy this program across to your Workbench disk because



## billboard

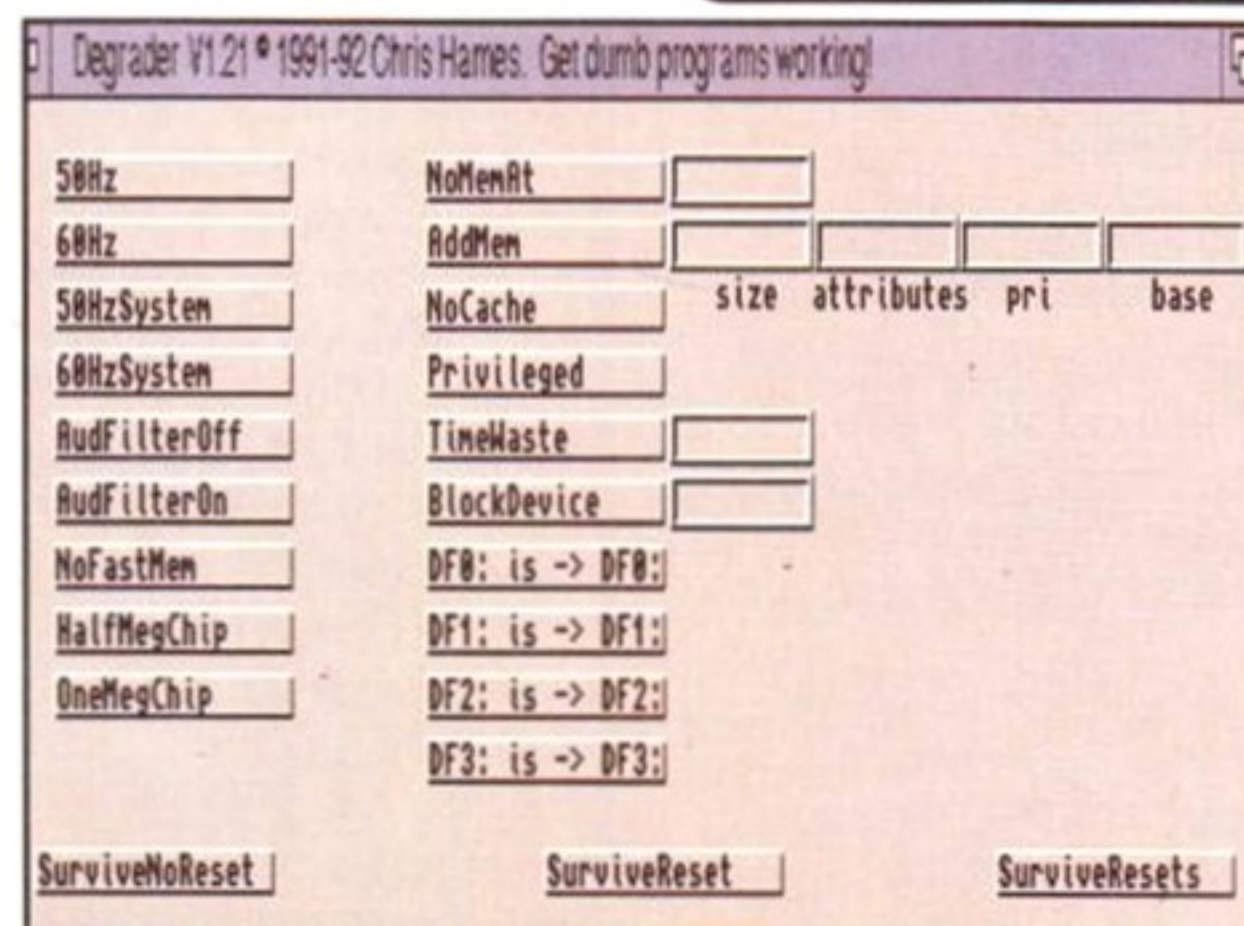


BillBoard (or BB) is a neat program which displays a welcome message and a little picture when it's run. There are three different images - the Commodore logo, an announcer, and a bored man. The images look better if you have your colours set to the Workbench 2 standard, although BB is fully 1.3 compatible. If you run BB from the CLI or Shell you can specify what message and image to use. I've created an Example file if you would like to have a look at it.

there is no printer support when you boot from the Coverdisk (it saves disk space!). If you have two drives, boot from your Workbench disk and load TypeWriter from the second drive.

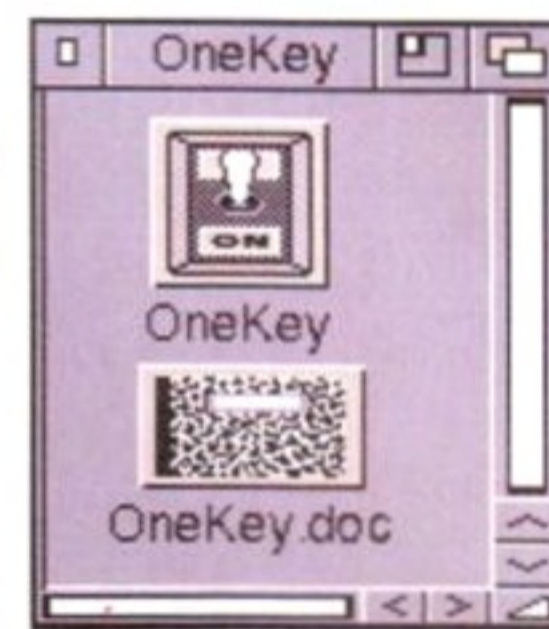
## degrader

No, this isn't something that does nasty things to you. If you have a mega powerful



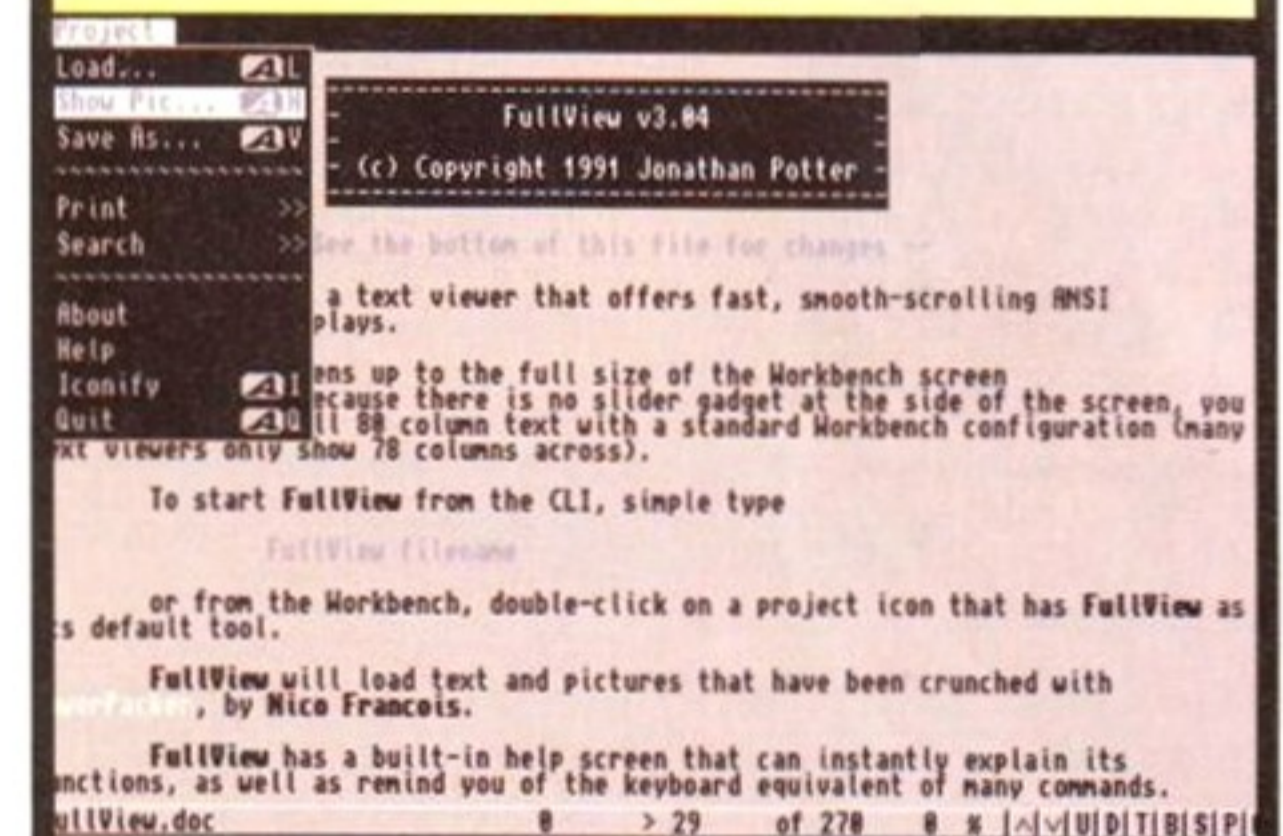
## onekey

OneKey can be a useful program if you either have a disability with one hand or are just plain lazy. OneKey does away with two key combinations such as "Shift + S" for a capital "S", or "Amiga + N" to get back to



the Workbench screen. With OneKey, you can press the qualifier, such as Shift, and then press the other key without having to keep your finger on the Shift key. A pretty neat idea, really.

## fullview



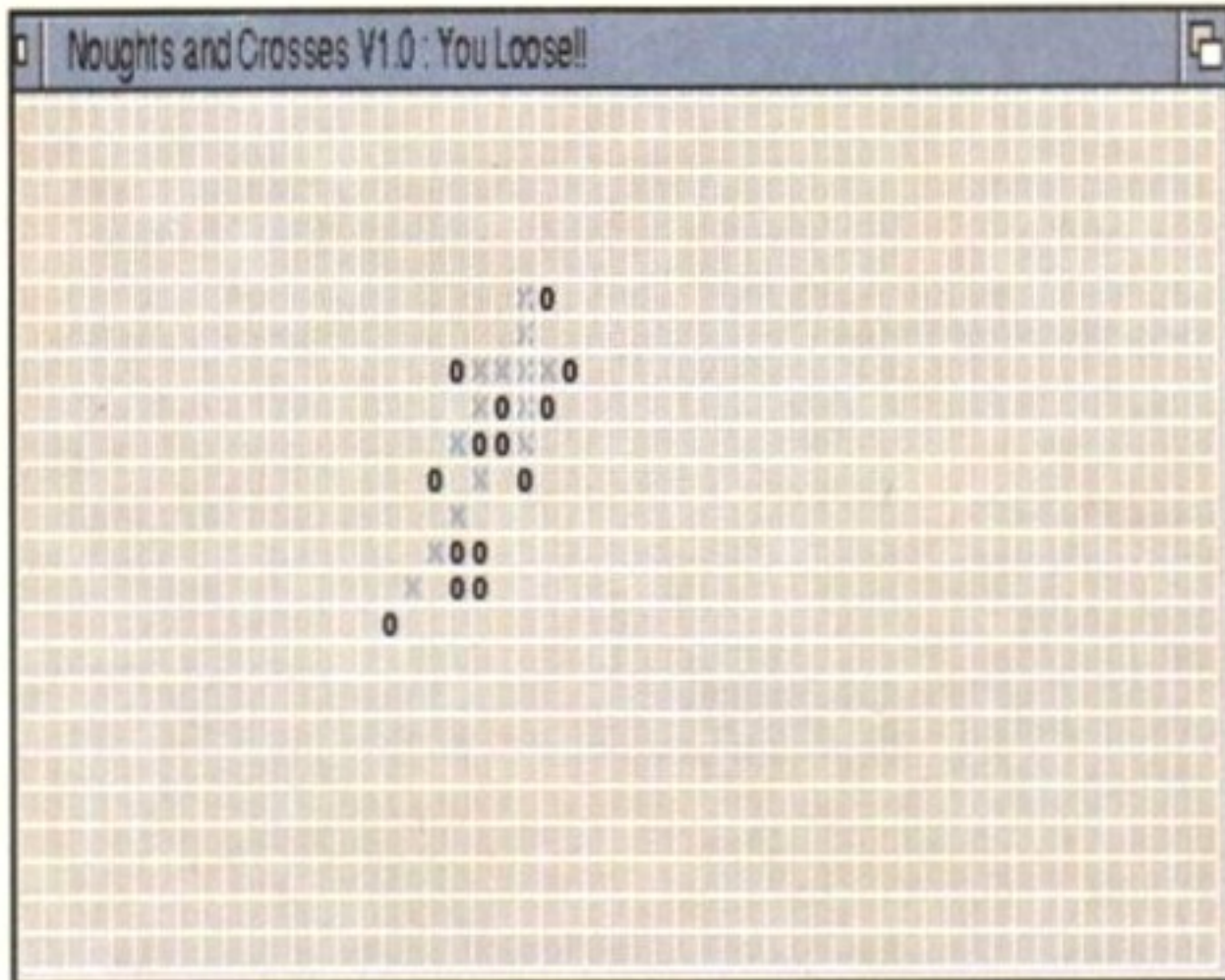
FullView is my personal favourite text viewer, that's why I have chosen to give it to you(!). FullView can be used just like More or PPMore but includes several extra benefits. FullView also displays IFF pictures and

when it displays text, you can smoothly scroll through the pages with the mouse. It supports crunched files - using the PowerPacker library - and is generally very pleasant to use. By the way, it's shareware.

Amiga with an 030, 2Mb chip RAM and 18Mb fast RAM you can use Degradar to turn it into an ordinary 512k chip RAM Amiga with no fast RAM whatsoever. Now isn't that just what anyone would want to do? The point of it? Well, some software can be a little fussy about the Amiga it's running on. Some programs don't like fast RAM, others hate more than 512k of chip RAM. It's a small program so keep it handy for when you need it.

## gynormous noughts & crosses

Have you ever played the classic Noughts and Crosses game on a area of 50 columns by 25 rows? Now's your chance to challenge the computer in this novel new game based on the old pen and paper version. It took me five goes before I could beat the computer! Have fun.



### code

Here's some code for Paul Overaa's programming pages which is in an uncompiled ASCII format. Clicking on the icon will make the Amiga show you

the text but it won't make the slightest bit of sense if you don't understand programming! Read the article!

## shareware

Just a brief reminder that some of the programs on our Coverdisk are Shareware. This means that you can try them out, but if you regularly use them you should send a registration fee to the author. Registration fees are between £5 and £20 and sometimes the author will send you the latest version in return. You can send an International Money Order, or preferably a cheque but many authors don't accept cheques if they are outside the UK. The best way to send money abroad is to send an international money order. These can be purchased at Post Offices or you can do it through a bank but they are inclined to be pricey.

## read the instructions!

It's best to read the official documentation that comes with the programs on the Coverdisk. If you get stuck with a program you will probably find the answer somewhere in the documentation. If you want to print out the text files, boot from your favorite word processor disk and load in the text files from there.

By the way, if you get really stuck with the Coverdisk then please write in to AU!, not phone! Better still, we always inform you if there have been any problems on previous disks, so try to hang on until next month to see if the answer is there. Thank you.



## spliner

Spliner is the single Workbench 2 only program on the disk. It draws lines and weird patterns after your Amiga has remained inactive for a specified period. This is a screen blanker which is very similar to the one which comes with Workbench 3 machines.

Use Shift + F1 to call up the menu for Spliner.

## EXCLUSIVE

## the jay miner interview

Jay Miner has been dubbed "the father of the Amiga" because he's the main man who dreamt up the idea for our glorious machine. Our very own Dr Mike Nelson went to America to speak to the number one favourite of all time type of person - Mr Jay Miner.

You can read this exclusive fascinating one-to-one interview as it really happened. Simply double click on

the icon and, providing you have booted from the coverdisk, the file will load up and present itself. You can always load the file into your favourite word processor for printing if you so wish. This file was placed on the Coverdisk because there was no way we could cram it into the main magazine. We hope you enjoy reading it as much as we did. Nice one Mike, and of course, thanks to Jay for talking to AU!

## compatibility

All of the programs on this month's Coverdisk have been fully tested on an Amiga 500 with Workbench 1.3 and Amiga 3000 with Workbench 2.04. If you think you have compatibility problems then please check to see if you have followed the instructions exactly. We have not had the chance to test the disk on an A600, A1200, or A4000, but there is no reason why any of the software should not work on at least the A600.

The only program that requires Workbench 2.0x or above to work is Spliner. (The solution: Upgrade to WB2 or 3!)

## faulty disk?

In the event that your AU! coverdisk fails to load (because of a read/write error etc), please return it to the following address for a free replacement. Allow 28 days for delivery.

**AU! Faulty Disks,  
PC Wise, Dowlais Top  
Business Park, Dowlais,  
Merthyr Tydfil, Mid  
Glam, CF48 2YY.**

Don't forget to include your name and full postal address in BLOCK capitals. A tetanus jab is not required, thank you.

## burning chrome bbs

Thanks to Simon Gardner who helped us to obtain a lot of the material on this month's Coverdisk. If you have a modem you can contact Simon's BBS on 0428 727060 (19.2K HST DS+ V32bis). This is not a voice or a DateLine number, it's for modems only! (Although Simon wouldn't refuse a date from a respectable young lady - or probably unrespectable too! Any offers? Don't call us, call him!)

## reader's contributions

We are always looking for new and original programs to put on our Coverdisk. If you would like to see your name and program feature in AU! and achieve world fame, then please contact AU! at the address given in the front of the magazine. Alternatively, give us a call if you think we would be interested in your program Tel: (071 388 3171). The shorter the better, under 100k including any libraries - unless it's brilliant! Compiled AMOS programs are welcomed.





“ **Extracts from Jay Miner** ”  
**AUI Interview – Pasadena USA**

*AUI's roving correspondent, Mike Nelson sat down with Jay Miner in California recently. Here are some extracts from AUI's exclusive interview with the Padre.*

**THE PADRE SPEAKS**

The man they call "The Padre" - the Father of the Amiga - is still a legend among the worldwide community. Jay Miner is probably the most highly-respected of all those who contributed to the development of our favourite computer. He has been interviewed before in AUI but there must be many new Amiga users who are unfamiliar with the beginnings of the Amiga story and many experienced ones who have forgotten how it all began.

"The story starts in the early 1980's with a company not originally called Amiga, but Hi Toro, which was started by Dave Morse, our president. We had just finished the Atari 800 and they were not about

to spend another umpteen dollars on research for a 16-bit machine. They couldn't see the writing on the wall and they just said "No", so I quit!"

The design team at Hi Toro/Amiga was assembled from a bunch of people over the next few months. I asked Jay to sum up what it was like to work on the Amiga.

"The great things about working on the Amiga? Number one I was allowed to take my dog to work and that set the tone for the whole atmosphere of the place."

The chips took three designers including Jay (who did the Agnus) almost two years to design (1982-84) and throughout this time the ever-expanding software team were working on what became the Amiga's operating system libraries and such like.

Seeing pictures of the early Amiga, it's almost impossible to imagine that the piles of wires and boards could eventually be reduced to something the size of an A500.

"Those were a nightmare to keep running with all the connections keeping breaking down. They're still around somewhere."

"In 1983 we made a motherboard for the breads to be plugged in, took this to the CES show and we showed some little demos to selected people away from the main floor. At the Show

itself, they wrote the bouncing ball demo and this blew people away."

The Amiga 1000 really didn't take shape until long after Commodore had stepped in.

"They wanted a 256K machine as the 512 was too expensive. I told them it couldn't be done as we were too close to being finished, it would spoil the architecture.."

Regular readers will know that I'm always going on about how wonderful Intuition is to work with so I asked Jay to tell me a bit about its development.

"RJ Mical pretty much did it all himself. He was holed up for three weeks and came out once to ask Carl Sassenrath about message ports. That's it, really! He wrote Intuition and went on to do the graphics package, Graphicraft, as no one else could do it right.

(RJ Mical later, with another Amiga originator, Dale Luck, created a piece of portable hardware for the games software company Epyx which was then run by none other than ex-Amiga boss Dave Morse. Epyx got into trouble through spending so much cash on it and ended up selling the hardware. What was it? The Amiga-style console, the Lynx! And who bought it? Atari! So the Amiga story came round again!)

But back to the Amiga... Once all the software was done, it was time for



Commodore any more so I don't get anything out of Amiga sales. Things should have been a lot different. I still feel fatherly towards to Amiga, more so than any of the Ataris.

"I'd like to see Commodore grab hold of one of these 24-bit cards like the GVP or DMI boards and put it in as standard. The Amiga badly needs a standardization of high resolution 24-bit colour modes.

**What's your opinion of the A4000?**

"They've improved the chipset in the 4000, taking the colours to 256 from 8 bitplanes. I'm unhappy about the SCSI and they didn't go to full 16-bit audio, but according to Eggibrecht (CBM's boss of engineering) that's coming soon."

**What about CDTV?**

"CDTV is quite a nice idea, but the software has to be right. Can you think of anything more horrible than trying to read an encyclopedia or the Bible on a TV, rather than a nice crisp RGB monitor?"

Talking with Jay Miner is one of the best experiences an Amiga owner can have. He really is the Father of the Amiga and his passion for the machine is so apparent. **a**

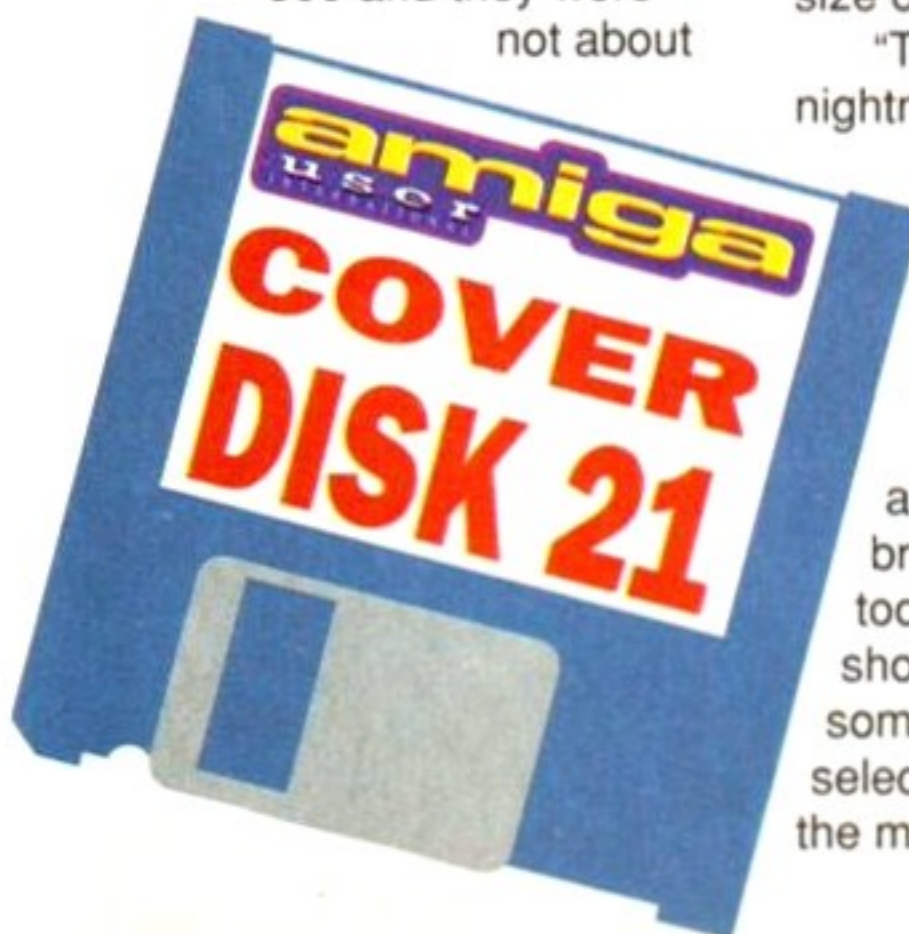
**I was allowed to**  
**take my dog to**  
**work and that set**  
**the tone for the**  
**whole atmosphere**  
**of the place.**

the big release of the A1000. Jay's reaction:

"There were a lot of compromises which I didn't like, but it was better than it might have been if we hadn't gotten our way on a lot of things. We didn't get our way on everything, though. The 256K RAM was a real problem. The software people knew it was inadequate but nobody could stand up to Commodore about it.

**What about the overall handling of the Amiga over the years? Does it annoy you that there are 10 times as many PCs as Amigas?**

"Yeah, that really does annoy me. I don't have any financial connections with



*If you want to read the whole interview, you can find it in full on the Coverdisk.*

## page 10

Road Warriors Teledaptor  
Micro-PACE - new releases

## page 11

Golden Gate 486 SLC  
Amiga CD Soccer  
Monitor take Lotus  
Position  
Plants for all Seasons  
Drive On!!

## page 12

Neglected Computers  
Getting Smart - All Over  
Multiplexed Star Topology

## page 14

bsc Has the Answer  
Quotes of the Month  
Online Real 3D  
Reports of death greatly  
exaggerated  
Technoplus

## page 18

Amiga Radio Show  
Epson Scanner  
Apollo 2000  
Chart Screen Shots  
Computer Crimes 1

## page 20

Seikosa's Colours Prices  
Nintendo Outdoes  
Matsushita  
The ARexx Cookbook  
PC Card for the Amiga  
Deluxe Paint IV AGA  
Directory Opus 4.0  
Cheetah's Bollistick  
Computer Crimes 2

Compiled and edited  
by Anthony Mael and  
Martin Witton



## ROAD WARRIORS TELEDAPTOR

Business travellers taking their portable PCs/modems and faxes abroad will find that if the equipment is fitted with a standard British telephone plug, it is almost certain to be incompatible with the foreign telephone system.

There are over twenty different types of public telephone systems currently in use throughout the world. Teleadapt say they have addressed this problem by launching a range of Road Warrior Teledaptors designed to permit British PCs/Modems and faxes to work with foreign telephone systems. ('Allo? Allo?')

Road Warrior Teledaptors work, they claim, by simply replacing or adapting a British plug with one suitable for the that country's particular system, enabling the fax, or portable PC/modem to connect both physically and electrically. Connection takes just seconds. Oh yes, in most countries we've been in, just getting the operator to answer can take half an hour.)The range includes adaptors for every plug-in system currently being used around the world, and prices for individual adaptors start from £14.99.

For the executive who has everything there is the Euro Telepak consisting of 10 adaptors (10 !) to suit the different systems currently in use. Starting price is £39.99. In addition custom made Road Warrior Telepaks can be supplied to customers, based on individual requirements. ('I'm off to Mauritius,, Timbuctoo and Lapland - the right place for portable computers..').

Contact: Teleadapt, P.O. Box 169, Pinner Middlesex.  
HA5 5QW. Tel: 081 429 0479.

## Micro-PACE

Micro-PACE UK has introduced the MBX 1200 - a maths co-processor and 32 bit memory expansion for the Amiga 1200. The MBX 1200 is manufactured by Microbotics.

The MBX 1200 is said to be a cost-effective, high-quality upgrade solution for Amiga 1200 owners. It provides a Motorola 68881 /68882 Floating Point Unit and supports

the installation of up to eight megabytes of Amiga 32-bit Amiga FastRAM. Apparently, the MBX 1200 can increase the floating point by as much as 55 times the native A1200 and boost the general operating speed of the system by more than 75%.

The 16MHz 68881 is installed as standard and is clocked at 14.3MHz. It can be upgraded to a 50MHz 68882. Installation is internal to the A1200 and resides on the 150 pin edge connector.



# 1e

## New Releases

### Vector 68030

IVS and Micro-PACE UK have released Vector, a new 68030 processor accelerator board for the Amiga 2000. The Vector specifications include; socketed 68882 maths co-processor, on-board memory expansion to 32MB RAM. It provides a built in high speed SCSI controller and the SCSI share networking is included. There are 4 or 8MBs of on board RAM, and also there is a high-

performance SCSI controller available to 6800. The Vector is based on Motorola's 68EC030 or 68030 CPU, the 68EC030 is a scaled down version it performs like 68030, except that it does not include an MMU.

**CONTACT: Micro-PACE Distribution UK Ltd, Unit 10, Perth Trading Estate, Perth Avenue, Slough, Berks, SL1 4XX.**

## GOLDEN GATE 486SLC

The really in people in the computing world these days are going in for a spot of the old emulation. Amiga in people are naturally going for the hottest, that's a 486, of course. If you want to know some of the wonder in store for you if you take the trip - try out Golden Gate's 486 which has some pretty cool graphics modes for video emulation such as, with a standard 1084 Amiga monitor: CGA, Hercules, Olivetti, Toshiba T3100 and EGA/VGA monochrome graphics. If for example, a VGA graphics card is installed in one of the Amiga PC/AT slots and a suitable monitor is connected with it, then a full VGA video output will be realised under MS-DOS. (Oh yes, is that what you really want?)

On both Golden Gate 386SX and Golden Gate 486SLC an external connector for the Vortex Monitor Master is integrated. The Vortex Monitor Master is a small external box connecting an EGA/VGA graphics card and the Amiga video output both at the same time with just one Multisync monitor. (You only have one?)

Prices: Golden Gate 486SLC £699.00; Monitor Master £79.00.

**Contact: Vortex Computersysteme, GMBH Falterstrasse 51 - 53 D - 7101 Flein. Tel: 07131 5972 -0.**

## AMIGA CD Soccer

Sensible Soccer, one of the top two or three selling computer games in the UK in 1992, has now been released on CDTV. Renegade who produce say it's so CDTV owners can enjoy the challenge of the European Championships, the European Cup or "The Sensible League." The what? It can't have much to do with the soccer that we all know and love, can it?

Sensible Soccer CD will be priced at £19.99. Dirt cheap..

## Monitor takes Lotus position

The Philips CM8833/II games monitor is being packaged with the racing game from Gremlin Graphics - Lotus Turbo Challenge II and that includes an Amiga version.

To coincide with this promotion, buyers will also have the opportunity to enter a competition - with the chance to spend a day at the 1993 British Grand Prix. 1st prize includes a helicopter trip, seats for the race and the chance to meet a Formula 1 personality ..erm we don't think that will be Nigel Mansell somehow.. Competition leaflets are included in with the monitor bundle.

If buyers already own a copy of Lotus Challenge II, they can exchange their copy with the Final Challenge for £5.00.

The Philips CM8833/II monitor features stereo sound and is compatible with the Amiga. The price of £229.99 includes one year's on site maintenance warranty.



Prickly prince of the kingdom

## PLANTS FOR ALL SEASONS

Gardeners, botanists and multimedia enthusiasts are the target audience for this detailed reference program "which aims to cover all aspects of the Kingdom of Plants." And where is that, we hear you cry? And there may well be fairies at the bottom of your garden too if you get there!

Two features of the project are rather interesting and unusual: users can choose to contribute information and files to the system in return for royalties; and they can buy the right to use system data in their own commercial applications.

£10.00 from each sale goes into a royalty fund and contributors receive points which determine their proportion of each £10.00 entry. Users who buy the right to use data commercially effectively pay £20.00 into the fund. Contributors can withdraw their royalties at 14 days notice. (I'm leaving for Africa on a plant expedition in a fortnight, can I have my money please?)

The program contains up to 20 pages of fields and linked disk files holding information on each plant. All the pages have several multimedia buttons which allow access to object, sound, picture, text and video files.

An update service is planned and update disks will be available for registered users at a cost of £6.00.

The system has 10 disks and a manual and the database includes 1000 plants and 100 HAM interlace images.

**Contact: Applied Research Kernal, Corve farmhouse, Corve Lane, Chale Green, Isle of Wight. PO38 2LA. Tel: 0983 551 496.**

## DRIVE ON!!!

Just bought a printer? Printer not working? Cannot find the right printer driver? If the answer is yes to any of the above questions, Hudson PD say they have over 60 printer drivers for various printers and they will supply a printer driver from their list free. "Just send a

blank disk and a loose first class stamp." (A what? Please don't tell us about the sexual behavior of your stamps. We don't wish to know that!)

**For the full list Contact: Hudson Public Domain, P.O. Box 25, Wigan, Lancs WN2 3WW.**

## NEGLECTED COMPUTERS

Britain's businesses are seriously neglecting their vital computer resources, a recent survey by Brother - that's not Big Brother but the printer company - and Mind Your Own Business magazine revealed. Nearly three quarters don't service their computing equipment, but wait until it breaks down, opting for repair rather than maintenance. (It's called the "If it works, don't fix it" syndrome. Probably very sensible, if the people who service my car are anything to go by.) However 83% claim that their computers are crucial to the successful operation of their business. (That's true about us too but possibly not to be claimed about some other Amiga magazines...)

Despite neglecting their equipment, most companies recognise the

dangers of data loss. Nearly 16 per cent have experienced a serious case of misuse, data corruption or virus attack and 88 per cent have a data back-up procedure they adhere to. (Do you ALWAYS back up everything - including from your hard drive?)

Computer resources are most commonly used for word processing, accounting and databases, but around 50% of companies also have desktop publishing and graphics facilities. A large majority uses personal computers, but less than half have a networked system. Of those that don't already have a network, only one quarter are considering installing one. 80% of businesses use the MS DOS operating system. (Ah well, we all make mistakes...)

Do you want to take full advantage of your Amiga? It's the most versatile of all computers, but mastering it can be a daunting task.

The Amiga Workshop is offering a variety of seminars and hands-on courses presented by people who use the Amiga regularly in the course of their work and who are experienced in teaching on the Amiga.

Aside from the information The Amiga Workshop say you will acquire, the seminars and courses are opportunities to meet like minded users.

### SEMINARS

The half-day seminars show the ability of the Amiga in

specific areas. They will, say The Amiga Workshop, stimulate your imagination and focus enthusiasm. The first will be "Introduction to the Amiga", "DeluxePaint Master Class", "Interactive Multimedia Design", and "Mastering The Presentation". The Amiga Workshop say the seminars provide an opportunity to ask questions, learn new techniques, and pick up tricks and tips.

Price: about £50.00

### COURSES

The Amiga Workshop courses are designed for those who require practical tuition in specific subjects. Andrew Gould of The Amiga Workshop told AUI

they are "restricted to a handful of places to assure individual attention and foster an informal atmosphere conducive to learning. They provide the ideal environment to acquire new skills and assess important hardware and software combinations". The first two courses will be on DeluxePaint and Interactive Multimedia Design.

Well, if you want to get tips from experts and experience the thrill of knowing your Amiga better, here's your chance.

Price: about £295.00

**CONTACT: The Amiga Workshop, 31c Herne Hill Road, London SE24 0AX Tel: 071 274 4407**

# MULTI-MULTI-MULTI STAR TOPOLOGY

## (Say that again!)

NET:Profit is a local area network system for the Amiga that is built around a dedicated file and print server. This comes with software support including AmigaDOS volume emulation, spooled printing an auto-attaching user directory facility, a facility for remote controlling other nodes and a menu facility for launching applications quickly and easily. It's intended for use as a networking system for educational environments and for clustering on-air machines in TV stations.

NET:Profit's server comes in two versions: server/32 and Server/80.

Both contain a dedicated CPU, a fast SCSI hard disk in capacities ranging from 40MB to 1.2GB, a DMA disk controller, an Amiga-compatible Centronics parallel port for connecting a printer and a motherboard for connecting Server Interface Boards(SIB).

The SIB is an intelligent communication controller with a 32KB buffer memory and the logic needed for communicating with up to 8 Amiga nodes without intervention by the server's CPU. The compact Server/32 can accommodate up to 4 SIBs, for a maximum of 32 nodes; the Server/80's

bigger will take up to 10 SIBs for a maximum of 80 nodes.

Each Server Interface Board supports two network hubs. Connection through the parallel port leaves the A500's expansion bus free for other peripherals.

This multiplexed-star topology - Aha, that's what it is! - has, say the UK distributors, considerable performance advantage over bus topologies, especially those employing carrier-sense multiple access methods such as Ethernet. Oh really?

**Contact: Extra Tuition Centre. Tel: 0474 535180.**

be the largest share with 35/45%, Flash will have grown substantially greater with 22% while ROM will have slipped to 30%.

A wide range of new card based products is expected. These will span the range of memory devices available and include SRAM, DRAM, ROM and Flash as well as the I/O devices. Each offers different advantages for varying applications, ROM is used extensively for

software programs - though not for the Amiga that we have seen, while SRAM is used like a floppy disk for storing data, which can easily be read and overwritten.

The SRAM card is the most widely used technology today, due to its ease of use.

New high density cards using Intel 8MBit sector erase Flash and Fujitsu's 1MBit Flash will be launched in 1993. Low

density Flash cards up to 1MByte are increasingly popular for industrial applications while the larger density cards up to 20+MByte are said to be going to replace hard disks in PCs and laptops. Oh really?

**Contact: Fujitsu Microelectronics, Hargrove House, Belmont Road, Maidenhead, Berks. Tel: 0628 76100.**



## GETTING SMART - ALL OVER

The A600 and A1200 have opened the Amiga to smart (memory) cards. The largest market for memory cards today is Japan, and as usual what happens there is likely to be followed by the rest of the world.

According to research by SRI International, in 1991 the total Japanese market was 1.1 million cards of which 300,000 were PCMCIA based. This is the standard used by the

new Amigas.

The market is expected to grow to 64 million units by 1995. In 1991 an estimated 68% of the market went to ROM cards which are used for storing software programs for use with card only machines. SRAM cards were the second largest group with 17% while Flash cards contributed 3% to the market. However, by 1995 it is predicted that SRAM will

**THE WORLD'S N°1**

**GVP**

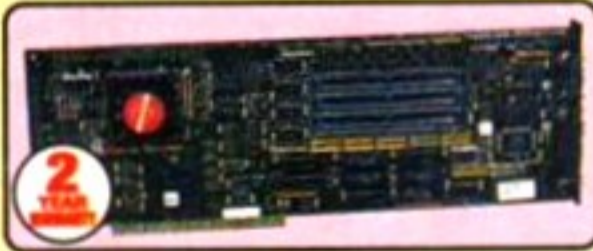
GREAT VALLEY PRODUCTS

**AMIGA PERIPHERALS**

**ACCELERATORS**

FOR THE AMIGA 1500/2000/4000  
All GVP G-Force accelerators can be turned into a hard card by adding a Mount Kit (GVA 4251 - £34.95). Any 1" SCSI drive can then be mounted on to the accelerator.

	030 25MHz	030 40MHz	030 50MHz	040 33MHz
Processor	68030EC	68030EC	68030	68040
Speed MIPS	7.48	12.1	15	30
Speed MHz	25	40	50	33
Math co-processor	68882	68882	68882	Built-in
Standard 32-bit RAM	1Mb	4Mb	4Mb	4Mb
Maximum 32-bit RAM	13Mb	16Mb	16Mb	16Mb
Extras	SCSI	SCSI	SCSI	SCSI Ser/Par
Code	UPG 0110	UPG 0430	UPG 0533	UPG 0740
PRICE	£499	£799	£1099	£1499



The Impact II HC8 hard cards are the equivalent of the HD8+ hard drive, but for the 1500 and 2000 models. They are some of the fastest hard drives available, and incorporate an unpopulated 8Mb RAM expansion.

**HARD CARDS**

- FOR THE AMIGA 1500 & 2000
- Factory installed Hard Drives
  - 0, 80, 120, 213, & 420Mb options
  - On-board 8Mb memory sockets
  - Add up to 6 SCSI devices

0Mb	HAR 1300	£129
40Mb	HAR 1340	£299
80Mb	HAR 1388	£349
120Mb	HAR 1422	£429
213Mb	HAR 1533	£579

**PLUG-IN HARD DRIVES FROM ONLY**

**£299**

**PLUG-IN HARD DRIVE AMIGA 500/500PLUS**

The A500-HD8+ provides the ultimate in hard disk performance, memory expansion and future expandability for the Amiga 500. It incorporates the same VLSI custom chip and FAAAST ROM SCSI driver which are used in GVP's Series II SCSI/RAM controllers for the A1500/2000. As a result the A500-HD8+ offers unbeatable hard disk performance. The easy-access Autoboot/Game Switch allows the hard disk to be disabled, ensuring compatibility with the few games that will not work with a hard disk.

Every A500-HD8+ incorporates the latest in hard disk technology with a factory installed and formatted 1" high, low power, 3 1/2" SCSI hard disk, offering storage capacities up to 213Mb.

The A500-HD8+ also offers the ultimate in expandability. Additional SCSI peripherals can be attached to the external SCSI port. Up to 8Mb of internal Fast RAM expansion can be installed using state-of-the-art SIMM memory modules. The unique internal Mini-Slot allows for future expansion. Every A500-HD8+ has its own dedicated power supply, ensuring that the Amiga 500 power supply will not be overloaded and an internal fan to prevent the unit from overheating.

**WHAT THE PRESS SAY...**

*'Superb build, excellent aesthetics and blinding speed make this the best A500 hard drive' - AMIGA SHOPPER*

*'GVP claims this is the fastest hard drive in the world and none of our tests could prove that wrong - Untouchable. THE choice' - AMIGA SHOPPER*



**PLUG-IN HARD DRIVE OPTIONS**

MODEL	42Mb	80Mb	120Mb	213Mb
<b>HD8+ HARD DRIVE</b>	<b>£299</b> Ref: HAR 0840	<b>£399</b> Ref: HAR 0888	<b>£499</b> Ref: HAR 0922	<b>£599</b> Ref: HAR 0933

Return the coupon now for your **FREE** copy of Silica Systems **NEW GVP CATALOGUE**

**SOUND SAMPLER**



- FOR ALL AMIGAS**
- 8-bit stereo sampler
  - Plugs into parallel port
  - MIDI support for song input
  - Extensive editing features

For the semi-professional and audio hobbyist a high quality 8-bit stereo sound sampler that connects into the parallel port on any Amiga 500, 600, 1500, 2000 or 3000 computer. Combined with one of the fastest, most powerful and easy-to-use sound and music editing programs available. Includes 4-track soundtracker file compatible sequencer.

~~£49.95~~ **£39.95**  
Ref: MUS 2500

**VIDEO GENLOCK**



- FOR ALL AMIGAS**
- 2x Composite Video, 1x S-VHS inputs
  - RGB Composite video & S-VHS outputs available simultaneously
  - Sound mixer, 2 mono inputs and 1 output
  - Full software control via control panel, hotkeys and/or AREXX

GVP's G-lock genlock is a true price/performance breakthrough. The G-lock genlock works with all Amiga computers and even supports the new Chroma Key modes of the ECS/AA chip set. It is the only choice for the mid-range Amiga video enthusiast.

Ref: VID 2500 **£349**

**HD8+ HARD DRIVE A530 HD & ACCELERATOR**

	HD8+	A530
<b>HARD DRIVE</b>		
SCSI HARD DRIVE	•	•
40, 80, 120 & 213MB VERSIONS	•	•
ULTRA FAST ACCESS	•	•
TRANSFER RATE UP TO 2,100K/sec*	•	•
(*THE RATE OF THE 213MB HD)	•	•
<b>ACCELERATOR</b>		
40MHz 68030EC CPU	•	•
OPTIONAL 68882 MATHS CO-PROCESSOR	•	•
RUNS AT 12.1 MIPS (FASTER THAN AN A3000!)	•	•
HARDWARE SUPPORT TO MAP KICKSTART INTO 32-bit WIDE FAST RAM FOR FASTER OPERATION	•	•
<b>RAM BOARD</b>		
UP TO 8MB OF 8 OR 9-bit FAST RAM (8 OR 9-bit WIDE SIMMS - 120ns OR QUICKER)	•	•
UP TO 8MB OF 32-bit WIDE FAST RAM (32-bit WIDE SIMMS - 60ns)	•	•
1MB POPULATED	•	•
<b>OTHER FEATURES</b>		
'CUT-OFF' FOR 100% GAME COMPATIBILITY	•	•
SCSI CONTROLLER FOR UP TO 7 DEVICES	•	•
VLSI CUSTOM CHIP	•	•
FAAFAST ROM SCSI DRIVER	•	•
IDENTICAL COLOUR & STYLING TO THE A500	•	•
BUILT-IN FAN TO PREVENT OVERHEATING	•	•
DEDICATED POWER SUPPLY	•	•
'MINI-SLOT' FOR FUTURE EXPANSIONS (E.G. PC EMULATOR)	•	•
REMOVABLE MEDIA SUPPORT	•	•
DIRECT MEMORY ACCESS (DMA) STYLE FOR ULTIMATE PERFORMANCE	•	•
EASY-TO-USE SOFTWARE	•	•
2 YEAR WARRANTY	•	•

**PLUG-IN HARD DRIVE + ACCELERATOR AMIGA 500/500 PLUS**

The GVP A530 incorporates the same 68030EC processor found in most of the new GVP G-Force accelerator range, as well as using the same VLSI custom chip and FAAFAST ROM SCSI driver that is used in GVP's Series II SCSI/RAM controllers for the A1500/2000.

It also incorporates the Motorola 68030EC processor running at a blistering 40MHz and the latest in hard disk technology with a factory installed and formatted 1" high, low power, 3 1/2" SCSI hard disk offering storage capacities up to 213Mb. Additional SCSI peripherals can be attached to the external SCSI port. Up to 8Mb of 32-bit wide Fast RAM expansion can be installed, using state-of-the-art SIMM memory modules (1Mb supplied as standard). A 68882 maths co-processor can also be added to the unit to boost the machine's math calculations. Every GVP A530 has its own dedicated power supply.



\*... the build quality is excellent... in terms of performance, their gear is the best... their equipment is worth every penny! 94% AMIGA FORMAT 9/92

**PLUG-IN HARD DRIVE & ACCELERATOR OPTIONS**

MODEL	42Mb	80Mb	120Mb	213Mb
<b>A530 COMBO HARD DRIVE &amp; ACCELERATOR</b>	<b>£699</b> Ref: HAR 0962	<b>£799</b> Ref: HAR 0968	<b>£899</b> Ref: HAR 0974	<b>£999</b> Ref: HAR 0983

**PC EMULATOR**

- PLUG-IN OPTION FOR HD8+ & A530**
- 16MHz 80286 processor
  - 287 Maths Co-Processor socket
  - 512K of PC RAM plus the use of Amiga RAM
  - Supports Hercules, CGA, EGA/VGA (monochrome) and T3100 video modes
  - Runs MS-DOS (3.2 and upwards) plus thousands of other PC programs



This powerful 286 emulator module simply plugs into the 'mini-slot' of the GVP HD8+ or A530 (without invalidating the warranty). It has full access to the Amiga's resources and allows you to run PC and Amiga programs at the same time, giving you two computers in one.

**£149**  
Ref: EMU 0500

ALL PRICES INCLUDE VAT - DELIVERY IS FREE OF CHARGE IN THE UK MAINLAND

**SILICA SYSTEMS OFFER YOU**

- **FREE OVERNIGHT DELIVERY:** On all hardware orders shipped in the UK mainland.
- **TECHNICAL SUPPORT HELPLINE:** Team of technical experts at your service.
- **PRICE MATCH:** We normally match competitors on a "Same product - Same price" basis.
- **ESTABLISHED 14 YEARS:** Proven track record in professional computer sales.
- **£12 MILLION TURNOVER (with 60 staff):** Solid, reliable and profitable.
- **BUSINESS + EDUCATION + GOVERNMENT:** Volume discounts available 081-308 0888.
- **SHOWROOMS:** Demonstration and training facilities at our London & Sidcup branches.
- **THE FULL STOCK RANGE:** All of your requirements from one supplier.
- **FREE CATALOGUES:** Will be mailed to you with offers + software and peripheral details.
- **PAYMENT:** Major credit cards, cash, cheque or monthly terms.

Before you decide when to buy your new Amiga products, we suggest you think very carefully about WHERE you buy them. Consider what it will be like a few months after you have made your purchase, when you may require additional peripherals and software, or help and advice. And, will the company you buy from contact you with details of new products? At Silica Systems, we ensure that you will have nothing to worry about. We have been established for almost 14 years and, 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 Systems Service".

MAIL ORDER HOTLINE  
**081-309 1111**

**SILICA SYSTEMS**



**MAIL ORDER:** 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX  
Order Lines Open: Mon-Sat 9.00am-6.00pm No Late Night Opening  
Tel: 081-309 1111 Fax No: 081-308 0608

**LONDON SHOP:** 52 Tottenham Court Road, London, W1P 0BA  
Opening Hours: Mon-Sat 9.30am-6.00pm No Late Night Opening  
Tel: 071-580 4000 Fax No: 071-323 4737

**LONDON SHOP:** Selfridges (1st Floor), Oxford Street, London, W1A 1AB  
Opening Hours: Mon-Fri 9.30am-7.00pm (Sat close 6.30pm) Late Night: Thursday - 8pm  
Tel: 071-629 1234 Extension: 3914

**SIDCUP SHOP:** 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX  
Opening Hours: Mon-Sat 9.00am-5.30pm Late Night: Friday - 7pm  
Tel: 081-302 8811 Fax No: 081-309 0017

**ESSEX SHOP:** Keddies (2nd Floor), High Street, Southend-on-Sea, Essex, SS1 1LA  
Opening Hours: Mon-Fri 9.30am-5.30pm (Sat 9.00am-6.00pm) No Late Night Opening  
Tel: 0702 468039 Fax No: 0702 462363

To: Silica Systems, AMUSR-0393-68, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

**PLEASE SEND A BROCHURE ON THE GVP RANGE**

Mr/Mrs/Miss/Ms: ..... Initials: ..... Surname: .....

Company Name (if applicable): .....

Address: .....

Postcode: .....

Tel (Home): ..... Tel (Work): .....

Which computer(s), if any, do you own? ..... 68J

## bsc Has The Answers

One of the best kept secrets in the world of the Amiga - at least the English speaking part is bsc (yes, there are no capitals!). bsc is a German company that has some of the most interesting products around for the Amiga. One example is the MultiFace Card2 which has been designed to

EPROM-Burner, networks, scanner, mailboxes and printers and probably your Amiga-driven Hoover too..

bsc have also had the bright idea of issuing a nice little product information booklet in English. It poses some very relevant questions that any Amiga user might ask and then

## - And The Questions

deal with the problem of too few ports on the Amiga. (If your Amiga is staggering perhaps it has had TOO MANY ports!)

The bsc device means you can use two additional serial and two parallel ports with highest transfer rate and allows the simultaneous use of the ports. It is suitable for plotter, laser, modems,

gives some helpful answers. Yes, the answers are favourable to bsc - but they would be, wouldn't they? Still it is very worthwhile getting and so are some of the bsc products.

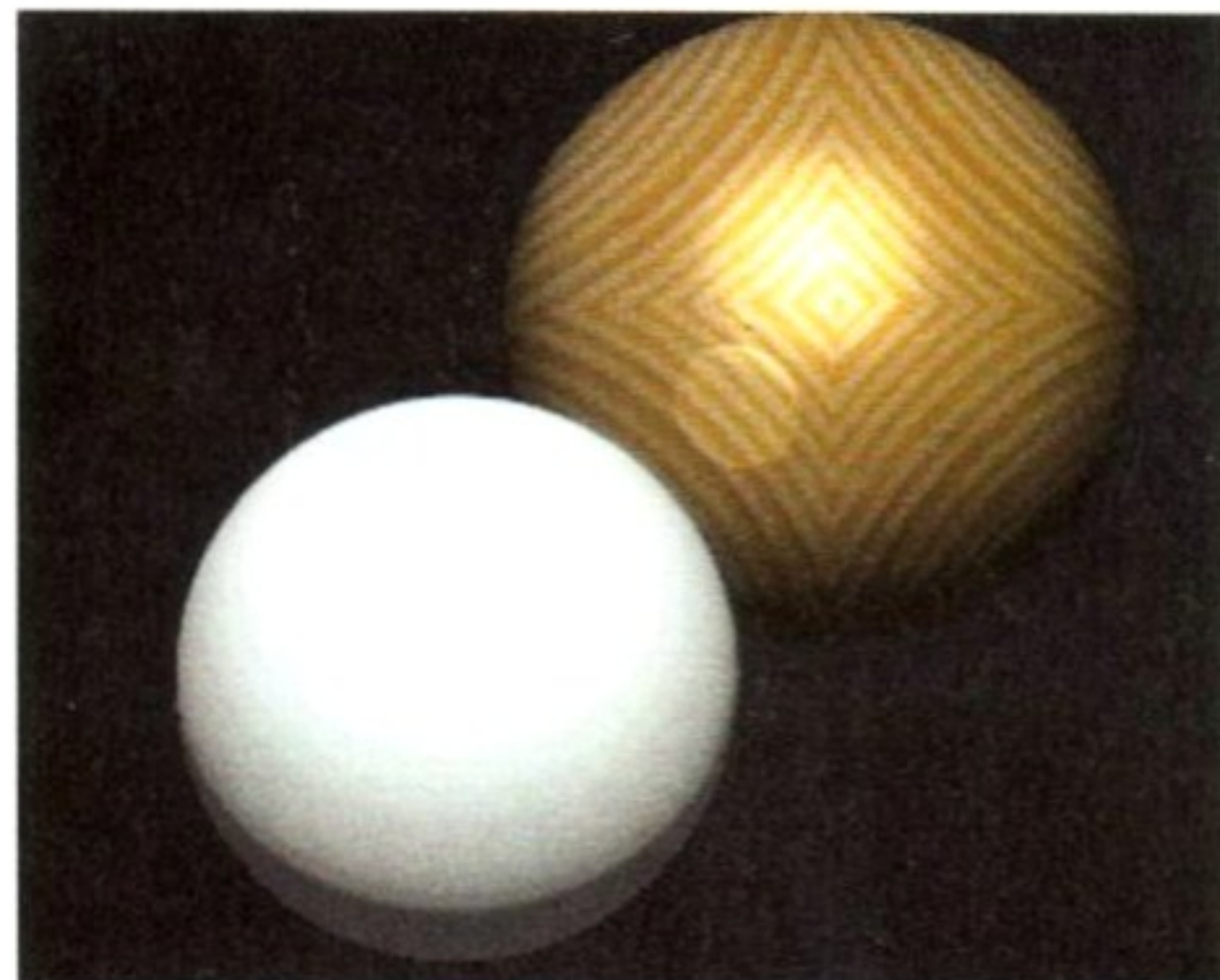
**Contact: bsc**  
**buroautomation AG, POB**  
**40 03 68, D W8000,**  
**Munchen 40.**  
**Tel; +49/89/357 130-0.**

## XCAD Moves

DMS, well-established supporters of the Amiga, have told AUI that they have taken over the distribution of the popular XCAD program. Clive Watts of DMS also told us that the package has been upgraded and improved so that its new facilities can be used on the A3000 and the A4000.

XCAD is generally considered the supreme computer aided design package on the Amiga and we expect to be able to review the new XCAD and its upgraded features in a forthcoming issue of AUI.

**CONTACT: DMS,**  
**87 Victor Gardens,**  
**Hawkwell, Hockley,**  
**Essex SS5 4DY**  
**Tel: 0702 206165**



Read 3d now really online

## ONLINE REAL 3D

Real 3D users now have access to online support. Amiga Swapshop BBS now has dedicated file and message areas.

Files include demonstration images and tutorials for different effects within the program, and include speeds up to V32bis 8N1. The message area can be used for discussion of ideas and techniques with other users.

Any registered user of Real 3D can also buy hardware and software at trade prices. For details Email Andy Jones at the BBS. Monday - Thursday 9pm - 7am. Come on Andy, what are you up to from Friday till Sunday?)

**Contact: +44(81) 986 5964.**

## “ QUOTES OF THE MONTH ”

“We are confident that the Amiga version of Wing Commander will far exceed expectations and when games players see it on the new A1200 they will want to buy one just to play it”.

*Ann Jacobs - Mindscape*

Yes, that's right. People certainly do buy computers for what they can run on them. But it isn't it just a little of a pity that with all that lovely bubbly technology that the new Amigas will offer they will be landed with the name of games machine again?

Or perhaps they won't, if Sega and Nintendo have anything to with it...

*And while we're on the subject...*



“ The country's hedgehogs welcome the support from their best loved family member - Sonic ”

*Colin Stoker - Director of St. Tiggywinkles - The Association for the Protection of Hedgehogs*

And how, we hear you cry, did the little beasts indicate their feelings? By lying down in the roads in droves, perhaps?

## REPORTS OF DEATH GREATLY EXAGGERATED

Amiga Format Magazine - what you've never heard of it? - seem to have been guilty of a rather embarrassing mistake, but to rectify the situation they are not only telling their own readers, but have asked AUI to issue the following message.

“Contrary to a story in the January edition of Amiga Format magazine, it appears that Futuretech Consumer Electronics of Newport Pagnell have not gone into liquidation and are trading as normal”.

We don't think it right for us to throw stones, living in this particular glasshouse...



## TECNOPLUS

Technoplus have produced an interesting “family compendium” which includes: Kindwords 3 W/P; Jimmy White's Snooker; Little Blue Workbench 2.0 book; dust cover; File-a-disk; head cleaner, five blank disks; a mouse mat and an Amiga compatible microswitched joystick. Just the job if you bought the bare computer, don't you think?

The Family Compendium costs £59.99.

**Contact; Technoplus, Sketty close, Brackmills, Northampton. NN4 OPL. Tel: 0604 768711.**

# Buying an *AMIGA* was your first great decision.

Now go even further: these Amiga peripherals and hardware products will maximise

the versatility, speed and storage capabilities that your Amiga promises.

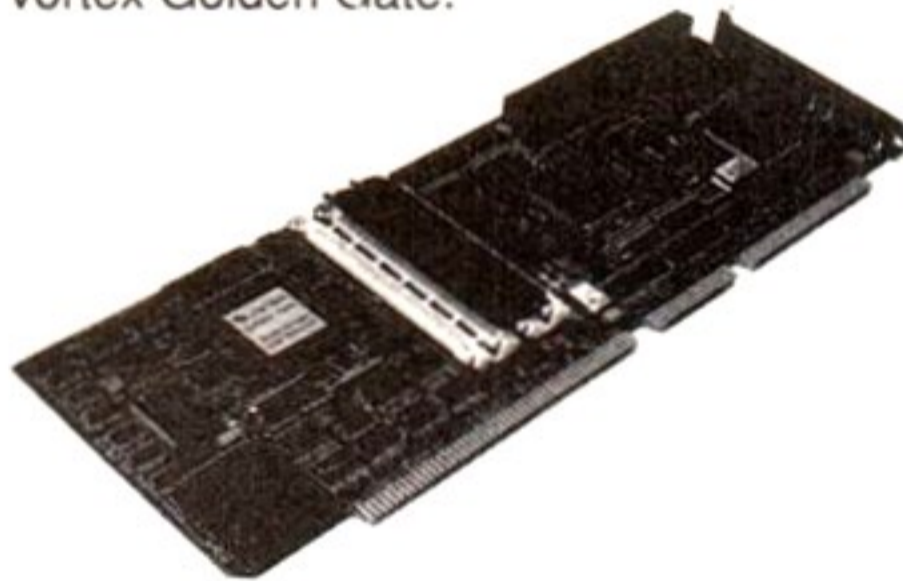
from  
**vortex**

from  
  
INTERACTIVE VIDEO SYSTEMS

from  
 **MicroBotics, Inc.**

## PC EMULATORS

Emulate an IBM compatible in your Amiga 2000/3000/4000 with the vortex Golden Gate.



- Built-in IDE interface
  - Optional floppy drive controller
  - 386 expandable to 8MB RAM
  - 486 expandable to 16MB RAM
  - Use Windows 3 on your Amiga!
- Golden Gate 386sx £399.95**  
**Golden Gate 486slc £699.95**

## MONITOR SWITCH BOX



This monitor switch box for the vortex Golden Gate automatically identifies when PC or Amiga graphics should be displayed.  
**Monitor Master £99.95**

## ACCELERATOR

Speed, control and expansion in one 25MHz accelerator card -- the Vector for the Amiga 2000.

**VECTOR**



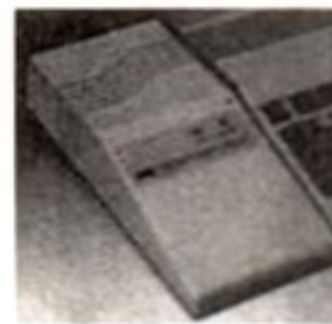
- Socketted 68EC030
- Includes high speed SCSI interface
- Expandable to 32MB RAM
- 8MB RAM and hard drive can be used under 68000 mode

**Vector 2000**  
**25MHz Accelerator £599.95**

## HARD DRIVE CONTROLLERS

Here are two fast and cost-effective controllers for your Amiga.

### TRUMPCARD 500 AT



- IDE interface
  - Expandable to 8MB RAM
  - For Amiga 500/500+
- Trumpcard AT £149.95**

### GrandSlam! 2000

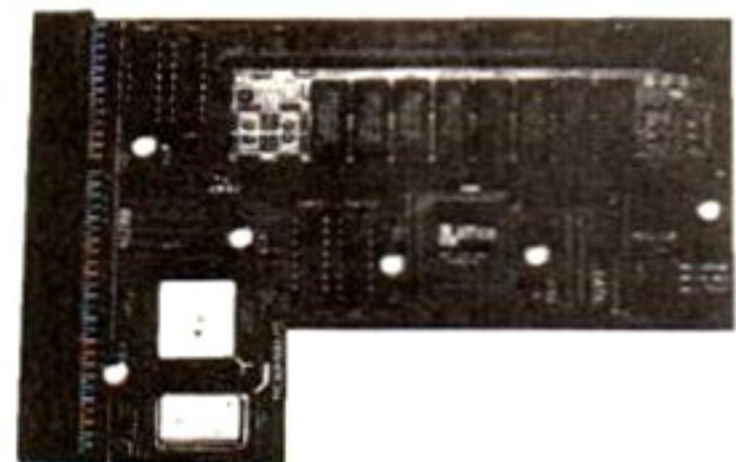
- For Amiga 2000
- High-speed SCSI interface
- Includes extra parallel port
- Expandable to 8MB RAM



**GrandSlam! 2000 £179.95**

## A1200 EXPANSION

Ray trace, morph, calculate, animate -- fast -- with the MBX 1200 Maths co-processor and 32bit RAM expansion for the Amiga 1200.



- Socketted 68881 or 68882
  - Expandable to 8MB of 32bit RAM
- MBX1200 starting from £145.95**

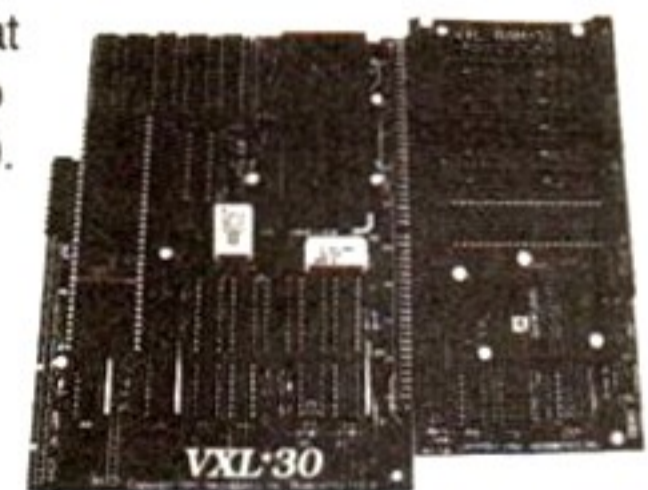
## ACCELERATOR

Here is a two-part accelerator solution for any Amiga 500/2000. Begin with the VXL\*30...

- Socketted 68EC030
- 68882 socket on board

...add the VXL\*32 -- a 32bit 2MB RAM expansion that connects to the VXL\*30.

**VXL\*30**  
**£275.95**  
**VXL\*32**  
**£199.95**



# Ready to make your next great decision?

Contact your local dealer or ring Micro-PACE on (0753) 551 888 for the dealer nearest you.

**Micro-PACE UK, Ltd.**

D I S T R I B U T O R S  
Unit 10, Perth Trading Estate, Perth Avenue, Slough, Berkshire UK  
SL1 4XX Reg. No. FC16591. All prices are RRP and include VAT.  
All Amiga 2000 products are A1500 compatible. M9301



## Naked Mice Seen on City Desks

T.V. coverage of dealers during the recent currency crisis showed naked Mice being used!

The epidemic is believed to have been started by Spectravideo with their range of Datalux see-thru Mice.

The features of the Datalux Mice include: Amiga/ST switchable; 100-200 DPI resolution; Enlarged Trigger Buttons; and, claim Spectrovision – a high degree of sensitivity, accuracy and smoothness.

Rumour had it that cheese sandwiches were banned from dealing room desks! Price: £22.99

**Contact: Spectravideo, Unit 27, Northfield Industrial Estate, Beresford Avenue, Wembley, Middlesex HA0 1NU. Tel: 081 902 2211.**

## INCREASE YOUR MEMORY POWER WITH THE PROMPTER

The Prompter is a memory expansion card for the A500. Base specification is populated to 2Mb (1M x 4 bit Dynamic ZIP) and is expandable up to 8Mb.

Other features include: Pass through A500 side Expansion connector; A500 coordinated shape and colour; fully auto-config; Does NOT! invalidate warranty.

The Prompter is part of the Expansion series from Chartscreen (UK) Ltd.

**Contact: Chartscreen (UK) Ltd., Dewey House, 55 High Street, Ringwood, Hampshire BH24 1AE. Tel: 0425 475515.**



## DESKJET OFFERED BY ACTION AT £439.00

Hewlett-Packard's new DeskJet 550C inkjet printer takes both a mono and colour cartridge at the same time. This enables users to print documents containing both colour and black and white print. The 550c is an enhanced version of the DeskJet 500C, and other new features include HP PCL Level 3+ printer language and an 80-KB buffer. Common features include 300 x300 dpi resolution, parallel and RS-232C serial interfaces, and print speeds of 240cps draft and 167 cps letter quality.

Priced £439.00 (MRP £685.00) including 36-month off-site warranty or for an additional £50.00, on site warranty.

**Contact: Action Computer Supplies, Alperton House, Bridgewater Road, Wembley, Middlesex. HA0 1EH. Tel: 0800 333 333.**

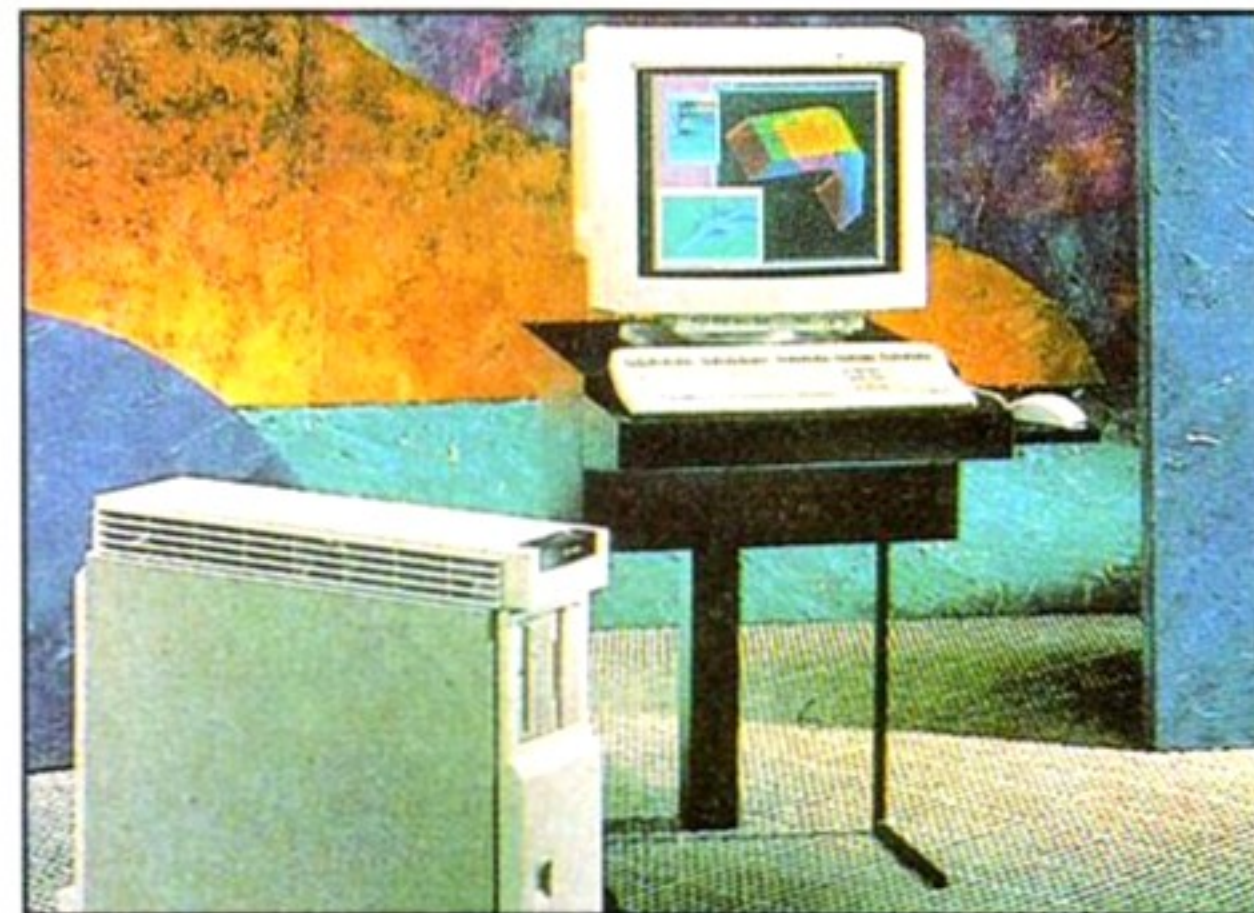
## GUINNESS BOOK OF RECORDS INCLUDES QUICK CHIP

Digital Equipment Corp. (DEC) has launched a new range of systems built around its Alpha chip – the 64-bit processor is now listed in the Guinness Book of Records as the world's fastest. The Alpha AXP family consists of a couple of mainframes, one departmental system, two workstations and two desktop servers. The Alpha chip is the first to be based on full 64-bit Risc technology and has been clocked at 200MHz. According to DEC, the Alpha processor allows the computer to handle a range of different operating systems. Unix, Open-VMS and Windows NT can all run

on the Alpha AXP range and DEC has said that others will follow soon. DEC is currently working with five 'system partners' including Olivetti, in an attempt to

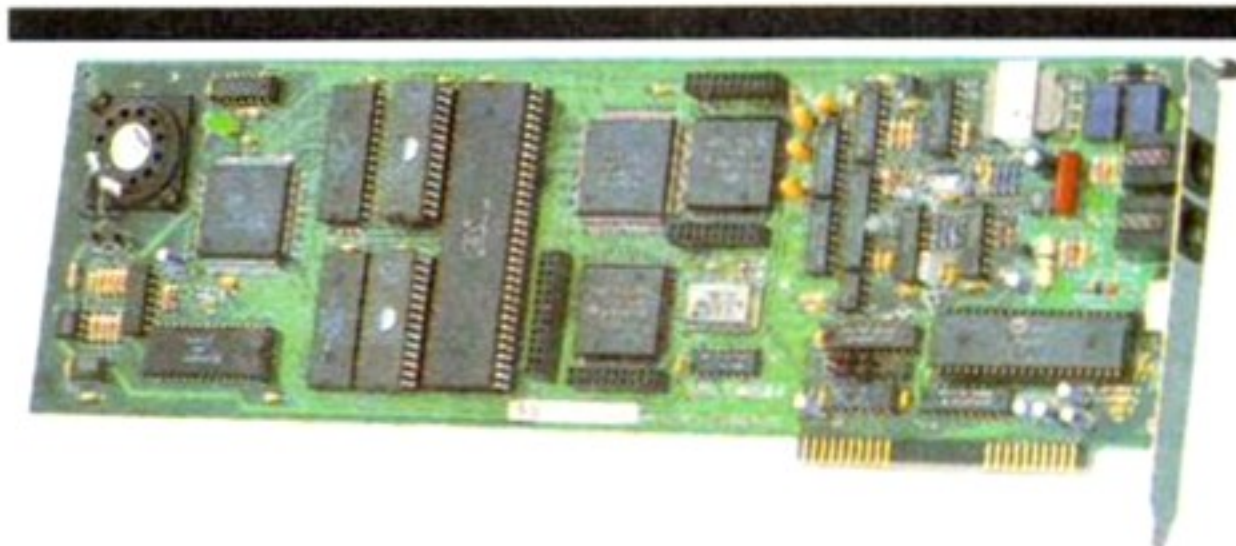
take the Alpha on to the desktop.

Prices for the entry-level Alpha AXP desktop workstation start at £12,400.



## P (DIGITAL) A

Electronic Office has launched what they claim to be the first working personal digital assistant. Two versions of the machine, both smaller than a standard notebook PC, will be available. The 20MHz e0440 is supplied with 4Mb of RAM and 8Mb of ROM. An optional internal modem for the E0440 is available for £500. The 33MHz E0880 features an internal modem and an internal hard disk drive as standard. Both machines include an internal microphone and speaker. They can be powered from the mains or by a stick battery, which gives around 7hr of power. Memory contents are retained for up to 30 days per charge. Price of the E0440 is £1,999.00 and the E0880 costs £2,999.00.



## MODEM/FAX CARD

ZyXEL Communications Corp. have incorporated Digital Signal Processing (DSP) and analog technology to produce a Modem/Fax. The U-1496B PC-Plug In Internal Card universal Modem delivers a wide range of CCITT standards and is compatible with a host of high speed modems available over dial-up phone lines. It will communicate with other modem or fax machines which support the following CCITT standards: V.32bis (14400/12000/7200), V.32 (9600/4800), V.22bis 92400, V.22/BELL 212A (1200), V.21/BELL 103 (300) and group 3 fax send and receive.

The U-1496b talks to a wide range of standard equipment and modems that conform to the telecommunication standards and even works when the phone lines are poor!

The DTE speed can reach up to 57.6 kbps. Including industry standard error correction and data compression schemes, the ZyXEL U-1496B utilizes MNP4 and V.42 for error control, and MNP5 and V.42bis for data compression.

## AMOS IN ACTION

AMOS In Action, by Anne & Len Tucker, gives tips and inside information on writing games with AMOS – the games writing package for the Amiga. Details, write-ups and opinions on the add-on packages for AMOS are also included. A free game (with source code) as well as a coupon for a free disk is included as part of the book. Price: £12.95. **Available from all good bookshops or contact: Kuma on 0734 844335.**



# T

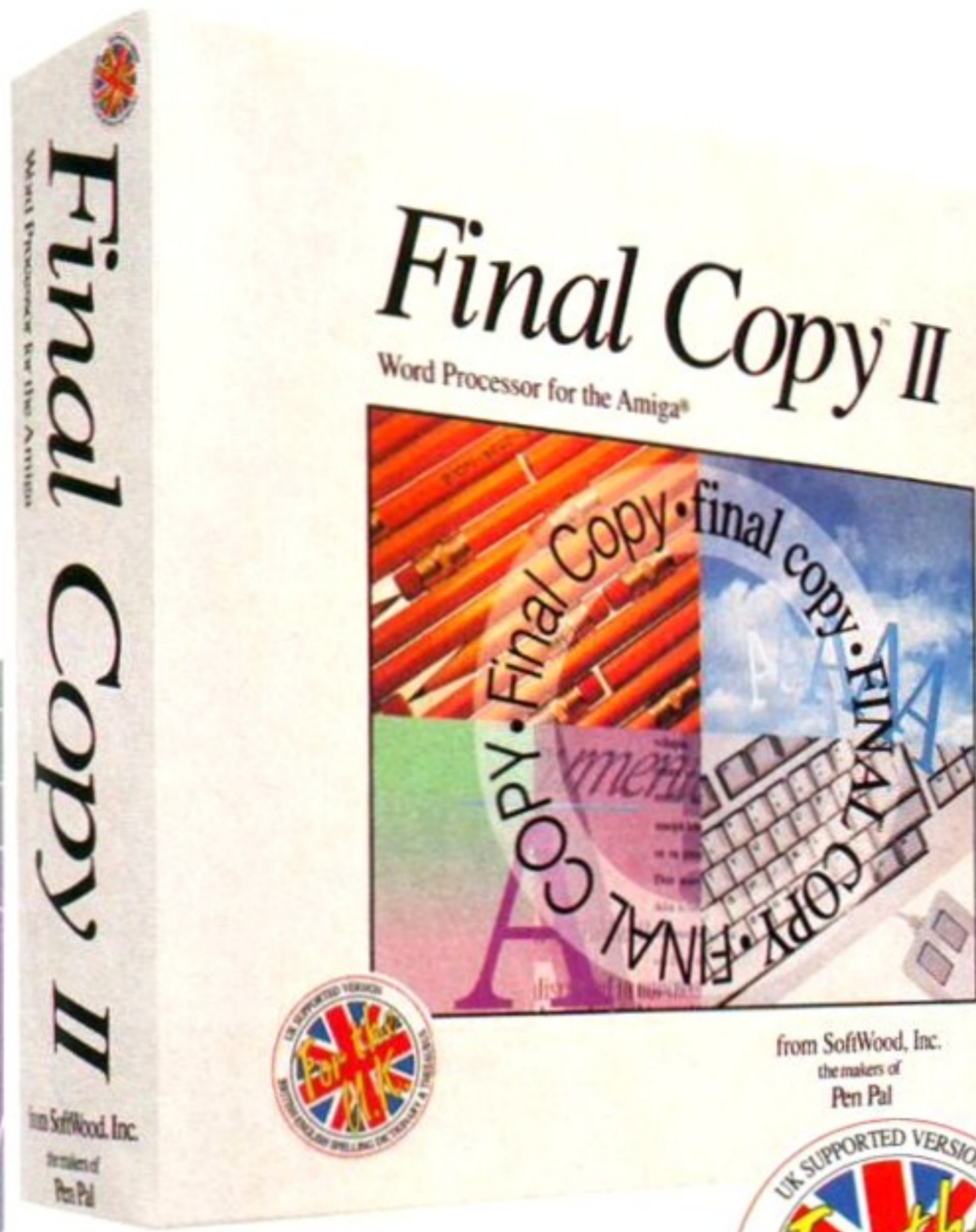
# HE FINAL WORD

...in Word Processing with Perfect Printing

From the makers of Pen Pal comes a brand new, unique WYSIWYG Word Processing package, that's simply the only choice for those who demand the most from their Amiga.

Final Copy II is not only the Amiga's most powerful Word Processor with every feature you'd expect - plus many more found normally in DTP packages - but also the only Word Processor that gives superb scaleable outline fonts from any Amiga - even 1.3's. Imagine outputting to your printers highest resolution, with almost Postscript™ laser perfection - no matter which printer you may have. Even with a simple nine pin dot matrix you'll get perfect printing\* from Final Copy's 20 smooth outline typefaces that are included!

Simulated copy from a dot matrix printer with normal Word Processor



With its powerful new features, there's no better Word Processor/Publisher for your Amiga. You'll quickly realise the benefits which were once the exclusive preserve of the Macintosh™ and other high end publishing systems.

from SoftWood, Inc.  
the makers of  
Pen Pal



Simulated Final Copy II dot matrix output with smooth outline font characters

With multiple newspaper style columns and integrated drawing tools - for boxes, borders, squares, lines at any angle, ovals, circles, arrows etc., plus colour text, along with many other formatting tools - your documents will look and read just as you want them to.

Final Copy II includes a 110,000 word British-English Collins Proximity Spelling Detector & Corrector, to help typing errors become a thing of the past, along with an 826,000 synonym Thesaurus, for that extra inspiration.

Final Copy II is so easy to learn and use, that you'll become an accomplished author in no time at all - but if you need extra help you're not on your own as our support hotline is there for all UK version users. Look out for the UK logo on the box!

# ...Final Copy II

Only £99.95  
FROM ALL GOOD SOFTWARE DEALERS

## Compatible with...

Amiga-A500/600/600HD/1500/2000/3000.  
System requirements... min. of 1Mb. RAM and two Floppies or a Hard Disk Drive [A600HD requires at least 1.5Mb].

\*Any Workbench supported graphic printer, colour or mono, including... Citizen 120D, 124D, 224, Swift 9/24, 200/240; Star LC10, 20, 200, 24-200, and XB Series; Canon BJ10ex; HP Ink/Paintjet; Postscript™ devices and many more.

## Trade Distribution by...

- Centresoft/IBD
- HB Marketing
- Leisuresoft
- Meridian Distribution
- SDL/Prodis

Dealers... Please call Harwoods for your supply of leaflets and inclusion in the list of stockists we provide to customers.

United Kingdom version imported & supported by...

**GORDON HARWOOD**  
Computers

Gordon Harwood Computers • New Street • Alfreton  
Derbyshire • DE55 7BP • Telephone: (0773 836781)

## Final Copy II

encompasses a whole range of other advanced features, here's just a selection:

- ◆ Uses the latest Workbench 2 Style interface on all Amigas
- ◆ On screen command ribbon controls (format your document with the simple touch of a button)
- ◆ 25% to 400% editable page reduction and magnification command
- ◆ Title page, master pages & style sheets
- ◆ Right/left pages with binding offset
- ◆ Open multiple documents
- ◆ Fast mouse document panning and zoom/un-zoom
- ◆ External and internal mail merging
- ◆ Cut, copy and paste
- ◆ Search and replace
- ◆ Onscreen maths
- ◆ Auto-hyphenation
- ◆ Import, resize and crop IFF, HAM and 24Bit ILBM graphics and auto-flow text around them
- ◆ Text over graphics
- ◆ Outline fonts on all Amiga screens, and any non-Postscript™ or Postscript™ compatible printer
- ◆ 4 point up to 300 point [over 4" high] smooth text printing
- ◆ Text leading and spacing controls
- ◆ Condensed and expanded characters
- ◆ Positive and negative obliquing
- ◆ Background printing, allowing simultaneous editing & printing of two or more documents
- ◆ Fast proof printing facility
- ◆ Comprehensive range of additional attractive font volumes available.

Please rush my personal copy of the new Final Copy II information pack, including samples from popular printers, and a list of stockists to... [clip the coupon or call 0773 836781 now!]

Name & Address: \_\_\_\_\_

Please include your postcode  
AUI



## AMIGA RADIO SHOW

A weekly radio programme has been launched which is dedicated entirely to the Amiga. The show, called Mouse Trap, which they claim will reach anywhere in the world, will be broadcast on Euronet, the satellite radio channel. This is located on Astra Transponder 20 (Yes, just look up and there it comes over the horizon.) which also carries SKY Sports (but you don't need a SKY Sports Subscriber card) - on the 7.56 MHz audio frequency. It will be transmitted at 9.30am and repeated at 5.30pm and 1.30am.

The show will include a help line, news, reviews and opinions.

**Contact: Music View Ltd., P.O. Box 117, Bracknell, Berkshire. RG12 7WN. Tel: 0344 860540.**

## EPSON SCANNER

In this issue of AUI we have a review of a very nice scanner from Epson called the 6000. Lo and behold they've come out with another new Amiga compatible scanner, the GT6500. This is, say Epson, a compact system suitable for first time users and companies with professional scanning requirements. The features include output resolutions of up to 1200 dpi, single or three pass scanning, 256 grey level and full 24-bit colour support.

Keith Howell of HB Marketing lugged one around to us just before we went to press to show us its

## ADSPEC'S ALADDIN



A magical new version?

Adspec Programming has announced the latest upgrade to its Draw4D-Pro product, which also supports Opalvision. Aladdin 4D is designed for use in both desktop video and desktop publishing applications with the emphasis on desktop video. The name was changed from Draw4D-Pro Version 2.0 to Aladdin 4D to emphasize its abilities as a 3D modeling/rendering program. (Oh come on! Surely there has to be a genie in there somewhere or is that the copyright of Gold Disk with ProPage?)

Upgrades are available for all registered owners. Aladdin 4D maintains all the capabilities of Draw4D-pro and additional features such as:- Camera/Targets, Timeline, Changes to Textures, Waves, Gases and Display support.

Price: \$499.00, it requires a minimum of 2MB of RAM and is AmigaDOS compatible; regular and Math Coprocessor version is included.

**Contact: Adspec Programming, 467 Arch Street, P.O. Box 13, Salem, Ohio 44460. Tel: 216 337 1329.**



delights - and it certainly had plenty, particularly a neat transparency scanner which can be attached to the top. It looks like something any Amiga user would want as a birthday pressie. Expect a review when we can get Keith to part with it.

**Price: £799.00 + VAT  
Contact: H.B. Marketing  
Tel: 0753 686000**

Why don't we hear about some of the better developments which happen in that other Amiga country, Germany? Yes, we have, by dint of some heavy detective work got news of bsc(why don't they use capitals?) in this NewsFile. We even have a review of their GigaMem.

Wow! Amigas are alive in Germany too! But there are surely more companies there who would like to have their products snapped up by eager UK and other non-Germans. ( Yes, thank you ProDad for Adorage!).

One company we have managed through some real gumshoeing work to track down is 3 State. They seem to have a number of nice products that you would think they would like to have UK and other non-Germans beating a path to their door for. But apparently not! One we did persuade them to talk about is Apollo 2000. This is an all-in-one 16 Bit SCSI/AT Bus/IDE/ 2 to 8 Meg expansion for the 2000. The price? According to our translator - interestingly named Miss Funk, (we'd better not get a mistake on that word!) - is 199 DM, about £65, which seems like pretty good value.

Why haven't 3 State informed us before about their wares? Because according to what Miss Funk told us they didn't think there was a market for serious stuff in the UK! Oh well, the "Amiga as games machine" label has stuck pretty well to the UK, we suppose. But not immer true!

**Contact: 3 State Computertechnik GmbH, Blumenthalallee 6, W-4350 Reclinghausen, Germany(!) Tel: 02361/184292**

## Computer Crimes I

The Super Nintendo game Dragon Quest V was Japan's most eagerly awaited release of the 1992 according AUI's Japanese reporter. One Toyko discount store opened its doors on the day the game was released to discover 10,000 people in a queue 5Km long. With 100 temporary workers taken on for the day, the store quickly sold it's 15,000 units.

The same day however up to 10 muggings took place as some of those with the game

were ambushed on the way home. Meanwhile the evidence of cartridge piracy's growth in the Far East has emerged with 150,000 Nintendo and Sega units being seized in Singapore alone. Copies are now being copied and put onto the market within one week of release according to the manufacturers. We always knew that the consoles encouraged criminal behaviour. They are just aggressive toys aren't they?

## CHARTSCREEN SHOTS

There are plenty of new developments taking place down at the Hampshire base of Chartscreen, a previously rather shy creator of good things for the Amiga. For a start they have FASTLANE Z3.

The Fastlane Z3 SCSI-11 DMA Controller, Chartscreen told AUI, is suitable for the new A4000, and for A3000 owners. It uses 32-bit wide high speed DMA, for professional applications such as graphics, animation, desktop video, desktop publishing, music and multimedia applications.

The essence is speed, but it also offers variety, according to Chartscreen, as other SCSI devices can be connected to the Fastlane Z3 controller, such as CD-ROM with standard or CDTV formats, Tape Streamers, Removable Media, magneto-optical and optical drives. DAT-streamers, scanners and printers can be connected to the internal or external SCSI ports of the Fastlane Z3.

The software of the Fastlane Z3 includes Dynamicache. This utilises all the available free memory as a caching memory without taking it away from the system's free list. with memory expansion of up to 64MBytes on one board and full 32-bit wide autoconfiguration, there is the possibility to add up to 80 MBytes to the A4000 and A3000.

### Producer and Greaspaint

Other Chartscreen developments are The Producer and Greaspaint which was covered in a recent video column. The Producer is a broadcast Digital Effects (DVE) generator for video effects

professional.

Chartscreen tell us that it is "Configured as a plug-in card, digital video effects are provided with bi-linear interpolation and image filtering." Well, we're all glad about that, aren't we?

Its effects include: flips, fades, programmable wipes, perspective rotation, shears, any angle rotation, size scaling, warping, stretching, alpha-blending, colour separation, overlaid colour manipulation effects.

Greasepaint is part of Chartscreen's nicely named Pixel Power Series which ranges from the -010, an entry-level flicker-free image with 256 colours from a palette of 16 million at a resolution of up to 1024 x 1024 pixels, non-interlaced. Using the Greasepaint -020 this changes to give 64K true colours at a resolution of up to 900 x 600 pixels, non-interfaced. A minimum of 1MB of video memory together with up to 2MB of DRAM is provided on the Greasepaint -010, rising on the -020 to 2MB of video memory and 4MB of DRAM to give a double buffered screen and program memory.

Seems like Chartscreen have some great little things, why have they been hiding their light under a bushel for so long?

**Contact: Chartscreen (UK) Ltd., Dewey House, 55 High Street, Ringwood, Hants. BH24 1AE. Tel: 0425 475515.**

# FREE! ZOOOL



**SOFTWARE PACK  
WHEN YOU BUY AN AMIGA  
FROM SILICA**

**PLUS!**



GFA BASIC +  
PHOTON PAINT 2

TOTAL VALUE OVER **£265**

Silica are pleased to offer THE Software Pack of the Year FREE with every Amiga purchased at normal Silica prices. It includes the sensational new title ZOOOL which has received rave reviews as the most original game ever seen on the Amiga.

**ZOOOL** - "Knocks the socks off Sonic." - 97% - Amiga Computing - Nov '92

**STRIKER** - "Footballer of the Year - and no mistake ..." - 94% - CU Amiga - June '92

**PINBALL DREAMS** - "It's quite simply superb" - 94% - AUI - Sept '92

**TRANSWRITE** - Premier word processor (UK version) with a 90K spell checker.

Plus, with every Amiga from Silica, we will give you Photon Paint 2 paint package and GFA Basic programming language. A total of over £265 worth of free gifts.

**ZOOOL PACK:**

ZOOOL - platform title of the year. £25.99

STRIKER - soccer simulation. £25.99

PINBALL DREAMS - pinball simulation. £25.99

TRANSWRITE - word processor. £49.95

**PLUS!**

GFA BASIC v3.5 - programming language £50.00

PHOTON PAINT 2 - paint package. £89.95

**£267.87**

# AMIGA COMPUTERS

**£100 OFF AMIGA 600HD** SILICA SALE - £399  
SEE BOTTOM LEFT

RETURN THE COUPON FOR A FREE COPY OF SILICA'S  
**NEW 64 PAGE COLOUR CATALOGUE**



**AMIGA 600**  
with **FREE!**



**PLUS!** **FREE!**  
**ZOOOL**  
PACK + MORE! - SEE LEFT



A600 + LEMMINGS + DPAINT III  
**£299**  
INC VAT - Ref: AMC 0666

**FREE! 1 YEAR  
AT HOME WARRANTY**

The new Amiga 600 features a 3 1/2" floppy drive, mouse, TV modulator and smart card slot all as standard. The very latest Kickstart/Workbench v2.05 is used in the Amiga 600 along with an enhanced chip set. See below for pack options and free gifts from Silica.

## NEW! AMIGA 1200



- Motorola 68020EC Processor
- 14.19MHz Clock Speed
- 32-bit Architecture
- 2Mb Chip RAM Standard
- Amiga DOS v3.0
- AA Chip Set for Enhanced Graphics
- 16 Million Colour palette
- 2-256 Colours on Screen
- 1 x 32-Bit CPU/RAM Expansion Slot
- PCMCIA Smart Card Slot takes 512K - 4Mb PC Cards
- Built-in TV Modulator
- 96 Key keyboard with Numeric Keypad
- 2 1/2" Internal Hard Drive Optional Extra
- 1 Year On-site Maintenance

**£399**  
INC VAT - Ref: AMC 1200

INCLUDES  
BUILT-IN 16-KEY  
NUMERIC KEYPAD

## AMIGA 600 HOLDALL

A high quality holdall for storage and transportation of your Amiga 600.



- 1 Webbed handles with padded grip
- 2 Wrap around dual zipper
- 3 Real leather badge
- 4 Outer pocket with velcro and stud fasteners. Folds flat when not in use.
- 5 Zip fastened pouch inside
- 6 Removable, adjustable shoulder strap with padding
- 7 Non-slip, solid rubber feet
- 8 Large inner pocket
- 9 3 smaller pockets for disks



Available with choice of badges:  
Console Carrier  
NBA 3000  
CompuGrip  
NBA 3500  
**COMPLETE GRP**

SILICA PRICE ONLY  
**£14.95**  
Ref: NBA 3000 or NBA 3500

## AMIGA 600/1200 HARD DRIVE

Silica are pleased to introduce GVP's first A600/A1200 upgrade, a high speed 85Mb internal hard drive. The hard drive is based on a new Maxtor mechanism offering ultra fast data transfer and access times with the reliability and quality that you would expect in a GVP product. The compact unit comes with GVP's market leading hard drive formatting software (FaaastPrep) and a full two year warranty for your peace of mind. Also included is a manual giving full instructions.

- FEATURES:**
- Ultra fast Maxtor hard drive.
  - 85Mb Capacity.
  - Compact 2.5" mechanism.
  - Low cost IDE technology.
  - Internal fitting conserves desk space.
  - GVP's FaaastPrep software + Manual.
  - Complete fitting kit included.
  - Fitting service available.
  - Two year hard drive warranty.

**FITTING SERVICE**  
Because fitting ANY internal hard drive yourself will invalidate your Amiga's warranty, Silica offer a fitting service. Silica's trained engineers will professionally install the hard drive in your Amiga, keeping your Amiga warranty intact and then return the Amiga to you by free courier delivery.

**MAXTOR 85Mb HARD DRIVE  
Inc GVP FITTING KIT**  
**£299**  
INC VAT Ref: HAR 0785  
Fitting (UPG 7135): £25 + VAT = £29.38

## AMIGA 600 SALE OFFERS!



The Wild, The Weird and The Wicked (WWW) is the Amiga 600 games pack. It comes complete with Amiga 600 computer and mouse, plus a range of high quality entertainment software.

NORMAL RRP: **£349**  
**SILICA OFFER: £319**  
INC VAT Ref: AMC 0649

The Epic Language Pack is based around the A600HD, the A600 with 20Mb hard drive. It includes challenging adventure games and software for the linguistically minded!

NORMAL RRP: **£499**  
**SILICA OFFER: £399**  
INC VAT Ref: AMC 0799  
40Mb Hard Disk Version: £449 INC VAT Ref: AMC 0899

## AMIGA 600 OPTIONS

	NO HARD DRIVE	20Mb HARD DRIVE
• 1x A600 + Mouse, 3 1/2" Drive, TV Mod, Smart Card Slot	£299.99	£299.99
• 20Mb HARD DISK - Storage for programs and data	-	£299.00
• DELUXE PAINT III - Graphics and animation	£79.99	£79.99
• LEMMINGS - Save the Lemmings	£25.99	-
• MICROPROSE GRAND PRIX - Racing Sim	-	£34.99
• SILLY PUTTY - The pliable arcade game	-	£25.99
• PUSH OVER - A game of puzzles	-	£25.99
• EPIC - A Sci-fi adventure	-	£29.99
• ROME - Role playing adventure	-	£25.99
• MYTH - Stop the spread of evil	-	£19.99
• TRIVIAL PURSUIT (in 3 languages)	-	£29.99
• WORD PROCESSOR + DICTIONARY (5 languages)	-	-
• 1 YEAR ON-SITE WARRANTY	-	-
<b>PLUS! - FREE FROM SILICA</b>	-	-
• ZOOOL PACK - see panel above	£127.92	£127.92
• PHOTON PAINT v2.0 - Art package	£89.95	£89.95
• GFA BASIC INTERPRETER v3.5 - Prog language	£50.00	£50.00
<b>TOTAL PACK VALUE:</b>	<b>£673.84</b>	<b>£734.82</b>
<b>LESS PACK SAVING:</b>	<b>£374.84</b>	<b>£355.82</b>
<b>SILICA PRICE:</b>	<b>£299</b>	<b>£319</b>
<b>2Mb RAM</b>	<b>PRICE OF UPGRADE INC BATTERY BACKED CLOCK +£45</b>	<b>PRICE OF UPGRADE INC BATTERY BACKED CLOCK +£45</b>

ALL PRICES INCLUDE VAT - DELIVERY IS FREE OF CHARGE IN THE UK MAINLAND

## SILICA SYSTEMS OFFER YOU

- **FREE OVERNIGHT DELIVERY:** On all hardware orders shipped in the UK mainland.
- **TECHNICAL SUPPORT HELPLINE:** Team of technical experts at your service.
- **PRICE MATCH:** We normally match competitors on a "Same product - Same price" basis.
- **ESTABLISHED 14 YEARS:** Proven track record in professional computer sales.
- **£12 MILLION TURNOVER (with 60 staff):** Solid, reliable and profitable.
- **BUSINESS + EDUCATION + GOVERNMENT:** Volume discounts available 081-308 0888.
- **SHOWROOMS:** Demonstration and training facilities at our London & Sidcup branches.
- **THE FULL STOCK RANGE:** All of your requirements from one supplier.
- **FREE CATALOGUES:** Will be mailed to you with offers + software and peripheral details.
- **PAYMENT:** Major credit cards, cash, cheque or monthly terms.

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 Systems, we ensure that you will have nothing to worry about. We have been established for almost 14 years and, 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 Systems Service".

MAIL ORDER HOTLINE  
**081-309 1111**

**SILICA SYSTEMS**

<b>MAIL ORDER:</b> Order Lines Oper: Mon-Sat 9.00am-6.00pm No Late Night Opening	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX	Tel: 081-309 1111 Fax No: 081-308 0608
<b>LONDON SHOP:</b> Opening Hours: Mon-Sat 9.30am-6.00pm No Late Night Opening	52 Tottenham Court Road, London, W1P 0BA	Tel: 071-580 4000 Fax No: 071-523 4737
<b>LONDON SHOP:</b> Opening Hours: Mon-Fri 9.30am-7.00pm (Sat close 6.30pm) Late Night: Thursday - 8pm	Selfridges (1st Floor), Oxford Street, London, W1A 1AB	Tel: 071-629 1234 Extension: 3914
<b>SIDCUP SHOP:</b> Opening Hours: Mon-Sat 9.00am-5.30pm Late Night: Friday - 7pm	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX	Tel: 081-302 8811 Fax No: 081-309 0017
<b>ESSEX SHOP:</b> Opening Hours: Mon-Fri 9.30am-5.30pm (Sat 9.00am-6.00pm) No Late Night Opening	Keddies (2nd Floor), High Street, Southend-on-Sea, Essex, SS1 1LA	Tel: 0702 468039 Fax No: 0702 462363

To: Silica Systems, AMUSR-0393-80, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX  
**PLEASE SEND A 64 PAGE AMIGA COLOUR CATALOGUE**

Mr/Mrs/Miss/Ms: ..... Initials: ..... Surname: .....

Company Name (if applicable): .....

Address: .....

Postcode: .....

Tel (Home): ..... Tel (Work): .....

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



## SEIKOSHA'S Colour Prices

Seiksha have launched the SL-95, a colour printer, which they claim, is the first on the market for under £250.00. The printer has speeds of 240cps super draft, 192cps in draft and 64cps in LQ. The SL-95 offers Epson LQ860 and LQ850 emulations and a standard parallel interface.

Gareth Cornish of Seiksha told AUI "As we continue to expand our existing printer range, Seiksha aim to capture a large share of the buoyant entry level colour market. For example it is the only printer in its class to offer a 43Kb buffer as standard, and the only printer to offer nine distinct fonts".

The SL-95, is said to have easy paper handling through a push tractor, paper parking and an optional automatic cut sheet feeder (£82).

Priced at £249.00, the SL-95 is has a 12 month warranty - on site for a premium of £10.00.

**Contact: Seiksha, U.K. Ltd., Unit 14, Newlands Drive, Colnbrook, Slough, Berkshire SL3 0DX. Tel: 0753 685873.**

## NINTENDO OUTDOES MATSUSHITA

Matsushita, previously the largest electronics company in Japan, has suffered a sharp fall in the earnings league, allowing Nintendo to replace them as the third largest profit earner among manufacturing companies in Japan.

Industry analysts in Japan are predicting that in the year to March 1993, Nintendo will only be behind Toyota and Nippon Telegraph and Telephone in the profits league table for non-financial firms.

Matsushita, which sells internationally under the Panasonic and Technics brand names, is forecasting parent profit of ¥102 billion (£500 million) - down from ¥196 (£1 billion) a year ago. Which just shows how profitable getting into the toy business can be.

## THE AREXX COOKBOOK

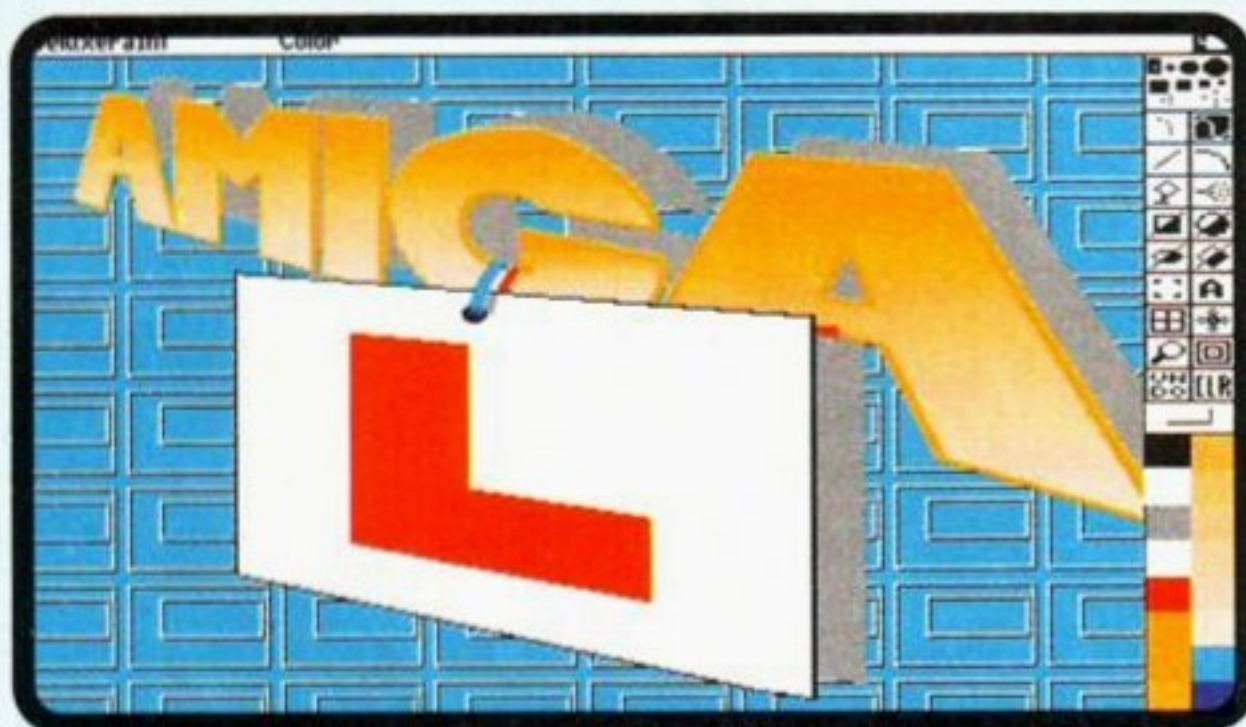
A tutorial guide to the ARexx language on the Amiga has been produced for beginners and includes some programs that can be used or adapted for general applications.

Written by Merrill Callaway, it is a step by step guide, and a utility is included to print envelopes directly from the Shell or CLI. Two companion disks contain all the programmes in the manual, as well as various utilities including: create indices and tables of contents using turbo text and any DTP package that will export ASC11 text,

compress/decompress JPEG files directly from Directory Opus or the Shell (ADPro required) and view IFF24 images using Directory Opus.

Prices: £24.95 - The ARexx Cookbook, £9.95 - Companion disk 1, £14.95 - Companion disk 2. or there is an introductory offer for all three at £35.95 (deluxe set)

**Contact: Premiervision, 31C Herne Hill Road, London SE24 0AX. Tel: 071 274 4407.**



Interestingly previewed. But does it exist?

## DELUXE PAINT IV AGA

Electronic Arts has announced the release of Deluxe Paint IV AGA for the A1200 and A4000. It will be available in English, French and German at £99.99. An upgrade will be available to existing Deluxe paint users.

New features include: the user is able to apply the Be Square function to built-in brushes, the circle tool and the Rotated Ellipse tool; New screen modes can be chosen by adding or deleting monitors in the new screen format requester; Full-screen morphs are now possible, the brush size is no longer restricted to a 250-pixel width. The only restriction on brush size and hence morphing, is memory; the keyboard can now be used to interface with requesters; the user can specify which preferences he wants from the shell; brushes can be cut and pasted between applications using the Amiga system's clipboard; 24-bit IFF file-read support is provided; scalable fonts can be used for text; a 2.04, 2.1 and 3.0 compatible Player utility for 8-bit animations and images; IFF parse library support, meaning that deluxe Paint IV AGA uses Amiga DOS's own IFF system library; free a brush feature allows the user to free up memory during a project.

The new AGA version takes advantage of the AGA chipset in the new Amigas and gives the user access to over 262,000 colours.

However we have to warn eager 1200 and 4000 owners that though EA have announced this interesting development - at the time of publishing of this issue, it had not arrived, although it has been promised for several months. We hear that at least one UK magazine has jumped the gun and published a preview - though we are assured by EA that no-one has yet received a copy. And we'd rather believe them than another magazine... Of course, it has been known for magazines to publish even reviews of games that they have never played. Surely this couldn't happen with more serious products. Or could it?

**Contact: Electronic Arts, 90 Heron Drive, Langley, Berks. SL3 8XP. Tel: 0753 549442.**

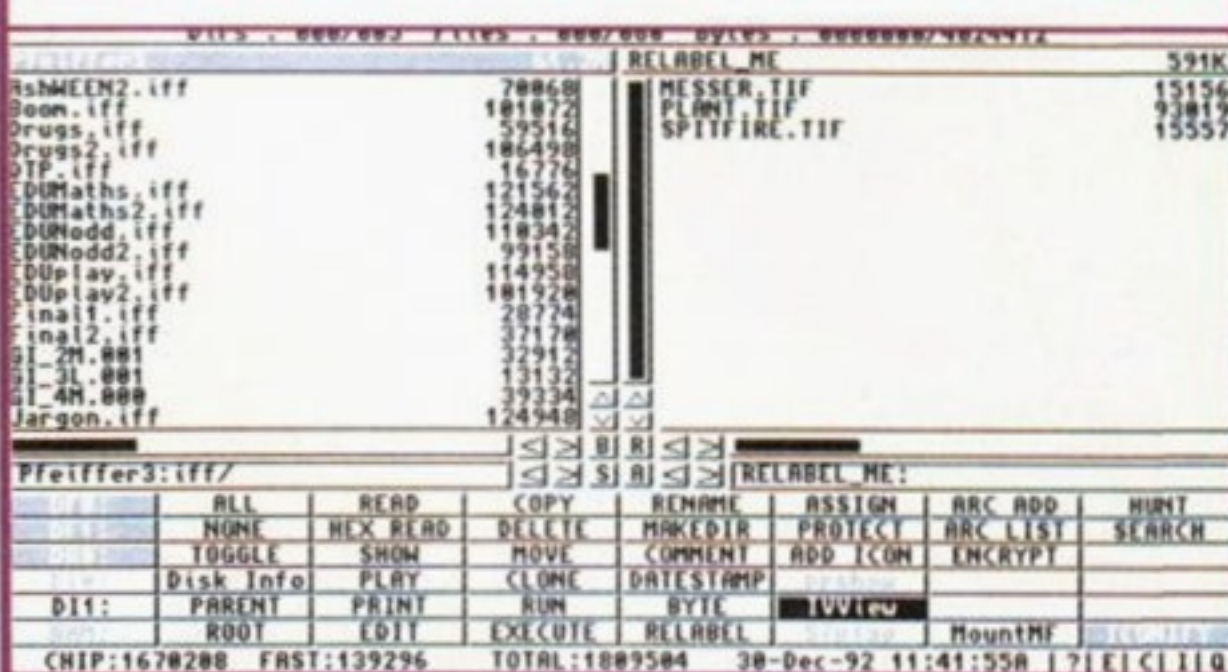
## PC CARD FOR THE AMIGA

Chartscreen have told us that they now have a PC card for the Amiga. Their AT-386/500 is based on the Intel 80386-sx processor running at 20 MHz. The card uses the Amiga memory as 'PC' memory but also has an optional 1MB RAM expansion card zero wait state on subsequent access.

Colour VGA graphics are provided with EGA emulation to allow 1084 monitor owners access to the 'PC' world from their existing equipment.

**Contact: Chartscreen (UK) Ltd., Dewey House, 55 High Street, Ringwood, Hants. BH24 1AE. Tel: 0425 475515.**

## DIRECTORY OPUS 4.0



Great program, new version coming.

INOvtronics has announced a revision of their popular disk and file management utility - Directory OPUS 4.0. and it will have A4000 and A1200 compatibility. The company claim it has increased audio/image file support and flexibility. Directory OPUS 4.0 can be used to play Anim and Anim brush files, to view images saved in all ILBM formats and to play sound files stored as Noisetracker, Soundtracker, protracker, MED w/MIDI, Oktalyzer, 8SVX or Raw Data.

Together with expanded AREXX support, Directory OPUS has a Hotkey feature for launching any Amiga application from the keyboard, so long as OPUS is either running or iconified.

Other features include players for CanDo decks, a new font view facility and the ability to print individual frames from full screen and brush animations.

Opus also now runs individual functions as they are called for which reduces the demands on system RAM and gives users a way to access individual program features directly from the CLI, without ever having to load Directory OPUS.

Directory OPUS 4.0 is priced \$99.95 with registered owners of version 3.4 or later

wanting to upgrade at \$40.00. Prior to v3.4, the Upgrade price is \$50.00. Please include \$5.00 for shipping and handling with any order.

There are people who would place Directory Opus among the top ten best ever Amiga programs...and we are among them - and looking forward to the new version with eager anticipation.

**Price £69.00**  
**Contact: IHIQ Ltd, 176 Kenton Lane, Harrow, Middx HA3 8SY**  
**Tel: 081 909 2092**

## CHEETAH'S BOLLISTICK

Cheetah have launched a hand held controller - the Bollistick. It has been designed for players who like the type of controller that is normally bundled with a games console. The Bollistick has 8 positions with fire buttons. suitable for the Amiga, it comes with a 12 month warranty and costs £9.99.

**Contact: Cheetah International Ltd., Cheetah House, Bedwas Business Park, Bedwas, Gwent. NP1 8DU. Tel: 0222 867777.**

## Computer Crimes

Over £250,000 worth of illegal software was seized at a recent raid on a Leeds market and five 'suspected pirates' were arrested.

The software, involving well known leisure publishers, was seized after pressure was put on the local Trading Standards Officers by ELSPA, the publishers' association. A spokesman from ELSPA said that the software was worth probably £500,000 at retail prices.

THE ULTIMATE MULTIMEDIA SYSTEM FOR YOUR COMPUTER

# VIDEOMASTER

Integrated Multimedia Video & Audio Sampler

For Only **£69.95** (plus p+p)

VIDEOMASTER is a revolutionary breakthrough in home computer technology. For the first time,VIDEOMASTER combines the complexity of a Video Digitiser with a Sound Sampler in a SINGLE easy to use low cost unit, to bring you the ultimate home Video/Audio editing package. This is the first EVER integrated MULTIMEDIA system for your computer and is absolutely packed with unique features.

### DIGITISE VIDEO CLIPS

VIDEOMASTER will allow you to record Monochrome, quarter screen pictures at speeds of up to 25/30 frames per second (Europe/USA) providing ultra smooth playback at high speeds. These pictures can be recorded from the output of a Video Recorder or directly from a Video Camera or Camcorder and replayed on your Computer Screen.

### STILLS

VIDEOMASTER can produce great "GREY" scale pictures from any video source with a Pause or Still frame facility. The colour filters provided in this package will enable the users of Video Cameras or Camcorders to produce high quality still pictures in glorious colour. (Specification will vary with computer.) Alternatively, use of an electronic splitter (not provided) will allow users of Video Recorders fitted with a good Pause or Still Frame facility to lift colour stills directly from video tape.

### ADD AUDIO

VIDEOMASTER features a Sound Sampler as part of the hardware. This is supported by a full feature Sound Recording and Editing Program within the VIDEOMASTER software. Sound Samples can also be loaded into the program from disk. The VIDEOMASTER software may also be used alone with a separate external sound sampler such as MASTERSOUND, STEREO MASTER, A.M.A.S. or the REPLAY series.

### WHAT YOU GET

This package contains the VIDEOMASTER Video Digitising AND Sound Sampling hardware unit, TRI-Colour filters for Colour Camera use, comprehensive user guide and full System Software.

### MAKE YOUR OWN MOVIES

The VIDEOMASTER system features a Video Sequencer too! Video clips can be combined with recorded or imported sounds and assigned to keys with both Video and Sample looping. These film clips can then be sequenced together and edited into short Films with an Audio soundtrack. Your films are limited only by your computer's RAM and your imagination! A special auto-booting player is also provided which will allow you to distribute your Movies among your friends and P.D. Libraries on floppy disk. The Player program also features a variety of playback modes which allow you to super-impose your movies onto a still background or even onto a moving background with its fantastic Picture-in-Picture facility.

### REQUIREMENTS

VIDEOMASTER will work on any standard Commodore A500/A500+ or Atari ST or FALCON with at least a single 1 MByte Floppy Disk Drive. At least 1 MByte RAM is recommended in all cases. A Colour Monitor is required. Suitable Video/Audio leads must be purchased separately.

POST YOUR ORDER TO: INTERNATIONAL DIRECT MARKETING DEPT. AMV/C, P.O. BOX 1537, SLOUGH, BERKS SL2 5YQ

## INTERNATIONAL DIRECT MARKETING

Please send my Videomaster

Name \_\_\_\_\_ (CAPITAL LETTERS)

Address \_\_\_\_\_

Post Code \_\_\_\_\_

Telephone No: (In case of queries) \_\_\_\_\_

I have enclosed cheque/postal order made payable to I.D.M. (International Direct Marketing) for £72.95 which includes £3.00 postage and packing with this order form or debit your Access  Visa  card (tick)

No

Expiry Date \_\_\_\_\_ Signature \_\_\_\_\_

Allow 28 days delivery from receipt of order. Offers UK and Eire only.

**GREAT FUN • GREAT VALUE**

## **Barry McCarthy offers some useful guidance on how to get your graphics looking so real you could touch them.**

**O**f all the elements of 3D modelling and animation texture is the one area that causes the most grief but produces the most spectacular results, when it's done well. We're going to kick off with a look at how textures are applied and how to alter their basic properties.

### texture

Let's start with a simple example: you want to make a wooden ball.

There are two types of textures you can use. One is mathematical and applies to Imagine. The Imagine 'textures' are adjusted using data boxes that control (for wood) ring colour, ring spacing, exponent, variation and random seed. Each texture comes with a set of pre-set data and the manual has an appendix on all textures.

If you haven't 'Understanding Imagine 2.0' yet, then

you are very silly indeed.

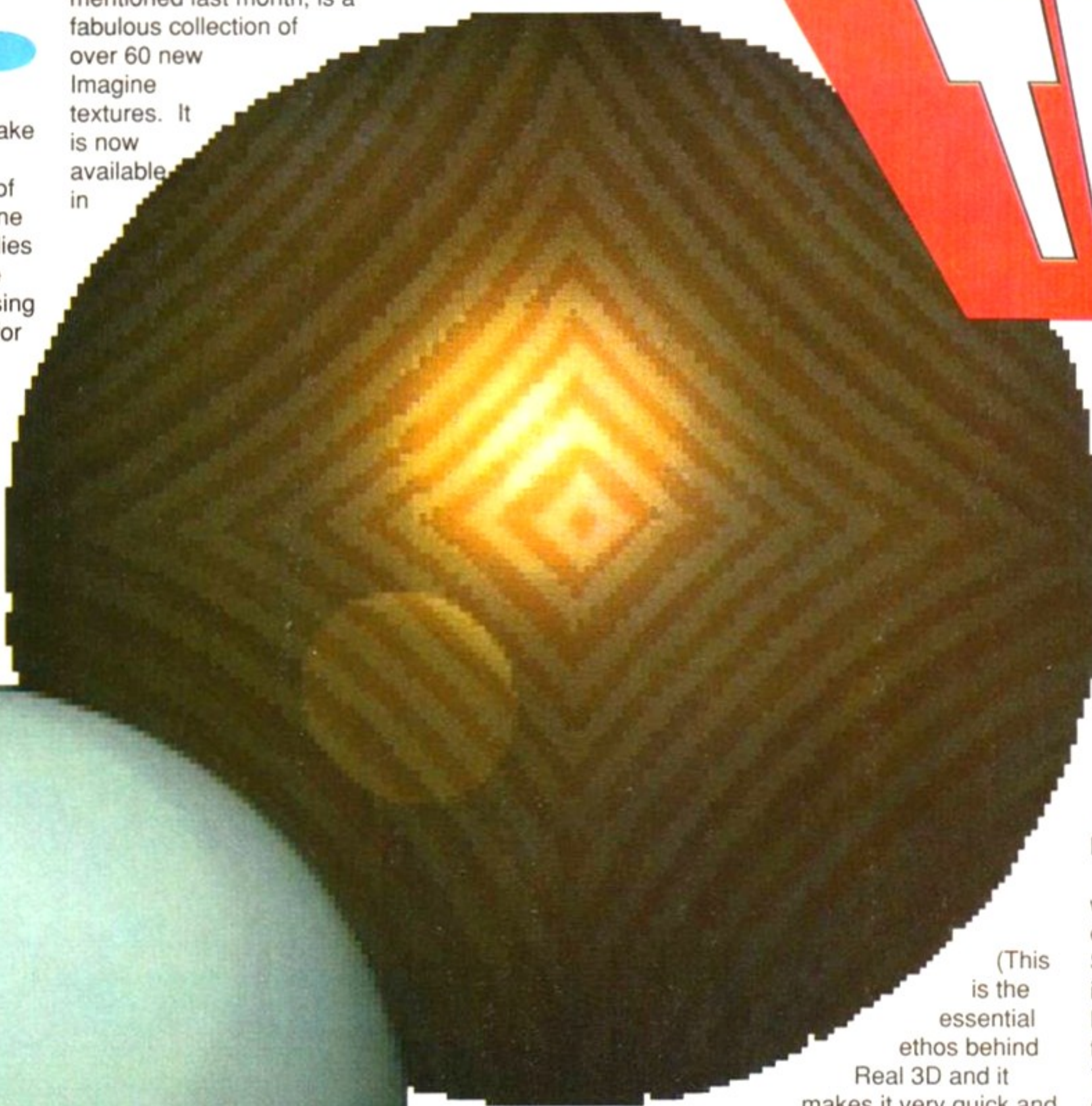
The advantage of these textures is that they are always at the highest resolution that your picture can manage, no matter how close you get to the object and they are very adjustable.

'ESSENCE' as mentioned last month, is a fabulous collection of over 60 new Imagine textures. It is now available in

this country.

But we are going to deal with the other type of texture first.

Pictures. For the sake of clarity, picture textures will now be called 'Maps' and mathematical textures will be called



that comes with the package. Now go to PROJECTS— MATERIALS— MODIFY. Find the supplied Wood material and press OK. Now comes the complicated (ish) bit. How to make the map look the way you want. Yes, the requester does look somewhat daunting but it's just a case of knowing what all these things mean in plain English.

Anyway, our default wood material should have everything at 0 except Speed of Light at 100. This is a bit boring so move Brilliancy to 25, Specularity to 25 and Spec. Brightn. to 75. Go to the 'SOLID' screen where you do all the rendering and make sure you've got NORMAL MODE and SINGLE, AUTOLIGHT, OPTIONS. RENDER.

That's better, a nice shiny spot and a bit of reflection (of the black background only at the moment).

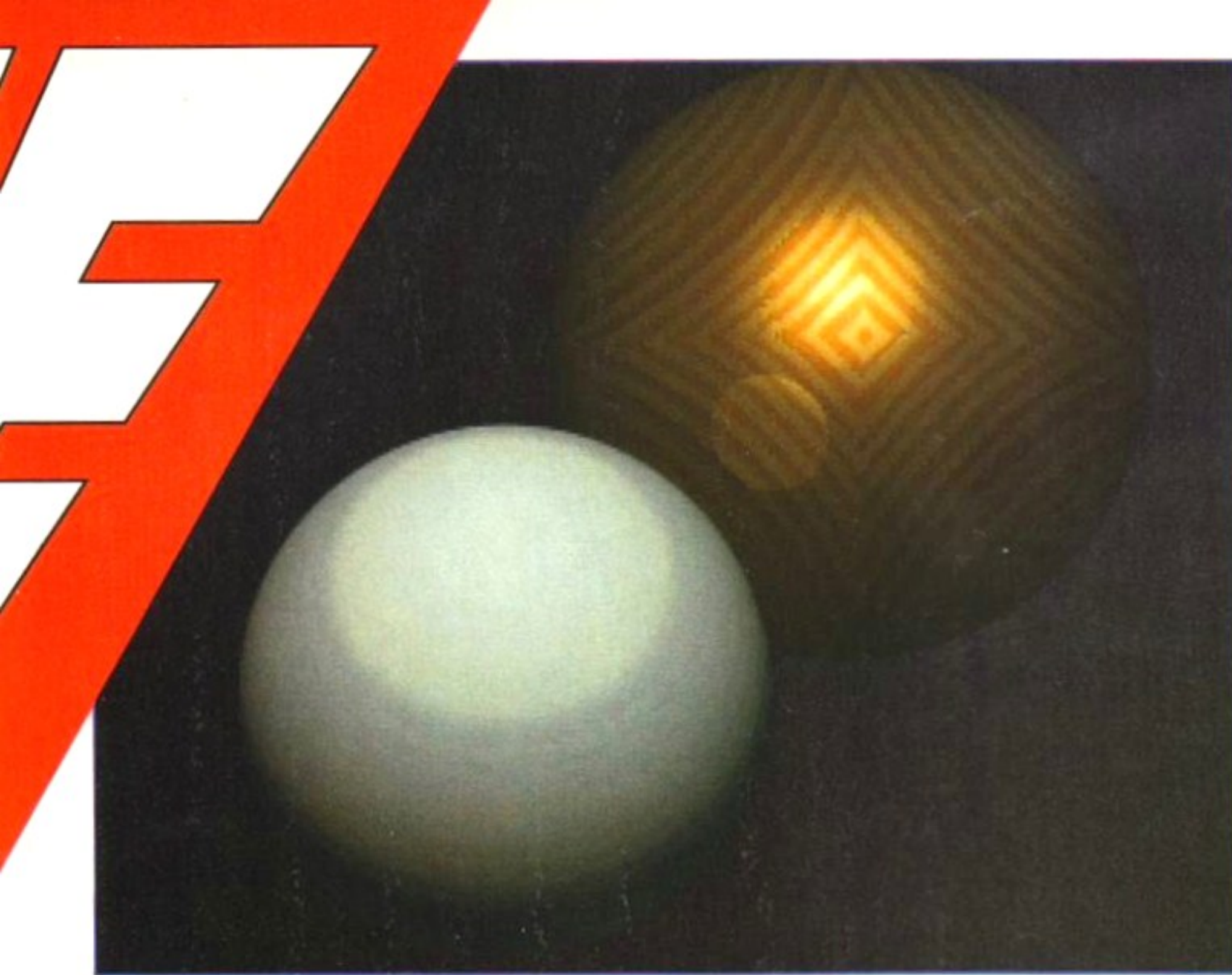
Let's stick another object in front but slightly to

'Textures'. Pictures come digitised, drawn, generated, scanned, brushes, animations, super-bitmaps, IFF, 24bit.

### real 3d

In Real 3D, the process of mapping is quite simple

(This is the essential ethos behind Real 3D and it makes it very quick and painless to learn. The Pro version is, by its very nature, more complex to use). Once you have created your primitive sphere, you need to create a material from which to make it. In our case, wood. Go to PROJECTS— MATERIALS— LOAD and click on the Materials file

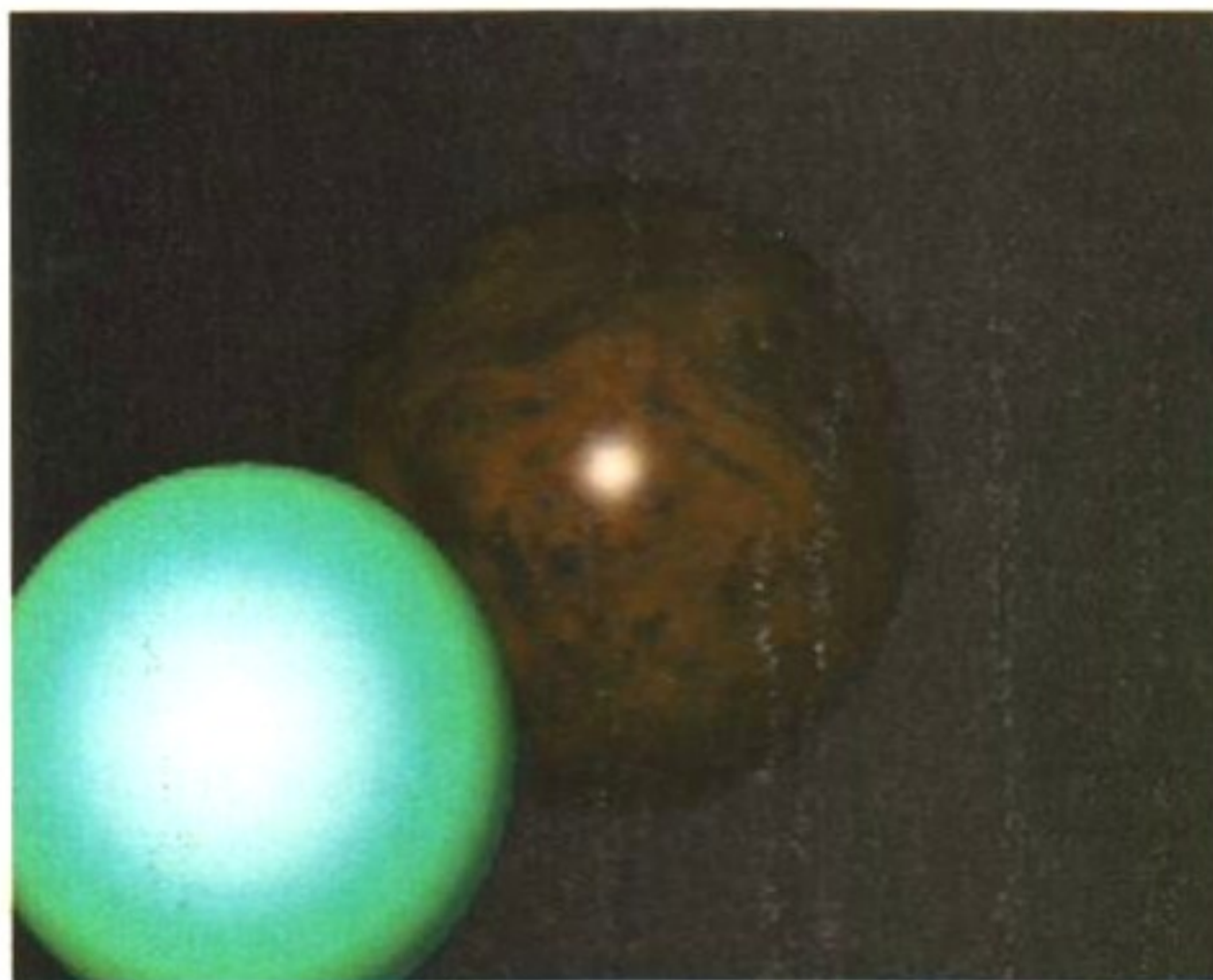


the side, of the first sphere. How about another sphere?

It's always best to use very simple scenes to test and experiment with maps and textures. This saves time and makes everything easier to understand, should it not come out how you expected.

Just before Rendering, make sure that your BASELIGHT (Light from all directions) settings are about 5,5,5. This will give you softer shadows.

Render again and you should see the new sphere reflected in the first one. You may have to move things around a bit and even increase the Brilliancy of the first sphere.



Right, let's move on a bit. Go back to the editor and PROJECT— MATERIALS—

MODIFY— Wood. Look at all those other options. What a lot of choice.

The other most tricky bit of mapping, is actually placing the texture where you want it. Luckily for basic mapping, Real 3D automates this process for

you. I'll cover adjusting and positioning maps next month. If you can't wait that long, I suggest you read the manual, it is fairly good, if a little brief.

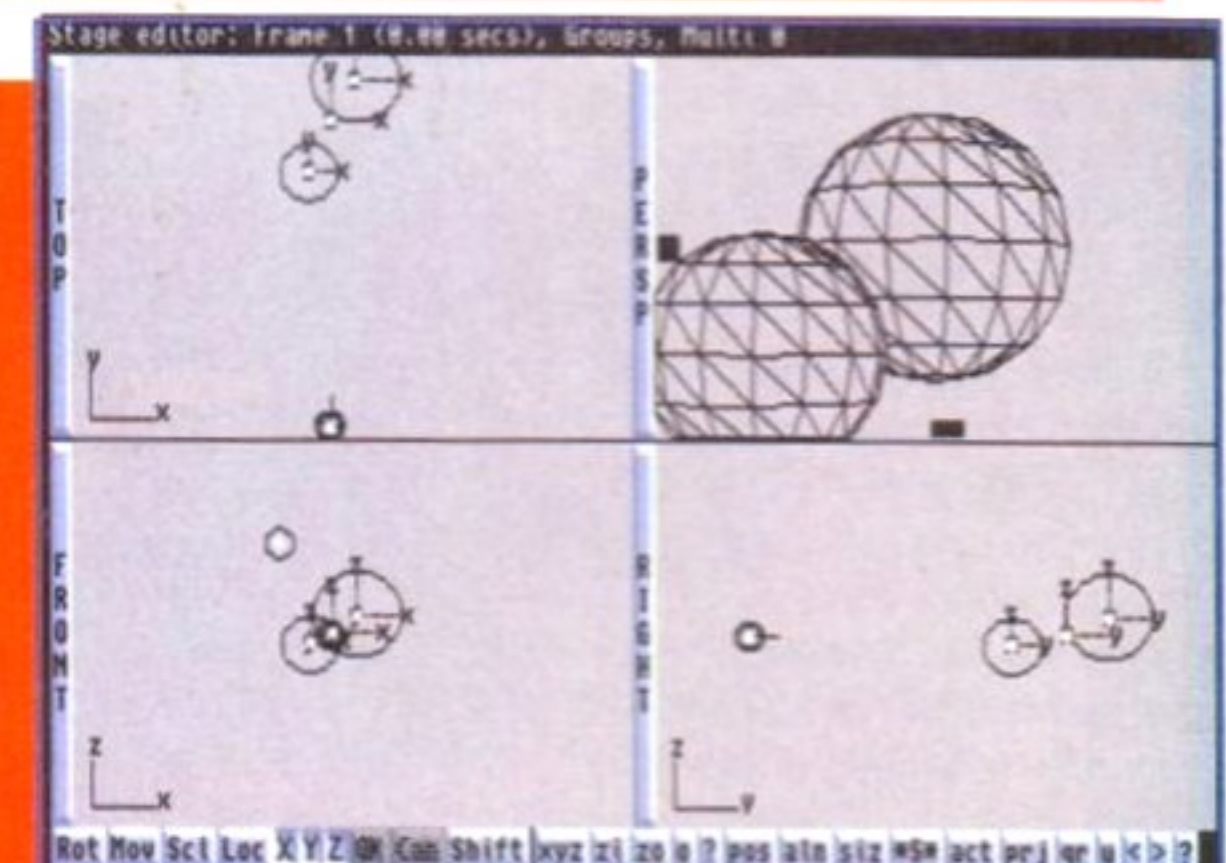
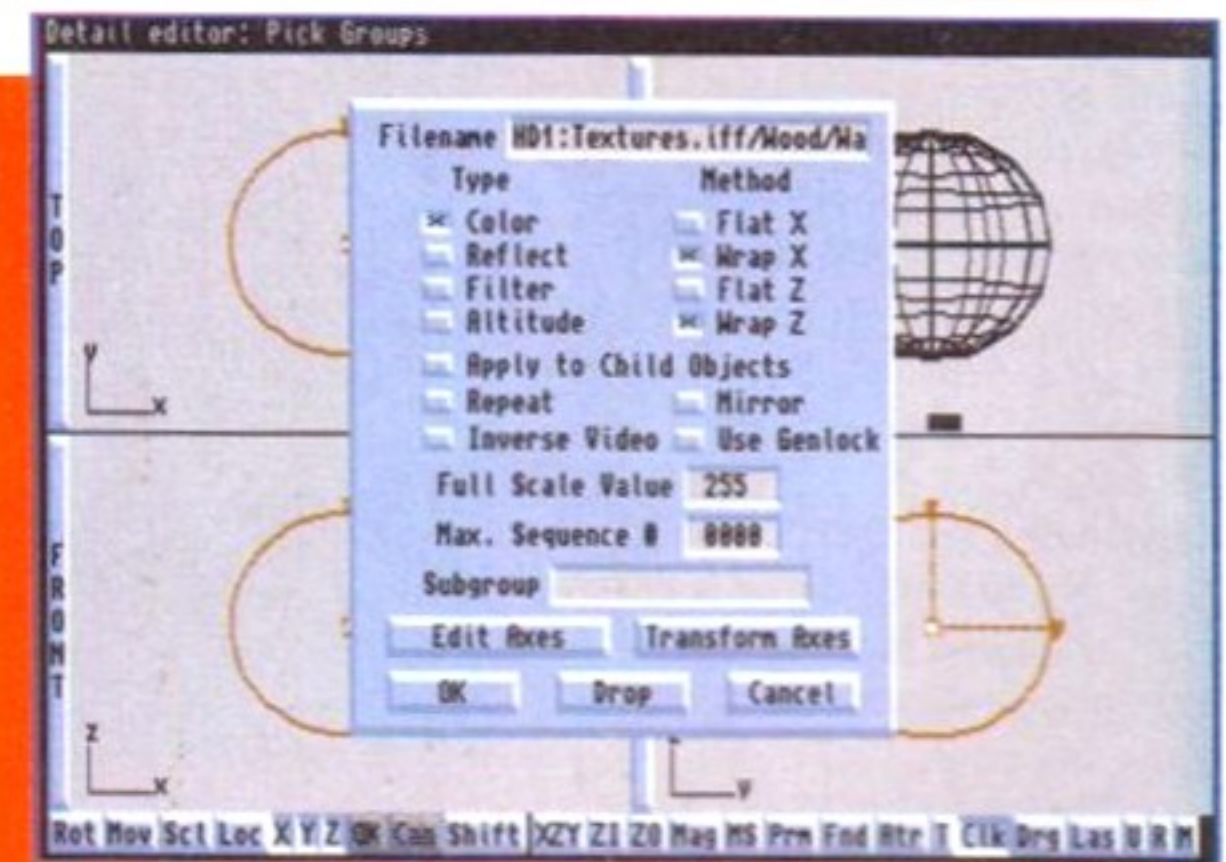
## imagine

Imagine's manual, on the other hand is plenty big enough but about as useful as a pile of trees. Maybe that's a bit unfair. Anyway there is that book...

Go to the DETAIL editor

of 8 properties that look somewhat familiar and 4 textures and 4 brushes (maps).

First the properties, they all go from 0 to 255 and you have to click on them before



and create a similar scene, as above, using one sphere to start with.

Select the sphere and go to OBJECT— ATTRIBUTES.

You are now presented with a requester that looks even more daunting than the last one. That's because it is: There is a list

you can move any of the sliders:

**Color** This is the base colour of the object in 24bits.

**Reflect** This is like brilliance except that you can choose to have a coloured, instead of just white reflectance.

## easy understanding

### Brilliancy

Goes from 0=matt to 100=toally mirror.

### Transparency

Goes from 0=solid (opaque) to 100=totally transparent.

### Speed of Light

How much things are distorted when you look through this material. This is often called the refraction index. It goes from 0=incredibly distorted to 100=not distorted. Only if it's got some transparency.

### Turbidity

Goes from 0=not foggy to 100=totally foggy.

### Specularity

Goes from 0=big, evenly spread highlight to 100=small, pin-point highlight.

### Spec. Brightn

Goes from 0=no brightness to 100=very bright highlight. Only if you have some specularity though!

### Bump Height

The height of bumps in bump mapping. We'll come to that later.

**Filter** This is the same as Transparency, with the added bonus as above.

**Specular** This controls the colour and intensity of the specular spot.

**Dithering** This causes colours to mix into each other, just like in a paint program.

**Hardness** This is like specularity. A snooker ball would have a high hardness and an orange would have a low hardness. It works with specular. **Roughness** This gives an apparent 'rough' quality to the surface but it seems a bit bugged and moves around in animations.

**Frankly**, I wouldn't bother using this at all. **Shininess** This is diffuse reflection! It gives objects a more 'metallic' type of reflective quality. This is actually quite a complex control. When it is more than 0, some of the other controls now work with Shininess instead. Filter will control the tint colour and the 'Index of Refraction' will decrease the diffuse effect from 1.0 upwards. The only way to understand this is to try it out on a simple object and alter the controls a little, one at a time.

The last thing to remember, is why shiny, metallic, chrome and mirrored things look the way they do. You can't make an object that has a highly reflective surface quality by 'painting' it with the right kind of 'paint'.

Chrome looks like chrome simply because it REFLECTS EVERYTHING. Sure, you can make an object totally reflective, but if it's sitting in black space, then all you will see is an accurate reflection of black space.

What you must make sure of, is to place reflective objects in an environment that has some things in it, like ground, sky and other objects. This applies to ALL reflective surfaces.

Click on Brush 1 and a requester will appear so that you can select an IFF image. Use the Wood map in Real or Draw/Digitise one yourself. I'm using the Walnut wood from

'Alternative 3D Textures' by The Soft Alternative.

Yet another requester appears. This is the brush map control only.

Imagine keeps the properties, textures and maps in separate requesters, so that any individual element can be altered without changing anything else.

For the sake of simplicity, just click on Wrap X and Wrap Z.

Click on OK. Click on OK in the properties requester.

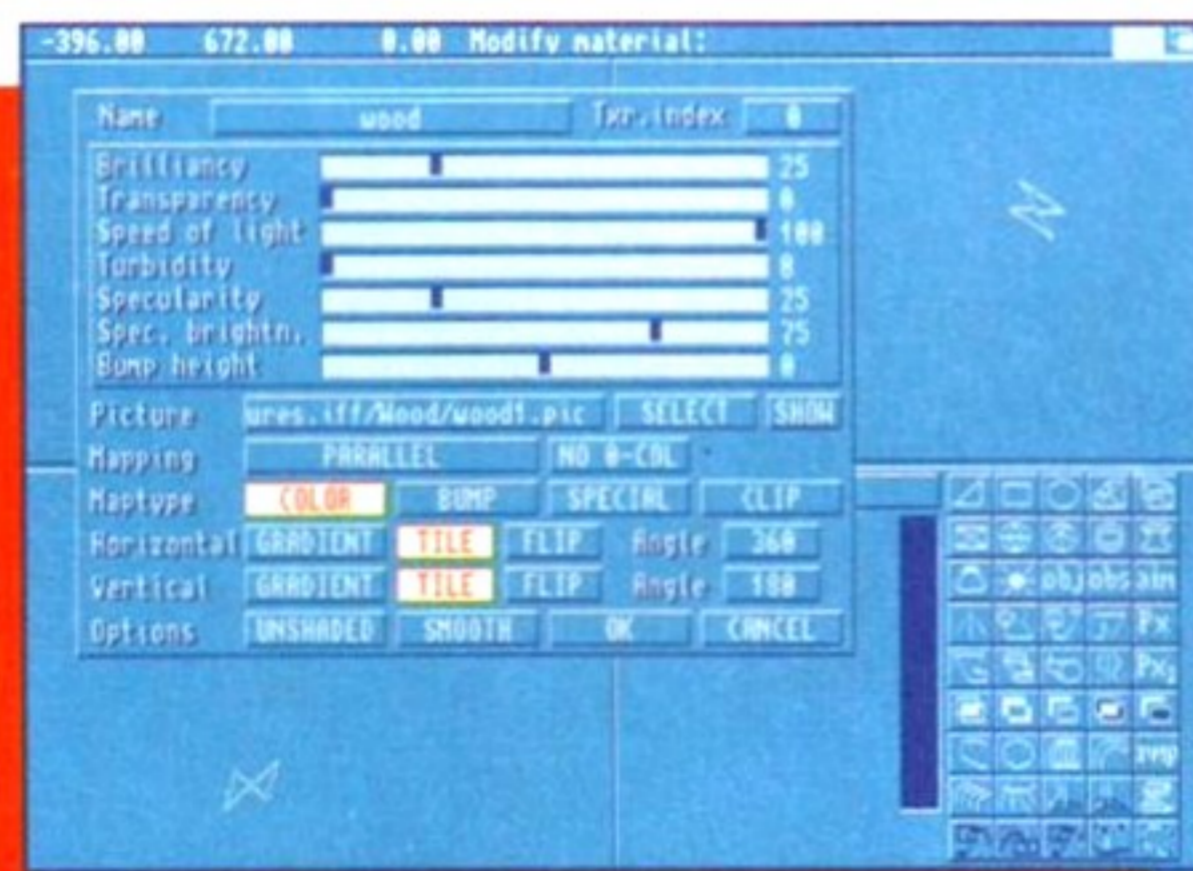
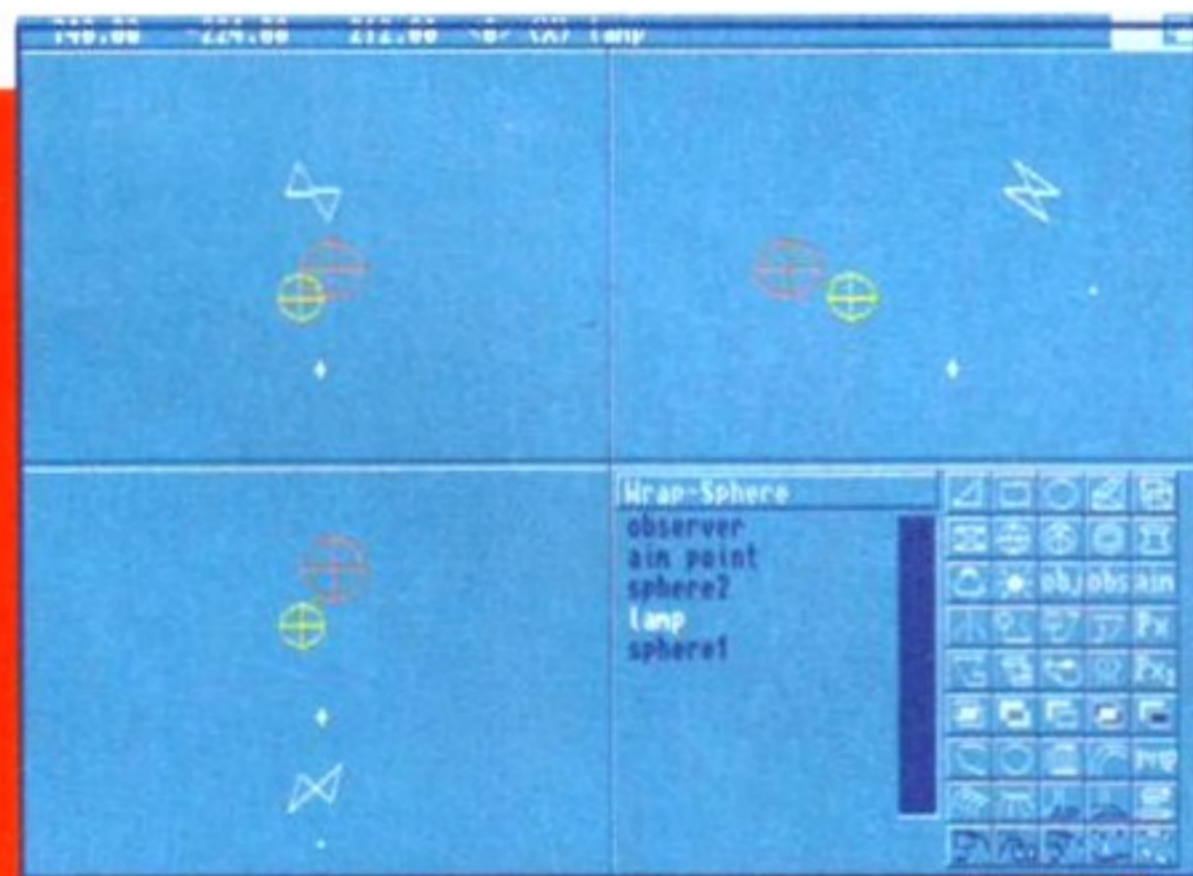
Now use the QuickRender option under the Project menu.

This will give you a 'quick' render in the top left

about to release major advances in their software.

Activa are launching Real 3D 2.0 (possibly named 'Reality', a good name I think). This looks to be a stunning update/re-write with new editors such as Cycle-Ed and radical forms of object creation like B-Splines. Forget asking Alternative Image for details as they are under a non-disclosure and will quite rightly say nothing whatsoever.

The other people who won't say anything are Impulse in the USA. Mind you they never do say anything, even when you ask for technical advice. E.G.; "Gee that sure is a



corner of the screen.

Unlike former versions of Imagine, version 2.0 does have default settings

## rumour and revelation

The BIG news for 3D people is that virtually all of the main 3D contenders are

problem. Yeah." Very helpful. Anyway, Imagine 3.0 is well on the way and I don't know a sausage about it. Release date is winter, so it might be out by the time you read this.

Contact DMS, Micro-PACE UK Ltd or The Soft Alternative, they should all be able to help.

Remember Pixel 3D 2.0? Well you better had,



because I wrote the review and I'll be upset. Pixel 3D Pro is now out. Review next month? Can it retain Imagine grouping, axis sizes, import .DXF, Draw4D, Real3D, Caligari, edit point by point? I don't know but it comes in a big black box and this is a good sign.

Lightwave. The 3D software with the biggest dongle in history (This is the 3D software that

comes with the Toaster). This, I think, is the best thing about the famous Toaster. It's beautifully written, well laid out, fast, intuitive and powerful. It's NTSC also. Damn. But wait a minute what's this on the horizon? Could it be? Yes, it could.

LightWave Professional, the stand-alone product is about to hit the streets. I, for one am saving up. a

## thank you's

I would like to take the opportunity to thank the following for their help, knowledge, friendliness and humour:

Henri and Yuri at Alternative Image/The Soft Alternative, Dave Cheham at ZCL, Ben Vost and Anne Mordine at Micro-PACE UK Ltd, David Thompkinson at DTBS Books, Bob Lindsay at Omega Projects, Ian at WhiteKnight Technology and Clive at DMS.

All these people have impressed me for a combination of the above.

I would also very much appreciate YOUR ideas, requests, comments, pictures, objects, textures... so send them in NOW.

## Info

Essence

Price £49.99

Micro-PACE - 0753 551888



# Simply take a computer and only 10 hours of music lessons and your entire family will enjoy a Miracle For Only £299.00



## Here's how . . .

A revolutionary musical instrument that actually teaches you how to play it, thanks to an ingenious interactive keyboard that's unlike anything you've ever laid eyes, or fingers on. It's called The Miracle Piano Teaching System.

Each lesson starts off easy. Then, step by step, the program gets more challenging as The Miracle's artificial intelligence system customizes every lesson to meet the player's individual needs.

The Miracle isn't just child's play; adults find it to be miraculous, too. In fact, for the price of only 10 hours of conventional music lessons, your entire family can experience the joy of learning and playing music.

Best of all, The Miracle, creates its lessons by drawing from its own extensive library of classical, pop and show tunes. All carefully selected to maintain your or your child's interest and enthusiasm.

Maybe that's why even the most

easily distracted adolescents have been known to spend hours completely absorbed in a Miracle lesson.

## What Goes Into The Making Of A Miracle.

The Miracle hooks up quickly and easily to any Nintendo Entertainment System,<sup>®</sup> Commodore Amiga,<sup>®</sup> IBM<sup>®</sup> PC or compatibles.

The Miracle keyboard, even without its amazing software, rivals piano keyboards that cost twice as much. The full midi-keyboard has a sustained pedal. Full sized velocity sensitive keys. An output jack that you can plug into a stereo for even bigger sound. And stereo earphones, in case the family terrier isn't too crazy about "Ode to Joy."

Add the software to this astounding keyboard and you have a remarkable music teaching system. One that patiently teaches children and adults alike how to read notes,

understand rhythm and, best of all, make music.

The exciting Shooting Gallery game, for example, will instruct you to tell a C sharp from a B flat. Other games teach fingering, rhythm and timing. Flash cards will even appear on the screen for testing music theory.

And, during all this, The Miracle is constantly modifying and personalizing the program to fit the player's individual needs.

So the better you or your children get at playing these games, the better you'll get at reading notes. Keeping rhythm. And then ultimately, playing the piano.

To discover your Miracle, simply send your cheque/postal order made payable to I.D.M. (International Direct Marketing) for £299.00 which includes postage and packing - Today.

International Direct Marketing, Miracle Piano Teaching Offer  
Dept. AMM/C, P.O. Box 1537, Slough, Berks SL2 5YQ



## FREE VIDEO

The Miracle story is told in this magnificent 1 1/2 hour VHS video which also offers step by step tuition and is yours - Entirely Free!

24 HR CREDIT CARD ORDERLINE

## INTERNATIONAL DIRECT MARKETING

Miracle Piano Teaching Offer

DEPT. AMM/C, P.O. BOX 1537, SLOUGH, BERKS SL2 5YQ

I'd love to be able to play the piano . . . please send me a Miracle and my Free Video.

Name

Address

Post Code

Telephone No: (In case of queries)

I have enclosed my cheque/postal order for £299.00 made payable to I.D.M. (International Direct Marketing) which includes postage and packing with this order form or debit my Access  Visa  card (tick)

No

Allow 28 days delivery from receipt of order.

**E**pson printers are often regarded as the standard to be compared against, and other printers often boast as being Epson

from 50 to 60 sheets depending on the thickness, but the thinner the sheets are the more likely it is for the printer to start feeding two or more at a time. But

**Gideon Overhead test drives a smart new 9 pin Epson printer.**

compatible. The LX100 does not look like any other nine pin printer I had seen. It appears more to me like the Cannon bubble jet range, just slightly bigger. In fact I had no idea at first which way to place it, standing upright or lying flat. It turned out, according to the manual, you can place it either way up.

If you are using fanfold paper the printer must be in the flat position. You need to install the push tractor which has to be slotted into the back of the printer. Once this is in place the paper is easily fitted onto the sprocket. The LX-100 automatically advances the paper to the loading position when it receives data. In our tests the LX-100 handled the fanfold paper with ease and didn't jam as other printers we have tested.

you will not have that problem unless you use paper below a thickness of 5mm. We had no problem and it operated flawlessly.

If you for any reason do not want to use the paper cassette, say for example you wish to use paper below a 5mm thickness, single sheets can be fed in manually via a special slot in the bottom of the printer.

## two buttons

There are only two buttons on the LX-100 other than the on/off switch, and these are situated at the front of the printer and are side by side. The right button marked LL/FF, controls both line and form feed. The left button controls the font selection. By pressing this button you can cycle



## real treat

If you use mainly single sheets then you are in for a real treat. Instead of loading each piece of paper manually as in most other nine pin printers, life is made simple by a paper cassette. Load the cassette with A4 paper, insert it into the printer and switch on. Just press the form feed button once and a sheet of paper is loaded automatically.

The cassette can hold

through the font choices on the font menu. This menu is displayed by the use of two

**Single sheets can**

**be fed in**

**manually via a**

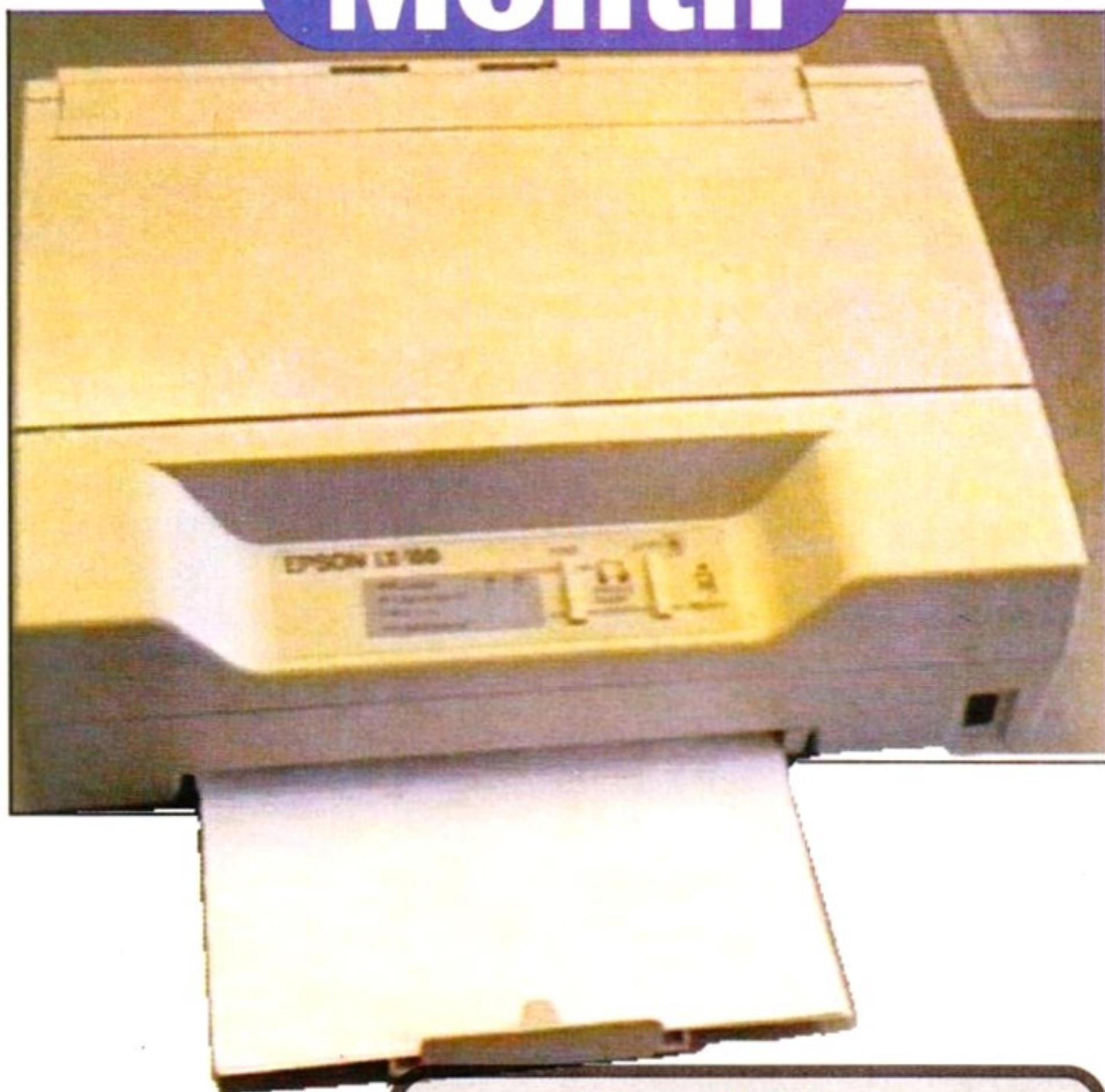
**special slot in the**

**bottom of the**

**printer.**

lights to the left of the button. There are four modes available: Roman,

# Printer of the Month



Sans Serif, Draft, and Draft Condensed. The print quality is very good but the machine is a little noisy, and the speed is impressive. At 12 characters an inch it can print 240 characters a second in draft mode and 48 characters per second in near letter quality mode. It has a 4KB buffer which is about average for this type of printer. **a**

## INFO

Price: £189.00 +VAT  
Contact: Epsom Printers  
0800 220 546

## conclusion

This is an excellent nine pin printer for the price and should be praised for its effortless paper handling using the cassette. The manual is extremely comprehensive and well laid out. It contains step by step instructions from how to set up the printer to how to print labels, envelopes, and multi-part forms.

The only niggle I can find is the replacement for the paper advance knob. On most printers it is situated on the right side of the printer and is easy to turn. On the LX-100, it is inside the casing and is a small gear that you have to push with your finger which could get quite sore after a while. But with the paper cassette and the automatic loading you will rarely have to use this. Overall well designed, good value and a highly recommendable printer.

**SAVE £50!**  
OFF PREVIOUS SILICA PRICE OF £299

Commodore

# CARTOON CLASSICS

**A500 'PLUS' MODEL**

# AMIGA 500 SALE!

## CARTOON CLASSICS

### PACK INCLUDES:

- 1Mb AMIGA 500 PLUS..... £399.99
- BUILT-IN 1Mb DRIVE..... FREE
- A520 TV MODULATOR..... FREE
- THE SIMPSONS..... £24.99
- CAPTAIN PLANET & THE PLANETEERS..... £25.99
- LEMMINGS..... £25.99
- DELUXE PAINT II..... £79.99

### PLUS! FREE FROM SILICA:

- ZOOL PACK..... £127.92
- PHOTON PAINT v2.0..... £89.95
- GFA BASIC v3.5..... £50.00

PACK VALUE: **£844.82**

PACK SAVING: **£575.82**

SILICA PRICE: **£249.00**

We are pleased to offer the original 1Mb Amiga 500 Plus (Kickstart/Workbench v2.04), including a built-in 18-key numeric keypad and Cartoon Classics software at a new low sale price of only £249. The Amiga 500 Plus can be upgraded, using any of the hundreds of peripherals that are now available, which include the award winning GVP range. In addition to the 1Mb version of the Cartoon Classics pack at only £249, we are pleased to offer a specially upgraded version with 2Mb RAM for only £279. And, when you buy an Amiga 500 Cartoon Classics Pack from Silica (1Mb or 2Mb version), we will give you a ZOOL PACK plus GFA BASIC and PHOTON PAINT II worth over £267, absolutely FREE!

1Mb A500 PLUS CARTOON CLASSICS

# £249

INC VAT - Ref: AMC 0592

2Mb RAM VERSION **£279** INC VAT  
AMC 0592 + RAM 0592

**FREE!**

ZOOL SOFTWARE PACK



ZOOL STRIKER  
TRANSWRITE  
PLUS! PINBALL DREAMS  
GFA BASIC AND PHOTON PAINT 2.0  
TOTAL VALUE: **£267.87**

WITH THE AMIGA 500

INCLUDES BUILT-IN 18-KEY NUMERIC KEYPAD

## RETURN THE COUPON FOR YOUR FREE COPY OF SILICA'S NEW 64PAGE AMIGA CATALOGUE!

### CDTV™ MULTIMEDIA SYSTEM

- Easy to use home entertainment system
- Infrared Remote Control
- Sleek black design
- Keyboard, disk drive and mouse included
- Based on the best selling Amiga computer
- Plays CD audio discs
- Compatible with CD+G & CD+MIDI formats
- Over 100 CDTV titles available
- Compatible with 100s of Amiga programs
- Fred Fish CDPD is a 'collection' of 660 disks of public domain software. It includes utilities, applications, games and tools.



A complete CDTV environment. With keyboard and disk drive it is fully software compatible with the Amiga 500, and able to run all Amiga games and application software. £50 of CDTV software vouchers PLUS Sim City (worth £29.99) are included FREE with every CDTV Multimedia System from Silica.

CDTV Player.....	£399.99
CDTV Keyboard.....	£49.99
CDTV Disk Drive.....	£99.99
Fred Fish CDPD.....	£19.99
Sim City.....	£29.99
Software Vouchers.....	£50.00

Total Pack Value: **£649.95**

Less Pack Saving: **£150.95**

Silica Price: **£499.00**

**FREE!**  
FROM SILICA with the CDTV Multimedia System  
**SIM CITY**  
ENHANCED CD VERSION  
**£50 of CDTV SOFTWARE VOUCHERS**  
WORTH NEARLY **£80**

# £499

Ref: CCD 1250

## AMIGA CDTV SALE!

### CDTV™ AMIGA A570 ADD-ON FOR AMIGA 500 OWNERS

**£100 OFF RRP!**  
**£50 OF VOUCHERS!**  
**FREE SIM CITY**



**FREE!**  
FROM SILICA with the A570  
**SIM CITY**  
ENHANCED CD VERSION  
**£50 of CDTV SOFTWARE VOUCHERS**  
WORTH NEARLY **£80**

The A570 is an essential add-on for your Amiga 500. CD-ROM is set to replace disks as the standard format for games and serious titles in the not too distant future. Most software companies have already announced plans to release CD versions of their software! The sheer storage size of a CD (600 disks) means that using CD software is faster, graphics are enhanced and game play is increased with bigger levels, more complex problems to solve and larger areas to explore! And, being compatible with audio CDs, the sound quality from CD games is unrivalled! Sim City for instance has over 10Mb of data for its graphics alone and has music recorded in a studio! Silica's special sale price of £249 means that there is no better time to buy the A570 and, with the award winning Sim City included FREE with every A570 from Silica Systems, there's no better place to buy it from!

- Enables your Amiga to run CDTV software
- Plays normal audio CD discs
- Storage capacity equal to 600 floppy disks
- Internal RAM expansion option (Coming Soon)
- Internal hard drive option (Coming Soon)
- Compatible with CD + G and CD + MIDI formats
- Transfer time 153Kb/second
- Compatible with CD-ROM industry standard ISO9660
- Comes with Fred Fish CDPD collection + Sim City FREE from Silica

Note: 1Mb of Chip RAM/FAT Agnus is required for full compatibility with all CDTV software. Silica offer an upgrade service. Please call and quote REA 1000.

**SAVE £100! OFF NORMAL RRP OF £349**

# £249

Ref: CCD 0588

ALL PRICES INCLUDE VAT - DELIVERY IS FREE OF CHARGE IN THE UK MAINLAND

## SILICA SYSTEMS OFFER YOU

- **FREE OVERNIGHT DELIVERY:** On all hardware orders shipped in the UK mainland.
- **TECHNICAL SUPPORT HELPLINE:** Team of technical experts at your service.
- **PRICE MATCH:** We normally match competitors on a "Same product - Same price" basis.
- **ESTABLISHED 14 YEARS:** Proven track record in professional computer sales.
- **£12 MILLION TURNOVER (with 60 staff):** Solid, reliable and profitable.
- **BUSINESS + EDUCATION + GOVERNMENT:** Volume discounts available 081-308 0888.
- **SHOWROOMS:** Demonstration and training facilities at our London & Sidcup branches.
- **THE FULL STOCK RANGE:** All of your requirements from one supplier.
- **FREE CATALOGUES:** Will be mailed to you with offers + software and peripheral details.
- **PAYMENT:** Major credit cards, cash, cheque or monthly terms.

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 Systems, we ensure that you will have nothing to worry about. We have been established for almost 14 years and, 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 Systems Service".

MAIL ORDER HOTLINE  
**081-309 1111**

**SILICA SYSTEMS**

<b>MAIL ORDER:</b>	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX	Tel: 081-309 1111 Fax No: 081-308 0608
<b>LONDON SHOP:</b>	52 Tottenham Court Road, London, W1P 0BA	Tel: 071-580 4000 Fax No: 071-323 4737
<b>LONDON SHOP:</b>	Selfridges (1st Floor), Oxford Street, London, W1A 1AB	Tel: 071-629 1234 Extension: 3914
<b>SIDCUP SHOP:</b>	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX	Tel: 081-302 8811 Fax No: 081-309 0017
<b>ESSEX SHOP:</b>	Keddies (2nd Floor), High Street, Southend-on-Sea, Essex, SS1 1LA	Tel: 0702 468039 Fax No: 0702 462363

To: Silica Systems, AMUSR-0393-100, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

### PLEASE SEND A 64 PAGE AMIGA COLOUR CATALOGUE

Mr/Mrs/Miss/Ms: ..... Initials: ..... Surname: .....

Company Name (if applicable): .....

Address: .....

Postcode: .....

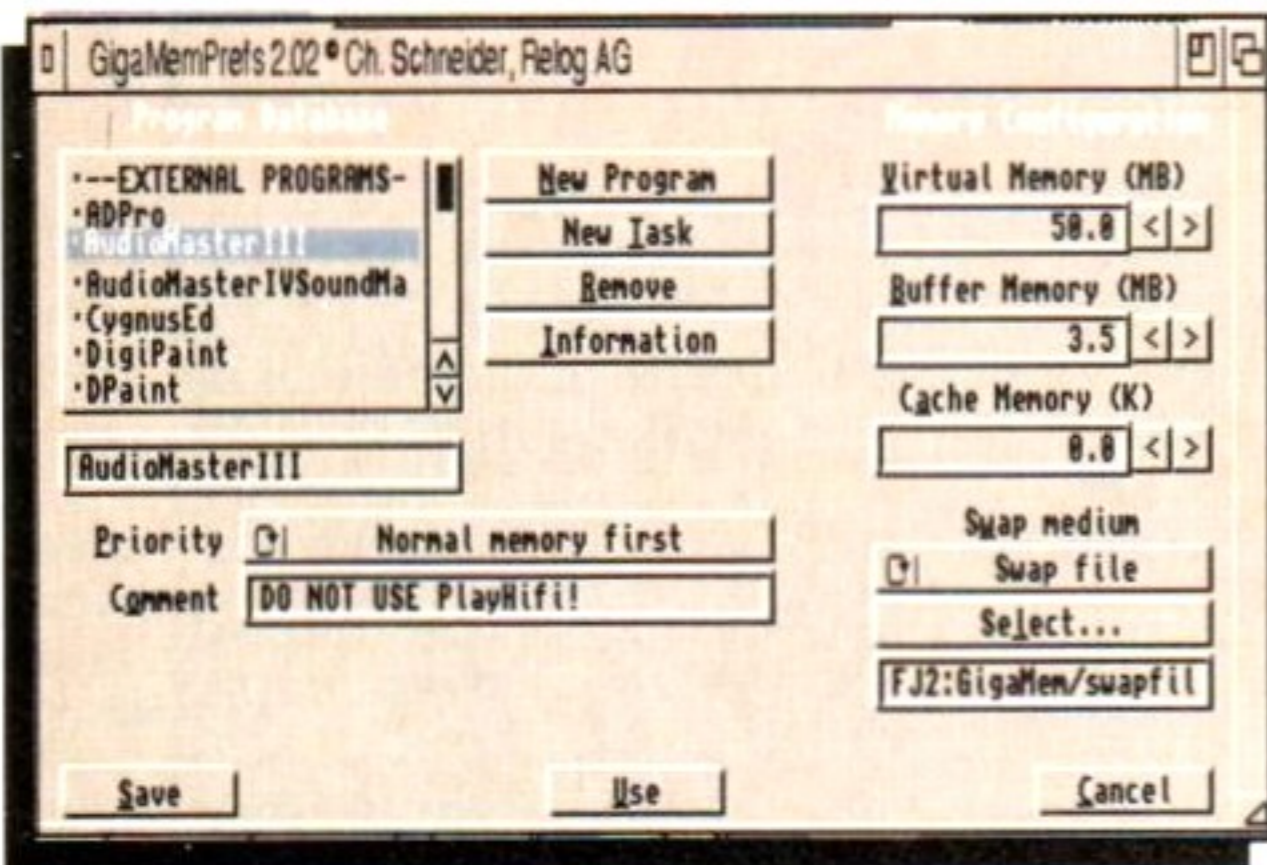
Tel (Home): ..... Tel (Work): .....

# GIGA MEM



**Memory shortage? There is a cure in the form of virtual memory**

**as Gary Fenton discovers.**



**A** lot of people started out in the world of Amiga computing with the rather limited 512k of memory. Most soon upgraded their Amigas to 1MB and it became a standard requirement of most software. Even now the A1200 comes with a generous 2MB supply of RAM while the A4000 has 6MB as standard. Whichever computer you own, you have probably been met with a "not enough memory" message at some point. Even my 10MB A3000 runs clean out of available RAM when I REALLY start multitasking.

## almost ram

There are two rather different solutions to this common problem. You can either buy more RAM

## system requirements

Virtual memory can only work if a memory management unit (MMU) is present. GigaMem only runs on Amigas equipped with either a 68020 or 030 processor, although the 040 version should be available by now. Economy processors such as the 68EC020, as used in the A1200, don't have an MMU and therefore cannot run GigaMem. You'll also need some fast RAM for buffering, and Kickstart 1.2, 1.3, or 2.0x. Oh, a hard disk is a must!

(typically £30 per megabyte) or alternatively opt for the virtual memory solution. Virtual memory uses a storage device (preferably a hard disk) to buffer information to and from the program that requires the memory.

GigaMem is one such virtual memory package that's available right now. Up to one gigabyte (yes, that's 1000 MBs!) can be set aside as virtual memory, providing you have a storage device large enough. GigaMem allows you to assign part (or all) of your hard disk as virtual memory. I have a 100MB hard disk and have assigned just 10MB as virtual memory, but the only limit is the size of the hard disk.

GigaMem is a software only package that's pretty easy to get going. It installs directly onto your hard disk. The Preference program is the operating "helm" of GigaMem. Here you can tell GigaMem which hard disk partition to use and how much virtual memory you want. You must also assign a proportion of your Fast RAM (about one quarter) to act as a buffer which will speed up operations.

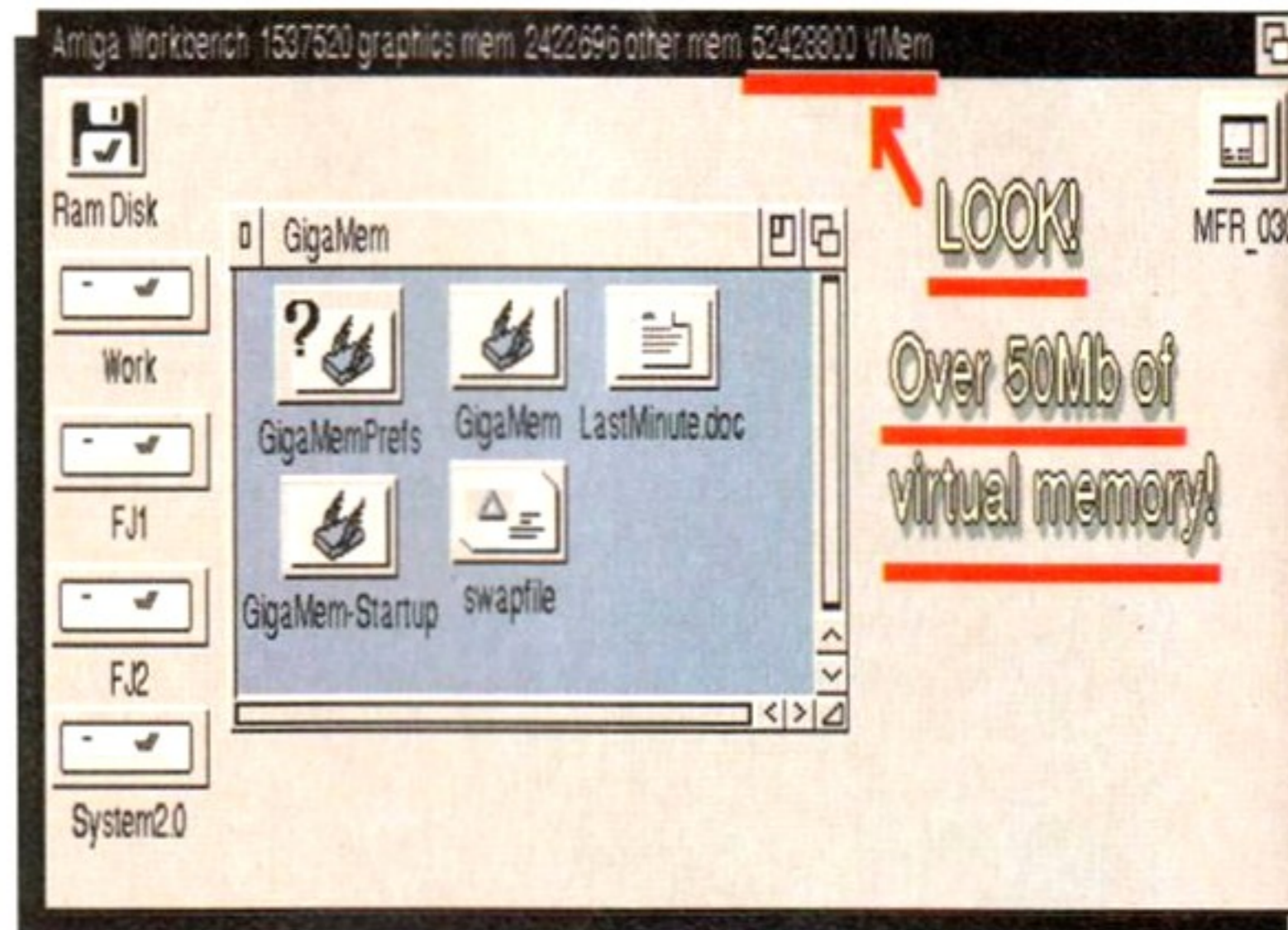
## beefed up

The Program Database on the Preference screen lists some of the programs that will use virtual memory. Already included are ADPro, AudioMaster, DPaint, Imagine, Imagemaster, PageStream2, ProPage and a heap of others. You can add your own programs to the list using a file requester, but not ALL programs in existence will

work with GigaMem. The majority of popular software WILL take advantage of virtual memory (it's turn on and offable!) such as DPaint.

DPaint will give you thousands of animation pages(!), depending on how much virtual memory you have requested. ProPage allowed me to load in numerous 24 bit images and ADPro had enough RAM for once to load in a massive 2000 x 2000 pixel image. Of course, I was multitasking all of these programs simultaneously thanks to GigaMem working with my Amiga.

On the negative side, GigaMem slowed down the software working with GigaMem while it accessed the hard disk. However, that's not the fault of GigaMem since the speed restriction is tied solely to the speed of the storage medium. Ideally, a SCSI II device would allow a huge



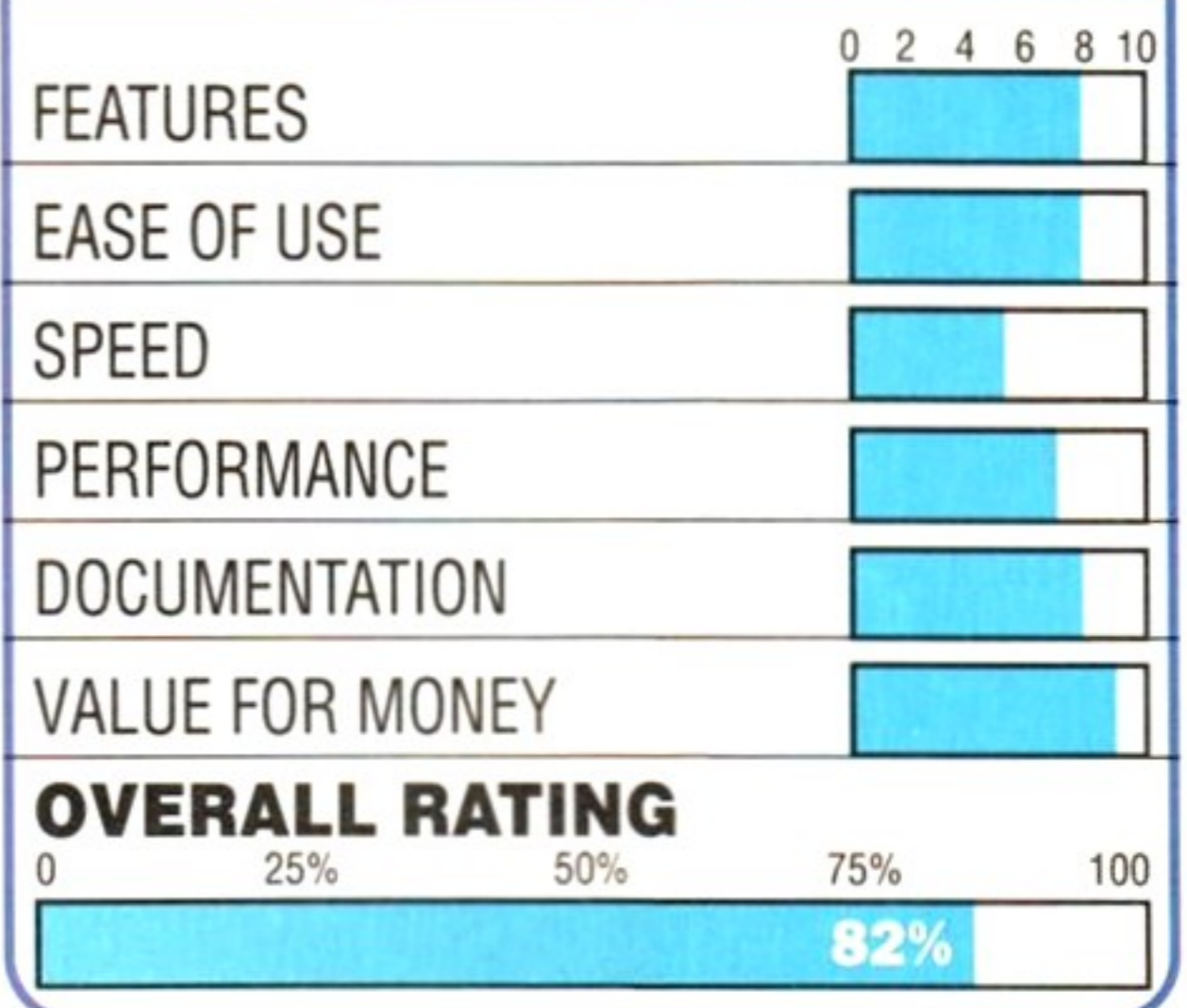
10MB/sec data transfer rate which is about 5 times faster than the fastest of ordinary Amiga hard drives! (Dream on!)

## conclusion

Yes, it really gives you up to

one gigabyte of RAM and yes, it really makes your Amiga far more productive. If you're prepared to trade speed (disk accessing time) for extra RAM then this is quite a marvellous and extraordinary program to have. **a**

## RATINGS: Out of Ten



## INFO

Price: DM149 inc VAT  
 Contact:  
 Gesteiner Technology Ltd  
 Unit 3, Millmead  
 Business Centre,  
 Millmead Road,  
 London N17 9QU  
 Tel: 081 365 1151

# GASTEINER



Unit 2  
Millmead Business Centre  
Millmead Road  
London N17 9QU  
Tel: 081 365 1151  
Fax: 081 885 1953

AMIGA COMPUTERS		HARD DRIVES		MICE + TRACKBALL	
A500+	£269.00	<b>GASTEINER POWER</b>		<u>AlfaData</u>	
A600	£269.00	*External IDE HDD for Amiga		Infra Red Mouse	£45.00
A600 20Mb Hard Drive	£465.00	A500/A500+/A1500/A2000		Mega Mouse	£10.95
A600 60Mb Hard Drive	£549.00	*Memory conveniently expandable to		Mega Mouse(Mat+Holder)	£14.95
A1200	£379.00	2/4/6/8Mb by using 1M X 4 Zips		300 Dpi Optical Mouse	£27.95
A1200 20Mb Hard Drive	£529.00	* 100% compatible		The Trackball	£29.95
A1200 40Mb Hard Drive	£599.00	* Easy Installation, Just Plug in and go		Crystal Trackball	£34.95
A1200 65Mb Hard Drive	£639.00	* Auto boot, Auto config and zero wait states		Optical Pen Mouse	£35.95
A1200 80Mb Hard Drive	£679.00	Controller for A500/A500+/A1500/A2000	£99.00	<u>Golden Image</u>	
A1200 120Mb Hard Drive	£769.00	Controller + 40Mb Hard Drive	£249.00	GI-600	£13.95
A4000 120Mb Hard Drive	£2089.00	Controller + 65Mb Hard Drive	£279.00	Optical Mouse	£23.95
<b>MONITORS</b>		Controller + 85Mb Hard Drive	£299.00	Brush Mouse	£19.95
Philips CM8833 Mk2	£229.00	Controller + 120Mb Hard Drive	£329.00	New Golden Image	
Commodore 1084/5 SDI	£209.00	<b>GASTEINER POWER FOR A600/A1200</b>		400 Dpi Mark 2 Mouse	£14.95
Commodore 1960 Multisync	£439.00	20MB + IDE Cable	£149.95	<b>SOFTWARE</b>	
Gasteiner Multisync Monitor	£349.00	65Mb + IDE Cable	£199.00	<u>Word processors/publishing</u>	
<b>PRINTERS</b>		85Mb + IDE Cable	£279.00	Pen Pal V1.4	£49.95
Citizen Swift 9 Colour	£179.00	120Mb + IDE Cable	£299.00	Final Copy II V2.0	£99.95
Citizen Swift 240 Colour	£279.00	Fitting For A600 or A1200	£29.95	Kindwords 3	£39.95
Citizen Swift 200 Colour	£219.00	<b>BARE HARD DRIVES</b>		Wordworth V1.1	£109.95
HP 500	£309.00	IDE		Transwrite	£29.95
HP 500 Colour	£439.00	40Mb	£99.00	Prowrite 3.3	£79.95
HP 550 Colour	£550.00	65Mb	£199.00	Pagestream V2.2	£129.95
<b>RAM</b>		85Mb	£219.00	Professional Page V3.0	£129.95
A500 1/2Mb	£14.95	120Mb	£249.00	Pagesetter II	£44.95
A500 1/2Mb With Clock	£19.95	SCSI		<u>SoftClips Clip Art...</u>	
A600 1Mb	£34.95	40Mb	£199.00	Classic Clip Art	£29.95
A600 1Mb With Clock	£39.95	65Mb	£279.00	People Clip Art	£29.95
A1200 2Mb (PCMCIA)	£119.00	85Mb	£299.00	Collectors Clip Art	£29.95
A1200 4Mb (PCMCIA)	£189.00	120Mb	£299.00	Animal Clip Art	£29.95
1MB Simms (Gvp)	£27.00	210Mb	£319.00	Electric Thesaurus	£29.95
4MB Simms (Gvp)	£89.00	<b>ACCESSORIES</b>		<u>CAD &amp; structured drawing</u>	
A2000 2Mb-8Mb	£129.00	Power Supply A500/A500+/A600/A1200 (High Voltage)	£34.95	Intro CAD Plus	£79.95
<b>SCANNERS</b>		Power Supply A1500/A2000	£69.95	X-CAD 3000	£269.95
Power Mono	£95.00	Internal Drive for A500	£40.00	Professional Draw 3	£89.95
Power Colour	£235.00	Internal Drive for A2000	£45.00	<u>Animation and Graphics</u>	
AlfaData Mono	£99.00	A500 Rom Switcher	£12.95	Deluxe Paint 4	£64.95
AlfaData Plus	£119.95	A600/A1200 Rom Switcher	£12.95	Real 3D Professional Turbo	£249.95
AlfaData OCR	£165.00	Auto sensing joystick/Mouse switch Box	£12.95	Art Department professional V2	£144.95
Gasteiner Mono	£89.00	Printer Cable	£6.00	DCTV Composite Video 24-Bit graphics System (PAL)	£379.95
Gasteiner Scan Read	£129.00	Modem Cable	£6.00	Imagine 2.0	£189.95
DataScan Pro V3	£89.00	SCSI Cable	£6.00	Phone for access to our massive competitively priced range now!	
Epson GT 8000	£1199.00	IDE cable for A600/A1200	£15.00		
		External Drive for A2000	£49.00		
		Blitz Amiga	£20.00		
		ICD Flicker Free Video 2	£199.00		
		Commodore 64 Power Supply	£19.00		
		10 Blank Disc	£7.00		
		3.5" External Drive	£50.00		

Products advertised represent a small sample of our instock range. A complete price list is available on request.

**DELIVERY CHARGES:**

Small consumables & software items

Other items, except lasers

Offshore and Highlands

IN ADDITION WE OFFER THE FOLLOWING EXPRESS SERVICES.

Saturday deliveries

AM next day

**UK MAINLAND (NOT HIGHLANDS)**

Despatched by post please check

charges when ordering.

Next day courier service, £10 per box

Please enquire

Normal rate plus £15 + VAT per box

Normal rate plus £8 + VAT per box

E.&O.E. Price subject to change without notice, Goods subject to availability, Specifications subject to change without notice, All Trademarks Acknowledged.

# GT6000 SCANNER

**A4 24 bit colour, 600 DPI?**  
Gary Fenton puts a new Epson scanner through its paces and asks whether it's worth the money.

Scanners such as Epson's GT-6000 have only really been seen attached to an Apple Mac for use with Desk Top Publishing. For pictures to be printed in a magazine, they must be of the best quality possible at the best possible resolution. In recent years prices of these scanners have fallen dramatically, and as a result you can buy the Epson GT-6000 for the Amiga for less than £1000. This may sound like an awful lot of cash to many readers but consider the scanner's capabilities.

The GT-6000 is an A4 flatbed scanner which means it scans any piece of paper, no larger than A4, laid upside-down on the flat glass surface within the scanner. The scanning head passes automatically over the bed, so you don't have to drag the scanner over the image like you do with a hand held one!



of the two adjacent dots. Not a lot of people know that!

So, the GT-6000 has the resolution, but does it have it the colours? Certainly, 24



Images can be scanned at a maximum resolution of 300 DPI, on a hardware level. Using some clever firmware built in to the scanner, it can simulate a resolution of 600 DPI. It achieves this by placing an extra dot in-between two existing dots and giving the extra dot a colour which is an average

bit gives you exactly 16,777,216 colours! This is enough for any job, from using the scans in a club newsletter to using them in a newsstand magazine such as AUI. The only factors restricting you with the GT-6000 are the A4 size scanning limit and the amount free RAM and disk space on your Amiga.

required when you scan directly to RAM but scanning to disk will cut the demands on storage by at least one half using, as I mentioned, IFF compression.

More sensibly, an A5 image at 100 DPI in 24 bit would require 2MB of storage and half of that if it were an 8 bit grey scale image. I would

## asd software

The scanner includes software written by ASDG (of ADPro fame) and has a terrific interface which controls all aspects of the scanner, such as DPI, brightness, size, cropping and zoom. The same software is also supplied as a module so it can be incorporated into ADPro - if you have ADPro that is. Also, a special parallel cable is supplied for direct connection to your Amiga.

Clearly, this is a professional scanner, and although it has a reachable price which represents good value for money, you will need an expensive Amiga system to get the most out of it. For quality, you just can't go wrong and I doubt any other scanner can produce images which are noticeably better to the human eye than this little baby from Epson. **a**



say that 3MB of RAM is the very minimum amount of RAM you would require and certainly nothing less than a 40MB hard disk is a reasonable suggestion. Manipulating scanned images in Art Department or Imagemaster would require more memory than the image takes up in disk space (decompression) - plus an

extra megabyte. Also, remember that if you are outputting to a printer which is only capable of 300 DPI grey scale, then obviously colour and larger resolutions are of precious little use to you.

## storage

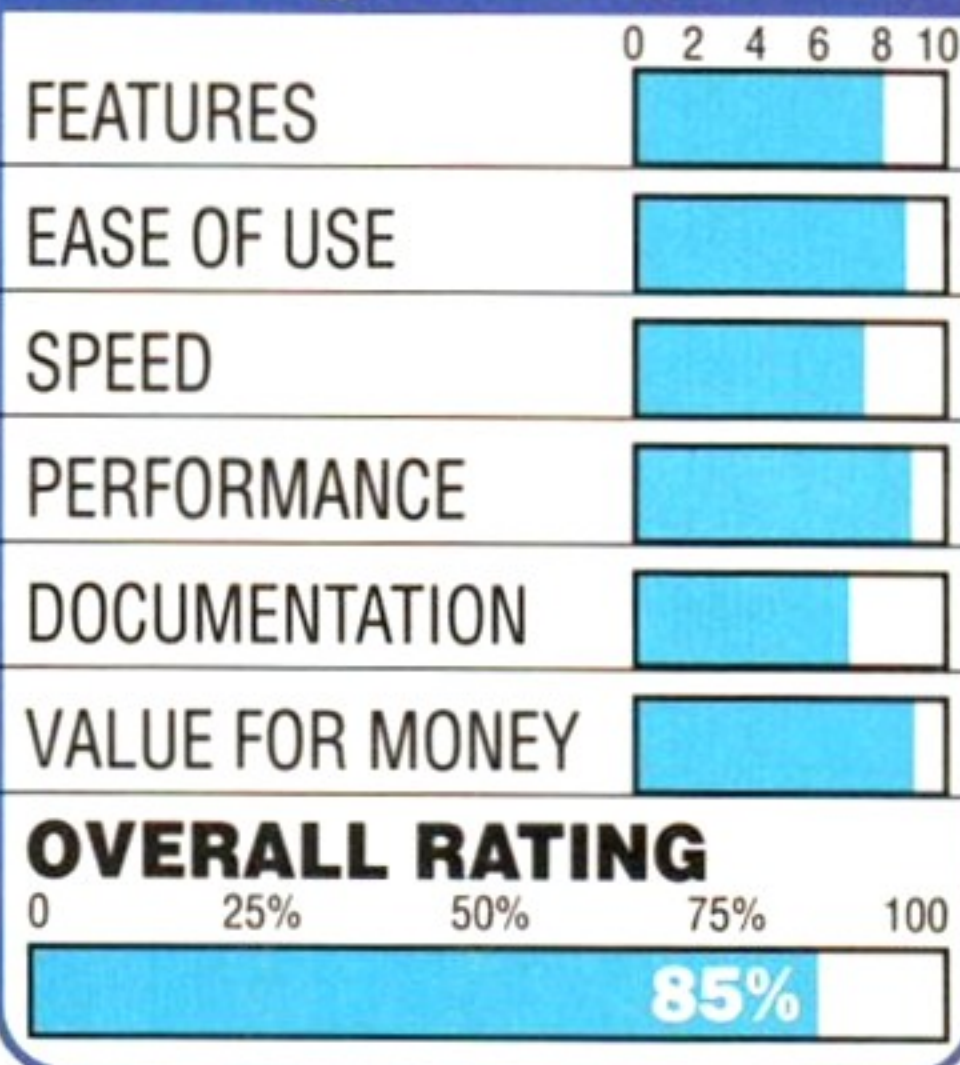
Storage is a big issue to consider before purchasing the GT-6000. Very roughly, 100MB of disk space would be required to scan an A4 24 bit image at 600 DPI (5100 x 7000 computer pixels). Luckily, IFF compression is used when saving, so the file may be only be a quarter of the size I'm quoting here. The software supplied allows you to scan an image directly to disk, so you don't need masses of RAM to scan.

Alternatively, a 256 grey scale image of the same size and resolution would require a maximum of 30MB of storage space, and a straight monochrome black and white image would need around 2MB. Lots of memory is

## Info

Price: £799 + VAT  
Contact: HB Marketing  
3 Poyle, 14 Newlands Drive,  
Colnbrook, Slough,  
Berks SL3 0DX  
Tel: 0753 686000

## Ratings: Out of 10



test drive

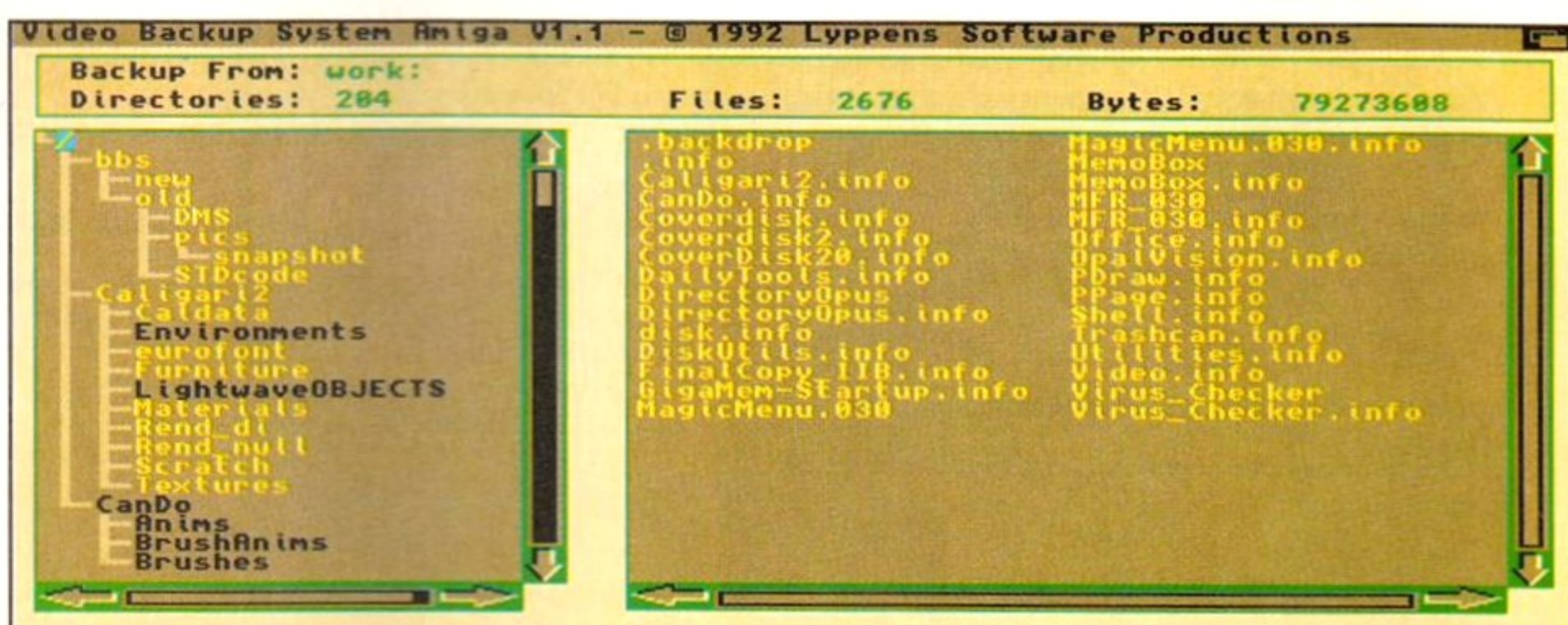
# Video BACKUP SYSTEM

The data being sent can be viewed on your monitor as four columns of black and white bars, much like scrambled satellite pictures or bar codes. The complicated image drawn by the computer is updated roughly every frame and gets through 700K to 800k of data per minute.

## conclusion

VBS was surprisingly reliable with no errors over 120MB of backed up data. However, I needed to increase the sharpness control on my VCR to achieve this. (Mind you, I was using a standard video tape!) 800k per second may seem slow but it's no worry if you leave VBS on overnight. I found that VBS is an ingenious and unique way to backup your hard disk for a comparatively low price. It certainly put my mind at ease after I backed up all of my hard drives! Maybe you should do the same... **a**

**If you don't keep a backup of your floppies or hard disk then you're a bit of a wally, really. Gary Fenton uncovers possibly the ideal answer.**



**V**ideo cassette recorders (VCRs) are pretty much underestimated. They are usually type cast for trivial tasks like playing back films that you've taped, hired or borrowed. But pause for a minute and think of how much information the video tape must store to run at 25 full frames per second. True, it may not be digital but it can store heaps of analogue data on the magnetic tape.

So, realising the potential, a company from The Netherlands devised a clever method which allows an ordinary video recorder to store data directly from the Amiga onto a video cassette. It doesn't matter what make your VCR is, if it has a composite input and output socket, or even a Scart will do (but you will need to obtain a splitter cable).

The package that does the backing up to video tape is called the Video Backup System, or VBS for short. It comes with the software, manual, and a special cable. One end of the cable plugs into the serial port on the back of all Amigas. The other end is split into two. One plugs into your VCR's output socket and the other goes directly into your monitor (1084, Sony, or anything which takes phono

composite inputs). Finally, a supplied cable connects the (mono) composite output from your Amiga to the input on your VCR.

## software

The VBS software is much like any other piece of backup software. Devices, directories and files can be selected and deselected for inclusion into the video backup. A log file can be created which will keep a close record of exactly what you've backed up and where it can be located on the video tape. File selection for any device is done

using a tree structure just like PC software, but I won't talk about that! Incidentally, VBS includes a feature which allows you to backup floppy disks as well as hard disks.

Once you have made a selection of files, or whole devices to backup, the software will check the hardware. This is a precaution just in case you haven't set it up correctly. If everything is okay it will proceed. You will be asked to press record on the VCR and VBS will display a message in large letters detailing what it's just about to backup, along with today's date. Five seconds later it will begin sending data to the VCR.

## compatibility

VBS was reviewed on an A500 with an A590 hard drive fitted with a 105Mb Quantum drive. It's claimed to work on any unexpanded Amiga which means you need at least 512k of free RAM. It's both Workbench 1.3 and 2.0x compatible but we haven't tested it out on Workbench 3 yet. A3000s will need a TV modulator (or

genlock) to output a composite signal.

Your VCR should be fairly modern and of reasonably quality. A real time tape counter, indexing, and a sharpness control facility will be a bonus but it is advisable to use an extra high quality video tape (about £4 to £5) for backing up.

### INFO

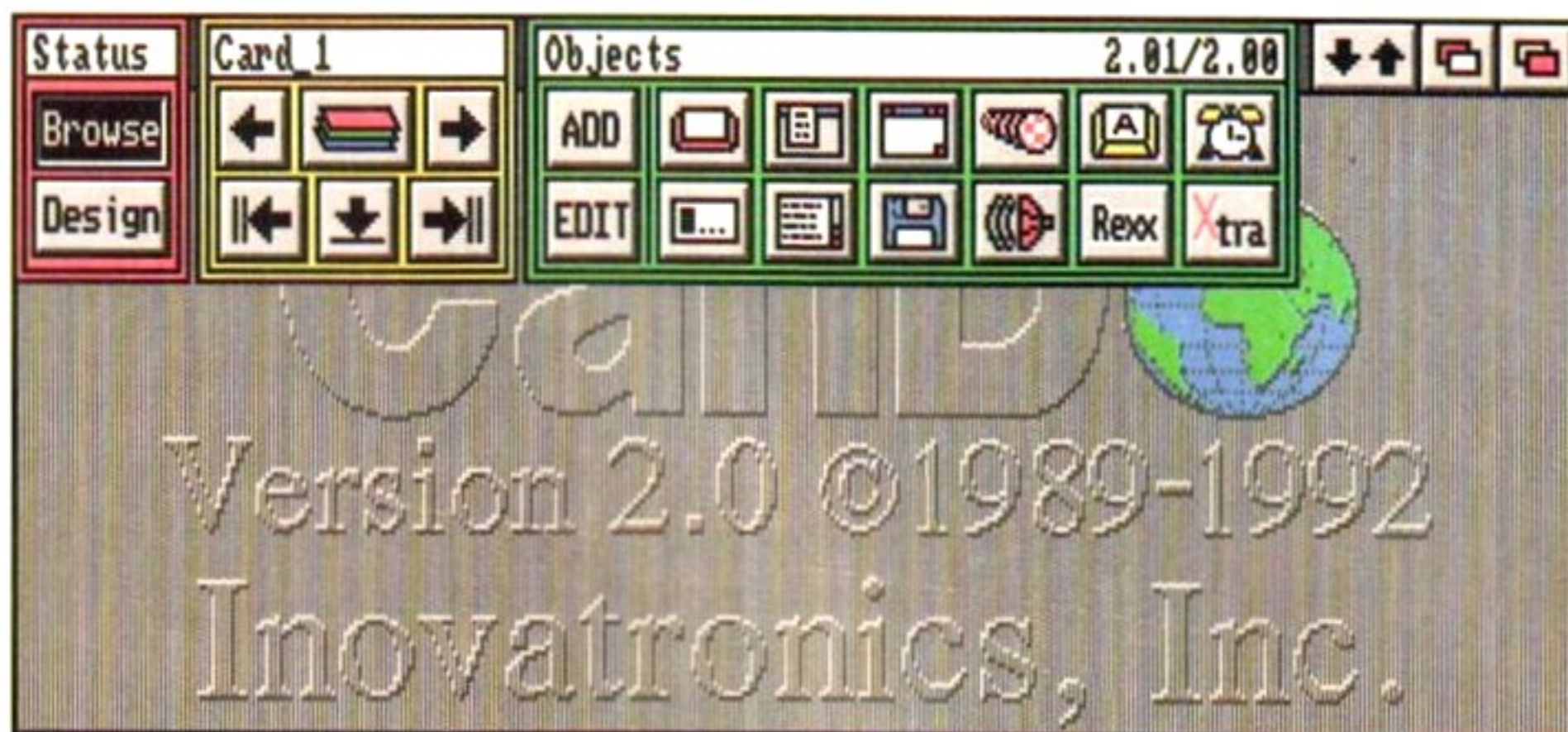
Price: £65.00  
 Contact: White Knight Technology  
 P/O Box 2395, Waltham Cross, Herfordshire EN8 7HQ  
 Tel: 0992 714539

### Ratings: Out of 10

FEATURES	0 2 4 6 8 10
EASE OF USE	0 2 4 6 8 10
SPEED	0 2 4 6 8 10
PERFORMANCE	0 2 4 6 8 10
DOCUMENTATION	0 2 4 6 8 10
VALUE FOR MONEY	0 2 4 6 8 10
<b>OVERALL RATING</b>	0 25% 50% 75% 100
	<b>80%</b>

**C**anDo has kept on evolving over the past four years under the motherly wing of Inovatronics, based in Dallas in the good ol' US of A. Many people speak of CanDo as a reliable, strong companion that's a powerful porthole into the world of programming. While those people may know exactly what CanDo can do, we should really take out a few paragraphs to explain to any readers who don't know what CanDo actually is.

given to friends or even sold for profit! The programs that can be created range from application software, such as word processors or phone diaries, to games with graphics and sound effects. While CanDo does not offer the vast array of graphical programming features or speed that AMOS provides, CanDo is fully multitasking, incredibly easy to use, and it's completely friendly to the Amiga's operating system.



what is  
cando?

what's new  
in two?

## Now 2.0

Amiga User International has always taken an

Apart from a few new commands, there's the Tools menu. This provides

**Gary Fenton confirms that the Amiga's**

**number one interactive software**

**authoring package keeps on growing.**

CanDo is fully multitasking, incredibly

easy to use, and it's completely friendly

to the Amiga's operating system.



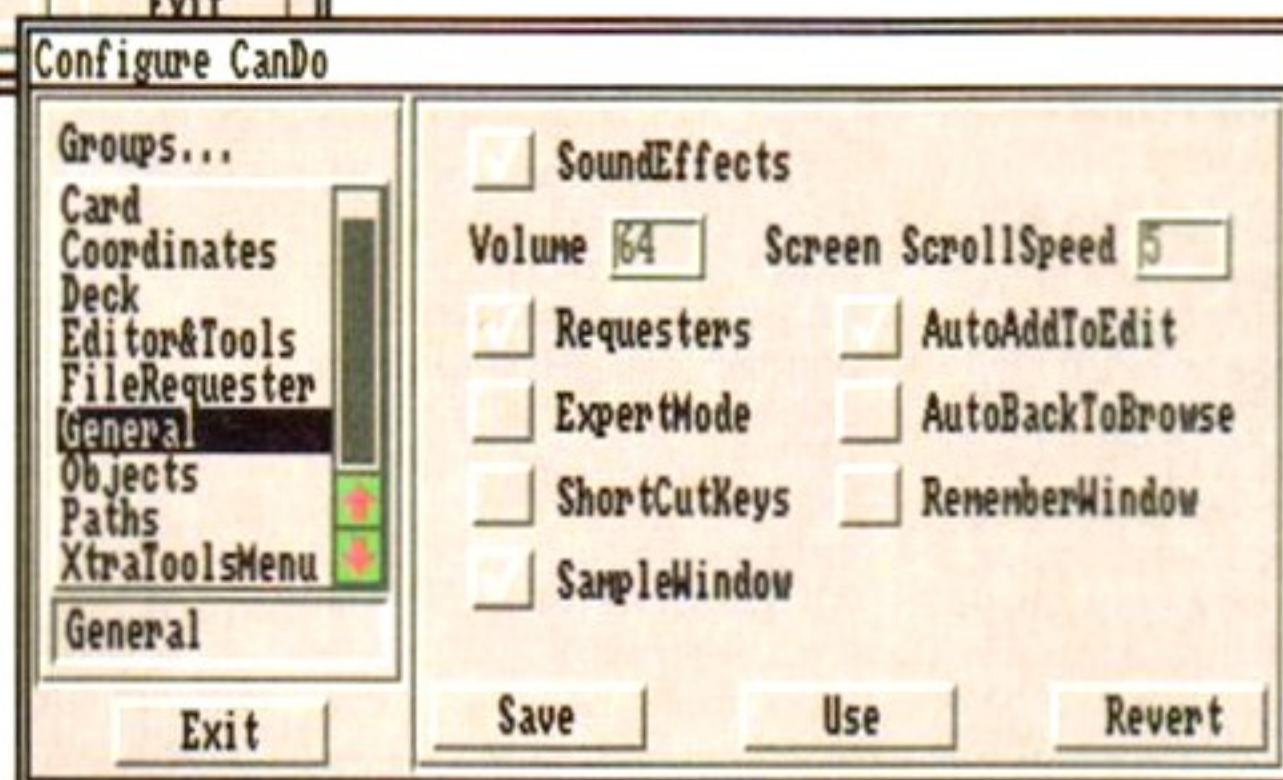
interest in CanDo. We have reviewed the upgrades enough times and we've even used it several times on our coverdisks. CanDo is an Amiga specific interactive software authoring system. It allows users to create real Amiga software without any programming experience. CanDo's design lets you take advantage of the Amiga's sophisticated operating system without any technical knowledge. Furthermore, you can integrate pictures, sounds, animations and text files easily into your own software designs.

Your own programs that have been created using CanDo can be made into a standalone program to be

a posse of useful routines such as Superduper. This tool can duplicate an object, such as a button, and position the cloned objects a specified distance apart from each other. A control panel of buttons can be created within just one minute.

The Bookmark tool is a very useful addition to CanDo. Because of CanDo's hierarchy system, it can take several mouse clicks to reach a certain

part of your program going via CanDo's menu system. With the Bookmark option, you can simply "place" a bookmark at several different sections of your program and travel directly to those positions via the Bookmark menu. Another nice new feature is the Bug Basher tool in the script editor menu. This gives a more detailed run down of bugs than the old "verify" option. CanDo now has a built-in configuration menu



so you will no longer be obliged to use the cumbersome Tools editor in the Info window on Workbench.

I have to say that regular CanDoers won't notice too many real changes in version 2. It's certainly a big jump from the previous 1.6 version, numerically, but it's not

such a tremendous leap from a technical point of view.

Version 2 does however come with a brand new manual - and about time too! The manual is ringbound which means that pages can be taken out and replaced with future updates, which the stitched and glued type of manuals don't allow you to do. The manual is complemented with a matching dark grey case

and looks very smart when placed on the shelf. It's clearly been designed to look what it is: a very professional package that is an easy way to conquer a difficult subject.

have CanDo then yes - CanDo is a "must buy" if you want to create your own programs without the need to attend programming school!

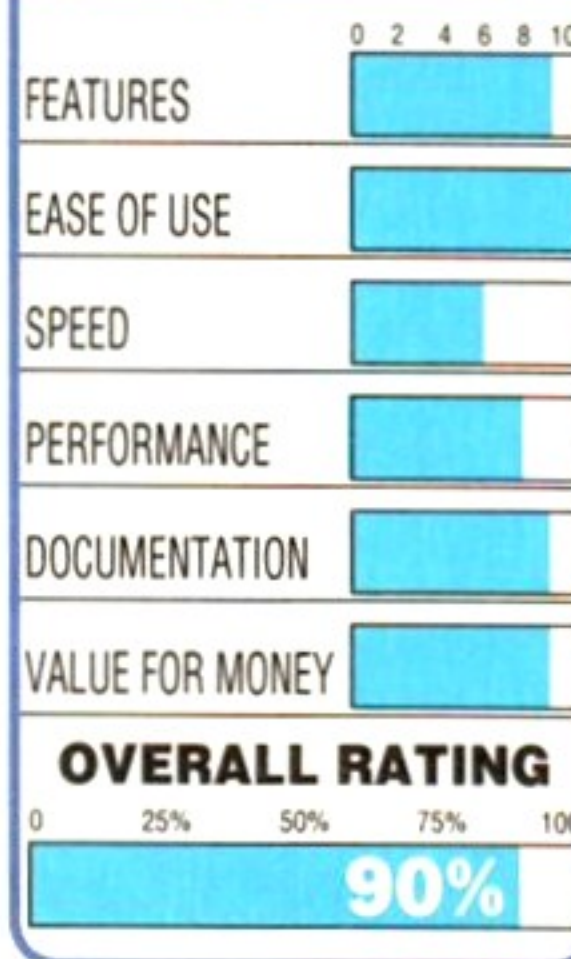
### conclusion

So, is it worth upgrading to version two? If you have version 1.6 then you might just be better off waiting for a future release, but if you have version 1.5 or earlier, or you don't even

### INFO

Price: £149.00  
Upgrade £59.00  
from previous version  
Contact: HiQ Ltd.  
176 Kenton Lane  
Harrow  
Middlesex HA3 8SU

### Ratings: Out of 10





# CITIZEN PRINTERS

## FROM SILICA SYSTEMS

- **FREE DELIVERY** Next Day - Anywhere in the UK mainland
- **FREE STARTER KIT** Worth £57.58 - With Citizen dot matrix printers from Silica
- **2 YEAR WARRANTY** (including the dot matrix printer head)
- **WINDOWS 3.1** Free Windows 3.1 driver with Starter Kit
- **FREE HELPLINE** Technical support helpline open during office hours
- **FREE COLOUR KIT** With every Swift 9



- FREE STARTER KIT INCLUDES:**
- 3 1/2" Disk with Amiga Print Manager (see right)
  - 3 1/2" Disk with Windows 3.1 Driver
  - 1.8 Metre Parallel Printer Cable
  - 200 Sheets of Continuous Paper
  - 100 Continuous Tractor Feed Address Labels
  - 5 Continuous Envelopes on Tractor Feed

**AMIGA PRINT MANAGER V2.01**  
For faster printing from your Amiga, with clearer images and more vibrant colours. Available free of charge as part of the Silica Printer Starter Kit.

Features include:

- Improved Image Smoothing
- Gamma/Colour Correction
- Image Scaling
- Colour Separation
- Reduces/Minimises Banding

**KIT VALUE £49** +VAT

# CITIZEN

# PRINTERS

## WITH 2 YEAR WARRANTY

**24 PIN 270 CPS 80 COLUMN**



- Citizen Swift 200 - 24 pin - 80 column
- 270cps SD (15cps), 216 cps Draft, 72cps LQ
- 8K Printer Buffer (40K max) + 6 LQ Fonts
- Parallel Interface
- Graphics Resolution: 360 x 360 dpi
- Epson, IBM, & NEC P20 Emulations
- Quarter Printing and Auto Set Facility
- Ultra Quiet Mode - 43dB(A)
- Colour Option Available
- FREE Silica Printer Starter Kit

**SWIFT 200**  
RRP £269  
SILICA STARTER KIT £49  
TOTAL VALUE: £318  
SAVING: £139  
SILICA PRICE: £179  
**£179**  
+VAT=£210.33 - PRI 2490

**9 PIN 144 CPS 80 COLUMN**



- Citizen 120D+ - 9 pin
- 144cps Draft, 30cps NLQ
- 4K Printer Buffer + 2 Fonts
- Parallel or Serial Interface
- Graphics Resolution: 240 x 240dpi
- Epson and IBM Emulation
- Pull tractor & bottom feed
- FREE Silica Printer Starter Kit

**CITIZEN 120D+**  
RRP £199  
SILICA STARTER KIT £49  
TOTAL VALUE: £248  
SAVING: £133  
SILICA PRICE: £115  
**£115**  
+VAT=£135.13 - PRI 2120

The Citizen 120D printer comes supplied with a parallel interface as standard. If you require a serial interface instead, please state ref. PRI 2125 when placing your order with Silica.

## RETURN THE COUPON FOR YOUR FREE COPY OF SILICA'S NEW CITIZEN CATALOGUE

### PERIPHERALS & ACCESSORIES

**STAND OFFER**

**PRINTER NOT INCLUDED** **NEW LOW PRICE!**

**CITIZEN PRINTER STAND**  
For Swift 9, 24, 24e, 200, 240 and 224 Printers

- Helps keep pace with Citizen Printer's powerful paper handling
- Robust & Durable Construction
- Saves space and protects continuous stationery from dust and damage
- Compatible with bottom and rear feed operation

**RRP £229**  
**£19**  
+VAT=£22.33 - PRI 1242

**SHEET FEEDERS**

PRA 1200 120D	£71.38
PRA 1215 124D/224/Swift 9/24	£88.70
PRA 1228 124D/224/Swift 9/24	£42.00

**SERIAL INTERFACES**

PRA 1189 120D+	£56.45
PRA 1209 Swift 9/9x/124D/224	£32.25
PRA 1709 Swift 24/24x/24e	£26.38

**32K MEMORY EXPN**

PRA 1753 124D/224/Swift 24	£13.10
----------------------------	--------

**PRINTER STAND**

PRA 1242 124D/224/Swift 9/24	£22.33
PRA 1274 Swift 9x/24x	£30.86

**ORIGINAL RIBBONS**

RIB 3520 120D/Swift 9 Black	£2.91
RIB 3949 Swift 9x Black	£7.15
RIB 3924 124D/Swift 24 Black	£4.70
RIB 3936 224/Swift 9/24 Colour	£15.63
RIB 3248 PN48 Single Strike	£3.61
RIB 3348 PN48 Multi Strike	£3.61

**COLOUR KITS**

PRA 1236 224/Swift 9/24e/200/240	£35.25
PRA 1240 Swift 9x/24x	£35.25

**PN48 ACCESSORIES**

PRA 1148 PN48 Battery	£46.70
PRA 1155 PN48 Cable Extn	£29.37
PRA 1162 PN48 Car Adaptor	£16.80

**24 PIN 300 CPS 80 COLUMN**



- Citizen Swift 240/240C - 24 pin - 80 col
- 300cps SD (15cps), 240 cps Draft, 80cps LQ
- 8K Printer Buffer - 40K maximum
- 9 LQ Fonts + 2 Scalable Fonts (8-40pt)
- Font Cartridge Slot - for plug in 'style' fonts
- Parallel Interface
- Graphics Resolution: 360 x 360dpi
- Epson, IBM, NEC P20 & CEL Emulations
- Quarter Printing Facility
- Auto Set Facility - Bi-directional I/F.
- Auto Emulation Detection
- Command Vue IV Front Control Panel
- Ultra Quiet Mode - 43dB(A)
- Colour Printing Standard - Swift 240C.
- Colour Printing Optional - Swift 240
- FREE Silica Printer Starter Kit

**SWIFT 240 MONO**  
RRP £339  
STARTER KIT £49  
TOTAL VALUE: £388  
SAVING: £149  
SILICA PRICE: £239  
**£239**  
+VAT=£280.83 - PRI 2560

**SWIFT 240C COLOUR**  
RRP £359  
STARTER KIT £49  
TOTAL VALUE: £408  
SAVING: £149  
SILICA PRICE: £259  
**£259**  
+VAT=£304.33 - PRI 2571

**9 PIN 192 CPS 80 COLUMN**



- Citizen Swift 9 - 9 pin - 80 col
- 192cps Draft, 48cps NLQ
- 8K Printer Buffer
- 3 Fonts
- Parallel Interface
- Graphics Res: 240 x 240dpi
- Epson and IBM Emulation
- Proportional Spacing
- FREE Colour Kit
- FREE Silica Printer Starter Kit

**SWIFT 9**  
RRP £199  
COLOUR KIT £38  
SILICA STARTER KIT £49  
TOTAL VALUE: £286  
SAVING: £127  
SILICA PRICE: £159  
**£159**  
+VAT=£186.83 - PRI 2209

- Citizen Swift 24x - 24 pin - 136 col
- 192cps Draft, 64cps NLQ
- 8K Printer Buffer + 4 Fonts
- Parallel Interface
- Graphics Resolution: 360 x 360dpi
- Epson, IBM and NEC P6 Emulation
- Colour Option Available
- FREE Silica Printer Starter Kit

**192 CPS 136 COLUMN**

**FREE! STARTER KIT**  
WORTH £49 SEE ABOVE

**RRP £489**  
**SILICA STARTER KIT £49**  
TOTAL VALUE: £538  
SAVING: £239  
SILICA PRICE: £299  
**£299**  
+VAT=£304.33 - PRI 2574

- Citizen PN48 Notebook Printer
- Non-impact Printing on Plain Paper
- 53cps LQ - 4K Buffer + 2 Fonts
- Rear and Bottom Paper Loading
- Parallel Interface
- Graphics Res: 360 x 360dpi
- Epson, IBM, NEC P6 & Citizen Emulation
- Power: Mains, Battery or Car Adaptor

**64 CPS 80 COLUMN**

**RRP £325**  
TOTAL VALUE: £325  
SAVING: £126  
SILICA PRICE: £199  
**£199**  
+VAT=£233.83 - PRI 2190

- Citizen Projct - inkjet - 80 col
- 360cps Draft, 120cps NLQ
- 50 Nozzle Head - Whisper Quiet 47dB(A)
- 8K Printer Buffer + 3 Fonts
- Optional HP Compatible Font cards
- Parallel Interface
- Graphics Res: 300x300dpi
- HP Deskjet plus emulation

**360 CPS 80 COLUMN**

**NEW LOW PRICE!**

**RRP £496**  
TOTAL VALUE: £496  
SAVING: £151  
SILICA PRICE: £345  
**£345**  
+VAT=£405.38 - PRI 2090

## SILICA SYSTEMS OFFER YOU

- **FREE OVERNIGHT DELIVERY:** On all hardware orders shipped in the UK mainland.
  - **TECHNICAL SUPPORT HELPLINE:** Team of technical experts at your service.
  - **PRICE MATCH:** We normally match competitors on a "Same product - Same price" basis.
  - **ESTABLISHED 14 YEARS:** Proven track record in professional computer sales.
  - **£12 MILLION TURNOVER (with 60 staff):** Solid, reliable and profitable.
  - **BUSINESS + EDUCATION + GOVERNMENT:** Volume discounts available 081-308 0888.
  - **SHOWROOMS:** Demonstration and training facilities at our London & Sidcup branches.
  - **THE FULL STOCK RANGE:** All of your requirements from one supplier.
  - **FREE CATALOGUES:** Will be mailed to you with offers + software and peripheral details.
  - **PAYMENT:** Major credit cards, cash, cheque or monthly terms.
- Before you decide when to buy your new printer, we suggest you think very carefully about WHERE you buy it. Consider what it will be like a few months after you have made your purchase, when you may require additional peripherals and accessories, or help and advice. And, will the company you buy from contact you with details of new products? At Silica Systems, we ensure that you will have nothing to worry about. We have been established for almost 14 years and, 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 Systems Service".

**MAIL ORDER HOTLINE**  
**081-309 1111**



<b>MAIL ORDER:</b> Order Lines Open: Mon-Sat 9.00am-6.00pm No Late Night Opening	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX Tel: 081-309 1111 Fax No: 081-308 0608
<b>LONDON SHOP:</b> Opening Hours: Mon-Sat 9.30am-6.00pm No Late Night Opening	52 Tottenham Court Road, London, W1P 0BA Tel: 071-580 4000 Fax No: 071-323 4737
<b>LONDON SHOP:</b> Opening Hours: Mon-Fri 9.30am-7.00pm (Sat close 6.30pm) Late Night: Thursday - 8pm	Selfridges (1st Floor), Oxford Street, London, W1A 1AB Tel: 071-629 1234 Extension: 3914
<b>SIDCUP SHOP:</b> Opening Hours: Mon-Sat 9.00am-5.30pm Late Night: Friday - 7pm	1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX Tel: 081-302 8811 Fax No: 081-309 0017
<b>ESSEX SHOP:</b> Opening Hours: Mon-Fri 9.30am-5.30pm (Sat 9.00am-6.00pm) No Late Night Opening	Keddies (2nd Floor), High Street, Southend-on-Sea, Essex, SS1 1LA Tel: 0702 468039 Fax No: 0702 462363

To: Silica Systems, AMUSR-0393-55, 1-4 The Mews, Hatherley Rd, Sidcup, Kent, DA14 4DX

**PLEASE SEND A BROCHURE ON THE CITIZEN RANGE**

Mr/Mrs/Miss/Ms: ..... Initials: ..... Surname: .....

Company Name (if applicable): .....

Address: .....

Postcode: .....

Tel (Home): ..... Tel (Work): .....

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

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

**T**he good news is that Final Copy II is an excellent, powerful word processor - one of the first to use scaleable outline fonts to enable you to produce the best possible printing quality, whatever your printer.

The bad news is that the program uses its own system of outline fonts. Although Commodore has made Agfa Compugraphic's Intellifont technology a standard part of Workbench 2, Final Copy II is not compatible with other Compugraphic fonts that work with the Amiga.

Nor, though it is enlightened enough to include Postscript output, is it compatible with standard Postscript fonts.

This seems to me the computer equivalent of shooting yourself in the foot. It means FCII, for all its strengths, is a crippled program, unnecessarily restrictive.

Further good news is that four volumes of outline fonts are available for use with Final Copy. Each volume contains 25 fonts and they cover a wide range, from standard typefaces to fancy scripts and unusual decorative fonts. The additional bad news is that few fonts are actually supplied with the program so you'll need to buy at least one of the volumes to make best use of it.

## low level dtp

It is more a document processor than a word processor, approaching low-level desktop publishing programs in its lay-out and graphic capabilities and including some basic structured drawing tools. The bad news here is that you can't import structured drawings from programs such as Professional Draw or ProVector.

FCII is from those nice programmers at Softwood who gave us Pen Pal and is even more friendly and easy to use. Its uncluttered interface conceals a great deal of power and you'll need a reasonably powerful

Amiga to make use of it. The minimum requirements are 1 MB of memory and two disk drives, but if you are to get the most from its comprehensive dictionary and thesaurus a hard disk won't come amiss, where the program files will take up 1.5 MB.

Scaleable outline fonts are a step forward in word-processing, even if they've been available for some time in Desktop Publishing programs such as Professional Page and PageStream. FCII allows you to use font sizes over a wide range - from 4 to 300 points, which is more than four inches high - which should be enough to satisfy most needs.

It even goes a little further and allows you to compress text to half, or to stretch it to one-and-a-half times, its normal width. You can also achieve other effects by slanting the text forwards or backwards at any angle.

The result - providing you don't go crazy with special effects - means that you can create attractive-looking documents and have them printed to a high standard, without any of the jaggies that result from bitmapped fonts. The quality is excellent, although it will depend on the capabilities of your printer;

an ink-jet, laser or 24 pin dot-matrix will provide results that will more than satisfy you.

FCII is a graphic word processor and will import just about any Amiga bitmapped graphic, including HAM and 24 bit

requiring you to insert the disk containing it as you print.

## uncluttered

Coloured text is also available, although again the correct shade may not

programming touch that is typical of FCII. You can modify the appearance and on-screen colours of the program to suit your own taste. FCII's approach to its display is an uncluttered one. Rulers across the top of the screen and down the



## John Walker brings the new

## word processor - both the

colour pictures. You won't see them on the screen in all their glory - the program only shows four colours, or 16 if used with Workbench 2, but they will print properly. The graphic can be saved with the document or, in order to conserve memory, FCII will just save the path to the graphic,

be shown on-screen. You can, however, check that it is the colour you want by putting the mouse-pointer over the text. The pointer will then display the colour of the word beneath it. There's a palette that allows you to mix and save the colours you use.

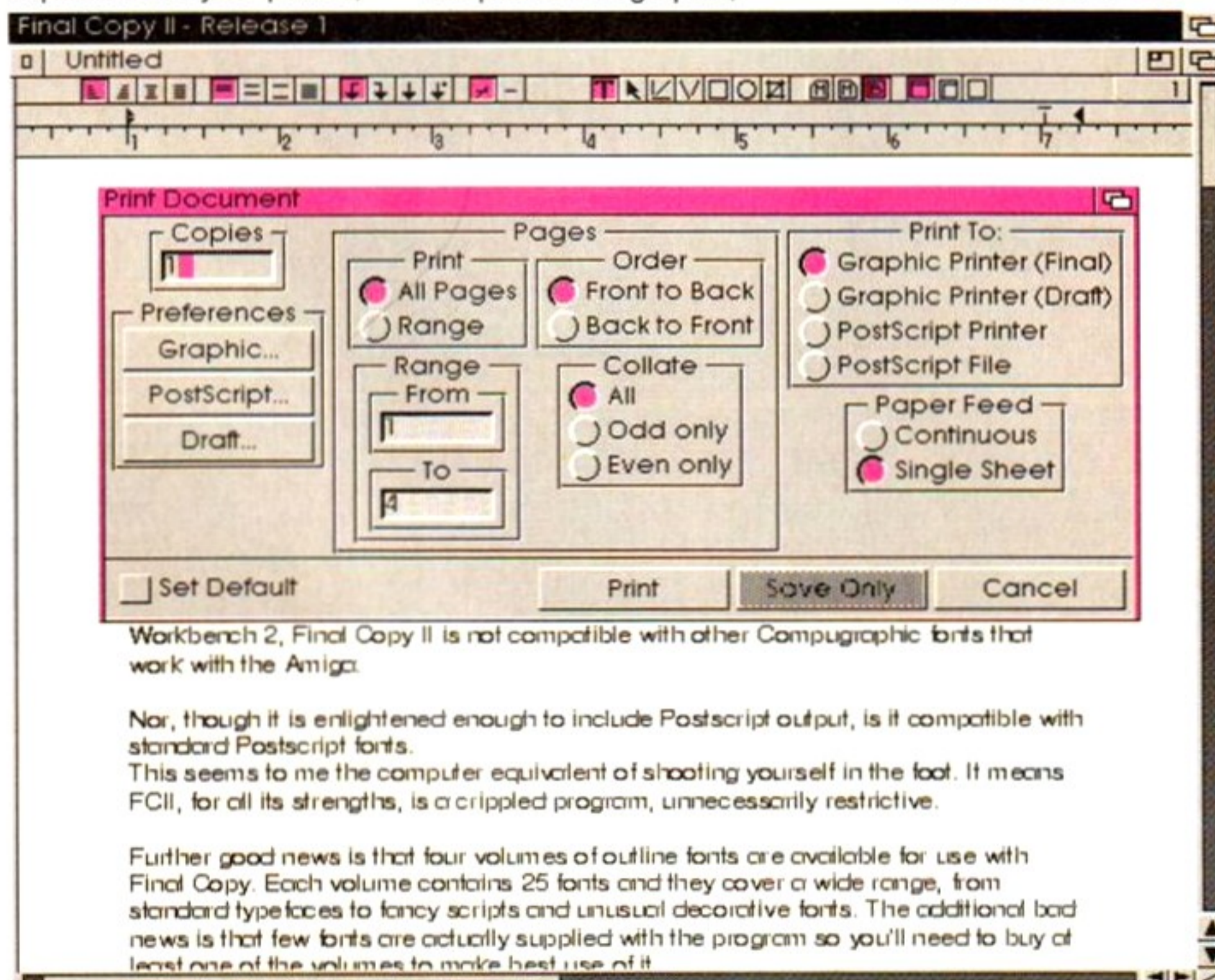
That's the sort of nice

side are optional. Without them, all that shows, part from a scroll-bar down the right-hand side is a narrow band of icons enabling you to carry out basic formatting by a simple mouse-click without having to access the pull-down menus.

From this command strip you can set the justification - left, right, centre, or flush - the line-spacing - from single to one-and-a-half, double and variable - and the tab-stops, turn on and off the hyphenation, use the drawing tools, select master-pages and add or remove rulers from the display.

The master pages help bring FCII closer to desktop publishing. You can set up a left and right master-page that will appear throughout a document, putting on it anything you like, such as graphics, headers and footers, borders and page-numbering, which is done automatically.

In DTP fashion the program also includes style-sheets, allowing you to define as many as 16 styles. These cover paragraph settings, tab stops and type attributes so



Workbench 2, Final Copy II is not compatible with other Compugraphic fonts that work with the Amiga.

Nor, though it is enlightened enough to include Postscript output, is it compatible with standard Postscript fonts.

This seems to me the computer equivalent of shooting yourself in the foot. It means FCII, for all its strengths, is a crippled program, unnecessarily restrictive.

Further good news is that four volumes of outline fonts are available for use with Final Copy. Each volume contains 25 fonts and they cover a wide range, from standard typefaces to fancy scripts and unusual decorative fonts. The additional bad news is that few fonts are actually supplied with the program so you'll need to buy at least one of the volumes to make best use of it.

There are several printing options including 'postscript'.

that you can set specific styles for body text, for headlines, for sub-headings and for the numbering and indentation of paragraphs within a report.

These styles can be attached to the function keys so that all you need do

corners and produce arrowed lines with ease. Graphics can be moved, cropped and re-sized easily and the program will automatically reduce an image to half its original size with a mouse-click.

Once you have graphics

contains 826,000 synonyms and works well. A word-count and other statistics on a document is always available.

My main complaint here is over its use of macros. I'm afraid that ARexx, wonderful though it is, is

PostScript fonts for Courier, Helvetica, New Century Schoolbook and Times. It lacks Avant Garde, Helvetica Narrow, Palatino, Bookman, Zapf Chancery,

can't help feeling that a program as good as this should have used, or been compatible with, Agfa Compugraphic fonts which have become an Amiga

# COOPY II

## News about a powerful new good news and the bad.

is highlight text and press a key to have it automatically set in the style you want. It's an excellent feature that helps automate the task of producing a regular newsletter or a report.

### handling

You can also set a document in up to six newspaper-style columns on a page, which brings FCII even closer to desktop publishing. In DTP fashion you can see your document on a page in eight different sizes, from 25 per cent up to 400 per cent magnification - and you can also edit it at any magnification.

Its graphics handling is good, though not perfect. You can flow text vertically to the left or right of a graphic, and you can also get the words to follow the contour of the graphic on its left or right side. But you cannot flow text around both sides of the graphic, which is a limitation.

The structured drawing tools are simple, but effective. I liked the way you can draw boxes with rounded as well as square

on the page, the program inevitably tends to seize up as you move from one part of the page to another and screen updating as you switch between various page sizes is slow - but that's also true of DTP programs.

At heart FCII remains a word-processing program and lacks the flexibility of layout and design that you get from a proper desktop publishing program. You can't draw a box on a page and put text inside it. Words go from the top of one column to another and there's no way of breaking the flow or of beginning your text in the second column on a page, other than by pressing the return key to give you a sequence of blank lines.

As a word processor, FCII compares well with most of its rivals. It has all the usual editing processes of cutting and pasting text, and of searching for and replacing words. It has mail-merge and can also add a column of numbers and put the total wherever you want it.

Its 110,000-word spell-checker is an English one. Its thesaurus, also English,

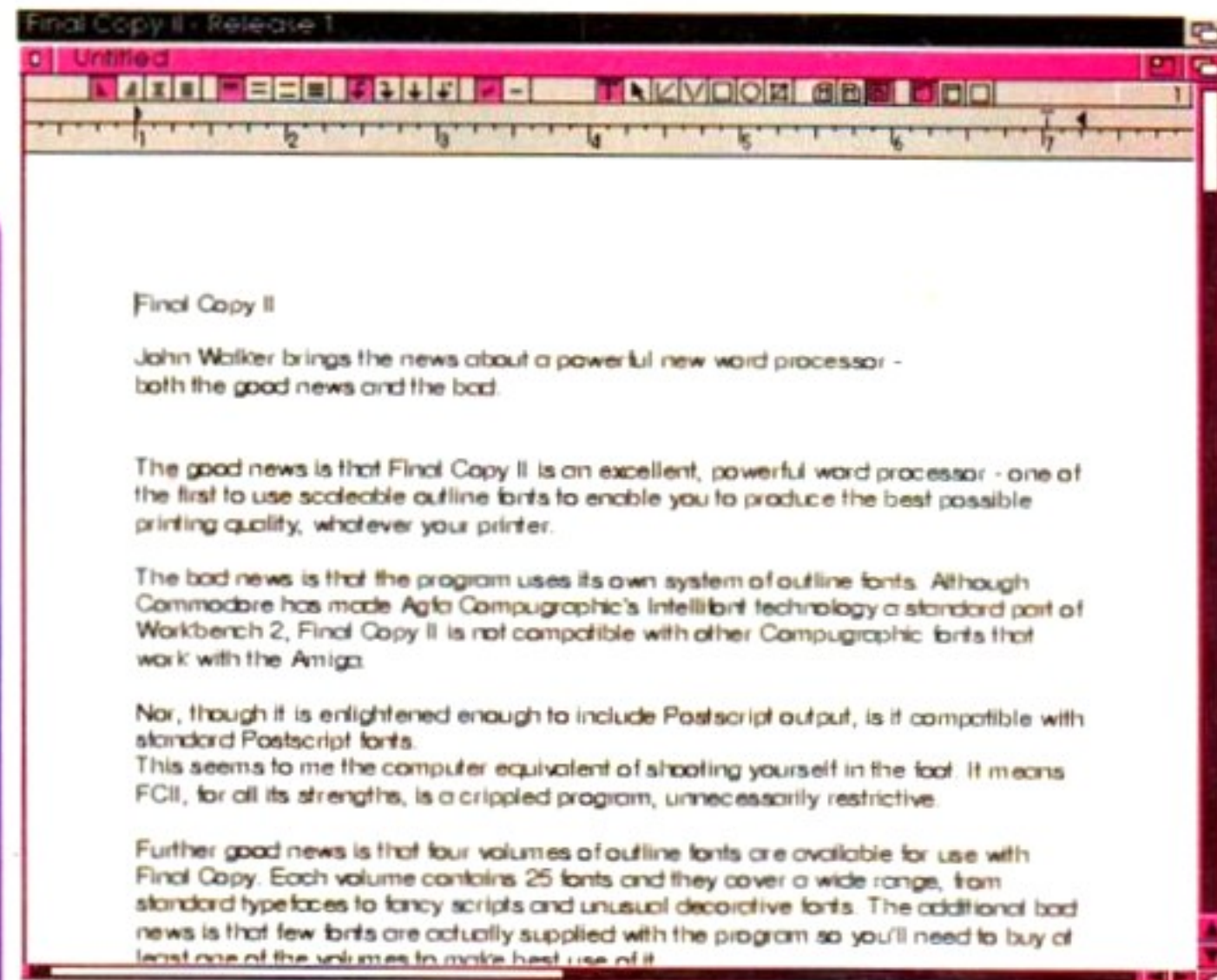
having a bad effect on Amiga programmers. They are relying on ARexx for macro capabilities - and often expecting users to write the macros themselves. This is not only lazy, but a wrong approach for many programs. ARexx capability is fine, but it's not enough.

ARexx has been well-implemented here, allowing those who can write such programs to execute FCII's menu commands from within macro programs. But if you can't write ARexx scripts, then FCII has no macro capabilities.

What I want - and expect - is to be able to be able to automate off-repeated actions by executing a sequence of keystrokes that the program will then save as a macro. No powerful word-processor should be without such a facility - and FCII lacks it.

### fonts

The documentation for FCII describes its PostScript capabilities as 'excellent', which is an exaggeration. The program provides



Zapf Dingbats and Symbols that are to be found on most PostScript printers and there seems no way of adding them, since FCII is not compatible with other standard PostScript fonts from Adobe, nor does it have any facilities for downloading fonts to a PostScript-compatible laser printer.

FCII claims to provide colour PostScript information, but you can't produce colour separations from the program - unless you follow the manual's suggestion and write your own PostScript program to do so, which is less than helpful. Anyone with access to a PostScript printer would do better using a DTP program.

FCII supports all Preferences printers and is reasonably fast when printing, producing an excellent end-product. But I

standard and are available in great quantity these days, rather than going its own way.

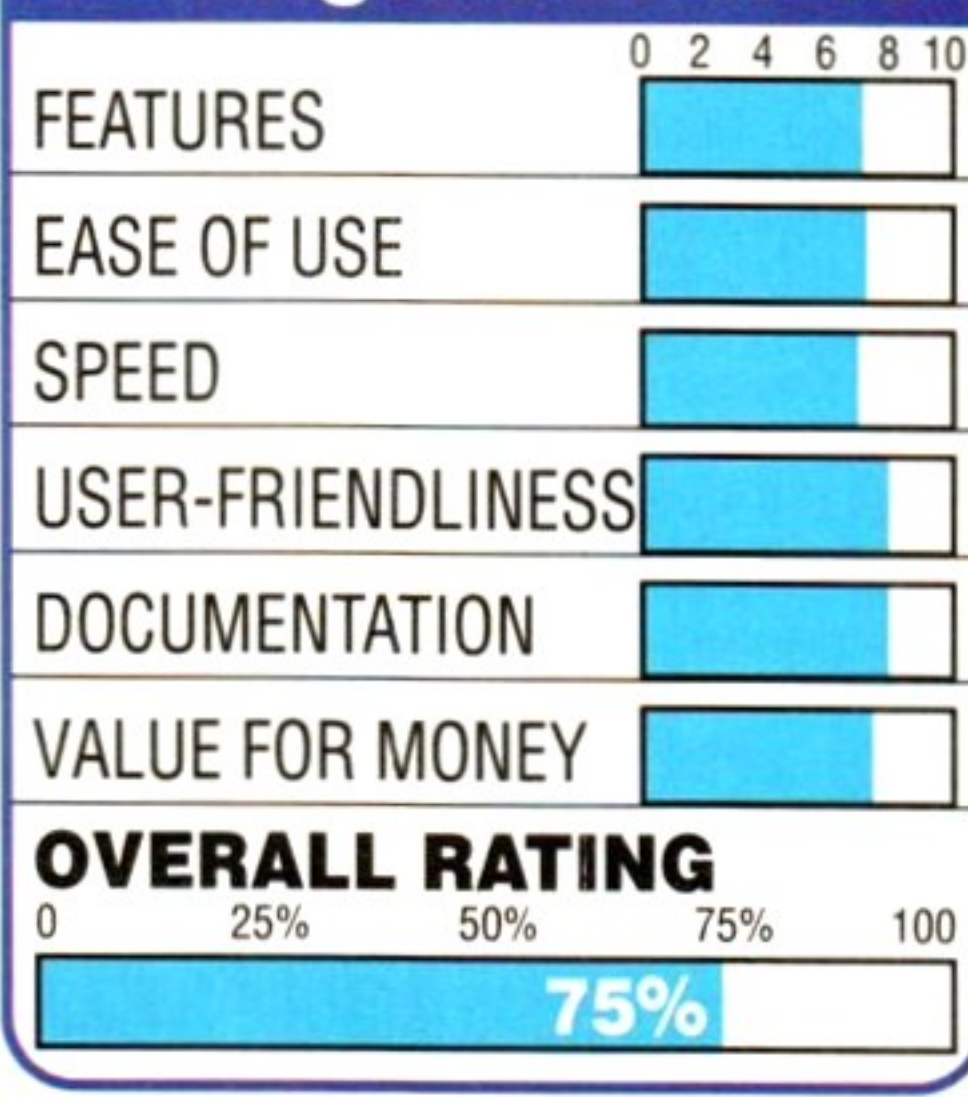
### conclusion

If you can overlook that limitation, and its minimal PostScript support, then FCII is an excellent word processor that will produce good-looking, well-printed documents. It's certainly a heavyweight program, but still a contender rather than the champion but Final Copy is not yet the final word in document processing on the Amiga.

### INFO

Price £99.95  
Gordon Harwood  
Computers  
0773 836781

### Ratings: Out of 10



# BEST BUYS FOR AMIGA

Best Buys for Amiga  
chooses the very best and  
brings it - Direct To You

## BARGAIN ACCESSORIES



### CURTIS MOUSE PAD ORGANIZER

Four work-saving functions in one. Mouse Pad, Wrist Rest, Pen/Pencil Tray and Mouse Garage.

**SAVE £5.00**

**£12.00**

### CURTIS UNIVERSAL LOW-PROFILE BASE FOR MOUNTING YOUR MONITOR

Universal Low-Profile Base lets you tilt and swivel any monitor that will fit on a 13in square. Eliminate backache, eye strain and operator fatigue.

**SAVE £6.00**

**£25.00**

### MULTI-MEDIA DISK BOX

Lets users customise the box. Includes dividers and tabs which can be configured to accommodate 100 3.5in disks or 80 5.25in disks or 18 Mini Data Cartridges or 8 Standard Data Cartridges or 24 CD-Rom or any combination.

**£8.95**

### CLEAN MOUSE

Keep your mouse operating at peak performance, extend mouse life, special mouse cleaning solution removes built-up dirt and grime inside positioning ball cavity, two sizes of scrubbing balls to fit any mouse.

**£16.95**

### CURTIS SECURITY KIT

Protect your system against theft and unwanted borrowing, secure computer and up to three peripherals, works with any system, easy to install - no special tools or skills required.

**£23.95**

### TRIM RIGHT

Separate computer paper easily and eliminate printout tearing. Cut paper safely with exact precision. Squaring device and FREE replaceable blade.

**£17.95**

### TOP SHELF

Ingenious tray system mounts on top of computer monitor, saves valuable space, keeps paperwork within easy reach. Makes a great In/Out box. Fits any monitor including Macintosh series, assembles in minutes without tools.

**£22.95**

### CLEANDISK

Remove harmful dust and debris from 3.5in and 5.25in disk drives. Extend drive life, prevent read/write errors and data loss. Sufficient for 15 cleans per packet.

**£8.25**

### LABEL IT

This intelligent labelling system you can't do without. High quality, permanent adhesive holders with reversible labels. 10 clear-adhesive label holders, 50 coloured removable labels in each pack. Available 3.5in and 5.25in Disks.

**£4.00**

### CLEANBOX FOR NORMAL SCREENS

Clean and provide anti-static protection for monitors. 8 double sachets wet and dry per box. Starter Kit.

**£3.45**

### TYPE-THROUGH KEYBOARD COVERS

Designed to continuously protect keyboards, each keysealer is specially moulded for a specific keyboard. Keys are clearly visible through glare free matt finish. Available for Amiga and all keyboards. (Please state model required)

**£29.95**

**CURTIS SUPER CLIP** Position copy perfectly next to your Word Processor, Computer Keyboard. Fits all monitors and switches easily for left or right hand use.

**SAVE £5.00**

**£8.00**

**BEST BUYS FOR AMIGA**  
**24 HR CREDIT CARD HOTLINE**  
Tel: 0753 551439

## BOOK BARGAINS

### YOURS FREE

Choose any two computer books shown here and this 52-page Simple Computer Maintenance & Repair book is yours - Entirely Free



### INTUITION - A PRACTICAL AMIGA PROGRAMMER'S GUIDE

This book is aimed at the Programmer who wants to utilise intuition -the Amiga's graphical user interface.

**£9.95**

### PROGRAM DESIGN TECHNIQUES FOR THE AMIGA

Well structured and easily maintainable for 16-bit Amiga programs.

**£9.95**

### AMIGA FIVE-O

This book offers in-depth playing guides, tips and many reviews on 50 of the best ever games for the Amiga

**£9.95**

### SOFTWARE BUYING SECRETS

An excellent guide to decisions that will be invaluable for as long as you own a computer.

**£9.95**

### HUNDREDS OF FASCINATING & UNIQUE WAYS TO USE YOUR COMPUTER

If you're tired of using your computer to crunch spread sheets, do word processing and input data, this is the book for you. Discover all the other things a computer can do.

**£9.95**

### ELEMENTARY AMIGA BASIC

A tutorial guide to programming in AmigaBASIC for anyone new to programming. Sections on educational programming, built in functions, graphics, music, sound and speech.

**£15.45**



### UNIVERSAL PRINTER STAND

Save valuable workspace, improve efficiency, fits all desktop printers, standard carriage or wide. Stores paper underneath, for centre or rear feed, removable paper tray neatly stacks printout.

**NOW SAVE £10.00**

**£20.00**

### DISK-PICK

Simply touch the diskette and the spring pops it out and gives you access to 14, 3.5in diskettes. Designed with interlocking side panels to connect multiple units. A sliding cover protects from dust and damage.

**SAVE £6.00**

**£10.00**

## ★ STAR SAVER ★

### CURTIS FAX STAX

Save valuable workspace - create your own desktop Fax Centre, holds Fax machine to make multiple 9ins x 14ins custom-labelled Fax mail boxes. 3 shelves, 6 compartments.

**NOW SAVE £15.00**

**£15.00**

Mastering Amiga DOS 2 Vol 1 416 pages

**£21.95**

Mastering Amiga Workbench 328 pages

**£19.95**

Mastering Amiga C 320 pages

**£19.95**

Mastering Amiga Printers 336 pages

**£19.95**

Mastering Amiga Assembler 416 pages

**£24.95**

Mastering Amiga System 400 pages

**£29.95**

Mastering Amiga ARexx 336 pages

**£21.95**

Mastering Amiga Beginners 400 pages

**£19.95**

A600 Insider Guide 256 pages

**£14.95**

A1200 Insider Guide 256 pages

**£14.95**

### DIGITAL DAVE'S COMPUTER TIPS AND SECRETS

Hundreds of questions asked by computer users with clear, easy to understand answers.

174 pages

**£9.95**

### HOW TO UNDERSTAND AND BUY COMPUTERS

This book contains all you need to know about buying computers and explains in easy to understand language.

160 pages

**£9.95**

### MARK SMIDDY'S LITTLE BLUE WORKBENCH 2.0 BOOK

Packed with tutorials covering all major workbench functions, full of practical tips and examples, it'll get you started with Amiga DOS plus a table of printers and compatible drivers.

**£9.95**

### MASTERING AMIGA WORKBENCH 2.0

Helps the reader discover the wealth of configuration, editing and housekeeping utilities which Workbench 2.0 contains and encourages users through its hands-on style to get the most from the bundled software on the Workbench.

Extras and AmigaFonts disks. 320 pages

**£19.95**

### MASTERING AMIGA - AMOS

AMOS has gathered around it a number of powerful utilities which can be used to augment the language in particular ways and provide materials such as sprites, sounds and backdrops.

These are covered in detail with information about how to get hold of them and how to join up with AMOS clubs and program libraries. (320 pages)

**£19.95**

### BJ10E/STYLEWRITER REFILL

The best range of refills for Bubblejet printers. Available in black, blue, brown, green and red.

(State colour required)

**£16.95**

### CURTIS MOUSE PAD

Point mouse with greater accuracy and control. Extend roller ball life, sturdy laminate construction, non-slip and waterproof.

**£7.95**

### CURTIS WRIST REST

The Curtis Wrist Rest relieves tired, aching wrists. Its cushioned pad runs the entire length of your keyboard, raising and supporting your wrists at a more comfortable height and angle

**£12.00**

### CURTIS CABLE ORGANISERS

Keep computer and electrical cables neat and organised. 10-slot cord manager installs in seconds on the edge of desk with self adhesive backing - can easily be cut with scissors to create two 5-slot sections.

**£9.00**

### CURTIS KEYBOARD CALCULATOR

Lets you calculate without interrupting your software program. Solar Powered plus batter back-up. 8-Char, LCD with floating decimal.

**NOW SAVE £6.00**

**£7.00**

### CURTIS 12-PIECE COMPUTER TOOL KIT

Whether you're a professional technician or simply a tinkerer, you can repair and maintain your system with this impressive 12-piece computer tool kit.

**SAVE £15.00**

**£19.95**

### CURTIS 52-PIECE COMPUTER TOOL SET

**LIFETIME WARRANTY**

### PLUS FREE COMPUTER MAINTENANCE BOOK

The Curtis 52-Piece Computer Tool Kit is non-magnetic and computer safe, and has everything you need to perform the most common computer repairs, upgrades and maintenance tasks with professional precision. Install a new board, disk drive or chip, align potentiometers, adjust your printer head, solder in new components . . . or just tighten the occasional loose screw. Reduce inconvenient downtime and professional service expenses, plus keep your system running at peak performance, every day. Includes Two Special Macintosh Tools: Wide Blade Bit and TORX Extender for Easy Removal of Housing Screws.

**SAVE £40.00**

**£59.95**

# Introducing the very best in EDUCATIONAL GAMES

**AMIGA 512K**  
WEATHER WATCHER 1MB

Six educational games, to encourage creative learning in Maths, Science Geography and English.

# Compendium

GENISOFT

For children aged 4-12 years

**KIDS TYPE**  
The word processor for youngsters. Using large characters and colourful graphics, Kids Type is the ideal starting point for youngsters to gain confidence in the use of computers, and to create their own stories.

**Weather Watcher**  
Collect and analyse weather statistics. Identify dates by month or year. Display graphs or diagrams of data. Make and analyse your own weather map using your weather journal program.

**WORDS AND NUMBERS**  
A simple test to see how well you know your words and numbers. Includes number progression and grouping.

**Calendar Quiz**  
For young children to learn the names and sequences of days, months and seasons. Includes facts on other related events.

**GAME SET & MATCH**  
Early learning of colours, numbers, words, number sequences and a number story book.

**What is it? Where is it?**  
Vol. 1 Counties. Knows names and locations of the counties of the British Isles.

# CHILDSPLAY

A versatile talking word processor with unique creative graphics design functions

The Ultimate Creative Activity Centre For Children Aged 2 to 12 Years

**helios Software**

## COMPENDIUM SIX

### KIDS TYPE

Using large characters you can mix words with the range of colourful graphic characters and shapes. It has a prompt with a list of 100 words (suitable for infant reading but which can be changed by the parent or teacher) and a spelling game with words that can also be changed as the child progresses.

### GAME SET AND MATCH

For the younger children, this program has been designed by teachers to teach shapes, colours, money, numbers, number relationships and reaction times.

### WORDS AND NUMBERS

This program is designed to give children the opportunity to learn the relationships and order of words within simple sentences and of sentences within a paragraph.

### WEATHER WATCHER

Weather Watcher enables you to create a simple database of weather statistics and present them in a colourful and graphical display. The user can analyse data by week, month and year and monthly average data tables are automatically calculated.

### CALENDAR QUIZ

Designed by teachers to teach young children the relationships between days of the week, months of the year and the seasons. The program includes naming and spelling tests, sequence tests and the opportunity to input and print a week's diary detail.

### WHERE IS IT? WHAT IS IT?

Where is it? What is it? Vol. 1 - Counties. Designed to teach the location and shapes of the counties of the British Isles.

## CHILDSPLAY

### CHILDSPLAY - A CHILDREN'S WORD PROCESSOR AND CREATIVE ACTIVITY CENTRE WITH GRAPHICS AND SPEECH

CHILDSPLAY is a children's word processor with excellent computer speech capability, and also allows children (or adults!) to create scrolling screens full of colourful graphic designs and text. The exceptionally versatile graphical system combined with flexible user-definable features allows parents or teachers to lead a child through an individually tailored creative learning process.

CHILDSPLAY will run on any AMIGA with memory capacity of 1 megabyte or more.

COMPENDIUM SIX

**SAVE £5.00**

£34.95

CHILDSPLAY **SAVE £5.00** £19.95

POST YOUR ORDER TO: BEST BUYS FOR AMIGA, DEPT. AUC, P.O. BOX 1537, SLOUGH, BERKS SL2 5YQ

# FREE FASTRACK DISPENSER



This handy FastRack Dispenser holds 3 1/2 ins and 5 1/4 ins disks and attaches easily to your monitor - valued at £5.99. With every order - Entirely Free

## BEST BUYS FOR AMIGA

DEPT. AUC  
P.O. BOX 1537, SLOUGH, BERKS SL2 5YQ

Name \_\_\_\_\_

Address \_\_\_\_\_ CAPITAL LETTERS

Post Code \_\_\_\_\_

Please debit my Access  Visa  card (tick)

No. \_\_\_\_\_

Expiry Date \_\_\_\_\_ Signature \_\_\_\_\_

DESCRIPTION	QUANTITY	AMOUNT
POSTAGE AND PACKING	3	00

### HOW TO ORDER



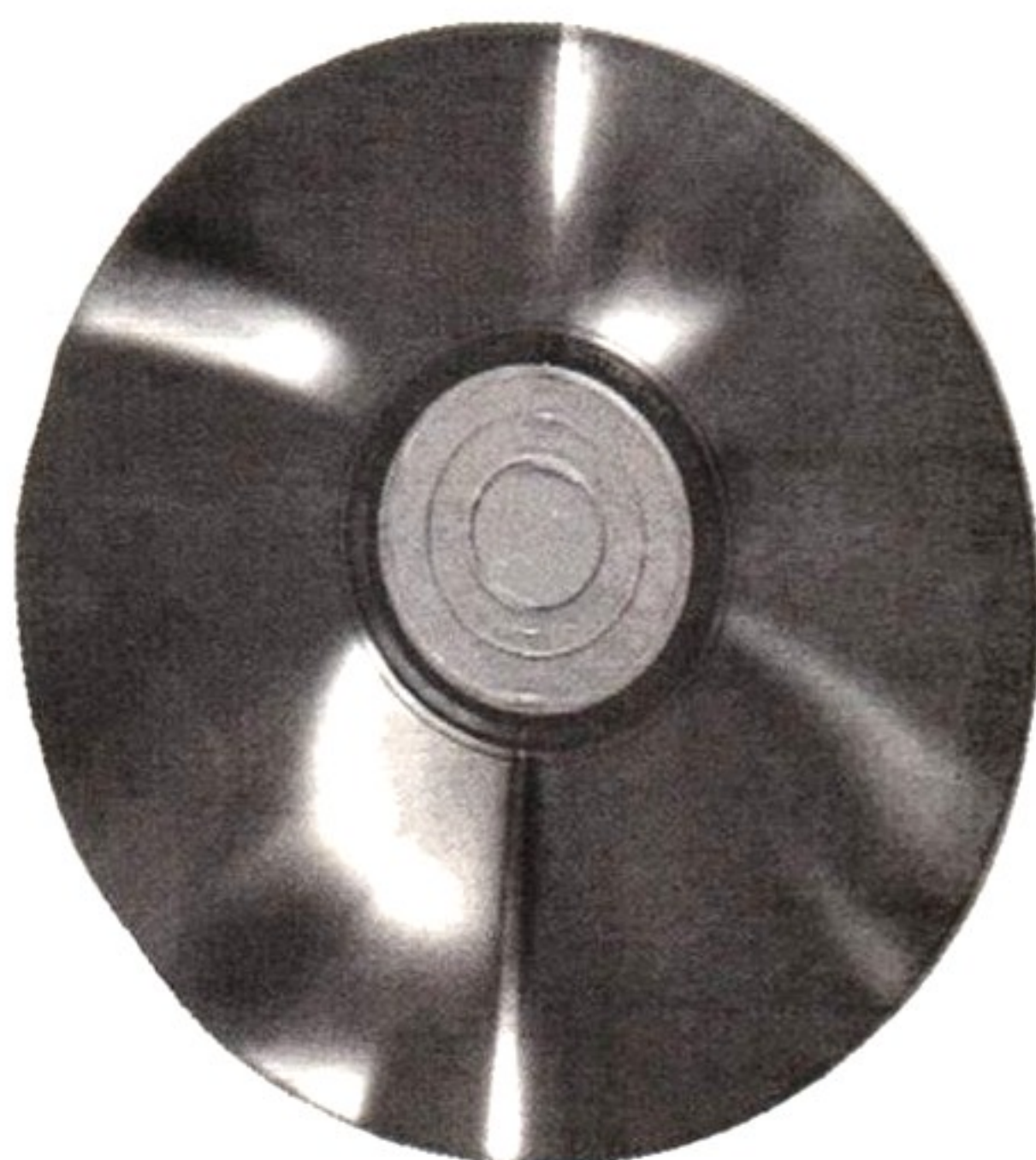
Simply send your cheque/postal order, made payable to I.D.M. (International Direct Marketing) with this order form or debit your Access/Visa

Remember, write clearly using CAPITAL LETTERS.

24 HR CREDIT CARD ORDER LINE - 0753 551439

# The Amiga CD

**What you will have**



**without the Amiga CD! Users Club**

# CD! Users Club

## What you will have

TERRIFIC  
SPECIAL  
OFFERS

AMIGA CD!  
MAGAZINE

SHOW  
TICKET  
DISCOUNTS

LATEST  
SOFTWARE  
NEWS

HANDS-ON  
WORKSHOPS

ADVICE  
LINE

HARDWARE  
UPDATES

CLUB  
NEWSLETTER

**with the Amiga CD! Users Club**

**AND MUCH, MUCH  
MORE**

THE AMIGA CD! USERS CLUB, HHL PUBLISHING, GREATER LONDON HOUSE, HAMPSTEAD ROAD, LONDON NW1 7QQ. ENQUIRIES: TEL: 081 671 9146

Yes, I want to become a member of the world's first AMIGA CD! Users Club.

I understand my benefits will include a highly informative Club newsletter, an Amiga CD Advice Line, Club Member's Special Offers, admission to hands-on Amiga CD workshops, a year's subscription to AMIGA CD! magazine completely **FREE**, and much, much more.

I enclose £10 for one year's full membership to the world's first AMIGA CD! Users Club\*

Please send me further details about the world's first AMIGA CD! Users Club

\*All membership applications or enquiries will be entered for a FREE draw for a Sony 25" Nicam Stereo TV worth over £600!  
All AMIGA CD! Club members joining within one month of purchase of an Amiga CD (CDTV/A5-570), will receive a FREE AMIGA CD compact disc.

To: AMIGA CD! Users Club, HHL Publishing, Greater London House, Hampstead Road, London NW1 7QQ

Name \_\_\_\_\_

Address \_\_\_\_\_

BLOCK CAPITAL PLEASE

Post Code \_\_\_\_\_

Please debit my Access  Visa  card (tick) for £ \_\_\_\_\_

No

Expiry Date \_\_\_\_\_

Signature \_\_\_\_\_

I wish to pay by cheque/ postal order and I enclose a cheque for £ \_\_\_\_\_ made payable to HHL Publishing

# SMARTER

## THAN THE AVERAGE

# CARD

security

**Peter Hayes investigates the mysteries of the Smart Card**

**T**he world of the smart card and the Amiga have come together with the arrival of the A600 and A100 with their dedicated smart card slots. For the first time for the Amiga software can be provided in this special form but so far third party interest has been notably slow.

There are said to be at least 300 million "active" smart cards currently used within Europe with the UK curiously bottom of the "take up" league. Their tasks are as diverse as video encryption, security, credit and storing personal medical information. There are even smart card collectors that go in for "dead" ones, in the same fashion as those who collect stamps or beer mats.

A smart card is really a full working computer on a single integrated chip. It may look like a normal plastic credit cards, but inside is a full working micro with memory, processor and power supply all enclosed in a single sealed unit. They represent the current state of the art in sophisticated integrated chip technology. Even more amazing is that the card itself reserves most of its size for human convenience, the chip itself is around half the size of a postage stamp - often highlighted by a silver patch on the card itself.

4 megabytes

Despite its tiny size, it's quite common to have over 128K of usable memory (ample for most non-computer uses) and they can have EPROM storage as well - although the A600 hardware is designated as Read Only.

Cannon have recently been publicizing a smart card that has over 4MB of available memory that can store digital photographs, signatures, finger prints and even X-ray pictures! In Jersey they have been experimenting with a

system where medical records are stored on a smart card and then given to key patients to carry around in their wallets or purses. In case of an emergency all the relevant patient details can be accessed quickly at the hospital.

The costs can go from mere pence to several pounds depending on circumstances. Currently Phone Cards are produced for a matter of a few pence each, contrasting with the top of the range security clearance cards which can be read/written to by short wave radio that are presently highly expensive. The future may well lie in better EPROM devices - blank cards that can be "stamped" once with information quickly and cheaply.

On a smart card, every CPU is unique, with a special identifying serial number. This lets cards be personalized to a particular owner or device and barred from working otherwise. This system is used to encode some satellite TV channels so that only those that have paid a subscription can watch. By way of a special signal from the broadcasters, the card is rendered active, but only for so long and only on the owner's decoder.

In America, cable companies sell cards that give so many units of time for "big" events such as the Super Bowl, World Title Boxing and even first run feature films.

Smart Cards have already become a key element in US high security establishments where they are often found enclosed in identification badges. For this a special smart card is required that can read and write data at a distance using short wave radio. They can also be used as pagers and pass encoded information to the card to be read. The card itself is code numbered so that it has to be read in the owner's decoder and a time limit can be set on the message been available to be read. As if this were not enough, computer terminals can be calibrated to the card holders security clearance automatically and shut down when that person walks away.

On a smart card, every CPU is unique,

with a special identifying serial number.

Not all smart cards need to be this sophisticated, most are only very basic devices, and use Motorola 8 bit technology (Now I wonder what else uses that?).

When placed in the reading devices the cards internal memory can come under scrutiny and altered in the same way as a standard computer memory - if it didn't we'd have everlasting phonecards! They cannot however be user programmed in the same way as we understand with more normal computers.

If smart cards became an established method of distributing software, they could have advantages over the cartridge or disk systems. Software such as games could be sold with limited "plays" or even have "self destruct" modes so that they could only be used between certain dates.

Manufacturers have long wanted to move away from the highly piratable disk, but because most serious computers use them, this will prove virtually impossible. Industry figures are already talking about the desirability of computer apartheid with cartridge/card consoles for games and disk based computers for more serious software.

Many would like to see the system as a secure replacement for money exchanges and experiments have taken place in the areas of leisure and transport in Milton Keynes. It is predicted that all Credit Cards will become effectively smart cards in time and could reduce crime.

With the advantages of smart cards and the future streamlining of duplicating they could well have a big impact on the software of the near future. In the short term, it may prove to be a very good idea that came a little too soon for its own good. **a**



Smart card readers can read as many as 99 channels on a card. This one comes from Cambridge





# EAGLE SOFTWARE

118a Palmers Road  
New Southgate  
LONDON N11 1SL  
CREDIT CARD HOTLINE:  
**081 889 9172**  
ENQUIRY/ORDER LINE:  
**081 361 5730**  
24 HOUR FAX LINE FROM FEBRUARY  
**081 361 2733**

FREE MYSTERY GAME WITH ORDERS OVER £50

### ST & AMIGA BUDGET TITLES UNDER £10

1 Meg Cricket (Amiga only)	£3.99	Galant II	£6.99	Pitfighter	£6.99
3D Pool	£6.99	Ghostbusters II	£6.99	Piloon	£5.99
Afterburner	£6.99	Ghouls'n'Ghosts	£6.99	Predator	£6.99
Altered Beast	£6.99	Golden Axe	£6.99	Predator II	£9.99
Arkanoid II	£6.99	Head over Heels	£6.99	Prince of Persia	£6.99
Barbarian	£5.99	H. H. Guide to Galaxy	£7.99	Pro Tennis Tour	£6.99
Barbarian II	£6.99	IK+	£6.99	Rambo III	£6.99
Batman The Movie	£6.99	Impossible Mission II	£6.99	Resolution 101	£6.99
Battlehawks 1942	£9.99	James Pond	£6.99	Rolling Ronny	£9.99
Blood Money	£6.99	Jet Set Willy (Amiga only)	£7.99	R-Type	£6.99
Cabal	£6.99	Kid Gloves	£5.99	Run The Gauntlet	£6.99
California Games	£6.99	Last Ninja II	£6.99	Shadow of the Beast	£6.99
Carrier Command	£8.99	Last Ninja III	£7.99	Shadow Warrior	£6.99
Celica GT4 Rally	£6.99	Lombard RAC Rally	£6.99	Sherman M4	£6.99
Centrefold Squares	£6.99	Lotus Esprit	£6.99	Shinobi	£6.99
Cloud Kingdom	£6.99	Manic Miner (Amiga only)	£7.99	Smash TV	£6.99
Colossus Chess	£6.99	M. Jackson Moonwalker	£6.99	Starglider II	£6.99
Combo Racer	£6.99	Moonshine Racers	£6.99	Stunt Car Racer	£6.99
Conflict in Europe	£7.99	Narc	£6.99	Supaplex	£6.99
Continental Circus	£5.99	Navy Seals	£9.99	Super Hang On	£6.99
Deluxe Strip Poker	£6.99	New Zealand Story	£6.99	Switchblade	£6.99
Double Dragon I or II	£6.99	North & South	£6.99	Swiv	£6.99
Dragon Ninja	£6.99	Out Run	£6.99	Teenage Mutant Turtles	£6.99
Duel	£6.99	Operation Thunderbolt	£6.99	Thunderstrike	£6.99
Fantasy World Dizzy	£5.99	Operation Wolf	£6.99	Toobin'	£6.99
F16 Combat Pilot	£7.99	Pang	£6.99	Vigilante	£6.99
F.O.F.T.	£6.99	Panza Kick boxing	£8.99	Wings of Fury (Amiga only)	£6.99
				WC Leaderboard	£6.99
				Xenon II	£7.99

TOP TITLES	ST AMIGA
A500+ 1Meg Upgrade	N/A £39.99
A600 1Meg Upgrade + clock	N/A £49.99
0.5 Meg Upgrade + clock	N/A £25.99
3D Construction Kit II	£36.99 £36.99
3 Stooges/King of Chicago	N/A £8.99
4D Sports Boxing	N/A £11.99
4D Sports Driving	N/A £11.99
A-Train	N/A £23.99
Action Stations	£12.99 £12.99
Addams Family	£16.99 £16.99
Agony	£15.99 £15.99
Air Support	£15.99 £15.99
Aliens III *	£16.99 £16.99
A. Maclean's Pool	£16.99 £16.99
AMNIOs	£15.99 £12.99
Amos (Easy)	N/A £23.99
Amos 3D	N/A £23.99
Amos Com pilier	N/A £19.99
Amos Professional	N/A £54.99
Amos The Creator	N/A £36.99
Another World	£17.99 £17.99
Apidge	£16.99 £9.99
Aquatic Games star J Pond	£16.99 £16.99
Aquventura	N/A £13.99
Arabian Nights	£16.99 £16.99
Armourgeddon	£15.99 £15.99
Armourgeddon Upgrade *	£10.99 £10.99
Ashes of Empire	£20.99 £20.99
Assassin	N/A £16.99
A.T.A.C. *	£23.99 £23.99
ATOMINO	£8.99 £8.99
B17 Flying Fortress *	£23.99 £23.99
Bane of the Cosmic Forge	N/A £24.99
BARBARIAN II (Psygi)	£12.99 £14.99
Bard's Tale III	N/A £8.99
Bard's Tale Trilogy *	N/A £19.99
B.A.T. II	£22.99 £22.99
Battle Chess II	N/A £16.99
Battle Isle	£18.99 £18.99
Battle Isle Data Disc	N/A £13.99
Battle Toads	£16.99 £16.99
BC Kid	£16.99 £16.99
Big Run	£15.99 £12.99
Birds of Prey	N/A £23.99
Black Crypt	N/A £16.99
Blue Max	N/A £11.99
Buck Rogers	£19.99 £19.99
Buck Rogers II	N/A £20.99
Cadaver	£16.99 £11.99
Cadaver - the pay off	£10.99 £10.99
Campaign	£22.99 £22.99
Captive	£15.99 £15.99
Carl Lewis Challenge	£15.99 £15.99
Castles	£16.99 £16.99
Castles Data Disc	£11.99 £11.99
Castle of Dr Brain	N/A £15.99
Chaos Engine	£16.99 £16.99
Chase HQ	£6.99 £6.99
Chase HQ II	£14.99 £14.99
Civilisation	£23.99 £23.99
C.Y.'s Air Combat	£20.99 £20.99
Cool Croc Twins	£16.99 £16.99
Cool World	£16.99 £16.99
Combat Air Patrol	£18.99 £18.99
Conflict Korea	N/A £23.99
Contraptions *	N/A £16.99

TOP TITLES	ST AMIGA
Cover Girl Poker	N/A £16.99
Covert Action	£23.99 £23.99
Crazy Cars III	£16.99 £16.99
Cruise for a Corpse	£17.99 £17.99
Crystal Kingdom Dizzy	£13.99 £13.99
Curse of the Enchanter	N/A £23.99
Cytron	£19.99 £19.99
Dalek Attack	£12.99 £12.99
Darkmere	£16.99 £16.99
Das Boot	N/A £11.99
Deliverance	£15.99 £15.99
Desert Strike	N/A £16.99
D/Generation	£11.99 £11.99
Disciples of Steel	£17.99 £17.99
Doodlebug	£16.99 £16.99
Double Dragon III	£16.99 £16.99
Dreadnoughts	£22.99 £22.99
Dune	£19.99 £19.99
Dungeon / Chaos	£19.99 £19.99
Dungeonmaster	£11.99 N/A
Dyna Blast	£20.99 £20.99
Elf	£12.99 £12.99
Elvira Mistress Dark	£21.99 N/A
Elvira II - Cerberus	£23.99 £23.99
Epic	£19.99 £19.99
Eye of the Beholder	N/A £19.99
Eye of the Beholder II	N/A £23.99
F14 Tom Cat *	£18.99 £18.99
F15 Strike Eagle II	£23.99 £23.99
F117A Stealth Fighter *	£21.99 £21.99
F19 Stealth Fighter	£19.99 £19.99
F29 Retaliator	£15.99 £15.99
Face Off - Ice Hockey	£15.99 £15.99
Falcon Classic Collection	£11.99 N/A
Falcon	£11.99 £11.99
Falcon Mission Disk I	£8.99 £8.99
Falcon Mission Disk II	£8.99 £8.99
Falcon 3.0 *	£23.99 £23.99
Fantastic Voyage	£16.99 £16.99
Fate of Atlantis (Adv)	N/A £25.99
Fate of Atlantis (Arc)	£16.99 £16.99
Final Blow	£16.99 £16.99
Final Fight	£16.99 £16.99
Fire and Ice	£15.99 £15.99
First Samu/MegaLoMan	£20.99 £20.99
FireStone HD Scenery	N/A £13.99
Flashback *	£16.99 £16.99
Flight of the Intruder	£11.99 £11.99
Football Crazy	£14.99 £14.99
Football Manager III	£14.99 £14.99
Free DC	N/A £18.99
Future Wars	£8.99 £8.99
Gauntlet III	£16.99 £12.99
Global Effect	£16.99 £16.99
Goblins II	£19.99 £19.99
Gods	£16.99 £16.99
Golden Shot	£16.99 £16.99
G. Gooch Cricket	£21.99 £21.99
Graham Taylor	£15.99 £15.99
Grand Prix (Formula)	£23.99 £23.99
Gunship 2000	£23.99 £23.99
Guy Spy	N/A £20.99
Harlequin	£16.99 £16.99
Harpoon (1 Meg)	N/A £19.99
Harrier Assault AV8B	£23.99 £23.99
Heimdall	£23.99 £23.99

TOP TITLES	ST AMIGA
Hero's Quest (Grem)	£16.99 £16.99
Hill Street Blues	£15.99 £15.99
Hollywoodline 1914-18	£16.99 £16.99
Home Alone	N/A £23.99
Home Alone Colouring Book	N/A £14.99
Hook	£15.99 £15.99
Hudson Hawk	£6.99 £6.99
Humans	N/A £19.99
I. Botham's Cricket	£19.99 £19.99
Indy Heat	£16.99 £16.99
Indy Last Crusade Graphic	£9.99 £9.99
International Sports Chail	£15.99 £15.99
Ishar - Legend Fortress	£20.99 £20.99
Jaguar XJ220	£16.99 £16.99
James Pond III (Op Starfish)	£16.99 £16.99
Jim Power *	£15.99 £16.99
J. Khan Squash	£6.99 £6.99
J. White's Whitewind	£16.99 £16.99
J. Barnes (1 Meg)	£15.99 £15.99
J. Madden's Football	N/A £16.99
KGB	£20.99 £20.99
Kick Off II (1 Meg)	£9.99 £9.99
Kick Off III (1.5 Meg)	N/A £14.99
Kick Off III *	£16.99 £16.99
Kill Gloves II	£16.99 £16.99
KILLING GAME SHOW	£15.99 £8.99
Kings Quest V	N/A £15.99
Knight Mare + Hint Book	£19.99 £19.99
Knight of the Sky	£23.99 £23.99
Lawn Mower Man *	£16.99 £16.99
Leander	£15.99 £15.99
Leathal Weapon	£16.99 £16.99
Leeds Utd	£16.99 £16.99
Legend + Hint Book	£19.99 £19.99
Legend of Kyrandia	N/A £20.99
Legends of Valour	£23.99 £23.99
Leisure Suit Larry I	£12.99 N/A
Leisure Suit Larry II	£14.99 £14.99
Leisure Suit Larry III	£20.99 £19.99
Leisure Suit Larry V	N/A £26.99
Lemmings	£15.99 £15.99
Lemmings and Data Disk	£19.99 £19.99
Lemmings II *	£21.99 £21.99
Lemmings - Data Disk	£13.99 £13.99
Lemmings - Stand Alone	£15.99 £15.99
Life and Death II	N/A £20.99
Links HD	N/A £23.99
Liquid Kids *	£16.99 £16.99
Lost Patrol	£15.99 £15.99
Lost Treasures of Incom	N/A £29.99
Lotus Turbo Challenge II	£16.99 £16.99
Lotus Turbo Challenge III	£16.99 £16.99
Lure of the Tempress	£19.99 £19.99
M1 Tank Platoon	£19.99 £16.99
Magic Pockets	£15.99 £15.99
Man Utd. Europe	£15.99 £15.99
M. Dicks Ultimate Football	£18.99 £18.99
Mega Fortress	£19.99 £16.99
Mega Sports	£16.99 £16.99
Megatraveller II	£20.99 £20.99
Merchant Colony	£16.99 £16.99
Microprose Golf	£23.99 £23.99
Midnight Resistance	£6.99 £9.99
Midwinter	£9.99 £9.99
Midwinter II	£23.99 £23.99
Mig 29 Fulcrum	£16.99 £16.99

TOP TITLES	ST AMIGA
Might of Magic III	N/A £23.99
Moonstone	N/A £19.99
Monkey Island	£15.99 £15.99
Monkey Island II	N/A £25.99
Mouse (Switchable)	£9.99 £9.99
Myth	£18.99 £18.99
N. Mansell World Champ	£20.99 £20.99
Noddys Playtime	£16.99 £16.99
Nova Nine	N/A £9.99
Operation Stealth	£9.99 £9.99
ORBITUS	£12.99 £12.99
Ork	£15.99 £15.99
Outlanders *	N/A £19.99
Pacific Islands - T. Yankee II	£20.99 £20.99
Paperboy II	£16.99 £8.99
Parasol Stars	£15.99 £15.99
Perfect General	N/A £20.99
PGA Golf Tour +	N/A £20.99
PGA Courses Disk	N/A £10.99
Pinball Dreams	N/A £15.99
Pinball Dreams II	N/A £16.99
Plotting	£6.99 £6.99
Populous II - The Challenge	£11.99 £11.99
Populous II (1 or 0.5 Meg)	£20.99 N/A
Populous II - (1 Meg)	N/A £23.99
Premiere	N/A £20.99
Premier Manager	£16.99 £16.99
Project X	£16.99 £16.99
Push Over	£15.99 £15.99
Putty	£16.99 £16.99
Puzznic	£6.99 £6.99
QUEST AND GLORY	£16.99 £16.99
Railroad Tycoon	£23.99 £23.99
Rainbow Islands	£6.99 £6.99
Reach for the Skies	£20.99 £20.99
Red Baron	N/A £15.99
Red Zone	£15.99 £15.99
Rise of the Dragon	N/A £15.99
Risky Woods	£16.99 £16.99
Road Rash	£16.99 £16.99
Robin Hood	£16.99 £16.99
Robocod	£15.99 £15.99
Robocop	£6.99 £6.99
Robocop II	£6.99 £6.99
Robocop III	£16.99 £16.99
Robo Sports	N/A £20.99
Rod Land	£16.99 £16.99
Rookies *	£17.99 £17.99
R-Type II	£14.99 £14.99
R.V.F. Honda	£6.99 £6.99
Sabre Team	£16.99 £16.99
Savage Empire	N/A £22.99
Secret Silver Blues	£21.99 £21.99
Secret Weap Luft *	£19.99 £19.99
Sensible Soccer 92-93	£16.99 £16.99
Shadowlands	£20.99 £20.99
SHADOW BEAST II	£12.99 £12.99
Shadow of the Beast III	N/A £19.99
Shadow Worlds	£16.99 £16.99
Shoot em up Con. Kit	£7.99 £7.99
Shuttle the Sim	£20.99 £20.99
Silent Service II	£23.99 £23.99
Sim Ant	N/A £22.99
Sim Earth	£23.99 £23.99
Simmons	£15.99 £15.99
Sinbad/Def of the Crown	N/A £8.99

TOP TITLES	ST AMIGA
Sleepwalker *	£15.99 £15.99
Snow Bros	£16.99 £16.99
Soccer Kid	£16.99 £16.99
Space 1889	£20.99 £20.99
Space Ace II	N/A £33.99
Space Gun	£12.99 £12.99
Space Crusade	£16.99 £16.99
Space Quest I, II, III, or IV	N/A £23.99
Special Forces	£23.99 £23.99
Steel Empire	£20.99 £20.99
Stereo Master	£26.99 £26.99
Storm Master	£16.99 £16.99
Street Fighter II	£17.99 £17.99
Strike Fleet	£16.99 £16.99
Striker	£16.99 £16.99
Super Cars II	£8.99 £8.99
Super Off Road	£8.99 £8.99
Super SWIV *	£16.99 £16.99
Supremacy	£18.99 £18.99
Switch Blade II	£8.99 £8.99
Sword of Honour	N/A £16.99
Tear Away Thomas	N/A £15.99
Tennis Cup 2	£16.99 £16.99
Terminator II	£15.99 £15.99
Test Drive III	N/A £15.99
The Games '92 Espana	£20.99 £20.99
Their Finest Hour	£19.99 £19.99
The Manager	£20.99 £20.99
ThunderhawkAH-73M	£21.99 £21.99
Thunder Jaws	£16.99 £16.99
Tip Off	£16.99 £16.99
Toki	£15.99 £15.99
Trodders	N/A £16.99
Trolls	£16.99 £16.99
TV Sports Baseball	N/A £11.99
TV Sports Boxing	N/A £11.99
TV Sp. Football/Rocket Range	N/A £8.99
Turrican II	£7.99 £7.99
Turtles II	N/A £11.99
Twilight 2000	£23.99 £23.99
Ugh!	N/A £15.99
Ultima Martian Dreams *	£20.99 £20.99
Ultima V	£19.99 £19.99
Ultima VI	£20.99 £20.99
UMS II	£23.99 £16.99
UMS II Planet Editor *	£20.99 £20.99
Universal Masters	£16.99 £16.99
Untouchables	£6.99 £6.99
Uridium II *	N/A £17.99
Utopia	£16.99 £16.99
Utopia New World	£11.99 £11.99
Video Kid	£15.99 £15.99
Viking Fields of Conquest	£15.99 £15.99
Volfield	£16.99 £8.99
Vroom	£16.99 £16.99
Walker	£18.99 £18.99
White Death (1 Meg)	£12.99 £12.99
Wild Wheels	£14.99 £7.99
Wily Beamish	N/A £15.99
Wing Commander I	N/A £19.99
Wiz Kid	£15.99 £15.99
World Championship Boxing	£6.99 £6.99
W.W.F.	£15.99 £15.99
W.W.F. II	£15.99 £15.99
Zak McKracken	£8.99 £8.99
Zool	£16.99 £16.99

DREAM TEAM only £16.99 Terminator II, Simpsons, W.W.F.	BITMAP BROS VOL. 2 * only £18.99 Xenon II, Speedball II, Gods, Magic Pockets	BITMAP BROTHERS VOL.1 only £16.99 Xenon, Cadaver and Speedball II	NINJA COLLECTION only £13.99 D. Dragon, Shadow Warrior, D. Ninja	RAVING MAD only £18.99 Mega Twins, Rodland, Robocod
ACTION 5 only £19.99 Rick Dangerous II, Ghostbusters II, Gunship, Super Ski and Hard Driving	SUPER FIGHTER only £16.99 Pitfighter, W.W.F., Final Fight	SOCCER MANIA only £11.99 Football Manager II, Gazza's Soccer, Football Manager - W.C. Edition, Microprose Soccer	POWER PACK II only £17.99 Predator II, Battle Master, Wings, It Came From The Desert	FLIGHT COMMAND only £14.99 Eliminator, Strike Force Harrier, Lancaster, Sky Fox and Sky Chase
SPORTS MASTERS only £19.99 PGA Golf Tour, Indy 500, Advantage Tennis, European Championship 1992	MEGA MIX AMIGA only £19.99 Le			

# TECHNOLOGY

**Far out is quite near . . . the computer technology of tomorrow soon hits us today. Martin Witton reports on developments in the Technoworld.**

## brighter leds

Hewlett-Packard's Optoelectronics Division has launched amber and reddish-orange LEDs based on an aluminium indium gallium phosphide material that is bright enough to be used outside. One of the main problems in the past has been the level of brightness of LEDs has only really been good enough indoors.

The AllnGaP material, they say, provides five to ten times greater brightness than conventional amber-coloured LED compositions and also offers colour variation. HP is developing green LEDs that use AllnGaP.

The colour variations and brightness combine, claim HP, to make the LEDs suitable for external car lighting, outdoor message signs and medical

equipment. Up to now LEDs were unsuitable as they were, in most cases, washed out by ambient light.

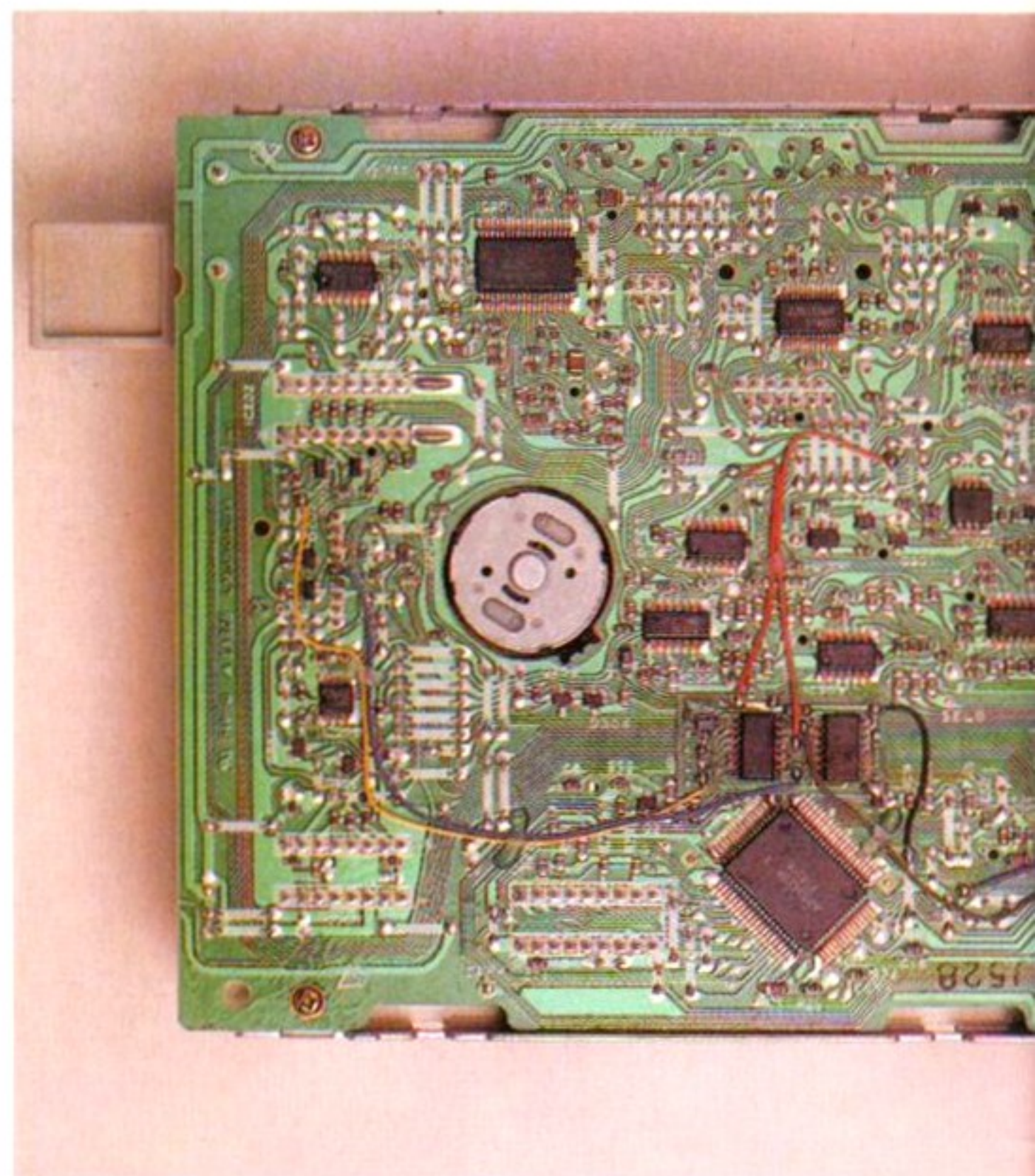
The amber versions of the HLMA line of LEDs have an average intensity of 8.4 candelas at 20 milliamps (Oh yes, they do!) while the reddish-orange version has an intensity of 1.3 cd at that current. In these high-brightness models, the amber LEDs have a narrow viewing angle of 3 degrees; the reddish-orange LEDs have a 10 degrees viewing angle which probably means that we won't see them for some time on domestic computers, especially portables, and their screens, which need to be viewable at much wider angles. But they will come, they will come...

## self raising semiconductors?

Researchers at University College, London have developed quantum semiconductor structures as part of a project to produce biosensors.

The process involves using a yeast called *Schizosaccharomyces pombe* (What was that again?) which is mixed with cadmium sulphate to produce crystalline structures 1.8 nm in diameter. The quantum structures - in effect transistors - which are uniform and therefore more predictable, have already demonstrated luminescent properties that do not exist

in bulk cadmium sulphide, and the researchers are considering possible applications, including quantum wires. Can you imagine that? When you get really uptight with a program or your computer crashes you can chew the transistors or even the wires. Especially useful if you're one of those unfortunates in that silly TV ad about a guy paddling off a desert island using his computer as a raft.

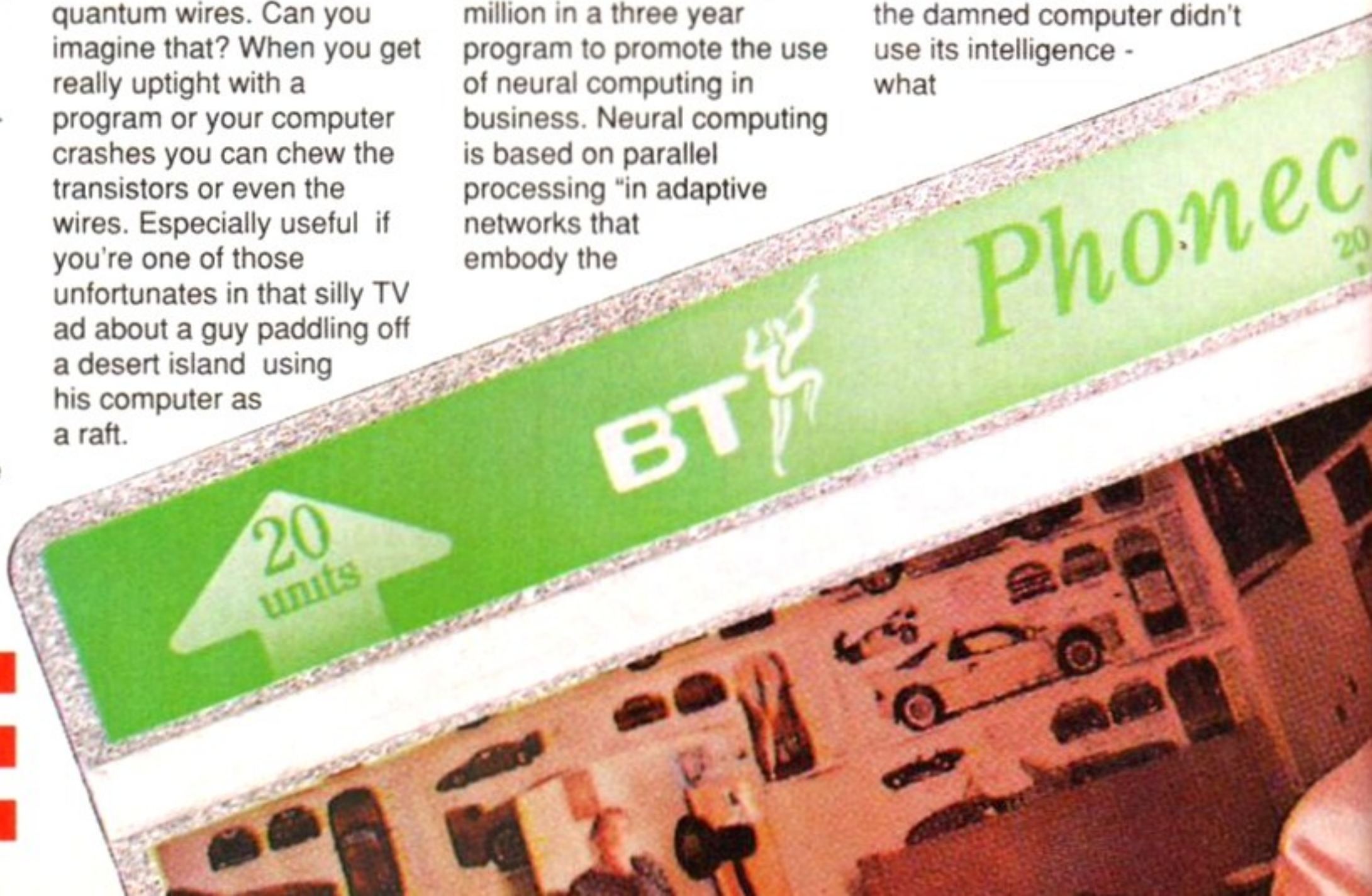


A snack when you're hungry?

## neural-net push

The UK Department of Trade and Industry are planning to spend £5.75 million in a three year program to promote the use of neural computing in business. Neural computing is based on parallel processing "in adaptive networks that embody the

concept of learning, which means that unlike present day computers which if not stupid are hardly geniuses at doing anything but that which they have been given the exact orders (Ever forgotten the :? We all have and been annoyed when the damned computer didn't use its intelligence - what

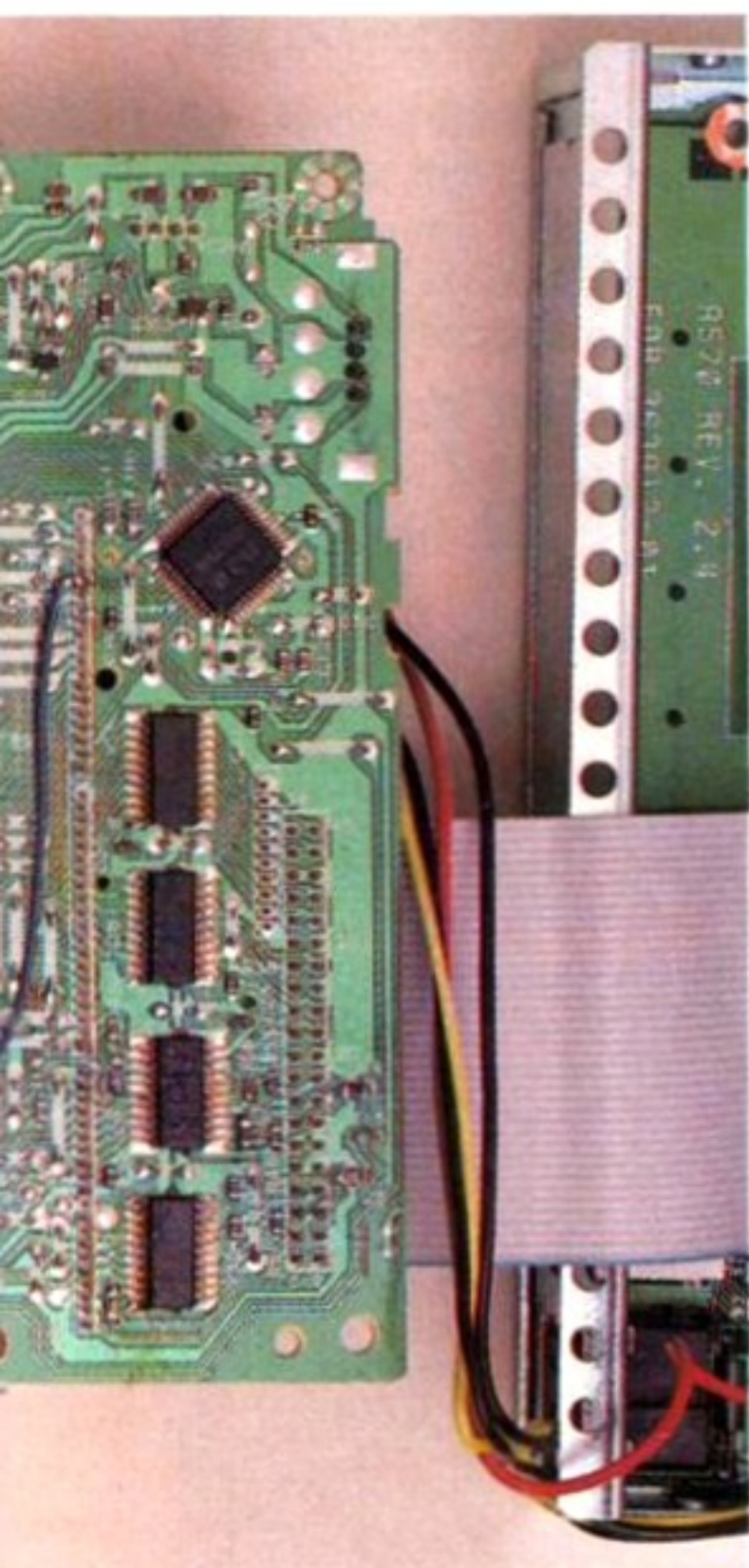


When you get really uptight with a program or your computer crashes you can chew the transistors.

It could undertake human-like tasks,

such as sorting out important

information from a mass of data.



## amd's 5-v flash memory

Advanced Micro Devices - Intel's biggest rival in producing chips for PCs - has developed a 5-volt-only, 128k x 8-bit chip that combines a number of features to compete in the flash-memory market. Previous 5-V flash parts were the size and cost of 12-V parts.

The chip also has sector-erase capability and greatly extended endurance specs, both of which are important to BIOS, main memory and disk replacement applications. This will mean that battery life in the increasingly important portable computer market will be considerably extended.

## liquid bearings for disk drives

Viscus Technology, a U.S. company, have announced a liquid bearing technology that, they say, could boost both performance and density of disk drives by at least five times. It does this by sidestepping the problem of 'striction' that has long plagued drive makers. "Striction" is really the problem of crowding information too tightly and, believe it or not, it then can get stuck together..

By moving the flying read/write head closer to the magnetic platter, drive makers can increase the density of information because the magnetic zone to be read can be much smaller. This allows more bits to be squeezed onto the disk. Because the zones are smaller and closer together, access times are also improved. But as drive

makers decrease the distance from the present 5 microinches to less than 1 microinches, they are running into striction, the same adhesive force that holds together two pieces of flat glass laid on top of each other.

In the Viscus approach, they claim, the read/write head floats on a liquid bearing on top of the magnetic coating using wick and capillary action to replenish the fluid on the disk as centrifugal force pushes it to the outer edge. And instead of a metal platter, a much flatter one of glass can be used. What's that stain on the desk, dear? No of course it's not Budweiser! It's the liquid bearing that ran out of my drive...

## cheap memory

Intel - yes, the very same that is running the "INTEL INSIDE" ad campaign to make every PC buyer conscious of who makes the chips in 486s, as if they care... has produced an 8-Mbit flash memory chip and 20-Mbyte flash cards as a competitive alternative to DRAMs and hard disk drives.

The pricing of the FlashFile 28FO08SA chip at \$29.90 apiece for a 120-ns version and at \$39.00 for an 85-ns version in 10,000-plus quantities - makes flash storage costs comparable to DRAM storage. The Flashfile is built using Intel's third generation 0.8-micron

EPROM tunnel oxide process technology.

Intel has also brought out the 8-Mbit FlashFile-based Series 2 family of credit-card-sized memory cards, which offer up to four times the storage capacity of Intel's previous flash cards. The series 2 iMC004FLSA, iMC010FLSA and iMC020FLSA cards offer storage capacities of 4, 10 and 20 Mbytes. They are available at £163.50 for 4-Mbyte card, \$331.50 for 10 Mbytes and \$611.50 for the 20-Mbyte version in quantities of either 1,000 or 10,000.

The series 2 memory

cards conform to the PCMCIA 2.0/ JEIDA 4.1 68-pin card-interface standard as well as to Intel's Exchangeable Card Architecture. That means if Commodore or any other bright spark of a third party supplier want to get some action on the smart card front, prices are coming down sufficiently for us to see flash cards sticking out the sides of A600s and A1200s and replacing the bigger and less convenient hard drives.

**a**

## 3D photos

Kodak has unveiled its "depth-imaging technology" using track-mounted 35mm cameras with electronic shutters to capture images from several perspectives. (Hooray! No more of those silly cardboard glasses!) Up to 24 exposures on conventional film can be used to fashion one 3D image.

The film is processed normally and then scanned digitally. The information is rearranged pixel by pixel into a single image and then transferred to a Kodak light valve technology film recorder.

A transparent optical material called a lenticular screen is placed over the picture to 'focus' the image. The result is a 3D picture that gives the illusion of depth without needing special glasses.

Up to 24 exposures on

conventional film can

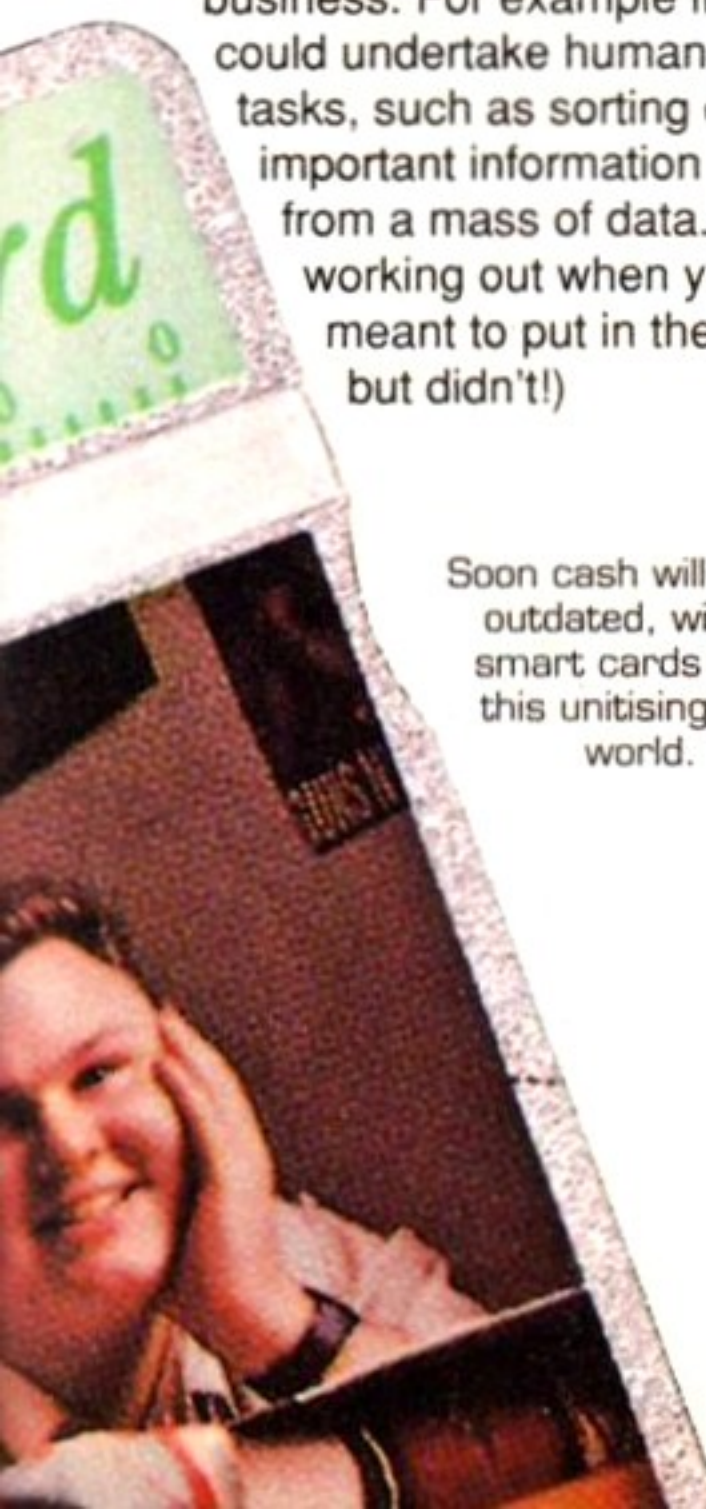
be used to fashion one

3D image.

intelligence? - to realise what you meant!)

So far neural networks have been mostly used in research and industry, but neural computing is also expected to find uses in business. For example it could undertake human-like tasks, such as sorting out important information from a mass of data. (Or working out when you meant to put in the : but didn't!)

Soon cash will be outdated, with smart cards like this unitising our world.



The ideal set-up is any Amiga, Take 2, the Vidi Amiga digitiser and DPaint. Take 2 was written by a Belgian art student, Geert Vergauwe, who designed the program specifically to work with the digitiser and to interface really well with DPaint. Take 2 comes with three disks: a program disk and two disks of tutorials and examples.

But animation, with as many functions as

the other for effects. The final move is to use more than one video track and combine them. This is an amazingly powerful feature, enabling you to have a static or moving background, moving animations in front of this, and maybe other layers of moving or stationary objects on top of both of them. This is true, multi-layered animation - as practised for many years by Walt Disney cartoonists, Rolf Harris and

much memory graphics and sound packages use - and yet it's amazing just how much you can do with Take 2 and a bare half meg of chip memory.

To conserve memory, the Coverdisk animation used eight grey shades, selected via the digitiser panel. This panel is the link between Take 2, the digitiser and the video source. I connected my VCR as input to the digitiser, and chose to grab frames continuously from videotape. I found a piece of cartoon about a crocodile chasing some children and decided to make a small animation around this.



Bringing the cell panel onto the screen, I then experimented and finally set this to four cells per picture. Each little rectangle on the

exposure screen represents an individual cell, identical to a frame in film editing. Four cells per picture seemed to work quite well

**Alan Puzey gives you a tutorial on Take 2, one of the lowest priced but most creative graphic programs on the Amiga - as seen on TV, used by Rolf Harris!**

# EASY



**FACT**  
Take 2 costs under £40, and is great value. At that price it is well worth buying the package, in case there are any pirates out there!; and anyway case, without the manuals you will never use it to its full potential.

contained by Take 2, is not so easy to explain. Work through the tutorials and you will discover that it all becomes much easier to use than you might first have imagined.

When the program is booted up, the screen shows the Exposure Sheet (Xsheet for short) which contains most of the animation track information. As in professional video or film work, both the visual scenes and soundtracks are laid down in tracks. The simplest form is obviously one sound track and one video track, but Take 2 offers an impressive four tracks each.

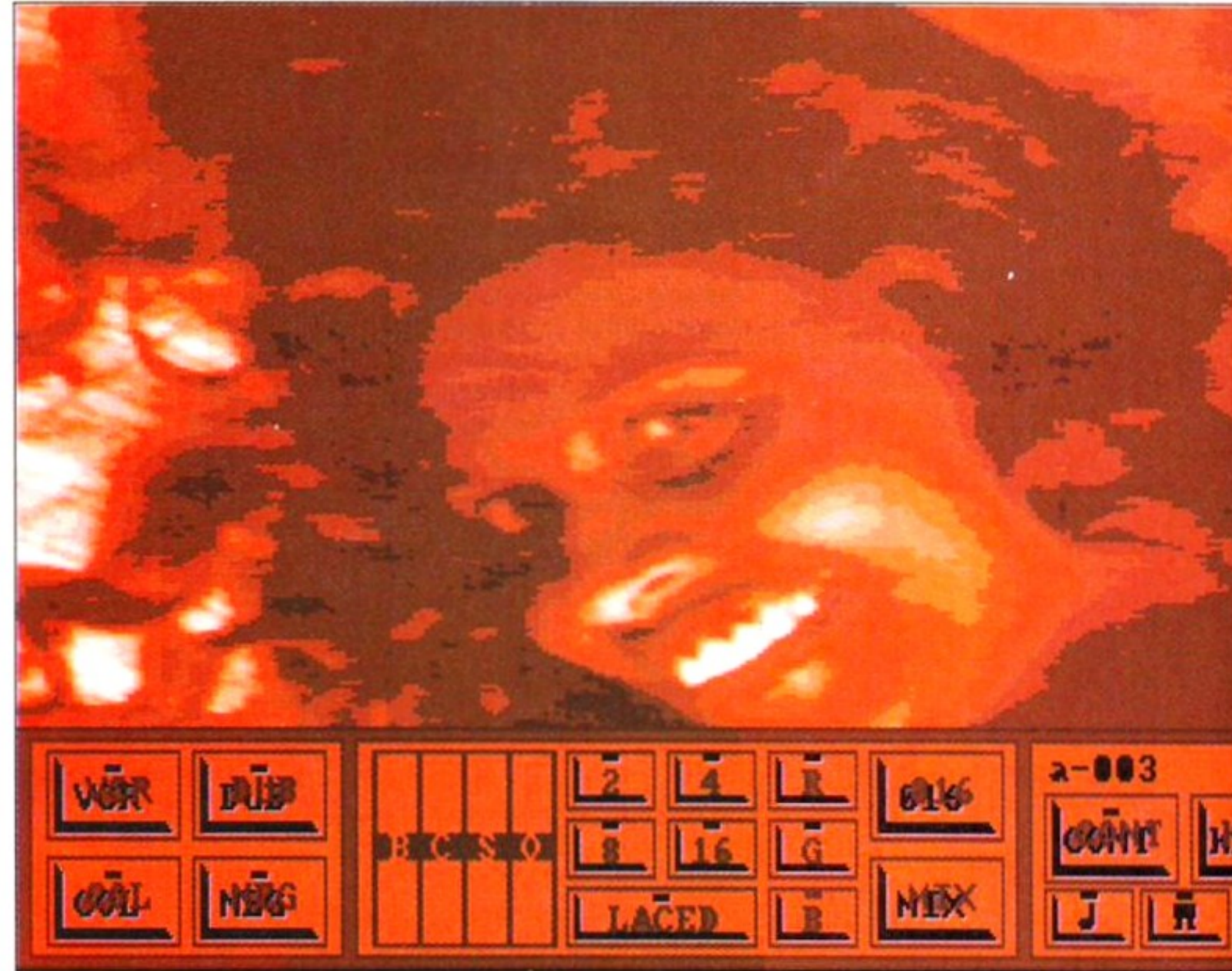
In the early stages, you would start by making a one track video animation, then adding one sound track to accompany this. The next progression is probably to use two soundtracks, one for continuous music and

the like. Rolf Harris uses this program on his weekly TV cartoon series, and the story goes that it replaced an "inferior" animation package costing thousands of pounds.

The Exposure Sheet, on screen, shows four columns to the right (levels one to four), which are the video tracks. If you make a simple, one level animation, all your pictorial data will be shown in the level 1 column. To the left of these is the single soundtrack column. By clicking on the title bar, you move from soundtrack 1 through to 4, depending on how many you wish to use.

150K

Animations may be made in colour or monochrome, but all pictures in an animation must have the same resolution and palette. You won't need reminding how



## FACT

The Vidi Amiga grabs about five frames per second, and from the carousel of pictures grabbed, I took thirty two frames. To conserve valuable memory I then deleted every alternate frame. The delight of using Take 2 and the Vidi Amiga together is that in an operation like this, the grabbed images are of constant format and immediately on the screen, so that you can start editing instantly.

in this instance and can be seen on the Xsheet track as duplicated picture titles. It is easy to fine tune any of the tracks by deleting or adding individual cells at any time.

I wanted to demonstrate the use of two track

animation, but was constrained by the final memory allowance; so I decided to make a simple, second track in DPaint. This program was running in the background, which meant that I could work with

together. The merge process is extremely powerful, putting additional video tracks on top of one another. Choosing your transparent colour carefully enables you to decide what shows through each level, in the final animation. In this case, I made the white circle of the second animation transparent, to produce the searchlight effect.

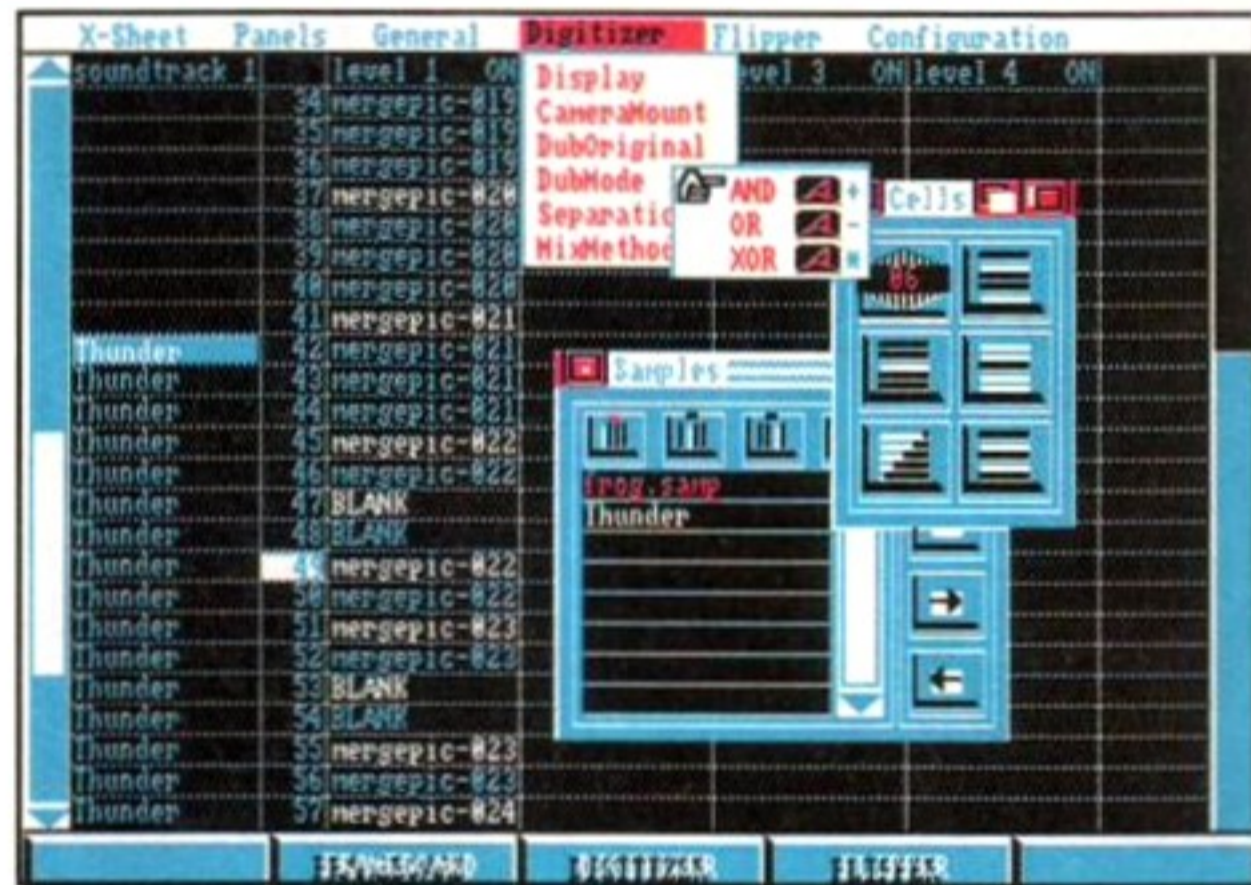
I then used the Take 2 merge facility to combine the two animations into a final, single video

can be summoned to the screen by mouse or key press, and moved about at will or closed down. They work extremely well - but one of my few complaints about Take 2 is the use of numerous pictograms which I found very confusing at first, and I still have to look up in the manual on some occasions. Why Geert didn't incorporate words such as

those I find the mouse quite adequate.

With the sound sample for the croc positioned in the

# ANIMATION



soundtrack column, I then activate the flipper and check everything done so far. After a few replays, it is the simplest thing to vary both the position and length of the sample until you are satisfied. This procedure was repeated for a sound sample of running feet to accompany the scene of children running, and I had a short, finished animation.

Then a brainwave - for me, anyway! How about a crocodile chasing the children - IN A THUNDERSTORM? Back to the merged video track and at a suitable point I inserted a couple of blank (white) cells to simulate lightning. Magic! A thunder sound sample was soon found and laid onto soundtrack 2. Replaying the animation in the flipper, I found the running footsteps now sounded, unnecessary so they were deleted.

There you have it, the final result is a multilayered animation, lasting about three seconds. It uses sixteen pictures, sixty eight cells, two sound samples and occupies just 190k or 131k when archived. All done on half a meg of chip memory and an Amiga 500. The sky's the limit with this program; with newer machines and lots more

DPaint and immediately judge the effect in Take 2. I loaded a picture from the crocodile sequence into DPaint, giving me the same resolution and palette to work with; then made a sixteen frame anim using only black and white (two shades), in the form of a roving white circle - which I hoped would give the effect of a searchlight.

track. It was now time to add some sound. The sound samples within Take 2 are excellent - some of the best I've heard and a great addition to your collection. Unfortunately, the cry of a crocodile was not amongst them, but I found one which I considered suitable, and loaded it via the sample panel. Tpanels that control pictures, sound and cells

"move," "delete," "play," "insert," etc, into these screen icons, I don't know. Apart from that, great!

## template

The function keys provide instant access to these and other panels, and it's well worth while making up a template for them. There are numerous other keyboard shortcuts, but for

## sound samples

This second animation was then loaded into the second video track column (level 2) and each picture multiplied to four cells, to match the first track. At this stage I could call up the flipper panel which allowed me to view either animation track on its own, or merged

## FACT

The powers that be for the AUI Coverdisk have given me a whole 150k to play with! "Impossible!" you say, "A couple of pictures can take up that amount," but no - the Amiga and Take 2 will show that it can be done. What I will work through is a two level animation with soundtrack. We will not only give you a two level animation with soundtrack, but the player routine needed to show it, some associated docs AND we'll give AUI back some spare bytes!



Continued on page 46.

# BOOM BOX

**Interactive music package? Only for the very young,**  
**says Gideon Overhead.**

**"**Interactive fun with music." is what the program says and is. You can join in and alter the music already there. Boom Box is aimed at the young, and I would set the age range at about 8-14 years. This is backed up by the wording on the back of the box. With phrases like: Totally Def, Fresh, and Can't touch this You can see what I mean.

On loading you are presented with the main BoomBox screen; a picture of a portable stereo complete with speakers and tape deck. There are four vertical sliders in the centre of the screen, marked Drums, Bass, Synth, and Solo. You can have up to six solo sounds in memory at once and each one can be replaced with an IFF sample of your choice.

When you load Boom Box, a default music file is appears containing six solo samples plus some for the synth, drums, and bass. There are 8 other music files on the disk also with different samples for synth, bass, and drums, and so, of course different drum patterns and tunes, but you cannot alter these.

Press play on the tape deck and some rather boring 'music' starts. You can not only play along to it if you want to by pressing the keys 1-6 for the solo samples, but you can also, by pressing the record button as well, record your accompaniment.

You can alter the volume of all the samples



while playing, by moving the vertical faders up and down. If you then stop the tape and re-play it, everything is played back exactly as you just recorded it right down to the sliders' movement.

## remix and jam

The manual is very brief and keeps switching between Amiga and IBM instructions. The IBM version supports the use of FM sounds but strangely the Amiga version does not. All you can really do on the Amiga version is Remix and Jam.

The Remix screen works a lot like the main screen but allows you to do a bit more than just add to the music. You can add echo effects to the samples and there are three sliders to alter the echo time, repeat, and pitch.

The Jam screen is almost the same as the Remix but it allows you to change the patterns. There are three alternate drum patterns and two alternate bass and synth patterns for you to

accompany with your solo samples. So this is what the interactive bit means! You don't have complete control over your music you can only interact with it. This is fine for young children who are just learning, but others who want to create their own tunes had better steer clear.

I found Boom Box far too awkward to use and very limiting. At a recommended retail price of £39.95 it seems poor value. If you are still interested in buying it, go into a shop and ask for a demonstration before parting with your cash. **a**

## INFO

Price £39.95

Boom Box

Zone Distribution, Unit 70, Eurolink Centre  
49 Effra Rd, London, SW12 1BZ

TEL: 071 738 5444

## Ratings: Out of 10

	0	2	4	6	8	10
SPEED	█					
EASE OF USE	█					
FEATURES	█					
PERFORMANCE	█					
DOCUMENTATION	█					
VALUE FOR MONEY	█					
<b>OVERALL RATING</b>	0 25% 50% 75% 100					
	█ 40%					

## mentor

# EASY ANIMATION

CONTINUED FROM PAGE 45

memory, I'm sure there are many people out there who could soon be taking the

wind out of the sails of those Californian animators with full colour, stereo animations that would have been impossible a couple of years ago. Only a few weeks ago on Rolf's Cartoon Club, I saw two boys aged about ten, producing very creditable results.

After just a few hours, I'm sure most animators will be using it in the intuitive

## FACT

Drawing on the computer is not the easiest thing to do, and the manual recommends a much easier way to produce animations. Do your artwork on paper sheets - the old way - then video them and import them into Take 2 via the Vidi Amiga. Manipulate or tween them in the graphics package of your choice and retouch or colour them in DPaint. If you can't draw at all, or don't wish to attempt collage or plasticine animation, then capture frames from television or video, as in the example.

style that was intended. I think it's a credit to the

writer - and as a film school graduate myself, I can remember spending WEEKS to produce the equivalent of what now takes two or three hours with Take 2.

Finally, to distribute your animations, there is a neat, flexible player program that enables you to put your completed work onto playable disks. Whatever you do - after you've finished the games playing, this is the sort of activity that the Amiga was designed for; there's nothing better, so try it and enjoy! **a**

## FACT

While using the program, there is a very useful memory bar continuously displayed. There is nothing worse than doing a lot of work and then finding that you can't save it, due to lack of memory. Take 2 even alerts you to save, with an onscreen warning, when memory is reaching a critical point. Sound tracks may be directed to either channel for full stereo effect.

## INFO

Take 2 Price: £49.95  
Contact: Rombo Productions  
Tel: 0506 466601

## legal beagle **Robin Bloom explains why.**

**T**he user manuals, like most books, give the word equally prominent billing while almost every commercially programmed disk fires a copyright warning shot before displaying its sound-backed images. Look listen and maybe touch but don't copy unless...

So what are the rules? Well, the general rule is deceptively simple: Under copyright law an author's original work cannot be copied without his permission. Formalities like registration are not required - protection is automatic.

Pause there. Load on the legal ifs and buts, enter the computer dimension and the picture becomes somewhat hazier. But first, the basics.

Authors create the work: writers, painters, composers and computer programmers or those who arrange for the production of computer generated works - about which more later. But if a person creates a work as part of his job then copyright belongs to the employer.

Works may be literary, dramatic, musical or artistic and range from office memos to diamond rings. Literary works include computer programs. Apart from artistic creations the work must be recorded in writing but not necessarily by hand and any form of notation or code will suffice. But there must be a material product so ideas alone don't count.

is incidental to some other process. Infringement will also result from adapting or translating a work. Translating a computer program can mean converting it from one language or code to another unless it's incidental to running the program. Significantly, copying includes any means of electronic storage and the public rental of computer programs.

Giving permission to copy is better known as licencing. An author may sell the copyright or licence the use of the work. An individual agreement can licence copying for a

when Robocop III comes out "licensed" as a computer game, someone has paid someone else loads of money for the privilege.

Imagine a programmer hard at work. His ideas are his own but even if they are someone else's they remain unprotected. When he jots down his notes he produces a literary work capable of protection. Next he devises a logical flow chart

and feel" of the GUI/Windows environment. Though strangely Commodore never had any trouble with the similar interface used for the Amiga. If fortune smiles on

purchaser to make a back-up copy but should he sell the disk he had better pass on the copy for if he keeps it he's in breach - of copyright.. If the purchase is, say, a paint

program any artistic works produced and saved will be the purchaser's copyright and not the programmer's. It would be another story if the program has a facility to create something at random without, so to speak, a human author. Then the product is computer generated and the producer of the program is deemed its author.

A number of bodies manage rights on behalf of copyright owners. One such organisation, the Mechanical Copyright Protection Society, collects royalties for the owners of recorded songs and may

well be interested in licencing music called up on CDTV style software. More interested in

infringement is the Federation Against Software Theft (FAST) which actively polices programming piracy. Not surprisingly leisure and games products are high on the hit list.

Finally, if you've just produced a money spinning program, you're entitled to keep the pirates at bay for the rest of your life. After that the copyright will survive for another fifty years by which time the law is sure to have changed. Whether, even during your lifetime, it can keep up with the computer revolution is anyone's guess. **a**

# COPY RIGHT

**There must be a material product so ideas alone don't count.**

**Commodore never had any trouble with the similar interface used for the Amiga.**

particular purpose like business use or commercial production. Licences may have wider application: the small print on a "shrink-wrap" package

some of the concepts in graphics which qualify as artistic works and are also protected. Whatever the level of the language produced source or object code - the work is literary and protected as is the circuitry on the hardware chips. The completed software program claims protection as a literary work in its own right.

our programmer he will have a job but sadly, since he is employed, his boss takes the credit and with it the copyright.

A purchaser of the new program actually buys the plastic with a licence to use the software. The licence is enshrined in the small print defining the limit of his use. When he switches on and loads the disk it is copied to the computer's memory by electronic means - a copy which the purchasing licence permits or the program would be useless. Had the user been unauthorised he would have been in breach of copyright from the moment he loaded it.

The licence permits the

### look and feel

And it was all the programmer's idea, or was it? If it just happens to look and feel like another program it may be deemed an unauthorised copy however different the specifications.

There was a whole raft of trouble between Microsoft and Apple not too long ago about the "look

### protected

Originality does not require artistic merit, just a modicum of skill and effort so, yes, you guessed it, this article is still protected.

### language

Copying is forbidden unless the copyright holder allows it. A substantial reproduction, like a program extract condensed into a free cover disk, amounts to a copy and even if it has only a fleeting existence or

invariably permits a purchaser to copy for back-up but seldom for any other purpose while programs meant for unlimited public use should say so in the disk's title display and thus enter the public domain. Sometimes licencing bodies manage the rights. And of course,

# The Video Column

## The expanding realm of video is again explored

by Gary Fenton.

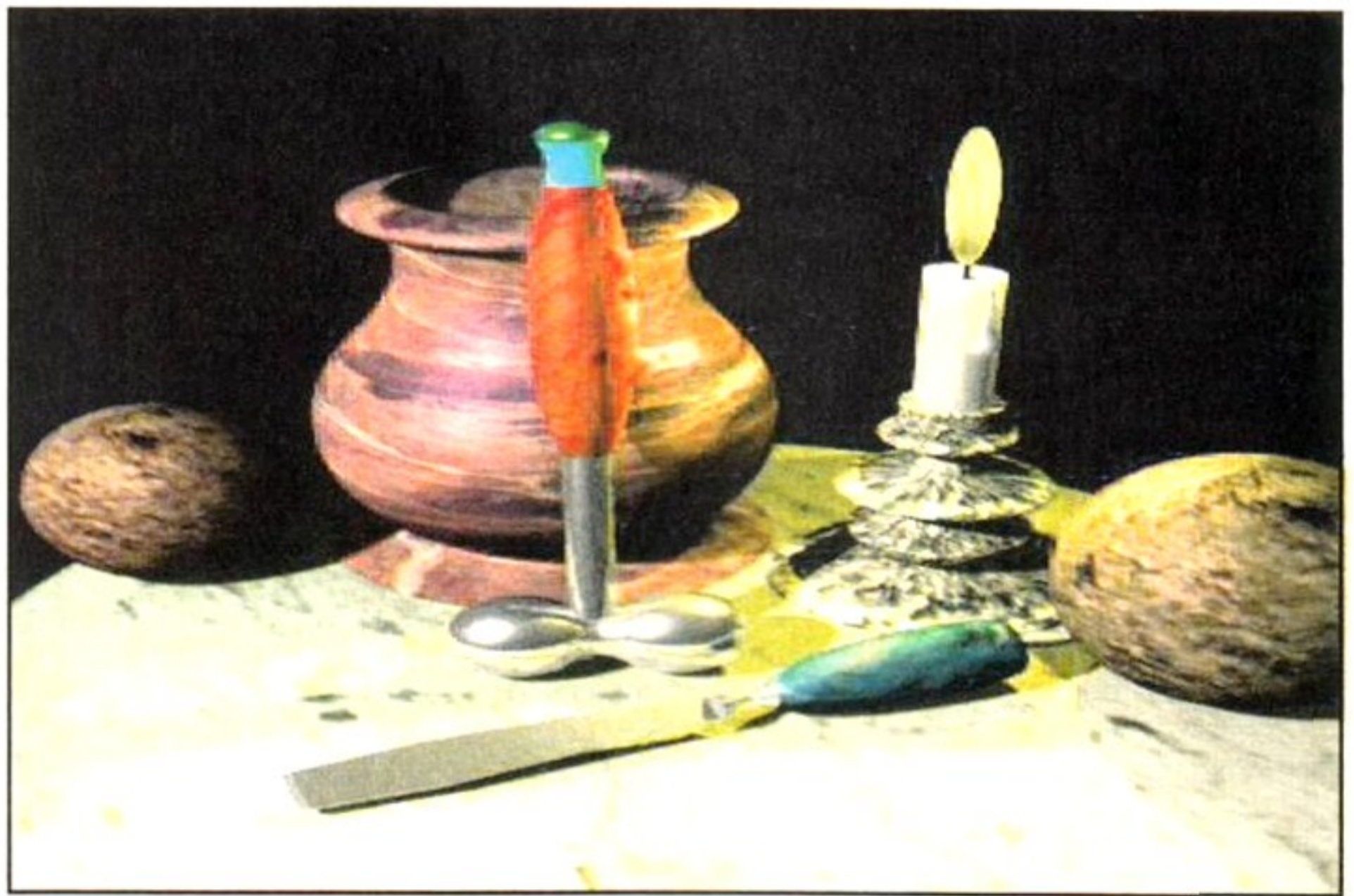
### opalvision

Erm, not much news on OpalVision I'm afraid. However, I have just received the latest version of OpalPaint (1.2) which now fully supports overscan. The UK distributors, ZCL, have announced a delay on the modules which are now expected at the beginning of March - possibly!

### digital editmaster

Digital Micronics Inc are planning to launch their digital editing board in the first few months of 1993. The Digital EditMaster features real time JPEG compression of live video running at 25 frames per seconds (PAL). Resolution is high - 625 TV lines or 720 x 580 pixels. The board can record live video in real time on to the host Amiga's hard disk and play them back in real time too. Each frame can be compressed by a factor from 5:1 right up to 100:1. This means that a 1200K frame can be shrunk to just 12K in size using maximum compression. Realistically, using 10:1 compression will provide a broadcast quality picture while 25+:1 ratios provide a quality similar to VHS.

The software accompanying the hardware will offer simple cut and paste facilities which mimic conventional editing systems. Later software releases will feature A/B rolls, wipes and fades. The US retail price is \$2495 (about £1750).



"Rendering on the Vivid24 could take minutes instead of hours and days."

### scala aa update

Fingers crossed - Scala version 202(?) should be available right now. It supports, fully, the AA graphics modes. The real problem, which the guys at Scala HQ had to get to grips with was learning about the mysteries of new Kickstart 3 and virtual monitors.

Virtual monitors were invented by Commodore in an attempt to ensure compatibility between various Amigas that support different screen modes and monitors. With the new version of Scala

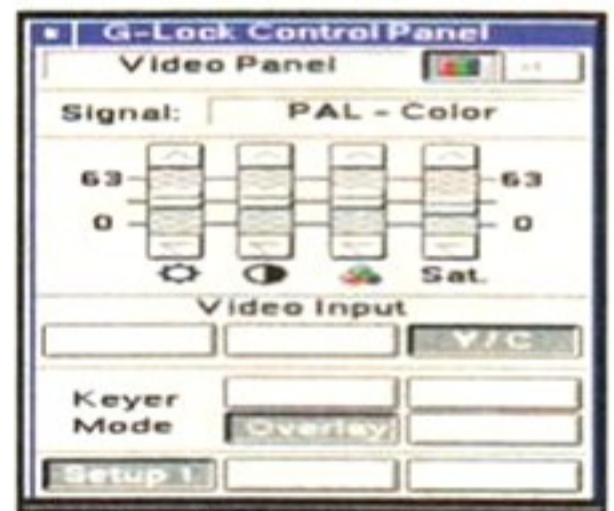
it's possible to create a script working in, say, DoublePAL flicker free mode which should then work on any other Amiga in, say, hires-lace mode.

Scala 202 also boasts improved wipe performance and, thanks to the wider bandwidth on AA machines, brush and text scrolling is now noticeably much smoother. An extra wipe has been added and should be included in the release version providing it doesn't blow up too many monitors. "Loose Sync" causes the video signal

to "jump" between PAL and NTSC which gives the appearance of a broken TV. This is just an effect which really plays around with your TV's hardware! Let's hope it proves to be safe enough for it to be left in.

### glock

The other day I set up my system to record OpalVision graphics on to video tape via GLock (lovely genlock!). Unfortunately the Amiga just didn't want to know - it constantly crashed. The moral of this story is that using two genlocks on one Amiga will cause endless crashing.



"GLock: Probably the best genlock in its price range. See review this AUI."

The brains at GVP told me that cards such as OpalVision and the IV24 have their own genlocks on board which take over the Amiga's system clock. When GLock is added to the system, GLock

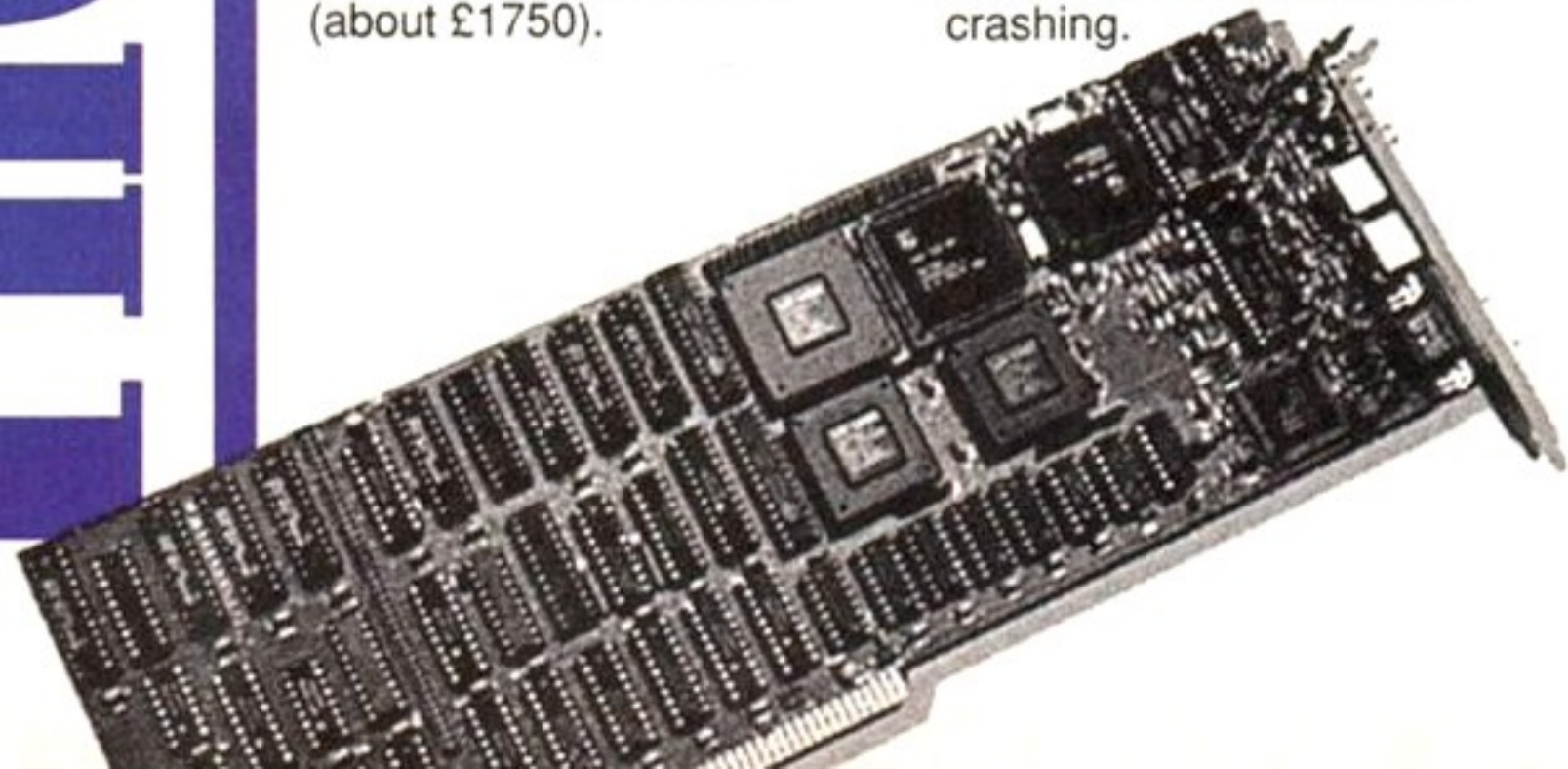
**vivid 24**

DMI's much talked about Vivid 24 graphics board is said to be available now, starting from \$2995. Vivid 24 offers super fast rendering which supposedly leaves expensive Silicon Graphics machines standing. Both the EditMaster and Vivid boards are/will be available from Chartscreen Ltd in the UK on 0425 475515.

fighters with the other piece of hardware to take control over the system clock. I guess us OpalVision fans must wait until the official Opal genlock arrives if we want to put graphics onto tape. However, the Rendale 8806 has been reported to work with OpalVision. A Mystery!

### dpaint aa quickie

Deluxe Paint 4 for the AA machines (1200 and 4000) should be available about now for £99.99.





# FROM JANUARY 28TH 1993 AN EXCITING NEW PUBLICATION THAT WILL ANSWER ALL YOUR SOFTWARE QUESTIONS..... The Software Magazine

For the first time you can read a magazine that is exclusively about computer Software. The editorial is jargon-free, accessible and, above all, contains the data the software user really needs.

And for the first time, you can read a magazine that covers software for all personal computer formats.

- THE SOFTWARE MAGAZINE is aimed at you, the user, to help you get the most out of your computer system.
- THE SOFTWARE MAGAZINE offers extensive advice and in-depth analysis on what software to buy and then guides you through step-by-step tutorials on how to use it.
- THE SOFTWARE MAGAZINE also gives you the most topical and exciting stories in the world of software, all in a jargon-free, informative and reader-friendly style.
- THE SOFTWARE MAGAZINE - at only £1.50, no computer user can afford to be without it!

THE ESSENTIAL MONTHLY MAGAZINE FOR ALL PERSONAL  
COMPUTER USERS - LAUNCH ISSUE ON SALE  
JANUARY 28TH - ONLY £1.50

AVAILABLE FROM  
WH SMITH, JOHN  
MENZIES AND ALL  
GOOD NEWSAGENTS  
EVERY MONTH.

**OUT  
NOW!**

Practical Software for all YOUR needs  
**THE Software MAGAZINE**

Volume 1 Issue 1  
February 1993

**£1.50**

**NEW**

OS/2 vs. Windows  
page 123



 From HHL Publishing

**S**tructured drawing has been one area of computer graphics that has not been very well catered for on the Amiga. For a long time, the only option was Aegis Draw. In 1988 Professional Draw was released (still the leader). Recently, we have seen some competition from ProVector, Expert Draw and DesignWorks, but there has never really been anything to challenge the likes of Adobe Illustrator or Aldus Freehand on the Macintosh. Now Soft Logik, creators of PageStream, have released a new contender, Art Expression.

Art Expression comes on four disks, and includes BME (a bitmap editor) and versions of the 35 standard Adobe PostScript fonts (you get 7 more plus some clip art once you register). The documentation is in two volumes, tutorial and reference, and is some of the best I have ever seen, very clearly laid out and written, with illustrations of all the menus and requesters. If you ever saw those early PageStream manuals you'll be amazed at what an improvement this is. I only wish more Amiga applications were as competently documented. As well as the manuals, there is a quick reference card detailing all the tools and menu items.

## ae and eps

The first major difference between Art Expression and its competitors is that AE uses Encapsulated PostScript files (aka EPS or EPSF) to store its illustrations in. EPS is a subset of Adobe's PostScript page description language and is a platform-wide standard for structured clip art. This means you don't have to export the file to another format in order to use it in a desktop publisher; but as EPS is a clip art format you are limited to one page documents. Unless you can do all your work in AE and don't need to produce documents of more than a

page in length, you'll need a desktop publishing program as well. Another problem is file size; because EPS is an ASCII text format (making it easy to edit with text editors) numbers take up one byte per (decimal) digit. A binary format would be far more compact, although, in the case of Professional Draw this is not always the case – its EPS's are usually smaller than its native file format.

AE can import any EPS but will only be able to translate files produced by itself or saved in the Adobe Illustrator 88 format (the most common EPS type for clip art) into their composite objects for editing. EPS's from different sources can still be used, but will display on screen as X'd rectangles and will only print to PostScript printers.

## one page only

With only a page to play around with it can get difficult to find space to work, but this problem can be solved by use of the pasteboard, which is saved along with your page. You can move objects on or off the page easily. AE, unlike PageStream, can only open one document at a time so it is harder to pull part of a document out and paste it into another, although you can import illustrations and paste them down. You soon get used to this way of working, although not being able to have multiple pages is quite a limitation.

## drawing tools

AE is equipped with quite a comprehensive set of tools. You can easily draw lines, curves, arcs, boxes, rounded boxes, ellipses and circles, regular polygons, pie charts, and freehand objects. You have control over line colours, weights, ends and joins, and fills (any colour or shade of a colour from a definable palette). There are no patterned fills or gradient fills, and line attributes have to be object wide (PostScript is capable

## Structured

## drawing

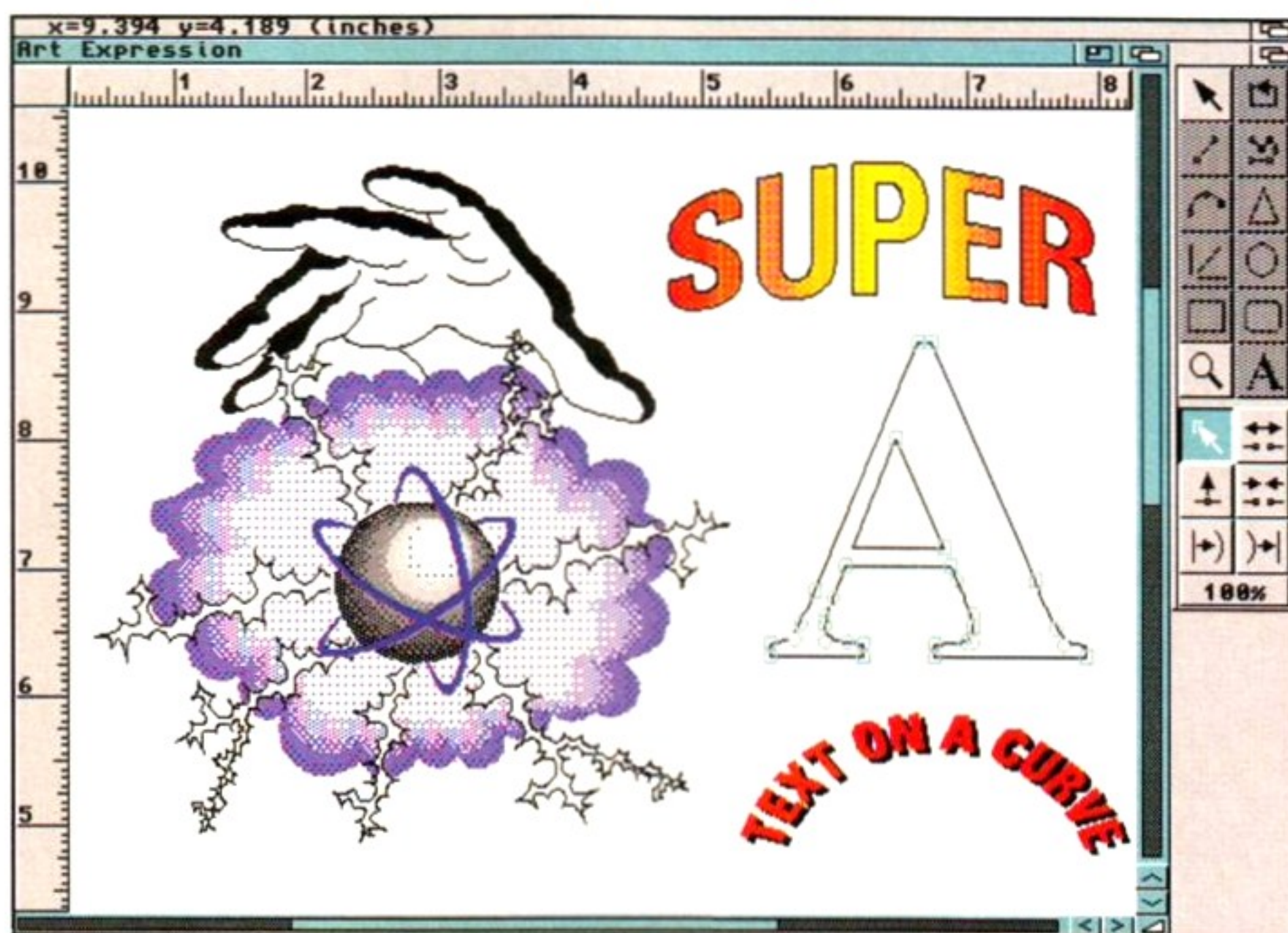
## moves up a

## step as Aitor

## Ibarra test drives Soft-Logik's

## new package.

# art



A typical Art Expression display

of changing line attributes for each line segment).

Where AE excels is point level editing. Lines/shapes can be split, joined, aligned, flattened, smoothed and generally mucked about with. Objects can be distorted by using the path-in-path tool which gives a lot of flexibility but takes a while to get used to.

Object grouping is fully hierarchical (not one level hierarchy like in Pro Draw) and objects can be merged to create objects with holes in them. Line path editing is excellent and I like the option to switch from object mode (for moving, scaling, rotating and skewing objects) to path mode (editing the actual shape of an object) – Pro Draw combines the two modes in one, with the result that you often drag a corner of the shape instead of moving it like you intended.

There is a good control over layering objects – you can move objects up or down a layer as well as the usual right-to-the-back or

right-to-the-front options. Alignment of objects is the best I have seen.

Text is a bit of a let down. Although you can use any PostScript Type 1 font (far more variety than compugraphic) there is only limited editing and no control over kerning or character spacing. Alignment of text to objects is fairly competent although not as good as Pro Draw, and there is a text-in-shape effect. Unfortunately there is no way of editing text once it has been aligned to fit around or distorted to fit in a shape.

## ae for you?

Art Expression is very easy to use and is very well documented. If you don't mind the one document – one page feature and you either disagree with my qualms about structured art in general or intend to use it to supplement work from other sources then Art

Expression should certainly be considered against Pro Draw 3. Pro Draw has the edge in most areas because of its Genies (Arexx Macros) and integration with Pro Page, but AE has superior object editing and display features. If you don't have a hard drive you have no choice; Art Expression is the only one which can run off floppy.

## structured drawing vs bitmap

*Bitmap drawings divide the drawing area into rectangles called pixels and define what colour each of those pixels will take. A structured drawing 'describes' the drawing as a collection of objects such as lines and polygons. Structured drawings are often*

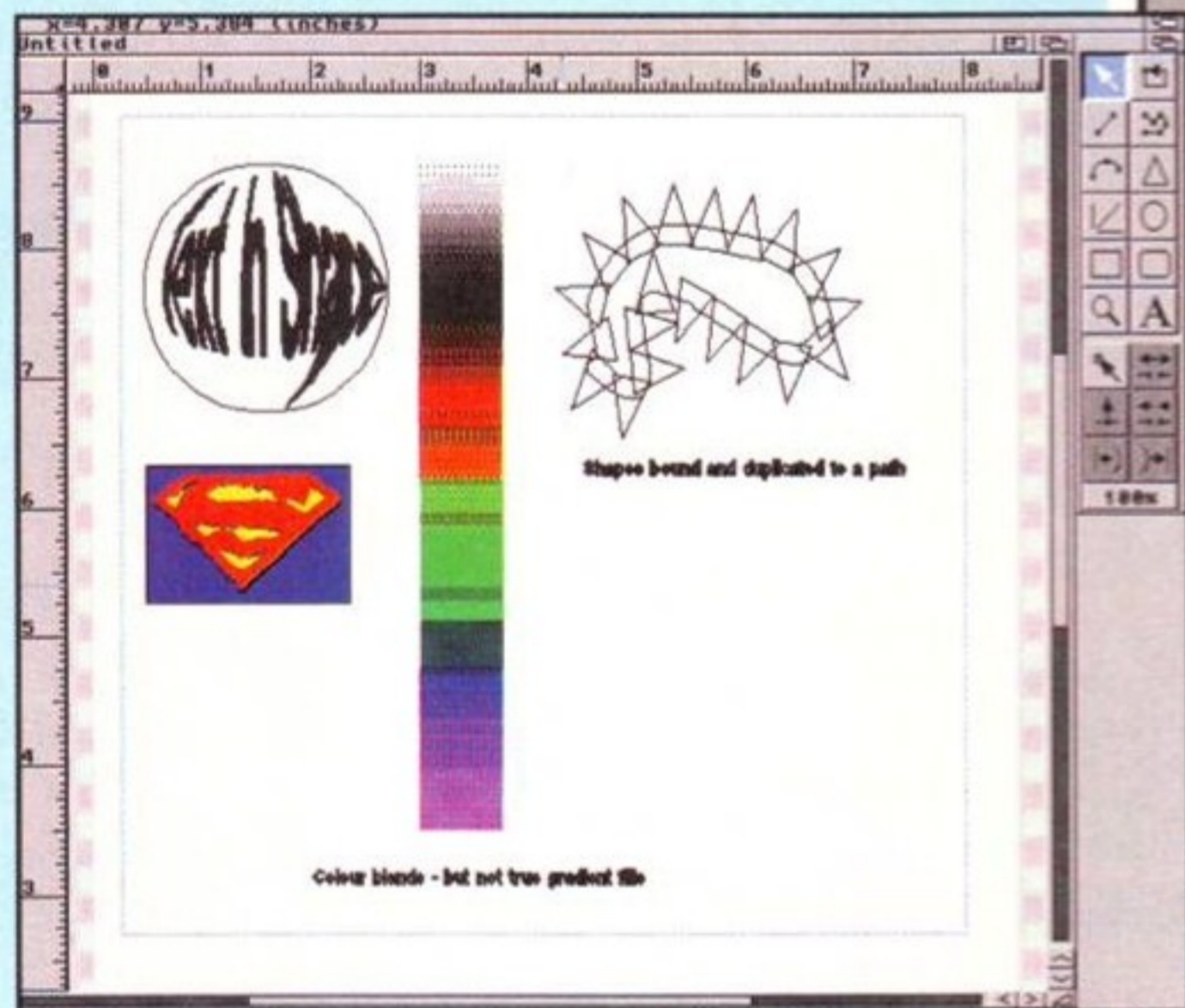
# expression

## art expression vs pro draw 3

considered to be superior to their bitmap cousins because they can be rescaled without introducing jaggies. While this is true they do have inherent drawbacks and limitations. One is file size. While the size of a bitmap file are governed by the number of pixels and colours it contains, a structured drawing's file size is governed by the number of objects it contains, ie how complex it is. Also, complexity will

better for symbols and other objects that need to be edited as shapes rather than tones.

Another drawback to structured drawings is that they are only truly resizable without loss of quality if they are made up solely of filled shapes rather than lines. This is because a line originally drawn at, say, 1 point thickness, will stay that thick at whatever size you use the drawing at. This can be really annoying,



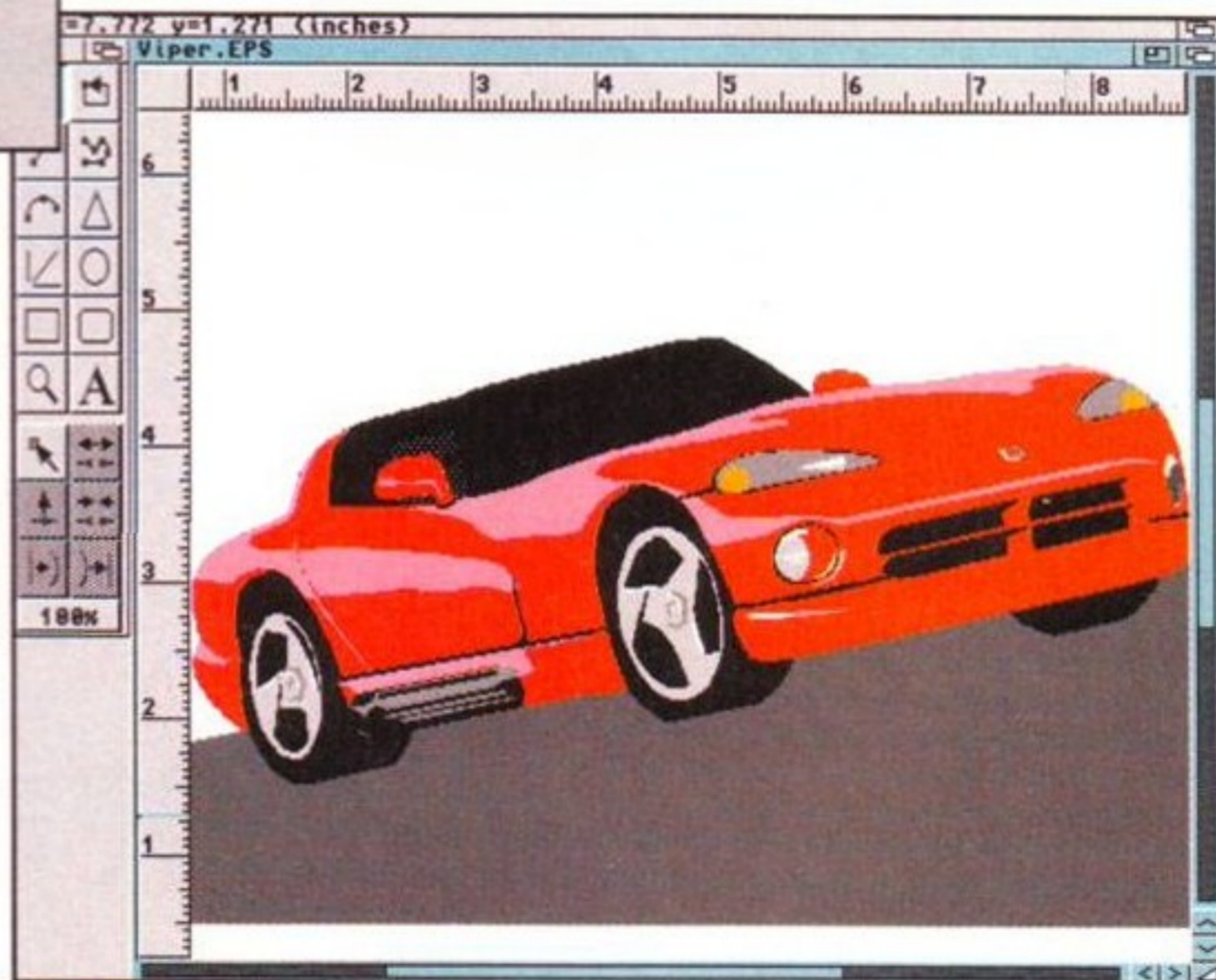
affect screen redraw and printing time. Because of this, a structured drawing could never be as expressive as a bitmap – a structured version of a photograph for instance, would be far too complicated and unwieldy. Structured drawings tend to be smaller than bitmaps if the picture is easily defined as a few geometric shapes, larger if attempting anything more difficult, such as the tonal subtleties possible with bitmaps. Artists will probably prefer bitmap paint programs because of this. Structured drawing programs are

and I have yet to see a drawing package that can get around this by making line thickness relative to the image scale or including a tool to convert lines into shapes that will scale properly.

### ae's future

I spoke to Mike Loader at Soft-Logik and he told me about the intended upgrades to AE. The next major release will have support for translation of Adobe Illustrator 3.0/4.0 EPS files (a newer format than Illustrator 88). The screen palette should be

	Art Expression	ProDraw 3		Art Expression	ProDraw 3
<b>Drawing Tools</b>			<b>Special Effects</b>		
Line/Curve	Y	Y	Text on Curve	Y	Y
Freehand	Y	Y	Warp Text	Y	Y limited
Box/Ellipse	Y	Y	Warp Object	Y	Y limited
Regular Polygon	Y	Y Macro	Objects on a Path	Y	N
Grid	N	Y	Blend	Y	Y
<b>Shape Editing</b>			<b>Text</b>		
Add Points	Y	Y	PostScript Type 1	Y	Y after conversion
Delete Points	Y	Y	PostScript Type 3	N	N
Join/Split Points	Y	Y	CG Intellifonts	N	Y
Close Paths	Y	Y	Kern	N	Y
Convert Curves	Y	Y	Character spacing	N	Y
Align Points	Y	Y Macro	Slant	N	Y
Point Coords	Y	Y	Bold	N	Y with some fonts
<b>Editing Objects</b>			Aspect Ratio	Y	Y
Flip	Y	Y	Edit on screen	N	Y
Rotate	Y	Y	Convert to shape	Y	Y
Skew	Y	Y	*Fonts Included	35 (+7 bonus)	2
Transform	Y	N	<b>Auto Tracing</b>		
Lock/Unlock	Y	Y	Sample Rate	Y	N
Composite Paths	Y	Y	Curve fit	Y	Y
Edit Coordinates	Y	Y	Noise Filter	Y	N
Linear Gradient fill	N	Y	Fill Toggle	Y	Y
Radial Gradient fill	N	Y	Stroke Toggle	Y	N
CMYK colour	Y	Y	Merge paths	Y	N
Spot colour	Y	Y	Output options	Y	N
Pantone License	N	Y	<b>Printing</b>		
<b>Alignment Tools</b>			Preferences	Y	Y
Horizontal	Y	Y	PostScript Level 1	Y	Y
Vertical	Y	Y	PostScript Level 2	N	N
Diagonal	N	N	Color PostScript	Y	Y
Snap to grid	Y	Y	Separations	Y	Y
Snap to guides	Y	N	<b>Compatibility</b>		
<b>File Formats</b>			Workbench 1 & 2	Y	Y
IFF DR2D	Y	N	Workbench 3.0	Y	N
Art Expression	Y	Y import only, no edit	ASL requesters	Y	N
Adobe Illustrator	Y	Y import only, no edit	Hot Links	N	N
EPS	Y no edit	Y no edit	File Notification	N	Y
Aegis Draw	Y import only	N	AppWindow/icon	N	N
Pro Draw Clip	Y after conversion	Y	Run from floppy	Y	N
IFF ILBM	Y export only	Y import only	68020/30/40	Y	Y
			Enhanced for AGA	N	N
			Arexx Macros	N	Y 32
			<b>Price</b>	<b>£165.00</b>	<b>£129.95</b>



Some of the clipart that comes on the bonus disks when you register

auto adjusting. On the wishlist for future upgrades are true gradient fills, support for 256 colour AGA modes, Hotlinks (Soft

Logik's dynamic data exchange system) and possibly AREXX. In my experience the technical support at Soft Logik is

excellent, and you can expect regular upgrades for minor bug fixes – there has already been one since the release of the program. **a**

Contact:  
Soft-Logik  
Publishing Ltd,  
Broadway House,  
21 Broadway,  
Maidenhead,  
Berks M16 1JK  
Tel: 0628 784006  
Price: £165.00

CALLERS WELCOME AT OUR BRANCHES OPEN 9-5.30, MONDAY TO SATURDAY, (10-4.30 SUNDAYS ST ALBANS ONLY)

## WARNING

Due to the exchange rate, many items in this ad will increase in price - including some CBM, HP + Philips product. At the time of going to press we are unable to confirm the extent or date of the increases, therefore, all prices must be confirmed by telephone before ordering.

## OLD AMIGA TRADE-IN

The best trade-in allowance, extra for peripherals and accessories. Trade in your old machine for a brand new A600/ A1500/1200/3000/4000/CDTV or even PC. A limited number of refurbished A500/1500/3000s are available, complete with 3 months warranty.

**A500s FROM £179**  
**A1500s FROM £299**

A600 1MB.....(mint) 219	1500 HD+Controllers.....
A600 20HD.....(mint) 219	40MB.....FROM 199
A3000s.....FROM 899	120MB.....FROM 379
CDTV.....FROM 249	Action Replay.....39
A590 20/40MB.....99/129	XT B Board.....79
Flicker Fixer 1500.....79	AT B Board.....149

OTHER ACCESSORIES - PLEASE ASK.

# Hobbyte

COMPUTING  
ESTABLISHED 8 YEARS

10 MARKET PLACE ST ALBANS  
HERTS AL3 5DG TEL: (0727) 56005/41396  
THE GALLERY ARNDAL CENTRE LUTON  
BEDS LU1 2PG TEL: (0582) 457195/411281

**HOW TO USE THIS AD**  
For the first time ever, you can choose your own Amiga and software combination, and still benefit from the huge savings only available from package deals. Want an ASDO with 1500 software? No problem! Like an A1500 without games? It's up to you! All we ask is that you choose at least 1 software pack when you order your hardware (optional on CDTV, A1200, A3000 or A4000)

**WE WANT TO BEAT ALL PRICES! CALL US!!**

## AMIGA 1500 inc. on-site

Full UK spec. with 1MB RAM, mouse, expansion as 2000, leads, manuals. New including Kickstart & Workbench 2.05. Hard disc configuration inc. the high performance GVP II controller card, EXPANDABLE TO 8MB.

Dual Drive	469.00
DD+GVP+52MB HD	732.00
DD+GVP+80MB HD	799.00
DD+GVP+120MB HD	872.00
With 8833/10845	ADD 179.99
With 7CM + M/W FF	ADD 379.99

**1500 SPECIALS**

1/2 PRICE 1500 S/W PACK EXTRA	Only with 1500, 1500 Pack Extra at only	£24.99	
1500 HD + ON-SITE, 8833/10845, CITIZEN 200 24 pin col printer, 1500 Extra software pack, Starter Pack + AmigaVision			
52MB	.....£1149.00	120MB	.....£1329.00

Per extra 2MB fitted to GVP ADD £60.00  
Also with Kickstart 1.3 + ROM Sharer ADD £39.90  
Also with Citizen 200 24 pin Col Printer + Starter Pack ADD £199.00

**AMIGA 500+ £229.95**  
LIMITED NUMBER AVAILABLE - PHONE!

## AMIGA 600

**\*\*1/2 PRICE "EPIC EXTRA" WITH ANY 600HD ADD £15**

A600 with 12 month on-site warranty, 1MB, WB 2.05, 3.5" FD + Smart Card Interface Mouse and Manuals

	ALONE	WITH 8833/CBM 1084 + ON-SITE
A600	249.00	439.00
A600 20MB HD	339.00**	519.00**
A600 40MB HD	399.00**	589.00**
A600 80MB*	469.00**	649.00**

2MB VERSION ADD £39.95  
\* Top quality 3rd party drives, covered by full 12 month return-to-base warranty

## AMIGA 3000

TRADE IN AVAILABLE  
12 MONTH ON-SITE MAINTENANCE  
Latest version, 68030 25MHz, 3.5" 880K FD + spare drive bay (or 4 spare bays on Tower), 512K 32 bit ROM, 4 Zorro III, slots with 2PC AT slots (or 1 CPU, 7 Zorro III, 2 PC AT on Tower), hard drive and memory as below:

<b>DESKTOP</b>	<b>52MB</b>	<b>120MB</b>
1MB video + 1MB Fast Ram	1199	1289
2MB video + 4MB Fast Ram	1349	1439
2MB video + 8MB Fast Ram	1489	1579

**WITH FREE AMIGA VISION**  
With extra 4MB Fast RAM (fitted if required) ADD £169.99  
With Philips SVGA 28dpi inc. tilt & swivel ADD £259.00

## AMIGA 1200

1200 2MB SD	369	1200 2MB 80MB HD	595
1200 2MB 20MB HD	499	1200 2MB 120MB HD	735
1200 2MB 40MB HD	549	1200 6MB 80MB HD	+68881
1200 2MB 60MB HD	569		875

Install disc and full 12 months return-to-base warranty on all HD models. With Zool, Striker, Pinball Dreams and Transwrite ADD £19.99  
OR SEE NEW AGA GG PACK BELOW

**NEW MID RANGE AMIGA EXPECTED with new chip set, 68030 PHONE!**

## CDTV

1MB, with Disc Caddy, Welcome CD + tutorial + remote control unit.  
AS ABOVE WITH MATCHING DRIVE KEYBOARD, MOUSE + WB 1.3

As above monitor + remote control	£349*	£435
Extra RAM	EPOA	

\* Plus Hutchinsons Encyclopaedia + Lemmings  
See below/across for software packs

**NEW PRICES!**

## THE HOTTEST LOT PACK

All as Starter Pack	203.90
PLUS:	
Another 10 GREAT individually packaged games, BETTER THAN THE REST previous RRP's up to 39.99 each, phone to choose from HOT LIST, or leave it to us! Children's games available.	269.82
80 Prog. Hobbyte PD Greats Pack II - Includes top games like Battlecars, Star Trek, Computer Conflict, Megaball, dozens of arcade classics, board classics and 'shoot-em-ups', DPaint clip art, Utilities, Word Processor, Spreadsheet, Database + Desktop Publisher and the ultimate virus killers - a must for every new Amiga owner!	39.99
<b>TOTAL VALUE</b>	<b>513.71</b>
<b>WITH AMIGA SEPARATELY</b>	<b>49.99</b>
<b>SPECIAL: ALSO 10 extra 'Hot List' games</b>	<b>ADD 25.00</b>

## AMIGA 4000 MULTIMEDIA AMIGA

New AGA Chip Set + blistering 68040 processor, 256,000 colours from 16.6 million, scan doubling for flicker free display, 25 MHz, Mouse, Amiga 3.5"/1.76 MB 3.5" drive Plus Cross DOS for transfer of files between Amiga DOS + MS DOS, 2 rear + 2 front 3.5" bays, 1x 5.25" bay, Hard Drive as below, Amiga DOA 3.0 system and utilities, Gold Service Warranty

<b>FULL 68040</b>	<b>ALONE</b>	<b>TRADE IN AVAILABLE</b>
120MB HD 2 + 4MB	£2089 inc. VAT	
120MB HD 2 + 8MB	£2259 inc. VAT	
240MB HD 2 + 8MB	£2399 inc. VAT	

With Kaga M/Sync SVGA low radiation high-res 28 dot pitch col. monitor inc tilt and swivel, all 4000 modes ADD £400

## NO OTHER DEALER CAN BEAT OUR CREDENTIALS

- 8+ years experience in Commodore product and here to stay
- Commodore trained staff are friendly and helpful and are parents, multimedia, educational, games, programming or technical specialists (usually more than one!)
- Open 9-6 pm Monday to Saturday and 10.00 am to 4.30 pm Sundays for convenient shopping.
- Callers welcome for advice and demonstration at our 1600+ sq ft High St, Town Centre branches
- Some day despatch for most orders received by 5.30 pm; express am and Saturday services available
- Hardware carefully handled and delivered safely and reliably by caged, insured, top name courier service
- Pre-despatch testing on Amiga systems
- Free 30 day, next day courier collection and delivery of NEW replacement (except product with on-site maintenance)
- Hotline support and in-house engineers
- Upgrade and trade in offers to keep you up to date
- Exceptional after sales service
- BFPO and Export welcome

**NOT JUST ANOTHER MAIL ORDER COMPANY**  
For years a major player in Amiga Mail Order, Hobbyte also boast extensive expertise and experience in specification and support of multi-machine and specialist systems. Hobbyte have been recommended and trained by Commodore and successfully won major orders and support contracts from London Boroughs, MOD, educational establishments etc. We are pleased to be placed on tender lists.  
This expertise is available to all our customers.

## THE HOT LIST

- CURRENT TITLES VARY - INCLUDES:**
- |                           |   |
|---------------------------|---|
| Paperboy II               | Hunt for Red October                            |
| Colossus Chess            | Blinky's Scary School (under 12)                |
| Challenge Golf            | Battleships                                     |
| Neighbours                | Licence to Kill - Bond Game                     |
| Frankenstein              | Silkworm Helicopter jeep mission 93% CU         |
| Edd the Duck (under 12)   | Continental Circus - 8 Int race circuits 92% AA |
| Master Blazer - 3D sports | Xenon - C+VG Game of the Month                  |
| Onslaught - Format G 90%  | Thunderstrike - Fighter Flight Sim              |
- + LOTS MORE - AT LEAST 25 TITLES TO CHOOSE FROM!

## AGA GG PACK (GRAPHICS + GAMES) FOR A1200, 4000 ETC.

	VALUE/RRP
Personal Paint AGA - Top reviews, impressive DP IV clone with additional features inc. image processing, paints in any screen mode	69.99
Your choice of - Wing Commander AGA or Zool AGA or Sensible Soccer AGA	34.99
5 'Hot List' games (AGA compatible) individually boxed	174.95
Microswitched Joystick	9.99
Mouse Mat + Dust Cover	9.98
10 Blank Discs + 80 capacity lockable disc box	16.98
Virus Killer	4.99
<b>TOTAL VALUE</b>	<b>321.87</b>
<b>WITH AMIGA/CDTV SEPARATELY</b>	<b>89.99</b>
	<b>109.99</b>

## STARTER PACK

	MAX VALUE/RRP
Microswitched Joystick	9.99
80 cap. lockable disc box PLUS 10 blank discs	16.98
4 great boxed games - See HOT LIST	159.96
Phone for current choice OR DPaint III +700 Clip Art Pics/graphics	9.98
• Mouse Mat and Dust Cover	9.98
• 16 Days Free Hotel Accomodation in UK, Ireland or France - you pay only for meals	196.91
<b>TOTAL VALUE</b>	<b>196.91</b>
<b>WITH AMIGA/CDTV SEPARATELY</b>	<b>19.99</b>
	<b>29.99</b>

## WWW EXTRA PACK

	VALUE/RRP
WWW games: Silly Putty	25.99
Formula 1 Grand Prix	25.99
Pushover	25.99
DPoint III with animation	79.99
700 clip art pics/graphics for DPoint III	9.99
3 disc Home Pack incl. W Processor, Dbase, Spreadsheet	9.99
Virus Killer	4.99
<b>TOTAL VALUE</b>	<b>182.93</b>
<b>WITH AMIGA/CDTV SEPARATELY</b>	<b>49.99</b>
	<b>59.99</b>

## EPIC PACK EXTRA

	Needs 1MB and Hard Drive	VALUE/RRP
Epic Pack: Trivial Pursuit, language Lab, Amiga text		29.99
Epic, Rome, Myth		77.97
DPoint III with animation		79.99
700 clip art pics/graphics for DPoint III		9.99
3 disc Home Pack incl. W Processor, Dbase, Spreadsheet		9.99
Virus Killer		4.99
<b>TOTAL VALUE</b>		<b>212.92</b>
<b>WITH AMIGA/CDTV SEPARATELY</b>		<b>29.99</b>
		<b>39.99</b>

**SEGA AND NINTENDO BEST PRICES - PHONE!**

# PROFESSIONAL FAMILY PACK (1MB REQUIRED)

VALUE/RRP

- Cartoon Classics Games: Lemmings OR Zool 25.99
- The Simpsons Striker 24.99
- Captain Planet Pinball Dream 25.99
- Deluxe Paint III with animation + 700 Clip Art pics 89.99
- Gold disc Office - WP + UK 'guess spelling' checker, spreadsheet, database, graphics + desktop publishing 169.99
- Edd the Duck 29.99
- OR Round the Bend OR Digita Home Accounts 4.99
- Virus Killer Disk 4.99
- 80 Prog. Hobbyte PD Greats Pack - see 'Hottest Lot Pack' 39.99
- 4 disc DP pack inc. Fonts, Clip Art and Disc Tutor 9.99
- Hobbyte Primary (specify) or Secondary Educational Pack 19.99
- 10 Blank Discs + 80 Capacity lockable disc box 26.98
- Mouse Mat + Dust Cover and Joystick 19.97

TOTAL VALUE 488.85  
WITH AMIGA/CDTV SEPARATELY 79.99

SPECIAL: Also with Citizen 200 24 PIN Colour Printer and Starter Pack ADD 199.00

# ABSOLUTE BEGINNERS PACK 3-13 YEARS

VALUE/RRP

- Your choice from:
- Fun School 2, 3 or 4 (for 3-9 yrs - specify age, 9 diff. versions available) Up to 6 stunning UK educational games in each package, with beautiful pictures, exciting animation + music that helps to develop numbers, word + other skills. Up to 6 levels of difficulty. Conforms with National Curriculum. 25.99
- Merlin's Maths (for 7-11 yrs) from the award winning 'Fun School' stable, 6 engrossing games to teach essential maths skills, in a way children will love.
- Spelling Fair (for 7-13 yrs) all the fun of the fair on 6 levels makes learning spelling addictive and fun. Includes 6 games plus 3000 word dictionary + special selection of words for needs of dyslexic children + parents can create own dictionary of words requiring special attention.
- Edd the Duck (7 yrs) OR Elf (7+ yrs) OR Round the Bend 25.99
- Hobbyte Primary (specify) Educational Pack, featuring up to 12 'Learn while you play' games 19.99
- Hobbyte 30 Easy Children's Games, 10 pack disc including Train Set and other top entertaining PD titles 19.99
- SpritzPaint + 700 Clip Art pics 89.99
- inc. children, Fairytale + Legend characters, Sport, Cartoons etc.
- Joystick + 10 blank discs 15.98

TOTAL VALUE 197.92  
WITH AMIGA/CDTV SEPARATELY 59.99  
SPECIAL: Each extra title from first selection add just 15.00

# TRAMPY'S, THOMAS'S OR NODDY'S PACK 2-8 YEARS

AT LEAST 57 EDUCATIONAL/FUN FILLED GAMES!

MAX VALUE/RRP

- The Shoe People - 6 colourful and entertaining games 29.99 featuring Trampy and friends to encourage early number reading and pre-reading skills. With Shoe People music
- OR Thomas the Tank Engine's Fun with Words - 6 separate easy to use learning programmes with animation and sound.
- OR Noddy's Playtime (to 7 years) - 8 magical learning games at 3 levels, PLUS Junior Art package inc. Colouring, electronic 'Fuzzy Felt', FREE Toy Town map, Keyboard overlay and wobbler.
- Shapes and Colours - Bobby the Clown entertains and lays down the foundation for maths and writing in 6 colourful animated games.
- OR Fun School 2 (for 3-9 years - specify age) 9.99
- Fun School 3 or 4 - the 'Fun School' suite have won just about every award going. 5 or 6 wonderful animated games. 24.99
- OR Picture Book: 4 colourful and amusing games from ex 'Fun School' design manager will delight young children
- SpritzPaint + 700 Clip Art pics inc. children, Fairytale + Legend characters, Sport, Cartoons, 89.99
- Hobbyte Primary Educational PD Pack, containing 10 fun while you learn games 19.99
- Hobbyte 30 Easy Children's Games Pack 19.99
- 10 Blank Discs, Joystick, Mouse Mat 26.96

TOTAL VALUE 221.90  
WITH AMIGA/CDTV SEPARATELY 59.99  
SPECIAL: Each extra title from first selection add just 18.99

# AMIGA 24 BIT SYSTEM - £BEST!

WE SPECIALISE

- Extra RAM • Accelerator
- 24 bit colour card • 24 bit colour real time digitizer
- 24 bit 3D Art + animation s/w
- Fitting and Free 1/2 day customised training

TELEPHONE JP

# 1500 PACK EXTRA (ALSO FOR A500, A500+, A600 CDTV, 3000)

VALUE/RRP

- The Works Platinum, word processor, spreadsheet, database or Office - see Prof. Family Pack 169.95
- Deluxe Paint III with animation 79.99
- Get the most out of your Amiga book 9.95
- 80 Prog. Hobbyte PD Greats Pack - see 'Hottest Lot Pack' 39.99
- 4 disc 700 Clip Art pics/graphics for DPaint III 9.99
- Puzznic, Toki, Elf 74.97
- OR Zool, Striker, Pinball 29.99
- Digita Home Accounts 429.82

TOTAL VALUE 429.82  
WITH AMIGA/CDTV SEPARATELY 69.99

# LIMITED ZOO GCSE 11-15 YEARS

- ## + SCHOOL PACK
- Zool - Number 1 Chartbuster 25.99
  - Striker - 94% CU Amiga 25.99
  - Pinball Dreams - 94% AIU 25.99
  - Transwrite UK WP + Spellchecker 49.99
  - ADI French, Maths or English (11-15, specify age)
  - ADI the lovable extra terrestrial gifted teacher, guides you through National Curriculum. Ideally compliments school work.
  - From the award winning Fun School team 25.99
  - OR ADI Junior (under 5's)
  - OR 6 HOT LIST Games 209.94
  - Hobbyte 80 Programme PD Greats Pack - 'See Hottest Lot' 39.99
  - Hobbyte Secondary Educational Pack 19.99
  - Microswitched quality joystick 9.99

TOTAL VALUE 407.87  
WITH AMIGA/CDTV SEPARATELY 49.99

# ACCESSORIES

- A500 Deluxe control centre 44.99
- Alien/Batman/T2 Joystick 10.99
- A600 Control Centre 29.90
- Bug Joystick 11.99
- A520 Modulator 29.99
- CDTV Keyboard 54.99

# MODEMS

- Amstrad SM 2400 Modem 118.99
- Supra Fax 2400 + 5 year warranty 78.95

# FLOPPY DRIVES

- Zydec 3.5 external drive, daisychain + on/off 48.95
- Cumana CAX 354 3.5 external drive, beige 52.99
- CDTV external 3.5 drive, black + 10 blank discs 49.99
- PC 880B with anti click + Blitz back up and virus protector 65.00
- PC 880B as above, Cyclone compatible 78.99
- Dual drive as PC 880B 125.00
- Replacement A500 drive 34.95

# MONITORS/ACCESSORIES

- CBM 1084ST including tilt + swivel + 2 games 199.95
- CBM 1084SD monitor + leads + 2 great 'Hot List' games 189.00
- Philips UK 8833 MKII mon. + leads + Turbo Challenge + on-site 219.99
- Tilt + swivel stand for Philips 8833 12.99
- CBM 1960 High res monitor 359.99
- KAGA 14" Multi Sync for 1200/4000 429.00
- KAGA 20" Multi Sync for 1200/4000 1549.00
- Philips 7CM Hi-res SVGA .28dp inc. tilt + swivel 259.99
- NEC 4FG Multi-Sync 544.99
- Microway Flicker Fixer 124.99
- ICD Flicker Free Video 2-A500 197.90
- Elec. Des Fix 196.99

# SCANNERS & DIGITISERS

- Epson GT 6000, 600dpi 24 bit A4 789.00
- Epson GT 8000, 800dpi 24 bit A4 1192.99
- Power Hand Scanner, 400 dpi, 64 Greyscale, Powerscan software 88.99
- Power Hand Scanner as above, V3 for 1200/4000 104.99
- Power Colour Hand Scanner 219.49
- Sharp JX 100 A6 Scanner + scanlab s/w up to 18 bit 469.99
- Sharp JX 320A6 Scanner + s/w up to 24 bit 898.99
- Vidi Amiga 12 74.99
- Summa Sketch II A4 Tablet Digitiser 319.99
- Summa Sketch II A3 Tablet Digitiser 529.99

# EMULATION

- KCS Powerboard 146.50
- G Gate 386sx 25MHz 438.99
- KCS Powerboard with DOS 188.49
- G Gate 486SX 795.99
- KCS adaptor 59.99
- GVP 286 for GVP/II + 530 216.99
- AT Bridgeboard for 1500 199.00
- AT Once 214.99
- 386 Bridgeboard for 1500 299.99
- GVP 40/4 for 1500 945.99

# DISCS

- 10 Blank DS/DD discs in box 4.99
- 50 Blank DS/DD discs 17.99
- 10 Blank DS/HD discs 6.99
- 50 Blank DS/HD discs 27.99

# ACCELERATORS/HDA500/600

- A530 1MB 120MB 728.99
- A590 20MB 259.99
- A530 1MB 240MB 908.99
- A570 for 2.04 1MB 500 309.99
- A530 68882 203.99
- 20MB HD upgrade 600/1200 149.00
- GVP HD8 42MB 339.99
- 60MB HD upgrade 600/1200 199.00
- GVP HD8 85MB 439.99
- 80MB HD upgrade 600/1200 229.00
- GVP HD8 120MB 499.99
- 120MB HD upgrade 600/1200 359.00
- IVS Trumcard 42MB HD 279.99
- Microbotics YXL30 25MHz 219.99
- Extra 2MB fitted to above 62.99
- 2MB Burst RAM for above 179.99

# ACCELERATORS/HD A1500/2000/3000

- GVP Series II 40MB 309.99
- G Force 030 50MHz 4MB 1099.99
- GVP Series II 80MB 379.99
- G Force 040 33MHz 2MB POA
- GVP Series II 120MB 409.99
- Prog Zeus 040 28MHz 4MB 1739.99
- GVP Series II 420MB 1033.99
- Prog Mercury 040 28MHz (3000) 1349.99
- G Force 030 25MHz 1MB 543.99
- Sysquest removable HD 88MB 549.95
- G Force 030 40MHz 4MB 783.99
- Extra 2MB fitted to any above 62.99

# EXPANSION

- A500 512k Ram Exp + Clock 19.90
- A1200 32 bit 2MB exp POA
- A500 + 1MB exp 28.99
- A1200 32 bit 4MB + 68881 279.00
- A500 + 2MB, exp. to 8MB 149.99
- A1200 32 bit 4MB + 68882 349.00
- CBM 2.04 upgrade kit 74.99
- A1200 32 bit 8MB + 68882 549.00
- A600 1MB exp (chip) 39.99
- A500 Rom Sharer 1.3 39.95
- A600/1200 2MB exp (fast) 117.99
- A500 Rom Sharer 2.04 38.95
- A600/1200 4MB exp (fast) 179.99
- A600 Rom Sharer + 1.3 49.95

# GENLOCKS

- CBM Rendale 8802 (500/600/1200 compatible) 139.99
- Video Pilot v330 994.94
- CBM Rendale 8802 SVHS 529.99
- Elec. Des Pal Genlock 329.99
- Elec. Des YC Genlock 496.49

# 2YR WARRANTY PRINTERS WITH CITIZEN

- | ALONE                         | WITH STARTER PACK               | ALONE                     | WITH STARTER PACK                       |
|-------------------------------|---------------------------------|---------------------------|---|
| Citizen 120+D 110.99          | HP Deskjet 500 334.99           | Citizen LC20 113.49       | HP Deskjet col <sup>S</sup> 424.99      |
| Star LC 100 9 pin col. 146.49 | HP Deskjet 550C 544.99          | Star LC 200 col 164.49    | HP Deskjet Portable <sup>S</sup> 339.99 |
| Citizen Swift 9" 163.49       | HP Paintjet <sup>S</sup> 639.99 | Star LC 24-20 173.49      | BJ10ex Bubblejet port. 204.99           |
| Star LC 24-200 197.25         | Star LC 24-100 197.25           | Star LC 24-200 col 236.49 | Star LC 24-200 col 236.49               |
| Citizen 1240 176.99           | Epson LQ 100 189.99             | Citizen S200 24" 179.99   | Citizen S200 24 col* 194.99             |
| Citizen S240 24 col* 249.99   | Citizen S24x col* 296.99        | HP Laserjet 11P + 649.99  | QMS Ink Jet col A4 4999.95              |
- \*Turbo Print Pro driver/util s/w highly recommended ADD £39.95

STARTER PACK: 500 Sheets A4 or continuous paper, Amiga to printer lead, Universal Printer Stand & Driver \* with Print Manager

# 24 BIT

- A Video 24 with TV Paint for 500 588.90
- Image Master 1069.00
- Art Dept. Pro 2.1A 129.99
- Opal Vision 24 bit board + Opal Point, Opal Presents, Karate 24 bit s/w 629.99
- CDTV 403.99
- Firecracker POA
- Rembrandt 24 bit board 2489.99
- GVP IV + VIU-S 1389.99
- V Lab 24 bit real time digitiser 289.99
- GVP IV + VIU-CT 1759.99
- V Lab 1200/4000 324.99
- Harlequin 4000 24 bit card POA

# SOFTWARE

- GRAPHICS/CAD
- AmigaVision 47.50
- Deluxe PaintIV 53.99
- Deluxe Paint AGA POA
- Expert 4D Junior 36.99
- Expert Draw 48.99
- Imagine v2 109.49
- Prodraw 4 AGA POA
- Real 3D Beg 1.4 83.99
- Real 3D Turbo Pro 1.4 229.50
- Scala 500 68.99
- Scala MM200 434.99
- Scala Pro 1.13 173.50
- Sculpt Anim.4D 198.99
- Spectra Colour 57.99
- X CAD 2000 89.50
- X CAD 3000 205.99
- Essence 34.99
- Aladin 4D 213.99
- VIDEO PRODUCTION/TITLING
- Adorage 59.49
- AmigaVision 39.90
- Broadcast 148.99
- Titler II 148.99
- Deluxe Photolab 51.49
- Morph+ 129.99
- Pro Video Plus 137.99
- TV Show Pro 51.39
- TV Text Pro 68.99
- Video Director 106.99
- EDUCATIONAL
- Any Fun School 3 or 4 414.99
- Any ADI 17.50
- Spelling Fair 16.99
- Point & Create 16.99
- Merlin's Maths 16.99
- See also software packs
- UTILITIES/LANGUAGES
- AMAX II Plus 249.99
- Amos 3D 21.49
- Amos the Creator 30.95
- Amos Compiler 19.49
- Amos Prof 44.50
- Easy Amos 22.49
- Cross Dos v5 22.75
- Disk Master II 43.75
- GFA Basic 17.99
- Lattice C 6 219.99
- Quarter back 30.50
- Quarter back Tools 44.99
- Xcopy Pro 34.95
- APPLICATION
- Arena Accounts 89.50
- Excellence 3 88.99
- Final Copy II 66.99
- Kind Words III 35.99
- Maxiplan Plus v4 34.50
- Mini Office 43.99
- Pagestream 2.2 143.99
- Pagesetter II 42.49
- Pen Pal 1.4 52.50
- Personal Finance Manager Plus 31.99
- Pro. Page 4 AGA POA
- Saxon Publisher 177.95
- Superbase Pro 4 148.99
- Wordsworth V2 73.99
- Works Platinum 43.99
- MUSIC
- AD 10 12 Studio 16 Sampler 349.95
- Audio Engineer Plus 2 Sampler 188.99
- Audio Master 4 44.49
- Bars & Pipes Pro 1.0E 162.99
- GVP Digital Sound Studio 48.99
- Midi Interface 19.95
- Rombo Megamix 23.99

# ORDERING: TELESales NO: (0727) 56005

Some day despatch for Switch or credit card orders placed before 5pm subject to availability. Alternatively send cheque, postal order, bankers draft or official order (PLCs, Education and Government bodies only) to: Dept. ALL, Hobbyte Computer Centre, 10 Market Place, St. Albans, Herts AL3 5DG. Please allow 7 working days for cheque clearance. Subject to availability, despatch is normally within 24 hours of receipt of cleared payment. Prices are correct at time of going to press, however, we are sometimes forced to change them, either up or down. Please check before ordering. Additional services and different packages may be offered in our showrooms, and prices may vary from Mail Order prices. Personal callers are asked to quote this ad to ensure Mail Order packages are offered.

# DELIVERY CHARGES: UK MAINLAND (NOT HIGHLANDS)

- Small consumables & software items
- Other items, except lasers
- Offshore and Highlands
- In addition we offer the following express services:
- Saturday deliveries
- Am next day
- Despatched by post, please check charges when ordering
- Next day courier service, £10 per box
- Please enquire
- Normal rate plus £15 + VAT per box
- Normal rate plus £8 + VAT per box

# NO DEPOSIT CREDIT FACILITIES

Credit terms at 34.8% APR (variable) can be arranged for purchases over £150, subject to status. Competitive leasing schemes are also available for businesses, including sole traders and partnerships. Just telephone for written details and application form.

TELE-ORDER (0727) 56005

NOTE see warning across

Amiga prices, except where stated are inc. VAT. E.&O.E.

• HP AUTHORISED DEALER • CITIZEN DEALER PLUS •

**Martin Wilson examines**  
**some new programs**  
**that can make the stuff**  
**that kids learn at**  
**school that much more**  
**understandable.**



# Playdays

**ALTERNATIVE SOFTWARE LTD £24.99**

**Y**ounger children who are fans of BBC's Playdays television programme will enjoy seeing their favourite characters appear in this educational package. Playdays contains 13 games and features Why Bird, Lizzie, Peggy Patch and Wobble helping them with their spelling, counting and reading.

There are four levels of difficulty and the program has been designed to detect the ability of each individual child by adjusting the level accordingly. The computer chooses the set of games used, each time starting with the easiest and the animation and sound effects are intended to stimulate the child's interest. Using familiar characters from television provides interest and the performance table displayed at the end of each game offers encouragement for the next stage. The program is said to be designed by educationalists to be in line with the



National Curriculum. Each of the 13 games has a key learning task: matching, snap, odd one out, counting, what's gone, spelling, moving window, dot to dot, sliding puzzle and rhyme. There are three other games; noughts and crosses, treasure and shapes and colour. These cover logic and reasoning, word recognition, observation and problem solving. A colouring book is included in the package.

The program is very colourful with excellent graphics and sounds. However Playdays on

television is geared to pre-school ages and children of this age would, I feel, find the program quite difficult above the first levels. For example at level four, the words for E were: electricity and eskimos. Further exploration of electricity revealed a socket, plugs and a battery.

By the time children reach the age of understanding this level of words let alone the concepts, they might possibly find Playdays 'infra dig'. The other disadvantage is that you cannot choose the game

you want as there is no menu and the computer chooses the set of games used each time.

For children who enjoy playing educational games that have a degree of familiarity, this program will be worthwhile purchasing as the variety of games should hold their interest. Personally I think the mixing of a theme familiar to very young children with skills needed by older children is a mistake. The age range is given from 3 to 8 years which could well be too wide as there is a tremendous pace of progress of maturity between those ages. It might have been better to design a program with this theme purely for under 5s.

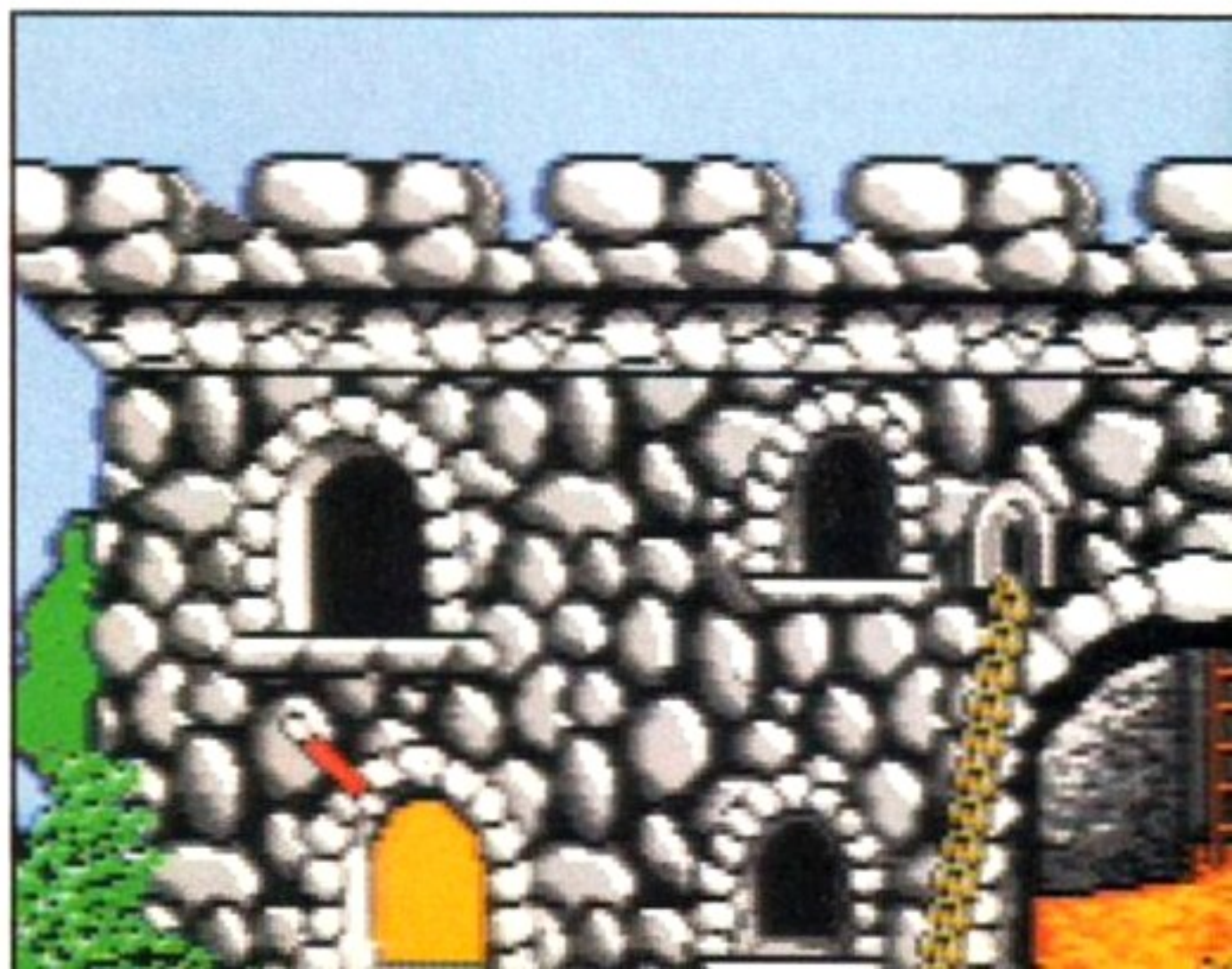


## Merlin's Maths

**Europress Software £25.99**

**E**uropress have released Merlin's Maths as part of their Fun School

Specials range. Designed for 7 to 11 year olds, this program is geared to fit in with the National Curriculum



to help children develop their skills of fractions, decimals and volumes. As with the rest of the popular Fun School packages, which we have reviewed favorably in AUI, this program is well presented in a lively and exciting way to capture children's imagination.

Fun school programs revolve around a story line which, in the case of Merlin, centres on a Viking warrior and Camelot. There are six activities and each game has three levels, all enhanced by brilliant graphics. The element of magic is presented in a way which is acceptable to children of this age range and it works well using the medium of computers. The text in the accompanying manual is presented in a way

sensible to read the story out to them initially!

But back to the program and the serious business of defending Camelot. The six mathematical ways of helping preserve the castle are through the wondrously named rooms: The Crystal Conference, Decisive Data, Perfect Potions, Broken Battlements, Magic Machine and Weighty Weapons. To find them the magic wand has to be moved over windows, doorways and other openings. There is also a room called Tally. As the player progresses, a reward of gold pieces is offered as this is where the booty is stored. Getting the right results in the mathematical problems seems to become

# Noddy's Playtime

The Jumping Bean Company £24.99

**H**ello, it's little Noddy! Parents who grew up with Noddy and Big Ears will be amused to find a part of their childhood now available for their Amiga. Designed for 3 to 8 year olds, Noddy who is now 40 years old, is still driving through Toyland, off to the station, farmyard and Noah's Ark.

The program includes a memory game, an observation game, a



which is interesting to primary children and reads pleasantly as if it were written especially for them. Getting small people (or big people too!) to consult manuals is often a problem, but provided in this interesting way it can only encourage future use. It would, however, be

incidental as the game progresses and the success of Merlin's Maths is in the problem solving as a natural part of the story rather than as a separate exercise.

To complete the effects of the program, a music label is available to be activated by the proverbial wand which results in sounds of ducks quacking, arrows flying and the odd explosion. We really enjoyed exploring this program and found it refreshingly stimulating and attention holding. It will appeal to children who enjoy a story accompanying a program and reminded us of Granny's Garden, another perennial favourite. With the offer of a customer services helpline from Europress, we can highly recommend Merlin's Maths.


jigsaw puzzle and a maze game together with animal matching, letter recognition and counting. There are even skittles to knock down and the sound accompaniments of horn tooting!

Included in the program is a complete art package which is available at each special location or at game start. This involves picture colouring, electronic 'fuzzy felts', freehand drawing with pens and spray can and 50 pre-defined fill patterns. Each game has three

levels and there is a free keyboard overlay and toytown map (essential for those orientation skills!)

Despite the variety of programs this package proved disappointing. It was reminiscent of early so called educational game programs (although no doubt the company did not set out to recreate the atmosphere of the past). Compared to the sophisticated graphics and quality available these days it was uninspiring. There seemed little to drive the user on to get more

enjoyment and so enhance the skills that are being learned.

The young tester with whom I tried this Noddy's Playtime out, admittedly at the top end of the age range, voted it the most boring game he'd played. What was missing was the essential ingredient of vivacity. Perhaps we were spoiled by the excellence of Merlin's Maths. Come on Noddy - and Big Ears - you can do better than this. (And I never believed the rumours about the relationship between you two anyway!) 



**This month**

**Martin Witton**

**gets you an**

**update on up**

**coming products.**

## Education Software

### A Parents Guide

To help parents to find their way round the myriad of computer software, this 96 guide, called a magalogue, contains details of hundreds of titles of educational programs and games for children across the school age range. There are helpful hints on computer hardware

and software choice and the publication affords the reader the ability to order the titles directly from the supplier. The first issue contains a £2 money-off voucher. Available from W.H Smith, Menzies, Tesco, Martin and all good newsagents.

Price £1.95. Contact: PPS/REM Enterprises, 5th Floor, 155 Oxford St. London, W1R 1TB. Tel: 071 434 0137.2.

## Childs Play

### Helios Software



Helios Software are releasing Childsplay, a word processor with large text and a computer speech facility. Three computer voices are available and the computer will recite whole texts or pronounce single letters and words.

A scrolling user definable list of words can be clicked on by the child to pull the selected word into text, allowing progressive

introduction to new and extended vocabularies. Pictorially illustrated alphabet letters are also available.

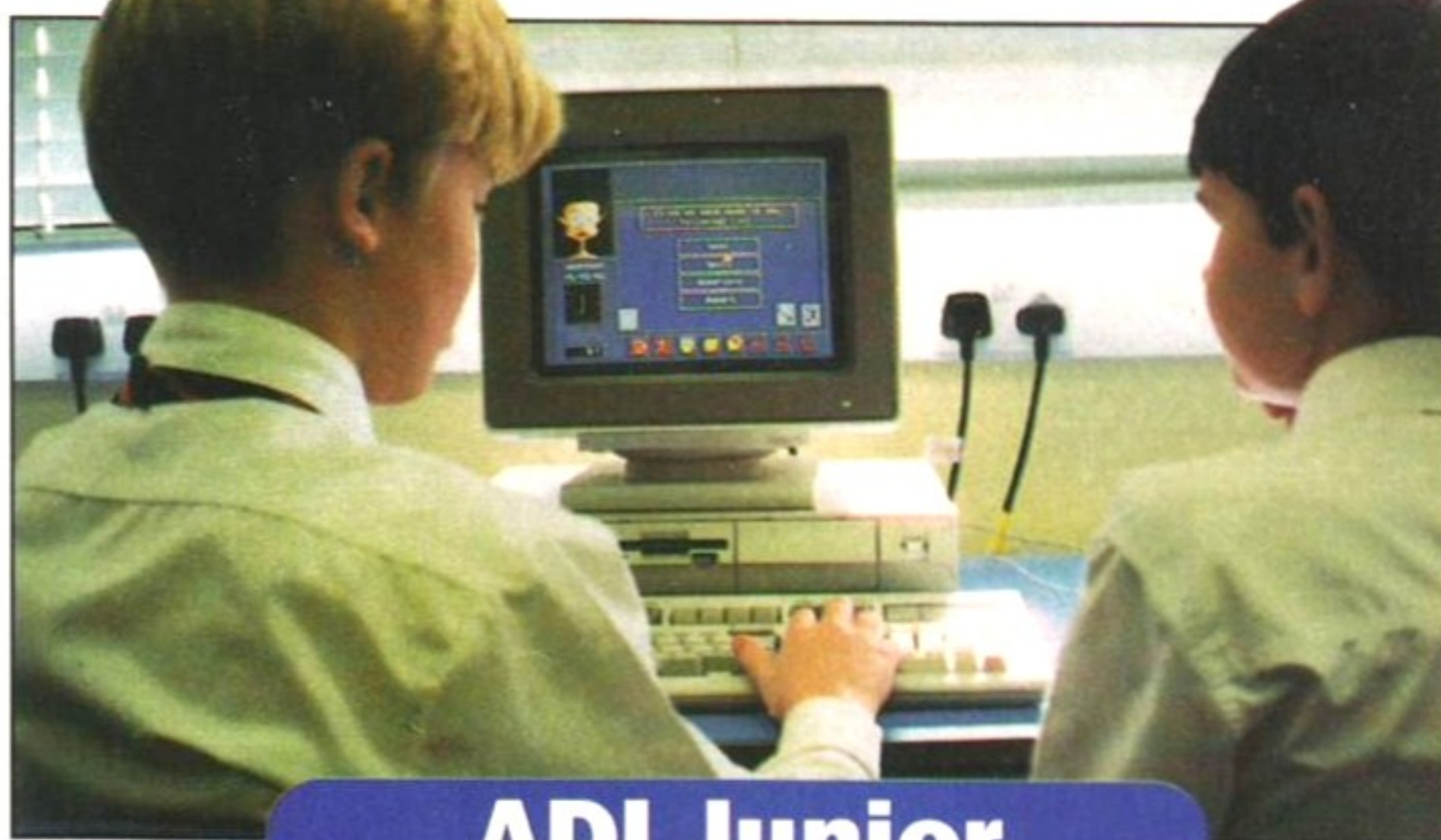
Childsplay allows colourful graphical characters to be mixed with text, and a dual layered display lets text to be



overlaid onto a graphical backdrop. The program provides a set of built-in graphics, but these may be altered or supplemented. Childsplay is claimed to have a flexibility of design which permits a parent or teacher to recreate the program to keep pace with the learning progress of the child.

Childsplay is said to be suitable for children age 2 years and offers the ability to create advanced puzzles which, say

Helios, even test parents and teachers! **a**



## ADI Junior

### Europress Software

The French-created ADI range is claimed to be designed for the educational needs of children from the ages of 4 to 15 years old, preparing them from nursery to pre-GCSE. The latest English-language release is ADI Junior, which features ADI's young cousin - who teaches counting and reading alongside games and creativity for 4 - 7 year olds.

Each ADI Junior package comes with a start-up disk and an application disk. There is a colourful menu where children click on various objects to make them come to life. This screen allows them to access all other activities such as 'Photofit' where they can design their own face ("Please, sir, can I have two noses?" "Shut up or I'll black all three of your eyes!"), and a basic picture creation which allows them to create a colourful landscape of their choice. There is also a typing tutor which teaches basic keyboard skills. The first package to be

released will be for 4-5 year olds and 6-7 year olds and focus on reading and counting techniques. ADI Junior Reading (4/5 years and 6/7 years).

This package features 15 activities and ADI Junior guiding and helping the child through each puzzle. Each game has three levels of difficulty to suit children of varying ability and a help key.

ADI Junior Counting (4/5 years and 6/7 years). This also has 15 activities within each age group. It includes addition, subtraction, variances, painting by numbers, matching figures and numbers and sequencing. Each activity uses clear graphics with primary colours, sound and a help key.

ADI French (11/12 and 12/13 years).

Preparing children for GCSE from the age of 11, each program is broken into six chapters which take several themes incorporating everyday items. **a**

Contact: Europress Software, Europa House, Adlington Park, Macclesfield, SK10 4NP. Tel: 0625 859333.

Price £24.95.

Contact: Helios Software, 163 Huthwaite Road, Sutton-in-Ashfield, Nottinghamshire NG17 2HB. Tel: 0623 554828.3.

## Ablac

PC for Amiga? Ablac Computec have told AUI that they are interested in the potential sales of PC software to Amiga users who have suitable emulation boards and prospect of a new bridgeboard from Commodore at under £200 could, they say, help open this up.

At present the only titles available for the Amiga from Ablac are Davidson's Math Blaster Plus and two volumes of Algebra Plus from the Stone & Associates range. There are plans to introduce three further early-learning titles for the Amiga in the near future.

Contact: Ablac Computec Ltd., South Devon House, Newton Abbot, Devon, TQ12 2BP. Tel: 0626 332233.4.



# New Horizon Computers

The Hard Drive Specialists

## A600 & A1200 Hard Drives

The ESSENTIAL add on for all  
SERIOUS Amiga users.

Upgrade your A600 or A1200 with a brand new internal IDE Hard Drive. All our Special Installation Kits come complete with fully formatted IDE Hard Drive, cable, mounting kit and fitting instructions.

All New Horizon Hard Drives are sourced from Brand Name suppliers and have been fully tested for 100% compatibility with the Amiga A600 and A1200.

## UNBEATABLE PRICES

★ 20 MEG	£120.00
★ 40 MEG	£180.00
★ 60 MEG	£200.00
★ 80 MEG	£250.00
★ 120 MEG	£330.00

A600's & A1200's & PCMCIA CARDS  
NOW IN STOCK  
PHONE FOR LATEST PRICES

### SPECIAL OFFER

For A600 & A1200 Owners

New Horizon will collect your machine, fit the drive of your choice and return your machine by overnight carrier to any mainland UK address for a fully inclusive price of only £38.50. Offer lasts till Feb 20th 1993 only. Phone our Sales Hotline for further details.


A600HD Owners - Upgrade to a bigger drive. Phone for more details.

Hard Drives fitted by us are delivered formatted and partitioned.

Installing a Hard Drive will invalidate your Commodore Warranty so all Computers fitted with a New Horizon Drive are covered by our own Full 12 Month RTB Warranty from date of purchase.

## HOW TO ORDER

1. By Phone   
FREE next working day delivery on all items shown and for Credit Card orders placed before 3pm (UK Mainland only). Saturday delivery add £10.00.

2. By Post   
Send a cheque or bankers draft made payable to "New Horizon Computers" and post with your order to :

New Horizon Computers,  
Mail Order Dept  
High Hope, Lea,  
Ross on Wye,  
Herefordshire HR9 7LN.

Remember, when you buy from New Horizon Computers you receive :

- ★ Fully Inclusive Prices
- ★ No Hidden Extra's
- ★ Free Next Day Delivery
- ★ Full Technical Support
- ★ Full After Sales Service



CREDIT CARDS  
WELCOME



New Horizon Computers, High Hope, Lea,  
Ross on Wye, Herefordshire, HR9 7LN  
Tel : 0989 750260 Fax : 0989 750337

SALES HOTLINE 0989 750260 TECHNICAL HELP 0989 750337

# PROGRAMMING TIPS

**Paul Overaa**  
**completes his**  
**error recovery**  
**with the help of**  
**some extra**  
**space on this**  
**month's**  
**Coverdisk.**

## PART 8

**W**e'll start by assuming that a program had got to the 'multi-taskingly friendly' point where the audio device had been opened but that no channels had been acquired. We want our program to grab a channel for the minimum amount of time, namely the play duration of some sound sample, and so to play a sample we really need to do three things...

- Allocate an audio channel
- Play the sound sample
- Deallocate the audio channel

If all audio channels were currently in use it is possible that audio channel allocation could fail and in such a case one would not want to carry out the second and third of the above operations. As far as the system resource handling considerations are concerned this means that we need to dynamically allocate an audio channel and using the arrangements discussed last month it is actually very easy to do.

First we define a suitable label. See (A) on the Coverdisk.

To acquire an audio channel we have to send a ADCMD\_ALLOCATE message to the audio device so this type of code fragment would need to be added to the allocation switch statements discussed last month. (See (B) on the Coverdisk)

To relinquish the channel an ADCMD\_FREE command needs to be sent to the device and so a corresponding fragment also needs to be added to the deallocation routine. There's one that will do the job on the Coverdisk called (C).

This approach has now isolated the channel allocation and deallocation code needed to acquire an audio channel (any available channel). Because all we now need to do is make a call to AllocateVector() routine the framework for a sample playing routine becomes very straightforward. The routine which I've chosen to use for instance has this general structure...

```
void PlaySound(BUFFER *sound_data_p,
              ULONG cycles)
{
    if(!AllocateVector(g_playsound_vector))
    {
        /* Code for playing the sample */
        DeallocateVector(g_playsound_vector);
    }
}
```

Now it is easy to look at the above structure and say that the channel allocation and deallocation could quite easily have been made from within the routine itself. There's no doubt that it could... and in fact that's how many programmers would code it.

The benefits of the approach that I'm advocating doesn't really come to light until you consider the whole picture, ie consider everything that a program might do before it gets to a stage where it can play a sound sample. What is needed therefore is a example program which shows a whole series of allocation/deallocation steps being carried out so that the ideas can be seen in context...

### example code

Even with a smallish Intuition example there was far too much code to list so I've put all the associated files on this month's cover disk. The following notes really just high-light the code areas which relate to the error recovery technique I've been discussing.

Although I'll discuss the other files but I want first to look at the part of the audio\_test.h header file because it is this that contains the arrays which control the execution of the code in the allocation and deallocation switch statements. The example program has to carry out the following allocation operations: Open the Intuition and graphics libraries, open a window, set up a menu, allocate and initialise an audio I/O structure, create the audio reply port, open the audio device, load a couple of sound samples into separate chip memory buffers, and of course allocate an audio channel. Each operation has, along the lines of the scheme discussed last month, been associated with one of these label definitions which is on the Coverdisk called (D).

Each label has a switch statement case in both the allocation and the deallocation routines present in a main code module (audio\_test.c). The important thing to grasp at this stage is that the execution order of these code fragments is dependent on the one dimensional arrays (vectors) which have been set up. The general setting up of the Intuition program is controlled by this vector...

```
UBYTE g_startup_vector[5] = {4, /* count
of labels to follow */
    OPEN_INTUITION_LIBRARY,
    OPEN_GRAPHICS_LIBRARY,
    OPEN_WINDOW,
    SET_MENU_STRIP
};
```

and early on in the main audio\_test.c source code you'll see the setting up operations done using this function call...

```
if (AllocateVector(g_startup_vector)
    ==TRUE) exit(FALSE);
```

This results in the four specified library/window/menu operations being carried out (or the program quitting if it cannot acquire the required resources).

Similarly the opening of the audio device and the loading of the samples into chip memory is handled by another array. (Called (E) on the Coverdisk)

In the audio\_test.c source code you'll find the sort of arrangement used to carry out the above operations (called (F) on the Coverdisk)

If an audio device or sample loading problem occurred, the AllocateVector() routine would automatically hand back everything it had acquired. If on the other hand, the allocations were successful then the DeallocateVector() routine would perform the non-error condition closedown operations.

We've seen this month that the dynamic channel allocation issues can be handled by yet another array (the playsound\_vector described earlier) and all that's needed now is an example which puts all of the ideas together.


This month's example sets up a window/menu in the Workbench screen and then lets you play one of the two samples from the menu. It's not earth shattering graphically but you should find its use of the audio channels quite interesting. Because of the dynamic allocation of any free channel you will find that it is possible to have up to four different copies of the program running in memory and playing sound samples at the same time.

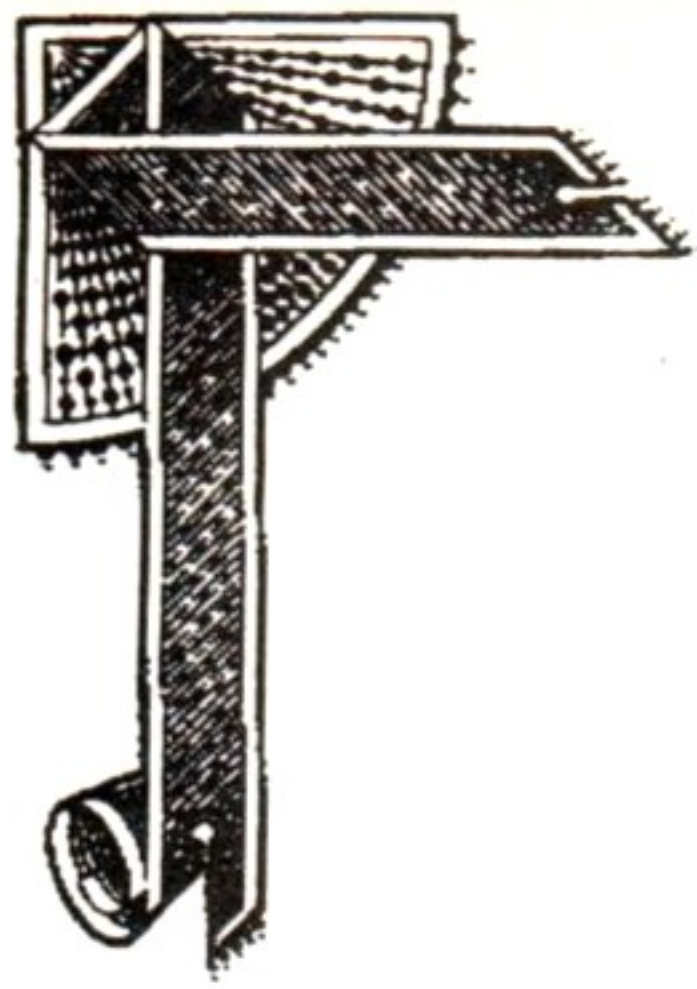
You can of course have more copies running than this because the audio channel allocation routine prevents the program from falling to pieces when there are no more audio channels left. Try running half a dozen copies and see what happens - I've arranged for the first sample to play six times so that there should be plenty of time to switch to other windows and make further selections.

Compared with most Amiga programs my example is small, but be in no doubt that even in a small program a lot of system allocation/deallocation related operations can go wrong - memory may not be available, devices may already be in use and so on. Where this list orientated approach scores is that irrespective of the stage where a system call fails the reverse closedown on error approach will handle it safely!

I've used Lattice/SAS ANSI C and WorkBench 1.3 style code and have placed these eleven files on disk...

general.h	Includes, defines, prototypes and global variables
audio_test.h	Window, resource vectors, and menu definitions
audio_test.c	Main code including the resource handling stuff
audio_test.lnk	Link file
audio_test	The runnable version of the program
audio_test.info	Icon for the runnable program
audio_test.doc	Some extra disk notes
loadbufferchip.o	Object code file for my ADT chip buffer module
loadbufferchip.h	Header file for the above module
sample_data1	First raw sound sample
sample_data2	Second raw sound sample

The audio\_test program does, incidentally, expect to find the two example raw sound files in the current directory. 



# WICKED TOYS FOR WICKED BOYS

## AMIGA A1200 PACKAGE .....£389.00

Our A1200's are also available with fully prepared and formatted internal IDE hard disk drives. Please add the following prices for the size of the disk drive you require:-

40 Mb .....	£169.00
85 Mb .....	£199.00
120 Mb .....	£279.00
170 Mb .....	£319.00
210 Mb .....	£399.00
240 Mb .....	£449.00
330 Mb .....	£579.00
426 Mb .....	£869.00
525 Mb .....	£999.00

Please phone for prices and availability of other hardware.

FOR ENQUIRIES AND OTHER HOT-LINES:

Phone: (0736) 331039 Fax: (0736) 331039

FOR MAIL ORDER SERVICE:

**SOFTWARE DEMON LTD**  
**P.O. BOX 90, PENZANCE**  
**CORNWALL, TR18 2SP.**



*Please add £6.00 for postage & packing. For 24hr delivery add an extra £5.00*

*Please make all cheques/P.O.'s payable to SOFTWARE DEMON LTD. and if applicable please include your credit card No. and expiry date.*

*We must stress that hard drives are not user-fittable. However we do provide a fitting service at a cost of £19.00.*

**PRICES SUBJECT TO CHANGE WITHOUT NOTICE E&OE ALL TRADEMARKS ACKNOWLEDGED**

**ALL PARTS AND PROCESSES PATENT PENDING SOFTWARE DEMON LTD.**

test drive

# The CDTV Sce



**Once again we stop the mighty roar of Croydon's traffic to bring you more news and reviews from the world of Amiga CD**

Jolyon Ralph of Almathera.

## spotlight on almathera

This month the spotlight turns on Almathera Systems, who managed to get three titles in my latest Amiga CD Top Ten. Almathera Systems; formed in June 1990, is based at Challenge House, Mitcham Road, Croydon, just seven miles from ICPUG's GHQ. They're one of the leading Amiga CD specialists in the UK. Not only have they successfully produced and marketed their own CDTV titles, but they also sell CDTV hardware and software.

The company's Managing

Director, Paul Ralph, also happens to be chairman of the European Multimedia Research Group. The Company sSecretary is his wife Bea, an accountant (She says she is secretary, general dogsbody, and chief chaser - and she also makes an excellent cup of coffee.) Jolyon Ralph is Technical Director and ICPUG'S Amiga technical advisor. Massimiliano Guidi (Max to his friends) is the Multimedia Programmer and mainly responsible for the production of the CDPD titles. Last, but not least, Seb, (Sebastian Lee-Delisle) is Head of Multimedia Design. The company also employ

freelance graphic artists and others from time to time.

A visit to their offices is an interesting experience. It's a real hive of activity. Couriers come and go, the phone never stop ringing, deadlines become more and more urgent. There is a cry of "The crier is coming in an hour and this must be finished in time." But despite the apparent chaos the work gest done. The company pride themselves on dispatching all orders the same day if teh item is in stock and, what is more, they have a file of lters from satisfied customrs thanking them for their friendly, helpful service.

## almathera titles

Already released from Almathera are CDTV titles Fractal Universe, CDPn (bundled with the A570), the Demo Collection (reviewed this month) and, hot off the press, coming soon are Video Creator, Senny and Foo, Treasure Quest, and a series of discs covering the RAF Museum at Hendon.

CDPD 2 contains all the latest Fred Fish disks from 660 upwards, Scope disks 1 - 220 plus a Scope Aquarium, ten disks from JAM, the entire NASA AB20 archive, and

Parnet (with the ability to create floppy disks and instal Parnet). This disc will include the George Thompson Services PD catalogue as they supply the fresh Fish!

Jolyon is working on Video creator and is hoping for a release date of early 1993. This disc will allow users to create their own pop videos with graphics and anims to run with audio CDs. It is an exciting idea and yet a further use for the Amiga CDTV. Another title for early 1993 is Senny and Foo. This is a children's adventure, introducing two lizards - Senny and Foo, and is based on a poem written by Bea Ralph. As well as a delightful story plus puzzles and games, it is also aimed at helping seven to twelve year olds to understand the meterin in poetry.

Planned for mid-1993, Treasure Quest is one of Seb's projects. It is dungeons and dragons type game with monsters, wizards and a randomly generated magical maze. One of Paul's ideas is a series of discs based on the RAF Museum at Hendon, where they have a massive film archive - one of largest in Europe. This title will require many video shots and Jolyon is currently experimenting on producing full screen video without using the expensive

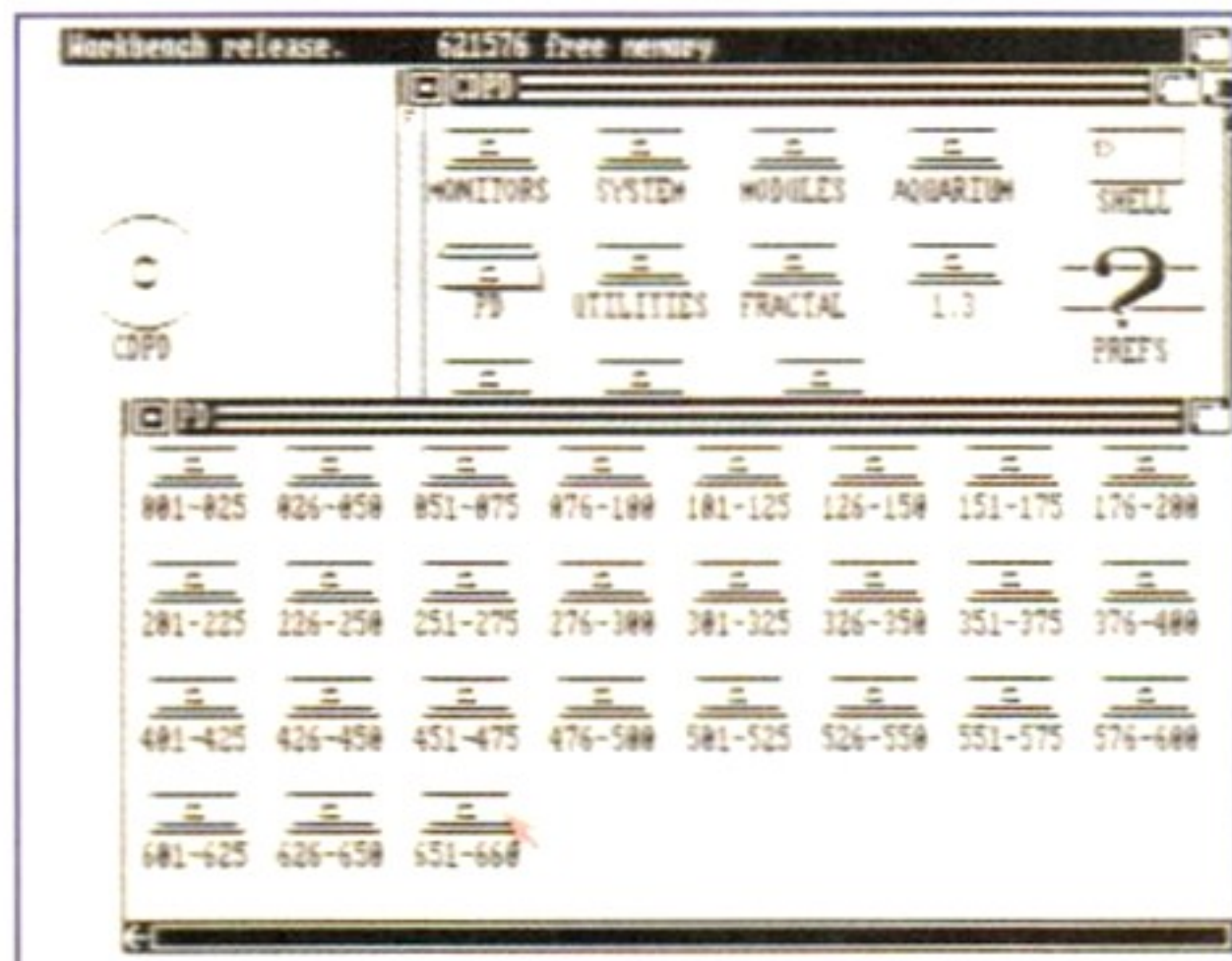
MPEG chipset. What I saw on my visit to Almathera looked very promising indeed.

As you would expect with such experienced programmers, all of Almathera's titles run on Workbench 1.3, 2.0 and 3.0, the CDTV A570 and the the Toshiba CD ROM drive (plus software) which is marketed by Almathera for use with the Amiga 1500/2000/3000.

## Almathera join the EC

Early in December, Managing Director, Paul Ralph, announced that Almathera are to open an office in Brussels. The Belgian branch will deal with the promotion and sale of Almathera products throughout the continent of Europe. There will be an aggressive advertising campaign in continental magazines, following the success of advertisements in Italy. Paul said "This is a great step forward for Almathera and will ensure the success of our products throughout Europe".

For further information contact: Almathera Systems Ltd., Challenge House, 616 Mitcham Road, Croydon, CR9 3AU. Tel 081 683 6418



Almathera CDPD

# REVIEWS

## american vista

Packed with facts, this is a good reference disc for students and potential visitors to the United States. There are superb photographs, and many maps. The maps cover



cities, states, and resources such as minerals, crops etc. Some of the city maps are detailed. For instance those for Dallas and Houston show road names but others, such as those for Orlando and San Antonio, were disappointing.

It is easy to find your way around the disc. From the main menu of States, US Bookshelf, Topics and Maps you just click on the button and find your way down the tree to the facts or picture you need.

There is no sound, apart from samples of folk music and dialects from various areas, and also speeches of the more recent Presidents. (No, George Washington is not among them!)

There are pages of information on history, politics, travel, climate, etc. Some of the facts are fascinating. Did you know, for instance, that the word Texas is derived from the Tejas, the Spanish pronunciation of the Caddo Indian word, Tayshas, meaning friend? No wonder they call Texas the Friendship State.

### VERDICT

Useful for students or travellers. **66%**



Raffles is from the same software house which produced Snoopy (Edge Interactive) and the game play is very similar. In Snoopy you were seeking Linus' missing blanket. This time you take the part of Raffles, the renowned burglar. You have broken into Lady Brooker's mansion and she had locked you in, demanding that you find the jewels which her late husband hid in the house. You can explore all the rooms in the house, move the furniture

around and examine things. The obstacles are the outsize mice and birds, plants and flames, which are all fatal. It is not very inspiring, however the younger members of the family may enjoy the search for the missing jewels. The title is too highly priced and not good value for money.

### VERDICT

Entertaining for the children. **36%**



## ultimate basketball

This title may have only limited appeal in the UK. It has been classified as Education and as such might have a place in schools where Basketball is played. If you want to learn the principles of the game and have some fun, then this disc is for you. Watch the demo and then play the game. There are realistic sound effects and even cheerleaders at half time. You can join in the action, or coach from the sidelines. A panel at the bottom of

the screen shows the score, the players and the time. I

# DEMO COLLECTION

The Demo Collection is another outstanding bargain from Almathera and is included in my latest Top Ten titles. On start-up you make your choice – either load Workbench and access the files from the CD, or load the music demo "Amazing Tunes CDTV", where you can select and play over 1000 music modules – fifty hours of music. If you choose the music demo you get a silhouette of a girl dancing against a background of colour-cycling fractals, under which is the selection panel. Click on Text and the full instructions scroll across the bottom of the screen, along with a fun step by step account of how Jolyon programmed the disc.

If you enter the Workbench you find a standard Amiga screen packed with drawers full of goodies. In each drawer are more sub-directories. In the Protracker drawer are 4000 samples for you to use to compose your own tunes. You decide on the instruments and, if needed, you can fine tune them too. There are instruments and, if needed, you can fine tune them too. There are drawers with fonts, utilities and 200 demos of commercial software, complete with a demo copier. There is a vast library of Clip-art (32MB), just right for the PageStream fans.

Note: Some of the PD requires more than the 800k accessible on the CDTV, or does not run under WB1.3.

### VERDICT

Another outstanding bargain. **96%**



must be honest, not being a basketball fan, I found the game play a bit puzzling!

Note: This disc does not run on the A570.

### VERDICT

Do you enjoy Basketball? **41%**

## TITLES REVIEWED

### AMERICAN VISTA

Applied Optical Media

### DEMO COLLECTION

Almathera

### RAFFLES

Edge Interactive

### ULTIMATE BASKETBALL

Context

Reference RRP £54.99

Arts & Leisure RRP £19.99

Entertainment RRP £29.99

Education RRP £29.99

## chess pieces

Here's a breakdown of some of the features you should expect to find in modern chess programs.

**UNDO MOVE:** You've just taken a knight with your pawn and left your queen undefended.

Whoops. Luckily, this allows you to step back several moves (depending on your memory size).

**SWAP SIDES:** If you think black's doing better than you, or you'd just like the computer to go first, why not change sides of the board?

**GRAPHICS CAPABILITIES:** 3D chess looks lovely, but if you can't see the other side of the board properly, it doesn't help much. Can you rotate the board through 90 or 180 degrees? Can you switch to a traditional 2D mode? Why not? And if you're bored with the current chess set, in some cases you can swap it for a different sort.

**LEARNING PROCESS:** Some chess games may now add to their capabilities by analysing your opening moves and using them in the future (if they're suitably impressed...), or you can add your own at will.

**HISTORY:** Many modern chess programs have libraries of famous chess openings and even whole

games. Some will tell you what sort of opening you've just started or what type of defence you've built, while others will actually play you through a famous game with commentary.

**LEVEL OF PLAY:** Usually dictated by the time the computer is allowed to consider a move. The longer it gets to mull over the position, the better the move it's likely to come up with. You can also opt to make the computer play to lose or draw, when it gives greater emphasis to weaker or average moves respectively.

**SUPPORTING FEATURES:** Chess games will watch, refereeing your moves, while you play a human opponent. They will speak their moves as they make them. They will rate your level of play while you're playing a game with them. They will show you the current range of moves allowed and give you suggestions of the best move available to you.

With all of these goodies (and more) awaiting the chess fan, which game around at the moment is worth consideration? Can you get away with a cheaper game? What about Public Domain chess programs?

# Checked out

**G**one are the days when a solo chess player had to fiddle around with tiny pieces on an electronic board. Now, computer chess games are proving to be a popular addition to the strategists' collections. There aren't thousands of versions competing for the title of best chess program for the Amiga, however you should at least know what you're getting for your money. Here are some of the better ones now available.

## creature comforts

Chess Champion 2175 from Oxford Softworks has character sets to interchange with the standard chess piece type. Included are Farmyard, with sheep as pawns and

chickens for the bishops and Futuristic, which is very strange indeed! The program allows you to rotate the 3D board to get a view from another angle. Another nice addition is the

**There are plenty of chess games around, but which is the best-featured - or the strongest player?**

**Ashley Cotter-Cairns stages a tournament to test them**

ability to multitask with other desktop applications by selecting Amiga Gadgets from the menus.

2175 has 300K of opening moves on disk. It also learns from your openings and lets you add your own if you wish. You can force it to make the best move it has currently found. To move a piece, you click on its starting square then click on its finishing square, which means that to cancel a move you have to click back on the starting square or make an illegal move.

2175 isn't as well presented as Chessmaster

2100, but it is quite easy to use. It has infinite levels of play and somehow isn't quite as daunting as 2100, although the latter is more fun due to the addition of dramatic sound effects and noises.

At £29.99 it represents good value for money.

**CHESS CHAMPION 2175**  
Oxford Softworks  
£29.99

<b>FEATURES:</b>	<b>90%</b>
<b>PRESENTATION:</b>	<b>84%</b>
<b>DOCUMENTATION:</b>	<b>70%</b>
<b>VALUE FOR MONEY:</b>	<b>85%</b>

## classical moves

Chessmaster 2100 comes heavily packaged, with a 20-page instruction manual in four languages, plus a glossy 56-page guide to the rules and history of chess. The game is superbly presented, easily the most attractive of the bunch and also features some neat sound effects and speech. It's just as packed with features as 2175, with 2D and 3D boards, a choice of beautiful chess sets (and the option to load in your own from DPaint!) and rotation of the board, along with most of the standard features.

You can print out a list of moves at any point of the game, load in an historic game and watch 2100 play it out, get the program to rate your game and to show you, in teaching mode, which pieces are threatened or which moves are legal. The program will tell you what sort of opening you've

chosen and adjust it accordingly if it's just part of a more complex opening.

You may also alter the type of control method. You can rule that the first piece touched is the piece you must move, although this may be turned off. To move a piece, you hold down the mouse button and reposition it, while letting go of the button makes it slide back to its original square.

2100 is great fun to use and looks great. It's even better value, therefore, than 2175, which suffers in appearance and documentation by comparison.

Recommended.  
**CHESSMASTER 2100**  
Mindscape  
£29.99

<b>FEATURES:</b>	<b>92%</b>
<b>PRESENTATION:</b>	<b>100%</b>
<b>DOCUMENTATION:</b>	<b>90%</b>
<b>VALUE:</b>	<b>95%</b>

## cheap and cheerful

Colossus Chess has been around for a very long time now. It appears now to be its X version which I take to be the tenth. It was one of the first Amiga chess games and, while it's nice to look at and has some good features, the difference in price is also reflected to an extent reflected in its quality. You have the option to play in 2D or 3D, with tilt as a nice addition to rotate.

As you would expect, undo, force move, force next best move, swap sides and so forth are supported. You don't get the option to load in centuries of classic chess data, nor will the

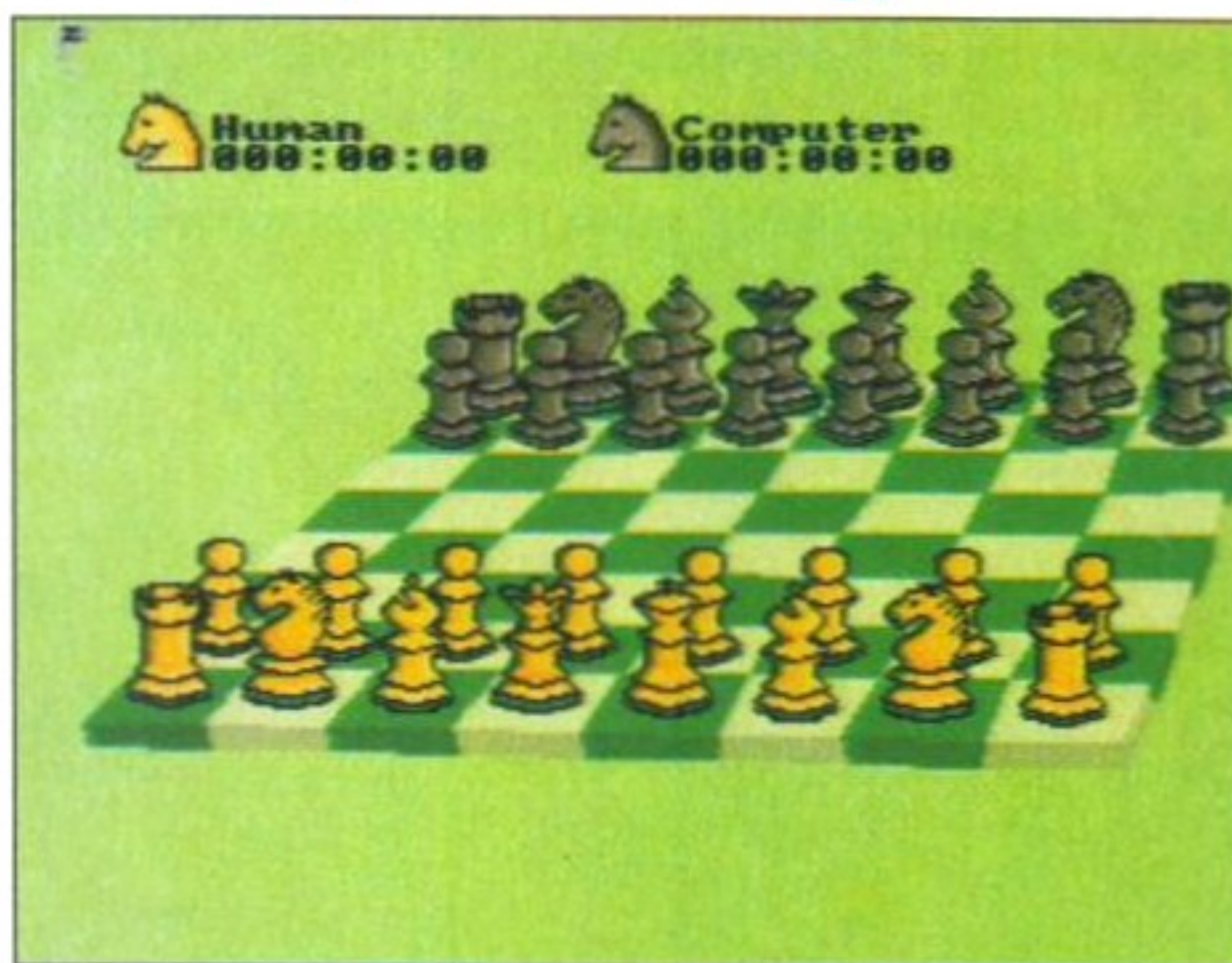
program tell you what sort of opening with which you've begun your game. You can set up problems for the computer to attempt to solve: it will analyse the game while you're looking, but only if it's spotted a strong move.

Colossus is a dated program. Although it looks hold up fairly well and the most essential features are included, it lacks the bells and whistles of the newer programs around. And the manual, such as it is, is a disgrace and really lets the product down. But it's certainly cheap.

**COLOSSUS CHESS X**  
Cds  
£7.95

<b>FEATURES:</b>	<b>62%</b>
<b>PRESENTATION:</b>	<b>73%</b>
<b>DOCUMENTATION:</b>	<b>30%</b>
<b>VALUE:</b>	<b>70%</b>

## public strategy



Chess Champion 2175

There were two Public Domain chess programs which I managed to track down. One is called AmigaChess and is available from various sources. I got mine from the Softville PD Service in Waterlooville. This one is

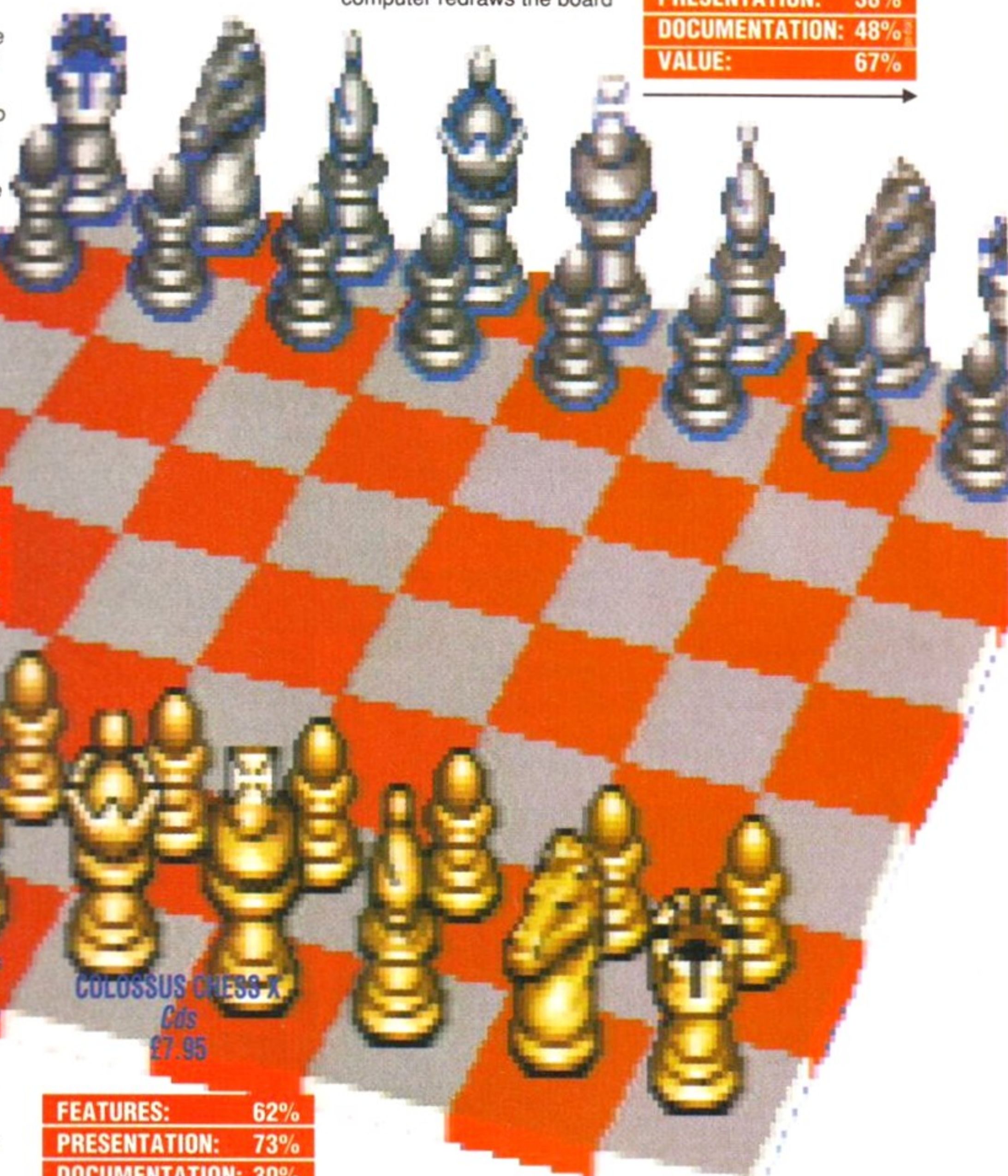
very odd. It's a non-standard deviation in terms of the board, which is blue, red, black and grey. The blue squares relate to the position that white is in and the red relate to black, while the other colours are neutral squares.

After every move, the computer redraws the board

in new colours, depending on the strength of the pieces on the board. For example, a square defended by white's knight, bishop and queen would be very blue, while a square attacked by a white and a black knight would be grey. There are 24 levels of play, but although it's an interesting idea, AmigaChess really isn't a very strong player. It's hard on the eyes, as the author obviously concentrated on the cleverness of the board, while not paying enough attention to general presentation. It's also in interlace mode, which is good news if you've got a hi-res monitor but bad news for the other 99% of Amiga owners.

**AMIGACHESS**  
Public Domain

<b>FEATURES:</b>	<b>45%</b>
<b>PRESENTATION:</b>	<b>38%</b>
<b>DOCUMENTATION:</b>	<b>48%</b>
<b>VALUE:</b>	<b>67%</b>



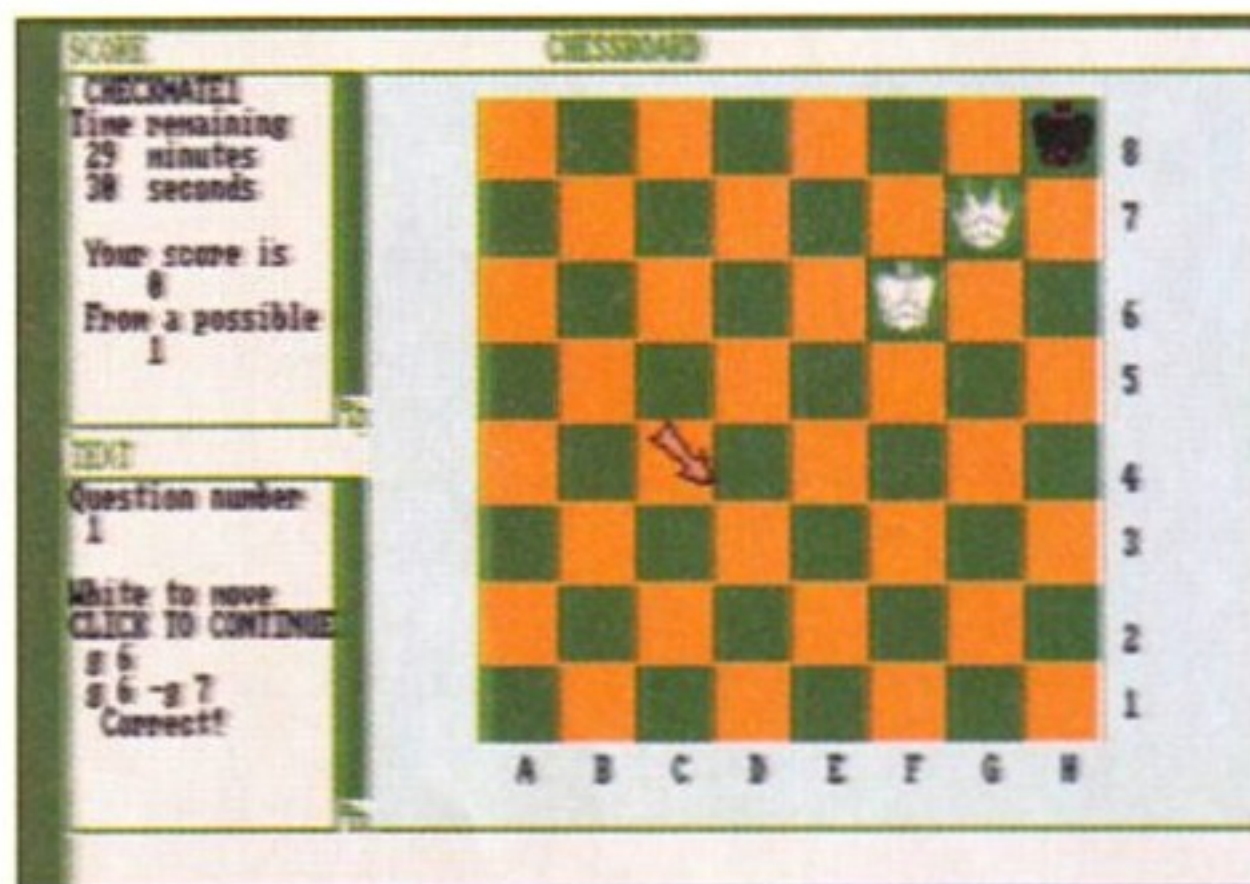


Chess Master 2100

The other PD chess program was pleasantly surprising. It's called Chess 2.0 and is available on Fred Fish disk 205 and from Virus Free PD in Swindon. Again, the level of features is far lower than the commercial software. There is only the 2D mode of play, but it's far clearer than AmigaChess' screen

give you a hint. The time limit may be altered, moves in the game listed to screen or printer and you can even change the colours. The on-disk help may be printed off, which is useful.

Chess 2.0 plays a strong game within its limits and in the play-offs it had a surprising win, which I'll tell you about shortly. For a



Chess 2.00

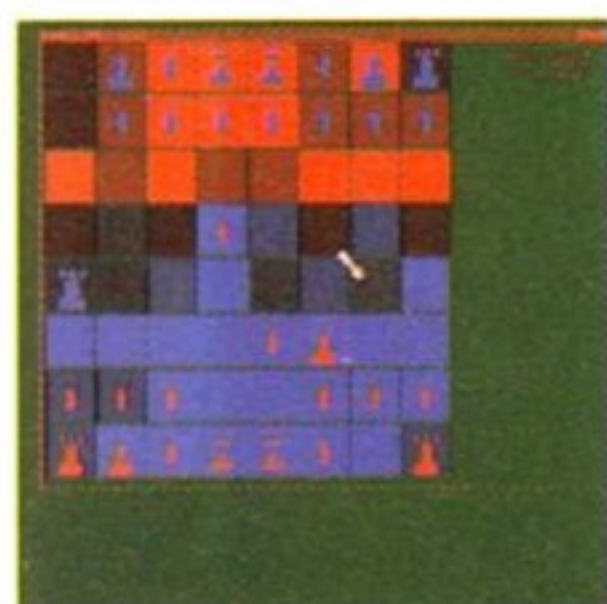
display, being drawn in the classic style. You can set the thinking time of the computer in seconds at the start of play and it sticks to that time limit almost religiously, unless there are only a few obvious moves.

There's a swap sides function, undo moves, reverse board and skip move options, while you can also ask Chess 2.0 to

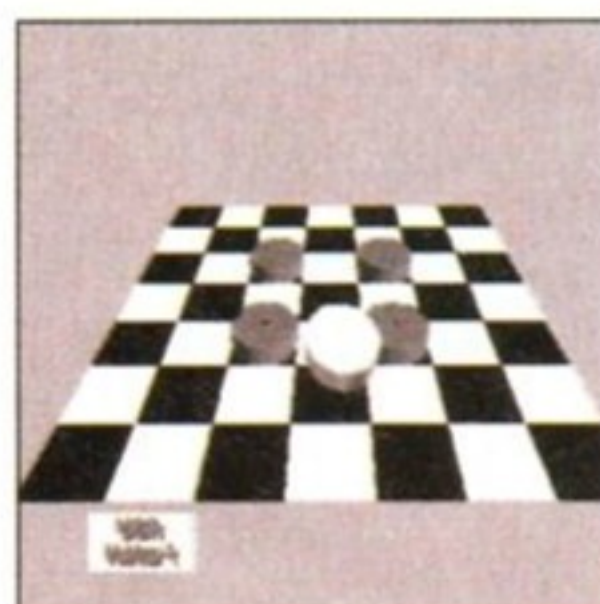
cheap introduction into chess, you could do far, far worse.

## CHES 2.0 Public Domain

FEATURES:	58%
PRESENTATION:	59%
DOCUMENTATION: (on-disk)	67%
VALUE:	80%



Amiga Chess.



Draughts Animation.

# The Great CHESS Challenge

So you've heard what these chess games have to offer: now the question is, which plays the strongest?

The best way to find out is to pit each program against the same human opponent in a series of games. But without a human opponent of sufficient standard, the next best idea was to play them against *one another*. When the Amiga plays chess

against herself, who will be the winner? Hmm. Tricky.

The various suppliers of the chess programs were quite optimistic. A spokesman at Oxford Softworks was heard to say, "Ours will thrash all of the others, it's the strongest."

Would he be proven correct?

The rules were as follows. In order to get the games flowing nicely along, the computers would be

allowed one minute's thinking time each. If applicable, the games' levels were set to Tournament, with WIN as the objective. A coin was tossed to see which game played white. Names were drawn out of a hat for the semi-finals and, with an odd number of programs, the Public Domain games were played against one another before the semi-finals began.

## the draw

### Chessmaster 2100 vs Chess Champion 2175 Colossus Chess X vs AmigaChess or Chess 2.0

## qualifying round

### AmigaChess vs Chess 2.0

AmigaChess was playing at level 15 and took white. Before long, Chess 2.0 had set up a strong

advantage, with red squares littering the board. Clearly, there was only ever going to be one qualifier

and Chess 2.0 easily defeated the lesser opponent in 42 moves.

## semi-finals

### Chessmaster 2100 vs Chess Champion 2175

The best game overall in the tournament, lasting a mammoth 80+ moves. Had these two mighty programs been drawn apart, there is no doubt that this confrontation would have been the final proper. Both games opened with a King's Indian (or a classic

variation in 2100's case) and both spotted them, duly informing me of the opening the other played!

Advantage was very finely balanced, with one program and then another on the ropes at some stage. Knights played a very important part and it wasn't until 2100 pinned a knight

and a rook late on that the balance was tipped. Finally, after some 2 hours 35 minutes, checkmate went to Chessmaster 2100 and the Mindscape game had fought its way into the final, despite the bullishness of the PR man at Oxford Softworks...

### Colossus Chess X vs Chess 2.0

This game was significantly shorter than the other semi-final, with both programs launching attacking moves early on. Around move 13 the bloodbath began, with a complex central position opened wide by Colossus

in a massive exchange of pieces. Colossus seemed to be throwing caution to the wind, sacrificing a bishop and a knight very early and the program never had much chance after that.

Both queens were taken, but Chess 2.0's

knight-rook combination won the game in the last stages, when they guided a pawn to promotion at the top rank. Checkmate followed in four moves. Could a PD game win the ultimate Amiga chess challenge?

## final

### Chessmaster 2100 vs Chess 2.0

Romantic PD fans might have wished that 2.0 could overturn the program that costs thirty times the price, but it was not to be. The commercial package brought its queen out very early and built a strong defence. Still, Chess 2.0 put up a brave fight and

had the best of the early middle game.

But 2100 soon pressed home its advantage and won comfortably on the 45th move. It wins the Amiga User International chess award 1992 (a small plug). Chessmaster is the best all-round Amiga chess

program we examined. There's your plug, guys.

My thanks go to the Public Domain and commercial software companies that helped me out. If anyone reading this has a chess game they'd like to enter into next year's challenge, drop us a line...

CHESSMASTER	CHESS 2.0	CHESSMASTER	CHESS 2.0
D2-D4	G8-F6	A4-B3	C8-D7
C2-C4	G7-G6	F3-D2	D8-B6
B1-C3	F8-G7	F2-F3	G7-H6
E2-E4	D7-D6	C3-A4	B6-D6
G1-F3	0-0	A4-C3	H6-E3+
F2-E2	E7-E5	G1-H1	E3-F4
0-0	BB-C6	G2-G3	F4-G5
D4-D5	C6-B4	F3-F4	E5x4
D1-A4	C7-C5	G3x4	G6-H5

THE FINAL, MOVE-BY-MOVE	
CHESSMASTER	CHESS 2.0
E4-E5	D6xE3
F4xE5	F6-G4
E5-E6	D7xE6
D5xE6	A6xE6
D2-E4	H6xC1
CHESSMASTER	CHESS 2.0
C2-G4	F7-F5
G1xC1	F5xG4
E4xC5	E6-B6
C5-E4	F8xF1+
C1xF1	B4-D3

CHESSMASTER	CHESS 2.0	CHESSMASTER	CHESS 2.0
E4-F6+	G8-G7	D5-D6	B6-B5
B3xB6	A7xB6	D6-D7	F7-F6
F6xG4	D3xB2	E5-E8	F6-F5
G4-E5	AB-A5	D7-D8Q	B5-B4
F1-F7+	G7-G8	D8-D5+	F5-F4
C3-D5	A5xD5	E8-E4+	F4-F3
C4xD5	D2-D3	D5-D3+	F3-F2
F7-E7	D3xE5	D3-E2++	
E7-E5	G8-F7		



# White Knight Technology

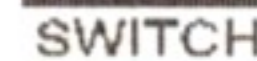


AMIGA Specialists

(0992) 714539

10am - 9pm Mon - Sat

PO BOX 2395, WALTHAM CROSS, HERTS, EN8 7HT



Credit Card Surcharge of 4%. None on Switch

E&OE

## ACCELERATORS

### G8020

SSL A5000 16.7MHz 020+ 881  
2Mb Fitted £ 199  
4Mb Fitted £ 259

### G8030

SSL B5000 25MHz 030 + 882  
4Mb Fitted £ 399  
8Mb Fitted £ 569

SSL B5000 33MHz 030 + 882  
4Mb Fitted £ 499  
8Mb Fitted £ 675

GVP G-Force 030 - 25MHz  
1Mb 32-Bit RAM + SCSI £ 549

IVS Vector 2000 25MHz 030  
SCSI & Upto 32Mb RAM £ 579

GVP G-Force 030 - 40MHz  
4Mb 32-Bit RAM + SCSI £ 779

GVP G-Force 030 - 50MHz  
4Mb 32-Bit RAM + SCSI £1099

GVP A530 Turbo 40MHz 030  
1Mb RAM & 120Mb Drive £ 769

VXL\*30 25MHz 68030EC with  
Optional RAM & Co - Pro £ 239

VXL RAM (2Mb, 60ns) £ 199

### G8040

GVP G-Force 28MHz 68040  
For A3000. 2Mb RAM £1525

GVP G-Force 33MHz 68040  
For A1500/2000. 4Mb RAM  
SCSI + Serial & Parallel £1525

PP&S 040/2000 28MHz 68040  
For A1500/2000 with 4Mb £1299

PP&S 040/3000 25MHz 68040  
For A3000, No RAM £ 749



Almost All  
AMIGA  
Hard & Software  
Supplied

ALL PRICES INCLUDE  
VAT AND POSTAGE  
ADD £10 FOR COURIER

## A4000

25 MHz 040 & 6Mb RAM

120 Mb - £2299

4Mb 32-Bit SIMM £ 160

## A3000

25 MHz 030 & 2Mb RAM

52 Mb - £1149

105 Mb - £1299

4Mb St.Col. Zip RAM £ 189

## A1200

14 MHz 020, 2Mb RAM £385

A1200 With ZOOL Pack £ 399

For Our Latest Prices And  
Technical Information, call  
★ THE BIG BANG BURGER BAR BBS ★  
081 707 2064

## BARE DRIVES

3.5" Qtm/Mxt/Fuj/Dec SCSI  
120Mb (1") £ 299  
213Mb (1") £ 419  
340Mb (1.6") £ 689  
425Mb (1.6") SCSI-2 £ 979

## 600/1200 DRIVES

20Mb (2.5" IDE + cable) £ 139  
40Mb (2.5" IDE + cable) £ 199  
60Mb (2.5" IDE + cable) £ 229  
80Mb (2.5" IDE + cable) £ 289

## HARD DRIVES & CONTROLLERS

GVP HD8+ 80 £ 379  
GVP HD8+120 £ 429

IVS Trumpcard 500 AT - IDE  
No Drive or RAM £ 139  
42Mb IDE Version £ 279

IVS Trumpcard 500 Classic  
SCSI, No Drive £ 135

GVP HC8+ £ 125  
GVP HC8+ 80 £ 345  
GVP HC8+120 £ 409

IVS Trumpcard 2000 Classic  
SCSI, No Drive £ 75

IVS Grand Slam! 2000  
SCSI, RAM + Parallel £ 169

## REMOVABLE DRIVES

Syquest 44Mb 5.25" £ 275  
Syquest 88Mb 5.25" £ 365  
44Mb Cartridge £ 66  
88Mb Cartridge £ 99

IMPACT VISION 24

£1349

OPAL VISION

£ 749

VIDEO BACKUP  
SYSTEM £65

WORKBENCH

2.1 Enhancer Kit

Workbench 2.1 Kit £ 55

Kit With 2.04 ROM £ 89

MORPH PLUS 159

CINEMORPH 89

IMAGE FX 199

ADPRO 2.15 159

IMAGINE 2 149

ALADDIN 4D 259

TRUE PRINT 24 54

IMAGEMASTER 119

**(DEPT AUI) DISCOVERY  
108 THE AVENUE, CLAYTON,  
BRADFORD, W.YORKS, BD14 6SJ.  
TEL. 0274 880066.**

**SPECIAL OFFER!**

HERE ARE 2 AMAZING OFFERS YOU CANT AFFORD TO MISS.

1. WITH EVERY 25 PD DISKS YOU BUY WE GIVE YOU A GAME WORTH 15.00 R.R.P. OR MORE
2. FOR EVERY 10 PD DISKS YOU BUY WE GIVE YOU A FREE 10 CAPACITY DISK BOX WORTH 1.99.



**P.D. YEAH CAN YOU DIG IT?**

**DEMOS**

PULLING THE TRIGGER  
BUDBRAIN 2 (AFRICA)  
VIRTUAL WORLDS  
ODYSSEY (5 DISKS)  
RED DWARF (2 DISKS)  
DEVILS COLOURS  
GRAPEVINE 9 (2 DISKS)  
A TRIP TO MARS  
WILDLIFE MEGADEMO  
GOLDFIRE MEGADEMO  
EPIC DEMO  
HYPNAUTIC HAMMER 2  
MELTED EXPERIENCE  
TOTAL REBATE  
TOTAL RECOUNT  
PLANETSID  
GLOBAL TRASH  
SILENCE ICE  
THE CULT MEGADEMO 2  
DARKNESS MEGADEMO  
LINE MEGADEMO  
END OF CENTURY 1999  
ZEUS MEGADEMO  
PHENOMENA DEMO  
MENTAL HANGOVER  
ANTTRAX 2010  
TRIANGLE GIGADEMO 2  
CAT FOOD 41  
WORLD DEMOS 2  
IAN AND MICK M/DEMO  
VECTOR DEMOS  
SINKING DEMAND  
TFF DEMO VOYAGE  
SHOCKWAVE  
SAFY DEMO  
DEVILS "NO REALITY"  
DIMENSION 4  
PRECISE DEMO  
TOTAL CONFUSION  
AURORA MEGADEMO  
FAScINATION  
WALTER ST DEMOS  
TOTAL DESTRUCTION  
DEFCON 1 (BIG MAC)  
ZINE MAG  
COAXIAL COMP  
COOL FRIDGE DEMO  
HARLEQUIN DEMO  
SEEING IS BELIEVING  
MR MEN STORIES  
SPELLBOUND DEMO  
THE GROOVE RAM JAM  
STAR WARS DEMO (2 DISKS)  
NOT THE 9 O'CLOCK NEWS (2)  
POPEYE DEMO  
THE C.E.S. DEMOS  
AVENGERS MEGA DEMO  
COW PACK 2 (BUDBRAIN 3)  
DISORDER DEMO

**SLIDES**

HAM PICS SHOW 1  
HAM PICS SHOW 2  
PARTY DISASTER  
LIVE CORRUPTION  
POP PICS  
MADONNA SLIDES  
MADONNA IMMACULATE  
SIMPSONS SLIDES  
ADDAMS FAMILY SLIDES  
DR WHO SLIDES  
NASA SLIDES  
DEMONS SLIDES  
TOTAL RECALL SLIDES  
NEIGHBOURS SLIDES  
BASKET CASE 2  
FRACTION DEVINE 1  
FRACTION DEVINE 2  
TRACK MASTER SLIDES  
GARFIELD SLIDES  
HELLRAISER SLIDES  
NIGHTBREED SLIDES  
HORROR SLIDES  
TATE GALLERY 2  
PENTAGON SLIDES  
MUSCLEMANIA  
CREATURE COMFORTS  
WONDER YEARS SLIDES  
GULF WAR SLIDES  
FANTASY PICS  
PSYGNOSIS MAGICAL PICS  
FREDDIES DEAD  
THE INVISIBLE WORLD  
T.S.P. SLIDES  
PAWN BROKER SLIDES  
KICK OFF 3 SLIDES  
CHAINSAW SLIPPERS

**UTILITIES**

QUICK BENCH  
QUICK BENCH + (A500+)  
CROSSWORD DESIGNER  
NCOMM 1.92  
MED 3.21  
ICON EDITOR  
ICON MANIA  
AMICASH  
ULTIMATE ICONS  
NORTH C (2 DISKS)  
D PAINT FONTS 1  
D PAINT FONTS 2  
D PAINT FONTS 3  
MASTER VIRUS KILLER 2.2  
MIDI UTILITIES  
MESSY SID 2  
MODEM UTILITIES  
SPECTRUM EMULATOR  
ANIMATED POINTERS  
Q-BASE  
DESK TOP PUBLISHER  
DENNIS SAMPLES (7 DISKS)  
P.E. GIANT UTILS (1.68)  
VIDEO UTILITIES 1  
VIDEO UTILITIES 2  
HOME UTILITIES  
JOURNAL HOME ACCOUNTS  
AMI BASE  
GFX UTILS 1  
GFX UTILS 2  
LABEL DESIGNER  
BUSINESS CARD DESIGNER  
BOOTBENCH V2.0  
CLI HELP + OTHERS  
CATALOGUE WORKSHOP 1  
CATALOGUE WORKSHOP 2  
SOUND MONITOR  
DICE (2 DISKS)  
RED DEVILS UTILS  
RED DEVILS UTILS 4  
RED DEVILS UTILS 6  
ELECTROCAD  
SLIDESHOW MAKER  
FONT DESIGNER  
UEDIT  
AMIGAFOX (W.P.)  
PUMA TRACKER  
POWERLOGO  
OPTI UTILITIES  
OPTI COMMS (NCOMM V2)  
DISKSALV  
NEW SUPER KILLERS V 2  
D-COPY 3  
P.C. EMULATOR  
VIDI FONTS 1  
600 BUSINESS LETTERS  
INVOICE PRINTER  
ILLINOIS LABELS  
PROTRACKER V 2

**GAMES**

BUG BASH  
ASTEROIDS  
DIZZY LIZZY  
SUPER SKODA CHALLENGE  
MISSION X RAID 2  
MISSION X RAID 3  
DYNAMITE DICK  
POM POM GUNNER  
ATIC ATAC  
MARBLE SLIDE  
JET PAC  
TRUCKING (2 DISKS)  
TRUCKING ON 2 (2 DISKS)  
LEMMING OIDS  
MERV THE MERCILESS  
SKATE TRIBE  
CAVE RUNNER  
WIZZY'S QUEST  
INSIDERS CLUB  
FRANTIC FREDDIE  
BOARD GAMES  
TWINTRIS  
SUPER TWINTRIS  
LLAMATRON  
THE TENNIS GAME  
MORIA ADVENTURE  
RETURN TO EARTH  
SCUM HATERS  
DRIP AND MEGABALL  
ETERNAL ROME  
DOWN HILL CHALLENGE  
LAZER ZONE  
SERENE 2  
SERENE 3  
STAR TREK 1 (2 DISKS)  
STAR TREK 2 (3 DISKS)  
PUGGLES  
E-TYPE  
CRAZY SUE  
SQUATS REVENGE  
SKY FIGHT  
AIR MANIA  
WIZARD WORLD  
TOTALLY FRANTIC QUIZ  
CHESS V 2.0  
SMASH TELLY  
BILLY THE DRAGON  
TOMCAT  
MAKE A BREAK QUIZ  
F-1 CHALLENGE  
SQUAMBLE  
OTHELLO  
AIR RACE 2  
PETERS QUEST  
PIPE RIDER  
DOOR TO DOOR  
PIPE LINE  
DUNGEONS OF DORIDIAN  
QUADRIX P

**ANIMS**

PROBE SEQUENCE  
GHOST POOL  
POCKET WATCH  
MINERS ANIM  
CLOTHES PEG  
HOLIDAY ANIM  
FLIGHT ANIM  
ENTERPRISE LEAVES DOCK  
FLEET MANOEUVRE  
ALARM ANIM  
PORKY PIG  
AMY Vs WALKER  
WALKER 1  
WALKER 2  
WALKER 3  
AT THE MOVIES (1.5 MEG)  
AT THE MOVIES 2 (4 DISKS 1 MEG)  
CAMOUFLAGE  
MR POTATOHEAD  
ADVENTURES OF CHUCK  
FRAXION REVENGE  
ROBOCOP ANIM  
BASKETBALL ANIM  
RAIDERS OF THE LOST ARK  
TOP GUN DEMO  
POLICE CAR CHASE  
ANIMATORS DEMO  
LOW LEVEL FLIGHT  
3D SPACESHIP  
BUNSEN BURNER  
SHUTTLECOCK ANIM  
PUGS IN SPACE  
ZEUS ANIM  
STEALTHY ANIMS  
LIGHT CYCLE DEMO (2 DISKS)  
AGONY ANIM  
COOL COUGER  
DART ANIM  
THE BOINGS  
FILLET THE FISH  
BAD BIRD  
REAL PINBALL ANIM  
BATMAN  
5 WAYS TO KILL A MOLE  
ANOTHER 5 WAYS TO KILL A MOLE  
FRACTAL FLIGHT  
LUXOR TEENAGER

**MUSIC**

DIGITAL CONCERT 2  
DIGITAL CONCERT 3  
DIGITAL CONCERT 4  
DIGITAL CONCERT 5  
DIGITAL CONCERT 6  
CRYSTAL SYMPHONIES  
EVIL FORCES (2 DISKS)  
TECNOTRANCE 3  
ENIGMA SADNESS 1  
THE YELLO MIX  
BYTERAPPERS 5  
BYTERAPPERS 6  
FLASH DEMO 4  
FLASH BY QUEEN (2 DISKS)  
806 REMIXES  
CHAOTIC SOUNDS  
VOCAL ATTACK 2  
COMMANDO REMIX  
SONIX MUSIC 2  
BOMB THE BASE DEMO  
THE POWER  
CLAPPING WORLD  
NEWTRONS DEMO  
MICRO DEAL  
RAVE DEMO  
CHRISTMAS FANTASIA  
MAGNETIC BEATS  
ROBIN MEETS THE WEETABIX EXPRESSIONS  
A ROCK AND ROLL FANTASY  
THE DARKLING LORDS  
TALK TO THE TREES  
THE WORLD OF TECNO  
DENTON CD PLAYER  
BRUNO'S MUSIC BOX 3 (2 DISKS)  
SUBWAY  
SPACED OUT  
SILENTS FULL POWER MUSIC  
COMIC STRIP REMIX  
SICKNESS SIMULATOR  
PAN 3 DEMO  
MASTERS AT WORK 1  
MASTERS AT WORK 2  
DEADLY JAMMIN 2  
HARDWIRED (2 DISKS)  
MUSIC MAESTRO 6  
STUDIO MUSIC 9

**NON P.D. GAMES**

**AMIGA POCKET POWER ONLY ..... 2.89ea**

FOOTBALL MANAGER  
HOTSHOT  
THAI BOXING  
LAS VEGAS  
FROST BYTE  
MOUSE TRAP  
PLUTOS  
FLIGHT PATH 737  
5TH GEAR  
ICE HOCKEY  
SLAYER  
STEEL

STAR GOOSE  
SUPER SKI  
EYES OF HORUS  
H.A.T.E.  
HIGHWAY PATROL  
BAD COMPANY  
STARRAY  
CHICAGO 90  
DOGS OF WAR  
QUADRALIEN  
BEYOND ICE PALACE  
SPACE STATION

**ALSO:**

FIRE & ICE ..... 23.99  
CISCO HEAT ..... 9.99  
GERM CRAZY ..... 8.99  
INT ICE HOCKEY ..... 8.99  
DOUBLE DRAGON ..... 7.99  
PASSING SHOT ..... 8.99  
UNDER PRESSURE ..... 8.99  
PACLAND ..... 8.99  
PAC-MANIA ..... 8.99  
NEIGHBOURS ..... 9.99  
THE HUNT FOR RED OCTOBER ..... 9.99  
GALACTIC CONQUERER ..... 7.99

**ACCESSORIES**

**DISK BOXES**

3.5" HOLDS 10 (CLEAR) .. 1.99  
3.5" HOLDS 40 ..... 4.99  
3.5" HOLDS 80 ..... 5.99  
3.5" HOLDS 100 ..... 6.99  
3.5" BANX HOLDS 60 ..... 8.99

**JOYSTICKS / MICE**

QUICKSHOT 1 ..... 6.99  
APACHE 1 ..... 7.99  
PYTHON 1 ..... 9.99  
PYTHON 1 M ..... 10.99  
CHEETAH 125+ ..... 9.99  
CRUISER ..... 10.99  
NAVIGATOR ..... 12.99  
STINGRAY ..... 12.99  
MAVERICK 1M ..... 13.99  
JETFIGHTER ..... 13.99  
SUPERSTAR ..... 13.99  
ZIP STICK ..... 13.99  
TOPSTAR ..... 23.99  
INTRUDER 1 ..... 24.99  
AVIATOR 1 ..... 34.99  
MANTARAY ..... 13.99  
SPEEDKING ..... 11.99  
SQUICK MOUSE ..... 19.99  
NAKSHA MOUSE ..... 29.99

**ALSO**

MOUSE HOUSE ..... 1.99  
MOUSE MAT ..... 2.80  
A500 DUSTCOVER ..... 3.99  
A600 DUSTCOVER ..... 3.99  
MONITOR COVER ..... 5.99  
PRINTER STAND ..... 5.99  
ROBOSHIFT SPLITTER ..... 14.99  
MONITOR STAND ..... 13.99  
3.5" HEAD CLEANER ..... 4.99  
3.5" BLANK DS/DD (EA) ... 0.49  
3.5" DISK LABELS (60) ..... 1.00

**HOW TO ORDER**

**DISK PRICES**

1-9 ..... 1.25  
10 OR MORE ..... 0.99

**PAYMENT.**

WE ACCEPT ALL MAJOR CREDIT CARDS. PLEASE MAKE CHEQUES & P.O.s PAYABLE TO:

**POSTAGE.**

U.K. (P.D.) ..... 0.60  
U.K. (ACCESSORIES) ..... 0.90  
REST OF WORLD ..... 1.50  
(PER ORDER)

**DISCOVERY**

AND SEND TO:  
108 THE AVENUE,  
CLAYTON, BRADFORD,  
W.YORKS, BD14 6SJ.

**ROCKFORD PACK**  
10 DISK PACK ALL WITH A BOULDERDASH GAME THEME .. ONLY .. 9.00

**C-64 EMULATOR**  
THIS 3 DISK PACK COMES WITH EMULATOR AND LOADS OF BRILL GAMES. 3.75

**EDUCATIONAL PACK**  
15 DISKS FULL OF VARIOUS LEARNING AIDS FOR ALL AGES .. ONLY .. 12.50

**CATALOGUE DISK**  
OUR LATEST VERSION 2.4 IS NOW AVAILABLE AT ONLY 80p OR FREE WITH 1st ORDER

# AMIGA



For anyone who has just got an Amiga, well, you are in for a surprise. What ever reason you had for stumping up the cash - or getting someone to do that kind thing for you - you will find that there are lots more things that you can do with it than you ever imagined.

That's why we've put together this **au!** Special to give all those who are just beginning a guide to many of the different areas of Amiga activity.

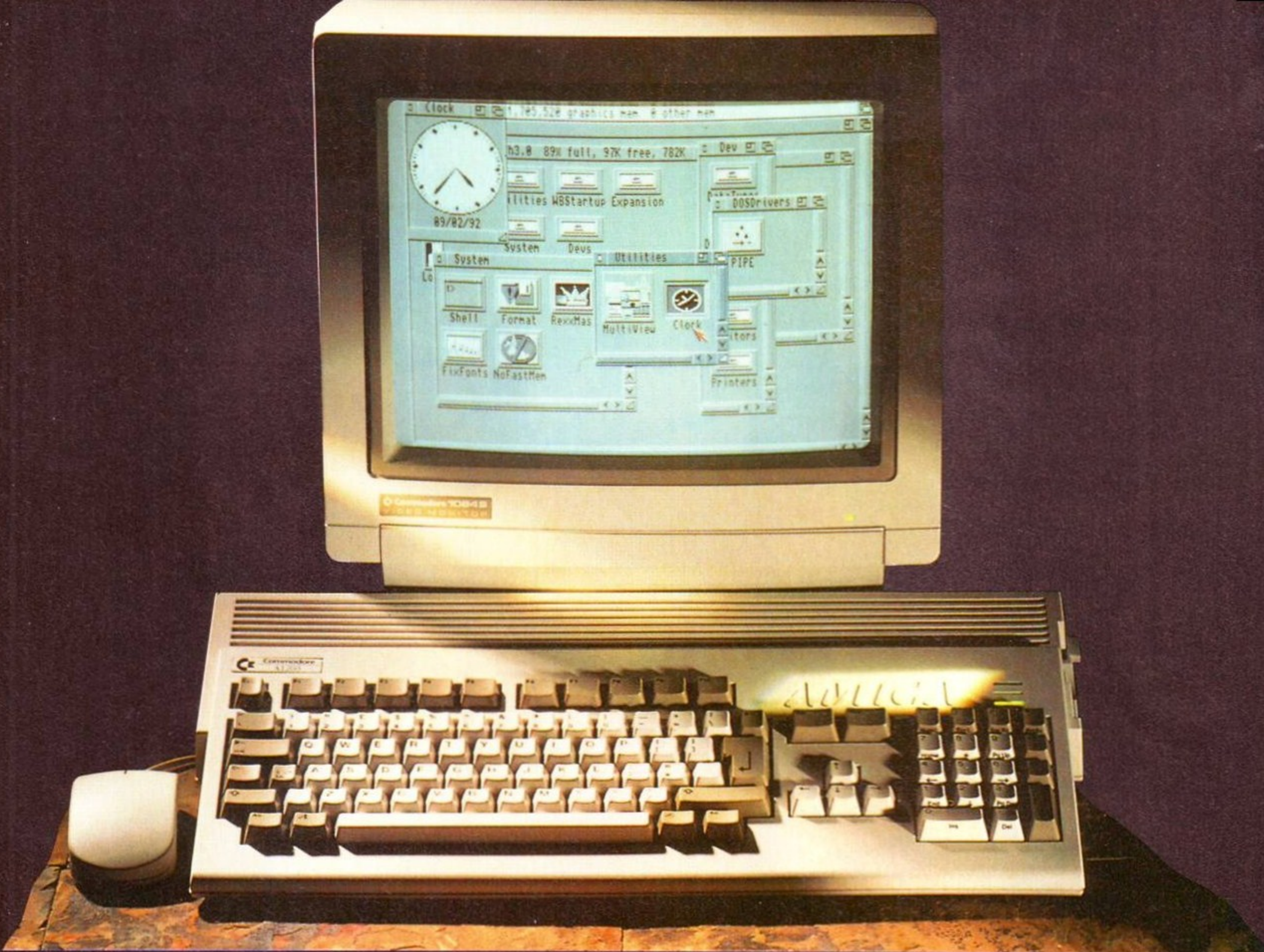
Yes, I know YOU know everything but just in case there is a thing or two that you have forgotten, you might find it in the following pages..

And if you are just  
Beginning Here - enjoy!!

ANTONY JACOBSON

# BEGINNING HERE!

an au! special



A1200 Commodore's newest baby, fated to become a legend too?

**Peter Hayes offers you a personal taste of the many flavours of the world's favourite computer.**

**T**he Amiga is not just one computer but a whole range, all based on a uniform core of functions - those embedded in the hardware and those that come with the operating system. The Amiga's core is unlike that of any other computer. Yes, though the computer may use the same processors as other machines, its magical combination makes the Amiga unique.

Amigas are good machines to start with but can, like any modern computer, be made better. One of the features of the passing years is the way in which the Amiga third party market has improved the "lesser" Amiga's via extra devices, making the differential between the various Amigas less clear cut than they once were.

I've taken a look at each machine in its own right. There are enough software/hardware bundles and general "deals" doing the rounds - both official and dealer led - to cause a major amount of confusion. For this reason I've steered clear of mentioning inclusive software bundles and concentrated on hardware and target markets. It is best to check with both your local dealer and the editorial/advertising of magazines such as AUI for present availability and up-to-date price..

# AMIGA 1000

**THE AMIGA 1000:** The first machine to carry the Amiga logo - in those days an attractive rainbow tick - is now so long gone that it's hardly worth mentioning the specification. But for those who never came across it, the earliest Amiga arrived with a massive (!) 256K and the 1.0 version of the operating system and a fast (!) 7.14 MHz clock speed. It was, like all Amigas even today, based on Motorola technology, in the case of the A1000, the then state of the art but now outmoded 68000 chip. (Even the expression "state of the art" has been replaced by "leading edge"! Times and Amigas change...) The original price, believe it or not, was £1700 but the A1000 was thought to be a business machine, a PC basher. It wasn't.

The very first came with the footprint of a dog moulded into the casing. It was the pawmark of Lorraine - the pooch that belonged to Jay Miner, the man who was most responsible for creating the computer. Lorraine was the original code-name for the Amiga. If you knew the right combination of keys to press there was also a very rude message about Commodore buried in the operating system.

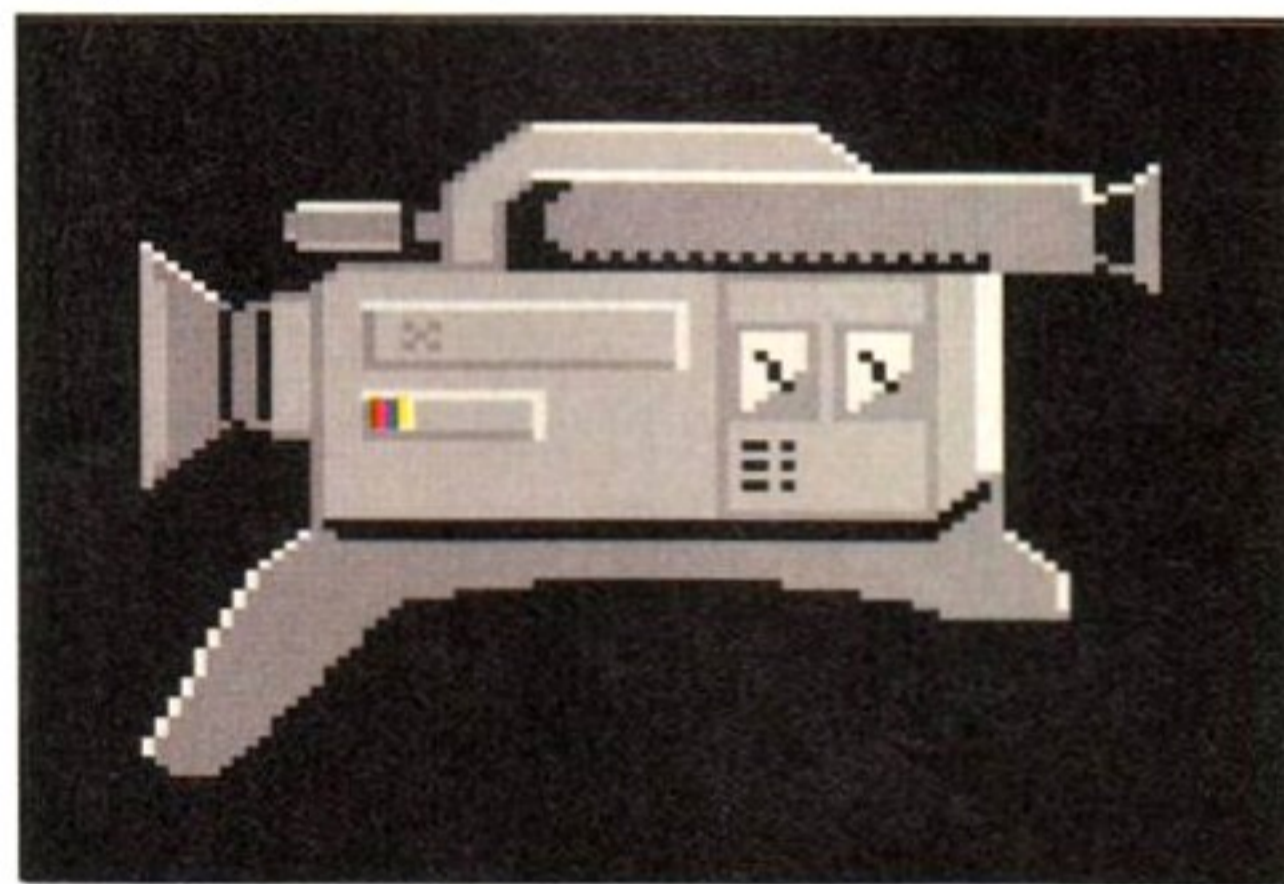
The few 1000s that today come onto the secondhand market do so at very low prices indeed. Some of these require you to load the ROM from disk, so for this reason alone they really are not to be recommended at any price. They might be useful for spare parts or cannibalisation, of course, if you are an expert - in which case, except for a wallow in nostalgia, why are you reading this? However, it is reliably said that one or two diehards who write for this magazine insist on continuing to use 1000s. Some people like Morris Minors too...

## THE HAYES VERDICT:RIP.

PRICE: NOT AVAILABLE (say about £50 for collectors?)

# V BEGINNING HERE! VIDEO

The Amiga is one of the world's leading computers in the video field. Whatever the special tricks you see on TV, your trusty Amiga can probably do the same. So the Amiga has gained quite a name for itself in the video industry and you too can easily enjoy creating videos in your own home.



The first item on anyone's shopping list should be a genlock. This magical device allows you to record your Amiga's video output (graphics etc) directly onto video tape (i.e. your VHS video recorder). All Amiga genlocks can additionally overlay graphics, such as captions, on top of live video. The Amiga 600 and 1200 models can directly hook up to a video recorder without the need for a genlock. However, you will still need a genlock if you wish to overlay graphics with your live video material. Genlocks start at about £100.

For Software, the best package you could possibly own is Deluxe Paint III or IV. With this (the best Amiga art package), you can create superb title screens, high resolution captions, and some fantastic animations.

There are lots of low price video tools you can buy. One such as the brand new VideoMaster which unfortunately only works with the A500 but at just £69 for a really professional like add-on we must hope its suppliers will get working on a version for the 600 and 1200.

The only other thing you need, which you can't buy from your local Amiga dealer, is imagination. That, I'm afraid, you either have or you don't. But don't despair, you can have loads of fun adding simple graphics and captions on top of your own home videos without requiring original ideas. Just try experimenting with your Amiga, software and video recorder. With plenty of enthusiasm and an equal amount of effort you may surprise yourself!

G a r y F e n t o n

# A500+

THE A500 (PLUS) original price £399: The once popular, but now discontinued, Amiga first launched in 1986. This model has so far, it is said, constituted over ninety percent of Amiga sales - thought to be around 850,000 in this country alone (plus another 2 million or so worldwide). There may be a few new ones hanging around with various dealers, a healthy secondhand market would still make this a relevant and available computer for a few years yet.

Although the 500 "single block" computer was first released with a spartan looking half a meg of memory, 1.2 operating system (later 1.3), one disk internal drive and a TV modulator, most users found that they could easily tailor the system to their desires - given the depth of pocket to match.

The A500 Plus was launched at the back end of 1991 and dropped onto a surprised world with the 2.0 operating system but still the 68000 chip of the 500. However, you could upgrade the 500 to 2.0.

There is very little Amiga orientated stuff that you can't do with this machine, although I admit that other Amigas are better suited to expansion or more serious work. Given the sales figures, the third party market is unsurprisingly the best of any of the Amiga range. Sadly, most of these will have to be re-designed for its successors.

## THE HAYES VERDICT:

The A500(Plus) had all the design, support and software that to make it a great little computer, but it also had the added extra of being very good value compared to the rest of the range. Commodore

**BEGINNING HERE!**



# STORAGE

Storage is the means through which your Amiga stashes data away for you to call upon when you need it. There are two main types: Firstly there is the more permanent forms such as floppy disks or hard drives and also the Random Access Memory (RAM) chips in the computer itself.

Taking floppy drives, the consumer Amigas such as the 500/600 and the new 1200 machines are equipped with a single drive which is capable of storing 880K (roughly 880,000 characters) of information per disk. There are many add-on floppy drives available and the choice between them is largely one of price and reliability as the performance is generally fixed

by the system. In the near future, various people will be marketing high density drives such as those found in the A4000, and these are capable of writing around 1.7 Mb (twice the usual) of data per disk.

Hard drives are another field. They are capable of storing literally hundreds of megabytes of data and accessing it blindingly fast. There are two sorts of devices around - namely the IDE type employed by the A600, A1200 and A4000 or the superior SCSI drives of the A1500 and A3000. Go to the largest you can afford, and don't bother with anything less than 40 Mb - preferably more!

RAM comes in all sorts of

**BEGINNING HERE!**

# Program

Whether you are new to programming, an experienced coder, or just somewhere 'in between' you'll find that the Amiga has an enormous amount to offer. For the beginner there are languages like Basic that are so easy to learn that you can be writing your first programs within half an hour of opening the

manual. One Basic-type language, called AMOS, is especially worth checking out because it is geared towards easy use of the Amiga's graphics and sound facilities. Many other languages are also available

```
x->DrawMode=JAM1;  
x->LeftEdge=left;  
x->TopEdge=top;  
x->ITextFont=NULL;  
x->IText=msg;  
x->NextText=NULL;  
}
```

```
VOID CreateItem(name, item, next, left, top, flags)  
  UBYTE *name;  
  USHORT left, top;  
  ULONG flags;  
  struct MenuItem *item, *next;
```

```
/* This function will set up a simple MenuItem structure */  
{  
  item->NextItem=next;  
  item->LeftEdge=left;  
  item->TopEdge=top;  
  item->Width=100;  
  item->Height=10;  
  item->Text=TEXT|HIGHCOMP|ITEMENABLED|flags;
```



shapes and sizes, from trapdoor expansions for the consumer machines to special cards called SIMMS for the A4000. Amigas also have a peculiar type of memory called CHIP RAM,

which although using standard chips, has specific connections to the custom chips, and to expand an A500 or A1500 you need an additional board such as that from DKB electronics.

M i k e N e l s o n

# mming

including APL, C, C++, Forth, Fortran, Modula 2, Pascal and even Lisp and Prolog.

For serious programmers C is particularly important because a large amount of the Amiga's technical documentation is written with the C programmer in mind. Getting involved with C on the Amiga need not be expensive because a number of public domain C compilers are nowadays available.

Another language that is becoming increasingly important now that it is provided as part of the Amiga's system software is ARexx. ARexx is another language that is easy to learn but its most important claim to fame is for providing facilities that allow different Amiga programs to talk to each other. For this communications magic to work programs have to have something called an 'ARexx Interface' and you'll find that these interfaces are now being fitted to more and more Amiga

programs.

Experienced programmers who want to hit the Amiga at the 'nuts and bolts' level to get the maximum speed for graphics etc., can of course opt for programming using 68000 assembly language. Software packages like Devpac 3 provide the assembly language programmer with a brilliant programming environment.

Programming is not difficult but needs a little determination. It also gives a great sense of achievement and power when you dominate your computer and find it obeys your instructions.



P a u l O v e r a a

**BEGINNING HERE!**

# MUSIC

The Amiga has a superb range of music software that includes sequencers, sound sample editors and loads of other music composition aids. Unlike some machines the Amiga's serial port can handle high-speed MIDI data directly although a device called a MIDI interface is needed to convert the serial port connections to conventional MIDI terminals. Luckily MIDI interfaces for the Amiga are cheap (starting at around £20).

The number of MIDI Sequencers available has grown substantially since the Amiga's early days and as well as budget priced packages such as Gajit Software's Sequencer One Plus you'll find high-power heavyweight offerings such as Dr T's KCS and Blue Ribbon Soundwork's Bars & Pipes. SuperJAM, another Blue Ribbon Soundworks product, really shows what the Amiga can do - given a little guidance, SuperJAM can generate complete song arrangements automatically!

The Amiga's 8-bit sound sampling scene is another very well established music area and it need not be expensive - packages like TechnoSound Turbo can provide all the hardware and software to get you started for about £30. Interest in Amiga sound sampling will grow even more because Microdeal are about to release the Amiga's first reasonably priced 16-bit sampling package - Clarity 16.

You'll also find plenty of public domain music including Trackers (sequencer-type programs used to create Amiga internal sound track compositions), ready made sound samples etc. Some PD libraries offer special music utility compilations and if you want a good example of what is available on PD take a look at PD Direct's Music Pack (PD Direct can be reached on 0782-715255).

P a u l  
O v e r a a



made the mistake of taking the 500 Plus off the market without a clearly superior replacement being available at the same price. Thankfully, the Amiga 1200 has since redeemed the situation.

PRICE: NOT AVAILABLE (officially, but you can probably pick up an A500 Plus for under £250)

# A2000000

**THE AMIGA 2000:** This machine, like all up market Amigas, comes in two parts: a base unit and a separate keyboard. The monitor sits on top of the

base unit and the machine itself looks a lot like a normal business PC, a hint at its market intentions at the time of its launch.



Originally designed as the top of the range Amiga, though still based on the Motorola 68000 processor and 1.3 operating system, it has its

components packed into one side of the baseboard, leaving plenty of room for all kinds of plug in boards and extras - including stepping up the processor speed via various co-processors. The computer's key word is

“expandable”, although nowadays it does ask quite a price for this facility. It has the room for three internal drives and interestingly was not designed in the USA but in Germany.

Some third party developers stuffed 68020 or 030 processors into it and gave it names like “5000” - jumping a little too far into the future.

**THE HAYES VERDICT:** Plenty of people swear by the machine (and have all sorts of add-ons hanging off it - too many sometimes!), but it has been overtaken by the Amiga 3000 and 4000, so it doesn't hold up as well as it did a few years ago. An Amiga that may be taking its last few gasps of life.

**PRICE:** You could probably find one for under £600.

**BEGINNING HERE!**

# PUBLIC DOMAIN

PD stands for Public Domain and is exactly that, the work of the public and available to the public.

Since the Amiga and other personal computers arrived, clever programming people have created programs for free distribution.. From the early Eighties PD libraries started to spring up around the world offering these programs to the public either free of charge or

for only a nominal sum. In general, the only payment to be made would be before the disk and postage. You can expect today to pay between £1 and £2 per disk which isn't much when you consider the amount of work that has probably gone into it.

Today PD libraries offer a continually expanding collection of exciting programs. A typical library at this time will have more than four thousand disks from which to choose. From slide shows to music programs, from word processors to arcade games, if you name it,

it can be almost guaranteed that one of the PD companies will have it.

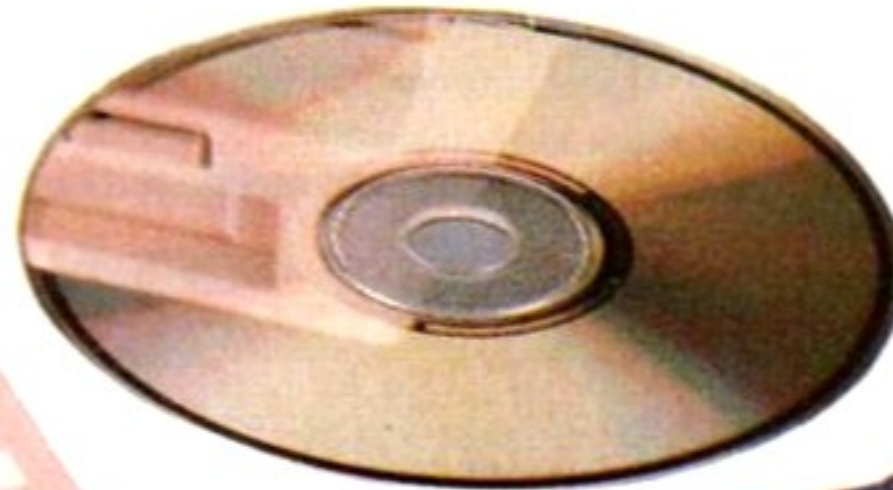
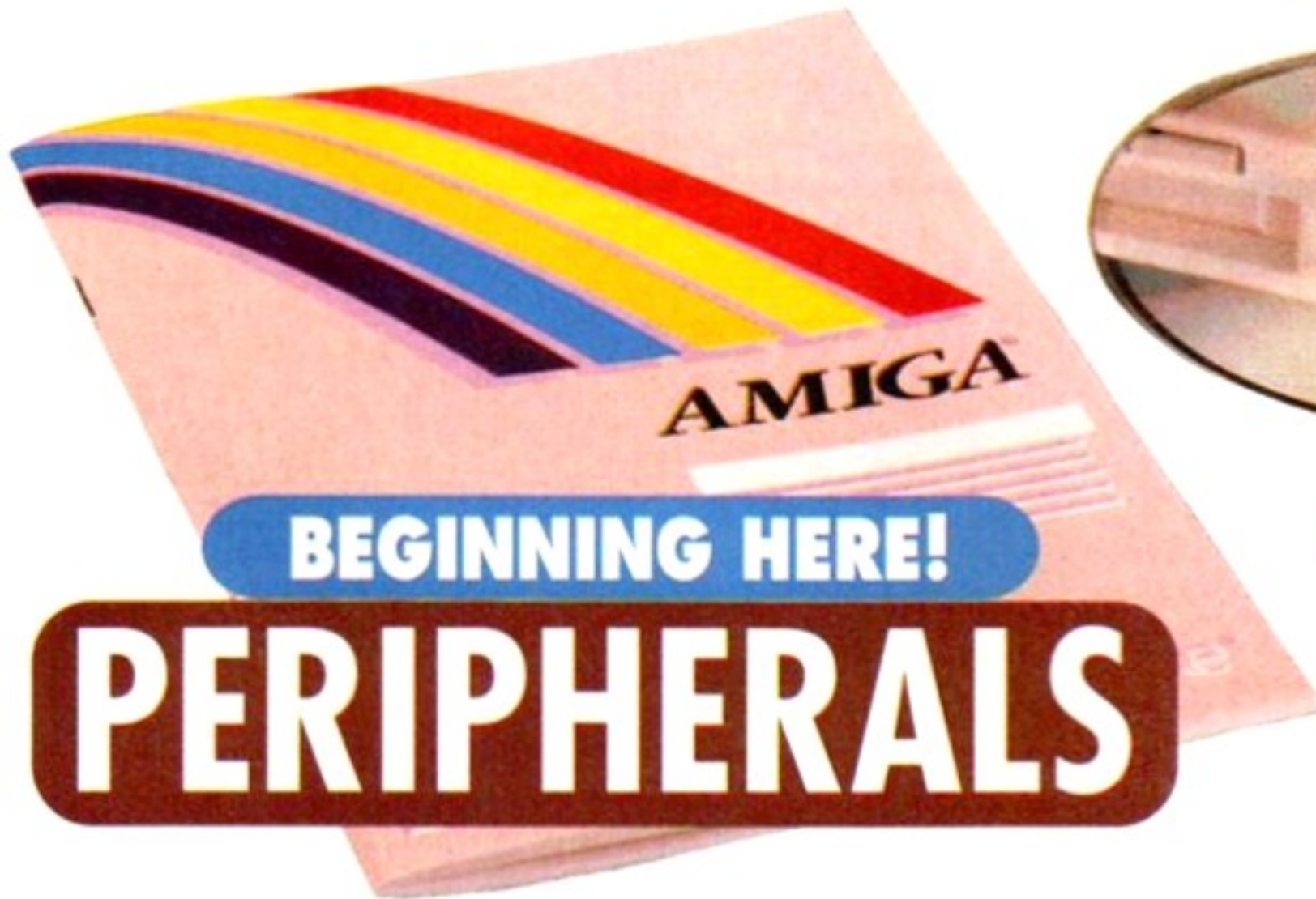
Most of the software in PD libraries is “free” - in fact the programmer usually gets nothing out of it except the “glory”.. But on some PD is called “Shareware”. This means the author is relying on your conscience for a small donation for the time that he has spent on the program you are using. In return for your contribution (probably around £5) many authors will give you in return an update to the program and in



some cases the source code as well.

The most well-know source of PD is the Fish disks. Fred





The hardware you get when you first purchase an Amiga may seem quite adequate at the time. However, it doesn't take long to come to the conclusion that there are a lot of extra bits and pieces you would sell your granny for, such as a memory expansion, an

extra floppy drive, a sound sampler, a modem or an accelerator.

After you've tasted the luxury of having an extra piece of hardware plugged into your Amiga you will soon learn that expanding doesn't stop there. Bigger and better peripherals will appear

on your wish list, such as a hard drive, a video digitiser, a graphics card, or even a PC emulator!

I'm sure you would already have those peripherals if they fell out of Christmas crackers. Sadly, the best things in life aren't always free so you must carefully choose which peripheral to buy first. Which you do buy depends upon your needs and obviously your bank balance. If you have a standard A600 then I suggest you first buy a 1MB memory expansion to give you 2MB of RAM. After that you could buy either an external disk drive or, preferably, an internal IDE hard disk.

AUI has loads of advertisers with many

varied peripherals to offer you. The best advice I can possibly give you before purchasing is to ask the dealer concerned whether the peripheral is 100% compatible with your current Amiga setup. Reading the reviews of the peripheral you want to buy is also an admirable idea. Most reviews tell you which extra hardware you need, how compatible it is, and whether it's worth the asking price.

While your new computer may seem to offer a tremendous range of possibilities at first you will quickly find that adding on some of the many peripherals that Commodore and third party developers can provide will increase your pleasure still further.

# AIN...

Fish - yes, he is a real person, has been collecting PD since the Amiga began. Today, if you are a PD writer seeking to gain worldwide fame, you send your program to him first. He distributes it, free, with lots of others to libraries and bulletin boards around

the globe. The Fish disk list is almost up to 800 now.

Some PD may be a bit more expensive than normal (around £4 to £6). This will be called "Licenceware" and is a surer

way for the author to make more money than with Shareware. A percentage of the money goes to the author when each program is bought. If you want to know where to get PD, just look in the back of AUI. There we have a special PD section and you will also find advertisements from PD companies.

PD is an excellent way of building up a varied library of goodies at a low cost. That can't be bad, can it?

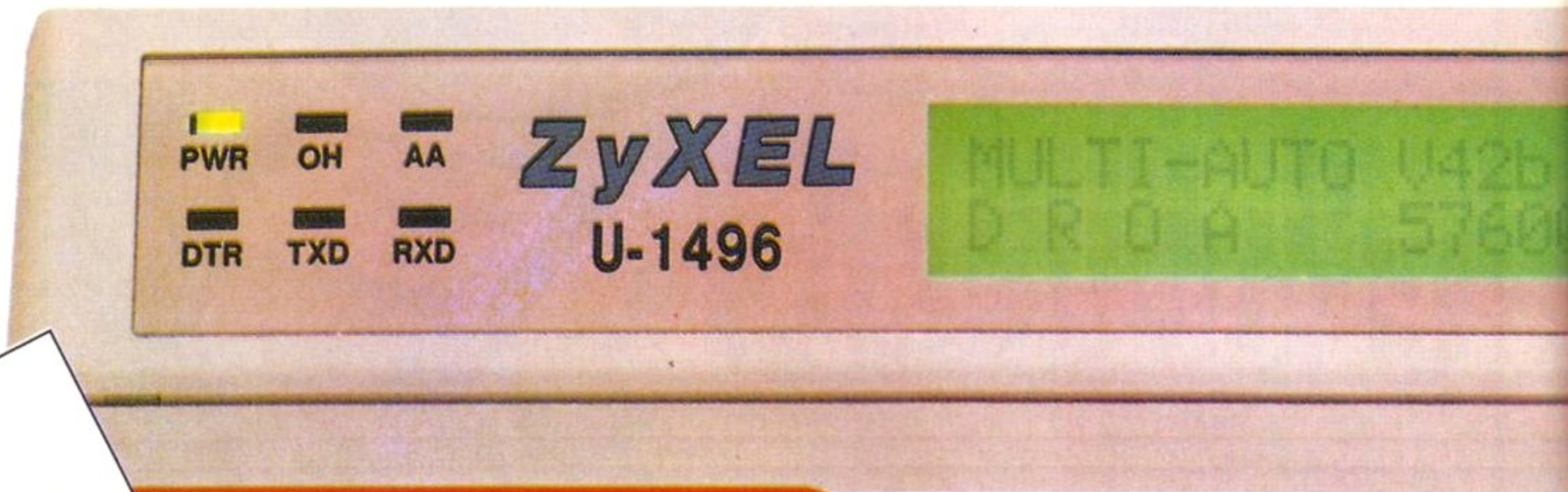
G i d e o n   O v e r h e a d

G a r y   F e n t o n

**T**HE AMIGA 1500: Looking a lot like the 2000 with a different badge stuck on the front, this machine had a hard time finding a market due its apparent similarity to the 2000 and probably because it seemed to have been created just to jump onto the market of the "1500"(no relation!), a very solid stand alone

box, not built by Commodore, into which you could put the guts of an A500 and have a separate keyboard.

I've never heard a clear and concise appraisal of this machine's intentions, although it obviously was partly planned to be a half way house between the A500 and the A2000. It



**BEGINNING HERE!**

**COMMS**

There are thousands of computers all connected to various electronic on-line services all over the world. In order to join in all the fun you need a terminal program, and a Modem (and connecting cable) and a telephone.

What's a modem? Well, here are some buzz-words.

- Serial Port - one of the connectors on the back of the Amiga.
- RS232 port- Another name for the serial port.
- Baud Rate - How fast data is sent
- MoDem - MODulator - DEModulator. Converts computer data into audio tones and sends the tones down a telephone line, and vice versa.
- Terminal Program - Allows the computer to act as a 'dumb terminal' into a remote computer system.
- Dumb Terminal - A screen and keyboard that can only send and receive simple text.

Modems come in all shapes and sizes and work at various speeds, the faster the more expensive they are. Character transfer rates of 240 vary between 1000 characters per second. On top of this data compression can give an effective increase of three times this rate on some types of files.

The terminal program allows you to 'drive' the modem and connect to another computer. Flow control stops things happening too fast. There are two types of flow control Hardware and Software. Hardware is better but can be a bit fiddly to get right. Some useful telephone numbers:

- Compulink Information eXchange (CIX) 081-390 1255 (Commercial)
- 01-Amiga 071-377-1358 (BBS system)
- Cheam 081-644-8714
- Burning Chrome BBS 0428-727060

Just to prove that it all works, this short article was sent via a modem to the AUI office!

A n d y E s k e l s o n

**BEGINNING HERE!**

Commodore goes back over thirty years; it was founded in Canada to repair and then manufacture typewriters. From there it got into the first wave of electronic calculators. To produce calculators it needed chips, so it bought a chip making plant in the USA. If you have chips,

**COMM**

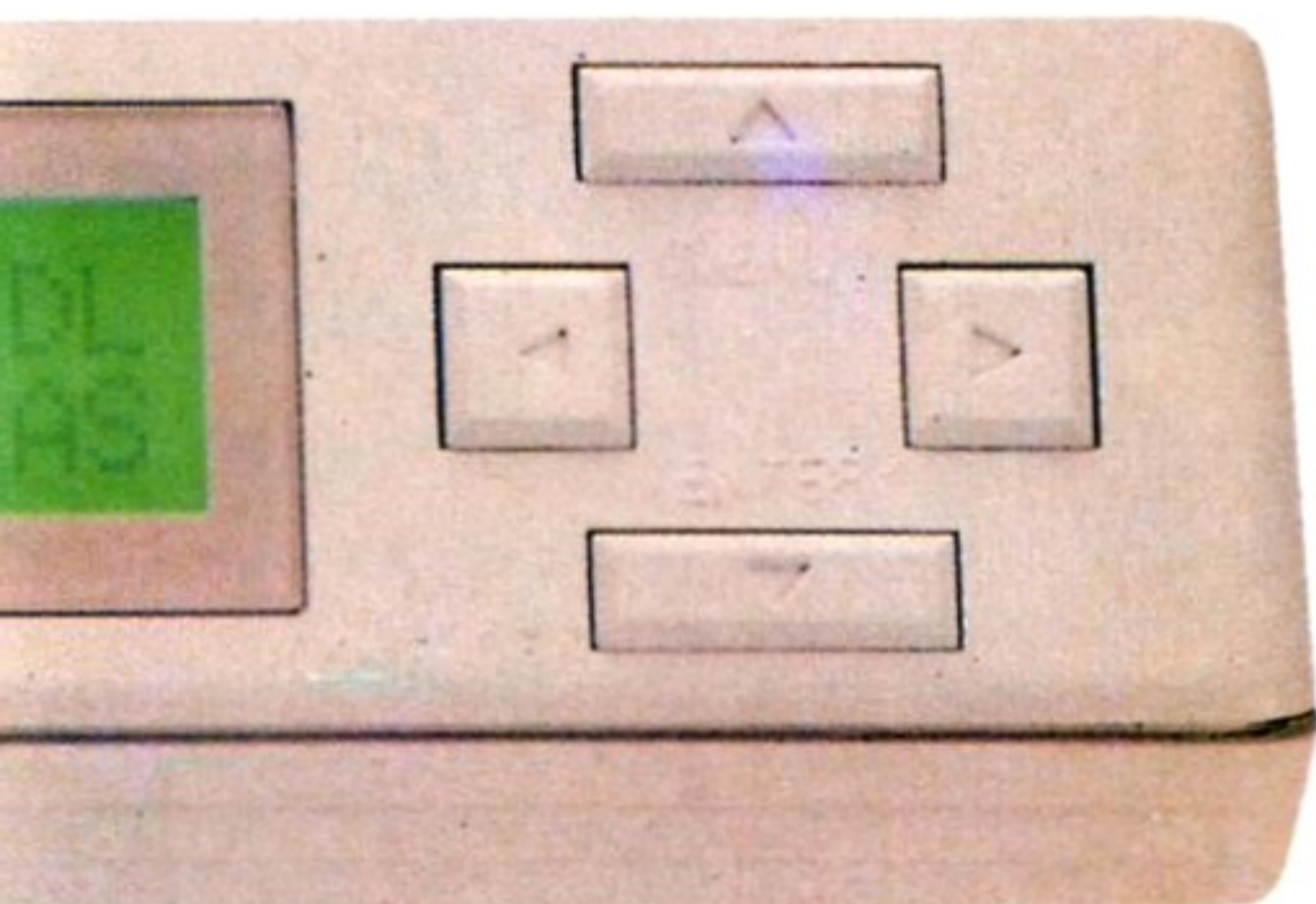


comes with one Meg of memory and two drives as standard and many dealers bundle the machine with a cheap monitor too. It's not quite as good as the 2000 and asks a pretty high price for what it is.

**THE HAYES VERDICT:** In itself a

certain miss, the only good thing is that dealers have acknowledged this and offer deals and bundles that just might tempt a few people. Another Amiga that has a question mark hanging over its head for its immediate future.

Price: Search around for below £500.00



you can make computers... So Commodore Business Machines became one of the earliest computer manufacturers in the world.

Its first big computer success was the PET, the Personal Electronic

massive(!) 64K made inroads into all areas: home, business, education, science, industry. Over the years, thousands of programs were written for it. CBM still makes and sells about a million 64s a

# COMODORE



Transactor. The PET was the hot computer of its day, the mid to late seventies. It was the first desktop business computer - a long time before IBM brought out the PC. The PET only had a few K of memory but it sold well throughout the world and there was plenty of well-written software, even a few games.

Next, in the early Eighties, Commodore had the first million selling computer, the Vic 20. Yes, it had an amazing 20 K!

The Commodore 64 came next. This machine, with a

year. There must be some 10 million around the globe - or in people's cupboards..

The Plus 4, a home/business machine and the C16, a junior 64, were episodes CBM would prefer to forget. Desperate for new products, in 1984, they came upon a company that had the idea of producing a state of the art 128K games machine. The company had run out of cash. Commodore bought them because they had a computer called the Amiga. The rest is history...

Antony Jacobson

**BEGINNING HERE!**

# BUSINESS

When the Amiga was launched, as the A1000, in 1985, Commodore thought they were producing a business machine. The price, £1700 for initially a 256K version was certainly business-like. But even then, the lack of MSDOS - IBM-compatibility - meant it was struggling against overwhelming odds. Nevertheless, contrary to its reputation as largely as games machine, many business very reasonable packages have come out on the Amiga.

These range from fairly simple software to let the home user run a small business application to full blown professional spreadsheet or database programs. Perhaps the most famous of all on the Amiga is Superbase. Its simple operation and clever use of graphical material is not only perfectly suited to the Amiga but was available long before Windows or any MSDOS program offered similar facilities.

Word processing had the first "serious" impact on the Amiga with the original very basic Textcraft and Scribble giving way to very much more sophisticated programs like ProWrite, excellence!, Wordworth and WordPerfect.

VIP Professional was the first of the Amiga business packages to take the "If You Can't Beat 'Em, Join 'Em" route, imitating the popular MSDOS Lotus 1-2-3 spreadsheet. Maxiplan was another that took the Amiga down the same path.

Now Amiga business has emerged into the bigtime with powerful programs for creating that "impress the Board" moment, like Oxix's "Presentation Master". With the increased power of the A3000 and A4000 and their ability to read and write MSDOS files, the Amiga now has the versatility to match any comparable computer for business applications.

Anthony Mael



# A600

THE A600: The mid-92 addition to the Amiga range of computers, and perhaps the most controversial of them all. Slated, according to Commodore, to become "The 64 of the Nineties", this model was a direct replacement for the now discontinued A500 and was intended as the new "entry level" Amiga. It has since been given the tag: the games player's Amiga.

This 2.0 machine comes in two versions, one with an internal harddrive and one without, although you can always add the internal harddrive later if you wish. Both still have the 68000 chip.

It is easier to state the machine's differences from the A500 rather than start from scratch. On the minus side it has no sideport, making adding current popular third party products such as external memory, external harddrives and freezer cartridges tricky - although it may be possible to use the Smart Card slot as an



**BEGINNING HERE!**

## ACCE

Amigas are not particularly slow machines, but an extra bit of pressure on the pedal makes life delightful. Accelerators go from bargain basement double speed 68000's like the Blizzard Turbo board to the awesome performance of the CSA 40/4 Magnum or GVP G-Force which are among the fastest add-ons for any platform.

There are also coprocessors. These are chips dedicated to doing floating point - heavy mathematical- calculations, and so improve the performance of big number crunching operations like ray tracing or spreadsheets. The latest processor from Motorola, the 68040, has floating point circuitry built in for even more speed.

The cheapest way to accelerate your standard Amiga is with a double speed processor.

The Amiga's clock runs at just over 7 MHz, or 7 million cycles per second. By increasing this figure to 14, the processor is able to get through twice as many instructions in a given time. This isn't always as significant as it may seem as much of the Amiga's activities are taken away from the central processor and handled instead by other special chips, like the blitter, which make the machine unique.

In the middle range of accelerators is something like the CSA Derringer from Omega Projects. A superb buy, this replaces the 68000 of your A500's 7 MHz 68000 with a 25 MHz 68030 and 68882 number cruncher. 32-bit RAM

expansion port. The righthand keypad has also been taken away, making most software that has exclusive use of it inoperative.

On the positive side it is possible to extend to two megabytes of memory cheaply via the trapdoor and it does come with an extended on site – i.e. at home – warranty. Although the machine accepts smart cards, at the time of writing no software exists in this form.

**THE HAYES VERDICT:** All in all an own goal, especially if you don't want to pay the £200 extra for the internal harddrive. It's a nice little computer for games, but more serious users should note the current lack of expansion facilities.

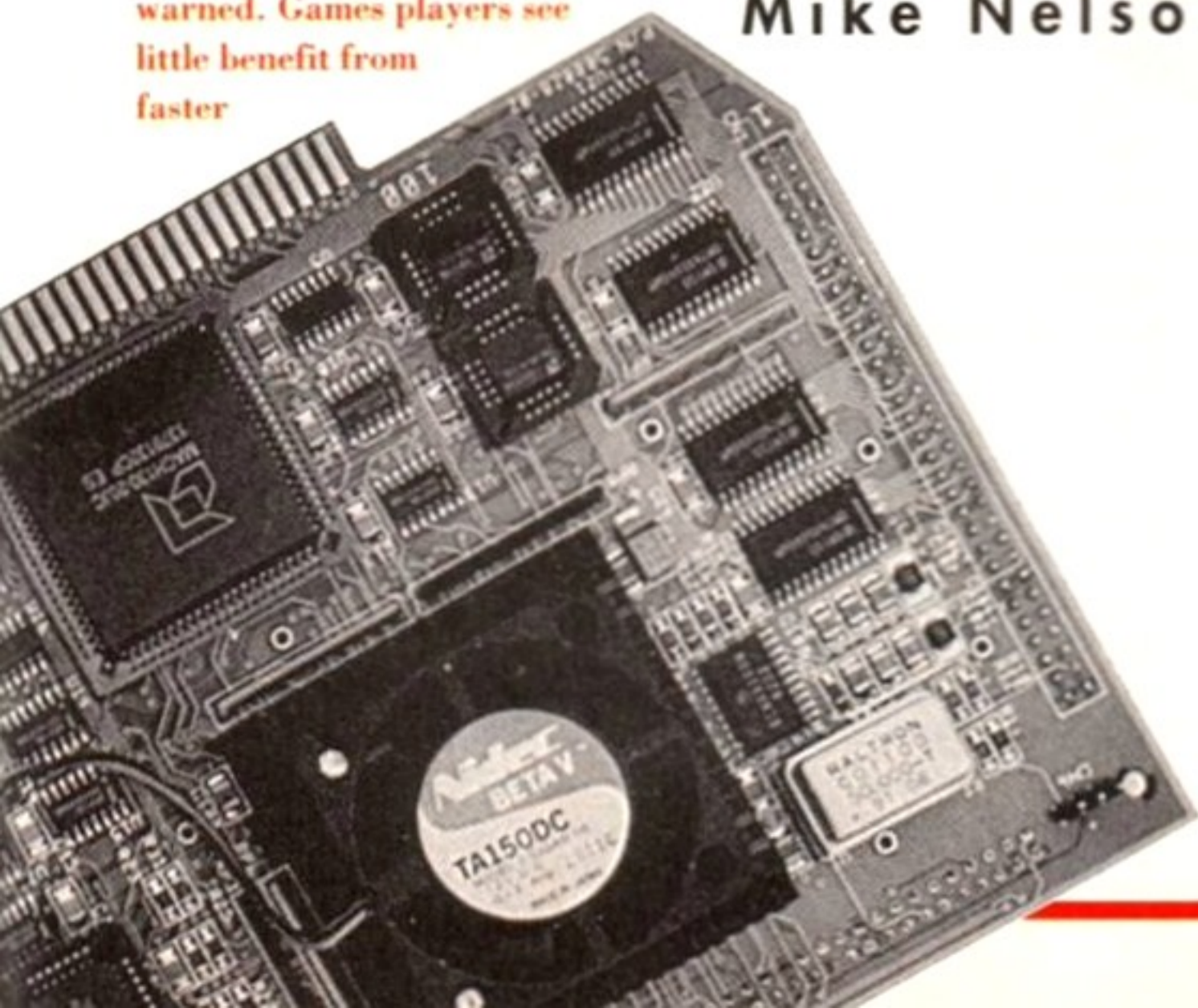
# ERATORS

is also a possibility which works much faster than the usual 16-bit stuff normally employed in Amigas.

Acceleration doesn't come cheap but once you've used a speedy Amiga, there's no going back to the older systems, so be warned. Games players see little benefit from faster

processors, but any users of serious application software will see their productivity increase between, on average, five and ten fold, but number crunchers go further still and shrink calculation times by a factor of several hundred.

**Mike Nelson**



**BEGINNING HERE!**

## G·R·A·P·H·I·C·S



invaluable in producing creamy smooth results. 24 bit magic.

There are many graphics packages to choose from, most of them excellent in their own way, programs like DigiPaint, Fantavision, even the fun little My Paint for the kids; great drawing packages like ProDraw and Designworks, animation programs like Take 2 and the Disney package, truly outstanding and versatile software such as Caligari and Art Department Professional, these are a part of the graphic armoury that give the Amiga the fire power of any computer.

However, for me there is one that stands out for its vast range of functions and ease of use. It is the amazing, the unique DeLuxe Paint. This is the clearest example of what the Amiga can do. From the beginning with DPaint I up to the now fourth version, this Electronic Arts program has given immense pleasure and not a little professional benefit to Amiga users around the world. Its marvellous creative qualities, user friendliness and assessable price make it not only terrific value but the ideal program on the Amiga or any other computer. Anyone can use it and enjoy it - and isn't that what computing on the Amiga is about?

For graphics, there is no machine in the Amiga's range to touch it, even if you had a few thousand more pounds burning a hole in your pocket. Years after catching the Amiga bug, I still get a real kick every time I load up a paint package and watch the colours splash themselves magically around the screen. Loads of fun!

You can use your Amiga as a wideranging graphics tool, as an airbrush, an instant letterer and an animator too. Perspective drawings at the tap of a button, cartoons, graduated tones, flashing messages - all so incredible to watch as they pass by on the screen, and with the user friendly approach in graphics, the Amiga has the capability of bringing out the Leonardo in all of us.

To help us still further, the latest machines from Commodore - the 1200 and the 4000 now have the capability of producing 16,000,000 colours. Go on count them! Colours

**G r a h a m B a l d o c k**



**THE AMIGA 3000:** Until very recently, the top-of-the-range Amiga, the A3000 offers a much accelerated processor, the 68030 with a choice of 16 or 25 MHz, and co-processor power as standard. Launched at around £3000, in addition to its vanilla version, it comes in two other varieties: the A3500 tower system and the 3000UX.

The first gives an alternative case design and the second runs UNIX (a business communication standard).

Although since superseded, the A3000, which originally came with 1.3 and 2.0 but now has only 2.0, represents a very refined version of Amiga technology and has been marketed almost exclusively at the business

**BEGINNING  
HERE!**

# CDTV

The standard CDTV player is a black box similar in shape and size to a video recorder. You can connect it to your television set or you can use it with a computer monitor. The unit may also be linked to your Hi-Fi equipment for improved audio performance.

There is a slot in the front of the CDTV into which you insert a caddy containing the CD disc. These may be special Amiga

CD-ROM discs or any audio CDs. The machine will also play CD + G discs, which are audio discs with words or pictures which will appear on the screen.

You can use the CDTV with a remote control (just like the TV or video player), or you may use a remote trackball and joystick or mouse. There is a special Amiga Multimedia pack which comes with a keyboard, external drive and a mouse.

There are over a hundred

Amiga CD-ROM discs already on sale, divided into categories covering Art and Leisure, Education, Entertainment, Music and Reference. New discs are arriving all the time and exciting titles are coming soon.

The titles that are likely to make the most impact probably haven't arrived yet. It always takes time for programmers to become familiar enough with a technology to dominate it and so be able to make it sing for



them - and you. However, there are signs that this technology, the first home multimedia machine, is beginning to have the kind of

**BEGINNING HERE!**

# MULTIMEDIA

# L

Likely to be the buzzword of the early nineties, Multimedia is a combination of familiar technologies. Start with text and graphics, add on sound and music, and throw in video and make it interactive and you have multimedia. What's made it possible is the growing power of personal computers and their multitasking abilities. And that gives the Amiga an edge in this fast growing field.

The first home multimedia system is Commodore's CDTV. It brings together a pretty normal Amiga 500 and a CD drive. The key to its success and that of other domestic multimedia systems is the user friendly everyday



remote control pad intended to blow away the technofear that has kept home computers in the kids' bedroom or Dad's study.

The other major factor is the CD and the immense data storage it provides - 600 times as much as the Amiga 3 1/2" disk. You can put computer

text and graphics, cassette level video and, of course, CD quality sound on it and the disc is cheap and easy to make and use.

The Amiga with its hot graphics and multitasking

capabilities can be a leading machine in multimedia presentation but it has also the potential to make multimedia programs at a lower cost than any other computer.

In the Nineties we will see multimedia in education and training, for example, letting you jump in and out of realistic situations in language learning. In shops, stations and airports, it will provide information and, with the smart card, cash payable services. For entertainment, it will offer video, music and games that will make today's seem like the little blobs on the black and white screens of the early computers. Multimedia is just beginning, it is the shape of computing to come...

**B u d V e n n o s**

end. For those who want to carry out time consuming tasks such as graphical processing and programming, the facilities are excellent, but expect a price to match.

is still an Amiga computer underneath despite the heavier price tag.

PRICE: £1299.00 (but it could well come down)

## THE HAYES VERDICT: An impressive

machine with a lot going for it in the way of power, but it

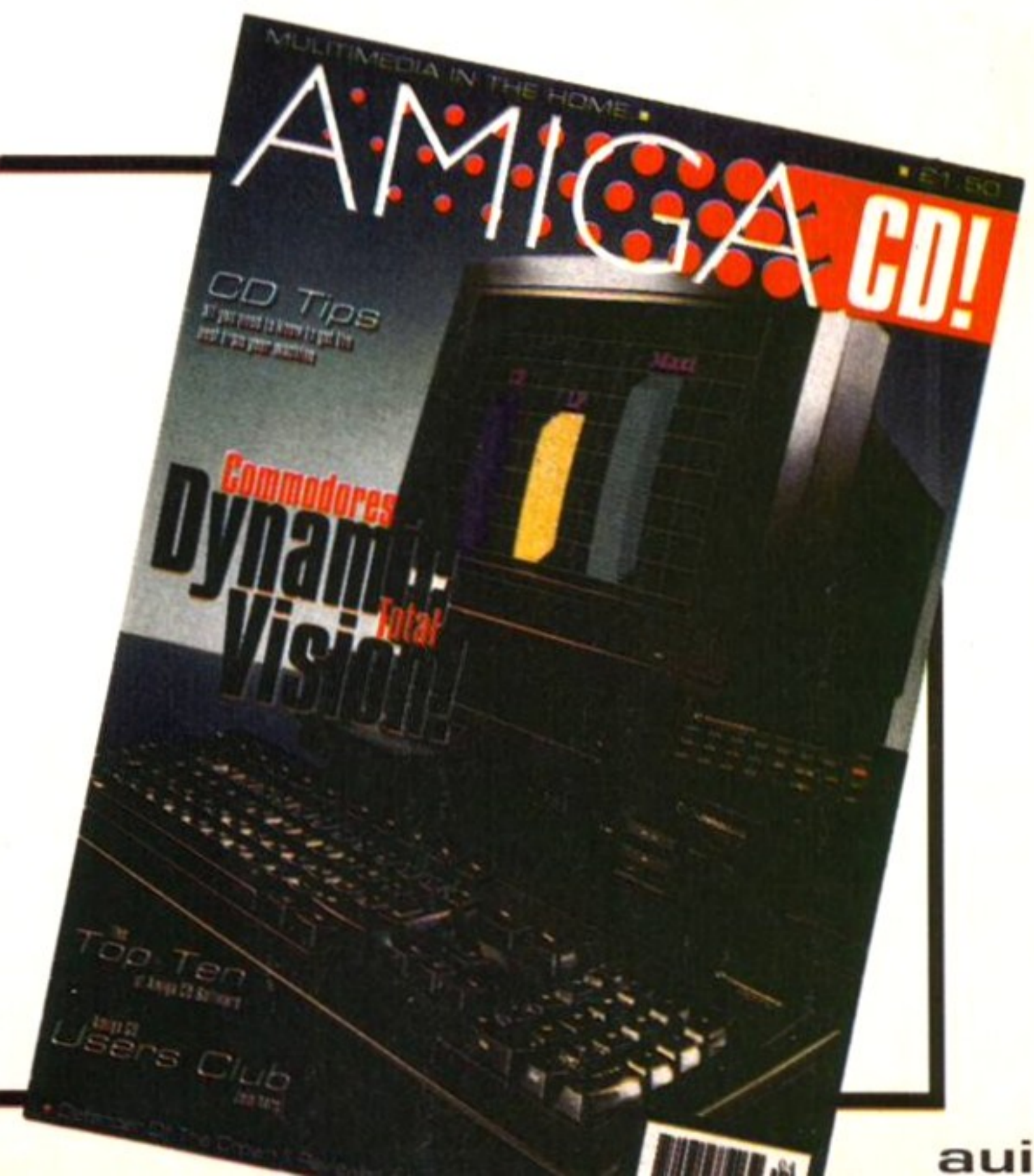
software that will give it the chance to replace the video cassette recorder as the chief form of non-TV entertainment and information. Its interactivity is what gives it its edge. You - the user - are put in control of text, graphics, sound, music and in the near future, probably video too.

There are naturally available for the "multimedia pack" - the CDTV with keyboard etc - all the Amiga programs including games some 3000 in all that can be used. There is also what is in effect a CDROM player for the Amiga itself - the A570. Expected in the middle of 1993, is a similar player for the A600 and probably one

later for the A1200. The latter may be more problematical as the present CDTV system runs with 1.3 Amiga operating technology and the 1200 doesn't have too much compatibility with that.

These are early days but it is already making a serious impact on the way that developers regard computer in general and CD technology in particular.. The immense storage space that this offers cannot help but cause a different dimension to emerge for taking us from from 1 Meg Amiga disks to 600 Meg is clearly a quantum leap. It's exciting to find after all these years the Amiga is still at the heart of the future.

**Janet and John Bickerstaff**



**THE AMIGA 1200:** The latest Amiga, with a 68020 processor, it hopes to take up the baton of being the “everyman Amiga”, a distinction once held by the A500 or A500 Plus range. Featuring the Advanced Graphics Architecture (AGA) set, allowing more than 250,000 colours on screen at the same time and a 32-bit central processor, it has been widely rumoured as a pre-strike at the Atari Falcon.

The machine features an improved 16 MHz clock speed and the new 3.0 operating system, so serious users can get the kind of shot in the arm, that previously only the big boys had. There is a fall-back

# A1200

A600 mode for games and a smart card slot - should software or expansions appear in this form.

**THE HAYES VERDICT:** After the problems of the A600, Commodore have got a unanimously applauded hit on their hands. Launched in November 1992, Commodore UK delighted themselves and the retailers by selling every 1200 they could get their hands on - some 45,000 by year's end. Anticipated to sell more than 300,000 in 1993 in the UK, the 1200 gives more power to the pound than any other home computer.

It makes the more expensive models still featuring a bare 68000 look a little jaded. When the software

companies, in particular the games houses, get a handle on the 3.0 system, the AGA and the 1200's 2 Meg of Chip Ram, there are going to be a few socks blown off.

**PRICE:** £399.00 (but it could go up or down 10% according to the pound/dollar exchange rate)

## BEGINNING HERE!

Desktop Publishing - DTP for short - marks one of the significant ways in which computers are changing the world we live in. With an Amiga and relatively inexpensive software you can design, typeset and print documents ranging from a simple poster or CV to a fancy fanzine or newsletter or even a book - and the result can look as good as anything produced by professionals.

Amiga DTP programs aren't as good as the best that run on a Macintosh - but, then, they don't cost upwards of £500 either. With a bit of extra effort the results from an Amiga can rival those produced by the Mac.

The top two programs are PageStream 2.2 and Professional Page 3.0, with PageSetter as a cheaper, and less flexible, runner-up. Both need a lot of memory, especially as they can be linked to word processing and art programs running at the same time. Professional Page 3.0, indeed, won't work without a hard disk.

Available for both programs are templates - ready-made professional designs for newsletters

and suchlike. Remember if you get hooked on DTP you'll want to add your own artwork, which is likely to mean buying a digitiser or scanner, and a structured drawing package. Oh, and OCR (Optical Character Recognition) software will then be useful so you can scan in documents without retyping them.

Fortunately, there's also a fair amount of structured clip-art available, including some in the public domain, so even without extra equipment you can add graphics to your documents.

DTP means that you can become your own publisher and get your message across to the world in a way that's never been possible before. It's great fun - as long as you don't become another Robert Maxwell.

J o h n W a l k e r



**THE AMIGA 4000:** Another newish machine, launched in late 92, it is intended as the new flag-ship of the Commodore fleet. Building from the 3000, it features the new AGA chip set and a lightning fast 68040/040 processor, the 3.0 system and 25 MHz aiming at the professional or semi-professional market, though 68030 versions at a lower price may yet come along.

This two piece machine leads on from the A3000 and offers even more in the way of extensibility and on-line power. It features 2Mb of Chip Ram and 4Mb of fast Ram, plus an internal 120 Mb hard drive. It's



too early to give a full assessment of all its pros and cons, but it looks on the face of it like being the very best yet - which at the price it should be.

**THE HAYES VERDICT:** The jury's still out.

PRICE: Below £2500.00

**BEGINNING HERE!**

**NOW READ ON**

“ So there you are sitting in front of a blank screen wondering if it would have been better if you'd spent your money on a holiday abroad or a new three piece suite or a hi-fi system. But don't despair, help is at hand. Let me mention a few hard copy aids to worry free computing.

Yes, I know you don't like reading anything but Viz however you could start with the manual (take it page at a time!). And there are all sorts of books to get you up and

running. Let's begin with "Amiga Made Easy" published by Sigma, or you could try "Amiga for Beginners" published by Abacus, both of which cost a reasonable £12.95. There are many more easy to understand guides to your machine. The following are just a few that might be useful:

Amiga Basic Inside & Out, Amiga C for Beginners, Amiga Printers Inside & Out, Mastering Amiga Beginners, Intuition: A Practical Amiga Programmers

Guide, Amiga Disk Drives Inside & Out, Amiga DOS Quick Reference Guide, Amiga Tricks & Tips, 1001 Things To Do With Your Amiga, Amiga Graphics Inside & Out, and there is "Getting to Know Your Computer", Microsoft Press, which though it's quite expensive at £27 gives a very complete overview of how everything works and what to do to make it work. As to the many others available check them out with your local computer shop, you'll be surprised at how many

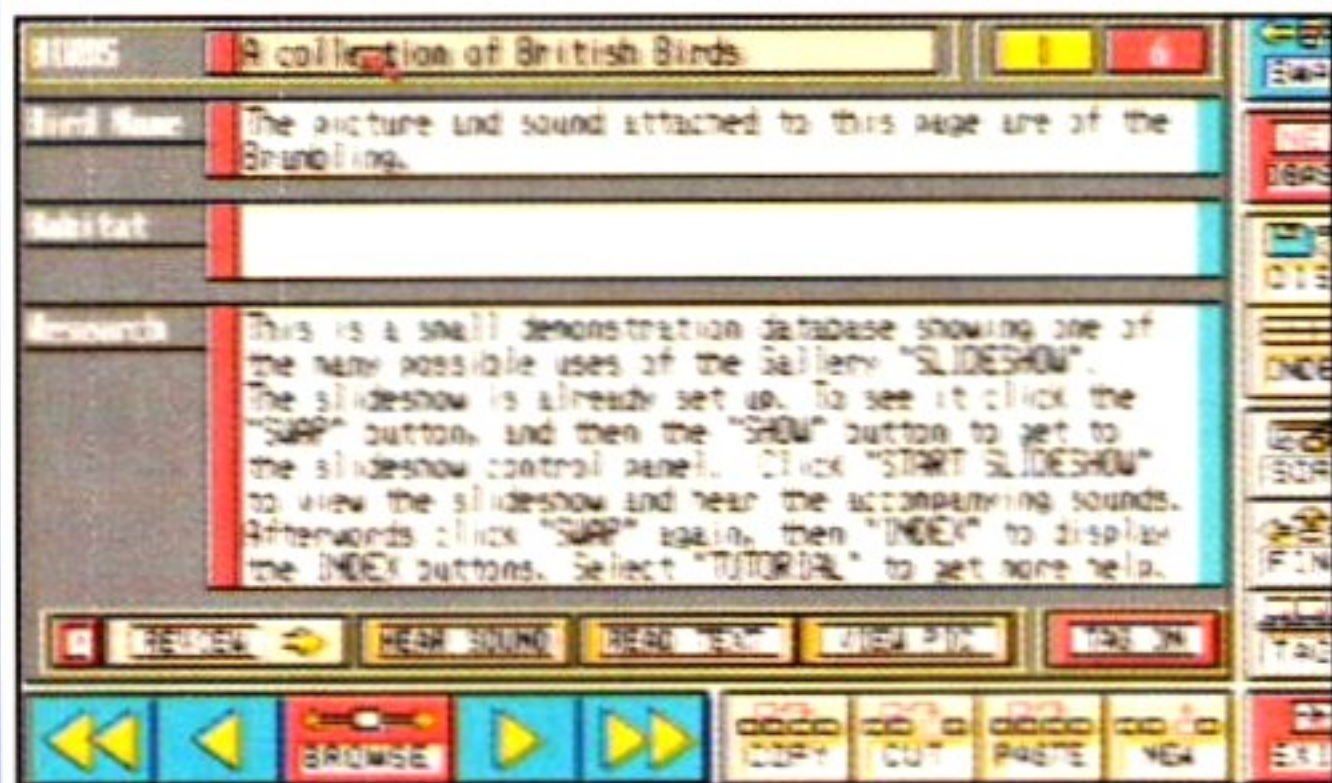
jargon-free books there are.

So what are you waiting for? Don't let your Amiga frighten you, Show it who's boss. Happy reading and computing.”

D a p h n e M o s s



# BEGINNING HERE! EDUCATION



Education on the Amiga now is stronger than it ever has been. In the past, the image of the Amiga as a home computer was both favourable but, in some ways, bad news too. The fact that there are now millions of Amigas in people's homes means that home users can easily have access to programs that are increasingly making learning fun.

However, because the Amiga has been sold, especially in the UK, largely as a games machine it has not, until recently, in the educational community, had the same level of prestige as other computers.

"Edutainment", Nevertheless, over the past two years or so, there has built up a strong range of really good quality educational titles for the Amiga. They have come a long way from the boring and dry approach that was taken by the software companies who

started creating educational programs when computers first began to spread into schools in large numbers. Now programs like Fun School, French Mistress, Target Maths, Data Word are truly "edutainment" - presenting knowledge and skills in a way that anyone can enjoy, with many of the programs linked to the National Curriculum.

There is also now a growing number of companies that specialise in creating very well-developed products for this increasingly popular Amiga field. Europress - with Fun School - have probably sold most but others such as Cottage Software, Helios, LCL, School Software, and Triple R all publish lively and helpful programs.

Adult education too on the Amiga is growing with excellent programs like the language teaching Audio Gallery and the art-based, The Connoisseur.

M a r t i n      W i t t o n

# BEGINNING HERE! AMOS



Programming should be both fun and interesting, this is where Amos comes in. Almost every aspect of creating a program from a shoot'em up style arcade game to designing your own word processor has been brought within reach of the most inexperienced coder, yet the results stand up well in comparison to professional level programming.

From Sprite design (the objects you see flying around your games) using the built-in sprite designer, to playing sound effects from raw samples which can be edited from the sample maker are possible with Amos.

Music can be produced on most formats such as tracker modules, and simply loaded into your programs to provide sound tracks to accompany your applications.

If all of this sounds too good to be true a glance at the sizeable manual may well leave you wondering if this programming business is for you. But not to worry, there is an Amos solution. Europress have kindly made a cut down version of Amos aptly named Easy Amos which should not be too difficult for anyone.

The Easy Amos version is packed with tutorials on a disk and manual form. Indeed there are many features on this cut down version that would have other Amos users green with envy (such as improved sound and graphics producing facilities).

Amos has developed over the years with version update disks available through many Public Domain services. There are new additions frequently produced. Most notable additions of late are Amos 3D and the reviewed in January AUI, Amos Professional. Like the Amiga itself, Amos has shown what can be done when an apparently difficult process is made user friendly. For would-be programmers, Amos is certainly worth serious consideration.

D a v i d      M a b e y

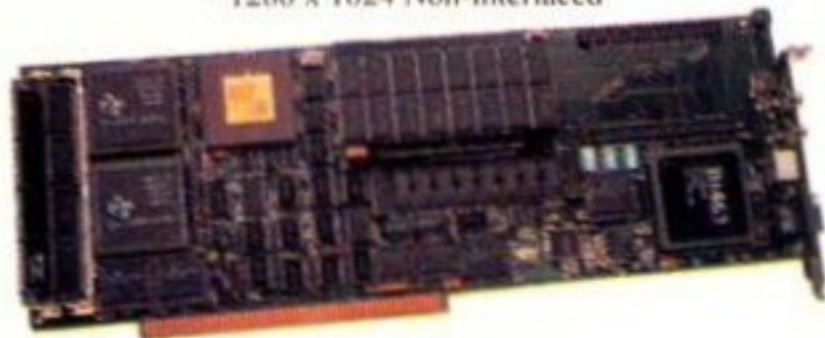
## A LOOK TO THE FUTURE

I am told that various other Amigas are planned, but I don't know why. The market now has a full range of machines that take the Amiga from a simple machine to play games on, right up to a computer that you could use for high level professional tasks. Although more could be done to bring the lesser machines in line with their big brothers, it may be time to go on to something totally different. Perhaps a "two machines in one box" computer system, like a combined, powerful Amiga and PC, or an Amiga and a non-compatible Super Amiga with 24-bit screens. In the meantime let's just enjoy what we've got, there's plenty of it.



## VIVID-24

- \* 100k Shaded Polygons Per Sec
- \* 160 MFLOPS
- \* 24-bit Colour Graphics
- \* 8-bit Alpha Channel
- \* 2048 x 2048 Interlaced
- \* 1280 x 1024 Non-interlaced

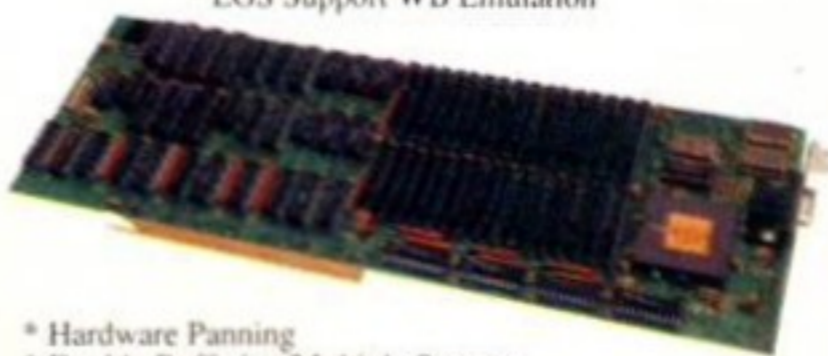


- \* 40 MHz TMS34020
- \* 4 Graphics Math Co-Pros
- \* Broadcast Quality Video Encoder
- \* 16MB Video Memory
- \* 8MB Program Memory
- \* User programmable Resolution
- \* Includes TV-Paint Junior

£ 2999.00+

## RAINBOW III

- \* Amiga 3000 Zorro III 32-bit Bus
- \* 128-bit Pixelbus
- \* 1,2,4, & 8 bit Pseudo Colour-CLUT
- \* True Colour 16/24-bit Programmable
- \* Programmable up to 1600 x 1280
- \* 3 Colour Hardware Cursor
- \* EGS Support WB Emulation

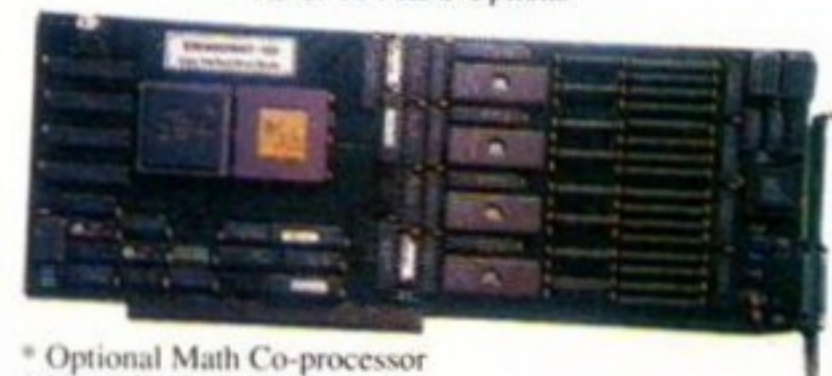


- \* Hardware Panning
- \* Double Buffering/Multiple Screens
- \* Pixel/bit Aligned/Mapped in Expansion Space
- \* 4 MB Video Memory
- \* Max. 16.7 Million Colours
- \* RGB HD15 VGA Pin Output
- \* Includes TV-Paint Junior

£ 1600.00

## GREASEPAINT

- \* Amiga 2000/3000 Compatible
- \* TMS 34010 & 020 options
- \* Up to 1024 x 1024 Non-interlaced
- \* 8 or 16 Bit Colours
- \* Up to 64k True Colours
- \* 7.5 or 10 MIPS Options



- \* Optional Math Co-processor
- \* Up to 2MB Video Memory
- \* Up to 8MB Program Memory
- \* Processor Speed Options
- \* RGB Output
- \* Proven in VR Applications
- \* Includes TV-Paint Junior

£ 1599.00

## FASTLANE Z3

### SCSI II DMA Controller

- \* High performance SCSI-II DMA
- \* 32-Bit Zorro III Interface
- \* Async. Host/SCSI up to 20 MB/sec
- \* Up to 7MB per sec. Async. on SCSI Bus
- \* Up to 10MB/sec Sync. on SCSI Bus
- \* 64MB Memory Expansion Option
- \* Easily Upgradeable Memory
- \* Includes Powerful Caching Utility
- \* External SCSI Port
- \* Supports SCSI Direct, Removable Media, CD-ROM & CDTV

£399.00

## SPOTLIGHT

- Low-cost 24-bit Colour
- Optional Alpha Channel
- Broadcast Quality
- 720 x 576 Resolution
- Graphics Card
- 20% Faster than Competition
- Includes TV-Paint Junior

£749.00

£849.00

with A-Channel

## ENCORE

### CDTV SCSI Card

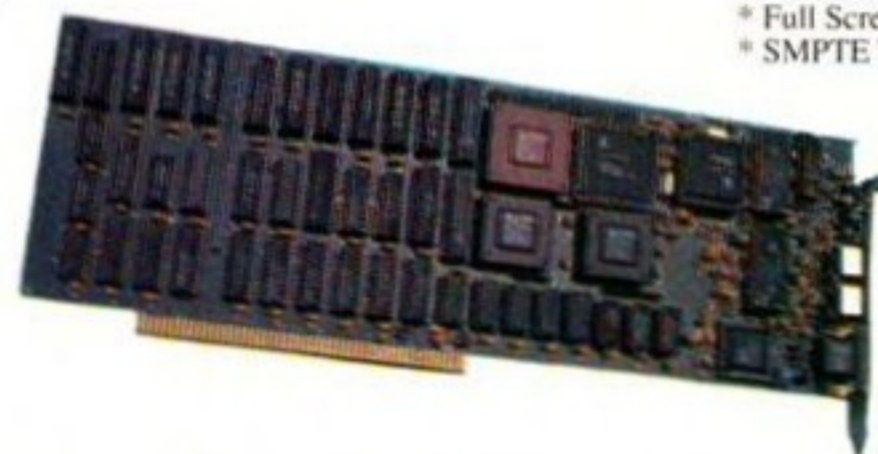
- \* Enables the CDTV to be configured as a true Multimedia Workstation
- \* Internal 50-way Connector
- \* External 23-pin D SCSI Port
- \* Utilises standard SCSI device driver
- \* Easy Self Installation without invalidating Warranties
- \* Internal & External SCSI Drive Kits Available
- \* Full Support of External Tape Drives

£ Call

## DIGITAL EDITMASTER

“The Digital EditMaster system and a Commodore Amiga provides a complete, professional quality, digital video editing suite.”

- \* **Video production houses** can cut tens of thousands of pounds off their costs using the EditMaster system as a post-production tool.
- \* **Professional Videographers** can take advantage of the power that this low-cost tool gives them in a highly competitive market.
- \* **Companies** can use the EditMaster system to produce presentations and training videos on the desktop.
- \* **Advertising Agencies** can use the EditMaster system to storyboard a new project to their client.
- \* **Home Users** can now have a professional quality video editing tool at an affordable price.



- \* Full-motion JPEG Technology
- \* 25 fps PAL Real-time Video Capture
- \* Video Display & Recording in Real-time
- \* Frame-by-frame Recording
- \* Direct 32-bit Pixel Bus
- \* Full Screen Non-linear Editing
- \* SMPTE Time Code Read & Write

£ 2249.00

CHARTSCREEN (UK) LTD Design and Manufacture Graphics Boards, SCSI Controllers and other products for the Commodore CDTV and Amiga range of computers. CHARTSCREEN (UK) LTD. are sole European Importers for Digital Micronics Inc., Worldwide Distributors for the Rainbow Series of Graphics Boards and Phase 5's Fastlane Z3 and International Marketing and Distribution of Tecsoft products for the CBM Amiga.

All prices are exclusive of VAT and Carriage. All Products supplied subject to availability. Specifications are subject to change without notification. All Trademarks and Registered Trademarks are acknowledged.

TELEPHONE:  
**0425 475515**

“ADDING POWER”

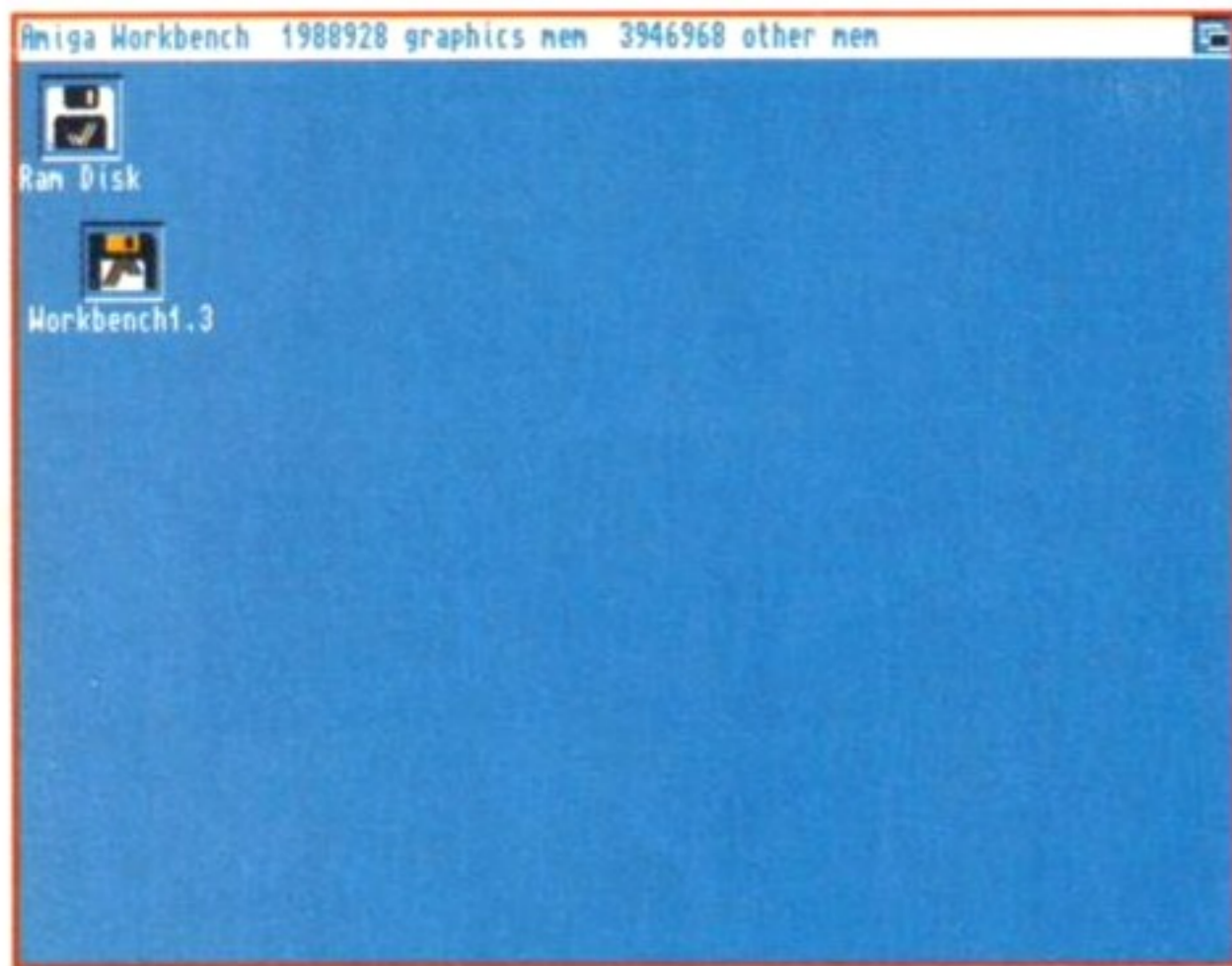
CHARTSCREEN (UK) LTD.

Dewey House

FACSIMILE:  
**0425 475525**

55 High Street Ringwood Hampshire BH24 1AE England

# beginning here!



**T**he computer industry has had a very colourful history. We have had legends, heroes, despots, revolutions, regimes, disasters, discoveries, and plenty of stupidity. Here's a particularly sad and stupid story for you. About twelve years ago a couple of executives from a major hardware manufacturer went driving through California, looking for someone to provide their new machine with an operating system. They had several candidates on their shortlist. Anyway, after meeting with the first company and seeing what they had to offer, for some reason they decided not to bother with the others and made a deal on the spot.

Why? Perhaps it had been a long day, and they wanted to get home. Perhaps their automobile had broken down. It certainly couldn't have been because they were so impressed with the software that they didn't think it was worth continuing their search (another supplier was rumored to have a very powerful operating system ready - but he was out gliding when they tried to see him earlier). The company they did visit was Microsoft and the operating system they saw was MSDOS and the computer

manufacturer that the executives worked for was IBM.

The rest is, as they say, history and today, a huge number, perhaps as many as 95% of frequent computer users are still stuck with an operating system that forces them to name files with only eight characters, a dot, and three more characters.

The still baby faced billionaire Bill Gates' Microsoft were not really operating system developers anyway, their speciality was the BASIC programming language (which also has a lot to answer for), and they didn't even write MSDOS themselves.

Nowadays Microsoft, who should be credited for exemplary use of the steamroller effect (very little of their success is due to actual merit) are top of the pile in almost every software area apart from desktop publishing and football pools prediction.

Windows, that half baked GUI has become as 'standard' as MS-DOS and Windows-NT, their new operating system, looks set to topple UNIX (which never really took its chance to run in a mainstream environment).

The likes of Borland, Lotus and WordPerfect have all been beaten at their own game by the Gates mob. Even the old

adversaries, IBM and Apple (Apple being the only true computing innovator to ever be a great commercial success - but at the cost of letting the grey suits in and founder Steve Jobs out) have had to make an uneasy alliance to try and win the next operating systems war. Yes, there are a few other major players, like Sun and the 'open systems' UNIX brigades - but perhaps resistance is useless.

Microsoft will still have us using their horrible, boring, unwieldy systems in years to come simply because almost nobody has got the guts to ditch their beige boxes and find out what computing is really about. What's next, world domination?

**The still baby faced**

**billionaire Bill**

**Gates' Microsoft**

**were not really**

**operating system**

**developers anyway.**

And how, you might well be asking, does the Amiga fit in with this? Well, the fact that a 'non standard' machine could survive so long in an MSDOS world is pretty remarkable.

Along with the



**Taking a very personal**

**view of where the**

**Amiga came from, Aitor**

**Ibarra gives**

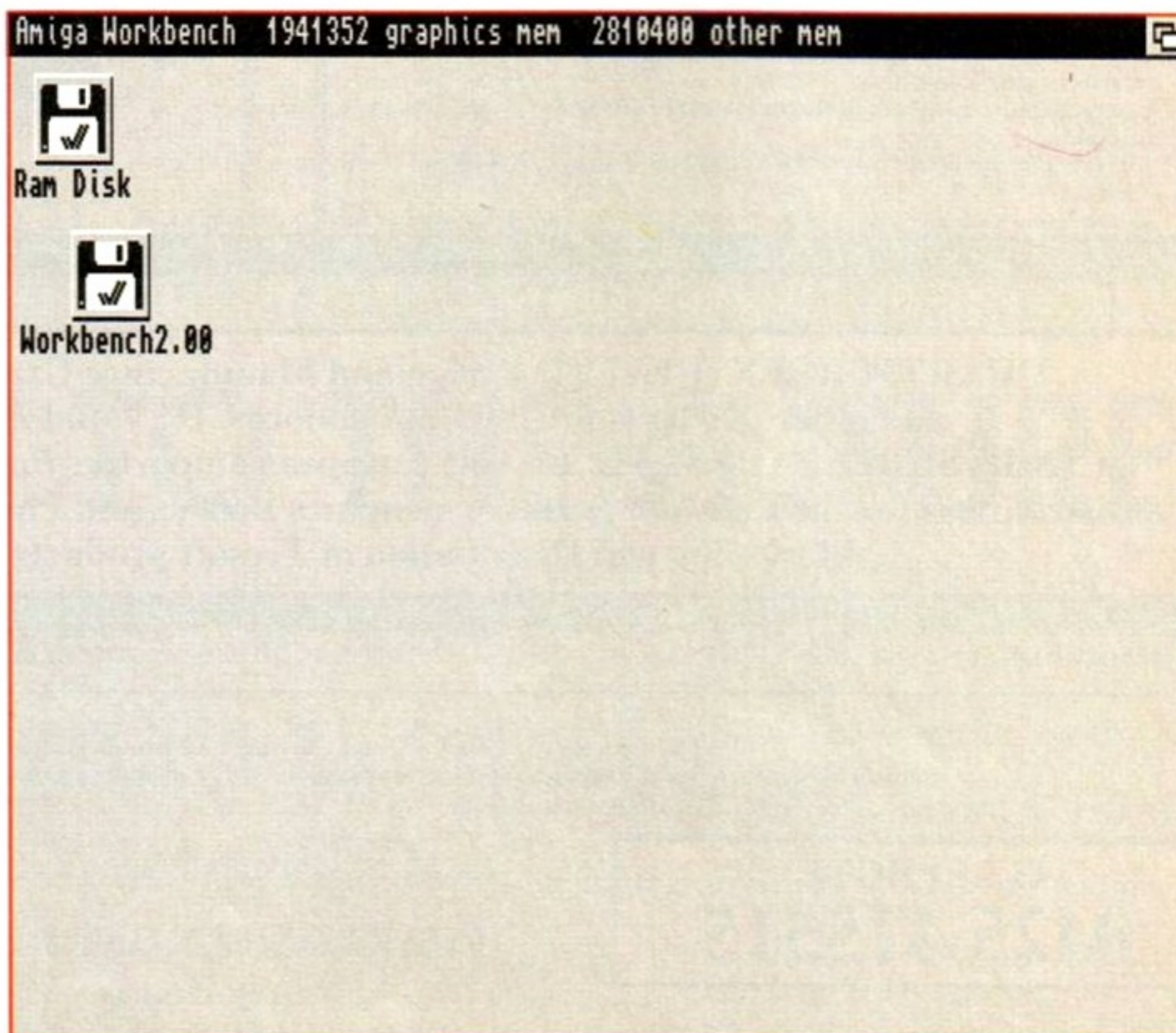
**Commodore some**

**controversial advice on**

**where it should go next.**

Macintosh, the Amiga was the only machine that had any real potential to supplant the IBM PC. So far both machines have failed to do that, and only had success in limited niche markets. Apple could have probably blown PC

compatibles away if they had sorted the Macintosh out properly from the start. They had this chance because the Mac was released in 1983, not too long, two years, after the PC. The Mac's graphical user interface was infinitely



more appealing than the character based MS DOS. Unfortunately, Macs were consistently under powered and over priced - it wasn't until 1987 that the machines had colour, and 1991 that the base machines were affordable, let alone cheap!

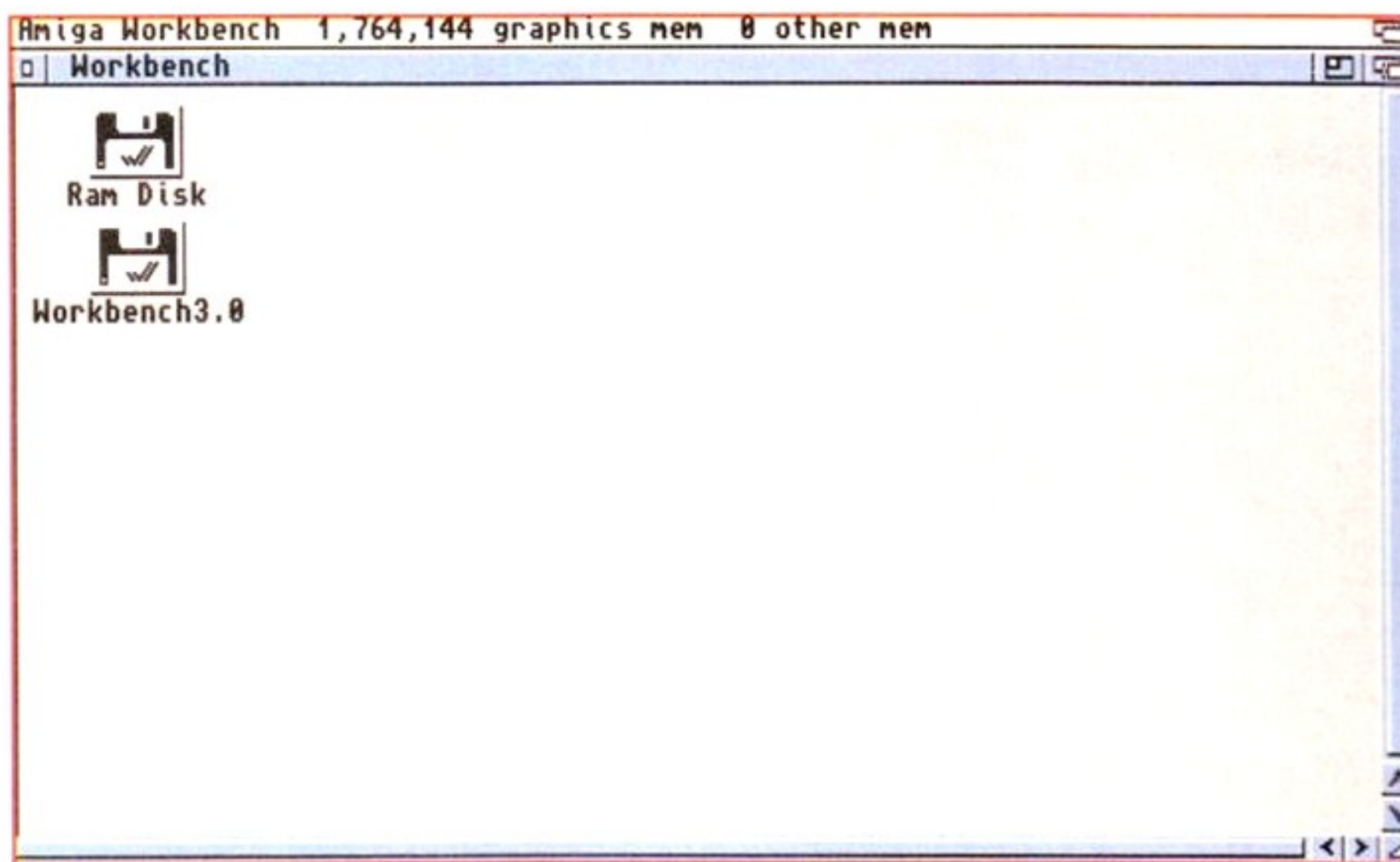
One major reason that the Macintosh succeeded in attracting developers where the Amiga failed was simply Apple's support, both for the machine and technical advice for developers.

The Macintosh user interface and system software were already highly developed, whereas the Amiga had a clumsy (from a users point of view) interface and buggy operating system (the compiler used had a serious bug that produced very unstable code) and poor support from Commodore. The machine's only non games success was in video, thanks to the Amiga chip set.

The Amiga has, however, survived, due to its committed band of enthusiastic users, who have put up with slow drives, slow machines, a two year delay on the ECS (the original schematics had apparently been lost, and Commodore had to reverse-engineer the chipset in order to be compatible with older machines), high prices expensive upgrades (compare the price of the Workbench 2 upgrade to Windows 3).

But at last Commodore seem to be getting their act together (however we thought that when the A3000 was released) and actually doing something worthwhile with the Amiga. It seems that Commodore has finally entered an era of glasnost (but let's hope that they don't go the same way as the USSR) and now actually talk about their plans for the future.

We have already seen the release of two new AGA machines (the AGA chipset addresses many, but not all of my criticisms), although the A4000 is a bit of a disappointment (i.e. the IDE interface and no improvement in the sound department). And considering what good value the 1200 is, the 4000 looks overpriced (it's only advantages being that it is much more expandable and about 5-10 times as fast). But Big C are already



**I hope the Amiga's**

**future turns out to**

**be more than**

**vapourware.**

publicly talking about what might be in the next revisions of AmigaDos, future chipset goals, and so on. I hope this indicates an improvement at the middle management level, as Commodore are actually beginning to make the right moves.

I hope the Amiga's future turns out to be more than vapourware. **a**

## here's what I think should happen in the next year or so:

- Cut the price of the A600 to £150/£200, to replace the C64 and compete with the consoles, or, preferably, discontinue the machine and bring the A1200's price down to about £250
- Put High Density floppy drives in all machines.
- Give us 16 channel 16 bit sound with DSP! This will soon be available for the A4000, but it really needs to be incorporated onto lower end machines for use in games.
- Discontinue the A2000/1500 and A3000 ranges.
- Release a new machine in the 700 - 1000 price bracket with a 40mhz 68030, AGA chip set and large (80+ Mb) hard disk.
- Bring the A4000 down to about 1200 and give it SCSI II and Ethernet. This will make it much more attractive to people who previously would not have considered buying an Amiga for business use.
- Release higher end machines than the A4000. A tower version of the 4000 is apparently in the works, equipped with both 16 bit DSP sound and SCSI II hard disk - i.e. what the 4000 should have been in the first place.
- Give AmigaDos memory protection and virtual memory on MMU equipped machines. Commodore have talked about resource tracking, but after release 4.0. Meanwhile, the 3rd party GigaMem is an option for virtual memory.
- Build MPEG and JPEG into AmigaDos, with optional hardware support, and possibly integration into IFF. This will give the Amiga full motion video capability from CD, a must if the Amiga is to be a contender in the next generation of multimedia machines.
- Add Adobe font support, preferably with a full blown license of Display PostScript. Commodore have said that version 4.0 of AmigaDos should have 'full PostScript capability' although the meaning of this has not been clarified.
- Build network support into AmigaDos. This is promised as part of the 3.1 release, due out in early 1993. The spec sheet for the A4000 states that Amigas are able to integrate into networks both as a client and a server (OXXI produce Novell-compatible client software and Commodore support other standards, but I have not heard of any server software.)
- Add standard database facilities to AmigaDos (i.e. DBase III read/write - or an IFF standard - and SQL), and also standard spell checking/thesaurus/dictionary facilities.
- Rather than simply trying to move to RISC CPU's, move to support for parallel processors. RISC (Reduced Instruction Set Chips) has a speed advantage at the moment, although logic dictates that CISC (Complicated Instruction Set Chips) will overtake as the standards of integration and compaction improve. No, the real improvement will come with parallelism, which needs an operating system rewrite and a lot of work for developers who'll have to rewrite (well, probably just recompile) their applications.
- Release a higher spec version of AGA that will have full 24bit support, MPEG/JPEG, realtime frame grabbing and manipulation and accelerated drawing facilities, and the ability to use larger monitors. Commodore have said that AGA will be the basis for a future two versions of the Amiga chipset - a 'low end' chipset with up to 16 bit graphics (i.e. 65536 colour palette), more chip Ram, and increased speed; and a high end chipset with full 24 bit capability, built-in frame grabber, 16 bit sound, super fast blitter and video decompression.
- Add support for re-targetable graphics to Intuition. This is a stated aim, I hope we'll see it in AmigaDos 4.0.
- Emulate the Macintosh by realtime translation of Mac system calls to Amiga system calls. This is also feasible for Windows NT and UNIX - this way programs that run under different platforms would be presented via Intuition. You would be able to run Windows programs through Workbench rather than the horrible Program Manager. Love it or loathe it, you can't ignore Gates' monster. Systems that rely on CPU's other than the 68000 series would require their proprietary CPU in order to be side compatible (developers are unlikely to ship their applications in source code format!)
- Make CDTV/CDROM available to all Amigas, and replace CDTV with an AGA equipped machine. These are stated aims. Commodore have said they want to introduce AGA to all machines. Whether this means updating existing machines or replacing them (the easier option - the 1200 could replace the 600, for instance).
- Encourage major developers to write for the Amiga by donating them machines and development tools, and carrying out the enhancements to the Amiga hardware and system software outlined above.
- Promote the machine properly. So far the success and progress of the Amiga has been due mainly to committed Amiga nuts such as ourselves. Commodore need to target the machine at all professionals, not just in the vague 'multimedia' markets but in traditional PC and Mac reserves such as high end spreadsheets and desktop publishing. Commodore should give more encouragement to Amiga developers to produce more professional software in these areas, as well as courting the likes of Lotus and Quark. Maybe then the Amiga will get the widespread recognition and success it deserves!

# New From



APPLIED SYSTEMS GROUP LTD

"miniGEN-PROFESSIONAL" Genlock, Fader, RGB Thru, Internal or External	£99.00
as above but including SCALA 500 presentation software	£149.00
<b>£20.00 Cash Back for any Genlock</b>	
ARENA ACCOUNTS "The Only Serious Amiga Accounting Program"	£99.00
<b>£20.00 Cash Back for any Amiga Accounting Program</b>	
AMIGA TV MODULATOR A500 and A1500/A2000 Versions from	£29.95
HI-SPEC PAL ENCODER For All Amigas	£79.00
AMINET V2.0 Amiga Networking, Share Printers/Hard Disks	£29.00
AMIOXII Multi-Serial Port Card with Software from	£99.00

tel 0652 688330 fax 0652 688433

The Flarepath Elsham Wold Industrial Estate Brigg South Humberside DN20 0SP

OH MI GOSH! WHAT HAPPENED TO YOUR FACE?

I'VE JUST BEEN DOWN TO THE TOTTENHAM COURT ROAD

## COMPUTER EXCHANGE

AND BEEN **AMAZED** BY THEIR KNOCK-DOWN PRICES!

### UNBEATABLE RATES!

WE BUY, SELL AND EXCHANGE ALL KINDS OF **PC, AMIGA AND S.T. SOFTWARE!**

GAMES • APPLICATIONS • BUSINESS  
SEGA, NINTENDO AND LYNX CARTRIDGES ALSO BOUGHT AND EXCHANGED

**BARGAINS SO GOOD YOU'LL TURN BLUE AND EXPLODE!!!**

WE PAY UP TO £15 CASH FOR GAMES! PART EXCHANGE YOUR USED SOFTWARE FOR NEW TITLES!!

IT'S ONLY A DREAM... IT'S ONLY A DREAM!

PARDON? WE SAID "UNBEATABLE RATES" OOH.

WHY NOT GET UP OUT OF YOUR SEAT RIGHT NOW AND GIVE US A CALL ON

# 071 388 2613

OR SIMPLY STROLL RIGHT THROUGH OUR DOOR AT **143 WHITFIELD ST. (WARREN STREET TUBE) LONDON W1.**

OPEN 7 DAYS A WEEK, 10am - 8pm!

**PC, AMIGA + ST HARDWARE URGENTLY WANTED!!**

A PSYCHIATRIST SAYS...  
**MEIN GOTT! THESE PEOPLE MUST BE ZICK IN DER HEAD!**

**T.C.R. COMPUTER EXCHANGE.**

# WE ARE OPEN ALL HOURS

9am-10pm Mon-Sat  
10am-6pm Sun

## HARDWARE

A600 + Joystick + mouse mat .....	£294.00
A500 Plus & Software .....	£349.00
A1500 & Software .....	£565.00
1084S Monitor .....	£199.00
GVP series 2, Hard drive 52 Meg .....	£350.00
1 Meg sims .....	£20.00

Phone for 2000 & 3000 prices.

## JOYSTICKS

Quickshot II .....	£6.50
Python Micro Switched .....	£8.00
Speedking Autofire .....	£10.50
Competition Pro 5000 Black .....	£11.90
Maverick Autofire .....	£12.95
Zipstick Autofire .....	£12.95
Intruder .....	£21.50
Aviator Flight Sim .....	£23.50
Jet Fighter .....	£12.99

## LOOK! LOOK! LOOK!

### TRACTOR FEED DISK LABELS

500 plain white labels & software to print your own professional labels

Only £9.95

**SPECIAL OFFER**

1000 labels with software £13.50

## ACCESSORIES

Amiga Int drive .....	£49.00
Cumana Ext drive .....	£54.00
Zydec Ext drive .....	£51.00
512K upgrade with clock .....	£23.50
512K upgrade no clock .....	£17.00
1.5 Meg upgrade with clock .....	£79.00
1 Meg Amiga plus upgrade .....	£37.00
8 Meg fast ram, 4 Meg populated .....	£169.00
1 Meg Amiga 600 upgrade .....	£46.00

## DISKS with labels

Unbranded Bulk 100% Certified

3.5" DSDD .....	37p each
3.5" Rainbow .....	44p each
3.5" DSHD .....	55p each
5.25" DSDD .....	28p each

Branded Disks

3.5" DSDD .....	55p each
3.5" Labels per roll of 1,000 .....	£6.50
3.5" Tractor feed per 1,000 .....	£8.50

Please phone for bulk purchase discounts

## MISCELLANEOUS

Mousehouse .....	£1.60
Mouse Mat .....	£2.50
Disk Drive Cleaner .....	£1.80
Amiga Dust Cover .....	£3.50
Mouse/Joystick Auto Shift .....	£14.95
Amiga Light Pen & Software .....	£32.00
Optical Mouse .....	£32.00
Squik Mouse .....	£14.90
Naksha Mouse & Accessorie .....	£22.00
Zy-Fi Amplifier & Speakers .....	£37.95
Thumb & Finger Trackerball .....	£19.99
Crystal Trackerball .....	£32.00
Action Replay Mark III .....	£57.00
Techno Sound Turbo Sampler .....	£32.00
2 Piece Printer Stand with Tray .....	£5.70
Midi Master .....	£26.00
Wordworth 1.1 .....	£77.50
Tilt/Turn Monitor Stand .....	£8.50

## PRINTERS

Star LC-20 .....	£128.00
Star 24-20 .....	£195.00
Star LC 100 Colour *new .....	£170.00
Star LC200 Colour .....	£194.00
Star LC-24-200 Colour .....	£274.00

## STORAGE BOXES

10 capacity .....	£0.95
NEW 200 cap box stackable/lockable .....	£16.50
50 capacity lockable .....	£3.95
100 capacity lockable .....	£4.50
80 cap Banx stackable/lockable .....	£7.99
150 cap Posso stackable/lockable .....	£15.00
250 cap stackable/lockable .....	£18.99

Most of the above available in 3.5" and 5.25"

Orders by phone or post to:  
**DIRECT COMPUTER SUPPLIES**

0782 - 311471 Anytime  
0782 - 64297 9am-5.30pm week  
0630 - 653193 Evening/Weekend

54 Spring Road,  
Longton,  
Stoke-on-Trent,  
Staffs ST3 2PX

Prices include VAT  
Postage please add £3.30  
We accept cheques/P.O.'s/  
Visa/Access

# 500,000 COMPUTER GAMES

## SURPLUS STOCK SELL-OFF!! TOP SELLING GAMES FROM ONLY £1.00 EACH

### AMIGA/ATARI ST/PC/C64/ SPECTRUM/AMSTRAD

JUST SEND ONE FIRST CLASS STAMP TELLING US WHAT COMPUTER YOU HAVE AND WE WILL SEND YOU A FULL LIST OF AVAILABLE SOFTWARE AT PRICES YOU JUST WON'T BELIEVE TO:

**SURPLUS SOFTWARE SELL OFF**

DEPT.3, No1 SATURN HOUSE, CALLEVA PARK, ALDERMASTON, BERKS. RG7 4QW

# 500,000 COMPUTER GAMES

**THIS IS NOT P.D SOFTWARE, ALL GAMES ARE SHOP SURPLUS**

# NEXT MONTH

THE AMAZING AND CHEAP FRACTUALITY  
A review and you can win it too!

**FIELD  
REPORT**

*from*

**ORLANDO**

HOT NEWS EXCLUSIVE OF THE  
LATEST AMIGA DEVELOPMENTS

**PERSONAL**

*paint*

A new package from Italy to have you  
splashing out - colourfully

*plus* Newsfile, Test Drive, Programming  
Tips, Entertainment Now! CDTV Scene  
and much, much more!



1st Steps on  
the

**1200**

Hot to get the best out of  
Commodore's latest Amiga

**B.A.D**

How to Optomise  
your Disks

**APRIL**

**amiga**  
user  
INTERNATIONAL

OUT ON MARCH 1st 1993  
Don't Miss It!



now in its third successful year!

# JAM

JUST AMIGA MONTHLY



Established in the Autumn of 1990, Just Amiga Monthly was the first UK Amiga magazine to have the foresight to cut out the gloss and the colour and concentrate on the applications and productivity aspect of the Amiga. Our motto from the start has been Guaranteed No Games, our goal being to help Amiga enthusiasts to get the best from their machines, catering for the out-and-out beginner as well as the more experienced user.

Our readers tell us we are achieving this goal admirably month after month, providing them with important information that other magazines miss.

It's impossible to sum up in an advert all that the magazine covers; the best description is probably 'everything except games', including up to date hardware and software reviews, tutorials and programming. But the absolute best way to find out is to buy the magazine and see for yourself.

And we are not afraid to practise what we preach - the magazine is professionally produced using Amigas and Amiga software! Best of all, it's *your* magazine. Many articles are written by our knowledgeable readers, and we positively encourage you to contribute with articles, letters and problems for us to solve.

**Full Money Back Guarantee:** You may cancel your subscription at any time, for any reason, even after just one issue, and we will refund the cost of all unmailed issues, no questions asked! What have you got to lose?

Order form AM

BLOCK CAPITALS PLEASE

CURRENT ISSUE

Tick

UK & BFPO

£2.50

**6 ISSUES**

Tick

UK & BFPO

£15

Europe & Eire

£20

Overseas (air)

£30

Overseas (surface)

£20

**12 ISSUES**

Tick

UK & BFPO

£25

Europe & Eire

£35

Overseas (air)

£50

Overseas (surface)

£35

Your subscription will start with the current issue. Back numbers of most issues are available, prices and availability are published in the magazine.

My name is \_\_\_\_\_

And I live at \_\_\_\_\_

And the postcode is \_\_\_\_\_

The date today is \_\_\_ / \_\_\_ / \_\_\_

Signature \_\_\_\_\_

Cheques and money orders  
made out to:

**JAM**

Telephone 0895 274449

Send your order to:

Amiga User International  
75 Greatfields Drive  
Uxbridge, UB8 3QN

## Amiga Bargain Packs - Can't think what you buy someone with an Amiga? We have the Answer!

### Castle Pack 3 Save over £65

GODS .....£25.99  
Speedball 2 .....£25.99  
Gazza 2 .....£25.99  
500/500+ dust cover .....£4.99  
Crystal Turbo m/s joystk.. £14.99

Total value . . £97.95

Our price only £29.99

### Castle Pack 5 Save £85 +

1 meg 500+ mem upgrade .....£49.99  
GODS .....£25.99  
Speedball 2 .....£25.99  
Gazza 2 .....£25.99  
500 + dust cover .....£4.99

Total value . . over £130!!

Our price only £45 - save £85+

### Castle Pack 2 Save over £110

Kind Words 3: word processor .....£49.99  
Jimmy White Snooker .....£29.99  
Art Tutor: paint like a Pro .....£25.00  
Zipstick joystick microswitched .....£14.99  
Mouse mat .....£4.99  
Mouse house .....£4.99  
Dust cover .....£7.99  
File-a-disk record system .....£2.99  
Disk cleaner .....£4.99  
5 blank discs .....£5.00  
Little blue Workbench 2.0 book .....£14.95

Total value . . over £165!!

Our price only £55 - save over £110!

### Castle Pack 4 Save over £20

Quality Amiga mouse .....£15.99  
Crystal Turbo M/S A/F Joystick ...£14.99  
500 or 600 dust cover .....£4.99  
Mouse mat .....£4.99  
Mouse house .....£4.99  
Disk cleaner .....£4.99

Total value . . over £50

Our price only £29.99 - save  
over £20

### Castle Pack 1 Save £170

Wordsworth v 1.1 .....£129.99  
K Data (database) .....£51.99  
K Spread .....£63.99  
Mouse mat .....£4.99  
Disk cleaner .....£4.99  
Mouse house .....£4.99

Total value . . over £260!!

Our price £89 - save £170

**Castlesoft,**

Levenmouth Business Centre,

Riverside Road, Leven,

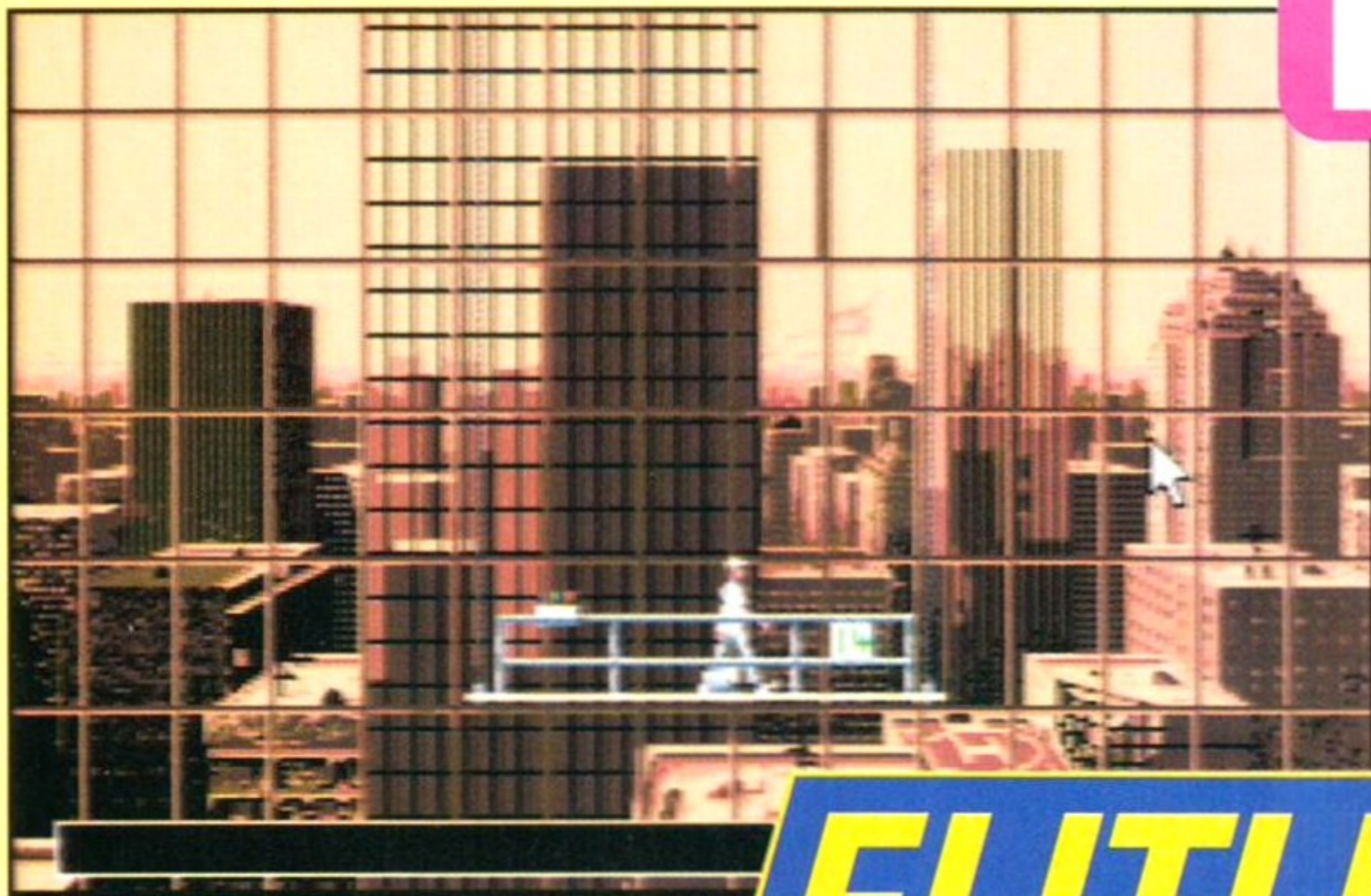
Fife KY8 4LT

Tel: 0333 421243

(24 hour)



# entertainment now!



**ASHLEY COTTER-CAIRNS and ANDY MOSS report the latest developments and pick the best and the notable worst of the games world.**

Many of the Future Wars fans didn't like Another World's arcade adventure format. I did, but speaking from the other side of the fence, I can see why the adventure fans claimed that their grass was greener. It's something to do with the light you view something in, I think. If adventures are too heavy for you, Future Wars' lawn may seem more brownish than green, even at this low price.

## FUTURE WARS

DELPHINE/  
KIXX  
£12.99

Future Wars is an adventure using point and click in much the same vein as Sierra Online games. As a mild-mannered window cleaner, you have to pick a tricky path through time and space and, you guessed it, defeat the alien overlord which has drawn the short straw this week and so has decided to terrorise the Earth. You begin eighteen stories up and must solve the usual lateral thinking puzzles, relying on your decision making prowess and a little luck to find a way through the various scenes in the game.

Each of these screens is beautifully drawn and has 3D sections and cut-away walls to show more of the playing area to the player. Almost every object may be examined in more detail, operated or used in conjunction with other items to achieve an effect. Doors may be opened, cupboards explored, things filled with water or sand - in fact, almost everything which applies to a real situation applies in the game. Logic fans,

here's your chance to prove yourselves.

But a game which deals with the extra-terrestrial won't always rely so heavily on logic for its puzzles. Some truly sideways thinking is going to be needed if you're to crack some of the more difficult conundrums. And every object in the game is going to have to be poked, prodded or shaken to see what falls out.

The control system in a game like this one is vital. While Ween's, for example, was frustrating, Future Wars' control system is more than adequate and quite friendly before long. Helpful sounds indicate actions taken and the text at the bottom of the screen is both amusing and helpful.

### VERDICT

Graphics:	86%
Sound:	80%
Game Play:	78%
Decision:	79%

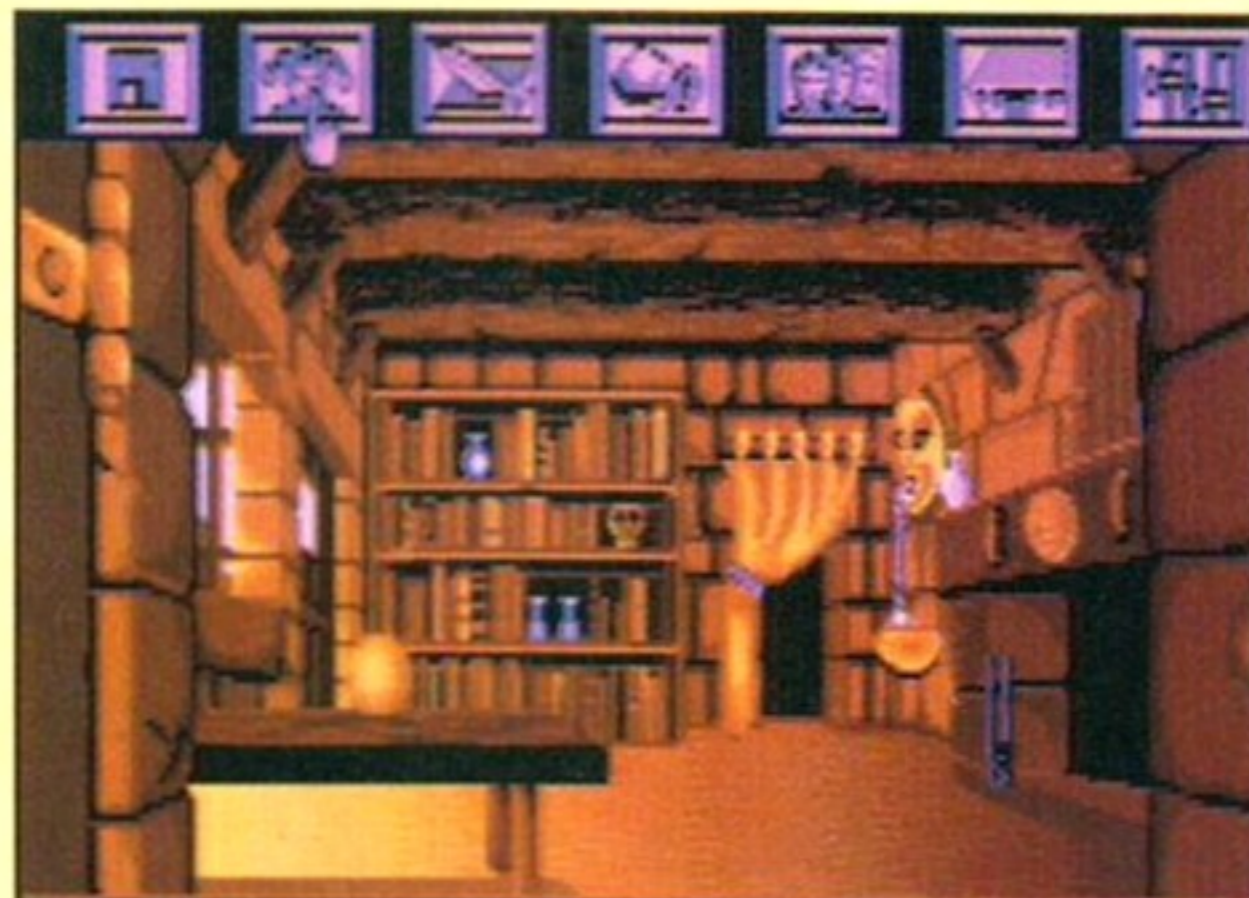
# WEEN



**COKTEL VISION**  
£26.99

Ween was a very good-looking game on the PC which I previewed in my ECTS show report. It

features a strawberry-loving bat which may be summoned using a flute - if you can find one - and sets you the task of freeing a fantasyland enslaved by a great evil. You've heard it all before.



Well, Ween has been converted to the Amiga and it has the same style of slightly angular, but well-drawn graphics that the PC version flaunted so well in 256-colour mode. But, of course, the humble Amiga

can't match that in its 16-bit flavours, - wait for the 1200! - so the screen appears somewhat muted and a little washed out.

The game is played using the mouse to interact with objects. The puzzles

# CYTRON

**PSYGNOSIS £25.99**

This game took me completely by surprise! I rubbed my eyes and double-checked that my Amiga hadn't suddenly become a C64 while I wasn't looking. No. I wasn't dreaming, the dull grey and red and blue graphics were being pumped out through the Amiga's blitter chip et al, so Cytron is something of a departure for Psygnosis.

Can you remember the last game the company produced which put more stock in the gameplay than the graphics? So can I. It was called Lemmings. Still, while this is an attitude which I'm ever willing to applaud - I hate unplayable, but attractive games - Cytron won't beat Lemmings to the all-time sales records. But it might restore some confidence in the shoot-em-up players of the land.

The idea is simple. Pilot your dual-purpose ship around ever more tricky and alien-laden screens, blasting the hell out of anything which dares to show its face. Avoid the missiles and bullets launched by the braver of those daring nasties and dive into the exit to get to the next, quite similar, screen.

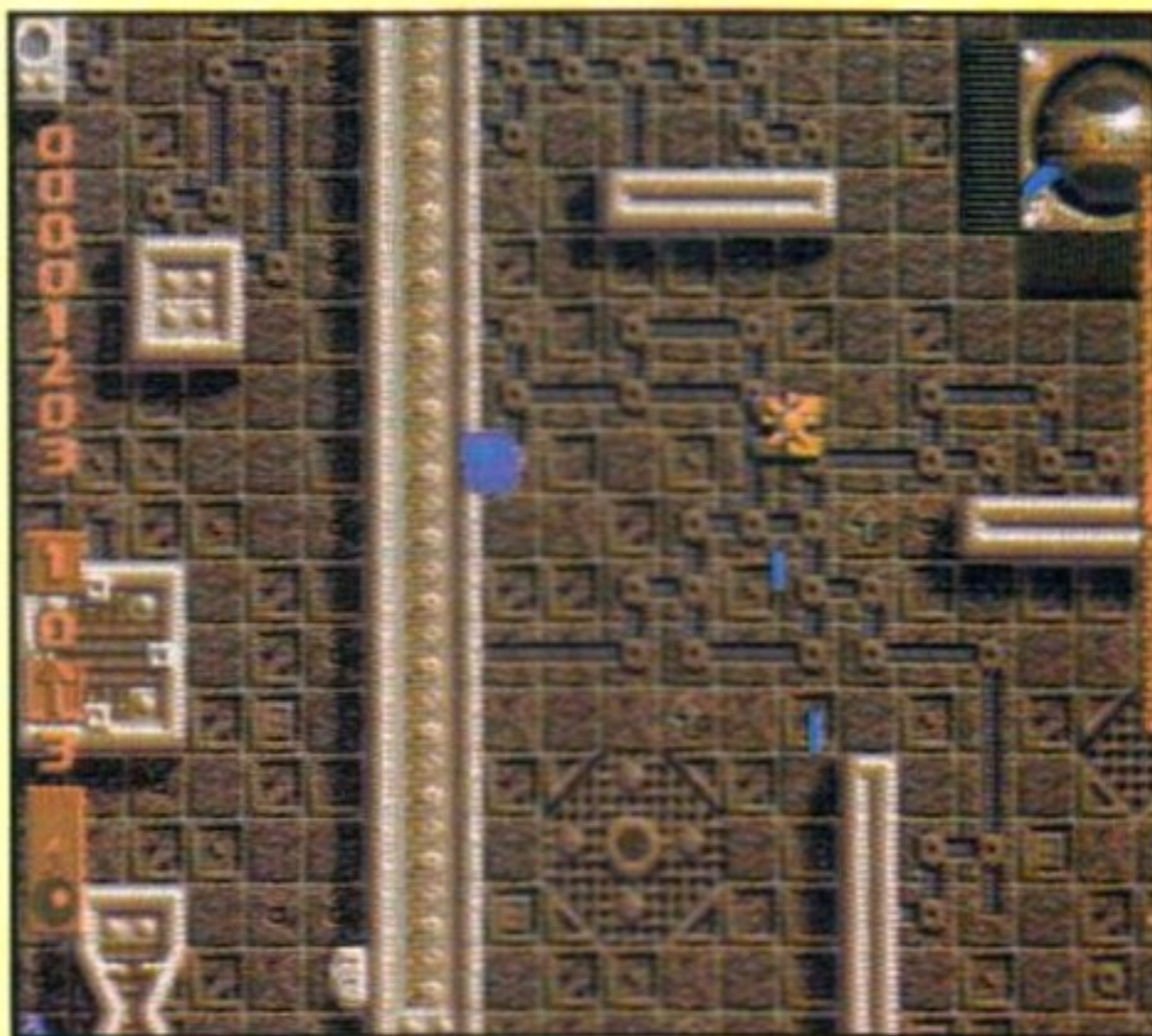
Cytron may be split up to steer it through gaps which are too small for the

whole thing to traverse. One half of it shoots small bullets but moves fast, while the other trundles along at a snail's pace, lobbing huge shells at the enemy. The spacebar is used to switch between the two or to put Cytron back together if the two are close enough.

Another nice feature is that two players may control Cytron: one doing the driving, the other the

shooting. Fun or what?

Sound is raw and meaty, with plenty of zappy explosions and "Hurry up" type tunes in the background. As I have previously pointed out, the graphics won't blow you away - but who cares? The game certainly will. It's fast, furious and likely to break up a few lifetime friendships if played in two-player format. Quite literally, a blast.



## VERDICT

<b>Graphics:</b>	<b>68%</b>
<b>Sound:</b>	<b>83%</b>
<b>Game Play:</b>	<b>88%</b>
<b>Decision:</b>	<b>87%</b>

are very deep and quite complex, often involving several objects to be used together to achieve a desired effect. This makes thinking a vital part of the game (boo!), which is all very well if you can see all of the objects which you need to use.

Because the game isn't as colourful as the PC version, that isn't quite as easy as it sounds. Clicking around the screen to find objects becomes a bit of a pain at times. The importance of strawberries cannot be over-estimated, so grab any that you might come across... your pippistrelle pal goes mad over them.

Unlike similar

adventures, there is a feeling of being channelled down a very narrow route through the game. Ween doesn't offer the freedom to explore found in games like Legend of Kyrandia. It does mean that you're almost limited to the same sort of dogged persistence required to play a game like Goblins, where all of the screen has to be completed before progressing.

The puzzles are the same, but the control system always was a bit of a problem. That has, sadly, been faithfully reproduced! But the great character animations are intact and add life to an otherwise static game. I can't see Ween being among your most wanted games, but it may keep adventurephiles playing for a few hours in the winter months.

## VERDICT

<b>Graphics:</b>	<b>82%</b>
<b>Sound:</b>	<b>73%</b>
<b>Game Play:</b>	<b>75%</b>
<b>Decision:</b>	<b>75%</b>

## GAMES NEWS

### Super Stupid Blukid

Bitwise Design may not be the first name which leaps to mind when you dream of arcade games, but that's because it's a new outfit from Cheshire which has yet even to find a publisher. According to what they tell us, Bitwise is quite happy to publish the game itself "For under £15", which is a nice gesture - but having played the demo the company sent to me, I'd advise it to put a lot more work into the project before they release it. The game doesn't really inspire me to encourage further development to be honest, being abysmally unoriginal, although I could see the finished product appealing to younger games players. It's got a Zool-like feel without the slickness, which was all that attracted me to Zool anyway. Still, I'd best reserve final judgement until I see a real version - I hope that I will be pleasantly surprised by Bitwise.

## GAMES NEWS

### Games which didn't quite make it . . .

Not an article on abandoned projects, but one on those games which are littering my office floor, just begging to be reviewed for the next issue, but which didn't squeak inside my tight-as-ever deadline for this one. Look for a full salvo on them next time.

## GAMES NEWS

### Bubble Dizzy Codemasters - £7.99

I'm not going to be rude about this one, honest. It is a little dull, but challenging at least. Guide Dizzy the breathing egg from the sea bed to the airy freedom of terra firma. This one first appeared in a recent Codemasters compilation, where it was the weakest of a pretty good bunch. Say no more - 'til next month.

# NIGEL MANSSELL'S WORLD CHAMPIONSHIP

**GREMLIN  
£29.99**



Oh dear. One of the most eagerly awaited releases of the year turns out to be more of a turkey than the bird you ate for Christmas. Gremlin has enjoyed a string of superb titles and deserved the success of each. But Nigel Mansell's World Championship is as appealing as the man's moustache.

Maybe I'm being a little too tough on the game. It does combine the two most popular game types very well - the Microprose Grand Prix strategy side of Formula One and the Lotus

Esprit kind of arcade driving bash. Nigel is presented in a format identical to Vroom, Ubi-Soft's lightning-fast race game of a year or so ago, but it hasn't got the horsepower to make it a special game.

For one thing, the graphics seem very bland. They scroll smoothly enough, but the bends are merely wrinkles in the road, the car handles them so well. This makes cornering too easy and the game can

quickly become boring and dull. The roadside features don't give much of an impression of the speed one associates with the fastest sport in the world either.

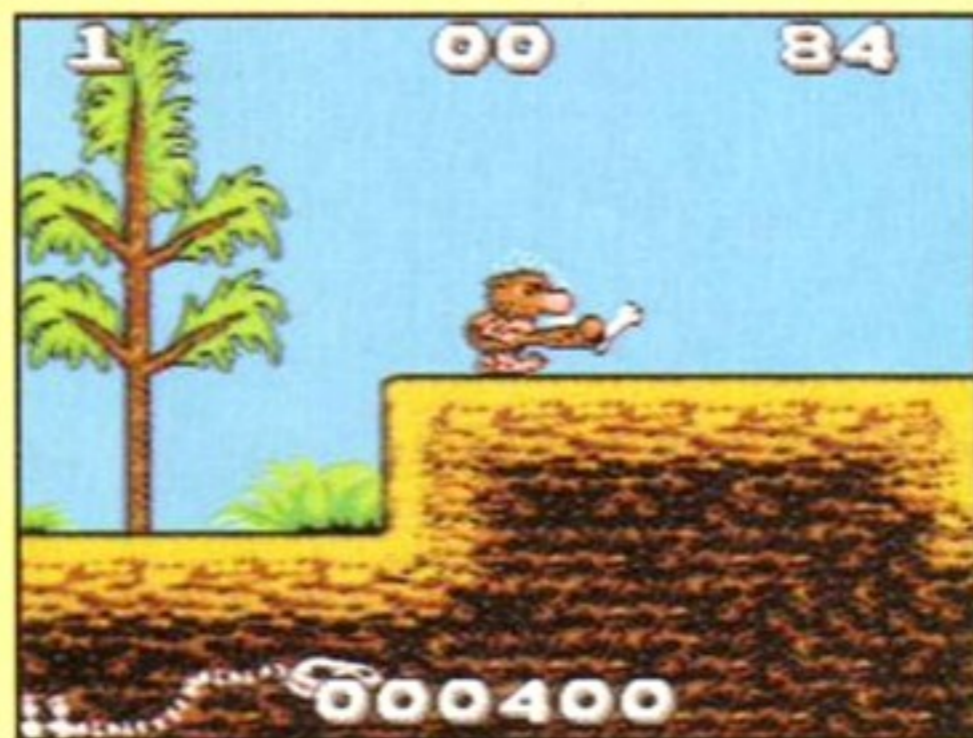
While there are lots of options to tweak the car during the championship, like aerofoils, tyre types and the like, the difference it makes hardly gives the experimental player much reward in the shape of positive or negative feedback for his efforts. While the challenge of winning the championship remains, this game may hold a little lasting interest, but it's far removed from the technical excellence of Lotus III. Give it a miss.

## VERDICT

<b>Graphics:</b>	<b>82%</b>
<b>Sound:</b>	<b>79%</b>
<b>Game Play:</b>	<b>68%</b>
<b>Decision:</b>	<b>69%</b>

# BIGNOSE THE CAVEMAN

**CODEMASTERS  
£7.99**



Bignose is a cute little guy who looks like the dinosaur from HOI, a similar game which appeared ages ago from The Software Business. He has to hunt, kill, grab food and other items, all in the name of prehistoric survival.

It's pitched at the younger games players. It appears to be a console game without a console, which seriously undervalues the power of the Amiga. Still, it's cheap and fairly cheerful. The scrolling is the biggest let-down, being a bit glitchy, while the graphics, though large and colourful, look a touch unwieldy. Gameplay is simplistic and it might even offend a kid who's been brought up on console games.

Another Codemasters 'classic'.

## VERDICT

<b>Graphics:</b>	<b>58%</b>
<b>Sound:</b>	<b>49%</b>
<b>Game Play:</b>	<b>50%</b>
<b>Decision:</b>	<b>55%</b>

## GAMES NEWS

### Dalek Attack

**Admiral Software - £15.99**

The game which wasn't called Doctor Who - The Computer Game because the software house involved decided that Daleks were more famous and more fun. I'd have done this one differently, perhaps giving the player a simulation of a Dalek, with the task of pedalling the thing along while talking in a silly voice and working the arms. Hours of fun, surely?

Well, apparently not, according to Admiral. It reckons that the boring job of saving the Earth from the spotty dustbins would sell more units and so you get to play the Doctor (and his assistant) in a platform game. More in the full review.

## GAMES NEWS

### Gobliins 2

**Coktel Vision £25.99**

Winkle and Fingus were playing with each other for just too long for them to come in time for this Entertainment Now! However, they have finally tidied themselves up and are ready for public inspection at last. From what I've seen already, this one will be even more popular than the first, despite the mere two iis in the title.

For one thing, the other characters in the game respond in different ways to the two Gobliins, while the wrong actions you'll unwittingly discover don't lose you energy this time. Check it out soon.

## GAMES NEWS

### Bill's Tomato Game

**- Psygnosis - £25.99**

Well, well. A Lemmings-style arcade puzzle, along the lines of every other game which has appeared recently. And by whom? Why, only the publishers of Lemmings, the best reason to own an Amiga since DPaint. Still, who can blame the company for jumping back onto a bandwagon which it designed, built and started rolling?

This one looks pretty, plays well and is addictive. Another Lemmings? I think that's asking for the impossible, but it will appeal to fans nonetheless. As to who Bill is, well, that's anyone's guess.

competition

# WIN AN UPGRADE

**WIN!**

Yes, what you've been wanting – and people like Gary Fenton have been gloating over you because you haven't got! You

can win an upgrade from 1.3 to 2.0. Five of our lucky and clever AUI readers are going to make that desired jump.

What? you've got an A500 Plus and so already have 2.0? Well, you happy reader, will get 4 Megs of memory to add to the power of YOUR Amiga.

What? You've got an A600 or – lucky devil – have

**WIN!**

hotfooted it to a shop in the last couple of months and casually picked up an A1200?

No, we haven't forgotten *you*.

There's a 2 Meg or 4 Meg memory upgrade for you on one of those neat little smart cards. Aren't you the really lucky ones?

Yes, we want to help all of you to get a step higher in the world of the Amiga.

What do you have to do to bring superior power to your computer? Just win our simple competition.

All that's needed is for you to answer all questions below. And the answers are all in this AUI. There, it couldn't be simpler, could it?

### The questions. . .

1. What is the name of the new Cheetah hand held controller?
2. What does EPS stand for?
3. Who is the author of the book, AMIGA DESKTOP VIDEO?
4. Two file formats are available for storing 16 bit sounds. Name one.
5. Ween from Coktel is available for which other computer?
6. Who manufactures the G-Lock genlock?
7. What is the maximum amount of 'virtual memory' available when using Gigamem?
8. The Flying Logo video is produced by which company?
9. Jay Miner was interviewed by whom? And where?
10. What type of printer is the new Epsom LX100?
11. The Roland CM-300 will play how many notes simultaneously?
12. What (in the PD world) does WOMAN stand for?
13. Name an accelerator that is available for the A1200.
14. Where was the most recent Commodore show in Europe?
15. The original company set up to design the Amiga was called what?

As a tie breaker, in 12 words or fewer, tell us: I want an upgraded Amiga because

-----  
-----  
-----

The closing date for the competition is 31st May 1993.

Answers (on a postcard please) to:  
The Upgrade Competition

**AUI**  
HHL Publishing  
Greater London House, Hampstead Road  
London NW1 7QQ

GAMES  
NEWS

## Shadowworlds

Krisalis - £25.99

Nice game, with a very interesting piece of fiction backing it up, called Shadowworlds - The Novella. It's by some geezer called Ashley Cotter-Cairns, whoever that is . . . modesty prevents me from going further about that, but what of the game?

It's a science fiction version of Shadow Lands, which was a fantasy roleplaying epic with a strange lighting system. That is maintained, but also added to with many improvements. A good-looking game, supported by a wonderf. . . no, I promised that I would avoid egotistic plugs of my own work. After all, you read the stuff I write here all the time. Need I say more? (If you do, I'll only edit it out anyway - Ed.).

GAMES  
NEWS

## US Gold releases lots of software

Creative captions aside, it is pretty busy. What with the Amiga version of Streetfighter II - £27.99 - available now, at only a minor rip off price when compared to the console version: With Legends of Valour, hailed as a new type of roleplaying game (so what was wrong with the old type?) at £39.99; with D-Day (which is billed as 'following the success of Panza Kick Boxing - but why, as the two are unlikely to have anything in common at all) at a price to be announced later; and with Flashback, an action adventure from Delphine, who brought you Another World, again price TBA.

It's going to be a cashy new year for US Gold, it seems . . .

# PREMIER MANAGER

# PREMIER

# MAN

GREMLIN GRAPHICS

£25.99

Premier Manager is the first management game to appear with the new Premier League as its focus. It concentrates on management and strategy, giving the players the triple whammy problems of money management, team success and personal success. This is because you play a manager, not the team, so can move from club to club if offered a new post at the end of the current contract.

The game also has several unique features which make it a great social event, the best ever management game to date. The most significant is the multi-player mode, which allows four people to join in. The game can switch between players one to four instantly, using the f1-f4 keys. This applies no matter which screen you are currently looking at, a nice touch.

The next interesting bit of gameplay is the sponsorship screen. Here you can pick and choose whose names you'll put up around the stadium, mostly basing the decision on how much dosh they'll part with for the privilege. You must click through the

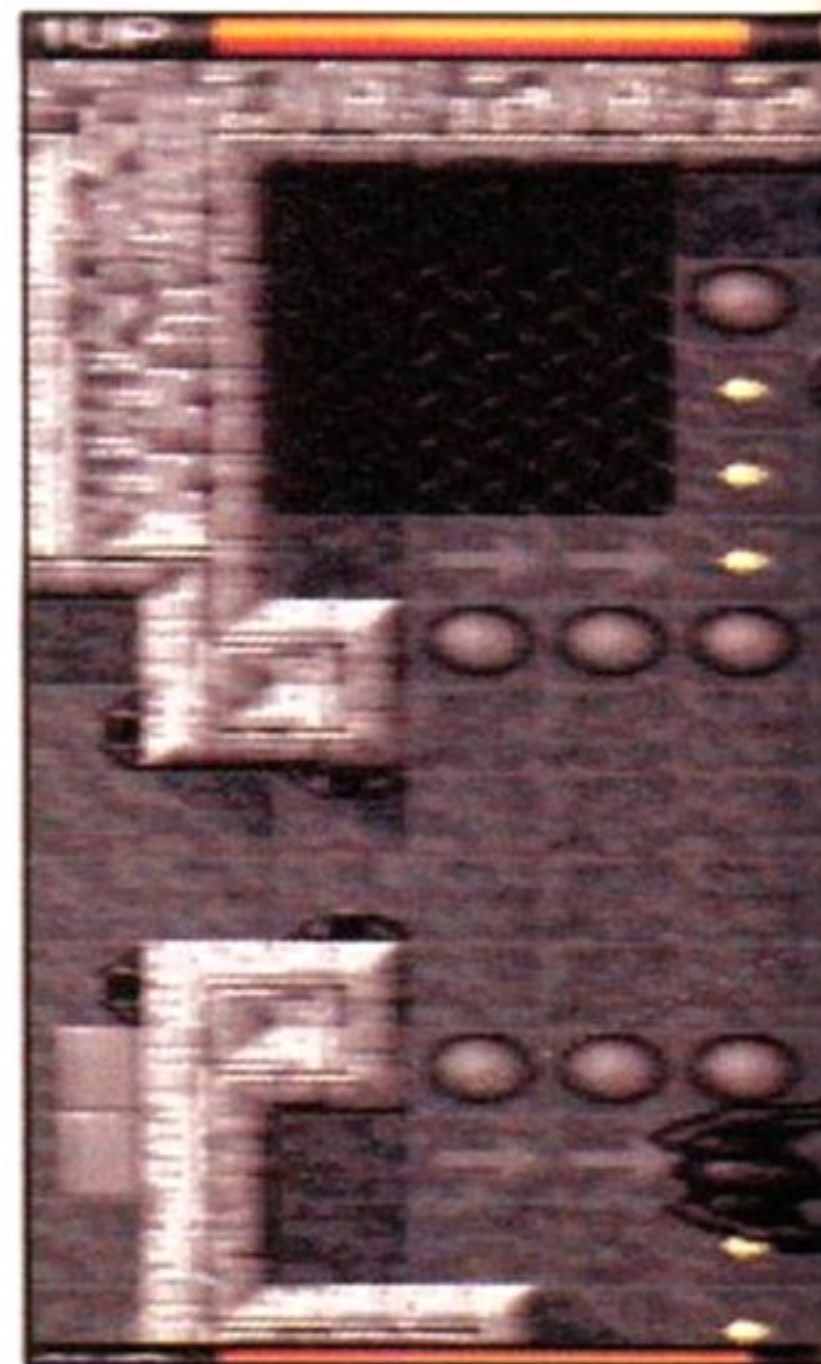
sponsors and select the best payers by clicking on empty sign boards.

The league screen allows you to follow the progress of any team in chart form. This is a nice addition. Also, a top scorers list is available and it highlights any players from your team which are featured.

The usual statistics apply, with Goalkeeper,

Defence, Midfield and Attack all having their own ratings. Other factors, like home crowd support, can influence the outcome of a game; but the team's ratings, its tactics and the formation are the most important. The games are played in a potted highlights form, with a slider bar representing the possession. It all sounds strange but works very well, with small pictures at the side

# ALIEN BREED 92





# AGER

of the 'match' showing the highlights and up to four matches on the screen at once.

Premier Manager is superb. You won't find a better footie management game, so stop looking...

## VERDICT

Graphics:	85%
Sound:	80%
Game Play:	95%
Decision:	94%



# ALIEN BREED 92

I missed Alien Breed the first time around. I wrote it off to experience, another game in a sea of releases last winter. But I have never been left out of so great an experience before. Luckily for me and sad people like me, Team 17 has not only released the game at a budget pricepoint, but it's also been revamped to make it bigger and harder than ever!

The game is based on a very successful arcade machine of the Eighties called Gauntlet (Wasn't there a computer called that too?). It shows action from above and slightly to the side, in semi-3D. You play a space marine and can enlist the aid of a friend, to clear out the massive alien presence in a colony complex.

You've heard it all before, but you've never seen it like this!

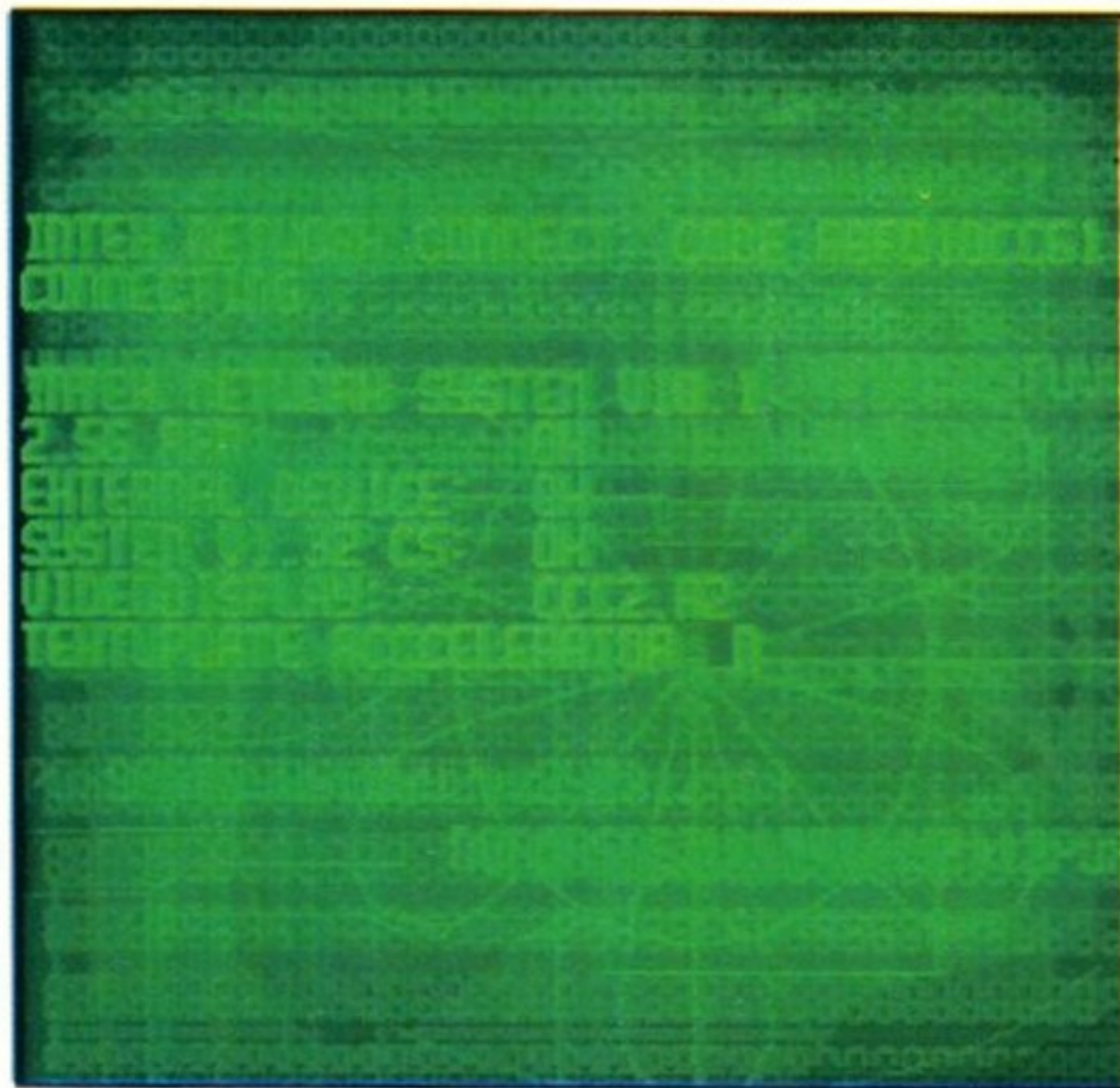
The game has obviously drawn its inspiration from films such as Aliens. You have to explore the complex, blasting the hell out of anything which moves, blowing up doors, collecting cash to buy bigger guns and so on. It plays very fast, very loud and very creepy, with the corridors and rooms full of slimy, acid-ridden monsters just waiting to pounce.

Your guns make light work of the monsters and the 'face hugger' type of smaller, faster creatures which appear later on. Come across a Mother alien, though and you'll need something more substantial. Grabbing the notes and gold bullion lying around will boost your credits, which may be pooled to share between the players or kept selfishly for your own ends.

Logging into computer networks give you access to the new weapons, as well as supplies like extra ammo and energy injections, a map and extra lives. Every level has its own mission to be completed, while a password is given to the players every two levels.

Alien Breed 92 is a wonderful game. It's action-packed, violent in the extreme, full of great sound and graphics and just dying to be bought at this price! If, like me, you were foolish once, don't be again. You don't often get two chances at something, so count your lucky stars.

**TEAM 17**  
**£10.99**



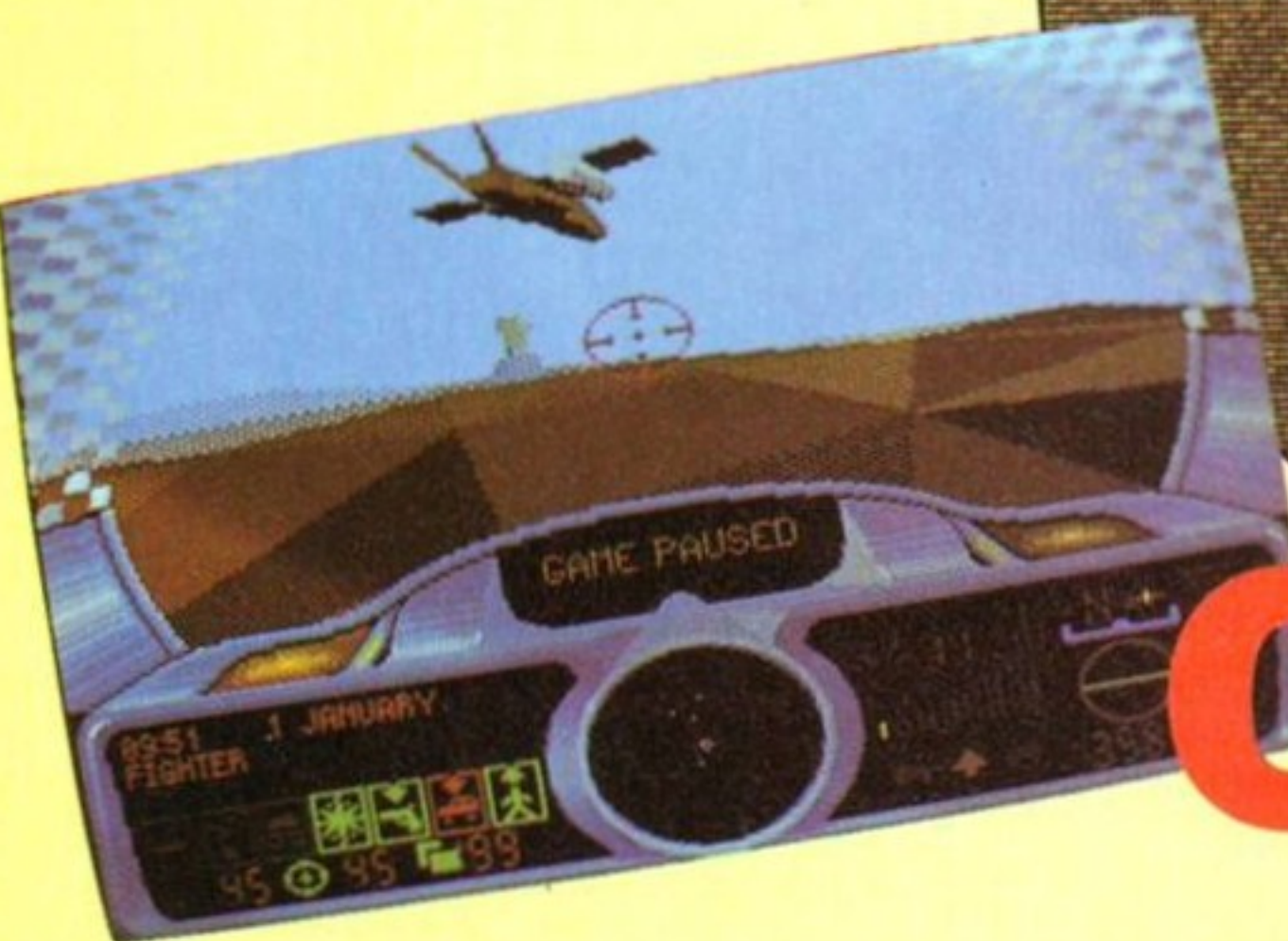
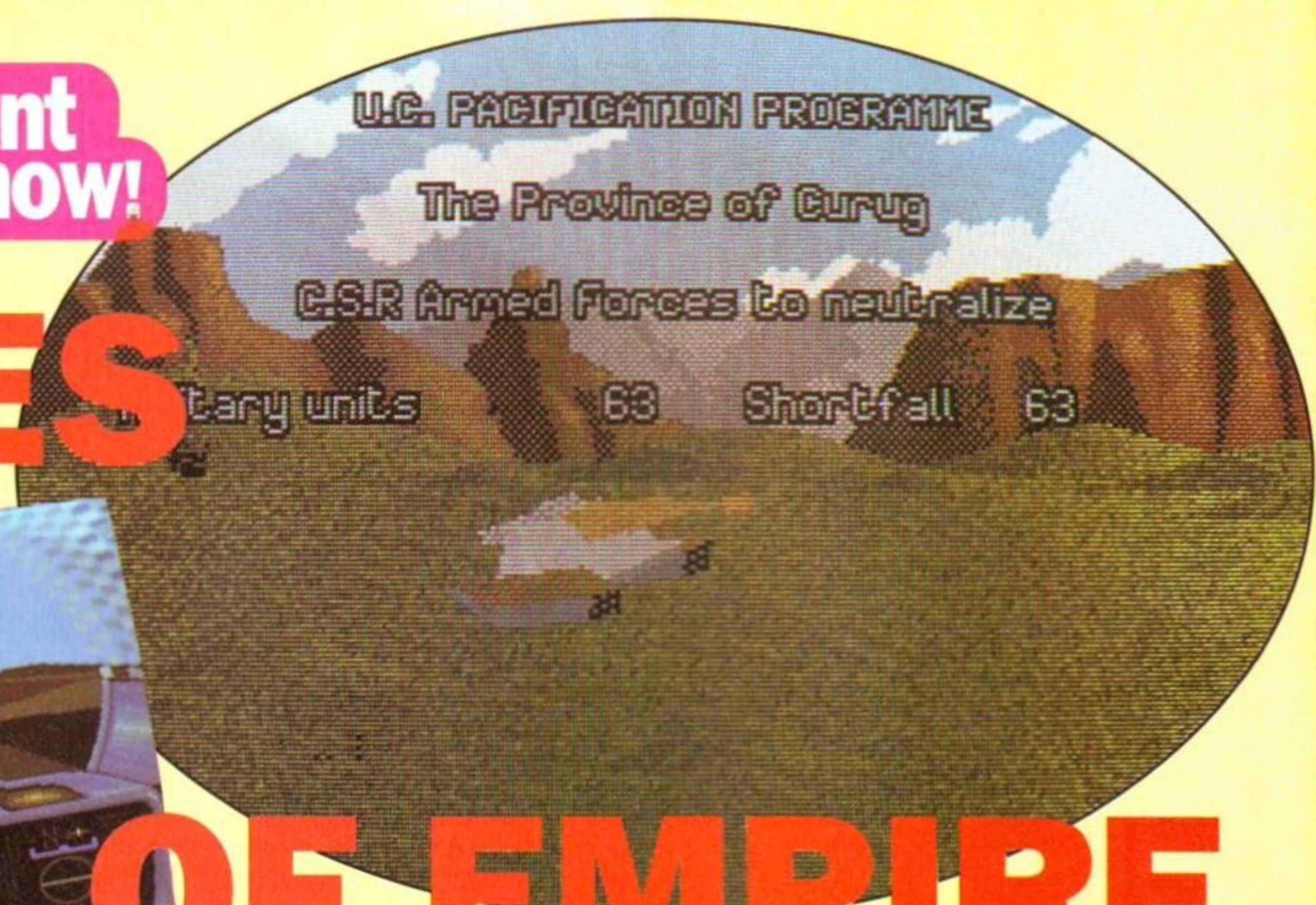
## VERDICT

Graphics:	89%
Sound:	85%
Game Play:	93%
Decision:	91%

entertainment  
now!

# ASHES

# OF EMPIRE



Mirage £34.99 1 Meg

It's that man Mike Singleton again, who has done more for computer war gaming than Sega has done for emptying parents pockets. His first stab at the strategy game genre was for the Spectrum with Lords Of Midnight, a relatively small project by his standards with only 100,000 locations but which founded his unique engine for landscape development. Later this was followed by further enhancements culminating in Midwinter and Flames Of Freedom, which upped the landscape size to a million square miles. ASHES OF EMPIRE is his biggest project yet, replete with an instructional video, 9,000 locations, 6,000 characters and, oh yes, over 2.5 million square miles of landscape to explore. This project, over 2 years in the making, was inspired by the events in the Soviet Union.

After more than forty years of global confrontation, the Cold War is over, with Gorbachev's glasnost and perestroika, the Iron Curtain strains to stay closed, as at last freed from the shackles of Communism, the satellite countries of the USSR see independence beckoning. (And if what once was Yugoslavia is anything to go by, they might well be deeply regretting the change!) Certain factions within the new "democracies" feel

that they should be the absolute rulers being the greater in number. So what happens is that civil war breaks out as internal domination takes precedent over global Communism, with, yes, Yugoslavia as a prime example.

At breathtaking speed the political map of the world has changed beyond recognition. This is the backdrop to Ashes Of Empire and your task is to bring peace and harmony to the CSR, a vast fictional multi national nuclear armed superstate, where central authority no longer prevails.

You will find echoes of the real world here and discover just how delicate a task it is to restore order.

Each one of the five republics must be pacified, by one of two ways, bringing peace to the capital and at least two provinces, or pacifying all the provinces except the capital.

The pacifying process is carried out by completing four different United Community programmes, Building, Demolition, Ethnic Harmony and Pacification. By building much needed

structures, or demolishing threatening buildings, using either the local workforce (if you can persuade them to help you) or using your own units will go a long way to achieving your goals. You must also eliminate a number of CSR military units, and achieve support from key members of the communities.

You only have a limited time in each province before reactionary elements start to disrupt your efforts, and too long spent in a whole republic will result in a nuclear strike against you from the CSR strategic command.

Once you have succeeded in a republic, it will place its whole additional resources under your command and control.

This game is a huge undertaking, and should be avoided like the plague by anyone not familiar with wargaming. For those of you who relish a challenge, this is not to be missed. When could you last play a game that so vividly re-creates events that are happening in the world right now?

VERDICT	
Graphics:	87%
Sound:	67%
Game Play:	95%
Decision:	91%

# CURSE



The magical world of Enchantia is under the curse of a powerful and wicked witch, who desperate to retain eternal youth is gathering the ingredients for a rejuvenating potion. Only a young boy is now missing from her list, and she picks Brad as her victim, and throws him into her dark dungeon. Guess what? That is where you begin this animated adventure, stuck upside down in

chains in a dark, damp dungeon, with only a stupid guard for company. What a way to spend your holidays! Core's adventure is spread over 150 locations, and is filled to the brim with puzzles, some fairly easy to spot, others take a little time to work out, but it is all wrapped up in a glorious graphical backdrop that is the hallmark of this adventure. At times you get the



# LEEDS UNITED CHAMPIONS!

I'm not a suspicious person. OK, I call a spade a spade, and I have the odd moment when the old cynic in me comes out in all its glory, but generally I'm pretty fair. However, when I smell a rat, I squeal, and something in LEEDS UNITED smells pretty damn high to me. I smell the stink of a commercial buck to be made, and when that happens you can forget about quality, and value for money, because it is all about banging out a product pronto for profit.

The facts? Leeds United won the Championship last season, and jolly well deserved it lads... well done, good for you. But that's that.

CDS, a Yorkshire based softco that's been around for as long as I can remember, have often experimented with different ideas, from Bridge through to RPG, and even board games. Some bright spark dreams up a footie board game and CDS go the whole hog and support it, so far so good. They tie up with Leeds, on the back of their league success and publish the game, also good so far. Now comes the smelly part. A small independent softco called Strategy Software Design run by Tony Huggard

**CDS/Empire £25.99 1 Meg only**



in Stevenage has been publishing footie management games by mail order for a while now, under the name D&H Games and their long running series FOOTBALL DIRECTOR I and II have enjoyed reasonable success. FOOTBALL DIRECTOR III has been in development now for about a year, and there is doubt in my mind that it has appeared under the name of LEEDS UNITED. CDS through Empire's distribution network appear to have taken what is a mail order, lower than retail price title, and repackaged, renamed and glitzed it up to look like something that clearly it is not. What it is, with some fairly low standard programming, is a mediocre attempt at football management, using icons to drive the game. You get all the info you need, players stats, financial reports and

transfer details etc along with 4 divisions, 9 trophies, and a wide variety of team tactics to choose from. For those of you familiar with FD II, its engine is somewhat similar but with some pretty new icons and sound.

You do get to manage Leeds, and the current team is included in your squad, but it don't take much tweaking of the program code to arrange that, does it? I mean Tony Huggard the author is not even a Leeds supporter!! If this were still a mail order product at a cheapie price I wouldn't gripe about it, because in that medium its technical prowess is acceptable.

What it does not look like is a dedicated footie game created about Leeds United, which, if it is the case, seems like a rip off to the supporters who are going to want to buy it. And that sucks.

## VERDICT

Graphics:	45%
Sound:	43%
Game Play:	50%
Decision:	48%



## Microprose Get A Flying Start

Here is a look at B17 FLYING FORTRESS the Amiga version, which will be out early this year. Coded by Vector Grafix, the game simulates daylight raids on occupied Europe by American crews based in England during the II World War.

You get to choose your plane, nose artwork, crew of ten and fly in formation through a stunning 3D world. 25 missions to undertake, and you decide on who deserves promoting in your crew. So get to it!

## Wax Not Ruby

Waxworks, is Accolade's new true horror rpg out of the same stable that brought us Elvira I and II: Horrorsoft.

Uncle Boris has died and left you his Dodge and his prized possession the WaxWorks. It's not full of well known personalities, but instead has a collection of evil and treacherous beings from his imagination. Something beckons you to the old dark Victorian house, and you are drawn into the fearsome scenes depicted in wax! Completely icon driven with a fast point and click interface, there is over 100 hours of play in this very gruesome adventure.

Also announced by Accolade is HOME ALONE II, and UNIVERSAL SOLDIER out this year.

## Virgin Again

Not content to rest on their tired laurels, Virgin have DUNE II waiting to go. Once again the fabled essence of Spice is the central focal point around the gameplay, but this time the game is not a graphical adventure, but more a strategy wargame.

Watch the bodycount rise as the napalm flies in thick and fast, is the tag line for Virgin's version of APOCALYPSE. Mindless mass destruction is the name of the game here with three scrolling levels of parallax, massive block animation and dozens of sprites.

# OF ENCHANTIA

remembering which sequence to press each button can lead to a bit of frustration, but so what. A small price to pay for some great

the adventure does nothing for building the atmosphere. It is all solve one puzzle and on to the next in an effort to get through it

**Core £24.95 1 Meg only**

entertainment, and on six disks you are getting value for money. My one criticism is that there is no let up in the problems which face you one after the other. It would have been nice for some plot development in between, and the linear nature of

all instead of exploring and having fun, like, say in Monkey Island.

Now if only I could get that guard in here, maybe he'll drop a hint or perhaps something else for me to get out of jail with!

## VERDICT

Graphics:	92%
Sound:	89%
Game Play:	67%
Decision:	86%

feeling that the game was originally meant for a somewhat younger audience, with little fishes and funny cute animals, but after a while you realise that these characters are all part of the wicked sense of humour that prevails throughout, and an adventure that doesn't take itself seriously can't be all bad, can it?

The operating system takes a bit of getting used to and can be a mite fussy sometimes, but it is completely icon driven, and that is where the limitations lie. You know what you want to do but

# SUBSCRIBE!



**AUI can be delivered to your door. Not only will you receive AUI before it reaches the shops, but you'll never miss a copy again!**



Please send me my 12 month subscription to AUI at the rate of £ \_\_\_\_\_

I enclose my cheque/money order for £ \_\_\_\_\_ made payable to HHL Publishing

Please send to: Lazahold Ltd., PO Box 10, Pallion Industrial Estate, Roper Street, Sunderland. SR4 6SN

or debit my Access/Visa card. No. \_\_\_\_\_ Expiry date \_\_\_\_\_

Name \_\_\_\_\_

Address \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ (Please enter postcode to ensure prompt delivery)

Signed \_\_\_\_\_ Date \_\_\_\_\_ AUI 0393

UK £39.00 12 months    EUROPE £59.80 12 months    REST OF WORLD £96.20 12 months

**OVERSEAS RATES INCLUDE AIRMAIL SERVICE**

# DOODLE BUG

**Core £24.95**

From fantasy to cutesy in one fell swoop, that's the Core way you know. DOODLEBUG is an out and out 'cute' platformer that owes a lot to the more famous of the genre, but is still a playable bit of fun.

The King of the magical land of Cartoona, is very concerned about the disappearance of his daughter and calls upon the many characters of the land to travel throughout the many unexplored lands of Cartoona, to find her. The denizens of these lands however, are strange, dangerous creatures, who do not recognise the King as the true monarch, hence their banishment to these outer reaches.

To protect you on your perilous journey, the King presents you with the sacred magic pencils and eraser that were once used by the Humans who created the cartoon lands of Cartoona with the words, 'don't dawdle - doodle!'.  
So the aim is to negotiate each of the lands in turn to save the princess, in the style of Zool or Sonic et al. You may get clues along the way from some of the interactive characters, or you can buy vehicles with the gold pieces that you pick up.

The unique bit about Doodlebug is the pencils and eraser in your inventory. Different colour pencils perform different tasks, like drawing umbrellas which slow your fall, or balloons to float up, or a stopwatch to freeze foes, or a potion to provide a force field. The pencils can also

be used as spears to kill creatures if you are in tight corner. The eraser is a smart bomb which kills everything in its wake.  
The lands are filled with traps and surprise features like extra lives, money bags, springs and freeze time. There is, of course, the obligatory end level guardian to kill off, and lots of fast furious reaction joystick control to beware of for even the platform champions amongst us.  
Not a Zool, or a Harlequin, but worth a go.



be used as spears to kill creatures if you are in tight corner. The eraser is a smart bomb which kills everything in its wake.

The lands are filled with traps and surprise features like extra lives, money bags, springs and freeze time. There is, of course, the obligatory end level guardian to kill off, and lots of fast furious reaction joystick control to beware of for even the platform champions amongst us.

Not a Zool, or a Harlequin, but worth a go.

## VERDICT

Graphics:	84%
Sound:	76%
Game Play:	78%
Decision:	71%

# WIZKID

**Ocean £24.99**

A wonderful creation from the lunatics at Sensible, this sequel to Wizball features Wiz's kid, who has to try to find his old man, Wizball, who has been kidnapped by Zark. It's wacky, strange, surprising and full of cute little reminders that Sensible really are masters of their trade.

The unusual nature of this platformer is that you have to kill Zark's beasts by dropping bricks on them. The problem is that you have to dislodge them by hitting them



from the bottom upwards, and timing it so that they land on the nasties. Loads of little extras abound, as well as a few puzzles to solve along the way.

It's great that Sensible have settled their differences with Ocean because this is one of the few totally original platform games to hit the market in years. A real quality product.

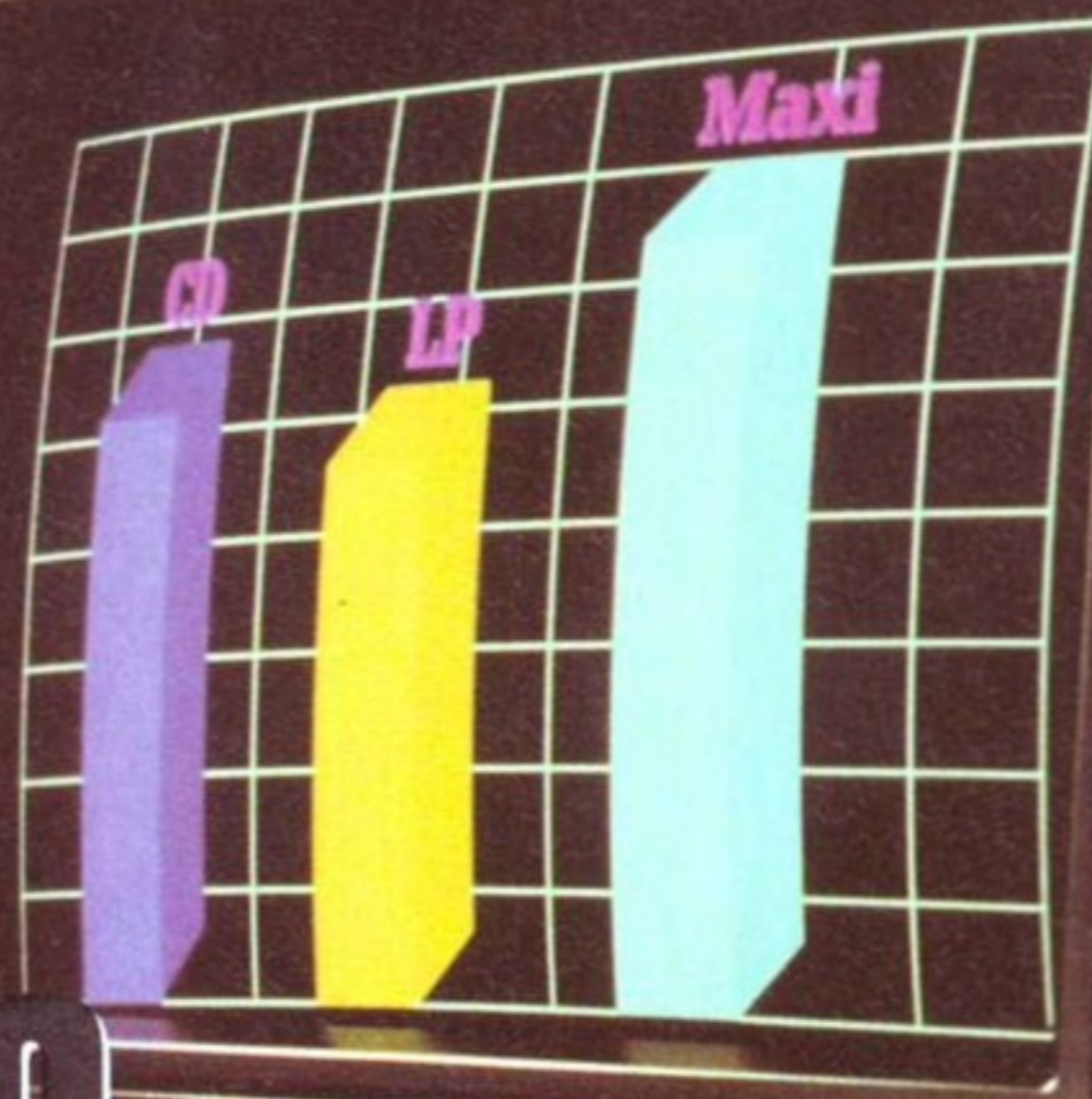
## VERDICT

Graphics:	90%
Sound:	89%
Game Play:	72%
Decision:	89%

# AMIGA CD!

## CD Tips

All you need to know to get the best from your machine



# Commodore's Dynamic Total Vision!



the  
*Top Ten*  
of Amiga CD Software

Amiga CD  
*Users Club*  
Join here!

**OUT NOW**

9 770954 772032

HiQ Ltd Sales / Support Line 081-989 2892 and Fax 081-989 3885  
 Order your HiQ Catalogue on a disk today +44 (0)81 909 2092

**Avideo YC-24**

**Move Over Opal Vision ...  
Avideo YC has arrived**

The Modular AVideo YC gives the Amiga and DTV graphic artist the following tools and hardware features:-  
 60 seconds installation, plugs into Parallel & Video port.  
 Broadcast Quality RGB output with three Video Levels.  
 SVHS / Hi8 / Composite Genlock with RGB out.  
 SVHS/Hi8/Comp real time 24 bit YUV Frame Grabber.  
 24 bit YUV display frame buffer 768 x 580 pixels.  
 Upto 25 frames per second animation, 17fps in interlace.  
 Real time true 24 bit Paint package.  
 Hardware Video decompression capabilities.  
 2Mb Frame buffer for outstanding quality animation.  
 Three Video layers, Live Video, Avideo, Amiga Graphics.  
 High Quality easy to read, ring bound manual.

**Complete YC system  
RRP £599.00  
Launch offer until '93  
Only £549.00**

**Only £549**

Software.  
 "Paint 24" is a true 24 bit display, real time package.  
 "AVTools" Utility toolbox controlling all YC functions.  
 "Opera" Multi-Media presentation package.  
 "AVBinder/AVPatch" allows any program to load a 12/24 bit image under the disguise of a HiRes 16 colour image.  
 "AVAnim" software for high speed animation.

**Avideo 24 Starter System**

**AVideo "PAINT 24"** Missing out on the **AGA** quality, miss out no more!  
**Original AVideo 24 Bit**  
 768 x 580 resolution in 16.8 million colours,  
 Upto 25 frames/second 12 bit anims in non lace mode, Overlay Amiga Graphics on top of 24 bit image. Fully Genlockable with adaptor cable.  
 Includes true 24 bit display Paint package.  
**AVideo 24 system £ 299.00**  
 Only while stocks last!

**Modular Options**  
 Include Software  
 AVideo YC 24 Frame Buffer £ 399.00  
 AVideo GG 0mb Genlock/Grabber £ 299.00  
 2mb Ram for GG £ 69.95  
 Add 2mb GG to YC £319.00  
 Add YC to GG £299.00

**R600 and R1200 Hardware**

**Amiga 600/1200 PCMCIA RAM Card**  
 AMEM is the first and cheapest Dynamic Ram auto-configuring expansion board for the new Amiga's  
**AMEM 600/1200 - 2Mb £ 129.00**  
**AMEM 600/1200 - 4Mb £ 179.00**

*Amiga 1200  
Only £ 389.00*

**Need a Hard Drive for your A600/A1200?**  
 We can supply Pre-formatted 2.5 inch IDE drives for both of these great machines.  
 20mb £129.00 - 60mb £189.00 - 120mb £289.00  
 Price includes Cable. Fitting £10 + £7 P&P.

**Hardware - Best Prices**

Low Cost Amiga 500 Drive / Ram System from the AVIDEO 24 People.  
 Full SCSI operation Upto 720Kbs / Sec Transfer  
**Quantum 42Mb Drive Only £279.00**

Full 12 Month Warranty  
 120mb version Available  
 Ram upgradable using low cost Zips.  
 Easy to use software.  
 SCSI Through port

**FUSION FORTY 28MHz 040 for A2000 4mb £ 999.00**  
**GVP A530 40MHz/1meg/80mb SCSI for A500. £ 679.00**

**ICD Products**  
 AdSpeed a 14.28mhz accelerator for those on a budget. £ 135.00  
 Flicker Free Video card, supports full overscan, Ver 2. £ 179.00

**Progressive Peripherals**  
 28MHz 68040 for the A500 pop 4mb. £ 799.00

**Cando Version 2.0 Professional. rrp. £149**  
**Our Price only £ 99.00 Limited 1992 Offer**

*If you Can't See it, RING!*

**Software**

**FRACTUALITY 24 bit**  
 For The AMIGA by Tomas Nettleship

Features:-  
 -Supports all Amigas-  
 -AVideo 24 Support-  
 -IFF 24 bit Output-  
 -16,32,64 colour support-  
 -Animation Builder-  
 -Full Palette Control-  
 -Friendly Interface-  
 -Mandelbrot-  
 - Julia sets-  
 -68000-040 support-  
 -OS 2.04 Friendly-  
 -Demo disk available-  
 RRP £24.95

**Special Launch Offer  
Order before January  
ONLY £19.99**

**HiQ Details**

**HiQ Ltd**  
 176 Kenton Lane, Harrow  
 Middlesex, HA3 8SU, UK  
 Sales/Support  
 Tel +44 (0)81-909 2092  
 Fax +44 (0)81-909 3885  
 Prices include VAT.  
 Call for a HiQ Catalogue Disk

# Educational Software



The Connoisseur's Choice

If you are looking for software to help with the National Curriculum, then look no further. Our new free catalogue is packed with programs suitable for all ages from six to adult on a wide range of educational and leisure subjects.

Subjects now available include ...

Maths	Geography	Sport
French	History	First Aid
German	English Words	General Knowledge
Spanish	Spelling	England
Italian	Arithmetic	Scotland
Science	Football	Natural History



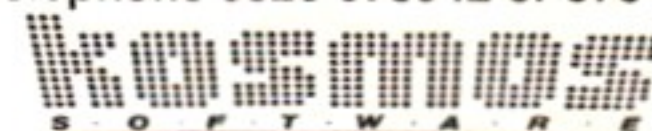
- ★ Available for most home & business computers
- ★ Best-selling programs with superb reviews
- ★ Ask your dealer or use our 24 hour mail order service
- ★ Many programs allow you to add your own lessons
- ★ Enjoy learning from your computer

Write or telephone for our new FREE 16-page colour brochure of Educational and Leisure software (Please state computer type)

Kosmos Software Ltd, FREEPOST (no stamp needed)

DUNSTABLE, Beds. LU5 6BR

Telephone 0525 873942 or 875406



## • AMIGA REPAIRS •

••• POWER TO SEE THE PROBLEM •••  
 ••• AND SUPPLY THE SOLUTION •••

ACS Electronics is an established service centre for AMIGA equipment. We specialise only in the repair and maintenance of computer hardware. Dedicated to a programme of quality customer care, our continual expansion enables us to offer you, our customer, a service that we believe to be second to none. Our service includes;

**FAST EFFICIENT SERVICE,**

most repairs are carried out within ONE DAY

**QUOTATIONS RATHER THAN FIXED PRICES,**

fairer to you, and in practice faster to process. Each repair is quoted for separately, no fixed charges full of exclusions, or hidden extras

**REPAIRS FROM £23**

**FREE CARRIER SERVICE with insurance,**

FREE diagnostic, free 90 day warranty, FREE soak test, FREE software.

No hidden charges.

**OPTIONAL EXTENDED WARRANTY**

at competitive rates.

Experienced and qualified engineering and support staff.

**5% DISCOUNT**

available to students and OAP's.

**UNBELIEVABLE UPGRADE FITTED PRICE OF £15 INCLUSIVE**

Trade and Education welcome. Dealer pack available on request.



**COMPUTER MAINTENANCE, UPGRADES AND REPAIRS**

B.E.C. ELDON STREET, SOUTH SHIELDS, TYNE & WEAR, NE33 5JE  
 TEL. (091) 455 4300 FAX. (091) 455 1847

user port

The

# PD Stakeout

## Scoring

The marks awarded to each PD disk are based purely upon their own merits and, of course, our personal views. Value for money and reliability are also taken into account as well as features and quality of the software.

## Compatibility

The PD disks reviewed in this issue were tested on an A500 with Kickstart 1.3. Please check with your PD supplier that the disks you are ordering are compatible with your Amiga. Amiga Plus owners should be aware that roughly half of the software in the public domain will not work with Kickstart 2. Always ask first.

### Gideon Overhead reports

on the latest on the low

price

scene.

## PD or Shareware?

This is all the freely distributable software under the rather deceiving umbrella of "public domain". Quite a lot of this software is, in fact, shareware. Shareware means that if you like the software, or use it regularly, the author will request a reasonable donation from £5 to £20. There is usually a note on the disk informing you if the software is shareware or regular PD. Whether or not you send a donation to the author depends totally upon your level of conscience and morals. Remember, if you send a donation to the author, you may receive an updated version of the software. Even if you don't receive an update, you will have given the author the incentive to continue contributing into the public domain.



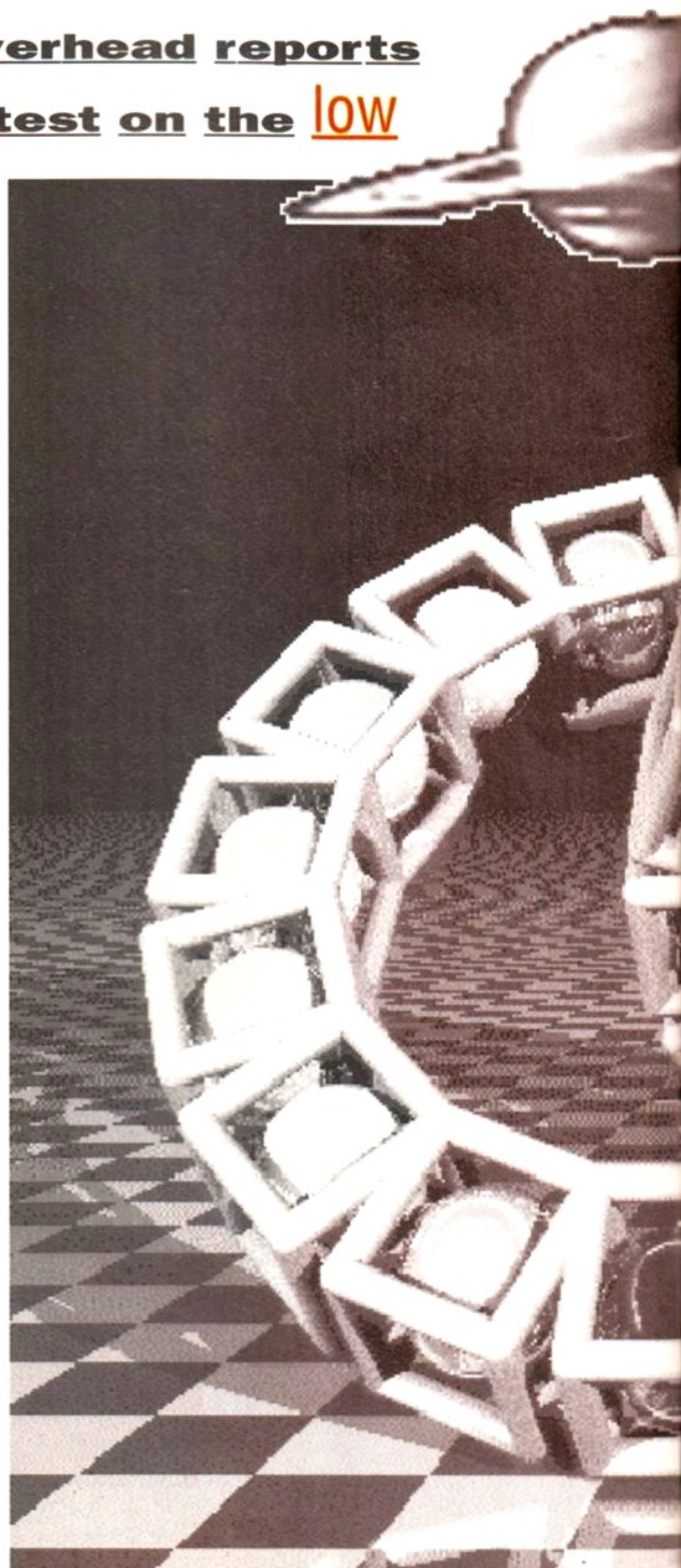
## Donkey Kong

Disk 3001  
Virus Free

Everybody who has or had a C64 must have played the game Donkey Kong. If you liked the game, you will be pleased to learn that it has been successfully converted onto the Amiga. Everything in the game has been kept as close as possible to the original. The game-play and blocky graphics are the same and so is the music which has been sampled directly from the C64 version.

For those of you who don't know how to play Donkey Kong I will give you

a bit of background info. Your task is to rescue your girlfriend from the clutches of the evil kong. It is a platform game in which you have to climb the ladders and walk the platforms dodging and jumping over barrels which roll down, thrown by Kong. It is enjoyable but quite difficult to play, especially jumping over the barrels which requires perfect timing. But this game is an important part of computer game history and will bring a touch of nostalgia for C64 fans.



# Saturn Orbit

**Disk 13/A14**  
**NBS**

This very short animation, which only lasts about 7 seconds, before looping, is a simulation of a satellite orbiting Saturn, giving you a satellites-eye view. All the programs used to make this animation are available in the Public Domain. Although short because it is continually looping, it is eye catching.

**6/10**

# Variations on a Disk

**Disk 2294**  
**17 Bit**

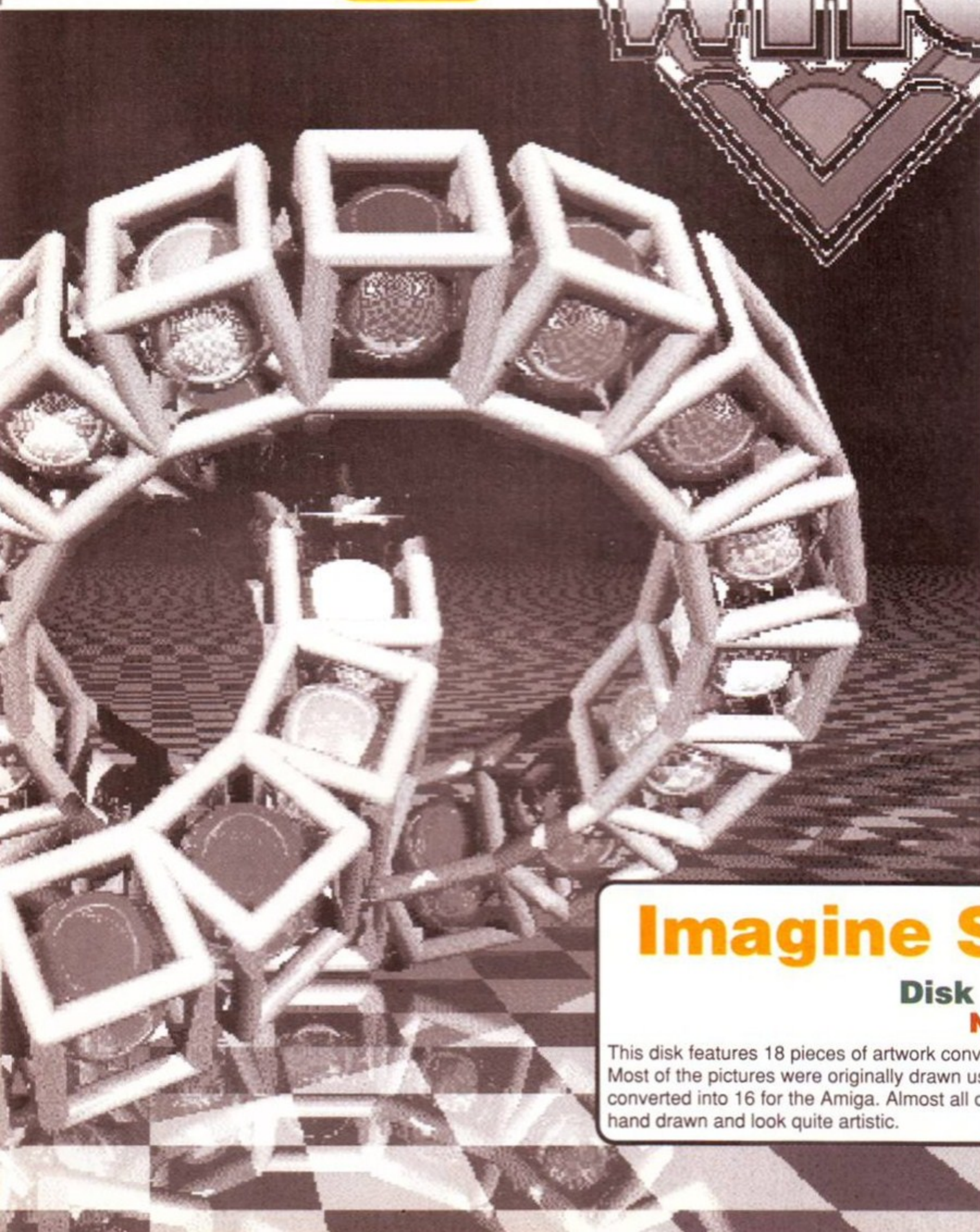
This music disk is based on the Doctor Who CD that was released a couple of years ago. It

contained a number of variations on the Doctor Who theme tune. A dedicated fan has taken that idea and decided to

convert them to the Amiga. There are six tunes to choose from and the first is the traditional version. This does not sound a lot like the original theme. There are a few sounds which have been recently sampled, most notably the sound of the Tardis taking off and the Dalek saying exterminate. But there is nothing exciting in the tune itself. The other versions seem to be roughly the same as the traditional version but with different samples. For fans only.



**3/10**



## ASI Games

**NBS**

**40**

disks from 1-30. Since then there have been enough small PD games to fill up ten more. Disk number forty is packed full of slide puzzle games. Nine in all plus one word game. It will take a lot of patience if you want to complete all nine but once you have completed one I am sure you won't want to try another. Can you really be bothered to spend an hour on one just to be rewarded by a 'Well Done!' message printed on the screen?

**4/10**

## Imagine Slide Show

**Disk 13/S14**  
**NBS**

This disk features 18 pieces of artwork converted from the Archimedes. Most of the pictures were originally drawn using 256 colours and converted into 16 for the Amiga. Almost all of the pictures have been hand drawn and look quite artistic.

**8/10**

The  
**pd**  
Stakeout



# Xmas Anim 5/10

**Disk 2295**  
17 Bit

Yes, it may seem a little late to review a Christmas disk, but it was topical when I saw it first. Anyhow this very short animation lasts only 5 seconds and then loops round. It, of course, becomes boring after about 10 seconds, but is ideal for displaying in a shop window over the holiday period (next year, perhaps?). Almost every character is moving on the screen. They remind me of those clockwork automaton toys whose hands move up and down mechanically.

## Eight Slemz out

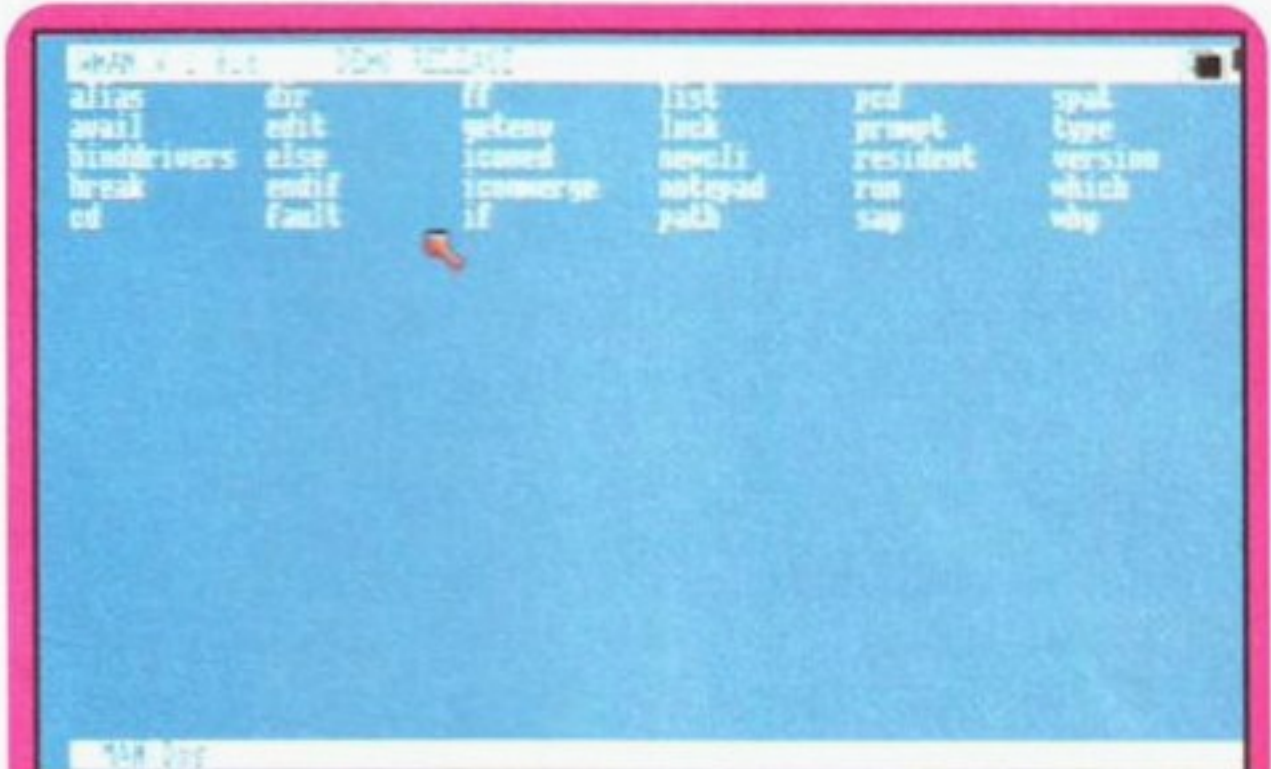
**Disk 2284**  
17 Bit



Those cute Lemmings are yet again the victims of another Amiga animation. This time they are playing baseball and getting themselves into all sorts of trouble. You can imagine the kind of things, bumping into each other, trying to catch the ball and instead it travels right through their hands and so on. The animation

was produced using Gold Disk's Moviesetter and the art was drawn using Deluxe Paint IV and The Disney Animation Studio. It lasts about 1 minute and twenty seconds but it is hardly impressive.

**4/10**



## Woman

**Disk 2292**  
17 Bit

OK, before you all start getting excited, this is not a digitised slide show. Woman stands for Window Operated MANUALs and displays manual pages on screen of all AmigaDos commands plus more. When run, the first thing you do is click on the type of command you want to find out about. There are five directories, Dos, Dos2, utils, Dictionary, and even C commands (the language not the directory). You then click on your desired manual.

this word would mean that the acronym title "WOMAN" would not work. This is the demo version with only 30 files in each directory. The full version which is available for £5 contains over 350 entries altogether. This program is very suitable for people who are unsure about certain AmigaDos commands. With this program they can quickly and easily find the troublesome command and read about it - and even master it!

The word "manual" seems an odd word to use for each individual help file. But I suppose substituting

**7/10**

## Roton



**Disk 2995**  
Virus Free

Roton is a very basic Asteroids clone, although the background story is slightly different. You are trapped inside the brain of a psychopathic flea - yes, you have read that correctly! - and to get out you have to destroy the brain baddies. These background stories seem to get weaker and weaker don't they?

The game itself is well programmed and is extremely playable. Control is via the mouse, moving it left and right makes your ship rotate smoothly. The left mouse button is fire while the right makes you move forward. There is no inertia when you move forward, so when you let go of the button you stop. This makes the ship easy to control. There are a lot different types of animated baddies to destroy, and some will leave behind power ups and different weapons. This is an easy game to play, but I am giving it a low mark because it is so unoriginal.

**5/10**



## MILLENNIUM MICROS

### DISCOUNT MAIL ORDER COMPUTER SUPPLIES

THIS IS ONLY A SMALL SELECTION OF OUR STOCK - SO IF YOU CAN'T FIND WHAT YOU WANT BELOW - PHONE

Amiga 600/1Mb/Deluxe Paint 3/Lemmings.....£279	B5000 68030/68882 33MHz/8Mb RAM.....£589
Amiga 600/1Mb/20Mb internal IDE Hard Drive.....£439	GVP G-Force 68030EC/68882 25MHz/1Mb RAM.....£539
SpaceAce, Kick Off 2, Pipe Mania, Populous.....Add £15	GVP G-Force 68030EC/68882 40MHz/4Mb RAM.....£779
Zool, Striker, Pinball Dreams, Transwrite.....Add £15	GVP G-Force 68030/68882 50MHz/4Mb RAM.....£1099
Amiga 500 Plus/1Mb/20Mb/2Mb/2Mb/2Mb.....£269	GVP G-Force 68040 33MHz/2Mb RAM.....£1149
CDTV/Infrared remote/Workbench 1.3 & Manuals.....£369	GVP A530 Combo 68030EC 40MHz/1Mb/52MB HD.....£629
CDTV Multimedia/Keyboard/FDD/Fred Fish.....£459	GVP A530 Combo 68030EC 40MHz/1Mb/80MB HD.....£649
Amiga 1200/2Mb/14MHz/AGA Graphics/WB 3.....£375	GVP A530 Combo 68030EC 40MHz/1Mb/120MB HD.....£725
Amiga 1500/1Mb/WB 2/The Works/Deluxe Paint 3/ Home Accounts/Elf/Toki/Puzznic.....£429	FUSION 68040/28MHz/4Mb RAM.....£1149
Amiga 3000/25MHz/52Mb HD/1 Mb RAM.....£1375	A2620 14MHz/2Mb 68020 (A1500/2000).....£189
Amiga 3000/25MHz/105Mb HD/1Mb RAM.....£1575	
Amiga 4000/25MHz/AGA Graphics/40Mb HD.....£1989	
Amiga 4000/25MHz/AGA Graphics/120Mb HD.....£2089	
Amiga 4000/25MHz/AGA Graphics/240Mb HD.....£2479	
# Many other 3000/4000 Configurations available	

#### VIDEO DIGITISERS AND ENHANCEMENTS

Opalvision 24 Bit Graphics card & video system.....£699
Opalvision frame grabber/Genlock module.....PHONE
Opalvision Roaster.....PHONE
Opalvision Scan Rate Converter (De-Interlacer).....PHONE
Opalvision Quad input production switcher.....PHONE
Scala Presentation system software.....£159
GVP Impact Vision 24 Bit Colour.....£1539
Harlequin VLAB Real Time YUV Digitiser.....£259
Harlequin MS-P3400/Genlock/Decoder/Encoder/Multi- standard/Linear plus digital keyer (19" rack).....£2049
Harlequin TV Paint 32 Bit Graphics Package.....£729
Harlequin 1500 Framebuffer.....£1149
Harlequin 3000 Framebuffer.....£1299

#### ACCELERATORS

SOLID STATE LEISURE (A500/A1500/A2000); A5000 68020/68881 16MHz/1Mb RAM.....£159
A5000 68020/68881 16MHz/2Mb RAM.....£189
B5000 68030/68882 25MHz/4Mb RAM.....£359
B5000 68030/68882 25MHz/8Mb RAM.....£499
B5000 68030/68882 33MHz/4Mb RAM.....£445

#### HARD CARDS

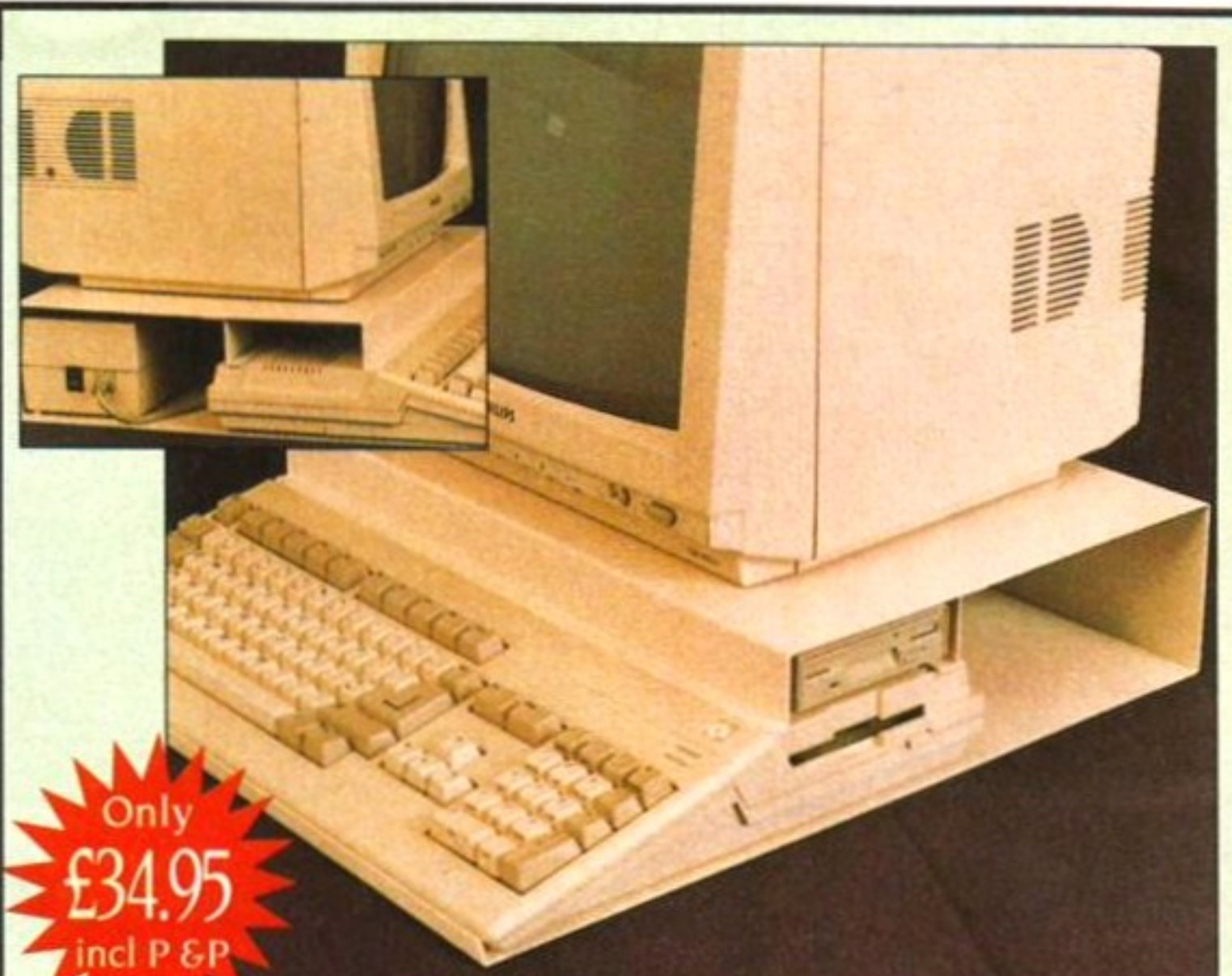
GVP IMPACT Series 2 HCB+ No Hard Drive.....£119
GVP IMPACT Series 2 HCB+/42 Mb Hard Drive.....£229
GVP IMPACT Series 2 HCB+/80 Mb Hard Drive.....£325
GVP IMPACT Series 2 HCB+/120 Mb Hard Drive.....£385
GVP IMPACT Series 2 HCB+/213 Mb Hard Drive.....£625

#### HARD DRIVES

GVP Series 2 HD8+/42Mb Hard Drive (A500).....£269
GVP Series 2 HD8+/80Mb Hard Drive (A500).....£359
GVP Series 2 HD8+/120Mb Hard Drive (A500).....£399
GVP Series 2 HD8+/213Mb Hard Drive (A500).....£625
QUANTUM 120Mb Hard Drive (No Controller).....£309
MAXTOR 213Mb Hard Drive (No Controller).....£479
ICD Ad SCSI Frame (1500/2000).....£75
MICROBOTICS Hard Frame Card (1500/2000).....£129
ROCTEC Rocmate external Hard Drive case.....£89
A570 CD Rom Drive.....£319
ZAPPO 40Mb Hard Drive/0Mb RAM.....£279
ZAPPO 60Mb Hard Drive/0Mb RAM.....£339

#### RAM EXPANSION BOARDS/SIMMS

GVP Series 2 RAM8/0Mb Populated.....£95
GVP Series 2 RAM8/2Mb Populated.....£139
SIMM 32-1Mb 60ns RAM upgrade (A530/GF-030).....£65
SIMM 32-4Mb 60ns RAM upgrade (A530/GF-030).....£169
SIMM 32-1Mb 40ns RAM upgrade (G-Force 040).....£149
SIMM 9 Bit/1Mb 80ns (HCB+/HD8+/RAM8).....£45
SIMM 9 Bit/4Mb 80ns (HD8+).....£129



Only  
**£34.95**  
incl P & P

### AMIGA A500P CONSOLE UNIT

Monitor console and keyboard unit • Second drive space • No hard drive restrictions • Power supply or modulator space • Keeps cables tidy • Non-magnetic aluminium • High quality texture finish • Plenty of ventilation • Installed in minutes • Designed specifically for the A500 and 500+ • Colour co-ordinated.

A real space saver! - Over 1,000 satisfied customers

## KONTAX COMPUTERS

11a Waldeck House Waldeck Road, Maidenhead SL6 8BR



**0628 773212**



Phone lines manned between 8.00 a.m. - 9.00 p.m. (No ansaphone!)

ONE PIECE DUST COVER ALSO AVAILABLE - PLEASE CALL

## BOOKS FOR THE AMIGA

Amiga for Beginners.....£12.95	Mastering AmigaDOS 2 Vol 2.....£19.95
Amiga BASIC Inside & Out.....£18.95	Mastering Amiga C (d).....£19.95
Amiga Machine Language.....£14.95	Mastering Amiga Printers (d).....£19.95
Amiga 3D Graphics in BASIC.....£16.95	Mastering Amiga System (d).....£29.95
Amiga Intern (d) NEW.....£34.95	Amiga ROM Kernal: Libraries.....£32.95
Amiga C for Beginners.....£16.95	Amiga ROM Kernal: Devices.....£24.95
Mastering Amiga Workbench NEW.....£19.95	Amiga Hardware Ref. Manual.....£24.95
Amiga DOS Inside & Out (d).....£19.95	Amiga Interface Style Guide.....£18.95
Best Amiga Tricks & Tips (d).....£24.95	Mapping the Amiga.....£19.95
Amiga Printers inside & Out (d).....£29.95	Amiga DOS: Dabhand Guide.....£14.95
Making Music on the Amiga (d).....£29.95	Amiga BASIC: Dabhand Guide.....£15.95
Amiga Desktop Video Power (d).....£24.95	Get The Most From Your Amiga.....£9.95
Using Arexx on the Amiga (d).....£29.95	2 companion disks for above.....£4.00
The AmigaDOS Manual 3rd Edition.....£21.95	Mastering Amiga Assembler NEW.....£24.95
Kids & The Amiga 2nd Edition.....£15.95	Becoming an Amiga Artist.....£16.95
Amiga Graphics Inside & Out.....£29.95	Using Deluxe Paint 2nd Edition.....£18.95
Amiga Desktop Video 2nd Edition.....£18.95	Amiga Game Makers Manual.....£16.95
Mastering Amiga Workbench.....£19.95	Little Blue Workbench 2 Book.....£14.95
Amiga ROM Kernal: Includes.....£32.95	Program Design Techniques.....£16.95
Amiga Made Easy.....£12.95	Commercial Games Prog. Guide.....£11.95
Little Red Workbench 1.3 Book.....£14.95	Amiga World AmigaDOS 2 Companion.....£22.95
Intuition Practical Guide.....£16.95	Mastering Amiga Amos.....£19.95
Official Amiga Vision Handbook.....£20.95	Mastering Amiga AREXX.....£21.95
Mastering Amiga Beginners.....£19.95	A600 Insiders Guide.....£14.95
Mastering AmigaDOS 2 Vol 1 (d).....£21.95	A1200 Insiders Guide.....£14.95

### SPECIAL OFFERS

Amiga Microsoft BASIC Prog. Guide.....£10.00	Amiga Hardware Ref. Manual 2nd Ed.....£10.00
AmigaDOS Ref. Guide 2nd Ed (WB 1.2).....£5.00	Amiga Desktop Video (Computer!).....£10.00

Prices include postage in UK. Europe add £1 per book. Airmail outside Europe add 25%. Access and Visa cards accepted. Tel/Fax 0706 715028. Cheques/Postal Orders payable to DTBS. Descriptive catalogue available on request. Orders normally processed within 24 hours.

**SPECIAL OFFER TO AUI Readers: 10% discount on orders over £35. You MUST quote Dept AU03 to claim discount. Price match - We will match any lower prices offered in this issue.**

**DTBS (Dept AU03), 18 Norwich Avenue, Rochdale, Lancs OL11 5JZ**

**NEW SHOWROOM now open - 413 Manchester Road, Rochdale OL11 3PG**

## KINGSFIELD

### Consoles and Computers

64 Kingsfield Road, Biddulph S.O.T.  
Tel: 0782 523892

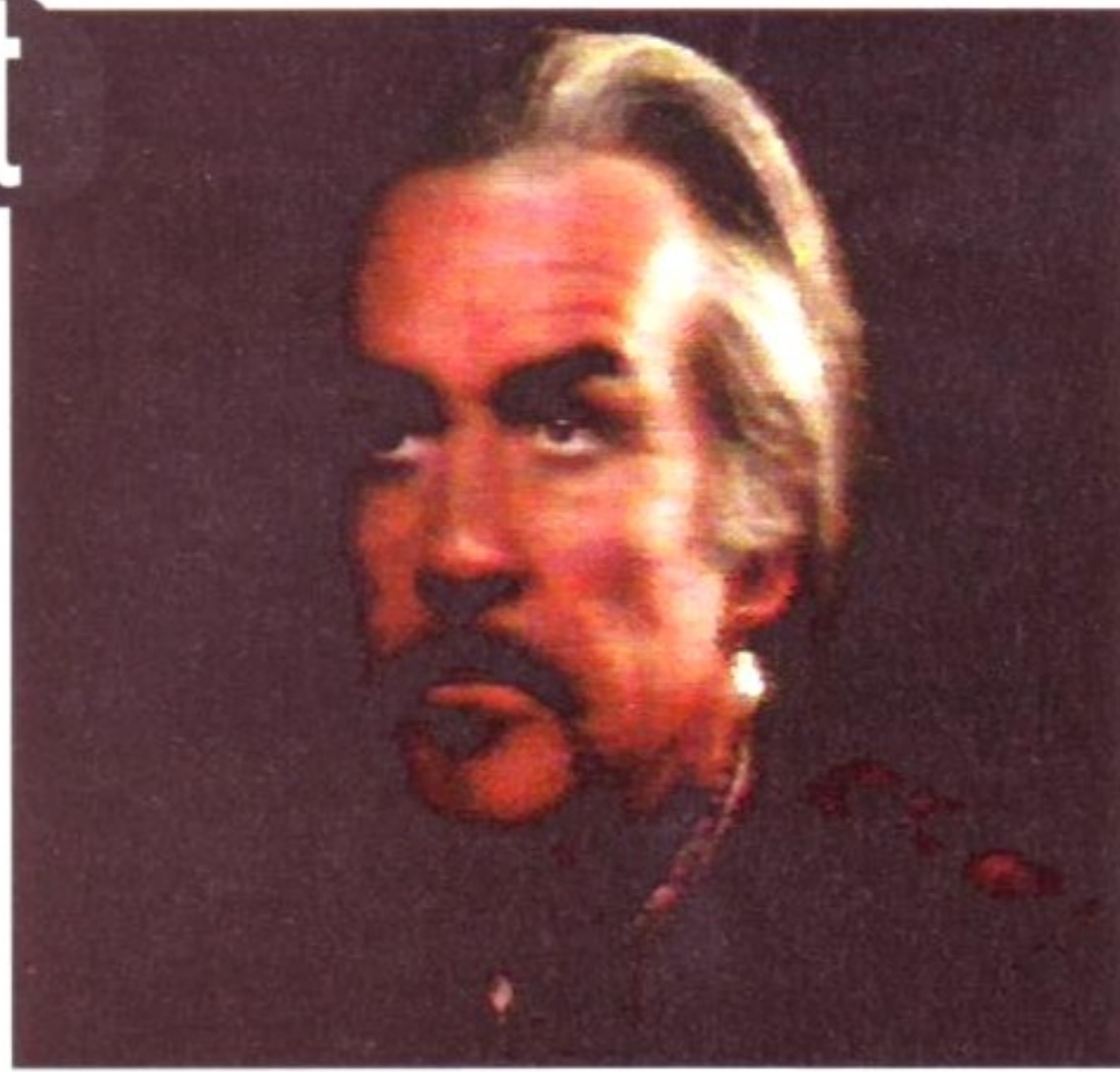
OPEN MON-SAT 10AM-7PM SUNDAY 2PM-7PM

### THE OFFICIAL SEGA VIDEO GAMES RENTALS OUTLET

Amiga A500+ with Cartoon Classics ..	£239.99
Amiga A500+ with Cartoon Classics and 200L .....	£249.99
Amiga A600+ with Wild Weird and Wicked pack .....	£335.99
Amiga A600+ with Wild Weird and Wicked Plus 200L .....	£349.99
Amiga A600 HD with Language pack ..	£479.99
Amiga A1200 .....	£383.99
Amiga A1200 with 200L .....	£399.99
Sega Megadrives with Sonic and 2 pads .....	£115.99

Software and Accessories all at less than R.R.P.  
Telephone for details of other low prices  
Computer repairs to all makes undertaken

The  
pd  
Stakeout



# Highlander Slide show

Disk 2288 A+B  
17 Bit

What I cannot understand is why at this late stage someone would want to release a Highlander slide show. Highlander for those of you who have not seen it was a big hit when it came out in 1986. It is about a 14th century Scotsman who finds out he is immortal. He is still fighting an enemy of his, who also happens to be immortal, in 20th century Manhattan. There is a short intro before the pictures that contains a small poem, a few credits, and some samples. They are all taken from the film and one of them lasts an impressive 20 seconds. The pictures unfortunately are not all that good. There are twenty altogether and having been digitised from VHS they are of poor quality.

3/10

# Matchstick Man

Disk 2300  
17 Bit



Here is another game with a rather silly background story to it. It is so silly in fact I won't repeat it. I will just tell you what you have to do. You are a matchstick man, (probably because the author of the game cannot draw graphics) and your task is to rescue 40 of your fellow matches from the clutches of the evil Olag. It is a platform game reminiscent of Hunchback which I played on the Spectrum many moons ago. On each level you have to make your way from the left of the screen to the right while making sure to avoid whatever is trying to kill you along the way. Written in Amos, this game runs very smoothly but is let down by the poor graphics, and playability. All you can do is jump and walk backwards and forwards, you soon get bored.

4/10



# Friday 13th Part III

Disk 2296  
17 Bit

This rather amateurish looking animation features the downright nasty Jason from the Friday the 13th films, who has a extremely bad habit of killing any human being for absolutely no reason at all. There are both 1 and 1.5 meg versions of this disk available. The 1.5 meg version contains a few seconds extra but it is still very bland. The animation lasts for about one and a half minutes and is about someone who rents out the video Friday 13th part III. He sits down to watch it and suddenly his TV explodes and Jason appears from nowhere. It is all very childish and so are the graphics.

3/10

# Road Hog Anim A+B

(1.5 Meg)  
Disk 2302  
17 Bit

This animation comes on two disks as two separate 1.5 meg animations. The first part is almost the same as the second in concept. The basic idea is that a road hog out for a nice country drive decides when he sees a helpless something or other to try and run it over. He speeds toward it with a psychopathic grin on his face driving faster and faster. He even has a radar in his car tracking the poor victim. The inevitable happens, (splat). You press escape to view the second part which has roughly the same story line again apart from the victim being a hedgehog. As with many of these types of animation they are only worth seeing once, after that they become rather boring.

3/10

# The Talisman

Disk 2289 A+B (2 MEG)  
17 Bit

This excellent adventure game took more than seven months to create and contains a mixture of both text and graphics. The screen is split into 5 areas. The top left of the screen shows a picture of your present location. This is in black and white but of good quality. Any other characters that are with you are also

displayed with the image. To the right of this there is the control area. Here there are ten icons for you to play with. They are describe, examine, fight, use/Get, operate, drink, status, talk, load, and save. These ten icons are the only way you can control the adventure, you do not have the option to type anything more in.



The forest seems quiet and more tranquil here. Northward can be seen the banks of lake but all other directions are blocked by thick and tangled undergrowth. Having a keen eye allows you to notice a badly hidden path leading West.  
You can not move in that direction.  
You can not move in that direction.  
You follow the path...  
You stand before a beautiful forest shack. Made from the fine timbers of many trees, it looks the peaceful home of friendly folk. Examining the exterior, apart from the craftsmanship, you discover the doors and windows to be firmly closed and locked. To one side you find the entrance to the cellar. A path leads away from the shack to the East.

Just below the icons you find the inventory and score windows. Finally beneath everything else there is the text description window. The adventure requires 2 megs to run which seems quite a lot, but if it had been any less then the graphics would have had to be

loaded in at every location and would have made the adventure far to slow to enjoy. As it is, The Talisman is a highly enjoyable fantasy adventure and is very easy to play.

9/10

## D.D.P.D. from 99p

Disk prices 1-10 - £1.25 ● 10-25 - £1.10 ● 25+ - 99p  
Postage:- U.K. 70p - Europe £2.00 - World £4.00

<b>GAMES</b>	U103 Flexidump
G109 Crazy Sue	U105 Ncomm
G112 Monopoly	U107 D COPIER
G116 Backgammon	U115 PRINTER DRIVERS
G120 Yahzee & Othello	U116 Verdict Word Processor
G147 Quizmaster 1 & 2	U121 Ultimate Paint
G148 Scrabble	U122 Amiga Fox (D.T.P.)
G149 2 player soccer	U131 Astronomy
G152 Marble Slide	
G155 Tennis	<b>MISCELLANEOUS</b>
G157 Simpsons	C110 Xmas Clip Art 1
	C111 Xmas Clip Art 2
<b>UTILITIES</b>	E104 Learn & Play 1
U102 3Z Database	E105 Learn & Play 2

Plus many more titles

For free catalogue send self addressed envelope

5 Erlestoke Way, Penhill, Swindon, Wilts. SN2 5ND. Tel: 0793 726146

## SELECTAFONT COMPANY

UNIQUE 24HR  
CUSTOMER  
HELP LINE

Over 650 Scaleable Fonts available for the Amiga in both Compugraphic Style and Adobe Types. Each Disk ordered will be made up individually to your requirements.

UNIQUE  
PICnMIX  
SERVICE

Fonts are also available on "ready made"

Disks at 20% Discount.

WEDGEE  
SHANGHAI  
STARBURST  
SHRAPNEL  
UltraBlack

**PICnMIX**  
CG Fonts 30p each  
Adobe Fonts 25p each

Black Forest  
1600 LASER  
Fremont  
NERVOUS  
EXPORT  
HOT-DOG  
Frontier

Please send a large S.A.E. with 36p Postage for a Print-Out of all Fonts. Also state which Programs you will be using.

ProPage Pro-Draw  
PageStream PPal  
Final Word Wworth  
GD Office/ProCalc

(DEPT AUI), 84 Thorpe Road,  
Hawkwell,  
Nr Hockley, Essex. S55 4JT

WB2.04 DPaint 4.1  
TV Text Pro  
Scala ProWrite  
PageSetter3 etc

## FontShop

Good News for Amiga Desktop Publishers  
**Adobe Type 1 Fonts**

**RoostHeavy** **Orleans**  
**Black-Chancery** **HotShot**  
**LowerEastSide** **Laser-London**  
**STARBURST** **DUO-TONE**

For use with PageStream (v2.1/v2.2) Pro.Page 3/Pro.Draw3  
10 volumes - 50 fonts each - £10.00 per volume

### Compugraphic Fonts

For Pro.Page 3 / Pro.Draw 3 / WB v2 / PageSetter 2  
4 Volumes - 50 fonts each - £12.00 per. volume

### EPS Structured Clipart

3 Volumes - over 100 clips on each  
For PageStream 2.0+ - £15.00 per. volume

(Pro.Page users require POSTSCRIPT output - NOT Pagesetter compatible!)

Cheques (with Bank card No. and Expiry Date on reverse)  
or Postal Orders. - Enquiries send S.A.E for printed Type examples  
Post UK - FREE, Europe £1.50/vol. Rest of World £2.50/Vol.

**FontShop** Dept (AUI)  
22 Sincil Street, Lincoln, LN5 7ET  
Tel: 0526 398403 Fax:0522 546131



## \* AMIGA A500, A500 Plus and A600 \*

The  
**KEW=II**  
Collection



P.O. Box 672  
South Croydon  
Surrey CR2 9YS  
Tel: 081 657 1617

Public Domain and ShareWare - fully tested, documented and virus free!

Don't get let down! We are the BEST CLUB IN TOWN!

The LATEST demos, games,  
utilities & programs!

PLUS! Free help & advice by  
post or telephone - anytime.

\* Written Help! sheets.

UNIQUE 'Pick Your Own Programs' for true value! Try Us!

**FREE  
P&P**

\* Edited & Printed docs.

\* Disks made for YOU.

\* Free virus updates

\* 1-3 FULL disks £1-50

\* 4 plus £1.25 each.

SEND S.A.E. NOW FOR FREE INFORMATION PACK or  
£1.50 for \* PACK & CATALOGUE DISK \* free membership  
\* VirusChecker-the latest \* SysInfo \* ppMore \* DMouse \* RslClock \*

IDEAL FOR BUSINESS USERS OR FOR CATALOGUING SINGLES/LPS/CDS/VIDEOS/BOOKS/ADDRESSES etc

**ORDER v2.05**

1 MEG/1 DRIVE  
ONLY REQUIRED  
(2 DRIVES OR HARD DISK)

**£24.95**

INCLUDES 1st CLASS REC'd P+P  
Add £5.00 outside UK.

THE BEST VALUE FOR MONEY AMIGA  
RELATIONAL DATABASE

Enquiries  
9am - 9pm  
anyday  
or order  
direct from

**SOUTH HAMS SOFTWARE**  
Dept AUI2, 2 Ford Road, Torre, Yealmpton,  
Plymouth, South Hams PL8 2NA

UPGRADED FROM JANUARY'S REVIEW IN AMIGA USER INTERNATIONAL

\* Create a database, form and report in less than 5 minutes

- \* Formula/time/date/num/char field types (40 fields)
- \* New requesters/interface/palette/PAL screens/menus
- \* Multiple form levels/key fields linking databases
- \* Easy on screen form/report creation using mouse
- \* Multi-record scroll screens/reports (22 record window)
- \* One database editing mode (add, update, delete records)
- \* Powerful searches (wildcards on multiple fields)
- \* Report printing/storage/searches & sorting
- \* Report column totals/break sets & titling
- \* Design & store infinite form/report layouts
- \* 400 record edit buffer (infinite storage)
- \* Redefine database structure without data loss
- \* Hard disk installation utility/sample projects disk

\* FREE. Ascii text file reader (order-text V1)

ORDER COMES COMPLETE WITH A 200 PAGE  
USER MANUAL & 56 PAGE TUTORIAL

**(0752) 880906**

SEND £1.50, NAME AND ADDRESS FOR FULL WORKING DEMO  
VERSION/TUTORIAL (REFUNDED WITH YOUR ORDER)

ANY FEATURES OR ENHANCEMENTS YOU REQUIRE  
(WITHIN REASON) WILL BE INCLUDED IN THE NEXT RELEASE

# CCE ENTERPRISES

LECTRONIC SERVICES

## PROFESSIONAL AMIGA REPAIRS

Got problems that no one  
else can sort out?

Send them to us.

Motherboard "beyond economical repair"?

Don't believe them.

Broken add-ons, monitors etc?

**Just call us.**

We specialise in repairs that other  
companies will not even attempt.

Ocean Yard, Suffling Road, Great Yarmouth,  
Norfolk, NR30 3QP

**Phone/Fax: 0493 332462**

# Jesus One's

Disk 13/D9-10 (2 Drives)  
NBS

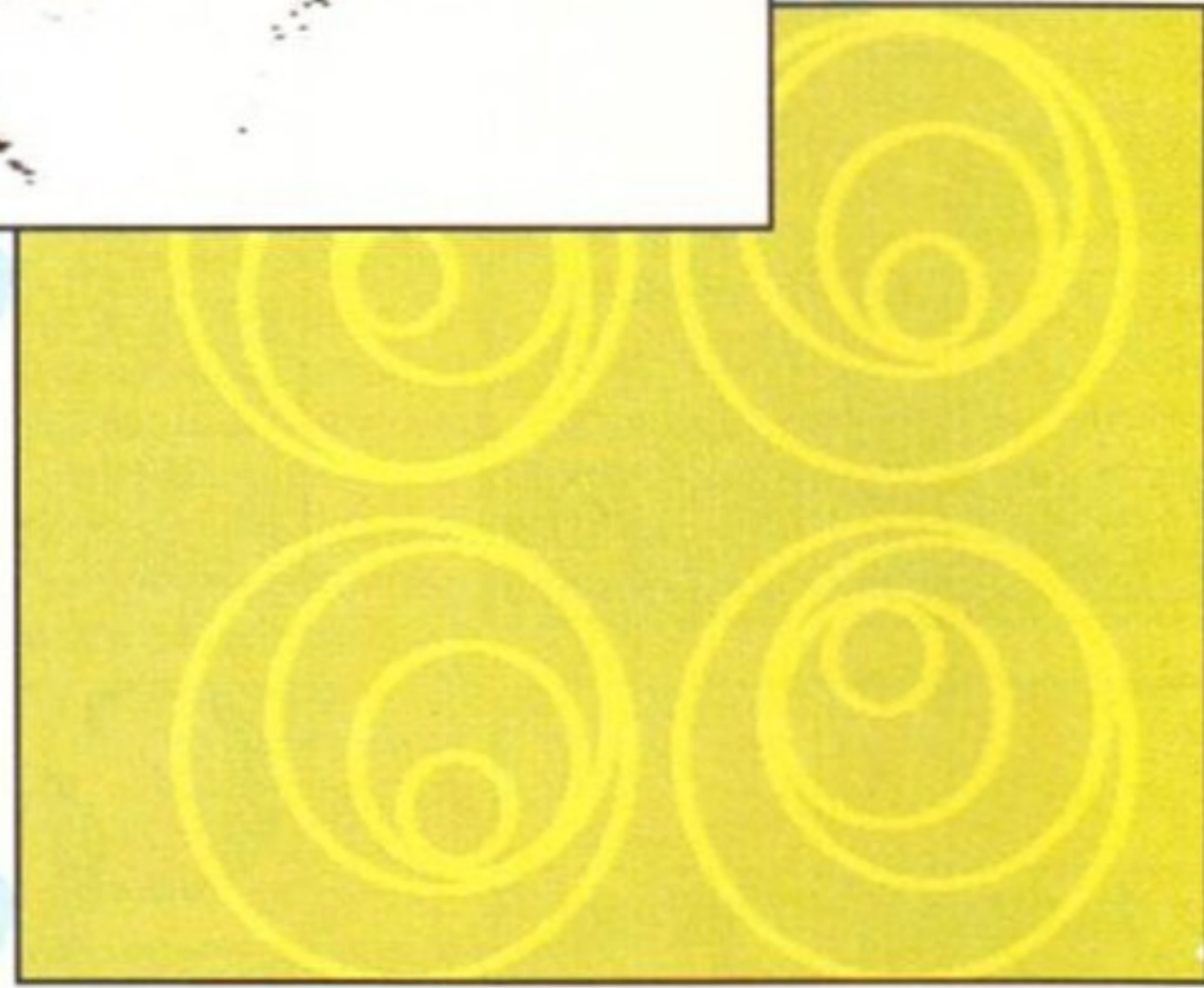
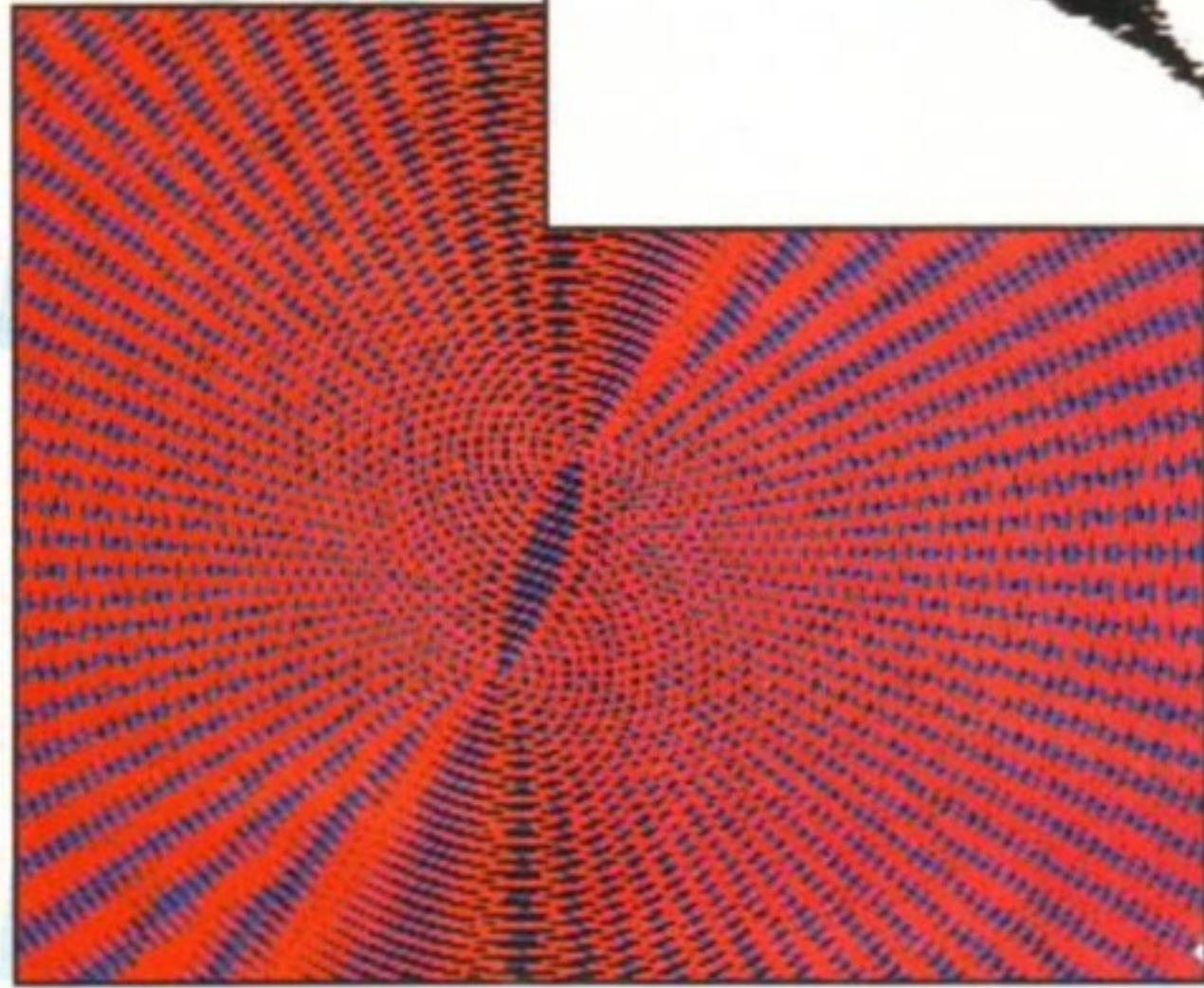
The  
pd  
Stakeout



I for one am not into rave music but if I were then I would rush out and buy these disks. They are modelled on the Coma demo that came out a

couple of years ago. Since then there have been several attempts to better it. These two disks have to be one of the best offerings to date. The music is accompanied by a lot of animations and other graphical effects. Unlike the coma demo new animations and music are loaded up as time goes by. Well worth the money.

**9/10**



## Classic PD Spot

# Music Invasion III

Disk 202/203  
17 Bit

This months classic PD spot goes to Music Invasion III. This great music disk was programmed by the now (I think) defunct Amiga group "Jungle Command". It contains twenty excellent tunes most of which are far more original than any of the music you hear today on the Amiga. It has an anti ripper device which wipes the memory clean when re-booting. Although this will not stop determined hackers or people with an Action Replay ripping the music out, I have not heard many of the tunes used outside this demo. There is a small Pac Man game to play while you listen to the music.

If you have created a masterpiece and you would like it reviewed here, if you own a Public Domain company and want to contribute new and interesting PD, please don't hesitate to send it in. The address is:  
The PD Stakeout, Amiga User International, Greater London House, Hampstead Road, London NW1 7QQ

## Contacts

for PD reviewed in this issue

17 Bit Software  
1st Floor Offices  
2/8 Market Street  
Wakefield  
West Yorkshire  
WF1 1DH  
Tel: 0924 366982

NBS  
U/F6 1 Chain Lane Newport  
Isle of Wight  
PO 30 5QA  
Tel: 0983 529 594

Virus Free PD  
31 Faringdon Road  
Swindon  
Wiltshire  
SN1 5AR  
Tel: 0793 512321

# Amiga answers

## Answer Types

<b>APPS</b>	Programs etc
<b>VIDEO</b>	Video related problems
<b>COMMS</b>	Communications
<b>PROG</b>	Programming
<b>OS</b>	Operating System
<b>PRINT</b>	Printer Problems
<b>OTHER</b>	For anything else

### APPS

Dear **aii**,  
First of all I would like to congratulate all of you there at **aii**, who contribute to the creation of the best and most serious magazine for the Commodore Amiga.  
The reason I am writing this letter is to ask for your advice on a problem I am facing. I would like to know whether there is any pattern recognition program for the Amiga, commercial or public domain.

As I am not sure whether pattern

recognition program is the right description for what I am actually looking for, I am going to briefly explain what I need it for.

I need a program that can process IFF pictures of pages of text that have been scanned using a hand scanner and convert them to actual text, perhaps ASCII files that can be imported to a word processor. To make the search even more difficult I would like it to be able to recognise not just a limited number of letters eg the letters of the English alphabet, but bit patterns in general so that I can make it recognise Greek Letters or signs too.

Please note that the

## SOME IMPORTANT INFORMATION

Please bear the following in mind when writing to Amiga Answers.

There are quite a few different Amigas in use now, so when you write in with a problem state as clearly as possible the following:

Your Amiga Model  
Any peripherals you have (make and type)  
Your Workbench and Kickstart versions  
The software/hardware that you are having problems with

A CLEAR description of what the problem is, or what you want to do.

Make sure I can READ your letters, you may think that anyone can read your own handwriting, but believe me, I sometimes have to take some wild guesses at what some of you write. Printed letters (cheap dot matrix is fine) are preferable.

PRINT your name and address/telephone number on your letters

If you are making several points, or comments to different sections of **aii**, please use a separate sheet for each section. i.e. if you write a few compliments or comments to Bud Vennos and also have a question or two for Amiga Answers put them on separate sheets with your name and address on each one.

If you help **aii** in this way it will speed up the rate at which we can answer your questions. It is unnecessarily awkward when we process a letter in Write to Reply, only to find that it also has some questions for Amiga Answers, and if the cutoff date has passed, your letter will get delayed for another month.

initial pages of text are hand written.

S.J. Filippou  
Greece

Dear S.J. Filippou,  
I was all ready to shout a product name at you, when the last line of your letter destroyed all possibilities of me helping you.

What you are trying to do is called Optical Character Recognition (OCR) and there is at least one very good product (MiGraph OCR) that will take printed text pictures and convert them into ASCII. I recommend it because it is the system that I use. However major scientific establishments

have been working for years on Handwriting OCR and as yet there is no commercial product available, also the processing power required is astronomical. This field of research has very important applications in automatic authorisation eg checking signatures on checks etc. Sorry, you are out of luck for that bit - though you might well investigate MiGraph for the printed part.

### COMMS

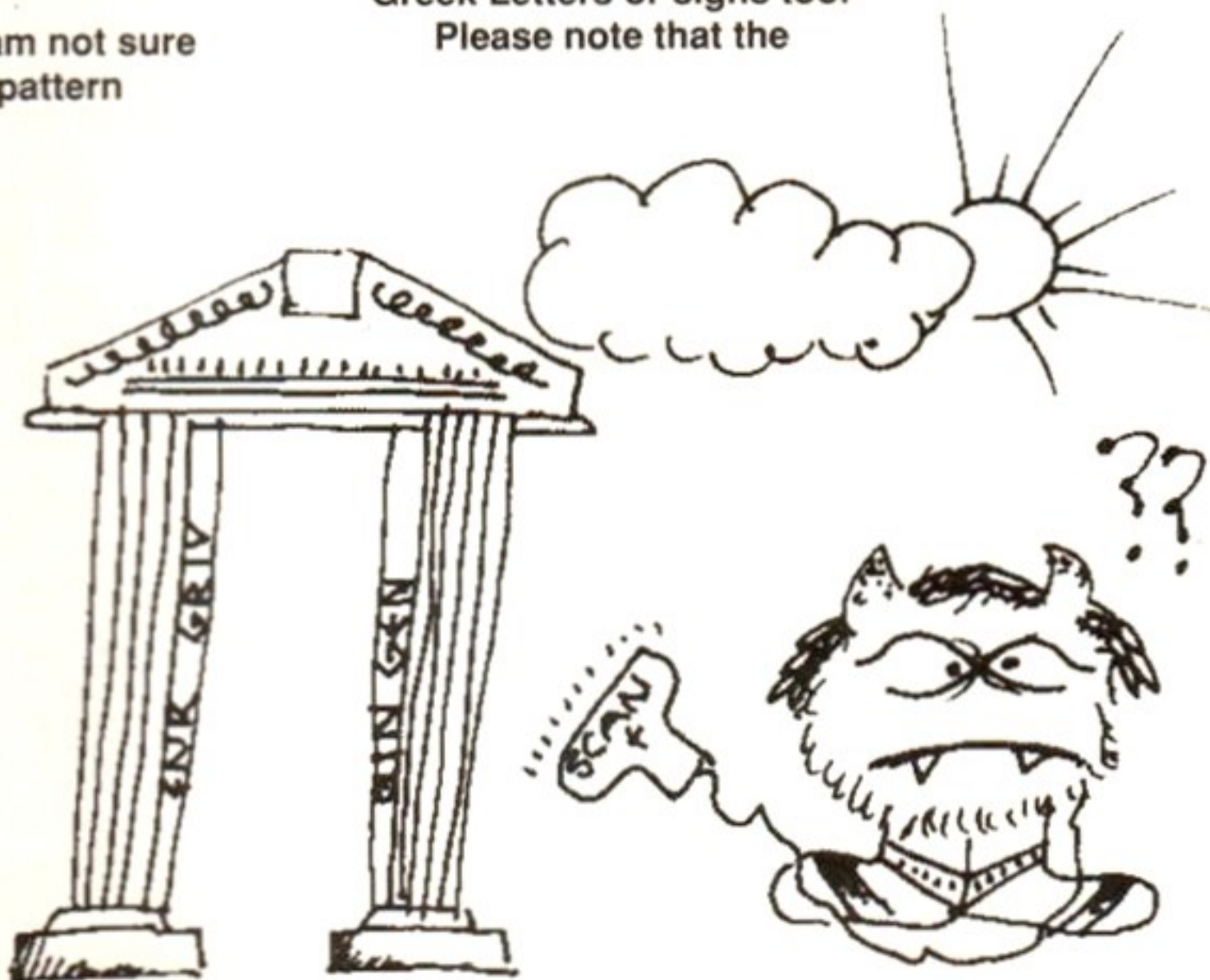
Dear **aii**,  
I am about to get on of the new A1200's. I have a Psion Series 3 and would like to link it to my new Amiga. This leads me to my questions.

In your October issue, you said that you would need a serial cable. Psion sell two such cables, is the cable I require the PC cable?

You also said that you needed some communications software. Can you recommend some software that would work under AmigaDos 3? On your November 1991 Userdisk you had JRcomm, would this software work and if so could you tell me how to use it with the Psion Series 3?

Sean Kelly  
Isle-of Man

Dear Sean,  
You need a cable that will fit the Amiga serial connector. PC cables vary, they could be 9 pin D types or 25 way D type. Make sure that you get a 25 pin connector with the S-link. JRcomm should be fine, just set JRcomm to match the settings that you choose for the S-Link and get the connections right, and it should all happen.



I use the Series3 as well, but not the S-Link. I use the larger Psion MC400 laptop that has a built-in comms port to transfer files between the Amiga and the Psions. I happen to use Ncomm rather than JRcomm but that is a matter of personal choice rather than Ncomm being better than JRcomm.

## COMMS

Dear **aii**,  
I bought a modem at a boot sale. It is a CASE Intelligent Modem 440/12, problem its too intelligent for me, has anybody got some instructions for it?  
J.D. Gilbert  
Erith



Kent

Dear J.D. Gilbert,  
The modem that you have bought is not much good as it is only a V23 type modem, That is a modem that works at 1200/75 bps. This form of service is limited to the Viewdata (Videotex) type of system, such as Prestel. This modem is also fitted with an error correction protocol that is unique to CASE and thus it will not operate with any other type of modem.

The rule is never buy a modem, (or any piece of equipment) at a sale without a handbook.

## VIDEO

Dear **aii**,  
I own a CDTV and would like a few questions answered.

1. I bought my CDTV in

June 1991, so what Kickstart version does it have? I've heard reports of kickstart upgrades coming soon is this true?

2. What s AVM, is it any good?

3. I've heard of CDTV2, will I have to sell my CDTV and buy the new one, or will chip upgrades such as AGA chips be available?

4. When I put an audio CD in the drive and play it via the CD+G option, if I press the remote A button a small green number appears in the bottom of the screen. If I keep on pressing it the number increases by 1 What is this for?

Jason Roberto  
Liverpool

Dear Jason,  
All CDTV units should have Kickstart 1.3 or greater, I have heard of some units

being upgraded to KS2 but nothing official yet.

AVM, Advanced Video Mode, a hardware add on that does all sorts of fancy things, as far as I know this is NOT Commodore specific, and I do not know of any plans to include this in the CDTV as yet. Though we have heard Carl Sassenrath, a highly influential guy in both the Amiga and CDTV areas is very much in favour.

It would be silly if Commodore did not continue to develop the CDTV concept, especially now that the new Amiga range has hit the streets, I doubt if any upgrades will be available, however trade in deals might be offered by some dealers maybe even Commodore will do so. There have been no hints on new CDTV systems being released in the near future so don't hold your breath. But we believe that

they will appear in 1993.

It will NOT be possible to install the AA chipset, simply because it uses a bigger bus. The AA chipset is 32 bits wide, the CDTV is 16 bits, sorry it simply will not fit.

Gary... over to you re the number on the screen (track number perhaps?)

## VIDEO

Dear **aii**,  
My A2000 has 5.5Mb RAM and a hard drive, with three disk drives and I have been using D-Paint IV to make animated sequences - 16 colours Lo-Res - to help elucidate 8mm videotaped demonstrations of craft work.

I am making the work do itself without hands intruding in the picture, which is inevitable when demo to camera. The animations are fine on the 1084 monitor screen, but my five year old genlock, which is obviously not designed to operate from the 2000 does not transfer the animations to videotape with anything like their original quality, nor does a little box labelled an Encoder (modulator) do any better.

I could spend anything up to £1200 on a new Genlock, but I do not really need all of the sophisticated capabilities such a box of tricks offers.

Is there anything more simple and hopefully less expensive that will enable me to transfer from disk to videotape without the gross loss of quality currently experienced?

I do not want gimmickry in the way of fades and mixing that may detract from the real need which is the best possible quality transfer capability. What do you suggest?

Stuart Grainger  
Oxon

Dear Stuart,  
Gary Fenton points out that 8mm or VHS can only record a bandwidth of approx. 2.5 Mhz, Normal broadcast video has a bandwidth of about 6 Mhz, SVHS is better at about 4.5 Mhz.

That aside you have not told me exactly what the problem is! There could be all sorts of problems with your setup, ranging from dud equipment to a mismatch in the connections.

You could have crosstalk between some of your signal leads, Are you using fully screened leads (if you are using any scart leads, some of the cheaper variety use simple multicore cable, you should have separately screened coax inside them to get the best quality)?

Some video sources need to be terminated with a 75 ohm load to work properly. I do not think that any genlock will make such a hash of the signal that it will be unusable, so I

suspect that it will be a problem along the lines that I have suggested rather than the unit itself. Another point, you do not even state what unit you are using, or how you have connected it. Sorry I can't be of much more help.

## OTHER

Dear **aii**,  
I wonder if you will kindly give a contact name, address and telephone number for the new 3.5 inch Sony (I presume "Magneto") Optical Disk Drive reported in the Nov 1992 issue of **aii**. What interests me about this drive is it appears it might fit into the spare drive bay of my Amiga 3000.

Michael Bailey  
South Glamorgan

Dear Michael,  
Remember that this was a news item, and the units probably have not hit the dealers yet, so your best bet is to contact Sony direct. Their address is Sony House, South Street, Staines, Middx, TW18 4PF, Tel (0784) 467000.

Gary Fenton says - Sony have told me that their optical drive is available right now and it should fit snugly inside your A3000. The drive is of the half height kind so it should be perfect!

## OTHER

Dear **aii**,  
I've written to you before, but for some reason didn't

DO YOU FEEL GOOD NOW?



# amiga answers

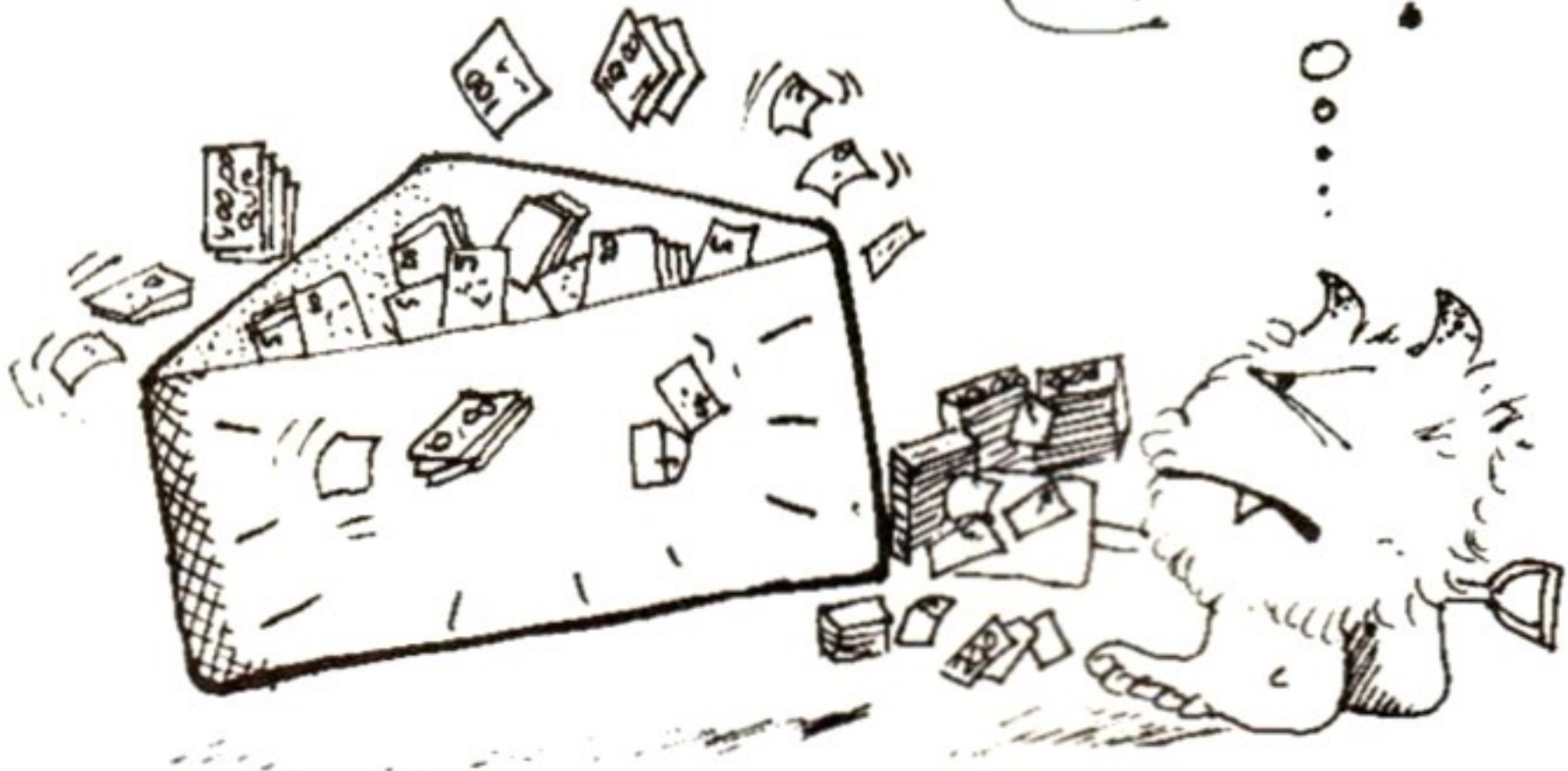
1. I have an A500 plus and would like to use it for composing and keeping a record of letters. As a physiotherapist I would like to produce a database

drive or accelerator be helpful to the above queries, what do you suggest along that line?  
Nigel T Armstrong  
Co Durham

disks to do the backup on. Accelerators are slightly different. There are, we believe, NO accelerators available for the 500 that are approved by Commodore, but there are plenty of third party units available. Unless you are into some fairly high powered processing then that purchase can wait. Check the reviews before you choose the unit you want, as new models are gradually being released. The GVP A530 Turbo hard drive and accelerator we use in the office and that works excellently.

get a reply, may be postal delays etc.

I've bought a Microbotics VXL-30 accelerator, it doesn't say whether it's for a 500 or 2000 I've fitted it to a 2000



but now my system doesn't recognise the Commodore hard drive. All progs work fine and the system shows that it is using the 030 processor so whats wrong?

By the way, I want to take out a subscription to **aii**, so that I will always get the disk, without going through all the red tape here. Should I send cash?

Clyde D'Souza  
India

get them to send a postal order or cheque to our subscription department? You would be sure of getting the disk then.

## OTHER

Dear **aii**,  
My hopefully not too tough query is in three parts:

of exercises and advice preferably with illustrations, Could you recommend a Wordprocessor. and a compatible Database?

2. On a gentler note is it possible to sample sounds other than digital e.g. from the human voice. If so what software and hardware do I need? Can digital sounds be converted to notes on a stave?

3. Getting serious again, would a hard disk

Dear Nigel,  
Database: SuperBase will do the job nicely. I prefer SB Pro, but depending on how complex you want to make the database you might be able to use SB Personal. (See the Bidge That gap article from John Bickerstaff in this **aii**)

Wordprocessors. These are a very personal thing. I use Protect mainly, however other people use Wordworth, Scribble, or one of several others. What do you want to do with the WP? there are even some good editors in the PD libs that you might try. For that matter Memacs might do all that you want!

Sounds ARE NOT DIGITAL. They do get digitised however. Instead of a music source, you just need to feed in a microphone to record voice.

As far as I know there is no program available that will take the input from an audio source and convert it to stave format. Think about it, that is a VERY complex and subjective task.

A hard disk is essential for any serious application. The rule is buy the biggest drive you can afford, and then think about doubling it!. Also buy a decent backup program and GOOD quality

If you have any problems, we're here to help.

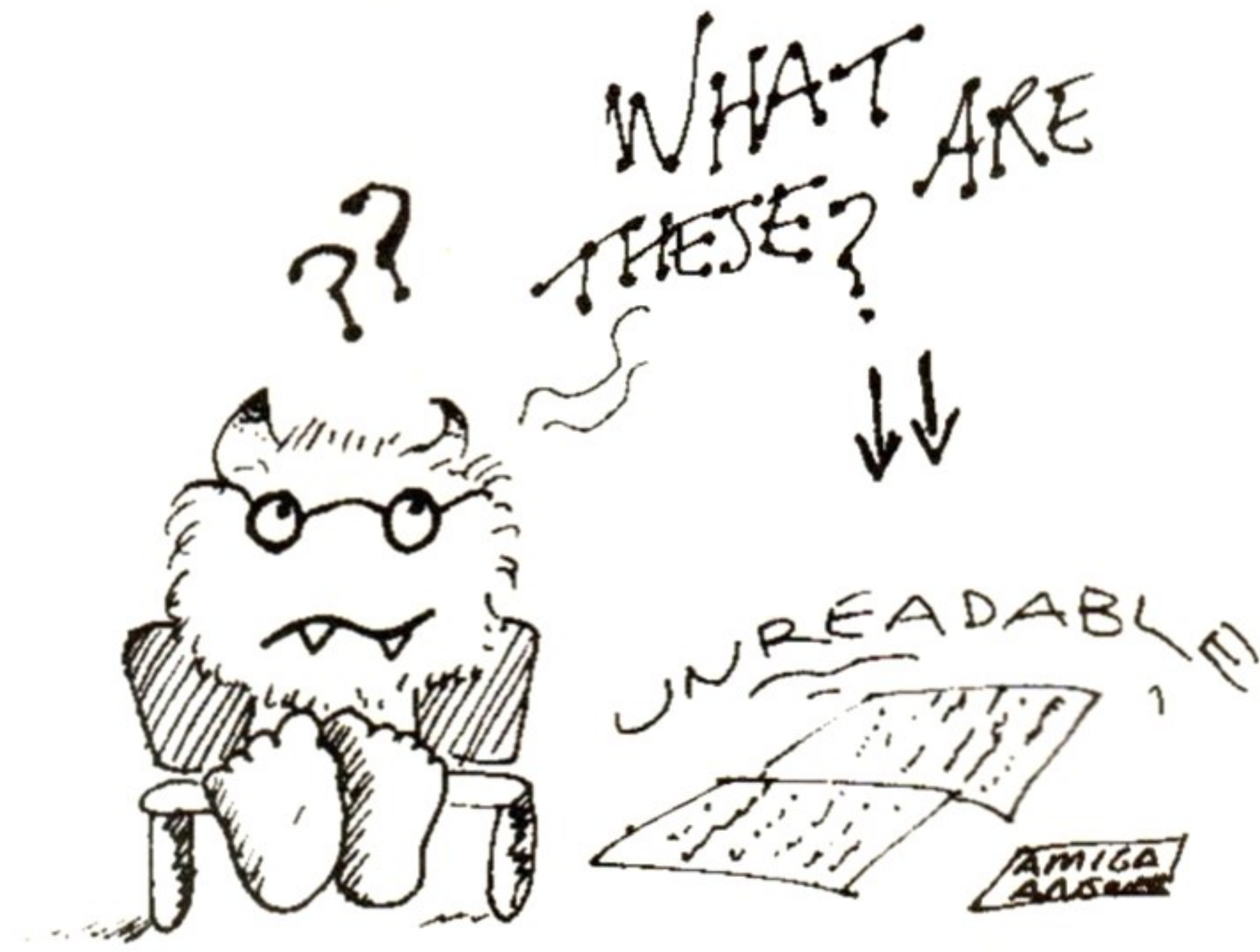
Address for your questions:  
**Amiga Answers**  
AUI, HHL  
Publishing  
Greater London  
House  
Hampstead Road  
London NW1 7QQ

When writing to Amiga Answers include as much information as possible about your system and about which software/hardware you are running. This will help to determine what your problem might be and its solution!

Dear Clyde,  
I've had a look through the file and I cannot find any other letters from you, so maybe it never arrived. (I do answer one way or another all letters that I get sent) Though one of yours was answered by Bud Vennos some time ago.

The VXL-30 should work in the 2000 as well as the 500, so you may have connected it up wrongly. Remember that circuit references and such like will be different between the 2000 and 500 so you will have to refer to the circuits and documentation very carefully. You may have a faulty unit. It is very odd that the hard disk is not working. Once again not enough information for me to come to any helpful conclusions.

No, don't send cash, it's bound to disappear. You must know someone who is coming to the UK. Why not give the money to them and



# write to reply

**This is where you get  
your chance to speak -  
or write - your mind  
about what's bugging  
you. Bud Vennos fields  
the bouquets and the  
brickbats.**

Dear **aii**,  
A4000, The most powerful  
Amiga ever!? NOT.

My A1500 fitted with  
the new GVP 68040 G  
Force card, running at  
33MHz is a bit quicker.  
Over 24 MIPS instead of  
19. Mind you, MIPS could  
be, Meaningless  
Indication of Processor  
Speed...

There is a major  
problem with this sort of  
speed. Programs in  
Pascal need five or even  
six END statments to stop  
the processor, and any  
tight loops in a program  
cause the machine to spin  
round on the desktop.  
Short Pascal subroutines  
create so much  
centrifugal force that they  
have to have at least six  
BEGIN'S at the beginning,  
and six END's at the end...

It also has a very fast  
SCSI interface instead of  
rotten old IDE, A4000?.  
No thanks!.

Chris Blackmore.  
Somerset.

Dear Chris,  
You're right, of course. The  
25 MHz A4000 was already,  
by contemporary standards,  
not lightning fast. There are  
not unsimilar machines,  
such as the 486s, that run  
at 66Mhz, and the 586 will  
be even faster. Speed (like

size!) isn't everything and in  
any case it depends on the  
way you measure it - and  
what you use it for. (And the  
more closely you try to  
measure it, according to  
quantum physics, I believe,  
the more you are likely to  
affect it so making your  
calculations LESS accurate!  
You can see I got "The Brief  
History of Time" for an  
Xmas pressie!))

Nonetheless, the A4000  
is very powerful not only for  
its speed but for its other  
qualities. The new operating  
system itself, to which  
unfortunately you as others  
who use the good old 1500/  
2000 will almost certainly be  
unable to upgrade, has the  
kind of power that does  
make it more than the equal  
of 486s and better. But  
where you are also right is  
the "rotten old IDE". Yes, a  
faster SCSI interface is  
needed to make the A4000  
the machine it ought to be.  
But it will come.. It will  
come.. A little patience,  
please.

Dear **aii**,  
Hi, my name is Frankie  
and I'm a computer  
engineering student at  
University. Not writing  
from exotical and  
distance vistas like India  
or Botswana, but it's

another chance for your  
dusty rusty Spanish. I  
have bought **aii** and  
Commodore User for  
years. Yours being the  
best in latest utilities and  
hardware, and the other  
one because of great  
game reviews. Both have  
changed their look lately,  
but... are blue pages at  
the end of the mag a  
fashion in Britain  
nowadays ?!? Rather dull.

Well, normally there  
are no problems  
concerning distribution  
here, just a few delays,  
but past September the  
mag arrived without  
Super Disk 15 attached.  
After burning newsagent  
up, I decided to go  
directly to the importing  
company. Almost a hour  
of subway and I reached  
the store only to discover  
that not only mine, but  
every **aii** on the shelves  
were "undisked" (yeah, a  
new word!?). Bad luck,  
but they came that way  
from the UK, so who is to  
blame?.

By the way, I bought  
this December issue on  
November 10th and you  
stated the facts that  
happened in October. Hey  
man, When the hell do  
write your articles?. Do  
you keep them in the  
fridge to rest for several

months or what?. I have  
read your report about  
World of Commodore  
Show in Pasadena, CA,  
held in September, just in  
time for SIMO!. Friday the  
13th and SIMO, the  
biggest computer show in  
Spain, has just started.

Commodore stand  
presented the A4000. It  
really could have been  
just another computer  
among thousands, but  
something weird with  
262144 colours moving  
on top, attracted the  
audience. HAM8 pictures  
converted with ADPro  
were looking almost the  
same as 24-Bit boards  
like OpalVision or Impact  
Vision Pal video toaster is  
a chimera, but there is  
still much software  
needed to handle them.  
Vortex's 486SX Golden  
Gate board for A2000  
onwards was also there.  
It's the FINAL solution for  
running PC software:  
Windows 3.1 with a  
32764-colours Super VGA  
with Photostyler showing  
TIFF images, were at  
FULL speed on an Amiga  
3000.

Something really  
shocked me: A4000 price  
was quite the same  
announced at Pasadena  
Show, 379900 pesetus ~  
3400 USA dollars for the  
120Mb hard drive version,  
but being the dollar the  
freakish currency it is, it  
may perfectly be cheaper  
in a few weeks- or more  
expensive, who knows?

Commodore wares  
were always a lot more  
expensive here than in  
the United Kingdom, and,  
of course, almost doubled  
from those in the USA,  
but now things are getting  
more sensible respecting  
free trading within the  
European Community. We  
should trust Maastricht or  
the Yankees will swallow  
us! By the way, Why  
didn't you review the  
A1200 released there last  
month?. Lack of  
space...or pack of news?.

Down to less  
philosophical affairs, in  
your latest superdisk your  
files were crunched with  
LHA. It's easy to  
decrunch to hard disk but  
annoying for floppy disk  
users. I suggest you to  
optimise a disk for better  
loading and then pack it  
with a track cruncher like  
DMS, ZOOM, LHWARP or  
DIMP which preserve disk

structure and are faster to  
decrunch. Harddisk  
owners can still make a  
880k RAD or simulate a  
880k partition, and then  
copy the files they need.

Nice to find an  
EXPO'92 report in a  
foreign magazine. It was  
too expensive, but it was  
also worthwhile seeing it.  
I myself couldn't afford it,  
but there were daily TV  
reports so I didn't miss it  
at all. By the way, Carlos  
Sainz won the Lomabard  
RAC rally and World  
Championship yesterday  
evening.... striking again!

This letter won't  
surely be printed- too  
long maybe?- so please  
don't consider my  
complaints too seriously.  
Just be positive and try to  
make the best  
professional Amiga mag  
in the universe!. Bye.


Francisco Javier  
Crespo,  
Madrid, Spain.

*Estimado Francisco,  
We've talked about the  
problems of disks not being  
on magazines in previous  
issues of **aii**. We have  
tried to something about by  
offering the disk for people  
who write to us as a part of  
the service. There is not  
much we can do after the  
magazines leave us. And  
we don't sell magazines to  
newsagents. They probably  
pass through five or six  
different hands before they  
get to your friendly  
newsperson.*

*If you read something  
on the 10th of November  
that happened in October,  
believe me that's pretty  
quick for a monthly. The  
absolutely latest anything  
can go from us to get into  
the magazine is over two  
and half weeks before the  
publication date, which is  
about the first day of the  
month preceding the date of  
issue. As for the Pasadena  
Show, we held some pages  
specially late for that. And  
we didn't review the A1200  
then because it wasn't  
launched there and arrived  
a month later the A4000.*


*It's good to hear that the  
prices are coming down to  
proper levels in Spain. As  
for Maastricht, lots of  
people don't think it went far  
enough. It's mostly national  
governments who are the  
trouble - like the British  
Government refusing to  
clean up the beaches in the  
UK as the EC wanted.*





## Jewel PD

19 Hodgkinson Rd  
Kirkby-In-Ashfield,  
Notts NG17 7DJ  
Tel: 0623 754061



**AMIGA, ATARI ST & PC SHAREWARE & PUBLIC DOMAIN**

UTILITIES	GAMES	DEMOS
02U - Messy Sid II NP	01G - Rollerpede	01M - Perfect sound (3 disks)
03U - Label Printers	02G - Air warrior	05M - Cats Sing Kylie NP
04U - Modem Utilities	06G - Interferon	06M - Med v3.1
05U - Printer Utilities	07G - Tiles	01E - Educational (5 disks)
09U - Master Virus Killer V92	08G - Asteroids	02E - Learn & play (2 disks)
11U - mCAD 1.2.5	09G - Wacky wabbits	02D - Mars flight demo
13U - C Language Manual (4 disks)	10G - Girl actions	06D - Anti-lemmings demo (2 disks & 2 meg)
14U - North C 1.3 (2 disks)	11G - Drip	09D - Light cycle duel demo (2 disks)
18U - Sid II	14G - Hack	16D - Amy vs Walker NP
24U - 600 Business Letters	19G - Lam v12.06	17D - At the movies 1.5 meg
28U - Assassins Megaboot utilities	21G - Blizzard	18D - At the movies 2 (4 disks & 1 meg)
29U - Ripper's disk	23G - Golden fleece	25D - Puggs in space
31U - Dope Intro Maker	29G - Coin drop NP 1meg	30D - Odyssey demo NP (5 disks)
01W - Text Plus 3	31G - Missile command	Fish 617 - A Day at the Beach (2 disks 3 meg)
02W - Amiga Fox D.T.P	35G - Megaball	27U - Tele Communications
03W - Clip Art 1 cartoons etc.	39G - Operation lemming NP	
Fish 253 - Power Packer 2.3b	42G - Squabble	
Fish 609 - bBase II	43G - Croak	
PDcoverB - Dcopy 2	45G - Seven tiles NP	
	48G - Zeus	
	50G - Mister & missus 1meg	

\* NP = Not Plus \*      DISKS: 1-9 £1.25 each      **FREE POSTAGE (UK)**  
**FREE PRINTED CATALOGUE**      10 or more £1.00 each      (Min 3 disks)  
 Please Make Cheques payable to Miss J. Lowe      Same Day Despatch

## The aui Advertiser's Index

ACS .....	101	Hobbyte .....	52,53
Applied Systems .....	86	Innovatronics .....	3
ASDG .....	IFC	Jam .....	89
Care Computers .....	113	Jewel PD .....	113
Castlesoft .....	89	KEW II .....	107
CC Enterprises .....	107	Kingsfield .....	105
Chartscreen .....	83	Kontax .....	105
Computer Exchange .....	86	Kosmos .....	101
DDPD .....	107	Micropace .....	15
Digital Creations .....	IBC	Millenium .....	105
Direct Computer .....	87	New Horizons .....	57
DTBS .....	105	Rombo .....	OBC
Eagle Software .....	41	Selectafont .....	107
Font Shop .....	107	Silica .....	13,19,27,33
Fun Factory .....	87	Software Demon .....	59
Gasteiner .....	29	South Hams .....	107
Gordon Harwood .....	17	YER .....	113
HiQ .....	101	Yew Tree .....	113

## Amiga-64-Link

- Links C64 peripherals to Amiga parallel port      ● C64 Not required

### Connects C64 printers to the Amiga

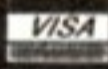
- Supports MPS, DPS, VIC, Star, Brother, Seikosha & Citizen printers
- Graphics output on dot-matrix printers      ● Works with all software

### Transfers C64 disk files to the Amiga

- File transfer programs      ● Read/Write text, binary & program files

Standard "Ami-64-Link" £35.25      *Prices include VAT and delivery*  
 Budget "Ami-64-Link" £23.50      *Budget stops multi-tasking during printing*

York Electronic Research (0904) 610722  
 The Paddocks, Jockey Lane, Huntington, York YO3 9NE



# AMIGA SPECIALISTS

COMMODORE • AMSTRAD

## CARE

### COMPUTER SERVICE CENTRE

# Repairs from £20.00

*6 months warranty on all repairs  
Collection and delivery service*

All work carried out by experienced engineers.

Free A500 dust cover with every repair while stocks last

## BLYTH (0670) 352278

Unit 16 Plessey Road Workshops, Blyth,  
Northumberland NE24 4BN

PERSONAL COMPUTERS & WORD PROCESSORS



## YEW TREE LEISURE

### MAIL ORDER SUPPLIES

#### COMPUTER AND VIDEO GAME SPECIALISTS

<h4>AMIGA PUBLIC DOMAIN (99p)</h4> <table border="1" style="width: 100%;"> <tr> <td>FISH DISKS up to 720 99p</td> <td>DEJA-VU up to 85 £2.50</td> </tr> </table> <p style="text-align: center;"><b>LARGE RANGE OF T-BAG 99p</b></p> <p>Large range of P.d.m stock new titles arriving daily from all over the world. Tell us your interest, games, demos etc. and we will fill your disk up.</p>	FISH DISKS up to 720 99p	DEJA-VU up to 85 £2.50	<h4>GAMES UNLIMITED</h4> <p>Far too many titles to list. Hundreds of clearout titles between £1-£5.</p> <p style="text-align: center;"><b>Winter clearout</b> All at £5 each or 3 @ £12</p> <table style="width: 100%;"> <tr> <td>9 Lives</td> <td>Hudson Hawk</td> </tr> <tr> <td>Badlands</td> <td>Interphase</td> </tr> <tr> <td>Cadaver</td> <td>Midwinter</td> </tr> <tr> <td>Challenge Golf</td> <td>Radio Control Race</td> </tr> <tr> <td>Days of Thunder</td> <td>Smash TV</td> </tr> <tr> <td>Die Hard 2</td> <td>Wings</td> </tr> <tr> <td>Flames of Freedom</td> <td>Xenon 2</td> </tr> <tr> <td>Golden Axe</td> <td>Zork 3</td> </tr> </table> <p style="text-align: center;"><b>Many more available including latest releases etc.</b></p>	9 Lives	Hudson Hawk	Badlands	Interphase	Cadaver	Midwinter	Challenge Golf	Radio Control Race	Days of Thunder	Smash TV	Die Hard 2	Wings	Flames of Freedom	Xenon 2	Golden Axe	Zork 3								
FISH DISKS up to 720 99p	DEJA-VU up to 85 £2.50																										
9 Lives	Hudson Hawk																										
Badlands	Interphase																										
Cadaver	Midwinter																										
Challenge Golf	Radio Control Race																										
Days of Thunder	Smash TV																										
Die Hard 2	Wings																										
Flames of Freedom	Xenon 2																										
Golden Axe	Zork 3																										
<h4>PERIPHERALS ETC</h4> <table style="width: 100%;"> <tr> <td>1.5 meg upgrade</td> <td>£75.00</td> </tr> <tr> <td>5.25 Drive</td> <td>£70.00</td> </tr> <tr> <td>3.25 1 meg Drive</td> <td>£49.00</td> </tr> <tr> <td>Amiga Mouse</td> <td>£30.00</td> </tr> <tr> <td>Upgrade with clock</td> <td>£32.00</td> </tr> <tr> <td>Upgrade without clock</td> <td>£24.00</td> </tr> <tr> <td>Amiga power supply</td> <td>£24.00</td> </tr> <tr> <td>Trackball mouse</td> <td>£38.00</td> </tr> <tr> <td>Drive cleaners</td> <td>£2.00</td> </tr> <tr> <td>Mouse mats</td> <td>£2.00</td> </tr> <tr> <td>Disks</td> <td>£0.40</td> </tr> <tr> <td>Labels</td> <td>£1 each</td> </tr> <tr> <td colspan="2">Disks phone for bulk price.</td> </tr> </table>	1.5 meg upgrade	£75.00	5.25 Drive	£70.00	3.25 1 meg Drive	£49.00	Amiga Mouse	£30.00	Upgrade with clock	£32.00	Upgrade without clock	£24.00	Amiga power supply	£24.00	Trackball mouse	£38.00	Drive cleaners	£2.00	Mouse mats	£2.00	Disks	£0.40	Labels	£1 each	Disks phone for bulk price.		<h4>GAMES MACHINES ETC</h4> <p>We stock Megadrive, Master System, Nintendo, etc. machines and have a large range of games to date at very competitive prices.</p> <p style="text-align: center;"><b>Joysticks, Converters, Control Pads, Carry cases, etc.</b></p> <p style="text-align: center;"><b>Phone or write for list stating requirements.</b></p>
1.5 meg upgrade	£75.00																										
5.25 Drive	£70.00																										
3.25 1 meg Drive	£49.00																										
Amiga Mouse	£30.00																										
Upgrade with clock	£32.00																										
Upgrade without clock	£24.00																										
Amiga power supply	£24.00																										
Trackball mouse	£38.00																										
Drive cleaners	£2.00																										
Mouse mats	£2.00																										
Disks	£0.40																										
Labels	£1 each																										
Disks phone for bulk price.																											
<h4>ANDY TOWNSEND</h4> <p>84 Yew Tree Road Attleborough Norfolk      PHONE/FAX NR17 2RD      0953 452803</p>																											
<h3>SORRY NO CALLERS</h3>																											

# write to reply

Nationalism is a problem in all sorts of ways - and of course, I won't mention places like Catalonia and the Basque country that want to split off and make Spain another Yugoslavia... Dr Johnson said that patriotism is last last refuge of the scoundrel - but I think he might have meant nationalism!

As for the decrunching business, it is I'm sure a bit of a bore but we have considered other ways but things like Zoom we've found to be unreliable - and we think you mean DMP not DIMP which sounds like a cross between a dope and a wimp.

Yes, Carlos Sainz is a great rally driver but driving in Spain hasn't led me to think that very many others on the Spanish roads believe that safety has anything to do with driving! They seem to think THEY are Carlos Sainz and have got to beat everybody!

And we'll try our best to be the best! Porque no creemos que los otros son nada del otro jueves! (Which for non-Spanish speakers means - no, I won't tell you. The first UK based person to send me the correct translation will get a nice bit of UK software!)

Hasta luego, Paco que no comes demasiado paella! (And translate that too!)

**Dear aui,**  
Just a very small letter asking two simple questions.

1. What is the font you use on your Workbench 2.0 as shown on the 6/7 of the A.U.I. Dec 1992?

2. Where can I get it? (maybe you could put it on your coverdisk!). Excellent mag, excellent disk, keep it up.

A. Murfet,  
Devon.

Dear A. Murfet,  
The answers to your queries are as follows:-

1. The font we use

comes with Workbench 2. Its called Triumvirate and is a compugraphic font.

2. We can't put it on the coverdisk because it's not Public Domain.

**Dear aui,**  
Well, as they say, nobody's perfect. Particularly not the person that wrote the rubbish on page 25 of your December issue. The page I am referring to is a full-colour advert for The Miracle Piano Teaching System. Did you know it's "Unlik anything you've ever laid eyes, or fingers on" (note the new word "unlik" that looks suspiciously like "unlike" without the "e")

"Simply take a computer and only 10 hours of music lessons and your entire family enjoy a Miracle".

Does this mean we 10 hours of music lessons before we can use it?. Of course it's only £299 (oh, and a few hundred for a decent computer, i.e. an Amiga, and the cost of a T.V.). Aha! another new word ("oryour") which my dictionary sadly lacks.

But the machine does indeed sound like a miracle with it's "artificial intelligence system" which somehow managed to slip past Tomorrows World as the first real occurrence of A.I. in a computer.

The inclusion of the Video is a wonderful idea. Just in case the Miracle doesn't live up to its specification:

".....instrument that actually teaches you how to play it" then the "1.5 hour VHS video" will be a good substitute for the Miracle as it "offers step by step tuition" ( or maybe use video and keyboard just to learn everything twice!)

"Maybe that's why even the most easily distracted adolescents have been known to spend hours completely

absorbed in a Miracle lesson" If however you can't afford £300 to keep your adolescents quiet, why not send 99p to some P.D. library for NoiseTracker.

Just one more thing: How many Jack Cohen's are there working for ICPUG? between aui and other Commodore magazines, there are at least three of them; Jack A. Cohen, Jack B. Cohen and Jack C. Cohen.

Graeme J. Faichney  
West Lothian,  
Scotland.  
P.S. Brilliant Magazine.

Dear Graeme,  
We're not responsible for what's said in ads. But in this case I can tell you that the Miracle piano system really does work. I've seen it in use and it helps solve that terrible problem of learning any musical instrument - practice. It does this by making the practicing fun and so people who use it make a lot of enjoyable progress. Nothing in wrong in that I'd say.

Jack Cohens? We only know one but he perhaps uses many aliases. We think. Or maybe there is a growing number of ICPUGs too. (There is certainly another Jack Cohen in my neighborhood who is a Liberal local councillor but doesn't so far as I know own an Amiga!).

**Dear aui,**  
I am a final year student at the University of Sunderland and I am enquiring as to whether or not you could possibly help me out. In my final year I have to write a project of 10,000 words. The subject matter I have chosen for the project concerns computers and marketing.

Basically the project aims to introduce a new computer into the home market and follows the computer through the decline stage in the product life cycle.

The reason why I ask for your help is that I need as much information about computers and marketing as possible. I need to know the inside of say, a P.C., an Amiga, or an Atari ST. Unfortunately I know only

a little on how a computer works and what, for example, a Fat Agnus chip or a SID chip are.

After having read your magazine for the last six months, I am learning a few things concerning the serious side of owning a computer. The magazines are slowly building up my understanding of the devices. Unfortunately the rate is too slow for what I need and I require information fast. Please could you send me as much information possible concerning the insides of a computer, technical as well as layman material. The more leaflets, pamphlets etc. you are willing to give me the better and I would be extremely grateful for any assistance.

Could you also point me in the direction of a text book that would help in my research of this area.

Thank you for taking time to read my letter. I hope that you can in some way help. I look forward to your reply.

Paul Winstanly.  
Sunderland, Tyne & Wear.

Dear Paul,  
We don't keep pamphlets and brochures about Amigas, the place to apply would seem to be Commodore. (And the first thing you ought to do when starting a project is to think carefully about finding the right place to go for information! If it's about Saudi Arabia you run to the Saudi Embassy, for the Amiga you phone CBM!).

As for a book, there are lots. You might start with the Bruce Smith Books' Mastering the Amiga for Beginners.

**Dear aui,**  
Could you possibly give my new venture a mention?, I'm considering starting a club exclusively for video producers. As well as a quarterly disk mag reviewing art disks, multimedia, and presentation software, (and tips on how to create graphics), the club will have a P.D. library. This won't offer the usual utilities/animations, but goods of use to video makers. ie fonts, backings, demo creators etc. Genlocking and digitising may be offered later.

If anyone's interested in such a group, could they write to me for further info.

Finally, and this may sound like a lot of "flannel"- thanks for an informative mag, one that's not full of games reviews, and caters more for intelligent life forms, i.e. news of Opalvision, Scala MM 200 etc. My only gripe is that naff, obese opratic journalistic femme fatal on the last page!

Chris Brown  
4 Lavender Close,  
Witham, Essex.

Dear Chris,  
We don't have to give your club a mention because you've just done it yourself. I'm glad that you like the video coverage in aui. Good luck with your club and I hope fellow aui readers can benefit from your service. As for your comments on the naff obese journalism on the last page, well, you're not the only one that's said something along those lines. The person is unknown to us (except intimately to the Ed) and tends to stay indoors a lot. I wonder why..

Send your letters to:  
Write to Reply

**au**

HHL Publishing  
Greater London House,  
Hampstead Road  
London NW1 7QQ

All photographs are of actual DCTV screens.



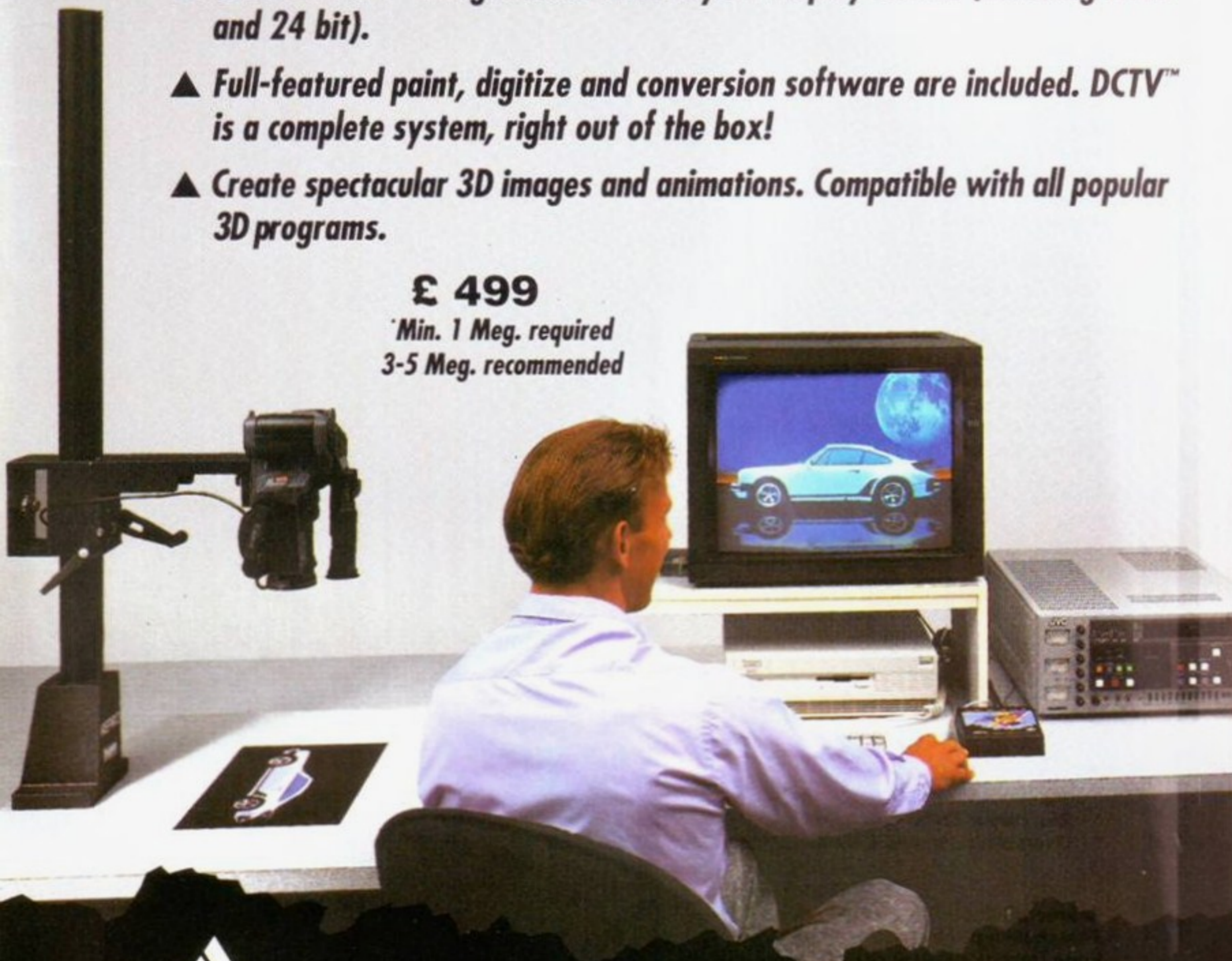
Now Available in PAL

# The Future Is Here!

- ▲ Paint, digitize and display beautiful full color composite video images on any Amiga.®
- ▲ Capture an image in 10 seconds from any color video camera. (Also works with still video cameras, video disk and still frame capable VCR's.)
- ▲ Convert DCTV™ images to or from any IFF display format (including HAM and 24 bit).
- ▲ Full-featured paint, digitize and conversion software are included. DCTV™ is a complete system, right out of the box!
- ▲ Create spectacular 3D images and animations. Compatible with all popular 3D programs.

**£ 499**

Min. 1 Meg. required  
3-5 Meg. recommended



Digitize and process full color composite video images in millions of colors.



Sophisticated true color video paint, digitizing and image processing software are all combined into one easy to use package.



Create beautiful full color video images with all popular Amiga 3D programs.



Animate video quality DCTV images in real time using popular Amiga animation creation tools.

DCTV (Digital Composite Television) is a revolutionary new compressed video display and digitizing system for the Amiga. Using the Amiga as a compressed video buffer, DCTV creates a full color composite video display with all the color and resolution of television.

**ACTIVA**  
INTERNATIONAL  
Fax # 31 20 6911428  
Tel # 31 20 6911914  
DISTRIBUTION

**DIGITAL**

CREATIONS

Telephone 916/344-4825 FAX 916/635-0475

©1992 Digital Creations. Amiga is a registered trademark of Commodore Business Machines. Patents applied for.

VISION, SOUND AND ANIMATION  
FROM ROMBO  
THE WORLDS BIGGEST AND BEST



SOUND SAMPLER



IMAGE CAPTURE



ANIMATION

### Real Time Digital Effects

#### OVERVIEW

**MEGAMIX master** is a high specification, low cost digital effects cartridge that plugs into your printer port. Special stereo effects such as echo can be added in real time. You will find **Megamix Master's** performance and ease of use unmatched by any rival. Just plug it in and go...

#### Some of the Features include:

- \* Thru port for printer or digitiser.
- \* Fully multi-tasking.
- \* Integrated 3.5mm jack plug and lead.
- \* 3D Animated icons.
- \* Compatible with Workbench 2.0.
- \* Both Mono and Stereo sampling.

#### Real Time Digital Effects include:

**ECHO**-Adds echo to incoming sound.  
**PHASER**-Applies space age phase shift.  
**SYNTH**-Adds user definable effects.  
**DIRECT**-Plays incoming sound direct.  
**VIBRATO**-Rapidly varies frequency.  
**STEREO ECHO**-Adds digital delay between L & R speakers.

#### Other Menu's include:

**REMIX** (with many sampling features).  
**EDIT** (for sample manipulation).  
**DISK** (for saving and loading etc).

Workbench 2.00 Compatible.

£39.95 Inc.

JUST LOOK AT THE SPEC.

### 4096 Colour Images

#### OVERVIEW

**Vidi-Amiga 12** is the ultimate low cost colour digitiser for Amiga. There are no filters and no separate RGB splitter. Colour images can be captured in less than a second, mono images are grabbed in real time. Fully compatible with any video source.

#### Some of the features include:

- \* Multi-tasking software.
- \* Advanced error diffusion stippling.
- \* Cut and Paste with masking.
- \* Capture into a user definable window.
- \* Load and save IFF ILBM and ANIM files.
- \* Grab frames flipped on a X or Y axis.
- \* Multi frame store with animated playback.
- \* Composite or S-Video input.

#### Display in the following resolutions:

PAL	NTSC
320 x 256	320 x 200
320 x 512	320 x 400
640 x 256	640 x 200
640 x 512	640 x 400

#### Supports several screen modes:

- \* 4096 HAM mode.
- \* 64 EHB mode.
- \* 32 colours.
- \* 16 colours.
- \* 16/8/4/2 shade mono.
- \* 262000 HAM-E mode.
- \* 256 colour EREG mode.
- \* Overscan/Interlace/Hi-Res.

#### Image Processing and Enhancement:

Sharpen/Smooth/Negative/Quantise  
Thresholding/Solarization/Mosaic  
Edge Detection/Brush selected area.

Workbench 2.00 Compatible.

### Professional Animation with Optional Image Capture

#### OVERVIEW

**Take 2**, as used in "Rolf's Cartoon Club" is the ultimate multi-level animation package. Offering up to 4 levels of animation and 4 levels of sound. Images are drawn within your favourite art package then loaded into Take 2 as IFF files. If you own Vidi-Amiga you can digitise your drawings from within Take 2. We believe its much easier to draw with a pencil than with a mouse.

#### Some of the features include:

- \* Compatibility with all Amigas.
- \* Supports 2, 4, 8, 16 and HAM colour.
- \* Loads or saves IFF or ANIM files.
- \* Traditional animators dope sheet.
- \* Play back up to 25 frames per second.
- \* Dubbing or simulated onion skin.

and lots more !!!

#### Applications:

- \* Traditional animation.
- \* Storyboards.
- \* Product presentation.
- \* Line tester.
- \* Stop frame animation.
- \* Cartoon productions.
- \* Education.
- \* 3D object animation.
- \* Video production.

Workbench 2.00 Compatible.

£49.95 Inc.

AS SEEN ON TV

COLOUR IMAGE CAPTURE FOR ONLY

£99.95 Inc.

Rombo Ltd., Kirkton Campus, Livingston  
SCOTLAND EH54 7AZ

Tel: (44) 0506-414631 Fax: (44) 0506-414634

Sales Hotline: (44) 0506-466601

American Software (U.S.A.) (217) 384 2050  
Arkofoto (Spain) (34) 3301 0020  
Centresoft (U.K.) (44) 021 6253388  
Darius Soft (Austria) (43) 123 4555  
Gem Distribution (U.K.) (44) 0279 442842  
Goldhill Associates (Export) (44) 081 9062009  
H.B. Marketing (U.K.) (44) 0753 686000

Merlin Grafz (Austria) (43) 5223 8896  
Micropace (U.K.) (44) 0753 55188  
Precision Distribution (U.K.) (44) 081 5433500  
Scibis Spri (Belgium) (32) 2245 8307  
S.D.L. (U.K.) (44) 081 3095000  
Soundware SRL (Italy) (39) 3322 32670  
V.C.S. (Holland) (31) 1045 11537