

Boldly Going Where No Amiga Magazine Has Gone Before!

AMIGA

User

Including **This TechnoWorld!**

INTERNATIONAL

**Two Disks?
No, Seven Disks Are
Packed In Here!**

AMIGA User INTERNATIONAL

7 disks of delights are packed onto these 2 floppies! AUI SuperDisk No. 93

November 1996

The Great AUI SuperDisk collection this month includes:
Splat! - Split and join files too big for a single floppy.
Splat! - Relive Summer in this exciting game.
Embed - Disguise data within the pixels of an image.
RealTime - Helps you set the right time if you don't have an internal clock.
SmartTrash - Another brilliantly intelligent(?) dustbin for your Workbench.
Install - The latest version of the Installer software.
AINTab - Cycle through screens at the touch of a key.
Plus - cal, uptime, the indices to past AUI magazines, ICDs, and SuperDisks, and even more...

Boot this disk to install to floppy or hard drive
Requires Workbench 2.0 or above, and at least 1Mb of RAM
Some software is AGA only

NO DISK?
Ask Your Newsagent!
Or see the SuperDisk
Pages in this issue.

AMIGA User INTERNATIONAL

7 disks of delights are packed onto these 2 floppies! AUI SuperDisk No. 94

November 1996

Dolcon - Easily change an icon's attributes.
StarDefender - Rescue the humans before the aliens etc. etc.
ExtraScreen - Force programs to use customised public screens.
FlashFind - Look for text strings on disk at unbelievable speeds.
256Colour - Demand your Workbench uses those extra colours.
PortSwitch - Swap mouse and joystick ports through software.
Speculator - A Spectrum emulator with example games.
Plus - Programming Tips' code, Hexer, SmallCalc, DFM2, and much more...

To use this disk you must first boot using SuperDisk No.93
Do not try to access from Workbench

NO DISK?
Ask Your Newsagent!
Or see the SuperDisk
Pages in this issue.

Samsung

The Amazing Company that Wanted the Amiga is the New Global TechnoGiant

Emplant 1200, Wirenet, Eyetech HD, Firewire, Net & Web, CD Plus and

Visit the Zoo with the Amiga Plus much, much more

**Win
A Load of Pinballs!**



NOVEMBER 1996 £3.99

AMIGA REPAIRS WHILE-U-WAIT!!

COMPUTERS AND MONITORS

That's
a promise
for computers!!

Attention Dealers

Ring/Fax Now for best trade prices
and terms on Repairs, Spares, Floppy
Drives, Hard Drives, CD Rom Drives
and Memory Upgrades.

NEW LOW FIXED PRICE

A500, A500+ & A600

£39.95

A1200

£49.95

- FAST TURNAROUND
- 90 DAYS WARRANTY ON ALL REPAIRS!!
- £10 EXTRA CHARGE FOR WHILE-U-WAIT SERVICE
- COURIER CHARGES £7.05 EACH WAY
- A1500/A2000/A3000/A4000.....£QUOTATION

2.5" HARD DRIVES

For A600 & A1200

60Mb£59.95 170Mb£99.95 340Mb ..£139.95 540Mb ..£199.95
80Mb£69.95 250Mb ..£119.95 420Mb ..£159.95 810Mb ..£249.95

All hard drives are pre-formatted, partitioned with Workbench
loaded and include 2.5" IDE cable and software
2.5" IDE Cable and Software (if bought separately).....£9.95

ACCELERATORS

Apollo 1220 . £99.95

SIMMS . . £POA

MODEMS

BABT & NCOM SOFTWARE
APPROVED

14.4k . . . £69.95

28.8k . . . £129.95

SIMPLY THE BEST AFTER-SALES SERVICE

MEMORY UPGRADES

A500	Upgrade to 1 Meg £13.95	A500+	Upgrade to 2 Meg £19.95
A600	Upgrade to 2 Meg £19.95	UNBEATABLE PRICES	
A1200	0Mb £49.00	4Mb £85.00	8Mb £125.00
	33MHz FPU plus Crystal £39.95		

**GUARANTEED
SAME DAY DESPATCH**
(Subject to availability)

INTERNAL FLOPPY DRIVES

A500/A500+ £29.95 A600/A1200 ...£34.95

CHIPS ♦ SPARES ♦ ACCESSORIES

1 Meg Fatter Agnus	£19.00	8520 CIA A600/A1200	£14.50
2 Meg Fatter Agnus	£24.00	8374 Alice A1200	£30.00
8362 Denise	£9.00	8364 Paula A600/A1200	£16.50
8373 Super Denise	£18.00	Video DAC A1200	£19.00
5719 Gary	£7.50	A600/A1200 Keyboard	£60.00
8520 CIA A500/A500+	£15.00	Lisa A1200	£35.00
8364 Paula A500/A500+	£12.00	Gayle A600/A1200	£25.00
Kickstart ROM 1.3	£15.00	Budgie A1200	£30.00
Kickstart ROM 2.04	£22.00	Mouse (290dpi)	£15.00
Kickstart ROM 2.05	£29.00	SCART lead	£15.00
A500/A500+ Keyboard	£50.00	Mouse Mat	£4.00
6570 Keyboard Chip	£20.00	10 Boxed Branded Disks	£6.00
68000 Processor	£8.00	Printer Cable	£6.00
Power Supply A500/A600/A1200 ...	£35.00	100 Disk Box	£7.00
Exchange A2000/A1500 Power Supply ...	£70.00	Squirrel SCSI Interface	£59.00

* All chips are available ex-stock
* Please call for any chip or spare not listed here

AMITAR **CD ROM
DRIVE**
Including
Squirrel
SCSI
Interface

QUAD SPEED

**NEW LOW
PRICE!**

£179.95

**Lola
Genlocks**

L500 £69.95
L1500. £169.95
L2000S ... £349.95

**SPECIAL
OFFER**

A1200 without hard drive£299.95
A1200 with 80Mb hard drive£349.95
A1200 with 170Mb hard drive£379.95

A1200 with 340Mb hard drive£429.95
A1200 with 510Mb hard drive£499.95

★ Call for more good deals

ANALOGIC **Anallogic Computers (UK) Ltd**
Unit 6, Ashway Centre, Elm Crescent,
Kingston-upon-Thames, Surrey KT2 6HH

Open Mon-Fri 8-00am-5-30pm, Sat 9-00am-5-00pm Fax: 0181 541 4671

Tel: 0181 546 9575

★ All prices include VAT ★ All prices & specifications subject to change without notice ★ Fixed charge for repair does not include disk drive/keyboard
★ We reserve the right to refuse any repair ★ P&P charges £3.50 by Royal Mail or £7.05 for courier ★ Please allow 5 working days for cheque clearance
★ All sales/repairs are only as per our terms and conditions, copy available on request.



FREE
OPUS 4.12
WORTH £50

MAGNUM

A1200 Expansion Cards

FREE
SOCCER MOUSE
WORTH £19.99
WHILE STOCKS LAST



OVER 35
MIPS OF SPEED
WITH A 68060!

'060
POWER **NEW**

MAGNUM RAM8 CARD

SPEED INCREASE OF 2.3 TIMES - 2.88MIPS
♦ AVAILABLE WITH 0, 2, 4 OR 8MB OF 32-BIT RAM INSTALLED ♦ USES STANDARD 72-PIN SIMMS ♦ OPTIONAL PLCC TYPE FPU (FLOATING POINT UNIT) ♦ BATTERY BACKED CLOCK/CALENDAR ♦ FINGER CUTOUT TO HELP INSTALLATION ♦ TRAPDOOR FITTING - DOESN'T VOID WARRANTY ♦ 0-4MB - PCMCIA COMPATIBLE (FOR USE WITH OVERDRIVE, SQUIRREL ETC.) ♦ ZERO WAITE STATE DESIGN.

MAGNUM 68030/68040 & 68060 CARDS

SPEED INCREASE OF UP TO 27 TIMES ♦ 68030/40 OR 60 PROCESSOR RUNNING AT 25/40 OR 50MHZ (NEW PROCESSOR CHIP - NOT OVERCLOCKED) ♦ MMU IN ALL PROCESSORS ♦ UP TO 32MB OF RAM CAN BE ADDED ♦ KICKSTART REMAPPING ♦ OPTIONAL SCSI-II INTERFACE ♦ CAN ACCOMMODATE A 72-PIN INDUSTRY STANDARD SIMM ♦ 68040/60 HAVE BUILT-IN FPU, 68030 CARD HAS OPTIONAL PLCC/PGA TYPE FPU (FLOATING POINT UNIT) ♦ BATTERY BACKED CLOCK/CALENDAR ♦ TRAPDOOR FITTING - DOESN'T VOID WARRANTY ♦ PCMCIA COMPATIBLE SO YOU CAN STILL USE PRODUCTS SUCH AS OVERDRIVE HD OR CD/ZAPPO CD-ROM OR SQUIRREL ♦ ZERO WAITE STATE DESIGN.

LOWEST EVER
PRICES

	0MB	4MB	8MB	16MB	32MB
RAM8	£49.99	£89.99	£119.99	N/A	N/A
RAM8 & 33MHz FPU	£79.99	£119.99	£149.99	N/A	N/A
68030/25MHz & FPU	£99.99	£139.99	£169.99	£209.99	£279.99
68030/40MHz	£129.99	£169.99	£199.99	£239.99	£309.99
68030/40MHz & FPU	£149.99	£189.99	£219.99	£259.99	£329.99
68030/50MHz	£169.99	£209.99	£239.99	£279.99	£349.99
68040/25MHz	£249.99	£289.99	£319.99	£359.99	£429.99
68040/40MHz	£329.99	£369.99	£399.99	£439.99	£509.99
68060/50MHz	£499.99	£539.99	£569.99	£609.99	£679.99

SCSI-II Interface for the Magnum 68030/68040 & 68060 Cards - Warranty safe installation, supplied with software - **£79.99**

SATURN

External 1mb Floppy Drive
for all Amigas



COMPATIBLE
WITH ALL AMIGAS

- ♦ HIGH QUALITY SONY DRIVE ♦ ROBUST METAL CASE ♦ ANTI-CLICK AS STANDARD
- ♦ ENABLE/DISABLE SWITCH ♦ LOW POWER CONSUMPTION ♦ THRU PORT FOR EXTRA DRIVES

£39.99

Or **£59.99** WITH POWERCOPY
PRO 3 - THE BEST BACKUP SYSTEM

QUARTERBACK DISK SUITE

Quarterback 6.1 & Quarterback Tools Deluxe

THE CLASSIC QUARTERBACK 6.1 AND QUARTERBACK TOOLS DELUXE ARE BACK ON SALE. CONSIDERED BY MOST AS THE DISK BACKUP AND DISK RECOVERY PROGRAMS WE HAVE AVAILABLE, FOR A LIMITED PERIOD, THE TWO PACKAGES COMBINED AT AN UNBELIEVABLE PRICE (NORMALLY £79.99). DISK BACKUP AND DISK RECOVERY/OPTIMISATION ARE TWO KEY TASKS THAT JUST SHOULDN'T BE LEFT TO INFERIOR PD ALTERNATIVES. GET THE BEST

GET THE
QUARTERBACK DISK
SUITE. **£34.99**

EASYLEGERS 2 - THE ONLY
FULL ACCOUNTS PACKAGE, LEDGER
BASED ACCOUNTS SYSTEM,
AMIGA FORMAT GOLD

CALL ABOUT TRAIL OFFER
HARD DISK &
2MB RAM REQUIRED **£119.99**

33MHz FPU Kit - PLCC
TYPE FPU & CRYSTAL - WILL FIT
MOST CARDS - CALL TO CONFIRM.
£34.99

DISKS

50 DISKS & COLOUR LABELS **£14.99**
100 DISKS & COLOUR LABELS **£24.99**

TURBOPRINT 4.1

Printer Enhancement Software



IF YOU HAVE A PRINTER -
YOU MUST GET
TURBOPRINT 4.1. IT RADICALLY
ENHANCES THE PRINTOUTS YOU NORMALLY GET
BY REPLACING THE AMIGA PRINTER SYSTEM
WITH THE FASTER AND VISIBLY BETTER
TURBOPRINT SYSTEM. OPTIONS INCLUDE
POSTER PRINTING, COLOUR CORRECTION,
DITHERING, COLOUR

BALANCING, ON-SCREEN PREVIEW AND MUCH
MORE... MOST PRINTERS ARE SUPPORTED - CALL TO
CHECK. AMIGA SHOPPER 90%.

£49.99

ENTERPRISE

Desktop Workstations
for all Amigas



SINGLE WORKSTATION
507 x 95 x 315MM **£24.99**
DOUBLE WORKSTATION
507 x 155 x 315MM **£29.99**
WIDE WORKSTATION
665 x 95 x 315MM **£29.99**
ALL SIZES ARE W X H X D
£5 OFF FOR A LIMITED PERIOD

GP FAX

Fax Software Solution
for all Amigas with a Modem
SEND FAXES TO AND FROM
YOUR AMIGA.
EVEN FAX DIRECTLY FROM YOUR
APPLICATION.
AMIGA FORMAT GOLD
AMIGA COMPUTING 9/10
FAX COMPATIBLE
MODEM REQUIRED
£44.99

WIZARD

DEVELOPMENTS

ORDER HOTLINE

01322-527800

OR FAX **01322-527810**

CONTACT US ON INTERNET
SALES@WIZARD-D.DEMON.CO.UK

**BETWEEN 9AM AND 5.30PM, MONDAY
TO SATURDAY, TO PAY BY CREDIT CARD. TO PAY
BY CHEQUE OR POSTAL ORDER PLEASE SEND
YOUR ORDER TO - WIZARD DEVELOPMENTS,
PO BOX 490, DARTFORD, KENT, DA1 2UH**

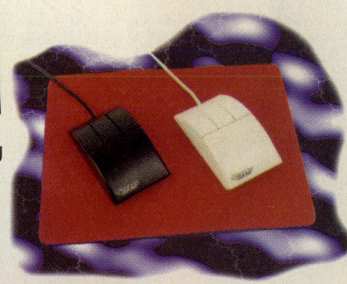
Cheques should be made payable to WIZARD DEVELOPMENTS. Prices include VAT & carriage to the UK mainland. Please add £5 to your order for EC destinations and £10 for other countries. All products are subject to availability. E&OE. Advertised prices & specification may change without notice. All sales are subject to our trading conditions - copy available on request.

560 DPI 3 BUTTON MICE & MATS

for all Amigas & Atari STs
AWARD WINNING 560DPI RESOLUTION ♦ 90% RATING IN CU
AMIGA ♦ MICRO SWITCHED BUTTONS ♦ AMIGA/ATARI ST
SWITCHABLE ♦ ALL 3 BUTTONS CAN BE USED WITH MANY
PROGRAMS SUCH AS DIRECTORY OPUS 5

BEIGE **£12.99** BLACK **£14.99**
MAT **£2.99** OR **£1** WITH A MOUSE

NEW
**FREE AMIGA
DRIVER DISK**



DIRECTORY Opus 5

**VERSION
5.5**
NOW SHIPPING



THE BEST JUST GOT BETTER! AFTER 12 MONTHS OF FURTHER
DEVELOPMENT OPUS 5.5 IS NOW READY AND SHIPPING. STUNNING NEW FEATURES INCLUDE:- ♦ ICON ACTION
MODE ♦ WORKBENCH REPLACEMENT MODE DRAMATICALLY ENHANCED ♦ OPUSFTP CAPABILITY TO ACCESS
INTERNET FTP SITES WITH A LISTER ♦ BORDERLESS BUTTON BANKS ♦ FILETYPE-SPECIFIC POP-UP MENUS
♦ CYBERGRAPHICS RTG SUPPORTED ♦ INDEPENDENT HOTKEYS ♦ SCRIPT SYSTEM TO EXECUTE COMMANDS UPON
EVENTS ♦ MULTIPLE CUSTOM MENUS WITH SUB ITEMS ♦ AUTOMATIC FILETYPE CREATOR TO CREATE AND TEST
FILETYPES WITH EASE ♦ A FONT VIEWER ♦ LISTER'S FIELDS FOR TITLES, RE-SORTING BY FIELDS, PLUS A 'VERSION'
FIELD ♦ COLOUR RE-MAPPING OF BUTTON/ICON IMAGES WITH SUPPORT
FOR 'MAGIC WORKBENCH' ETC. ♦ SELECTIVELY HIDE UNWANTED DRIVE
ICONS ♦ CLIPBOARD SUPPORT FOR CUT, COPY AND PASTE IN GADGETS
& LISTER'S ♦ RESIZE, ICONIFY, AND SCROLL BUSY LISTER'S WHILE BUSY
♦ ICON AND LISTER SNAPSHOTS ARE STORED SEPARATELY FROM
WORKBENCH - SO YOU COULD SNAPSHOT YOUR CD-ROM ICONS!
♦ LISTER'S CAN NOW DISPLAY A BACKGROUND PICTURE/PATTERN
♦ INTERNAL OPUS CLI TO QUICKLY TEST COMMANDS & AREXX
SCRIPTS ♦ MANY NEW INTERNAL COMMANDS AND
MANY NEW AREXX COMMANDS HAVE BEEN ADDED
OR EXTENDED WITH NEW FEATURES. YOU CAN
NOW EVEN ADD YOUR OWN INTERNAL COMMANDS! **£49.99**

PRO SYSTEM

Complete A1200 Hard Disk Kits

FREE
OPUS 4.12
WORTH £50

YES, AT LONG LAST, A PROFESSIONAL WAY TO INSTALL A HIGH
CAPACITY HARD DISK WITHOUT CARDBOARD & GLUE! OUR PACKS OFFER YOU
OUR EXCLUSIVE AND COPYRIGHTED BRACK-IT 1200 FITTING SYSTEM & A
CHOICE OF HIGH SPEED/LOW COST HARD DISKS.

**3 YEAR
WARRANTY**

BRACK-IT 1200 FITTING SYSTEM

DESIGNED TO ACCOMMODATE THE NEWER DRIVES ON THE
MARKET OFFERING HIGH CAPACITY & SPEED AT GREAT
PRICES. OUR PACK INCLUDES ROBUST STEEL FITTING
BRACKETS, ALL CABLES FOR POWER AND DATA, INSTRUCTIONS & 7 DISKS
FULL OF HOT SOFTWARE SUCH AS DIRECTORY OPUS 4.12 (WORTH £50), MUI 3, MCP,
GALAGA AGA, VIRUS CHECKER, MODS, REORG, ABACKUP AND MUCH MORE. ALL SOFTWARE
CAN BE INSTALLED WITH OUR CUSTOM CLICK 'N' GO SYSTEM. ALL DRIVES ARE PRE-INSTALLED WITH
THE SYSTEM SOFTWARE & ABOVE DISKS - UNLIKE OTHERS WE PROVIDE THE DISKS JUST IN CASE!

640MB £149.99

1.0GB £179.99

1.6GB £219.99

INCLUDES BRACK-IT SYSTEM
(NORM. £35) & UK DELIVERY

NEED THE DRIVE INSTALLED BY
A PROFESSIONAL ENGINEER?
OUR COLLECTION, FITTING AND
DELIVERY SERVICE IS JUST **£30**
- CALL FOR MORE DETAILS

**FREE
UK
DELIVERY**

REPAIRS

by Qualified Technicians

- ♦ ALL AMIGA COMPUTERS COVERED
- ♦ PRICES FROM AS LITTLE AS £29.99
- ♦ MANY REPAIRS BY WIZARD REQUIRE NO PARTS
- ♦ PRICES INCLUDE INSURED COURIER COLLECTION & DELIVERY, LABOUR, FULL DIAGNOSTICS, SERVICE, SOAK TEST & VAT.
- ♦ FAST TURNAROUND
- ♦ ALL TECHNICIANS ARE TRAINED & FULLY QUALIFIED
- ♦ UPGRADES BOUGHT AT SAME TIME FITTED FREE!
- ♦ 90 DAYS WARRANTY ON ALL REPAIRS

PRICES INCLUDE
COLLECTION
& DELIVERY

ALL FOR JUST **£29.99** + PARTS

BSB

Books & Videos

INSIDER GUIDE - A1200	£14.95
INSIDER GUIDE - A1200 NEXT STEPS	£14.95
INSIDER GUIDE - ASSEMBLER	£14.95
INSIDER GUIDE - DISKS & DRIVES	£14.95
INSIDER GUIDE - WORKBENCH 3 A TO Z	£14.95
TOTAL! AMIGA - WORKBENCH 3	£19.99
TOTAL! AMIGA - AMIGADOS	£21.99
TOTAL! AMIGA - AREXX	NEW £21.99
TOTAL! AMIGA - ASSEMBLER	£24.99
MASTERING AMIGA SCRIPTS	£19.95
MASTERING AMIGA BEGINNERS	£19.95
MASTERING AMIGA PRINTERS	£19.95
MASTERING AMIGADOS 3 - REFERENCE	£21.95
MASTERING PROGRAMMING SECRETS	£21.95

AMIGADOS PACK **£34.99**
TOTAL! AMIGA - AMIGADOS & MASTERING
AMIGADOS 3 - REFERENCE USUALLY £43.94
- SAVE NEARLY £9

A1200 BEGINNER PACK **£39.95**
2 BOOKS (INSIDER A1200 & NEXT STEPS), A 60 MINUTE
VIDEO, 4 DISKS OF PD TO GO WITH THE BOOKS/VIDEOS

A1200 WORKBENCH 3 BOOSTER PACK **£39.95**
2 BOOKS (DISKS & DRIVES & WORKBENCH 3 A TO Z), A
90 MINUTE VIDEO, 1 DISK & REFERENCE CARD

PC TASK 4.0

Advanced 486 PC Software Emulator

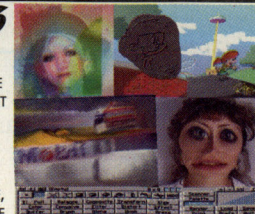
RUN PC PROGRAMS WITHIN
AN AMIGA WINDOW, USE
YOUR AMIGA HARD DISK, RUN
WINDOWS 3 & MS-DOS,
VERSION 4 NOW ALLOWS:-
486 EMULATION, CD-ROM
SUPPORT, CYBERGRAPHICS
SUPPORT & MANY INTERNAL
SPEED ENHANCEMENTS. V4.0
REQUIRES AN '020
PROCESSOR OR BETTER.

CALL ABOUT
UPGRADES **£69.99**

IMAGE FX 2.6

The Complete Image Processing Solution
for all Amigas

THE BEST IMAGE PROCESSING PACKAGE
THERE IS FOR THE AMIGA. AMIGA FORMAT
GOLD - CU AWARDS. BUBBLE FILTER,
FIRE FX, WIRELESS HOOKS, SHEAR &
STRAW MOVES, ENHANCED LIGHTNING
EFFECTS, FILMGRAIN ADD/REMOVE,
LIQUID DISTORTION, SPONGE DRAWMOOD,
SPARKLE EFFECT & MUCH MORE
ARE IN VERSION 2.6.



2MB & HARD DISK REQ. **£179.99**

AMIGA

User

INTERNATIONAL

CONSTANT FACTORS

5 The Amiga Dimension

Managing Editor Antony Jacobson comments on some very contrasting Shows and suggests that there is more to the Amiga dimension than just a simple computer.

8 SuperDisks No.91 & No.92

Imdad Shah has corralled his team again and taken them out to search the highways and almost unknown, byways of the Amiga software scene and brought back both them and some smashing stuff alive.

14 NewsFile

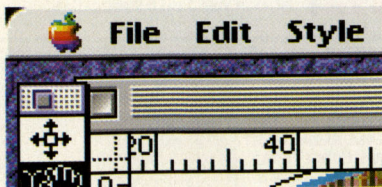
Why is Sega against Sex and why is Nintendo in deep you-know-what? Could there be another new way to buy Amiga software, and why is TechnoPlus giving you cash to buy copies of **AUI**? All this and more is answered by the denizens of the NewsFile Anthony Mael, Martin Witton, and David Ward.

76 Amiga Answers

"Ask Uncle Andy" goes up the cry when terror shakes Amiga users. And rightly so too, for where else could you find such sympathy for the agonising tales of woe of the Amiga - and solutions to your problems too?

89 Write to Reply

If you want sympathy, this is not the place to find it. It may be that the back pages encourage a waspish and rarely agreeable mood when answering readers' letters or perhaps Bud - I don't believe it! - Vennos was just born that way.



TEST DRIVE

26 Emplant 1200

Red, gold, and green are the Amiga's colours. The colours of a chameleon? The A1200 shifts into the guise of a Macintosh as Gary Fenton inspects the latest in Mac emulators.

28 A Tangled Web Unwoven

"Internet in a box" has been a big seller on the PC. Now HiSoft have come up with their own version, Net&Web, for the Amiga. David Ward goes webbing.

29 Evolutionary Baby

Alan Lewis gets himself into a sticky situation as he tackles the installation of a slim hard drive into his A1200.

30 Easy Access

Joining the Internet revolution has now been made a lot easier with a provider who supports the Amiga. David Ward goes on-line with Wirenet.

31 IDE the proper way

David Ward dismantles **AUI**'s office A1200 to add a fully functional IDE interface and multi-speed CD-ROM drive, courtesy of Eyeteach.

32 CD Round Up

Germany-based Schatzruhe now provide the bulk of Amiga CD-ROMs entering this country. David Ward reviews another recently arrived batch.

FIELD REPORT

58 Zoo Time

John Russell takes a trip to a Zoo. No, he's not going to visit his cousins, but examine a development that shows what a tigrish machine the Amiga is.



59 Willy Waving

Anthony Mael and David Ward report from the Show where grown men turn to toys for the boys, pretend that it's the real world, and for Amiga read Trotsky.

MENTOR

68 Programming Tips

Even from 680x0 assembler the Amiga's datatype system makes it easy to identify the general characteristics of a file. Paul Overaa provides the details.

69 Cracking the Shell

Shell scripts can be powerful allies. Kevin Bryan explains the basics used in building them.

70 ARexx Tips

Paul Overaa concludes his form-fill discussions by explaining the compound variable based form definition technique.

USER PORT

72 Gimme Five!

Steve Bye praises Demon for their sudden largesse and explains how to take advantage of their generous gift of 5Mb of free Web space.

ENTERTAINMENT NOW

84 Alien Football

Mark Forbes scrutinises Sensible World Of Soccer Euro Edition and Alien Breed 3D 2.

COMPETITIONS

88 A Load of Pinballs

You can win the most addictive and probably the most frustrating of all games in this dead easy competition.



AUI SERVICES

81 Subscribe!

Don't miss out on your next copy of **AUI**. Subscribe now to the longest running Amiga magazine in the world and join those global crowds of other satisfied readers.

82 Back Issues

So your local newsagent has sold out of copies of **AUI**. You should have subscribed, but don't worry, for £6 we can send you the issue you missed.

91 Arena

The section where companies show off their wares.

This TechnoWorld

35 Samsung A New Global Power

SPECIAL REPORT

This TechnoWorld has a Special report this month on one of the outstanding leaders of the technological revolution. Samsung, which you may know from the award-winning monitors, is lot bigger than just supplying screens for Amiga users. In the last ten years this Korean company has not only grown phenomenally with a turnover of more than £50 billion a year - it has set up in places like the UK with a huge range of products and made a huge success of it too.

In this Special Report, **AUI** investigates exclusively at the company, the products, and the people that have created a new TechnoWorld giant.

52 What's New

Martin Witton and David Ward find the innovations coming our way in This TechnoWorld

54 The Next Bus

'Firewire' is the latest buzzword to arrive on the technoscene. David Ward reveals how this new and exciting interface technology could supersede both SCSI and IDE.

56 The Online Column

Anthony Mael finds that some who are not online don't care, but Abe Lincoln can be heard and Alameda can be seen on the marvels of the Super Vertical Specialised Information Superhighway.

66 Chips That Made History

Part 4

They were RISCing all, points out Simon Goodwin in this the fourth part of the **AUI** series on the little things that mean so much.

68 The Big Squeeze

Part 4

The compression of still images can be carried out in several different ways. David Ward examines the techniques used for all methods in this latest instalment in our series on shrinking filesizes.

Who Does What

Managing Editor and Publisher: Antony Jacobson

Deputy Editor: David Ward

Contributors: Kevin Bryan, Steve Bye, Ashley Cotter-Cairns, Andy Eskelson, Gary Fenton, Mark Forbes, Simon Goodwin, Claire Hutchings, Alan Lewis, Anthony Mael, Paul Overaa, John Russell, Bud Vennos, and Martin Witton.

Design: Gareth Chisholm, Graham Baldock, Alex Baldock

Advertisement Executive: Nick Martin

Marketing and Subscriptions Manager: Sarah-Jane Clifford-Jones

Copyright AUI Limited

Editorial & Advertising: Amiga User International Unit 2, Utopia Village, 7 Chalcot Road, London NW1 8LX
Tel: 0171 586 7717 Fax: 0171 483 1774
Email: amigauser@cix.compulink.co.uk
URL: <http://www.demon.co.uk/auimag>

Subscriptions Address: AUI Subs Dept. Customer Interface
Bradley Pavilions Peartree Road, Bradley Stoke, Bristol BS12 0BQ Tel: 01454 620070 Fax: 01454 620080

Published by AUI Limited

Origination and Colour Reproduction: Ford Graphics, Ringwood, Hants.

...And What They Used

Commodore's Amiga A500+, A1200, A2000, A3000, A4000, CD32, ASDG's Art Department Professional, Progressive Peripherals' DiskMaster, Commodore's 1081, 1084, 1960, and 1942 monitors, NEC's Multisync 4F and Samsung's 17GLsi monitors, Amn's Protex, Digita's Wordworth, Micro-Systems' Scribble!, Electronic Art's Deluxe Paint, GVP's A530 Turbo, HIQ's 1500, SyQuest's EZ135, Macro-Systems VLab, Supra modems. And a whole lot more...

Distributed by COMAG Ltd.

Amiga User International - an independent magazine for Amiga computer users - is not connected in any way with Amiga Technologies or Viscorp Inc. It is published 12 times per year on the first Thursday of the month. The publishers do not accept any liability for any incorrect statement or errors contained in material that may be produced from time to time.

Printed in the U.K.

The Amiga Dimension

Recently there was held in Canada an Amiga Show. Roughly at the same time, news reached us that plans for a Christmas-time show for the Amiga in the UK had been abandoned. Also on the subject of shows, there is in this **AUI** a report of the Autumn European Computer Trade Show.

The Amiga Show in Canada was, so we hear, attended by some 400 people and a dozen or so suppliers. This magazine carried the first report in any UK Amiga magazine of the earliest Amiga shows in both the USA and Canada. Four hundred people in those days would have rushed into the shows in the first few minutes.

When the Amiga was first seen at shows in the UK, they were Commodore shows in those days, I recall more than 400 people crowding round a single Amiga A500 just to see Defender of the Crown. (The first copy in the country belonged to me and I lent it to Commodore - and never got it back! Where are you now and where is my Defender of the Crown, Chris Kaday?)

At the ECTS, the dimensions, the ostentation, the vulgarity, and probably the cost of the stands were, to quote one well-known ex-Amiga software company boss, "Disgusting". Though the Show is "Trade only", there were some 16,000 attendees.

The contrast with the Amiga Canadian 400 people virtually trestle table turnout is pitiful. Not only was the Amiga completely absent from the ECTS, there was among many who had made lots of money out of the machine, the conviction that it would not be seen again at any show.

While it is probably well-known that I have little sympathy for the way that Commodore and much of the Amiga industry reduced this powerful machine to the level of a toy, at least in the perception of a large part of the computer using world, it can give no-one any pleasure to see such a games world void into which the Amiga appears to have fallen.

The abandonment of any Christmas-time show for the Amiga must be no surprise. While you as Amiga users are still enjoying your computers and even buying substantially from those suppliers who have usable products - as we know from those who advertise in **AUI** - there are simply not enough new or even older products being created to encourage possible stand holders to spend the money and time that any show takes.

In addition the strange and worrying situation of Amiga Technologies and VISCORP has done nothing to bring joy to the scene. At the time of writing, the transfer of all the Amiga rights and stock should have taken place. Although, from reports that have reached **AUI**, VISCORP have not yet taken possession. Whether this is due, as some have said, to the German Liquidator of the remnants of Escom wanting more than promises, in fact some hard cash, from VISCORP and won't hand over anything until he gets it or whether VISCORP is trying to take advantage of the Escom downfall to get a better deal has not been confirmed.

Another story we have heard, and these are nothing but rumours, an entity of which there is no shortage in the Amiga dimension, is that with Sony and others announcing their entry into the set-top box market, VISCORP and the like who are not giant companies and are trying to sell set-top technology are finding their potential customers much less willing to go out on a limb with anyone but the multinationals. And there is nothing like lack of anticipated sales to put back any start-up business which, though it plans to use established Amiga technology, VISCORP is.

We know from our postbag that Amiga users all over the world feel they are kept in touch with the Amiga scene through **AUI** and other magazines. Yet there is nothing like mingling with and meeting other like-minded people to give one the feeling that one is not alone in the world with some peculiar and idiosyncratic obsession. There has always been for me another aspect of Amiga shows. I don't know the reason, but the people who have attended the many shows where I have been, that is both the public and those who took stands, have without fail impressed me as being very nice people. In all the nineteen or twenty shows of this kind to which I have gone, I can recall only a couple of the most minor incidents of unfortunate behaviour. And both of those were not from Amiga people, but from bumptious or officious organisers.

I greatly hope that the Amiga revives, not just from the computer viewpoint, but because Amiga users are really the nicest group of people I have ever met and I'd like to go on meeting you.

Antony Jacobson
Managing Editor

EPIC MARKETING

CD ROM SOFTWARE

GIF SENSATION DOUBLE CD New Version (CD128) £19.99

The new GIF Sensation double CD contains around 10,000 full colour images, Viewer and converters are included on the CD. Subjects include: Vehicles, Space, Science fiction, Textures, Landscapes, Sunsets, Money, Cartoons, Fantasy, Sports, Raytraced, Classic art. and loads more.

ANIME BABES Japanese erotic art (CD191) Only £19.99

Contains around 5000 erotic hand drawn Images in the Japanese anime tradition. This CD is of an Adult nature and should not be purchased by anyone likely to be offended by drawings depicting nudity and / or sex acts. An adult only cdrom!

Includes images only suitable for persons over 18

World Atlas

This superb highly rated Amiga CD-ROM World atlas features a flexible interface allowing quick access to individual countries via continental maps, county list, capital or general index. Concise, informative country histories. Each country is supported by a series of maps depicting regional position, major cities, rivers, lakes and mountains. Background cultural and economic information is available at a glance. Basic national facts are represented graphically and comparative to the UK. For A1200, A4000, & CD32.

WORLD ATLAS AGA NEW!!! (CD220) £29.99

MAGIC WORKBENCH ENHANCER v2 (CD187 £17.99)

The new Magic Workbench CD contains the largest collection of Magic Workbench Icons, Backdrops and tools ever compiled. Includes well over 5,000 Magic WB Icons, Over 600 specially selected Magic Workbench backdrops in 8, 16 and 256 colours, over 30megabytes of Workbench tools, gadgets, patches and desktop enhancer tools/utilities. The CD also includes Magic Workbench as well as many other items never before released on any Amiga CD ROM. If you want to update/enhance you existing Workbench 2 or 3 then this is the perfect Workbench add on CD ROM. This CD is only suitable for any Kickstart2/3 based Amiga's such as the A500+, A600, A1200, and A4000.

The Adult Sensation Range

ADULT SENSATION ONE

Adult Sensation is possibly the Amiga's largest selling adult title. It features over 4,000 high quality 256 colour images of the "adult" nature. Image viewers and converters are included for every configuration of Amiga. (OVER 18 ONLY) out now! (CD01) £19.99

ADULT SENSATION 2 The new batch

Adult Sensation 2 not only contains 4,000 new colour images but also includes tons of adult related samples, adult music modules, tons of adult stories, adult anims, black&white 70's photos, adult games and more. (OVER 18) out now! (CD115) £19.99

SEXY SENSATIONS

Available now, this CD contains around 2,000 especially chosen high quality GIF Images. Viewers & graphic converters are included for easy and quick access to any of the pictures on any Amiga. (OVER 18 ONLY) OUT NOW! (CD169) £19.99

ADULT SENSATION 3D EXCLUSIVE!

This CD actually contains over 2,000 true 3 Dimensional colour images. 3D viewing software and top quality 3D glasses are also supplied. Includes superb new Multimedia interface. (OVER 18) Available Now! (CD145) £19.99

ADULT SENSATION 4 (animations)

Available Soon this CD actually contains hundreds of naughty? animations/film clips for Adults only. Viewing software included for Amiga. Limited first stocks so order now for immediate despatch upon release. (OVER 18) (CD146x) £29.99

ADULT MENSATION

Adult mensation is a unique collection of colour photos of hunky men in various poses. The wildest most mouth watering man size Image selection ever. Whether you want bulging biceps or steaming shapley men then order this CD now! (CD164) £19.99

SPECIAL EDITION PACK
ADULT SENSATION PART 1 & 2
(Order code: CD180)
FOR JUST £29.99 + P&P

These goods are for Adults only, and will only be supplied to persons over the age of 18.

GET ON THE NET NEW!!! (CD221 £24.99)

This amazing new CD contains everything you need to connect to the Internet. It features all of the programs you need to get connected. It also includes the best of the net, so you can try before you buy! We've also included one months national free internet access so all you should pay is the local phone bill (1p a min*). Includes special offers on internet software and hardware, and details on how to set up your own web and ftp sites etc. Absolutely no knowledge of the Internet or Shell required you simply slot in the CD, click the mouse a few times on the relevant icons and you're connected! There's even a complete database of hundreds of the very best web sites to visit. Excellent!

***This Amiga CD contains everything you need,**
***It's easy to setup and use,**
***It's supplied with one months free internet access,**
***It's great value.**

INCLUDES ONE MONTHS FREE INTERNET ACCESS*

THE EPIC INTERACTIVE ENCYCLOPEDIA

The Epic Interactive encyclopedia is an exciting new Multi-Media Amiga CDROM. It features a superb 256 colour interface, Hundreds of film clips, sound samples and subject information.

NEW! MultiMedia Encyclopedia

Features include:
*True Multi-media Interface unlike anything seen on the Amiga.
*Produced in the UK unlike most encyclopedias
*256 colour AGA interface 16colour A500 version available soon
*Very latest information from around the World
*Thousands of subjects covered from Aachen to Zurich
*Hotlist editor so you can create lists of particular subjects
*Hundreds of samples including full spoken media show
*Hundreds of Images in full colour and 16 shades of grey
*Import new subjects from the Internet or from floppy disk
*Export data to printer or file and use it in your own projects

What users have said... This is just Brilliant! - Very Impressed - Who needs Enxxxxx?
The presentation is second to none - PC Users, eat my shorts! - I love it!

THE EPIC INTERACTIVE ENCYCLOPEDIA 4mb recommended (CD222) £29.99

CDROM TITLES
More great Amiga CDROMS

Aminet set one	24.99
Aminet set two	24.99
Aminet 10 feb'96	14.99
Aminet 11 april'96	14.99
Aminet 12 june'96	12.99
AGA Experience 2	19.99
Worms extra's	9.99
Software 2000	29.99
F1 Licenceware	29.99
Anime Babes (18)	19.99
Octamed 6	29.99
World info '95	19.99
17bit 5th Dimension	19.99
2000 Mysteries	21.99
The colour Library	9.99
Sound Library (2cd)	19.99
LSD Compendium3	19.99
Meeting at Pearls 3	9.99
CD32 Network set 2	34.99
Graphics Sensation	19.99
Illusions 3D	5.99
Super cars '95	4.99
Graphics Pack (5cd)	39.99
Super Bundle 10cdis	19.99
1500 Utilities	5.99
Hottest4	4.99
Terra Sound Lib.	4.99

BCI CLIPART & FONTS (CD192 £9.99)

This data CD ROM contains the very best Adobe and Postscript fonts available as well as thousands of high quality clipart images in PCX, IFF and EPS which are suitable for use in any graphics and Desktop publishing package. A great value CDROM.

AMINET 12 June'96 (CD224) £12.99

Contains the very latest Amiga archives from the Aminet site. Includes games, demos, utilities, Graphics, modules, demos, product demos, comms, patches, fonts, clipart. blah! blah! blah! Available now!

C64 SENSATIONS 2 (CD223) £19.99

Contains over 10,000 old Commodore64 megademo's. Thousands of classic C64 sid tunes that sound exactly like the real thing. C64 pictures, C64 information and C64 emulators. Great fun!

AGA EXPERIENCE 2 (CD210) £19.99

This brand new updated CD contains the very latest AGA utilities, demos, images and games. All accessible directly from the CD. The makers claim there are virtually no duplicated files from the first CD.

ZOOM 2 (CD211 £19.99)

Zoom 2 includes the very latest software upto April'96. It includes the very latest games, demos and utilities. It also includes over 100 new klondike cards, The complete Active Pro pack, over 50 disks of samples, 25mb of Magic Workbench and a special "programmers" section.

ADVANCED MILITARY (CD219 £6.99)

This data CD ROM includes hundreds of high quality Advanced Military images, including hundreds of different aircraft and helicopters. great for just browsing or desktop video/publishing.

OH YES! MORE WORMS (CD201 £9.99)

This CD includes over 5,000 brand new levels and "naps" for the game "Worms" as well as game patches to update and enhance the features of the original game. If you love Worms, you'll love this.

GRAPHICS SENSATION (CD02 £19.99)

This most comprehensive collection of Lightwave and Imagine 3D objects ever compiled onto CD. It also contains hundreds of texture files, and example images. All files are usable direct from CD.

FREE CHOOSE ANY ONE OF THESE CD ROMS FREE WITH ANY ORDER OVER £25
ILLUSIONS 3D PRO FONTS & CLIPART HOTTEST 4 TERRA SOUND LIBRARY

FREE PHONE 0500 ONE FREE ONE 486

Trade enquiries welcome. Telephone: 0181 8730310 or Fax: 0181 8730311 All products and prices are subject to change without notice. E&OE. *limited to UK residence only.

E MAIL: epic@epma.demon.co.uk

EPIC MARKETING

CD ROM SOFTWARE



Emulators Unlimited contains Software emulation tools for the Amiga. Spread over numerous platforms are emulators for: Apple, BBC, Commodore 64, Commodore VIC20, Amstrad CPC, Apple Mac, Gameboy, Atari ST, MSX, Apple200, Atari 800, Atari1040ste, Sinclair QL, Unix and more. Also features hundreds of games, tools etc for most of the emulators.

EMULATORS UNLIMITED + New Version (CD117) £19.99



Sound FX Sensation is an original new CD that contains hundreds of megabytes of high quality iff samples. A superb CD for game makers, demo makers, or even film makers. Hundreds of Sound FX subjects include Animals, Wild life, Nature, Explosions, Creatures, Scary stuff, Science fiction samples, House hold noises, car crashes, and hundreds more.

Includes full Licenced versions of BEATBOX and PLAY'n'RAVE 2
SOUND FX SENSATION (CD165) Only £14.99

JOHN PASTERNAK'S
MOVIE MAKER SERIES



TRUE MULTIMEDIA



Amiga CD Features Include:

- *60minutes of audio. Sampled at very high quality
- *AGA 256 colours. Requires A1200/A4000
- *Multimedia interface. Unlike you've ever seen
- *Hundreds of images. All digitized in hi-res
- *Video footage. Continually spooled from CD
- *4mb+ AGA Amiga. Hi-spec Amiga required

SPECIAL FX Vol:1
*Actual Amiga Screen shots

VHS VIDEO **£14.99**
Amiga CD ROM **£29.99**



John Paternak's "Movie Maker" series takes you step by step through the professional techniques of Special FX, Horror and Action film making. Explained in every detail are all the camera angles, editing techniques, prop building, make up etc, all using easily available domestic equipment and materials. Available on video or Amiga CD ROM.

MOVIE MAKER SERIES AVAILABLE NOW (CD184) £29.99



World of Clipart is a double CD-ROM containing around 40,000 mono and colour clipart images contained in over 100 categories in IFF, GIF, PCX, CDR, EPS, TIF, & BMP. Tools for converting images to another format are included for both the PC & Amiga.

Subjects include : Animals, Anatomy, Babies, Men, Women, Trees, Reptiles, Insects, Xmas, Religious, Planes, Vehicles, Ships, Toys, Zodiac signs, Eye catchers, Humour, Cats, Dogs, Computers, Technology, Sealife, Space, Symbols, Royalty, Dinosaurs, Plants, Nature, Ads, Tools, Astrology, Hands, Birds, Business, Office, Workers, Cartoon, Lion King, Education, Food, Gardening, Holidays, Houses & Buildings, Helicopters, Children, Banners, Medieval, Military, Monsters, Music, Sports (football, golf, Aerobics, Olympics, etc), Transport, Trains, War and more.

World of Clipart Plus DOUBLE CD Available now! (CD77) £17.99

NEW LONDON TRADE SALES OFFICE

Contact all retailers and mail order re-sellers
Contact our trade sales team for a quote on the best selling Amiga & PC CD ROMS around.
Simply fax a request on: 0181 873 0311
EPIC CD resellers wanted Worldwide.
Telephone: 0181 873 0310 for more information.
Trade sales email: sales@epic.madbox.co.uk



C64 GAMES CD (CD182) £29.99

This NEW CD rom contains tons of all-time classic Commodore 64 games and sw emulator to run them.... Order now as stocks are bound to go quickly.



THE SOUND LIBRARY 2 (CD225) £14.99

Includes over 600mb of all the very latest music modules, covering everything from classical, rave, hip-hop, chart, slow, mellow and jungle music. Also includes tons of sequencing tools and "tracker" utilities. **NEW!**

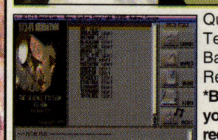


NOTHING BUT TETRIS (CD148) £9.99

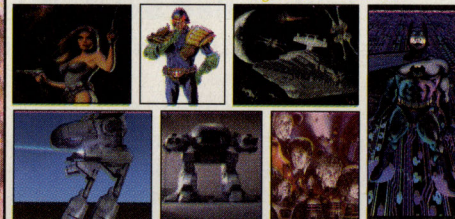
This CD contains almost 100 variations of the worlds most addictive and loved game. Nearly all the games are ready to run directly from CD, and archived versions are also included. Available Now!



SCI-FI Sensation is an exciting new CD-ROM containing over 1.3GIG of SCI-FI images, animations, 3D objects, Sound FX, Documents, Themetunes, Scripts & SCI-FI games. Subjects included are: Babylon5, Startrek (The original, TNG, Deep Space 9 and Voyager), Batman, Dr Who, Thunderbirds, Robocop, Sea Quest DSV, Bladerunner, Aliens, Terror hawks, 2001. Blake7, Battlestar Galactica, Tron, Total Recall, 2010, Space 1999 etc.



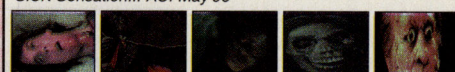
*Buy SCI-FI Sensation from us and you are guaranteed to allways receive the latest version.
CU Amiga: 91% AU: 93%



SCI-FI SENSATION v2 DOUBLE CD (CD118) £19.99



If your into Horror then this original CD ROM will please you no end. It contains Thousands of gruesome images, tons of gory animations. Bloody games. Spine tingling horror type sounds, Horror stories, Pictures & animations from tons of horror films and heaps of real-life blood n' guts. This should have been called SICK Sensation... AU: May'96



HORROR SENSATION NEW (CD144) £19.99



Retro gaming at it's best. Around 3000 all-time classic spectrum game files on one CD-ROM. Emulators included for any Amiga.. Games include Manic Miner, Skool daze, Monty mole, Startrek, Thrust, Jet Set Willy, The Hobbit, Strip Poker, Danger Mouse, The Sentinel, Micro Olympics, Under Wurld, Uridium,



Atic Atac, River raid, Barbarian, Hunchback and around 3000 other classic spectrum game files including multi-load games. Specy '96 also contains hundreds of documents containing instructions for most games

aswell as hundreds of specy game cheats. Okay on any CD ROM drive connected to an Amiga.



New Version!.. now also includes: Workbench games, lottery predictors, Hundreds of bad jokes and more.

Rated: AF GOLD 95% - CUAMIGA 91% - AUI Over 90% - AC over 90%

THE SPECCY CD 1996 V1.1 (CD119) £17.99



Arcade Classics is an original collection of ALL your old arcade favourites, including Amiga versions of PACMAN, SPACE INVADERS, ASTERIODS, MISSILE COMMAND, PENGU, FROGGER, LOAD RUNNER, GALAXIANS, DONKEY KONG, NUMEROUS

TETRIS GAMES, BATTLEZONE, TEMPEST, COMBAT, TRON, SPACE WARZ, THRUST, Q-BERT, HUNCHBACK, MOON PATROL, TRAIL BLAZER, BREAKOUT, CENTREPEDE, CYCLES, BEZERK, SNAKE, SCRAMBLE, PING PONG, BREAKOUT, NUMEROUS C64 CONVERSIONS, A COLLECTION OF JEFF MINTER GAMES AND HUNDREDS MORE. Over 600mb of unforgettable retro-gaming. Keyboard recommended.

Now Includes Multimedia Amiga Interface.

ARCADE CLASSICS + NEW VERSION (CD76) Now £14.99



THE EPIC COLLECTION

Contains 1200 our most popular floppy based software titles on one giant 600mb CD-ROM. Now you can purchase the entire Epic collection in one go. Subjects include: Professional mono clipart, colour clipart, numerous 3D objects for Imagine & Lightwave, Colour, Bitmap, Compugraphic fonts & Adobe fonts, Graphics converters, Music tutorials, Beginners guide, 3D stereogram generators, Hundreds of Sound FX and samples, Virus Killers, Hard disk installer & tools, Various Hardware projects, Hundreds of games including Mind teasers, Puzzle, card, arcade and board games, books, and more.



Includes over 1200 Amiga disks

GAMES. contains around 300 great Amiga games, for A1200, A500, A600 great for all the family!

SAMPLES. Over 50 disks contains instruments and sound effects.

UTILS. Over 150 disks containing numerous tools and utilities, aswell as LSD tools and ASI utilities.

BEGINNERS. Included are a number of disks aimed solely for the learner.

WORDS & CLIPART. Contains over 100 disks full of CG, Adobe, Colour and bitmap fonts, plus colour & mono clips

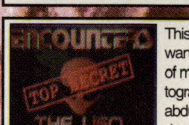
EDUCATION. This CD contains around 80 disks full of educational software.

CLASSIC BOOKS. Includes around 50 classic titles including Frankenstein and more.

HARDDISK TOOLS. tools for backing-up, installing and preping your harddrive.

Supplied with free colour index booklet*, with details of most titles contained on the rom. Order your copy now!

THE EPIC COLLECTION v2 NEW !!! (CD100X) £19.99



This CD contains information that NOBODY wants you to know about, and includes tons of megabytes of text documents and photographs relating to UFO sightings and abductions etc since 1941 aswell as hundreds for "classified" documents.

ENCOUNTERS THE UFO PHENOMENON

NEW (CD179) £14.99



WE NEED YOUR HELP!

We are currently producing an exciting new Multimedia CD title for the Amiga and would like you to help. Call or write for a free information pack, simply order free item code: **EEPO-1** and in no time you'll receive our media pack giving details of how you can contribute to this amazing new CD title. (no programming knowledge is req.)

CALL OUR POST PRODUCTION TEAM ON 01793 422355 FOR A FREE MEDIA INFORMATION PACK

UK FREE FONE 0500 131 486

Send your orders to: EPIC, 139 Victoria Rd, Swindon, Wilts, UK
UK Office. Open Monday-Saturday, 9:30-5:30 Overseas: +44 1793 514188

Add £1 per title for UK P&P and £2 per title for overseas P&P

*If you live in Australia or New Zealand you can purchase any of our CD ROMS from our Sydney based premises. Send your orders to: EPIC, 36 Forest Road, Heathcote, NSW, 2233
Tel: (02) 520 9606 Fax: (02) 520 9077 *For prices in Australia \$\$\$ simply double the UK £££ prices listed.

PRIORITY ORDER FORM

NAME _____
ADDRESS _____

MACHINE _____
PAYMENT METHOD _____
CREDIT CARD DETAILS _____

EXP DATE _____

PLEASE SUPPLY All price inc VAT

ITEMS	Qty	£££
TOTAL GOODS VALUE		£
POSTAGE & PACKING		£
AMOUNT ENCLOSED		£

The Great *AUI* SuperDisks No.93 & No.94

Imdad Shah and team return from purgatory once again to lead the SuperDisk quest for glory. This month, with even a utility and a game both called **Splat**, they uncover innumerable useful tools and a game or two to keep you entertained between the serious stuff. It's **Splat** and **Splat** time.

The Great *AUI* Utilities Disk No.1 AUI Nov96c

Dolcon

Dolcon is an icon manipulation tool accessed via the Shell. It enables you to change default tool, stack size, highlight method, position, and so on. Neat and useful.

ExtraScreen

ExtraScreen is a utility that will not auto generate another monitor screen, as you may first have thought. Instead what it does is open a customisable public screen for a previously specified program to use. This comes into effect when that program attempts to open its own screen. A clever piece of work.

cal

Unix may be a swear word in

some circles, but at one point in your life you may have to use it. When you do... Here is a Unix style command that calculates a calendar for any month between year 1 and AD3000. Impress your friends and possible employers..

uptime

You can use this command to find out how long your system has been "up" since power-on or last reboot. Handy for working out that impending electric bill.

Hexer

No, it's not for casting spells... Looking for lost strings? With Hexer it is possible to search through files in search of hidden messages. And, hey presto! There they are!

FlashFind

Here is a really flashy utility

that finds things. Let us explain. This is a text searching utility which works at unbelievable speeds, something like 2.5Mb of text on hard disk in about 10 earth seconds on a plain 68000 machine! Put on the leather, on burn some rubber! You are going to love the speed of the thing..

Indices

It seems that some of you are still writing in to *AUI* requesting details of what's on the SuperDisks and SuperCDs. Why waste a stamp when all the information you need is right here on the front of this magazine?

This drawer contains the indices to past *AUI* magazines too, so peruse and choose, and then write to the delectable Sarah-Jane Clifford-Jones with your orders. P.S. They say she's already spoken for -

though in what language we can't say.



SmallCalc

The standard Commodore, no we mean Escom, no er, VISCORP, (or should that be Amiga Technologies?) Calculator is fairly standard by the standard of today's standard. SmallCalc is fairly basic, but gives you some useful features such as hexadecimal mode.

Programming Code

Paul Overaa has put the example listings that accompany his article "Programming Tips" in this drawer. All you C addicts can then load them straight into your compiler without the need to type. Do you remember when you had to spend hours typing them in and only to find that somewhere there was an error? Life is so easy these days.



The Great AUI Utilities Disk No.2 AUI Nov96d

256Colour

Have you ever run your Workbench in a colour mode larger than 8? Then surely you have realised that any true 8 colour icons don't use your specified extra 4 colours. If your icons do, then they are 8-bit icons, which take up unnecessary space. But, if you set them up to employ only three planes, then they use the wrong colours.

The solution to all your worries - which you may not know you had - is here! Simply place 256Colour in your WBStartup drawer. Upon running it, it will check the depth of your Workbench screen making adjustments to the icons to suit it. There, isn't that what you've always needed?

PortSwitch

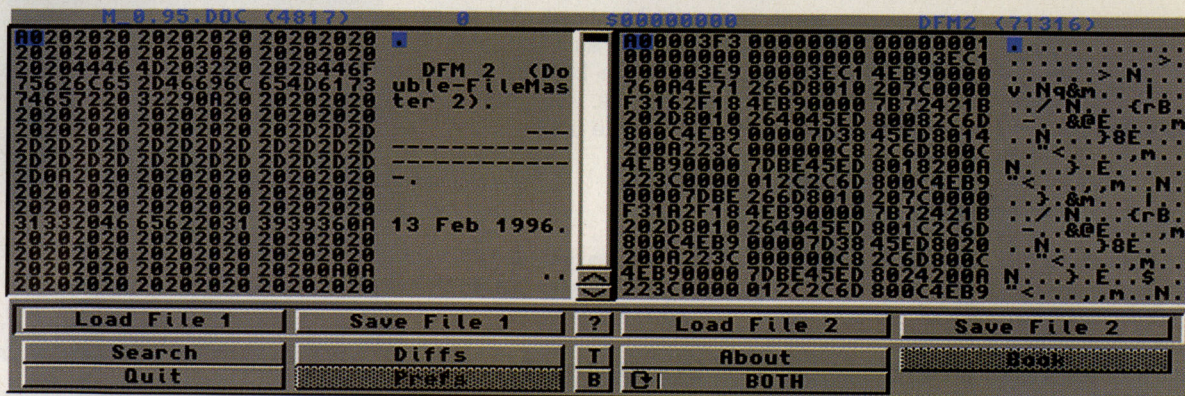
If, for whatever reason, you dreamt of controlling your mouse from port 1 as opposed to port 0, then stop dreaming, wake up, unpack these November SuperDisks and use PortSwitch. Job done, dream over.

RealTime

If your machine loses time when it is switched off, perhaps because you do not have a battery backed up clock in it and you're fed up with January 1978 timestamps on your saved files, then use this util to set the time. It does it in a new way, so next time you switch on the Amiga...

DFM2

This is a hex editor to take a peek at files. Unlike other hex editors, this one differs as you can edit two files at once, and because of this it is possible to make direct comparisons between the two to find differences.



XL21

XL21 is a utility which identifies filetypes, and can prove useful if you want to know more about a particular file. It's easy to use and very informative.

SmartTrash

Q. When is trash ever smart?
A. When SmartTrash is used, as it makes the trashcan more use-



ful, whether you are throwing stuff in tipping it out.

RealDrag

No, this is not your girlfriend's - or boy friend's mother or younger brother. If you have problems moving windows, because the title bar is out of reach, then

The Great AUI Utilities Disk No.3 AUI Nov96e

Embed256

Embed265 is a very bizarre yet interesting utility. You can hide your valuable data inside picture files. This program

RealDrag can help you. It can centre the window in question whenever a set of user-defined qualifiers is pressed. In English that means key combinations.

AltNTab

AltNTab cycles through windows, bringing each window into focus as you press alt with tab. Neat. Very neat.

Splat

Splat is a file splitting utility with a host of features. Splat is very useful if you want to transfer big files via floppy. The only viable solution if compression still leaves you with a file bigger than the maximum capacity of your disk is the physical splitting of the file. Splat it!

embeds your data into some unused planes in a picture file, and no one will suspect that the painting contains the crown jewels! They do think of some strange ideas, don't they?

EmbedIFF24

This is practically the same utility as Embed256, but designed to carry out just the same bizarre activity for 24-bit IFF images.

Installer

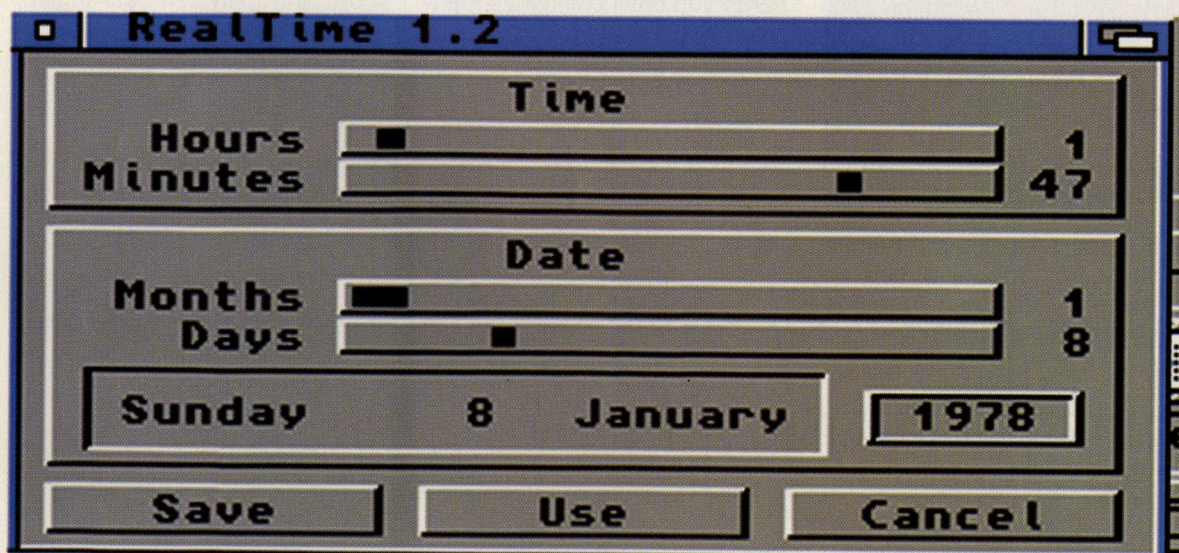
If you have written a utility and now want it to have a decent installer script, consider using the very useful Installer by... (Psst! Who's running the company now?)

memspeed

memspeed is a utility that shows how fast your memory is performing. We tried it on Bud Vennos and the needle hardly moved off zero!

StartE

If you ever need more than one startup sequence for your machine, and Andy Eskelson has just been queried about this, then use StartE. Now you can have up to 10 different startup sequences. One for every occasion, and a few for no occasion or whatever you like. Get a new start in life.



PatchMem

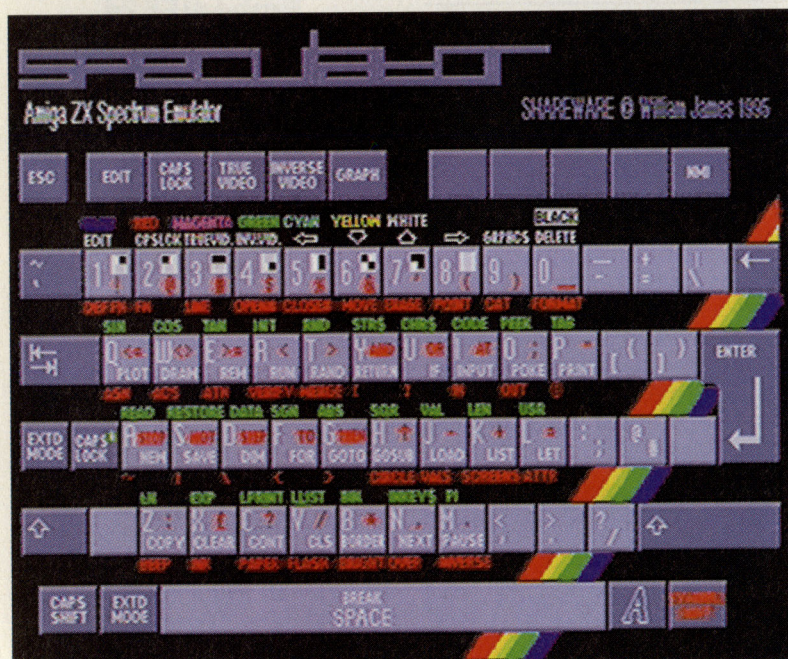
This gem patches your memory, so if you have any FastRAM devices such as Rad will use it to go even faster. The disadvantage is - Rad no longer becomes recoverable. More of a RAM Disk in a RADical way.

The Great AUI Utilities Disk No.4 AUINov96f

Speculator

This is a 48k ZX Spectrum emulator for your Commodore Escom VISCORP PIOS Amiga computer. Running faster than many other speccy emulators, as the ROM calls have been rewritten along with a host of other tweaks, this is fully OS friendly.

Go down memory lane, dig out those old tapes, and load them onto your beloved Amiga, or use the examples supplied. Relive it all once again.



The Great AUI Utilities Disk No.5 AUINov96g

Oops! No disk g this month. Only 6 disks regardless of what the intro screen displays. So please don't ring up and ask us where it is or tell us it is missing... we know! David Ward is now in the dungeon cell just vacated by Imdad Shah.

The Great AUI Games Disk No.1 AUINov96a

Joker Poker

Fancy playing a game of poker? Here it is. This game is similar to those "poker" fruit machines found in the pub and other places of such fun and sin. It behaves identically to those poker machines as it keeps track of stats that are built up as the time progresses. Get out your Grolsch and ante up.

The Great AUI Games Disk No.2 AUINov96b

StarDefender

If you accept the mission, you will be piloting a rather expensive spacecraft, the same used in those 8-bit games of yesteryear. Hang on a minute, this is a Defender clone from those 8-bit computers of then and this is



Armed with a trusty splatter (your hand) you must commit as many creatures as you can to creepy

crawly heaven to get a high score and gain self satisfaction. They went Splat! away!

now! Start defending the human colonists from the marauding little green men. Stand clear - this disk will now self-destruct.

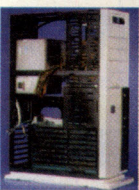
Splat!

If you enjoy splatting annoying flying things as one of your pastimes then you may be in luck, because this is what Splat! is about. (Yes, another Splat?)





Bringing You New Amiga's and the very latest New Products!



Towers

Big Box Towers

Our range of **Amiga Tower Systems** will further enhance the specification of your Amiga. They benefit from quality metal construction and are the full height variety, with dimensions of 660x190x430 mm.

Blittersoft are exclusive distributors for many leading product manufacturers. Our new deal with Eagle Computers ensures new Amiga models are available in the UK. We are actively seeking new Amiga products at all times!

There are 6 x 5^{1/4"} bays and 5 x 3^{1/2"} bays. All of the 5^{1/4"} bays and two of the 3^{1/2"} bays are accessible externally. **£179.95**

PSU's (Please specify Amiga)
230W (with fan sensor) **£ 59.95**

Pentium Board CPU Prices

Pentium P75	£ 89.95
Pentium P100	£109.95
Pentium P120	£149.95
Pentium P133	£209.95
Pentium P150	£299.95

StormC / StormWizard

The Advanced C/C++ Development System for the AMIGA!

StormC is an integrated development system which contains all development tools imperative for efficient engineering: editor, compiler, linker, debugger and RunShell with many outstanding features. The heart of StormC is its visual project manager which manages every part of the project, e.g. sources, headers, libraries, documents, binaries. The very fast editor displays colour coded keywords to get a better readability and a syntax check. The StormC compiler handles ANSI C and C++ sources and generates optimised code for the whole Motorola 68xxx family (including 68060 and 68881/882). The RunShell is a powerful run-time system that monitors the running application and prevents it from crashing the system. It also offers resource tracking and it can start the source-level debugger during (!) run-time of the program.

StormC **£299.95**
StormC - Upgrade from any commercial compiler **£179.95**

Creative. Intuitive. New.
ArtEffect!
The Ultimate Graphics Program.

ArtEffect unites painting and image processing with a particularly productive user interface. **ArtEffect** is not "just another" graphics program for the Amiga. It is not oriented towards the current "standard" programs on the Amiga, but rather to the classic programs for professional image processing such as Photoshop (TM) and for creative painting like Fractal Painter (TM). There are simply too many features to detail, but the pictures below show **ArtEffect** in action. Please call for a more in-depth specification, or free UK demo disk.

ArtEffect (Unit Oct. 1) **£ 89.95**
ArtEffect **£149.95**



StormWIZARD - New GUI editor

StormWIZARD is a tool to make designing of GUIs more easy and efficient. You will get an AmigaOS compliant UI very quickly without programming one line of code.

StormWIZARD **£ CALL**
StormC Starter **£119.95**
StormC Starter + Storm Wizard **£139.95**

Siamese System

The **Siamese System** is the means to allow different computer platforms to integrate neatly. At last, an integrated Amiga, PC and Mac system is possible!

- Single Monitor automatically switches between PC and Amiga Screen.
- Single Keyboard and Mouse operation across all platforms.
- Built in Serial networking with all PC drives mounted on Amiga.
- Siamese uses high speed SCSI network with suitable SCSI interfaces.
- Read and Write on any PC Drive at high speed, including Networked Drives.
- Text Clipboard, Cut and Paste between Amiga and PC applications.
- Full Arrex support built in.
- Use Video Recording cards, PC Ethernet Cards, PC SVGA monitor with AGA Amiga's and PC Scanners with programs like PhotoGenics
- Share Printers, all Amiga output sent to PC printer.
- Use PC runtime versions of 3D programs on a Pentium and watch 'em Fly.
- Allows Amiga access to Low cost PC products eg. 16 bit Sound Card with Wave Synth chip.
- Amiga MCI controller from AmigaDos or Arrex, (Media Control Interface) i.e. Digital Mpeg Video, Sound, Midi etc.

Siamese System **£149.95**

Shuttle 4000 PCI

When fitted in one of our Towers, the **Shuttle 4000 PCI** expands the desktop A4000 with further Zorro, Video and PCI/ISA slots. The PCI slots allow the use of our Pentium processor board to take advantage of both computers in one Tower.

- 7 x Zorro III Slots (5 DMA Buster)
- 3 x PC PCI Slots
- 1 x Slot for Pentium Board
- 3 x PC ISA Slots
- 2 x Video Slots

Shuttle 4000 PCI **£189.95**

Full System :

Tower, 230w PSU, Shuttle 4000PCI **£399.95**

Shuttle 1200

When fitted in one of our Towers, the **Shuttle 1200** expands the A1200 with Zorro II, ISA slots and possible Video Slots (Upgrade). This is ideal for those users who have outgrown their A1200 system.

- 7 x Zorro II Slots
- 5 x PC ISA Slots
- 2 x Video Slots possible via upgrade.

Shuttle 1200 **£199.95**

Full System :

Tower, 230w PSU, Shuttle 1200 **£399.95**

eagle 4000 TE

All our new Amiga's are built exclusively under a full Amiga Technologies OEM license under the "Amiga-Based" Trademark.

Eagle 4000TE **£1299.95**

- High quality Xenon Tower
- Original Amiga Technologies Motherboard
- SCSI-2 and IDE Bus, OS3.1
- 2Mb Chip RAM, 4Mb Fast RAM
- 230W PSU, Keyboard and System disks

Adaptor for A1200 Accelerators **£ 79.95**

Eagle 4000TE-40/25 **£1899.95**

As Eagle 4000TE but with :

- 68040 25MHz original Processor
- 1Gb SCSI-2 Hard drive

Eagle 4000TE-40/40 **£1999.95**

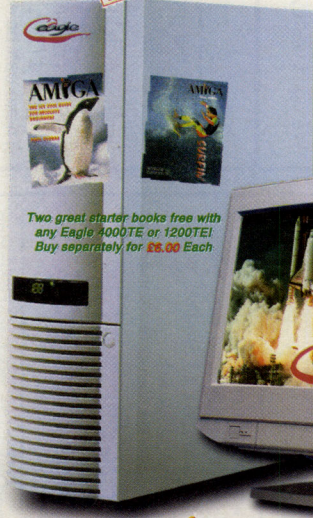
As Eagle 4000TE but with :

- 68040 40MHz CyberStorm Processor
- 1Gb SCSI-2 Hard drive

Eagle 4000TE-60/50 **£2199.95**

As Eagle 4000TE but with :

- 68060 50MHz Cyberstorm Processor
- 1Gb SCSI-2 Hard drive



Two great starter books free with any Eagle 4000TE or 1200TE! Buy separately for £5.00 Each

Pentium Board

Our **PCI Pentium Board** is a complete modern Pentium PC system. The board is used in conjunction with our PCI Shuttles. This means that our towers can offer a complete multi-platform solution (Amiga, PC and Mac) via this board, Emplant and the Siamese control system.

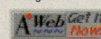
- 256Kb Cache (Expandable to 1Mb)
- 2 x Serial Ports
- 1 x Parallel Port
- Floppy and HDD Controller
- Keyboard socket
- External Power Connector
- PC104 Expansion Port
- 128Mb RAM capability.
- Accepts Pentium Processor at 75, 90, 100, 120, 133 and 150MHz.

Pentium PCI Board **£399.95**



advanced settings requester is integrated in the program. AWeb-II requires : Workbench / Kickstart 3.0+. Approximately 3 MB of free hard disk space for installation of the software, and 5-10 MB of free space for disk caching. At least 2 Megs of RAM, 1 Meg of chip RAM, A working TCP/IP stack (AmiTCP), appropriate GIF, JPEG, JFIF, 24bit datatypes.

AWeb-II uses extensive internal multithreading, which gives the program asynchronous, parallel network access. Images are starting to load before the document is finished. It is possible to follow a link while the document is still loading. A separate network status window shows all pending network and local file accesses. All network accesses can be interrupted immediately. The HTML-2 standard is fully supported, including forms. Many HTML-3.2 features are also supported, like backgrounds and centering. AWeb supports the use of proxies for HTTP, FTP, Gopher and Telnet. The HTTP and Gopher protocols are supported internally. By using external programs, FTP, Mailto, Telnet and News can also be used. AWeb lets you load all images, delay all image loading, or load only clickable maps and delay other images. For delayed images, the ALT text is displayed. Transparent GIFs are supported. The 24-bit picture datatype (picturedv43) is supported. To improve network speed, host names and network addresses are cached so addresses are looked up only once during a session. AWeb can open it's windows on the default public screen, a named public screen or open its own screen. You can keep your favourite links in a hierarchical list. You can add, delete, move or group links in a special list requester. In extension to its own list, AWeb can read other hostlists, like those of Amosaic. AWeb has a configurable Arrex menu with keyboard shortcuts so you can start any useful Arrex macro easily. An AWeb-II interface, and a unique and powerful shell command interface.



AWeb-II **£ 39.95**

Phase 5

We are an Approved Phase 5 Dealer

Phase 5 accelerators offer unrivalled performance and price. There are various models to suit most Amiga's.



CyberStorm MKII 060 (50MHz) for A4000(T) or A3000(T)	£649.95
CyberStorm MKII 040EC (40MHz) for A4000(T) or A3000(T)	£379.95
Blizzard 1260 (50MHz) for A1200	£579.95
Blizzard 2060 (50MHz) for A1500/A2000	£649.95
SCSI-II Fast for CyberStorm	£ 99.95
SCSI-II Fast and Wide for CyberStorm	£149.95
SCSI-II Fast Blizzard 1260	£ 99.95
CyberVision 64/3D Video Board Back orders now being taken!	
Zorro II/III, Virge 3D Graphics chip, supports CGX3D Software 2Mb RAM	£229.95
4Mb Version	£289.95
MPEG Add-on module (With Stereo Line out)	£169.95
Scan Doubler / Monitor Switcher module	£ 69.95

DKB

RapidFire SCSI-II Zorro card, with memory expansion	£129.95
SpiFire SCSI-II Zorro card	£109.95
LinkUp Expander board	
Four Serial (Upgrades to 8), 1 Parallel (Upgrades to 2)	£229.95
LinkUp Upgrade	£149.95

Drives, RAM, Keyboards

4Mb SIMMs	£ 34.95
8Mb SIMMs	£ 59.95
16Mb SIMMs	£ 99.95
32Mb SIMMs	£179.95
1Gb Hard drive (IDE)	£149.95
2Gb Hard drive (IDE)	£239.95
2Gb Hard Drive (SCSI)	£349.95
4.2Gb Hard Drive (SCSI)	£599.95
4 X CD ROM drive (IDE)	£ 69.95
6 X CD ROM drive (IDE)	£ 89.95
8 X CD ROM drive (IDE)	£109.95
6 X CD ROM drive (SCSI)	£169.95

A4000 PC Keyboard adaptor **£34.95**
A1200 PC Keyboard adaptor **£49.95**

Emplant Deluxe

The **Emplant Deluxe** card is now available at a greatly reduced price. The card is a Zorro card, suitable for any Amiga with Zorro slots and 68020 or better CPU.

The hardware offers a dedicated SCSI interface for the Mac, ideal for adding CD-ROM, SyQuest, Zip, Scanners etc. to give the ability to format media in **real Mac** format (to go to a bureau) or to Scan directly into an Art package.

Real Apple peripherals can also be added (printers, modems) and



AppleTalk networking can be used with real Macs.

The hardware also assists emulation speed, especially when multi-tasking with Amiga applications.

Additionally, the hardware can be upgraded to use the **Mac Pro** module (Virtual memory, Ethernet, ...) and the **e586DX** PC software emulation.

Emplant Deluxe **£199.95**
e586DX/SX PC **£ 49.95**
Emplant Mac Pro **£ 29.95**

All Mac emulations require additional ROMs

Software

AsimCDFS 3.5 **£ 49.95**
Full CD package, with FileSystem, CD32 emulation, Fish CD and now ATAPI HD/CD support!

MasterISO **£129.95**
MasterISO + AsimCDFS **£149.95**
The only Amiga CD-Writing software

ImageVision **£ 49.95**
Easy to use multimedia authoring system, with CD of source material.

World Construction Set **£119.95**
World Construction Set 2 **£279.95**
Ultimate scenery generating software

DbiScan 4000

DbiScan 4000 intelligently upgrades all PAL/NTSC screenmodes so that they can be displayed on a regular VGA/SVGA/MultiScan monitor. The result is completely compatible with all programs. Provides full 24-bit output, so no information is lost. Screenmodes that do not require upgrading pass through untouched. Reduces flicker on interlace screens. Requires an A4000 or 100% compatible video slot. Can be used with a pass-through graphics card.
DbiScan 4000 **£149.95**

Emplant 1200

Emplant 1200 is a software only version of the famous Mac emulation, specifically designed for the A1200 or CD32 (with SX-1 or SX-32 module)



- Use of 256K, 512K and 1Mb MAC ROMs.
- Supports 2, 4, 16, 256, thousands, and millions colour modes.
- New super-fast **Graffiti** graphics driver, for 2, 4, 16, 256 colour modes.
- Workbench Video driver, up to 256 colours in a window!
- Supports CD-ROM drives, hard drive partitions, hard files and ram disks.
- Supports serial and parallel using Amiga ports.
- Supports AMAX, EMPLANT, MAC high density, PC 720K & PC high density disks.
- Supports stereo audio.
- Supports Akiko when used with CD-32 with an SX-1 or SX-32 module.
- Supports 020 through 060 processors and 68881/2.
- OS2.x style guide compliant interface on public screen.

Emplant 1200 **£ 49.95**

Village Tronic

Picasso IV is a brand new Graphics board for your Zorro II or II Amiga. Feature Include:

- 64-bit Cirrus CLGD 5446 Chip
- 2Mb Fast EDO RAM (4Mb Exp.)
- On-board Flicker Fixer
- Genlock compatible
- "Video-on-Workbench" Mode
- Ports for additional MPEG, TV-Tuner and 3D Chip

Picasso IV 2Mb **£399.95**

Picasso II+ is a new design offering faster Zorro II bus, Higher Blitter speed (up to 30Mb/Sec) and now includes ImageFX **£ 249.95**

Pablo Video Encoder **£ 99.95**
CyberGraphX Software **£ 34.95**
Ariadne **£179.95**
Liana 1.6m cable **£ 59.95**
Liana 5.0m cable **£ 69.95**
AmiTCP **£ 69.95**
OS3.1 A500/600/1500/2000 **£ 89.95**
OS3.1 A1200/3000/4000 **£ 99.95**
MainActor Pro **£ 59.95**
MainActor Broadcast **£149.95**
MainActor Broadcast (Upgrade from Pro) **£119.95**



Mac Lite

Mac Lite is a software only version of the famous Mac emulation, which will run on any Amiga with a 68020 or better CPU.

Mac Lite offers all the features of Emplant 1200, but has additional extensive graphics card support for Picasso II+, CyberGraphX, Graffiti, Piccolo-SD64, Retina etc.

Mac Lite **£ 69.95**

Graffiti

- All Amiga models
- 256 colours from a palette of 252,144
- Low res QCS files
- Supports bitplanes and interface
- Easy RGB connection (needs 15kHz)
- Chunky GFX for fast animation and texture mapping
- Programmers need only 4 bitplanes for throughput of 7mb/second in AGA
- Graffiti can display 160 or 60 pixels per line without the processor/blitter having to double the pixels
- Uses CHIP RAM for image
- Dip switches to select AGA/ECS
- Passes through the standard Amiga video without restrictions when not in use.
- AVI video player
- Emplant Mac drivers for fast video!
- IFF/GIF/JPEG viewers
- Texture mapped Games

Graffiti **£ 89.95**

Tel : 01908 261466 Fax : 01908 261488

Tech: 01908 261477



6 Drakes Mews, Crownhill Industry, Milton Keynes. MK8 OER. UK.

Blittersoft

Order by Access/Via/Delta/Switch or Postal Order/Cheque. No added surcharges. All prices fully inclusive of VAT. Postage and Packing £8.00 (24 Hour) and £20.00 (Saturday). Prices and specifications may change without notice. Please telephone to confirm pricing/specification/availability before ordering. E&OE. All trademarks acknowledged. All orders subject to our terms and conditions of trading, available on request. Trade enquiries welcome.

e-mail : bsoft@wildnet.co.uk Web Site : <http://blittersoft.wildnet.co.uk>

DISK INFORMATION

Additional Information

Floppy Users

You can install to any disk except this month's SuperDisk. When asked whether you want to install to floppy or hard drive, select 'f'. When prompted, insert your destination disk into df0: - the internal drive. This disk will then be formatted.

Installation time varies according to the amount of information we have compressed onto the SuperDisk for you. Some installations may require some disk swapping.

Hard Drive Users

You can install directly to hard drive. Boot SuperDisk No.93 as you would for a floppy installation, and select the disk you wish to install. When asked whether you want to install to floppy or hard drive, select 'h'.

You will then be presented with a list of devices to which you can install, and the amount of space available on them. bear in mind that to install the whole set of disks will require somewhere between 2 and 3 Mb.

The installer will create a drawer with an exact copy of the floppy version of the SuperDisk in it. This includes startup-sequences, fonts, libs, and so on. Delete those that are unnecessary, and move any files in the libs, fonts, devs, etc., to their appropriate places.

Please note that the default tool for any text or document files will need changing from 'least' to your favourite, or just place a copy of least in your C directory.

You cannot install to any path that contains the following letter sequence: 'df', 'pc', 'ds', 'ram', or 'cd'. This is to save confusion with existing Amiga devices.

Expert Users

Installation directly to hard drive is so easy that we recommend you take advantage of our installer. However, if you want to do things the hard way, please remember that SuperDisk No.94 is in the diskspare format and requires you to have diskspare.device installed in your devs/DOSdrivers drawer.

All the necessary files - diskspare and UnLzx - can be found on SuperDisk No.93 and, as an expert user, you don't need us to tell you how to find and use them.

Viruses

During compilation we constantly check the SuperDisks with the latest versions of the best anti-virus software we can find. Although, to be on the safe side, we suggest you do the same prior to installation.

Shutters

Before installing the SuperDisks we recommend that you check the metal shutters on the disks for damage. This is best done by gently sliding the cover back and then letting it spring back under its own power. If it sticks, or if it appears to be coming away from the plastic casing, then DO NOT INSERT IT into your drive. You may not be able to retrieve it.

Damaged disks should be returned, see below. Neither **AUI**, the Publisher, or the disk duplicators, are liable for any damage caused to your machine by failure to following these simple guidelines.

Returning your SuperDisk

In the unlikely event that your SuperDisk is damaged or simply does not run then please return it to: TIB PLC, TIB House, 11 Edward Street, Bradford, BD4 7BH enclosing a stamped, self-addressed, envelope. A new SuperDisk will be returned together with the postage costs you incurred.

Technical Support

TIB operate a technical support line if you need advice. They can be reached weekdays between 10am and 12:30pm, or between 1:30pm and 4:40pm, on 0893 715949

This is a premium rate line, and calls are charged at 49p per minute. Please do ask for permission of the phone owner before making the call.

Important Information

All the software included on the SuperDisks is thoroughly checked on several machines before we even consider using it. After compilation the SuperDisks are installed to floppy and hard drive several times prior to duplication. And after duplication examples are selected at random for further testing.

While we cannot exclude the possibility of an error on our part, the most likely cause for a SuperDisk malfunction is YOU! Read the documents that came with the software you are trying to use. If there are libraries that need to be moved, or programs that need to be assigned, then refer to your Amiga's manual.

If you really get stuck then write in to Amiga Answers, enclosing a stamped, self-addressed, envelope for a quick reply. otherwise you could wait up to three months for the answer to appear in an issue of the magazine.

We regret that we CANNOT TAKE ANY TELEPHONE CALLS regarding the SuperDisks. They are too time consuming to answer and we are often busy getting the next issue of **AUI** together for you.

Reader's Contributions

Our SuperDisks are crammed full with the cream of the Amiga crop. Many of the programs are created especially for us and released into the Amiga community through **AUI**. You can make it possible for **AUI** to share this top quality software with tens of thousands of other Amiga users.

If you have a masterpiece that you think can cut it with the best, then please send it in to us for evaluation. You never know, you might end up famous. The address is: Reader's Contribution, Amiga User International Magazine, Unit 2, Utopia Village, Chalcot Road, London. NW1 8LX

Alternatively you could send us a UU-encoded file via e-mail to:

amigauser@cix.compulink.co.uk

Please remember we prefer stand-alone compiled programs, and don't forget to include any libraries or fonts that it might need - providing they are distributable. We don't want you to get done for piracy!

Shareware

Many of the programs on our SuperDisk are Shareware. This means that you can try them out, but if you use them regularly you should send the author the requested registration fee. This not only encourages the author to produce more work, they feel wanted, but you will often receive the latest version of the software.

Registration fees can be up to £20, but most hover around the £5 mark. You can send cheques to UK addresses, but those abroad often prefer US dollars. These can be sent by registered post, but sending cash is always a risk and it's your money.

Some authors may only want a postcard to see how far their program has got. Do make their day. after all, they made yours.

Compatibility

All the software on the SuperDisks runs on a basic A1200, most will work on a 2Mb equipped A500+. We deem this to be the minimum specification of Amiga nowadays and, as the A1200 is now the entry level machine, many programmers are only developing for this platform.

If you are still using Kickstart 1.3 then we are sorry we cannot accommodate you. To get the best out of your Amiga you must have a decent amount of memory - a minimum of 2Mb - and Kickstart 2.04/Workbench 2.0 or better.

Documentation

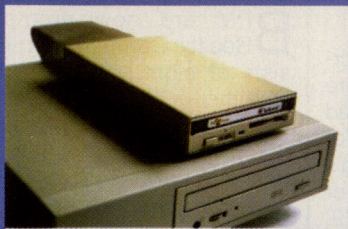
All the documents that accompany the programs on these SuperDisks can be read by simply double-clicking on their respective icons. The text will scroll under mouse control, and to exit just press the [Esc] key - top left on your keyboard.

Some files are in AmigaGuide format. They are recognisable by the node information within the text. To take advantage of these 'hyper' documents, you need to have either AmigaGuide or Multiview installed on your system, and to change the default reader tool from 'least' to the appropriate tools you usually use.

Any word processor should be able to load the document files as they are in an ASCII format. **AUI** Enjoy!

Stop Press! New SX32Mk2, SX32Pro, 2.15GB InstantDrive, 17" Multisync Monitor - from EYETECH

The Eyetech CDPlus for the A600 & A1200 4-speed and 8-speed CDROM drives



- ✓ 4- or 8- speed external CDROM unit in quality case with heavy duty PSU
- ✓ Leaves trapdoor free for accelerators / memory expansion
- ✓ Leaves PCMCIA slot free for digitisers, modems, samplers etc
- ✓ Easily detachable for transport
- ✓ Option to add additional HD's, CDROMs, SyQuests, Zips etc **powered from the CDPlus unit.** (The photograph shows a SyQuest EZ135 and a CDPlus)
- ✓ Comes with special Eyetech 4-device EIDE buffered interface board - easily fitted in minutes with no cutting/drilling (Note that IDE CDROMS **must never** be directly connected to the A1200 without a buffered interface)
- ✓ Gold plated audio phono sockets at rear and headphone socket/volume control on the front panel
- ✓ Complete with "Click-and-Go" installation software - even for diskette-based systems!

**Amazing value: 4-speed only £149.95
8-speed only £199.95**

GG2+ Bridgeboard

Use low cost PC ISA cards as Amiga devices in your big box Amiga

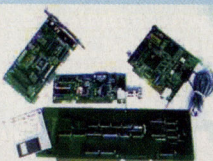
Drivers are provided for:

- ✓ 4 serial ports/modem cards (including high speed 16550 UART chip support)
- ✓ 3 parallel ports
- ✓ 2 IDE hard drives
- ✓ 1 NE1000/NE2000 ethernet card (SANA-compliant)

GG2+ & drivers

£129.95

2xS, 1xP, 2xIDE card £20.00
NE2000 ethernet card £30.00



SX32Mk2 & SX32Pro Internal Expansion for the CD32

The SX32Mk2 adds ...

- ✓ RGB video (23 pin), VGA video (15 pin)
- ✓ Parallel port (25 pin), Serial port (25 pin)
- ✓ Floppy disk port (23 pin)
- ✓ Internal 2.5" hard drive port
- ✓ Internal simm socket for up to 8MB of 32 bit RAM
- ✓ **NOW WITH 33 MHz FPU SOCKET!**

... to the CD32's existing mouse, joystick, keyboard, audio, RF, composite video and SVHS ports.

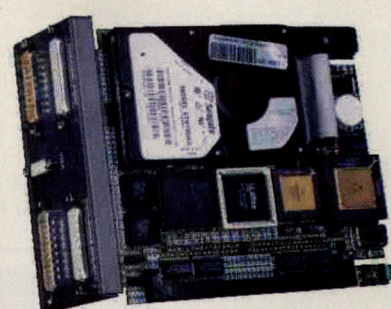
The SX32Pro further adds ...

- ✓ 25 or 50MHz '030 MMU CPU and 50MHz FPU skt
- ✓ 2 Simm sockets for up to 64MB of 32 bit RAM
- ✓ Buffered IDE interface for 2nd HD, SyQuest, Zip

This is what the SX1 should always have been - maintaining the reliability and portability of the CD32 whilst adding most of the expansion facilities of an A1200. It makes the low cost CD32 ideal as a compact portable Amiga (with CDROM and Kickstart 3.1 built-in), a multi-media delivery platform and, of course, an expanded games console. It comes complete with WB3.0 and utilities on CDROM and a hard drive partitioning, for - matting and Workbench installation diskette.

What do the reviewers think?

"Definitely Recommended - 95%" - AUI
"A Dream to Use - 90% - Blue Chip Award" - AC
"A Job Well Done - 93% - Gold Award" - AF



Turn your CD32 into a real Amiga

SX32Mk2, WB3 CD, Utilities £199.95
SX32Pro 25Mhz, WB3 CD, Utilities £299.95
SX32Pro 50Mhz, WB3 CD, Utilities £349.95

Amiga 89-key compact keyboard (400x160 mm) £34.95
Suitable SX32 floppy & internal hard drives 20-1000 MB Please ring

The Remarkable SyQuest EZ135 Removable Cartridge Hard Drive

- ✓ Low cost 135MB cartridges ideal for multimedia data storage and transfer
- ✓ Fast, hard-disk-like, access (13.5ms) and data transfer (up to 2.4MB/s) rates allow programs and animations to be run directly from an EZ135 cartridge.
- ✓ Cartridge icons automatically appear on the Workbench when inserted and disappear when ejected - just like a giant diskette!
- ✓ Will read and write MSDOS formatted cartridges using the Eyetech-supplied software (WB2.04 and higher) for data transfer to & from PC's or Macintosh's
- ✓ Available in IDE and SCSI versions for easy connection to all WB2+ Amiga models.
- ✓ At last - a fast and easy method to back up your valuable data and programs.
- ✓ **Use a different bootable cartridge for each application or family member!**

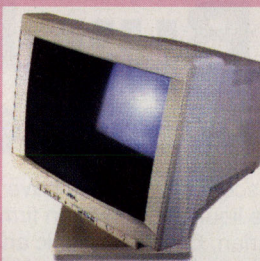
**Superb Engineering -
- Fantastic Value**
IDE bare drive only £109.95
SCSI external drive and PSU only £129.95
135MB cartridges £19.95



Microvitec 17" Multisync Amiga/PC Monitor

- ✓ Supports all Amiga & most PC video modes to 1280x1024 pixels
- ✓ 15-64 KHz horizontal, 50-120 Hz vertical scan rates
- ✓ Automatically adjusts size and position settings for each display mode
- ✓ Cu Amiga 'SuperStar' - Rated 91% at the RRP of £699

**Superb
Value
at only
£579.95**



The Eyetech SX32/CD32 Combo Pack

Now available with 25 or 50 MHz '030 MMU Accelerator option

This really is the Amiga bargain of a lifetime - but is only available whilst stocks last

- ✓ Brand New CD32 and power supply
- ✓ CD32 games controller/joy pad
- ✓ SX32 (see panel for details)
- ✓ Amiga 89 key compact keyboard
- ✓ 6MB of memory (2MB chip + 4MB fast)
- ✓ Real time, battery backed clock
- ✓ 21MB hard drive (upgrades to larger sizes are available - ring for details)
- ✓ WB3.0 on CD together with over 600MB of utilities, games etc
- ✓ Hard drive cable and partitioning, formatting and workbench installation diskette



CD32/SX32 Combo Pack £399.95

**CD32/SX32 Combo Pro25
With 25Mhz SX32Pro and
uprated PSU - £499.95**

**CD32/SX32 Combo Pro50
With 25Mhz SX32Pro and
uprated PSU - £549.95**

Why not enhance the value of your Combo with the ComboPlus accessory package. Purchase the ComboPlus with your CD32/SX32 Combo and get a mouse, mousemat, Amiga 'First Steps' book, audio leads and 2 CD's for only £24.95

A1200 InstantDrive Hard Disk Kits

- ✓ Rated 97% - AUI February 1996, 95% - Amiga Format October 1996, 90% - Amiga Computing August 1996...
- ✓ No hole drilling, case clipping, or shield removal required
- ✓ All drives are brand new with a 2 year warranty and come inclusive of full fitting kit and easy-to-follow pictorial instructions
- ✓ Ready-to-use with WB3.0 and over 45 top quality utilities installed and configured to the Toolsdaemon menu system
- ✓ Audio-Visual (AV) drives come with a fully licensed version of Optonica's MME multimedia authoring software preinstalled

1.28GB AV 3.5" £219.95

2.15GB AV 3.5" £299.95

**Other sizes available from 20MB upwards
Please ring for the latest prices**

InstantDrives are only available from Eyetech

Videomaster PCMCIA

- ✓ Stereo audio & video digitizers in 1 package
- ✓ Digitise video & sound at 25fps concurrently
- ✓ Generate 25 fps anims direct from video
- ✓ Suitable for A600 and A1200 computers
- ✓ Ideal for multimedia applications



Terrific value at only £69.95

D-I-Y and Bargain Corner

- for these hard-to-find parts for your Amiga expansion project

Hard drive PSUs, cables, cases

3.5" power & data cables	£16.95
3.5" full fitting kit (contains everything)	£27.95
3.5" external drive case	£24.95
3.5" removable drive deluxe ext HD case	£34.95
Superslim case for IDE SyQuest EZ drive	£24.95
65W metal cased PSU for A600/A1200/CD32/external hard drive (fit your old lead - instructions provided)	£24.95
Cable from 65W psu to hard drive	£10.00

CDROM interfaces, PSUs, cables, cases

Metal CDROM case (no psu)	£17.50
4-device buffered EIDE interface for A1200	£49.95
2-device IDE interface for A600 (for CD)	£19.95
3 x 40-way IDE cable for 3.5" HD/CDROM 70cm	£10.00
65W metal cased PSU for CDROM	£24.95
Cable from 65W psu to CDROM	£10.00
Audio mixer cables	£5.95

Amiga-Amiga/CD32 networking

Parrot Cable and software	£19.95
SerNet cable and CD/diskette software for CD32	£24.95

Memory Expansion

A1200 RAM boards with clock and FPU socket (no RAM)-	£49.95
with 4MB RAM	£69.95
with 8MB RAM	£99.95
33MHz FPU & crystal purchased with RAM board	£39.95
ChipUp 1-to-2 MB chip ram expansion for A500/A2000 -	
- rated 95% in AUI October 1996	£129.95
4, 8, 16, 32 MB 72 pin memory simms for A1200/SX32/A4000 ...	
Ring for latest prices	

Floppy drives, mice, games controllers, SVGA adapters

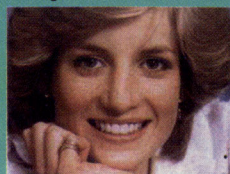
Amiga external diskette drives, Sony mechanism, anti-virus, drive disable switch; pass-through port	£44.95
Microswitched, high resolution mouse	£12.95
CD32 games controller	£14.95
A500/A600/A1200 unbuffered 23-15 pin VGA adapter	£9.95
A4000 buffered 23-15 pin VGA adapter	£24.95

SyQuest EZ135 drives & cartridges - Special Purchase

IDE - for CDPlus, SX32, A4000 expansion - bare drive	£109.95
SCSI - cased with PSU	£129.95
135MB 13.5ms access speed cartridges	£19.95

Epson Color Stylus & 500 Printer Driver v2.1.2 - £29.95

- ✓ Unbelievable, near-photographic quality
- ✓ 24 bit print output from any hard drive-equipped Amiga with Workbench 2.04+
- ✓ Amiga 'Preferences' driver with simple 'Click and Go' installation procedures.
- ✓ Printer calibration utilities & control over shading, colour correction and dithering
- ✓ Stand-alone IFF picture printing program with scaling, rotation and exact positioning



Scanned actual printed output

Eyetech Group Ltd

The Old Bank, 12 West Green,
Stokesley, N Yorks, TS9 5BB,
Tel: +44 (0) 164-271 31
Fax: +44 (0) 164-271 31
eyetech@cix.compulink.co.uk
http://www.compulink.co.uk/eyetech

Next day delivery to EC and USA/Canada. Worldwide deliveries in 2-5 days from receipt of faxed order and payment details. Next day insured delivery charges

Hard/floppy, boards, SX32 £9 UK, £15.05 EC,
CDPlus £10 UK (2 day), £19 Ireland, £29 EC,
Software, cables £2.50 UK, £6.05 EC
Ring/fax/email for other delivery charges

UK bank/building society cheques, Visa*, Mastercard
Switch, Delta, Connect, Postal/Money orders accepted
* A 3% surcharge is applicable to all credit card orders
All prices include VAT at 17.5%.
VAT is not applicable to non-EC orders.

EYETECH

Page 14

Entertainment Soon!
Does Reality Suck?
EMC Goes Global
Buy Buy Escom
Sega Bans Sex
Congratulations!

Page 15

Hot Hydra
Cardinal Fang,
get the comfy armchair
Wingnuts!
Learn COBOL
and make a packet
Robin the Rich
I don't believe it!

Page 16

Looking Back at the Future
Slowing PC Sales
Stress Free
The Truth about Statistics?
Mobile Phone protection
It sucks as it blows as it ...

Page 18

Porn Free
Anti-Piracy Booty
Oki Rises
Amiga Bulletin Board
Endangered Wildlife
TV Nanny

Page 20

Direct Amiga Retail
EC Says Two Years
Postage Stamp Storage
Fibreguard
Big TechnoPlus Cuts
God Help Us!

Page 22

Its good to Surf!
Down Goes 3DO
Silicon's studio
Nintendo Stops
This Way, Sir
PIOSly Waiting

Page 24

Snake Eye
You One of the Five?
Log On Your Kettle
Targeted TV
Shopping Around
Listen Here

Page 25

Girls Just Want To Have...
France a-go-go
Amiga Power Off
Funny Figures
Fishy Business
It's a Sega World
Fake Off

Entertainment Soon!

A whole host of new games are on the horizon, and here is **AUI's** look at what's coming our way soon.

From Vulcan Software we can look forward to 'Tiny Troops', a former Mindscape title that was never

released; 'Bograts', which is described as a puzzling misadventure and should be with us as you read this. 'Jet Pilot' and 'Breed2000'. For more information look on Vulcan's website at www.vulcan.co.uk or give them a call on 01705 670269.

Quotes of the Month

"It's actually very easy to sell one million units of a new console in Japan, particularly if you're Nintendo. The test comes after then and outside of Japan."

Mark Lewis International Vice President Electronic Arts

Yet even in Japan the once gullible public are not easily led these days, according to the report we have in this NewsFile of the trouble Nintendo has had.

But Mark Lewis who knows both the US and Europe well is right to point to the difference of those markets in Japan. It will be interesting to see if Nintendo can really get back to the leading position with the kids that it once held. Don't bet your overdraft on them making it.

Buy Buy Escom

A number of Escom subsidiaries have been saved by management buy outs from the liquidated German firm. Buyers have been found for the Austrian, Hungarian, Czech Republic and Polish subsidiaries by their previous managements. The Netherlands operation has completed a management buy out, with all 34 stores continuing to trade and PCs being assembled at its Dutch plant. No such luck for the German parent company though.

Twenty of the UK Escom stores in the UK - those that Escom had acquired and built up before it made its ill fated sortie into the Rumbelow chain - have been taken over by Silica, the retail and mail order operation of Amiga distributors SDL. Like ZCL, the other major Amiga distributor, SDL hit trouble when Commodore went down and ended up as a part of the fast growing Anglo Corporation which is now reviving the Silica business. The 20 new stores now makes the Silica chain 40 strong, most of which previously seems to be shops within the Debenhams department store.

Why not go in and bug the managers of the Silica stores to get Amiga stuff on their shelves? There's nothing like customers to pep up a bit of trade and the Amiga could use a little retail pep.

Congratulations!

After much ceremony, pomp, and circumstance the winner of our Mr. Modem competition was selected. You may remember that we asked you to supply the answer to three questions: the profession of the inventor of the automatic telephone exchange, Mr. Almon B. Strowger (which got corrupted to Sowger somewhere between here and the printers, and many thanks for those of you who pointed this out); the names of the keys either side of the zero key on a standard telephone keypad; and the name of the gentleman credited with inventing the telephone.

The answers were: Undertaker, Star & Hash, and Alexander Graham Bell. And the first correct entry dispensed from our automated winner selector (a hat) was from Shelly Mostert of Cricklewood in London. Congratulations Shelly, you should have received your modem by the time you read this. Happy surfen!

Does Reality Suck?

BPM are now promoting their Reality Games Pack, which consists of eight games created using Reality - The Ultimate Software Construction Kit, an impressive piece of programming that allows you to design and build professional quality platform games in next to no time. For more details on this and their other products contact Brian Bell on 01232 626694.

EMC Goes Global

EM Computergraphic, who sell a range of clipart and font discs - the Phase series of CD-ROMs, have whispered to **AUI** that their products are now available globally. Readers in Canada, USA, and South America who are clipart fans can contact Computer Safari, Suite K, 353 West Main St., Woodland, CA 95695, USA.

Tel. 916 661 3328 Fax. 916 666 4434, while those in Australia and New Zealand should look to Amitar Systems, 1/25 Gillam Drive, Kelmscott, Western Australia 6111, Tel/Fax. (09) 495 4905.

Today it is the UK, tomorrow it will be the world?

Sega Bans SEX

Sega has announced to the world that it would ban the use of software depicting sexually explicit and excessively violent scenes for its television game machines.

Sega fears that it may lose control over content of the software for its games machines and wants to protect its image from critics as video game use rises in line with the development of more sophisticated machines, according to a Sega spokesman.

Now we wouldn't be surprised if Sega could make their ban on sex stick - after all most of those who play with their machines haven't reached the stage when they could play with themselves yet but "excessively violent scenes"? Oh come on! What are most games made up of? Violence, excessive violence, has always been a staple ingredient of the largest part of computer and especially video games. Or doesn't killing things and blowing things away count as violence to Sega? And if they ban excessive violence what is left for video games?

HOT HYDRA

Renowned for their Amiga networking, Hydra Systems have told **AUI** that they are now able to offer some really hot new Amiga products, which is always welcome news. The first of these is a new line of serial communication's products for the A1200. This new line is based on LSI technology. It makes a break away, Hydra told **AUI**, from the usual Motorola chipsets. European Comms specialists have created this line which offers four 460kbit serial ports from an internal A1200 card that measures only three square inches. Tiny, indeed...

The particular strength of this design, say Hydra, is very low CPU overhead, around just 4% per channel at 115kbit. As Hydra points out, this could be a device that would be really useful for BBS operators. VMC drivers, say Hydra, are 100% serial.device and parallel.device compatible. Hydra say that the cards do not conflict with any existing expansion fitments and like the 2 serial/parallel version are priced at £75. The bi-directional parallel port will run at 230kbits a second. A single serial port card will cost £45. Hydra say that they can supply units right now.

They also told **AUI** that they have brought out a twisted-pair/Thin-ethernet version of their well established Amiganet Ethernet card and they have reduced the price of existing stocks of BNC-only boards to £175.

Contact: Hydra Systems Red Lane, Kenilworth, CV8 1PB
Tel: 01203 4711110

WINGNUTS!

Leisburn-based Forgotten Myths have contacted us with regard to their upcoming aerial adventure 'WingNuts' which they describe as being a combative sport played by inhabitants of a planet who are aficionados of Earth cartoons. Oh really? So you get to play characters such as Dicky Dastardly and Captain Cheesy.

Forgotten Myths are also on the lookout for artists and musicians, and they can be contacted on 01846 675453.



Those magnificent WingNuts in their flying machines...

Robin the Rich

Also from Northern Ireland, BPM Promotions have been telling us about their hot new Amiga products. Famous for the Charlie Chimp character, who has often appeared on our SuperDisks, BPM are bringing to your screens 'The Daring Adventures of Robin Hood', a point and click graphic adventure based on the traditional story about men in green tights; 'The Quest for the Golden Fleece', wherein Jason and his Argonauts battle mythical creatures in and around the Mediterranean; and 'Spacefighter', which you would think is a shoot-'em-up but is actually a beat-'em-up in the style of Streetfighter and its multiferious clones.

Jason, looking somewhat like George Michael, encounters many different characters on his Quest.



Robin Hood gets to see the world on his daring adventure.

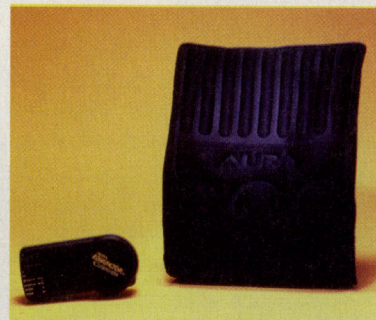


Cardinal Fang, get the comfy armchair

Monty Python fans will recognise the title of this piece as having come from the infamous Spanish Inquisition sketch, the comfy armchair being a torture no sensible human being could endure. While on the subject of tortures you may remember that **AUI** reviewed the Aura Interactor in the last issue. This device is worn by games players like a backpack and it shakes the body in relation to the intensity of the noises within the game. Unfortunately our reviewer, David Ward, found it uncomfortable because he had to perch on a stool to wear it.

Now Aura have brought out the Interactor Cushion, a padded device that does not have to be worn. (Nor does it make strange whoopee -type noises!). Instead it is placed against the back of your favourite chair so you can sit comfortably when playing games or watching videos.

The cushion is connected via its special amplifier to the audio outputs on your computer, TV, or video so when the action starts you feel in the thick of it. The Cushion is said to be ideal for use with home cinema set-ups and we recommend hiring the Charlton Heston epic 'Earthquake' from your local video store as your first Interactor experience, and why not have your chiropractor on hand to make YOU comfy afterwards?



Did the earth move for you darling?

Learn COBOL and make a packet

Year 2000 worries are beginning to have an impact on the wages of COBOL programmers. These geniuses of the arcane language are in such short supply that companies are starting to offer wage rates of up to £250 PER DAY to get the staff needed to re-program software that will go haywire when the calendar turns from '99 to '00. As the millennium approaches this figure could TREBLE!

I don't believe it!

Jason Compton, Communications Manager Amiga for VISCorp generated some excitement at the August 1996 Amiga Atlanta users group meeting by unveiling, for the first time in public, a prototype of the new Amiga 4000T-equivalent portable computer.

Although the machine, which arrived only two hours before the meeting, was a non-working example of the case (*In other words an empty plastic box?* - Ed.) that VISCorp has chosen to enclose their newest Amiga product. All in attendance were in agreement that the new owners of the Amiga are responsive to users' wishes.

Jason Compton was interviewed before the beginning of the meeting to add his latest news and perspectives to a video-taped documentary project Amiga Atlanta has been running for the past 14 months. Also video-taped that day were the unveiling of the new machine and Jason's presentation regarding VISCorp's future plans and their desire to hear from the Amiga community.

In view of the possibly historic nature of this material, the video producers of Amiga Atlanta have decided to make copies of this meeting's video-tape available to the rest of the community. Although the two hour recording is in unedited or "raw" form, Amiga Atlanta believes that the VHS tapes should be accessible to Amiga users everywhere as quickly as possible.

Contact: Amiga Atlanta Inc., PO Box 49103, Atlanta, GA 30359-1103, USA. Eml. lamar@mindspring.com
URL. <http://www.mindspring.com/~amigaatl/>

Looking Back at the Future

What were you doing fifteen years ago? No, **AUI** is not about to join in the popular press nostalgia about "that" wedding. Lasting some what longer than the 'three in this marriage' (How many are there in the divorce?) is the IBM PC, which is celebrating its fifteenth birthday.

With 16k RAM, green monochrome screen and relatively unknown operating system DOS, the system went on sale in the US priced \$1265, about £800, which was worth about the equivalent of £2000 now.

Personal Computer World wrote at the time "The only thing missing at the moment is a wide selection of packages, but I rather feel that the whole world and its grandmother will be frantically trying to fill that particular gap". And mystic Meg wasn't even writing for them!

Slowing PC Sales

Research company Dataquest have reported that European PC sales have continued to slow down in the second quarter of the year. The market research company said that PC sales grew by just 6.8 per cent to 3.55 million compared to 3.33 million a year earlier. (Which doesn't look like a fall to us. But then we aren't market researchers.) Sales peaked at 4.78 million in the fourth quarter of 1995, but fell to 3.98 million in the first quarter of the year.

Sweden, Switzerland and Portugal suffered sales declines, with Germany remaining static while Belgium, Finland, Ireland and Britain saw growth. Compaq remains Europe's leading vendor of PCs.

Quotes of the Month

In reel life, as in real life, war is a video game.
Mr. Nigel Andrews film critic, *The Financial Times*

What Mr Andrews means is that in film such as the action monsters that have crashed onto the big screen in the years of the cinema, killing appears to have immense popularity and little sense of reality. Great swathes of combatants can be cut down or blown away with a total disregard for anything except the instant satisfaction of the viewer or the player.

Western films, like *The Wild Bunch*, and the Bond epics and even classics such as *The Battleship Potemkin* have presented death and war as if the actors were no more than pixelised sprites, computerised, unreal.

With the next generation of consoles and PCs providing even more graphically realistic representations in games, players, especially very young players, are going to have yet more difficulty separating reality from fantasy. The future may not be bright but it may be orange - clockwork orange.

STRESS FREE

UK Health and Safety Regulations (1992, no2792) recognise that radiation emitted from display screen equipment could be detrimental to the well-being of the user.

French company Technosphere, have developed a device to protect a VDU user from this possibly harmful electromagnetic radiation, to help employers meet the requirements of the regulations. The Techno AO antenna is claimed to counter stress and other problems associated with VDU operation, according to the company.

The Techno AO protective antenna is a magnetic oscillator. It is attached to the side of a VDU in a vertical position. It is ultra light (25g), long and "autonomous" according to Technosphere and requires no wires or plugs. (An autonomous antenna? Wow, is it selfgoverning?)

The continuous and regular oscillation of the Techno AO antenna is claimed to counteract all biological effects caused by the multifrequential radiation cast off by the monitor. "Its main oscillation frequency is 12 Hz which is in resonance with the alpha rhythm frequency emitted from a non-stressed brain."

(Speak for yourself, Technosphere! Anyway, here at **AUI** who would know about an "unstressed brain"? The only unstressed ones here are those who are without brains and write for pages at the back of the magazine)

Studies have shown that the clinical signs of stress such as headaches, backaches, eye problems such as redness, smarting and watering, irritability, anxiety and insomnia were reduced or in some cases eradicated say the company.

Contact: Technosphere 71150 Sampigny, France. Tel: 0171 235 2773

The Truth about Statistics?

According to 'research' carried out by the Official Playstation Magazine and Playstation Power Magazine, only about 20% of the magazine readers are less than 18 years of age. Some 65% are in full employment with 24% earning over £20,000 a year.

Over £20,000 a year for Playstation players? Oh really? There are lies, damned lies and statistics, it has been said... But as yet no-one has said how that applies to Playstations. But they will, they will.

Mobile Phone protection

WaveGard have come up with with a form of protection for mobile phone users. With news that the phones are linked to health risks from the microwaves they produce when held to the head, the company is manufacturing a stick-on armoury for mobiles which they claim will prevent more than 80% of the waves from reaching the face. (And don't keep your phone in your pocket, you don't want to begin speaking into the damn thing in a high voice, do you?)

WaveCard costs £29.99.

**Contact: WaveGard
Tel: 0990 212000.**

It sucks as it blows as it ...

The Jessop Group have what they claim is the ideal tool for difficult cleaning jobs. The Mini Vacuum cleaner kit, as it sounds, features a miniature vacuum cleaner with an additional blow option, no, we won't make any comment on that, Kate - plus brush and nozzle attachments to give you access to the most difficult corner or gap. (And no, we won't make any comment on that either, Kate!)

The kit includes a dustbag for the vacuum, angled nozzle plus a bottle of cleaning spray, cloth, lint free tissues and cotton buds. This amazing cleaning solution has, say Jessop, been designed for use on electrical equipment such as stereos and computers, telephones and even car interiors. (No, you can't get into the back seat yet, Kate)

The kit is said to act against static which reduces dust is built to clean between switches and in tight corners. (Put that nozzle down, Kate! That is not the tight corner they mean!) Price £9.99.

Contact: The Jessop Group Ltd., Jessop House, Scudamore Road, Leicester LE3 1TZ. Tel: 0116 232 0033.



Comes with an additional blow option.

WE ARE AMIGA!

WE WILL NOW BEAT ANY PRICE IN THIS MAGAZINE!

HARD DRIVES

3.5" EIDE 540Mb	£119.99
3.5" EIDE 635Mb	£135.99
3.5" EIDE 1Gb	£149.99
3.5" EIDE 1.3Gb	£169.99
3.5" EIDE 1.6Gb	£179.99
3.5" EIDE 2.0Gb	£229.99

MEMORY SIMMs

72Pin 4Meg	£22.50
72Pin 8Meg	£39.99
72Pin 16Meg	£89.99

60ns SIMMs also available . . .

CALL FOR LATEST SIMM PRICES

ACCELERATORS

Apollo 1220 28Mhz	£89.99
Apollo 1232 50Mhz	£189.99
Viper 33Mhz	£119.99
Blizzard 50Mhz	£149.99

RAM EXPANSIONS

A600 2Mb Upgrade	£19.99
A1200 4Mb Upgrade	£69.99
A1200 8Mb Upgrade	£99.99

CALL FOR PRICES ON SCANNERS, PRINTERS, MONITORS, CD ROM DRIVES AND MUCH MORE!

REPAIRS

WE CAN NOW OFFER A NATIONWIDE AMIGA AND PC REPAIR AND UPGRADE SERVICE - CALL FOR DETAILS!

INFORMATION & ORDERING

Orders can be placed by phone, fax or by mail, using any major credit/debit card, or cheque/postal order payable to 'Megatrix' and allow time for clearance.

MEGATRONIX

21 Tiled House Lane
Brierley Hill
West Midlands
DY5 4LG England



For the latest information, and crazy daily special offers, be sure to check out our World Wide Web site at:

www.woden.com/~mtx

MODEMS INTERNET

WE ARE AMIGA COMMS SPECIALISTS

2400bps Modems £29.99

14400bps Modems £69.99

28800bps Modems £129.99

33600bps Modems £165.99

Whether you want to make new friends, swap ideas and programs or do some serious research, a modem will open the door to an exciting new world where anything is possible!

Receive all the latest files from the Internet, surf the latest World Wide Web pages, send and receive E-Mail – the world is your oyster!

All our modems come complete with everything you need to get online the day you receive your package.

**FREE ACCESS TO OUR BBS
MIDNIGHT EXPRESS ON
01384 86-56-26 & 82-62-82**

With every modem pack purchased from us, you will automatically receive 1 year's free access to our own Bulletin Board System, Midnight Express, where you can download 1000's of files (PD games, demos, utilities, etc) completely free of charge, 24hrs a day, 7 days!

**FULL INFORMATION ON GETTING ON THE
INTERNET IS SUPPLIED – TOGETHER WITH
INFORMATION ON FREE INTERNET TRIAL
USAGE ACCOUNTS!**

CALL WITH ANY QUERIES & QUESTIONS

SALES/ENQUIRIES

01384 77172



PORN FREE

Peter Daw, founder of Unipalm Pipex, which he sold for an estimated £35 million, has launched a foundation to combat child pornography. The formation of Safety Net aims to "hinder the distribution of illegal material on the Internet".

The service welcomes information of pornography and copyright infringements, and invites anyone to report incidents seen on the Net. The foundation is looking to eliminate 99.9 per cent of child pornography on the Internet in the UK, and coincides with reports that the UK government will set up a regulatory body to clean up the Net.

They could start cleaning up Government sleaze first but that probably isn't something they would be interested in because it doesn't sound sensationalist enough to win votes.

Quotes of the Month

"What perhaps many don't realise is a lot of inventions used to operate the telephone network were also the key technologies used in the advancement of the computing industry. For example, the transistor, integrated circuits, Unix, C and C++ were invented in Bell Labs to help run the nationwide phone system."

Andy Huffman, CEO Primtech.

And we were among those ignorant people, Mr Huffman.

Amiga Bulletin Board

The Moonlight BBS for Amigas is available between 18:00 and 08:00 seven days a week. The Sysop is John Marchant (Gnome), one of ICPUG's Technical Advisors and the host machine is an Amiga 4000/40 with USR Courier modem.

The BBS is a serious service specialising in communications, programming (C and Arexx) and Amiga utilities, but there is a wide spread of other subjects including general information and help texts. The latest Aminet CD is on line, and unlimited downloads are possible. Help is given to beginners.

Contact: Tel: 01234 212752

Endangered Wildlife

GSP are producing a portfolio of videos, facts and games which has been designed to raise children's awareness of endangered species through multimedia. These important environmental issues contained in the package 'Endangered Wildlife' are presented by David Bellamy, the well known TV presenter and expert. Price £19.99.

Contact: GSP
Tel: 01480 496666

Quotes of the Month
"The UK market is a really tough one, still dominated by games."

Arts and the cultural titles have not taken off as we expected".

Patrick Melchior, Emme (French CD ROM publisher)

Now what a surprise that is. It was a German, Nazi boss Hermann Goering who said "When I hear the word culture, I reach for my revolver." But there has seemingly always been a prejudice against anything "arty" or cultural in England. Note not the UK because Scotland, Wales and Ireland cannot be accused of this.

When the computer revolution came along, there were just as many intelligent people involved among what the French used to call "Les Rosbifs" as anywhere else. But the trivialisation that took place, turning computers that were serious machines into toys meant the whole UK market was based on games being the electronic interest for the British.

In Germany - ohne Goering, who swallowed cyanide on the day he was due to be hanged which will teach him to be anti-cultural! - France and other countries that didn't happen. So we in the UK are left with the legacy of games as the only thing that shifts computers except for business. Does that make us happy about and proud of ourselves?

Anti-Piracy Booty

Taiwan Government agents have carried out a trawl of 126 businesses and say they have seized \$2 billion worth of counterfeit software. The haul included 50,000 compact discs of computer software stolen from top international companies. More than 70 suspected bootleggers were arrested. "The effort was intended to eliminate pornographic and pirated compact disk software", an investigator said.

More porn? Why is everyone so uptight - perhaps that's not a clever choice of words, shall we say worried instead? - about sex on computers? Paper porn magazines have flourished for years without causing such a fuss. Though have you noticed that in the UK even they have to hide nipples on their covers nowadays?

Are we returning to the Victorian age when they covered up the legs of pianos and will it be the 'bases' of computers next?

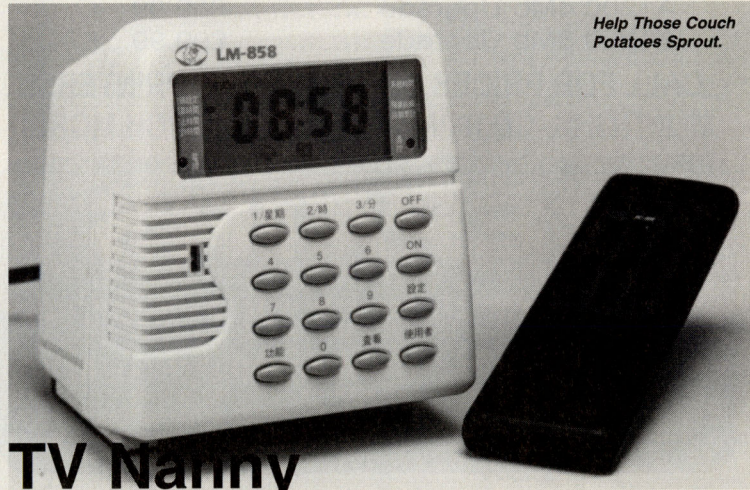
Oki Rises

A recent Dataquest summary of market share figures for manufacturers in the Western European printer market has confirmed that Oki climbed to the number two supplier of page printers in the first quarter of 1996.

Oki's market share in the overall page printer section increased to 9.4% from the 1995 figure of 3.9% when it was the fifth largest supplier. Oki Europe's managing director, Andrew Montgomery, attributes the improvement to the success of the OL600ex and OL610ex LED printers, and is keen to point out that the figures do not yet take account the success of the OkiPage 4w.

Oki's position as the second largest European manufacturer of dot matrix printers was further consolidated, with its market share increasing from 1.5% in 1995 to 18.6% in the first quarter 1996. In the professional 9-pin sector, Oki's share grew from 20.4% to 28.1% over the same period.

Contact: Oki Systems (UK) Ltd., 550 Dundee Road, Slough, Berkshire SL1 4LE. Tel: 01753 819819.



TV Nanny

A Taiwanese company has come up with a novel way to help parents control the amount of time their children spend watching TV and playing computer or video games. The TV Manager is designed to regulate the hours that can be spent in front of a screen.

The TV Manager is a small box, about the size of a pocket calculator. It can be connected to the TV or computer by plugging the TV power cable into the back and setting it like an alarm clock.

The parent's master code can be punched in with a personal code for each child. If you decide you do not want the children watching TV after school or after the watershed the hours can be blacked out. It is also possible to limit the total hours the TV or computer can be switched on during a week so that when the time limit expires the screen goes black.

Although not yet available in the UK, it is expected soon and will cost under \$100.

It is anticipated by the company that one of the benefits of the device will be to train children to use their time more efficiently and to limit the amount of time spent idly watching the box.

So, Nicholas, you know what you are getting for your birthday, don't you?

Late Night Opening
Wednesday & Thursday
till 7.30pm

Open Sunday
11am to 4pm



FIRST
COMPUTER CENTRE

HOW TO ORDER

Order by telephone quoting your Credit Card Number. If paying by cheque please make payable to: "FIRST COMPUTER CENTRE"

In any correspondence please quote a Phone No, Post Code & Dept. Allow 5 working days cheque clearance

SHOWROOM ADDRESS:
DEPT. AUI, UNIT 3, ARMLEY PARK COURT, STANNINGLEY RD, LEEDS, LS12 2AE



OPEN 7 DAYS A WEEK

LOW COST DELIVERY

- 2-4 Week Days £3.99
- Next Week Day £5.99
- Saturday delivery £20.00

Delivery subject to stock availability

- All prices include VAT @ 17.5%
- Large showroom with parking
- Multi-million pound company
- Overseas orders welcome
- Educational purchase orders welcome

Lombard Tricity low rate finance now available, call.

Prices are correct at the time of going to press. Please check our latest prices before ordering. All sales are subject to our standard terms & conditions (copy available upon request). E&OE.

Telephone 0113 2319444

24 HR MAIL ORDER SERVICE FAX: 0113 231-9191
NEW! BBS Sales & Technical line Tel: 0113 231-1422

E-Mail sales@firstcom.demon.co.uk
www.demon.co.uk/firstcom

AMIGA REPAIR CENTRE

We offer a FREE quotation on your Amiga or any peripheral (monitors, printers etc). A delivery tariff of just £5.00 is charged or alternatively you can visit our showroom. We can also arrange a courier pickup at an additional cost of £11.00.



EASY ACCESS FROM M62, M1 and the A1

From M62 Exit 10, follow signs on M62 to M1. Take A64 Elmdon Road off M1. Follow signs for ASL. This merges with the Armley Gyratory from M62 West Junction 27, A62 to Armley Gyratory. From the A1 take the turnoff for A64. This merges with the A58 (by-passing town centre) which meets Armley Gyratory.

Hardware

Still Going Strong

Amiga A1200 MagicPack

Includes: Wordworth V4SE, Datastore, Organiser, TurboCalc 3.5, Personal Paint V6.4, Photogenics 1.2SE, Pinball Mania & Whizz.

£369.99

Amiga A1200 Magic Pack Inc. 170Mb HD & Scala MM300

Includes same software pack as Magic Pack, But also includes Scala MM300 (Req. 4Mb).

£469.99

AMIGA M1438S Monitor *£265.99

*When bought with a computer

First Starter Pack

- A1200 dust cover
- 10 x D5DD disks + labels
- Top quality joystick
- Deluxe mouse mat
- 3 x A1200 games

All for only £19.99

Software Specials

- Vista Pro Lite full ver. £9.99
- Music-X version 2 £29.99
- Blitz Basic 2.1 £29.99
- Technosound Turbo II £27.99
- Final Writer 5 £72.95
- Directory Opus 5.5 £47.99

RAM Expansion

LOWEST PRICES EVER!!!

- A1200 1 MB RAM £69.99
- A1200 2 MB RAM £74.99
- A1200 4 MB RAM £89.99
- A1200 8 MB RAM £109.99
- For 68882 33Mhz Co Pro add £35.00

PRIMA A500 512k RAM no clock £19.99
PRIMA A500+ 1 Mb RAM £29.99
PRIMA A600 1 Mb RAM no clock £29.99

MASSIVE REDUCTIONS

- 1 Mb 72 Pin SIMM £10.99
- 2 Mb 72 Pin SIMM £14.99
- 4 Mb 72 Pin SIMM £22.99
- 8 Mb 72 Pin SIMM £42.99
- 16 Mb 72 Pin SIMM £96.99
- 1 Mb 30 pin SIMM £18.99
- 4 Mb 30 pin SIMM £34.99
- 256 by 4 DRAM (DILs) (each) £6.99
- 256 by 4 ZIPPES (each) £6.99

Part exchange available on your old memory. Call for pricing.

Accelerator Cards

- Viper II-33 £129.99
- Blizzard I230-50 £169.99
- Blizzard I260-50 £579.99

CD ROM Drives/Squirrel I/face

RENO Portable CD ROM

New Low Price!!!

Requires SCSI controller, eg Squirrel, GVP etc.

- SCSI-2 connectors
- 330k/sec data transfer
- Battery or Mains powered
- 100ms Access Time
- Stereo headphones supplied
- Audio CD operation buttons

Only!! £99.99

Squirrel SCSI-II Interface *£45.00

*When bought with any SCSI device, £54.95 if bought separate

Surf Squirrel SCSI-II Interface *£79.99

*When bought with any modern or SCSI device £99.95 if bought separate

Octagon/GVP SCSI Card £99.99

SCSI-II interface card for big box Amiga's A4000/2000 etc

Internal SCSI CD ROM drives

- Toshiba 5401B x4Speed £104.99
- Toshiba 3701B x6.7 Speed £175.99

Toshiba CD ROM drives are suitable to fit inside all Big Box Amiga's including A4000 Desktop Case Systems.

PRIMA SCSI Enclosures

- Single Case £69.99
- Dual Case £89.99

Ultra CD ROM Drives

- Ultra 4 Speed £169.99
- Ultra 6 Speed £199.99
- Ultra 8 Speed £219.99

New!!

Hard Drives

3.5" Hard Disk Drives with A1200/600 install kit

inc. software, cables and instructions

630Mb...£155.99 850Mb...£189.99
1.08Gig...£219.99 2.1Gig...£299.99

External Hard Drives for all SCSI aware Amiga's

500Mb SCSI £239.99
1.0Gig SCSI £314.99

Inc. High quality SCSI-II Quantum mechanism with a 100ms access time, Internal PSU, SCSI ID selector, Cooling fan, and HD prepping/partitioning software. Requires SCSI interface, ie. Squirrel/GVP additional adaptor may be req. @ £15.95

2.5" Hard Drives for A600/A1200 with installation kit

inc. software, screws, cables and instructions

80Mb...£84.99 130Mb...£99.99
170Mb...£104.99 250Mb...£119.99
340Mb...£129.99 540Mb...£169.99
810...£214.99 1.0Gig...£339.99

Seagate Fujitsu CONNER

3.5" Hard Drive install kit £18.99


Includes set up software, cables and full instructions, no Hard Drive.

Monitors

Multi-Sync Monitors

- 14" 1438s...£275.99
- 15" 1540s...£349.99
- 17" 1764...£564.99

New!!



Disk Drives

Zip Drive

Includes:
• 1 X 100Mb cartridge

£147.99

Iomega Jazz drive £440.99

*SCSI I/face & adaptor may be req. at an extra cost.

Zip & Jazz Drives £16.99

Syquest EZ-135 £105.99

additional media £17.99

Amiga External drive £49.99
A1200/600 internal drive £39.99
A500/500+ internal drive £39.99

Peripherals

- Mega Mouse+ 400 dpi (3 button) £12.99
- Mega Mouse 400 dpi (2 button) £11.49
- Amiga Mouse 560dpi (3 button) £12.49
- Quality Mousemat (4mm) £3.99
- AlfaData Crystal Trackball £34.99
- ZyFi-2 Speakers (8 watts/channel) £26.99
- ZyFi Pro Speakers (16 watts/channel) £57.99
- Roboshift (Auto mouse/joystick switch) £9.99
- Kickstart 2.04/2.05 (for use in A600) £24.99
- CIA 8520A I/O controller £18.99
- 68882 Co Pro 25mhz PLLC £34.99
- 68882 Co Pro 33mhz PLLC £32.99
- Zipstick joystick £11.99
- Saitek Megagrip II £19.99
- Amiga Modulator £34.99
- Amiga PSU £34.99
- Turbotech realtime clock cartridge £14.99...fits any Amiga

SupraFAX Modem Modems

Sportster Vi

- Class 1 Fax
- Personal Voice Mail
- Fax on Demand
- Call Discrimination
- BAPT Approved
- 14,400 Data/14,400 Fax...£98.99
- 33,600 Data/14,400 Fax...£161.99

Amiga SurfWare Software Pack

The complete software suit for all your Modem needs.

- Net Software
- Web Browser
- E-mail
- IRC...Only

£229.99

Also Includes: 30 Days Free Trial with Demon

GP Fax Software...only £44.99

Full Send and Receive Fax Software for Amiga Computers with a Fax/Data Modem.

PRIMA V34 Fax Modem

Amazing Price/Performance

- 28.8 Baud
- Class 1 Fax
- BAPT & CE approved.

Only...£113.99

Complete with cables & N-comm Software

Amiga SurfWare bundle when purchased with any Modem only...£19.99

Modem Accessories

Phone Line Extension Cables...
5M...£6.99 10M...£8.99 15M...£10.99
Dual Socket Adaptor...£6.99

Digitisers

VIDI Amiga 24 R/T £139.99
Amiga 24 R/T Pro £219.99

Pro-GRAB £129.99

Goliath PSU £69.99

200W, 4 x The power of std. Amiga PSU.

Scanners

Power Scan v4. £89.99

256 g/scale on AGA Amigas, 64 g/scale non AGA

Power Scan Col. £174.99

24 bit colour scanner, 16.7 million colours

Epson GT 5000 £399.99

Colour flatbed scanner Parallel interface.

Power Scanner Software Including cable...£59.99

CD ROM Software

Delivery £1.50 per title or £3.99 for 4+

New 3DCD-1 Objects/Images £8.99
17 Bit Continuation £14.49
17 Bit Phase 5 £14.49
17 Bit LSD compendium 1 or 2 or 3 £16.99

New!! Aminet 13 £12.99
Aminet 9/10/11/12 £12.99
Aminet set 1 collection (Aminet 1-4) £24.99
Aminet set 2 collection (Aminet 5-8) £24.99
Aminet set 3 collection (Aminet 9-12) £24.99

Amiga Developers CD Ver 1.1 £13.99
Official developers tools and docs. on CD.
Amiga Software Repair Tools Kit £39.99
Essential Amiga rescue tools. Disk/Save etc.

Amiga Classics Plus £12.99
Assassins 2 (Double) £17.49
C64 Sensations Vol 2. £16.49
CD-PD 1/2/3/4 £8.99
Encounters UFO Phenomenon £14.99
Epic Collection 2 £17.99
Emulators Unlimited £18.99
Global Amiga Experience CD £21.99
New!! EPIC M/M Encyclopedia £25.99

Light ROM 3 £40.99
Magic Workbench Enhancer £8.99
Meeting Pearls 3 £8.99

New!! Magic Publisher 4 cd set £44.99
Inc. Wordworth 4 TD, Final Writer 4 SE plus more...

NFA AGA Experience 1 or 2 £17.99
Oh Yes More Worms CD £8.99

New!! Octamed Sound Studio CD £29.99
Totally revamped, with lots of new features

Prima CD Vol 1 £9.99
Scene Storm CD £17.99
Sci-Fi Sensations 2 £16.99
Space And Astronomy £17.49
Spectrum Sensations CD 96 £26.99
Special FX (Vol. 1-John Pasternaks) £39.99
Ten on Ten pack (10x CD's) £12.49
Weird Science Network 2 CD £19.99
Weird Science MultiMedia Toolkit 2 £16.99
Weird Science Amos PD CD £16.99
Weird Science Octamed 6 CD £24.99
Weird Science UPD Gold CD (4x CD's) £24.99
Weird Science Clipart/Fonts £8.99
Weird Science Sounds Terrific Vol.2 £16.99
Weird Science Animations 2 CD set £22.99
Workbench Add Ons £24.99
New!! CD ROM World Atlas £17.99
Network 2 CD & Sernet Cable £35.99

FREE!! Prima Shareware CD-ROM worth £10 with every order of CD-ROM software over £30

Printers

Canon

- Canon BJ30 £148.99
Portable mono printer, 30 page ASF built in.
- Canon BJC70 Colour £187.99
Portable colour printer, 30 page ASF.
- Canon BJ210 £143.99
Mono printer, 720x360 dpi, colour upgradeable.
- Canon BJC4100 £222.99
Quality colour/fast mono printing, 720x360 dpi.
- Canon BJC610 £344.99
Enhanced colour printer, virtual 720 dpi.
- Canon LPB-460 £279.99
Windows 95 only, 4ppm GDI Laser Printer.

CITIZEN

ABC Colour printer £129.99
Simple (as easy as ABC) to use 24 pin printer. Comes as standard with 50 sheet Auto sheet feeder. Tractor feed optional at £34.99

Citizen Project-Ilc £164.99
Colour Inkjet, 300x300 dpi, 70 sheet ASF

Citizen Printiva 600c £379.99
600 dpi colour, 1200 dpi mono printer. Use's New Advanced Micro Dry print Technology.

Epson LQ-100+ £107.99
24 Pin Dot Matrix Printer, 50 Sheet ASF.

Epson LX-300 £121.99
9 Pin Dot Matrix Printer, Colour Upgrade £34.95

EPSON

- Stylus 500 Colour £282.99
720 dpi, 4ppm Black, 2ppm Colour.
- Stylus Colour IIs £166.99
720dpi, 2.5ppm Black, 1ppm Colour.
- Stylus 820 £132.99
720 dpi, 2.5ppm Black, Colour Upgradeable.
- Epson LQ-100+ £107.99
24 Pin Dot Matrix Printer, 50 Sheet ASF.
- Epson LX-300 £121.99
9 Pin Dot Matrix Printer, Colour Upgrade £34.95

Miscellaneous

- Printer Switch Box 2 way £12.99
- Printer Switch Box 3 way £17.99
- Printer Stands (Universal) £4.99
- 1.8 Metre printer cable £4.99
- 5 Metre printer cable £8.99
- 10 Metre printer cable £12.99
- Parallel port extension cable £9.99

HP

- HP340 Portable Colour Upgrade £34.95
- HP600 £179.99
Upgrade to full colour only £34.95
- HP660 Colour £278.99
New colour Inkjet from HP.
- HP870 Colour £395.99
600x600 dpi up to 6 p/pm mono, 3p/pm colour
- HP5L Laser printer £369.99
4 p/pm, 600 dpi, 1 Mb of Ram.
- HP5P Laser printer £645.99
6 p/pm 600 dpi, 1 Mb of Ram.

Star

- Star LC90 9 pin mono £79.99
ASF built in, push tractor optional
- Star LC240 24 pin mono £93.99
192 cps draft, with ASF built in.
- Star LC240C 24 pin Colour £108.99
ASF built in, 4 LQ fonts.
- Star SJ144 Colour £183.99
Colour thermal transfer printer, low running costs, 3 p/pm mono, 1.4 p/pm colour.

Consumables

Ribbons

- Citizen Swift/ABC mono £3.99
- Citizen Swift/ABC colour £12.99
- Star LC90 mono ribbon £4.99
- Star LC101/100 mono £3.69
- Star LC101/100 colour £7.99
- Star LC240C colour £13.99
- Star LC240C mono £8.99
- Star LC240 mono £5.99
- Star LC241/10200/300 Colour £12.99
- Re-Ink Spray for mono ribbons £11.99

Ink Cartridges

- Canon BJ10/Star SJ48 £17.99
- Canon BJ200/230 £18.99
- Canon BJ30 (3 pack) £12.99
- Canon BJC70 mono (3 pack) £10.99
- Canon BJC70 colour (3 pack) £17.99
- Canon BJC4000 colour (single) £16.99
- Canon BJC4000 mono (single) £6.99
- Canon BJC4000 mono high cap. £28.99
- Canon BJC6000 mono/col. £8.99/£7.99
- Citizen Printiva mono/col. £5.99
- HP Deskjet 340 mono/col. £21.95
- HP Deskjet 500 mono/col. £22.99/£24.99
- HP Deskjet 660 mono/col. £23.99/£25.99
- HP Deskjet 850C mono/col. £27.49/£28.99
- Canon Stylus mono/col. £13.99/£27.99
- Epson Stylus Col. Its mono/col. £17.99/£24.99
- Epson Stylus 500 mono/col. £16.99/£24.99
- Star SJ144 mono/colour (single) £7.99
- Printer Dust Covers £5.99

Paper

- Fanfold (tractor feed) 500 sheets £6.99
- Fanfold (tractor feed) 1000 sheets £12.49
- Fanfold (tractor feed) 2000 sheets £21.49
- Single sheet 500 sheets £6.99
- Single sheet 1000 sheets £12.49
- Single sheet 2000 sheets £21.49
- Epson Stylus 720 dpi paper pack £9.99
- H.Packard Glossy paper pack (10) £10.99
- High Quality Inkjet Paper (500) £10.99

Premier-Ink Cartridge Refills

Save a fortune in running costs with your ink/bubble jet. Compatible with the HP Deskjet series, Canon BJ10/200/310/330/330, Star SJ48, Citizen Project and many others.

- Single refills (22ml) £6.99
- Two refills (44ml) £12.99
- Three colour kit (66ml) £19.99
- Full colour kit (88ml) £27.99
- Bulk refills (125ml) £24.99

Laser Printer Supplies

- Hewlett Packard Laserjet 5L £65.99
- Hewlett Packard Laserjet 5P £75.99
- Hewlett Packard Laserjet 4L £68.99
- H. Packard L-jet 4M/5M/N £29.99
- Canon LPB-460 Toner £79.99

Laser printer supplies for major manufacturers available...Call.

Disks

- Bulk D5DD**
 - 10 x £3.49 100 x £26.99
 - 30 x £9.99 200 x £49.99
 - 50 x £14.99 500 x £114.99
- Branded D5DD**
 - 10 x £4.99 100 x £41.99
 - 30 x £13.99 200 x £76.99
 - 50 x £21.99 500 x £175.99
- Bulk DSHD**
 - 10 x £3.99 100 x £29.99
 - 30 x £10.99 200 x £55.99
 - 50 x £16.99 500 x £129.99
- Branded DSHD**
 - 10 x £5.99 100 x £44.99
 - 30 x £15.99 200 x £82.99
 - 50 x £23.99 500 x £189.99
- Disk labels x500 £6.99**
- Disk labels x1000 £9.99**

Direct Amiga Retail

A new family run retail business, Direct Software has opened in Northampton. (Where everyone knows strange people go to live in places called "Frosty Hollow" and other Godforsaken spots). The new store claims to offer the full range of software for all major formats but is dedicating significant floor space to Amiga products.

The firm says it has hundreds of Amiga titles in stock, including 80 CD32 games. The owners promise to find any title requested by customers. "Our main target is to help all the Amiga owners in the country who have been finding it difficult to get Amiga software since the takeover situation and the resulting lack of interest from software stock-ists" said Jennie Flowers, director of Direct software.

"We are totally dedicated to helping the Amiga get back on its feet again by striving to stock the largest range of Amiga titles in the country."

As the Direct Software name suggests, Amiga users who live outside the Northampton area can obtain titles from a nationwide mail order service.

Quotes of the Month

"If and when we have very large bandwidth systems, which are obviously coming, optical links into the home, so that you can have megabytes or hundreds of megabytes even flowing in and out, then the potential is dramatic. But it doesn't mean to say that it will actually produce anything useful."

Sir Clive Sinclair, Inventor of the ZX80 computer.

And Sir Clive - once one of Margaret Thatcher's favourite 80s entrepreneurs - should know. He was responsible for the Spectrum which really started the idea of the computer as a games machine in the UK. He has a lot to answer for but at least he is now aware that most gadgets, particularly electronic gadgets like the TV, don't actually produce very much that is useful - unless we consider couch potatoes useful.

Postage Stamp Storage

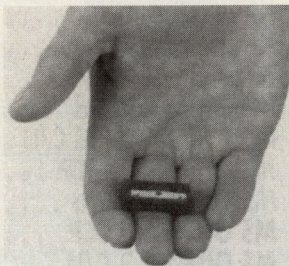
Pereos is the world's smallest tape drive, according to the company. It weighs 300 grams including batteries. The tapes on which data is stored are about the size of a postage stamp, although each cassette is capable of holding 1.2 gigabyte of data.

Pereos will run with 2 AA batteries. The AC adaptor is included and the company provides backups, restoration, export, import, offload, onload, disaster recovery, fuzzy find and many more utilities, say Pereos.

The mobile pack, price £550, includes the

P e r - e o s drive, a high capacity (up to 1.25Gb) micro data tape in storage case, a head cleaning cartridge, drive parallel port, 2 x AA battery base unit, and a rescue diskette!

Contact: Pereos Tel: 01494 436380.



Teeny weeny tapey.



Big TechnoPlus Cuts

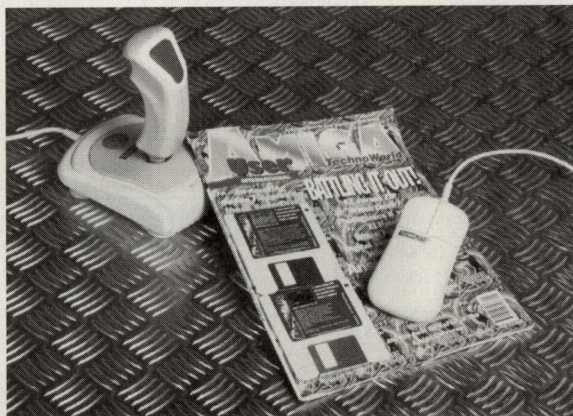
Technoplus a Hong Kong-based computer peripheral and accessory company has set up a UK office and claims that thanks to the benefits that this has brought, it's been able to slash the prices of its Amiga products. The total so far of which news has reached us is a staggering £7.

Wow, it's Las Vegas time, folks!

The products on which this munificent offer is being made are an Amiga joystick and an Amiga mouse. The old price for each was £14.99 but now, you lucky people, you can purchase the joystick at £12.99 and the mouse at a mere £9.99.

What can you do with all this cash you save, according to none-other-than Michael Baxter, oldtime Amiga PR promoter himself, you can, wait for it, it's his advice not ours, spend the £7 saved on two copies of **AUI**. Is he buying them cheap? It costs £8 less tuppence for two copies of the best Amiga magazine in the universe, Mr Baxter!

But if you want to ask where to get these wondrous TechnoPlus joysticks or mice or even to ask him where he buys cheap copies of **AUI**, his number is Tel: 0385 353560.



You could spend the saving on almost two copies of AUI.

EC Says Two Years

Proposals by the European Commission will mean that retailers will be forced to supply two year warranties as minimum if these directives reach the statute books.

The EC has circulated a summary of a draft directive which will give consumers the right to reject faulty goods for up to a year after purchase. Consumers owning faulty durable goods over two years old would be restricted to rights of compensation only.

The draft directive assumes that any product defects found within six months of purchase were present when the product was first bought. This would guarantee the right for a refund.

Six months? If they get that through there is going to be a problem for those supplying such electronic goodies as computers.

Fibreguard

Toyota have come up with what they see is a simple way to deter computer crime. The FibreGuard device consists of a detector attached to a thin fibre-optic cable that is threaded through the chassis of the computer and its internal components to make a loop. A coded light is transmitted by the detector, which is connected to the existing alarm system of a building. Any attempt to open or cut through the fibre optic cable in order to remove components will interrupt the light signal and trigger the alarm.

Contact: Toyota Tsusho Europe Tel: 46 8106522.

God Help Us!

A UK version of Online Jesus is likely following its claimed success in Germany. Created by the Lazarus Society of Cologne, the software offers desktop confessions, with 200 example sins with an appropriate point score such as 10 for envy with 1000 for murder. Once all the points are totted up the software produces a suitable penance.

Now we promise, we swear, we even vow that we are not making all this up. Such software really exists in Germany. Will priests be made redundant you may well ask?

Ged Clapson, (that's Ged not God) the deputy director of the Catholic Communications Centre doesn't think so. "Technology is there to be used but it is no substitute for the one-to-one contact that is the richness of the confessional". Oh really?

Anyway, we're not sure we have committed all those 200 example sins yet, but we'll go on trying.

GASTEINER

18 - 22 Sterling Way, North Circular Road,
Edmonton London N18 2YZ

TEL:0181 345 6000

FAX:0181 345 6868

Open Monday to Saturday 9am to 6pm

MEMORY SIMMS

LOWEST PRICES GUARANTEED

SIMMS FOR A4000, VIPER, APOLLO, MAGNUM, HAWK AND MANY OTHER CARDS PHONE FOR DETAILS TODAY
72PIN 32BIT

2MB	£39
4MB	£44
8MB	£79
16MB	£179
32MB	£359

30PIN 16BIT

1MB	£15
4MB	£70

LIMITED STOCK SO HURRY!!!

FOR FPU SEE OUR OFFER!!!!!!!!!!!!

ACCELERATORS

LOWEST PRICES GUARANTEED

VIPER APOLLO AND MANY OTHER CARDS PHONE FOR DETAILS TODAY
VIPER

	28MHZ	50MHZ
0MB	£119	£199
4MB	£163	£243
8MB	£198	£278
16MB	£298	£378

BLIZZARD 1230 50MHZ

0MB	£189
4MB	£233
8MB	£268
16MB	£368

APOLLO

	28MHZ	50MHZ
0MB	£95	£199
4MB	£139	£243
8MB	£174	£278
16MB	£274	£378

APOLLO 040 COMING SOON RING FOR PRICE

VERY LIMITED STOCK SO HURRY!!!

A600 Accelerator £99.

MODEMS

MOTOROLA 28.8 FAX & MODEMS

LIMITED STOCK ONLY

NOW WE ARE SURFING

£149.00

PRINTERS

EPSON

COLOUR II	£199
COLOUR IIS	£243
PRO XL-A3	£1009.33
STYLUS COLOUR II	£339.58
PRO A4	£457.08

HEWLETT PACKARD

320	£198.58
660	£299.08
850C	£486.58

RAM EXPANSION

LOWEST PRICES GUARANTEED

A1200 RAM CARDS WITH CLOCK & FPU SOCKET

2MB	£89
4MB	£94
8MB	£149

A600 RAM CARD

1MB	£20
1MB WITH CLOCK	£35

A500 RAM CARD

1/5MB	£15
-------	-----

A500 PLUS RAM CARD

1MB	£20
-----	-----

FPU MATHS-COPRO

FPU INCREASES SPEED ON AMIGA RAM CARDS & ACCELERATORS

28mhz	£20
33mhz	£33
50mhz	£69
Buy FPU with any of our ram card & get FPU for half price	

MONITORS

MICROVITEC 1438	£259
SAMSUG 15"	£319
SAMSUG 17"	£519
SONY 17"	£679
SONY 15"	£399
GASTEINER 14"	£299
GASTEINER 15"	£379
GASTEINER 17"	£469

VGA ADAPTOR NEEDED

CARTRIDGES

SYQUEST CARTS

	EX VAT	VAT	INC VAT
44MB	£25.00	£4.38	£29.38
88MB	£27.95	£4.90	£32.85
105MB	£25.00	£4.38	£29.38
200MB	£42.95	£7.52	£50.47
270MB	£39.95	£7.00	£46.95
EZ135	£13.50	£2.37	£15.87

ZIP CARTS

100MB	£10.50	£1.84	£12.34
JAZZ 1GIG	£POA	£POA	£POA

REMOVABLE MEDIA

SYQUEST

INTERNAL & EXTERNAL

88MB EXT.	£233.83
200MB EXT.	£351.33
270MB INT.	£269.08
270MB EXT.	£351.33
EZ 135 EXT.	£163.32

IONEGA

ZIPP 100MB	£163.32
JAZZ 1GIG INT.	£445.33
JAZZ 1GIG EXT.	£480.58

SCSI CARD OR SQUIRREL IS NEEDED TO RUN SCSI DEVICES ON AMIGA

CD-ROMS & CD WRITERS

CD-ROMS

new 2 speed	£116.33
new 4 SPEED	£198.58
NEC 6 SPEED	£351.33

CD-WRITERS

PINNACLE	£739.07
RICOH 2SPEED	£927.08

SCSI CARD OR SQUIRREL IS NEEDED TO RUN SCSI DEVICES ON AMIGA

HARD DRIVES

IDE 2.5" HARD DRIVES FOR A600, A1200 SX1 & SX32

40MB	£45
60MB	£60
80MB	£69
120MB	£89
170MB	£99
210MB	£109
250MB	£119
340MB	£129
540MB	£189
800MB	£249

COMPLETE WITH SOFTWARE & CABLES

STOP! & THINK DO YOU
REALLY WANT SOMEONE TO INSTALL

WORKBENCH & 100MB OF PUBLIC

DOMAIN SOFTWARE AND CHARGE

MORE FOR IT !!! BUY FROM US AND

SAVE MONEY .

3.5" SLIM IDE HARD DRIVES FOR A4000 & A1200

540MB	£139
850MB	£159
1.3GIG	£179
1.6GIG	£199
2GIG	£289

SCSI HARD DRIVES

100MB	£49
540MB	£139
1GIG	£219
2GIG	£399
4GIG	£799

EXTERNAL SCSI CASE WITH POWER SUPPLY.....£59

SCSI CARD OR SQUIRREL IS NEEDED TO RUN SCSI DEVICES ON AMIGA

SCSI CARDS

FOR A600 & A1200

SQUIRREL	£50
SQUIRREL SURF	£95
SQUIRREL MPEG	£195

FOR A1500, A2000 & A4000

OCTOGON 4008	£99
--------------	-----

SCSI CARD OR SQUIRREL IS NEEDED TO RUN SCSI DEVICES ON AMIGA

we also sell many consumables phone for details

DELIVERY CHARGES

SMALL CONSUMABLES AND SOFTWARE ITEMS UNDER THE VALUE OF £59 PLEASE ADD £3.50 P&P. OTHER ITEMS EXCEPT LASERS, COURIER SERVICE £10 PER BOX. OFF SHORE AND HIGHLANDS, PLEASE CALL FOR A QUOTATION. IN ADDITION WE OFFER THE FOLLOWING EXPRESS SERVICES: SATURDAY DELIVERY NORMAL RATE PLUS £15 PER BOX, MORNING, NEXT DAY NORMAL RATE PLUS £10 PER BOX, E&OE PRICES ARE SUBJECT TO CHANGE WITHOUT PRIOR NOTICE. ALL TRADEMARKS ACKNOWLEDGED. WORLDWIDE DELIVERY AVAILABLE.

GOVERNMENT AND MAJOR PLC PURCHASE ORDERS WELCOME.

TRADE ENQUIRY WELCOME.

TEL : 0181 807 2000

Its good to Surf!

BT claim to have cut the cost of access to the information super-highway for small businesses following criticisms that ISDN was overpriced. This move is expected to help the market for innovative digital services such as videotelephony. The new charges for the high speed data service ISDN2 should attract small businesses or branch offices of larger organisations, said a BT spokesman.

ISDN, in which information including voice data and images is transmitted in digital form and is one of the fastest developing areas of BT's business, currently doubling in volume each year. But the cost is still likely to be prohibitive to all but the most ardent Internet residential user. Until recently, it cost about £400 just to install ISDN, which hasn't encouraged too many people to get into it.

This Way, Sir

Time was when the Automobile Association was invaluable for its help on the best route to get anywhere in the UK. All you had to do was phone them, tell the appropriate department where you wanted to go and they would send you a neatly printed out map showing you the most effective route.

There was also a time when if you were a member of the AA and had their badge on the front of your car, their motorcycled AA rescuers would salute you as they passed. That was stopped because it was thought dangerous to get them taking their hands off the handlebars. Though we hear that the the motorcycled rescuers are being brought back. (No, they haven't been waiting out there!)

Alas the phoning and the maps are no more because the AA is bringing out a range of CD-ROMs which will include travel guides and map-based reference titles. The initial launch will consist of five titles drawing on the AA's extensive geographical databases. One of the first will be a Virtual Reality guide to London with a similar guide to Paris to be launched next year.

Their planned Interactive Britain and Ireland is said to be going to feature topics such as regional weather and even accents.

If we were the AA though we would not, as we swear an Irishman told us in Dublin, start from here.

Down Goes 3DO

Electronics Boutique has dropped the price of the 3DO Multiplayer to \$99 in the US. That's just about £60. The chain is effectively looking to offload stocks of the machine in anticipation of the arrival of Nintendo 64.

This is said to be the first time any CD-based "next generation machine" has dropped below £100. When the 3DO was launched it cost \$699. Software nows sells for a mere \$20.

And whatever happened to the universal standard that the 3DO was to be and which Trip Hawkins so proudly announced in 1993 in Chicago at the CES?

PIOSly Waiting

We have heard that PIOS, the company set up by a number of ex-Escom, ex-Commodore staffers, including John Smith, the last Amiga employee in the UK, is starting to sell a Mac clone machine. PIOS had previously said that it intended to develop a PowerPC-based Amiga machine. But it seems to have been waiting for ViS Corp or Amiga Technologies to push ahead with this because doing it themselves is likely to be a long and difficult job for a start up company.

It appears that, meanwhile, it is

Silicon's studio

Silicon Studio/London has opened to train a new generation of computer artists, or so SG says. The £2 million training centre, for creative specialists who use digital technology, is designed to enable them to use the latest computer graphics technology to create animation, special effects and other forms of digital entertainment.

Managers at Silicon Graphics, who have created the Centre say they aim to produce people who are so accomplished with the computer systems that technology supports rather than hinders their creative efforts.

The studio is designed as an environment where creativity can be combined with technical skills to generate work using digital authoring, editing and post production tools. Some of which, surprise, surprise, might just be Silicon Graphics workstations.

"Today's computer graphics system is the paintbrush of the digital age. It is the tool that creates the art - animation, special effects and multimedia productions - that is seen and admired by most people today in productions like Toy Story and Jumanji", said Mark Tickle, UK marketing manager of the Centre.

You too can be a contemporary Michaelangelo or even a Silicon Graphics Leonardo.

Contact: Silicon Studio. Tel: 0171 478 5000.

Nintendo Stops

Recently, the Japanese stock markets reacted in panic to claims in a press report that stated that the N64 sales in Japan had dramatically slowed down and that this could cause massive damage to Nintendo's profits. The report in the leading Japanese financial daily Nihon Keizai Shimbun caused the Tokyo and Osaka stock exchanges, on which Nintendo is, to see the Nintendo shares come crashing down and have to be suspended.

The report claimed that there had been an abrupt slowdown in demand for the N64, partly because there are still only three games available for the system. The report said that Nintendo's half year profits for fiscal year 1997 could plunge by 70% to Y19 billion and full year by 53% from Y117 billion to Y55 billion.

Nintendo called an emergency press conference to refute claims that the N64 sales weren't going to plan. There are fears that the nightmare for Nintendo isn't over. If the N64 doesn't hit the ground running and sell like crazy straight away in the USA, there could be a another panic and Nintendo, once Japan's most profitable company, could be in real trouble. Seems strange doesn't it that such an erstwhile successful company should be depending for its life on one hardware product - and that doesn't have much software to go on it.

not so much back at the Ranch, but back to the drawing board and they are selling a machine that is said to be able to do everything that a Mac can and when and if they have carried out their Amiga-based devel-

opment that can be incorporated into the machine.

It all seems like a long way around to go to create what is needed a quick and maybe even dirty Amiga computer back on the market.

Quotes of the Month

Today we have a culture which is remarkably well suited to the industries of the future, but an educational system which is not. A system which still produces an elite, as well educated as anyone in the world, but mis-manages to leave the majority of the population unprepared for these new industries.

Professor Steve Molyneux.

Interactive Multimedia Communications, University of Wolverhampton

The biggest tourist attraction in the UK, except for Buckingham Palace, is the Tower of London. Britain still sells itself as living in the past and living in the past is what it does. Huge amounts of cash are spent on private education and further education and yet the majority of kids leaving school are technologically illiterate fit for very little other than the manual labour in which their grandfathers and maybe even their fathers could be employed but which is today disappearing.

A country that neglects its education system - mis-manages it - and lives in the past and the hope of returning to the past glories will just sink when it confronts the new age of technology.

Amiga Mice

Replacement Mice	£6.95
MegaMouse 400	£9.95
MegaMouse Plus (3 Button)	£12.95
Optical Mouse	£29.95
Crystal TrackBall	£34.95
Pen Mouse	£19.95
Auto Mouse/	
Joystick Switch	£12.95



Ram Boards

A500 512K Ram Board w/o clock	£15.00
A500+ 1Mb Ram Board w/o clock	£20.00
A600 1Mb Ram Board w/o clock	£20.00
A600 1Mb Ram Board with clock	£30.00
A1200 2Mb Ram Board with clock	£69.95
A1200 4Mb Ram Board with clock	£79.95
A1200 8Mb Ram Board with clock	£119.95
FPU 33MHz	£33.00

Controllers

AlfaPower Hard Drive controller A500	£99
AT-Bus Hard Drive controller A2000	£69
Oktagon 2008 SCSI controller	£99
Multiface III	£79

Spider

NEW MULTI I/O CARD

FOR AMIGA 1500/2000/4000

Active 8 port high speed serial card.
Multiboard Support 57600 Baud rate on all channels simultaneously.£299

New AlfaQuatro

Specially made hardware and software. Allows 4 ATAPI devices, ie, 2 IDE hard disk & 2 IDE CD Rom to Amiga 4000 internal IDE controller, through Alfapower on Amiga 500/500+ and possibly Amiga 1200 comes, with full IDE Fix software£59

Connexion New Ethernet Card

FOR AMIGA 1500/2000/4000

Features:

- 10Mbit Ethernetcard for A2000/3000/4000
- 16 Bit-Zorro-Bus Design – gives highest transfer rates while minimizing CPU load£185

For full specification call 0181 900 9291

Speakers

Multi Media Speakers	
25 watt (pmpo)	£29.35
Multi Media Speakers	
100 watt (pmpo)	£39.95
Multi Media Speakers	
240 watt (pmpo)	£49.95
Multi Media Speakers	
300 watt (pmpo)*	£59.95

* 3D surround sound

92% AUI



Floppy Drives

External Floppy Drive for all Amigas	£39.95
Internal Floppy Drive A500/500+	£35.00
Internal Floppy Drive A600/1200+	£35.00
A-Grade Double Density box of 50 disks including colourful labels	£13.00



IDE Hard Drives

FOR AMIGA 500/500+ 1500/2000/4000

AT-Bus hard drive controller A2000	£69.00
Alfapower-0 controller 0Mb	£99.00
Alfapower-120 120Mb hard drive	£159.00
Alfapower-250 250Mb hard drive	£179.00
Alfapower-420 420Mb hard drive	£199.00
Alfapower-540 540Mb hard drive	£209.00
Alfapower-850 850Mb hard drive	£229.00
Alfapower-1.0G 1.0Gig hard drive	£249.00
Alfapower-1.2G 1.2Gig hard drive	£269.00



Memory for Alfapower-Plus (new) marked Alfapower-Plus

2Mb SIMMS	£30.00
4Mb SIMMS	£30.00
8Mb SIMMS	£60.00

Memory for Alfapower (old)

Every 2Mb Zip-Rams	£89.95
--------------------------	--------

IDE 2.5" Hard Drives

FOR AMIGA 600/1200

IDE-120 120Mb hard drive	£79
IDE-210 210Mb hard drive	£99
IDE-250 250Mb hard drive	£119
IDE-340 340Mb hard drive	£120
IDE-420 420Mb hard drive	£199
IDE-540 540Mb hard drive	£199
IDE-810 810Mb hard drive	£249
IDE-1.0G 1.0Gig hard drive	£349
IDE-1.2G 1.2Gig hard drive	£399

IDE 3.5" Hard Drives

FOR AMIGA 1200

IDE-540 540Mb hard drive	£129
IDE-850 850Mb hard drive	£149
IDE-1.0G 1.0Gig hard drive	£175
IDE-1.2G 1.2Gig hard drive	£179
IDE-1.6G 1.6Gig hard drive	£199
IDE-2.0G 2.0Gig hard drive	£239

Miscellaneous Products

DD floppy disks (50) including multicoloured disk labels	£13.00
DD floppy disks (100) including multicoloured disk labels	£25.00
3.5" Hard Drive Kit for A600/1200 + Install software	£15.00
Colourful Mouse Mat	£5.00
Optical Mouse Mat	£5.00
2 in 1 Scanner/Mouse Pad	£9.95
Contoured Wrist Pad	£5.50
Plain Wristrest	£3.50
2Mb SIMMS	£30.00
4Mb SIMMS	£30.00

CD CLEANERS

CD Rom Cleaner	£6.00
Automatic CD Rom Cleaner (battery powered)	£19.95
Laser Lens Cleaner	£9.00

Complete CD Rom for all Amigas

Quad Speed CD Rom for A500	£129
(needs Alfapower V6.8 or higher)	
Quad Speed CD Rom for A600/A1200	£149
(inc CD32 emulation)	
Quad Speed CD Rom for A1500/A2000/A4000	£109

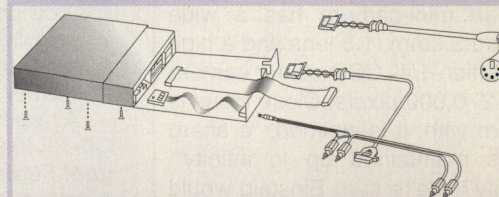


External IDE CD Rom Upgrade Kit

comprises of:

Metal case, screws, Power Connector (draws power from disk drive port) Power Connector (for optional external Power supply), IDE ribbon cable, Stereo Audio Cables.

Kit price £39



Special Offer for this Month

IDE 3.5" Hard Drive 1.7Gig (including cables & software)	£195
IDE 2.5" Hard Drive 340Mb	£120
Viper A1230 Accelerator Board and 8Mb 33MHz	£180
External 8 Speed CD Rom drive complete (including cables, software and external case for Amiga 1200/600)	£189
Limited stocks please confirm before ordering (for specials)	

2.5" IDE 60Mb Hard Drive	£55
2.5" IDE 340Mb Hard Drive	£120
2.5" IDE 540Mb Hard Drive	£150
All hard drives come with cable, software and screws.	
3.5" IDE 850Mb Hard Drive	£130
3.5" IDE 1.7GIG Hard Drive	£195
All hard drives comes with cable and software.	

STAR BUY

8 Speed External CD Rom Drive for Amiga 1200 including CD32 emulation and (A goody CD Disk)	£189
Viper A1230 33MHz with 8Mb	£180

Accelerator Boards

A1220 APOLLO Accelerator Board	£99.95
A1220 APOLLO Accelerator Board + 4Mb	£139.95
A1230 VIPER Accelerator Board 33MHz	£119.95
A1230 VIPER Accelerator Board + 4Mb 33MHz	£169.95
A1230 VIPER Accelerator Board + 8Mb 33MHz	£180.00

All prices include VAT. Please add £3.50 P&P for items under £30.00, £5.00 for items over £30.00, £8.00 P&P for Scanners, Speakers & Hard Drives, £10.00 courier for next day. Tax Free Export Orders Welcome.

Golden Image accepts Access, Visa, Cheques & Postal Orders. E&OE. Prices subject to change without notice. Goods subject to availability. Specifications subject to change without notice.



GoldenImage (UK) Ltd

Unit 65, Hallmark Trading Estate, Fourth Way, Wembley, Middx HA9 0LB

Sales Hotline No: 0181 900 9291 Fax: 0181 900 9281

http://www.reserve.co.uk/gold Talking Pages: 0800 600900



Snake Eye

A flexibly mounted digital mini camera, from European Communications Technology, the Snake Eye, is said to be capable of capturing video images for input to PCs, video projectors, monitors/TV, video recorders or for video conferencing applications.

The mini-camera has a wide angled 3.9mm f1.8 lens and a high resolution 1/4" CCD colour camera with 270,000 pixels. Close focus is 10mm with, it is claimed, "a sharp focus maintained up to infinity". Infinity? We're sure Einstein would have liked to see that.

The flexible arm and 90 degrees rotating camera head allow versatile shooting positions. Manual focus lets the user have control on the subject. The auto-white balance is said to ensure proper correction of colour variation, while the auto-iris corrects for different light conditions, from daylight down to 9 lux. The Snake Eye, say its manufacturers, is designed for presentations and meetings and has a built-in microphone. Looks a clever little device, doesn't it?

Contact: ECT

Tel: 01734 841141

You One of the Five?

According to a report from Microsoft one in every seven households in the UK owns a CD-ROM PC. It also expects the numbers to fall - or rise, depending which way you look at it - to one in five with some 1.5 million such PCs sold over the next twelve months.

As there are some 22 million households in the UK that means that there will be over 4 million possessing such PCs. It's not impossible, is it? But it does seem an awful lot to buy such a powerful but fundamentally unuser friendly machine. If it keeps Bill Gates happy, then we are all happy, aren't we?

Log On Your Kettle

Netscape, the Internet browser company, has launched a new company called Navio. The idea behind Navio is that it should develop Netscape's Navigator browsing software across a range of devices: network computers, TVs, telephone pagers and other domestic appliances.

As someone has commented, instead of there being PCs with CD-ROMs and modems, very soon we might be buying intelligent kettles which have Internet connections. On the way home from work you click on your pager and send a message, through the great and Super Information Highway, to have your kettle boiling by the time you arrive.

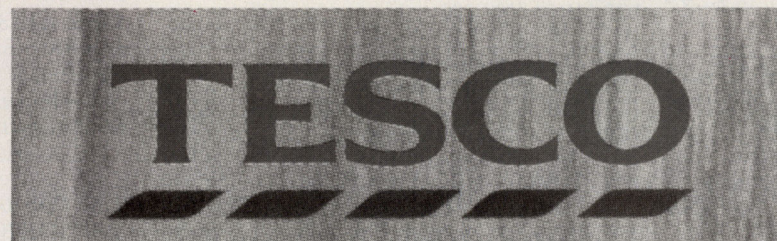
Or even to have your girlfriend boiling - or at least heating up - by the time you park the car. We look forward with eager anticipation to more news of Navio.

Targeted TV

Granada Media, the Granada group's TV operation is planning to launch city-based cable television channels in specific regions in the UK. The channels have been designed to complement the seven satellite programme services to be launched in October with BSkyB.

Granada's channels, which would offer live entertainment and news, could offer considerable competition to the two main existing cable-only channels, the Mirror group's Live TV and Channel One, the 24 hour news channel owned by Associated Newspapers.

Granada are looking to use their facilities in London, Manchester, and Liverpool through two new businesses - Granada Vision and Granada Media Products.



Shopping Around

Both Tesco and ASDA supermarkets are trying to get into the "multimedia market" but they want to take their time because they are afraid of getting stuck with a load of unsaleable software. ASDA has started by putting a small selection of software into 180 stores. It expects to major on "lifestyle" and educational titles, but will also sell some of the top games too.

Tesco expects to specialise in children's and home office software, but they say that they will wait until after Christmas before really starting to push multimedia. It is, says its buyer Janet Deacon, in a "learning curve exercise" and putting software into an initial 130 stores.

Another retail chain to feel the need to multimedia itself is HMV. They are taking a different tack from the other chains by getting into technical add-ons. Believe it or not recent posters at some of HMV's top stores read "Trouble running Windows 95? Trouble running the latest games? Increase memory with these upgrades". And there they were bare 4Mb SIMMs for £49.99 and 8Mb SIMMs for £99.99.

HMV's games buyer said "Today's PC consumer is competent enough to upgrade his own computer. The customer tells us the existing spec and machine type and we supply the SIMMs."

One HMV manager was delighted. "We've sold out of 8Mb SIMMs. He crowed.

So now we have a sufficiently computer-expert consumer to pop into the local store and pick up few Simms on the way home. This certainly is a technological age, isn't it?

Listen Here

The DTI and the Engineering and Physical Sciences Research council have funded a project to look into a way to store and retrieve recordings of the spoken word. Archives of radio, television, audio and video are virtually useless unless the items have been indexed or translated into text.

Olivetti Research and Cambridge University have developed a prototype of an audio retrieval system. Voice recognition software is used to compute a 'lattice' of sub-words generating a display that ranks the recording of interest.

ASDA

Fill 'n' Save

BONUS CARD

952866162

Girls Just Want To Have...

If you think that computer violence is just toys for the boys - wrong. According to a recent survey in nearly 400 children in a school in Ohio, USA, girls are becoming increasingly drawn to fighting games.

While boys are still more likely to agree that "fighting games are mainly for boys", the gender violence gap appears to be narrowing.

Most of the girls disagreed with the statement "Most kids don't think that girls should play fighting games and even the boys agreed that girls should play fighting games if they wanted to." That's nice of them, isn't it?

Games houses may be delighted with the idea that there is going to be a bigger audience for their nasties, but psychologists appear to be alarmed about the trend. Some have claimed that "Through playing violent games, girls may become more likely to adopt ruthlessly competitive male tactics in everyday life."

The girls - and the women - we have known seem very much already to know everything about those "ruthless" tactics. Kick 'em when they're down is by no means the way that only male lager louts operate.

However, the boys are still favourites to lap up anything that is sufficiently violent. Capcom, that Japanese games company which above all preaches the Confucian virtues of peace and love is telling the world that its totally unorthodox game for the Playstation jokingly called "Resident Evil" has sold more than one million around the world - and they expect by the beginning of next year to have seen this million advanced to two.

Yes, boys will be boys and, apparently, girls will be too, and Resident Evil is what we may find is the result of too much blood-soaked video game bashing by all these once gentle kiddies.

Fishy Business

A satellite information system has been set up by the EC in an attempt to stop illegal fishing, stabilise fish prices, and cut down the wastage of unwanted fish.

The system will establish a satellite link between fishing vessels and ports, which will provide information about the fish available on the fishing vessels and the demand at the large ports.

The Infomar project which has been set up under the EU's Esprit programme involves Vega Group, a UK software company; Navigos of France; Havinfo of Norway; and Marstar of Iceland. The £3.1 million project is expected to improve the efficiency of the European fish market, where there are large variations between one port and another.

It's a Sega World

What is claimed to be the world's largest indoor theme park has opened at the Trocadero in London's West End. Segaworld is promising a "new age of interactive family entertainment". It is claimed to occupy 110,000 square feet which is larger than the Albert Hall, spanning four buildings and seven floors. It is said to be able to hold 3,000 visitors at the same time.

It will have six main interactive rides as well as six themed zones. Sega say they have spent more than \$1 billion on researching and developing it. They could have saved their money. All they needed was some real violence - for both boys and girls, according to the item at the top of the page in this NewsFile.

France a-go-go

A new Amiga peripheral company has just started up in France. Ateo Concepts have announced several products that should be available shortly for A1200 owners. The first items due to appear are an adaptor that allows PC keyboards to be interfaced to the Amiga and a special board that upgrades the IDE socket to allow four devices to be hung off of it. Later a Zorro II expansion board for the A1200 will be released.

Ateo Concepts are looking for UK dealers, so if you are interested they can be contacted on Tel/Fax. +(33) 40 85 30 85

Amiga Power Off

The games magazine Amiga Power has been closed down by its owners Future Publishing. While such magazines contributed little toward the benefit of anyone in the Amiga community and may even have harmed it by causing the Amiga to be regarded by outsiders as a toy, it is sad to see the result of the decline of the Amiga demonstrated in this way.

FUNNY FIGURES

Sony claim that the sales of their Playstation console have now hit a million in Europe as a whole. They say that in the UK they have shifted some 300,000 and they want to have reached the two million mark in Europe by spring of 1997.

Sony is spending some £40 million advertising on TV in Europe up to the end of '97 to keep up the momentum of sales. In the UK it intends to spend £20 million.

Figures like one million sales and £40 million to be spent are interesting but not to be taken at face value. Commodore used to make much of the sales that they made of Amigas, but anyone who was in the trade knew that CBM was saying how many it had sold which didn't mean that all those had even reached the shops let alone been bought by customers.

What happened was that distributors had bought - sometimes on sale or return - a certain number, which often got inflated anyway. Those the distributors had might find their way into the shops if the shopkeepers bought them, which meant if they had sold their existing stock. Occasionally to help the confusion, CBM would cut prices suddenly and the poor old retailers got stuck with machines for which they had paid often more than the new retail price. So sales figures are not always to be absolutely relied upon.

As for advertising, figures that are quoted often represent the official price for the minute or 30 seconds or even the page in newspapers or magazines. But advertising agencies negotiate with media owners - that's polite form of saying haggle with them for a lower price, and they usually get it. So a reported £20 million might turn out to be less than £10 million. Yes, that's a lot of money too, but it's not quite so staggering as the reported figures.

Fake Off

Psst, want a fake, cheap? A fake what? What about a fake Mega drive? You mean fake Mega Drive software? No, a fake Megadrive. You must be joking!

These days you can get a fake anything - or you could. Anti-counterfeiting agents - "Fake agents"? or is that too confusing a title? - have raided and shut down what they claim is the western hemisphere's largest manufacturer of clone games machines. In conjunction with Sega, they raided a factory in Paraguay that had been making fake Mega Drives.

They found four large plastic moulding machines which manufactured all the plastic parts for the Mega Drives. They also found moulds and circuit boards at the plant which was apparently operating 24 hours a day.

The only mystery is why anyone would want to make, or still worse, buy Mega Drives. There is clearly no end to the foolishness of humans, as Mr. Spock might have said.

Emplant A1200

Red, gold, and green are the Amiga's colours. The colours of a chameleon? The A1200 shifts into the guise of a Macintosh as Gary Fenton inspects the latest in Mac emulators.

When Shapeshifter appeared on the Mac emulation scene well over a year ago, it almost seized a market previously held by the hardware emulator called Emplant. There were furious comparisons and arguments made by supporters of the two rival emulators, but a couple of things distinguished the products - Shapeshifter was shareware and would run on an A1200, which untrue of Emplant.

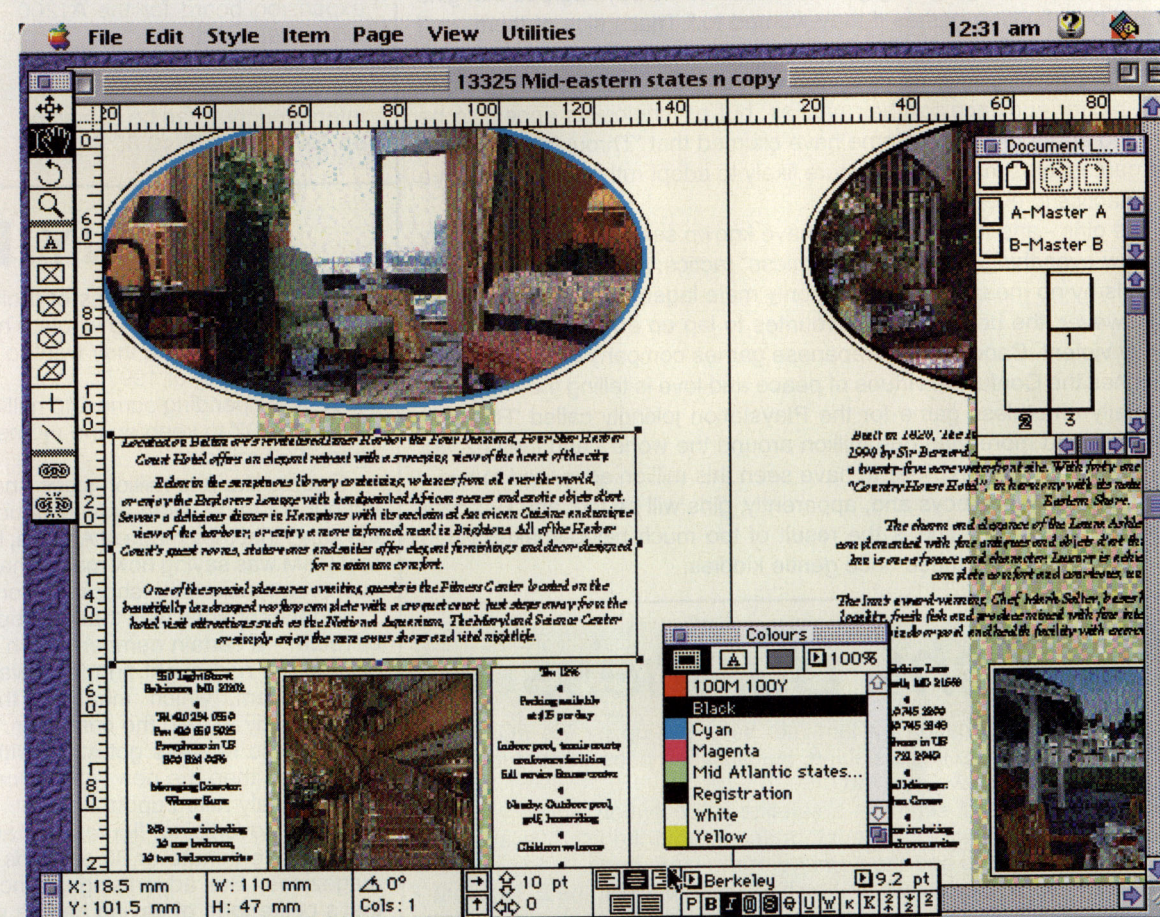
Clearly, many people would rather part with no money than a few hundred pounds even though the company behind Emplant, Utilities Unlimited, had no plans to release a software only emulator. Earlier this year though they made a surprise announcement of a special A1200 only version which required no extra hardware to emulate an Apple Macintosh computer. It would also, they said, work on an expanded CD32 and make use of the Akiko chip.

So here it is, currently version 1.2, a software-only emulator requiring an A1200 equipped with at least 4Mb of RAM to run. Should you go out and buy this surprising (from a hardware company) software emulator instead of Shapeshifter?

There are two main advantages of Emplant A1200. Firstly, the screen refresh rate is much faster than that of Shapeshifter, even if you use video drivers for Shapeshifter from the public domain, and secondly, you can expect support for Emplant via the UK distributor, whereas the author of Shapeshifter in Germany is often overwhelmed with e-mail enquiries.

Operation

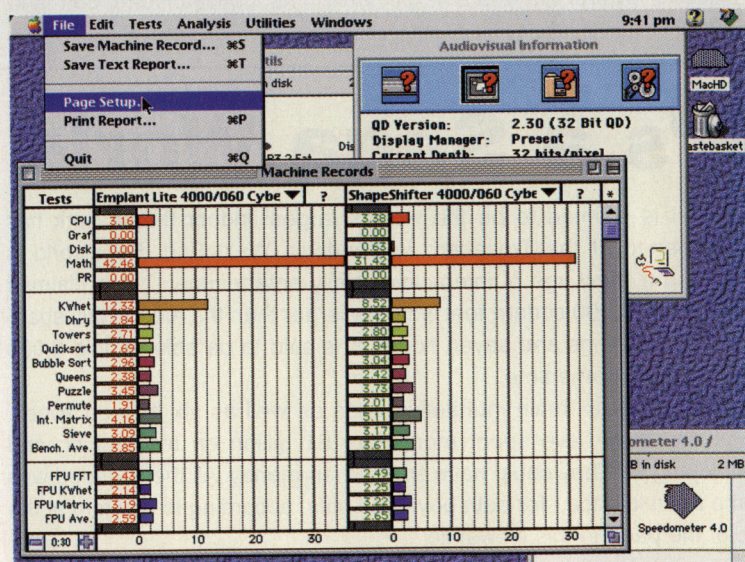
Setting up Emplant is quite easy as the installation is pretty much automatic. All you need to supply



for yourself is an image file of a Mac ROM and a reasonably new set of Mac OS system disks. I tried using the same ROM I use with Shapeshifter, but Emplant wouldn't have any of that. Three ROMs down the line I finally got a 256k ROM to work as I was informed that if the A1200 doesn't have an FPU then the ROM must be from a Mac which also doesn't have an FPU. If you can only get hold of one type of Mac ROM then you are advised to check its compatibility with Blittersoft first.

Once Emplant is up and running it works very well and I particularly

Above: DTP is quick and professional on an A1200, erm.. with Mac emulation. Below: Speed tests: Emplant versus Shapeshifter on an A4000/060 running Speedometer under emulation.



	Shapeshifter	SS-AGABOOST	SS-EVD	SS-Mono
CPU	0.14	0.78	0.63	1.02
Math	0.25	1.49	1.10	1.81
Benchmark	0.16	0.88	0.67	1.09
Graphics	0.70	2.60	2.83	1.05



Emplant works with modems and networks so you can use the Internet.

like the Applcon on Workbench which lets you copy files from the Amiga over to the Mac using drag and drop.

Speed Tests

Running both Emplant and Shapeshifter (though not at the same time) on a 10Mb A1200 with a Blizzard 030/40 CPU, I recorded the following speed results using the Mac program Speedometer. I ran four configurations of Shapeshifter in 256 colours, the first is using Shapeshifter's own video dri-

ver, the second is using the PD video driver AGABOOST, then another PD video driver EVD, and finally a mono screen mode (1 bit) compared directly to Emplant also running in mono.

The Benchmark test is an average taken from ten different tests which the CPU would encounter in everyday life. Speeds equal to Emplant are 1, slower is less than 1, and faster is greater than 1.

As you can see, using Shapeshifter's own video driver in 256 colours really cripples CPU performance and results in a Mac run-

ning 4 to 5 times slower than Emplant. The AGA Boost driver for Shapeshifter is much better although the screen is updated in blocks and looks bad. EVD is fast for graphics, but slower for CPU speeds. Mono

Emplant is definitely the smoother in the screen refresh department and the mouse pointer always glides instead of jerks.

screen modes prove marginally better in Shapeshifter's favour.

However, I can honestly say that the graphics tests for the PD video drivers cannot possibly be accurate as it certainly doesn't appear to update the screen as fast as the figures suggest. Emplant is definitely the smoother in the screen refresh department and the mouse pointer always glides instead of jerks as it does even with Shapeshifter's PD video drivers. I would ignore the PD graphics results for sure while the other tests reliably hold their ground.

The Workbench driver for Emplant is very impressive and makes full use of a 256 colour Workbench and is considerably fast and imp-

Emplant For All

If you don't have an A1200 then naturally you won't be able to run Emplant A1200. However, there is a second software only emulator from Utilities Unlimited called Emplant Lite. It does exactly what the A1200 version can and runs on all Amigas with at least an 020 CPU and 4Mb RAM with Kickstart 3.x. The price is £69.95. Running on my A4000/060 with Cybervision, CPU tests done using the Mac analyser program Speedometer suggested it was on average 7% faster than Shapeshifter. Yet there were really no differences between the emulators, at least none that I could notice during the months I was using them.

ressive running along side your favourite Amiga programs.

Conclusion

It's good, it runs Quark Xpress, Photoshop, and every program I've thrown at it (including Doom II). It's easy to use, many times cheaper than buying a real Mac (but you must own a Mac ROM to use it legally), and performs flawlessly (although I couldn't get my CD-ROM drive to work, Blittersoft assures me it supports CD-ROMs correctly).

So which should you buy? Emplant A1200 will give you a noticeably smoother video display in 256 colours, making it great for DTP and image programs; and slightly better for games. Shapeshifter is free to use without committing a penny but costs about £30 to register if you want to use SCSI devices and hard drive partitions. If you have a big box Amiga with a graphics card then you won't find much between Emplant Lite and Shapeshifter. For once, the scales between two great rivals are evenly balanced. And no, I don't vote LibDem! **AUI**

INFO

Features: 94%, Performance: 96%
Documentation: 75%, Value: 92%

Overall: 94%

Emplant A1200
PRICE: £49.95

CONTACT
Blittersoft

6 Drakes Mews
Crownhill Industry
Milton Keynes, Buckinghamshire
MK8 0ER
Tel. 01908 261466



Yes, at last! I get to play a reasonable Star Trek game on my Amiga!

A TANGLED WEB UNWOVEN

"Internet in a box" has been a big seller on the PC. Now HiSoft have come up with their own version, Net&Web, for the Amiga. David Ward goes webbing.

Mention PoPs, nodes, ping-ing, gateways, SLIP, PPP, and ISPs and a glazed look will come over any non-techie computer user's eyes. For the PC owner, surfing the Web was made easy because either their Internet Service Provider (ISP) provided a ready to run set-up as part of their subscription package, or they bought an outfit called "Internet in a box" from their local store. This one particular solution became a best seller practically overnight.

For the average Amiga user, joining the Internet revolution has been something of a nightmare. Until recently the only way to surf the Web and use the Internet's other facilities, such as FTP and Mail, has been to cobble together a variety of shareware packages. This has been only for the real enthusiast, for it is not the sort of thing one approaches lightly.

As the popularity of the Internet has grown, several solutions have appeared, all based on the standard fare of shareware or beta demo versions of the necessary software. Some have been put together by enthusiasts for both their technical and non-technical Amiga colleagues. Though the quality of these depends on the clarity of the documentation. Others have been supplied by Internet Service Providers with a view to capturing that portion of the possible Web surfing market in which the users do not have a Mac or PC.

Easy as 123

Now Amiga users have a commercial solution, albeit one based on those very same shareware packages. HiSoft's Net&Web package comes on several disks with a couple of printed manuals.

Installation is a breeze providing you are running an up-to-date system. You must have an AGA Amiga running Workbench/Kickstart 3.0 or better and a minimum of 4Mb of memory. Insert the first disk, double-click on the Install icon that appears on Workbench, and away you go.

You will need your modem connected and switched on (you do have a modem, don't you? Otherwise buying Net&Web is a bit pointless). You also need to have your ISP's local telephone number (PoP) and other details to hand. This is due to the requirement to enter your password, nodename, IP address, and various other little strings that tell the Internet about you.

Installation is a breeze providing you are running an up-to-date system.

Once the software has been successfully installed you can then try out your new toy. Clicking on "Net&Web" brings up a bank of buttons labelled "Connect", which tells your modem to dial your ISP; "Disconnect", which tells the modem to hang up; "Internet Apps", which calls up another button bank; "Settings", which allows you to alter your details using buttons and string requester gadgets; and "Exit", which does what

it says.

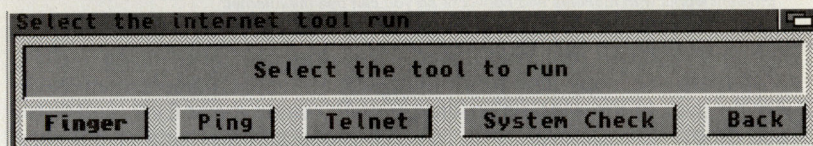
The 'Internet Apps' button allows access to your browser, IBrowse, with which you surf the Web. 'FTP' initiates a method for downloading files off of remote machines to your own hard disk using the DaFTP directory manager like tool. 'Email' loads up your off-line reader (OLR).

gives the details on what software you need to author your own HTML documents.

Conclusion

Although commercial, a number of Net&Web's individual parts are still unregistered shareware. However, the package installs easily and runs fairly smoothly. There were occasionally requesters for items that did not appear to have been installed or set-up properly, but everything functioned correctly even though these were 'cancelled'.

Compared to our existing set-up of AMosaic, Net&Web, or rather



'Other Tools' takes you to yet another button bank for things like 'Ping' which detects if a remote machine is active, and 'Telnet' which allows you to move files around on a remote machine.

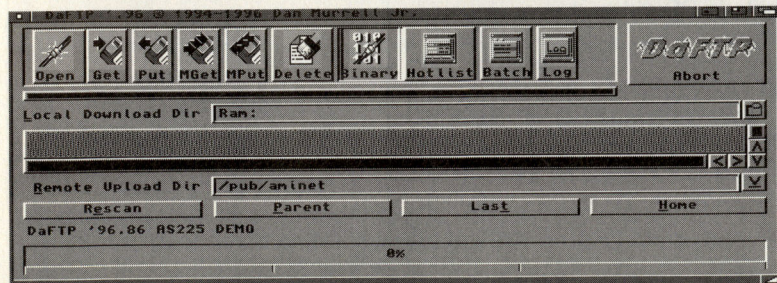
Documentation

Net&Web is supplied with two printed manuals. A User Guide gives you the details on how the package installs and the basic information on IBrowse. The larger booklet is in-depth info on IBrowse, how to set up its advanced features and so on. On the disks there are AmigaGuide documents supporting the FTP tool DaFTP and the email reader MetaTool. But if you want info on ping and telnet then you will have to look elsewhere.

It's surprising that HiSoft haven't included, or even mentioned, the excellent "Amiga Surfin" book from their sister company Bookmark Publishing in this package. It certainly has all the extra information that's not supplied in Net&Web's manuals. With a number of ISPs now giving you a certain amount of free Web space for you to have your own Web page, it handily

IBrowse, certainly showed it a clean pair of heels. Web browsing ran a lot faster and appeared more 'professional'. Comparing it against AWeb, which was supplied by Wirenet, there wasn't much to choose between them on speed, but IBrowse did handle Web page backgrounds (at last!).

For the novice interested in the Internet and the Web, Net&Web is the ideal introduction. It works first time out of the box if you already have your modem and ISP account set up. As I write this **AUI** has received three pleas for help so far from Amiga users who have somehow bought an Amiga Technologies' "Surfer Pack" and are desperate for technical support. All we can say is... the new London Demon Internet number is 0171 664 0666! **AUI**



INFO

Rating: 93%

PRICE: £39.95

CONTACT

Eyeteck

12 West Green

Stokesley, TS9 5BB

Tel. 01642 713185

EVOLUTIONARY BABY

Alan Lewis gets himself into a sticky situation as he tackles the installation of a slim hard drive into his A1200.

In the February 1996 issue of **AUI**, you may recall that we reviewed the Eyetech hard disk fitting kit. At the time I concluded that this was a very worthwhile DIY solution to fitting a 3.5" hard disk into an A1200, which was only ever designed to take 2.5" drives.

Eyetech have since improved the installation kit so that fitting one of their 3.5" hard disks now requires NO case modifications whatsoever. That's right, no need to cut away part of the metal shielding, and no need to even drill any holes to anchor the drive inside the computer.

How is this marvel achieved? Simple: industrial strength adhesive pads. "Stick with it" might be the motto for the Amiga these days.

The Seagate drive that Eyetech recommends is a mere 19mm thick (thin!) when bare, so it is just slim enough to squeeze under the upper lid of the Amiga A1200 case (the JTS Palladium drive is the same size, and could also be fitted with the Eyetech kit). Previously, the user then drilled holes into the plastic case to line up with the threaded holes in the drive's casing. Screws were then inserted to make sure the drive was secure. It is fair to say, however, that the drive could almost be held in place merely by being fitted under the case. Eyetech recognised this, and

wondered if it would be possible to use that to advantage, but what could be used to guarantee the drive wouldn't slide about without drilling screw holes.

The answer lies in adhesive pads. You may have seen net curtain rails held up by these pads, they save you drilling into the window frame. However, they have a tendency to dry and fall off. Enter industrial grade adhesive pads. These are immensely strong, and the manual warns not to fit them to the drive until you are 110% sure they are in the right place. And then it warns not to remove the base label and fit the drive to the computer until you are 100% sure that the drive is in the right place.

Figure 1 shows the drive kit in its updated glory.

It is a longer job to take the Amiga to pieces and put it back together again, than it is to install the hard disk.

Once fitted, replace the A1200 case and the drive is held in place by virtue of the adhesive pads and the grip from the case. A five minute job, with no modifications to the casing at all. It is a longer job

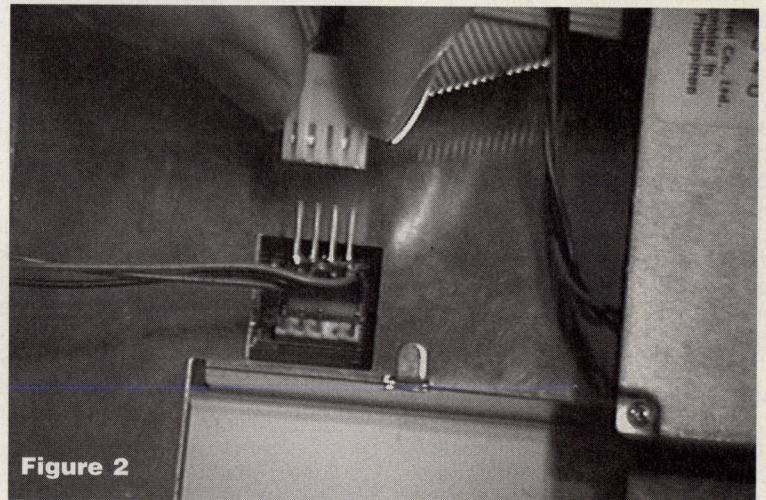


Figure 2

to take the Amiga to pieces and put it back together again, than it is to install the hard disk.

As before, a comprehensive - and updated - manual is supplied, with excellent photographs detailing set-by-step instructions to removing the case and shielding, fitting the drive, and putting it all back together again. To give you an idea of the quality of the manual's photographs, the two pictures used here are the actual JPEG files that illustrate the manual.

The booklet still warns about the dangers of static electricity, and deals with PSU power considerations. The power cable is worth mentioning again; when fitting a 2.5" drive, the drive draws power from the IDE interface, using the extra four pins. The 3.5" drive only has a 40-pin interface, so short of hacking a connector, you are left with a power-less drive. The power lead supplied in the kit is a modified floppy power cable. It draws power from the floppy power point, and supplies both the internal disk drive and the hard disk. Figure 2 shows the cable.

As before, two versions of the kit are available. For the advanced Amigan there is the basic kit, which consists of just the 40 to 44-way IDE lead and modified power cable. While for the rest of us (the majority), the complete kit comes

with the basic bits plus manuals, anti-static lead, and software which will partition and format the hard disk. Eyetech are also available to provide 3.5" hard disks with the kits; these are blisteringly fast Seagate AV drives, and were covered in the earlier review. As before, all drives are pre-partitioned and formatted, but now also come with an installed version of Optonica's MultiMedia Experience multimedia authoring software; a package which gives Scala a run for its money and a version of which was recently on the **AUI** SuperDisks.

Conclusion

The kit achieved a 97% rating last time out. This time it has improved, and is near as damn it perfect, which is reflected in its score. **AUI**

INFO

Rating: 99%

PRICE

Power & data cable: £16.50

Full kit: £27.50

Hard disks: Phone for latest price.

CONTACT

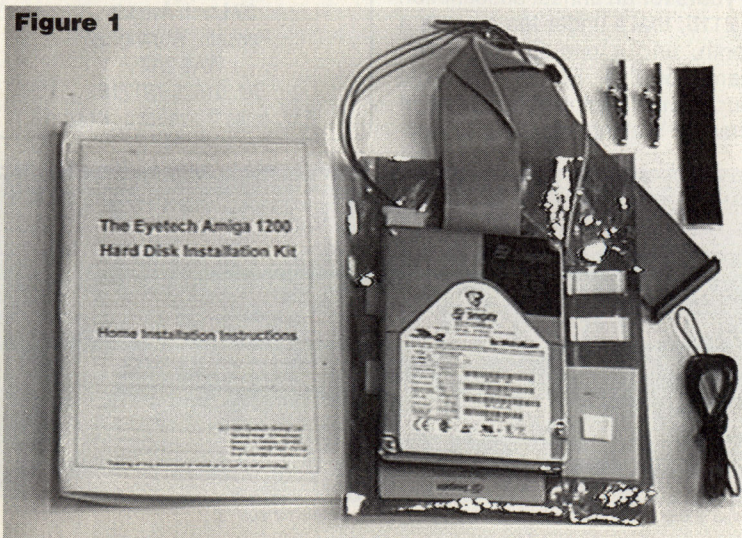
Eyetech

12 West Green

Stokesley, TS9 5BB

Tel. 01642 713185

Figure 1



EASY ACCESS

Joining the Internet revolution has now been made a lot easier with a provider who supports the Amiga. David Ward goes on-line with Wirenet.

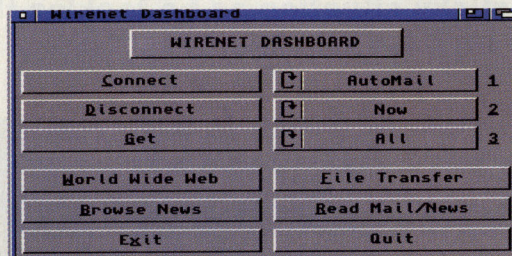
When access to the Internet and World Wide Web was required here at **AUI** Towers, there was nothing really to help us get going. We had an account at Demon and the downloaded software they supply for Amiga users, KA9Q (known in the office simply as KAQ), was terrible to set-up. The problem was that the original download had files missing and trying to phone Demon technical support required a marathon effort of sitting in a 'queue' for an hour before being told that the person who knows about Amigas was not available.

Eventually it was all sorted out, but there was still the nightmare of cobbling together the software that would enable us to surf the Web. Amiga Answer's Guru Andy Eskelson came up with the goods - them being AmiTCP and AMosaic.

Now all that has changed with the arrival of Warrington-based Wirenet on the Internet provider scene. This fairly new operator decided to support the Amiga with an easy to set-up system that would take the pain, grey hairs, and sleepless nights out of the procedure.

Having signed up for an account you are provided with two floppy disks that contain all the software (unregistered shareware) that you will need to get you going. A double-click on the 'Install' icon and you are smoothly taken through the copying of all the necessary software to enable your modem to get you on the Web.

Details, such as password and IP address, are supplied on your membership papers, and this information is entered when you are



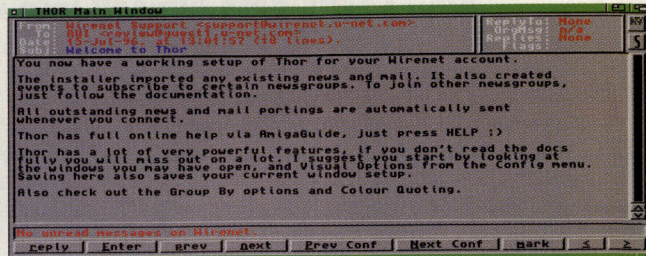
Dashboard is the heart of Wirenet's package. Using this 'button bank' you control all your Internet activities.

prompted by the installer. You will need a little over 4Mb of hard disk space on your Workbench/Kickstart 3.0+ equipped Amiga for all the files. Some of these are: AmiTCP - the program that allows your Amiga to speak the language of the Internet; AWeb - your browser

All programs, and the majority of important smaller support files, are fully provided for with either plain text ReadMe or AmigaGuide documents.

for looking at all those colourful Web pages; AmiFTP - for downloading all those wonderful programs from Aminet; Napsaterrn - to enable you to remotely control a server via the arcane Telnet language; Thor - your email and news-group reader; and, finally, Dashboard - the front-end that pulls everything together.

It is Dashboard that really makes the Wirenet package hum. Double-clicking on its icon calls up a button-packed window from



Thor is a fully featured off-line reader for mail and news.

which you can connect and then start the particular program you require, be it AWeb for surfing, AmiFTP for file transfers, or Thor for reading news and mail.

All programs, and the majority of important smaller support files, are fully provided for with either plain text ReadMe or AmigaGuide documents. Although some read as though expecting you to be fully conversant with the ideas and technicalities they're supposed to be explaining. However, should you get flummoxed, Wirenet have a dedicated Amiga user technical support telephone hotline if you need instant enlightenment. Those prepared to wait for an answer can pose questions via email. But there is still no substitute for a good book and we will always recommend 'Amiga Surfin' from Bookmark Publishing (Tel. 01525 713671) if you want to get your head round this kind of stuff quickly.

How Much?

The marvels of the Internet are all yours for an annual subscription of £115, that's under ten pounds a month, and a one-off connection charge of £14. For this you get your two installations disks, 1Mb of personal Web space, and the facil-

ity to have multiple mailboxes on the one Internet address. That could be one for you, one for your partner, and one each for the kids. So no need to have separate accounts.

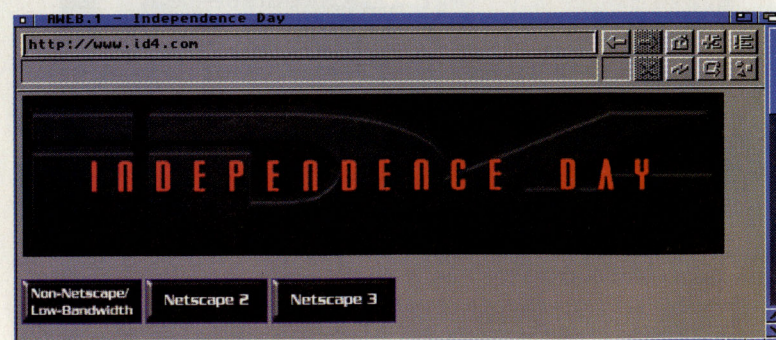
We found the whole service to be top-notch, with the installation of the software from the supplied disks easy and straightforward, and the actual operation of the package running as smooth as silk. Surfing the Web was quick, and mail and FTP'ing efficient even though Wirenet can only supply the 'demo' versions of the Amiga specific software. For a few pounds more you can register AWeb and Thor and then take advantage of all the extra features these programs can provide, but for beginners, the basic outfit will suffice. **AUI**

INFO

Rating: 94%

CONTACT

Wirenet Amiga Internet
39 Larch Avenue
Penketh, Warrington
WA5 2AZ
Tel. 01925 791716
Eml. sales@wirenet.u-net.com



AWeb is one of the leading Web browsers and is very stable for surfing.

Wirenet's services are provided by U-NET, a company that was established in July 1994 as a dedicated Internet Services Provider (ISP). U-NET, also based in Warrington, are connected directly to the Internet, and have two dedicated lines - one to the West coast and the other to the East coast - routed to the States, which is where most of the Internet action seems to occur. However, don't think you have to make long distance calls if you don't live 'oop north' because there is definitely a local Point of Presence (PoP) as U-NET now have 100% UK coverage. This gives you access to the system at cheap call rates in your area. U-NET are equipped with dozens of lines running 28.8kbps digital modems and, in our experience, these gave a high-quality high-speed link with the likelihood of an engaged tone being practically zero.

IDE the proper way

David Ward dismantles AUI's office A1200 to add a fully functional IDE interface and multi-speed CD-ROM drive, courtesy of Eyetech.

When accountants run companies they always have an eye on short-term finances rather than long-term consequences. Commodore fell victim to this attitude, so instead of highly specified Amigas leaving the factories, machines with 'reduced' hardware were released just to shave a few cents off the production costs. The famous case of the MIDI port - rather the lack of it - was one example of counterproductive money-saving.

Three 'faults' seem to have emanated from this "accountants" attitude and were to cause problems for users hoping to upgrade their A1200s: a type 1 PCMCIA card slot when laptops were getting type 2; a slimmed down power supply unit with just enough juice to run a hard drive equipped machine with a little bit of extra RAM; and an IDE interface that could only run a single 2.5" hard drive if it were practically adjacent to it. Adding a second drive was out of the question.

There have recently been many reports in the Amiga press of reviewers adding CD-ROM and additional hard drives to their IDE equipped Amigas by using the ATAPI (AT Architecture Peripheral Interface) device driver. This allows an extra three items to be controlled. Unfortunately, what these reports didn't always tell you was that the machines chosen for these upgrades were nice big chunky A4000s with the full IDE interface.

AUI was contacted the other day by a reader with a problem. He had an A1200HD and wanted to add a CD-ROM drive. Apparently, his machine worked fine if just the hard drive, or just the CD-ROM drive, were fitted. But it would not run both. This is all down to the A1200's internal IDE interface. It was never designed to do such work, it just hasn't got the oomph. If you are lucky, and you do get a second drive or CD-ROM working first time, then start saving your

pennies for a big repair bill, because one day your IDE interface is going to go pop under the strain.

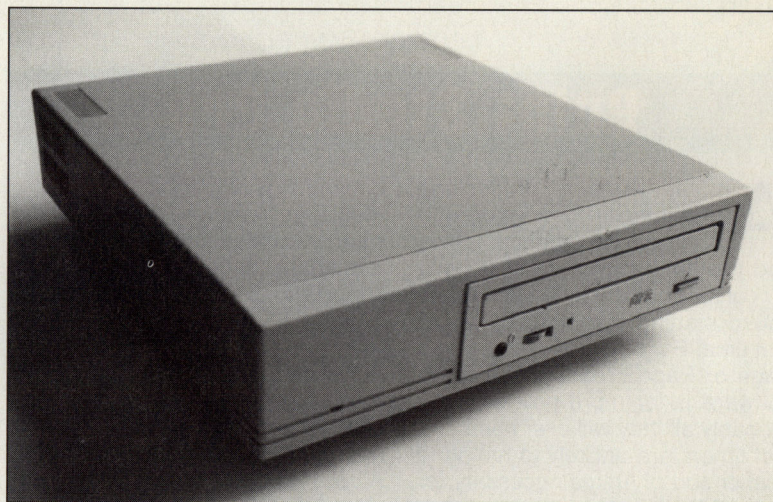
Board Promotion

To solve this limitation Eyetech have come up with the CDPlus kit that allows you to add a 4 or 8 speed IDE CD-ROM, complete with its own power supply, to a standard A1200 and still keep your internal hard drive intact. They supply a special 'booster' board that connects between your Amiga's IDE interface plug and the socket on your internal hard drive. (There are two kits depending on the physical size of the drive you already have fitted).

This extra board contains a fully specified ATAPI IDE interface that can power numerous devices, and at a distance too. Attached to this, via a long ribbon cable, is a largish computer grey box that contains the CD-ROM drive of your choice. An extra IDE peripheral can be added as the ribbon cable continues and is terminated in an IDC 40-way socket. Power for the extra device coming from a special socket on the back of this box. (Eyetech do a range of external boxes for bare peripherals).

It is a quick and easy job to install and is just a matter of swapping plugs about and peeling off the protective sheet from the sticky pad that holds the new board in place.

Fitting the board takes about ten minutes, but before you start read the instructions carefully and ensure



The CDPlus unit gives you access to the world of CD-ROM at a very reasonable price.

that what you have in front of you matches the illustrations in the manual. Our board was supplied with one cable reversed and our A1200 refused to boot until this had been sorted out.

First whip out the five screws... hey, all this is in the instructions! All I will tell you is that it is a quick and easy job to install and is just a matter of swapping plugs about and peeling off the protective sheet from the sticky pad that holds the new board in place. No cutting, drilling, whittling, or general fiddling about required. Next comes the software, and this is handled fully automatically by Commodore's Installer program. So voila, after a reboot and the insertion of a suitable CD you're off and running.

The supplied IDE-fix software installs the ATAPI driver, the Cache CDFS2 CD-ROM filing system software, a CD32 emulator, and a small package (PlayCD) that allows you to use your new drive to playback audio CDs. To hear the wonders of whoever you prefer this month, just plug in your Walkman-style headphones to the volume adjustable stereo mini-jack socket on the front of the drive, or link your hunky Hi-Fi system via stereo patch leads to the twin gold-plated phono sockets on the rear of this well engineered

unit and settle back to enjoy the digital delights.

Conclusion

As we have come to expect from Eyetech products, it all worked faultlessly. CD-ROMs were read, audio CDs played back with verve, and CD32 titles performed without let or hindrance - at least the ones we tried did. And the advantage of choosing this route to add drive peripherals to your A1200 is that: 1) They are cheaper than SCSI devices, and 2) the PCMCIA slot is kept Squirrel-less so you can add 8Mb to your trap-door memory expansion connector without conflict worries. **AUI**

INFO

Rating: 97%

CDPlus with 4 speed CD-ROM drive
£149.95
CDPlus with 8 speed CD-ROM drive
£199.95
CDPlus kit without drive £39.95

CONTACT

Eyetech
12 West Green
Stokesley, TS9 5BB
Tel. 01642 713185

CD Round Up

Germany-based Schatzruhe now provide the bulk of Amiga CD-ROMs entering this country. David Ward reviews another recently arrived batch.

Print Studio Pro

Ah, the wonders of desktop publishing. Those of you with a desire to produce labels and business cards would do well to consider this particular CD if you're starting out in DTP for the first time. For users of Professional Page or PageStream, the existing software is far more powerful and probably all they will ever need, but first timers are unlikely to have the beefier sort of Amiga necessary for these DTP heavyweights.

So what do you get for your money? Print Studio Pro is designed to create attractive layouts on simple Amigas, preferably equipped with a hard disk. That's what the documentation says, and I do believe they're referring to the floppy disk version. If you're running this from CD then there should be no need to install the software. Everything runs smoothly from the disc.

Upon starting the main program you are presented with a blank page. This is your work area, and on this you lay your text and graphics. The important concept to grasp with desktop publishing are the 'boxes'. These are re-sizable areas

for your text or graphics. Once created and filled with whatever you want, you can then move the boxes around the page into the appropriate positions.

Print Studio Pro provides you with a variety of vector drawing tools to improve what you are creating. Rectangles, lines, circles, and ellipses can quickly be created, sized, and coloured to your specification. All are re-sizable without the jaggies. Also on hand is the ability to import structured drawings of the IFF-DR2D format as well as ordinary bitmap images. If you have datatypes on your system then 'for-

eign' file formats can be imported too.

Print Studio Pro is designed to handle 24-bit graphics, and confidently claims that any Workbench supported printer will also print such graphics using the software's colour correction routines. This is the complete opposite to Studio and TurboPrint, whose authors have spent years writing drivers for all the printers which Workbench doesn't support. These include all the more up-to-date ones such as the Canon BJC series, the popular Epson Stylus Color, and the newest Hewlett-Packards. Richard Aretz, Print Studio Pro's author, is not fibbing when he think you should claims this, he may just not be explaining the whole story. I don't think you

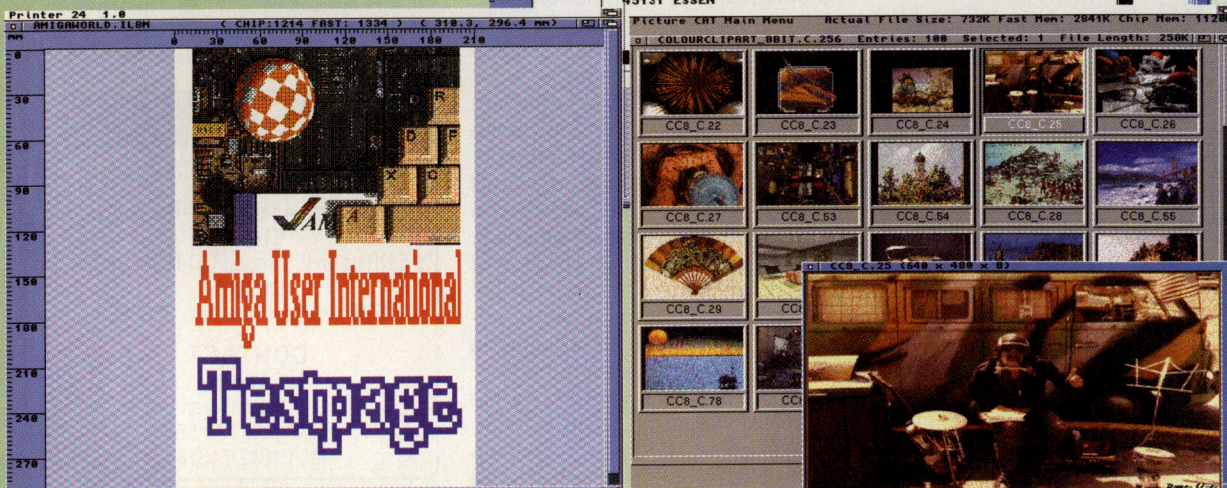
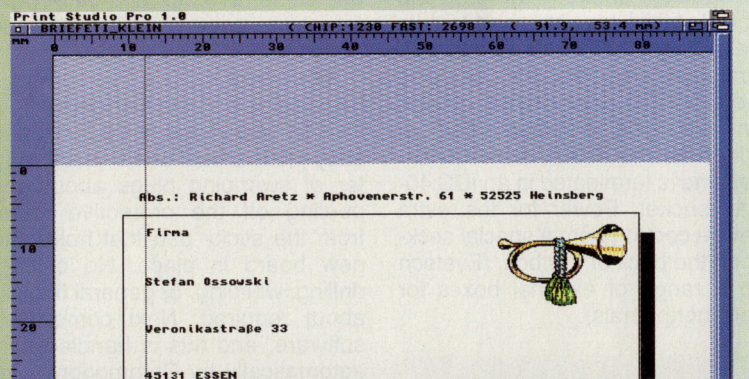
should buy Print Studio Pro and immediately expect your Stylus Color to produce the best possible results after having selected the vintage EpsonQ driver. You will, of course, need an appropriate driver installed on Workbench, and then the program can do its job.

As a bonus to the main program you will find Printer24, a similar program to Pro, but one that uses larger page sizes and does not have the drawing tools. Here you can load in graphics and add text in a variety of sizes and colours.

Also on the CD is PictureCat, a program designed to make the task of searching through large collections of pictures easier. It does this by creating thumbnail images which are stored in a catalogue. There are several such catalogues on this CD that cover the clipart, 256 colour and 24-bit pictures, and you can create your own databases just by pointing and clicking.

No printing program would be complete without a collection of fonts, so Print Studio Pro has a variety of bitmap, colour, and outline fonts for you to use in the documents you are going to create.

My overall feeling is that the Print Studio Pro package does the business it was intended for in a workmanlike fashion. It may not have all the bells and whistles of commercial DTP packages, but once you get used to its idiosyncrasies you can easily churn out competent and attractive documents.



Printer24 allows you to output high quality graphics to your colour printer.

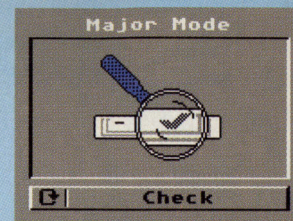
RATINGS

Rating 88%

INFO

Price: £TBA
Supplier: Schatzruhe
Format: Any

Amiga Repair Kit



The Amiga Repair Kit is a novel way of distributing the best disk salvage programs available today. If only this disc had arrived last month when the SuperDisk team were having problems... (cue wibbly-wobbly flashback effects) In the belief that AmiFileSafe was the most stable disk filing system ever invented, the team had confidently installed it on their primary A1200. Unfortunately, when the hard drive in that Amiga suffered a power

interruption while writing to the disk, they lost all the work they had been doing on September's SuperDisks. When I say lost, I mean it was still there, but they couldn't access it.

The moral of this story is to use a filesystem that you have repair tools for.

The Repair Kit contains the latest version of Dave Haynie's Disk Salv (note the lack of an 'e' on the end). Version 4 now supports Ami-

FileSafe partitions and could have rescued the SuperDisk team from many late nights in an effort to beat our production deadline. It also handles the Commodore FastFile and OldFile systems admirably and disks using strange formats like diskspare.

DiskSalv has always been my initial choice of rescue program and it has got me out of tight spots over the years. However, versions released after 2 have been commercial and with that the software appeared to disappear. Version 3 became practically unobtainable

after reported arguments between author and UK distributor.

Now that problem has been solved by releasing 2, 3, and 4 on the single CD. But that is not all you get. Also on here is Upper Disk Tools and RDB-Backup plus a whole bunch of freely distributable disk repair programs. Talk about value for money, this is worth every DM.



RATINGS

Rating 99%

INFO

Price: £TBA
Supplier: Schatzruhe
Format: Any

Aminet Set 3

CD Round Up wouldn't be CD Round Up without the latest Aminet disc, and this month is no exception as Aminet 13 arrives.

This issue of Aminet is focused on animations and to support this Urban Mueller, the guardian of the Aminet CDs, has managed to include the versatile shareware animation program MainActor (v1.55) in ready-to-run form. This valuable piece of software allows you to manipulate animations from a variety of computer platforms, not just the Amiga's Anim 3, 5, 7, and 8 formats. If you want to play around with the PC formats AVI, DL, FLC, and FLI, then this software will allow you to load, convert, and save them.

MainActor is a powerful piece of software, and to get the best out of it you must read the accompanying documentation which is supplied in printable text and AmigaGuide form.

There are 79 animations within the Aminet Pix/Anim drawer with which you can experiment, and a further 108 of the 3D variety too. Some are even good, but don't expect to find any Eric Schwartz or Tobias Richter masterpieces.

Elsewhere on the disc you will find the usual abundance of modules and demos, and all the utilities that have made Aminet famous. And that

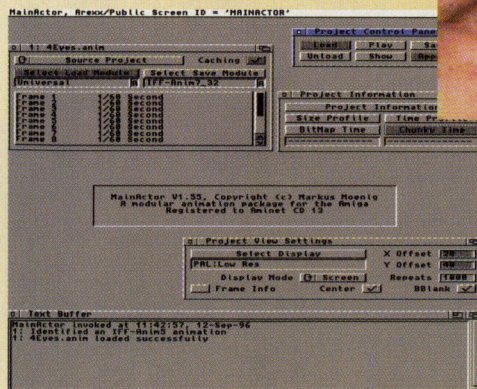
sums it up. Aminet has become such a classic we have almost run out of things to say about it – only it's great. **AUI**

RATINGS

Rating 91%

INFO

Price: £14.95
Supplier: Schatzruhe
Format: Any



CONTACTS

Stefan Ossowski's Schatzruhe
Veronika Str. 33
D-45131 Essen
Germany
Tel. 49 201 788778

This TechnoWorld

35 SPECIAL REPORT Samsung – A New Global Power. **52** Martin Witton and David Ward find the innovations coming our way in this TechnoWorld. **54** 'Firewire' is the latest buzzword to arrive on the technoscene. David Ward reveals how this new and exciting interface technology could supersede both SCSI and IDE. **56** Anthony Mael finds that some who are not online don't care, but Abe Lincoln can be heard and Alameda can be seen on the marvels of the Super Vertical Specialised Information Superhighway. **66** They were RISCing all, points out Simon Goodwin in this the fourth part of the AUI series on the little things that mean so much. **68** The compression of still images can be carried out in several different ways. David Ward examines the techniques used for all methods in this latest instalment in our series on shrinking filesizes.



This TechnoWorld... AUI - Boldly going where no Amiga magazine has gone before.

A NEW GLOBAL POWER ARRIVES



SAMSUNG

An in-depth investigation into a company
that is surging toward global leadership
in the TechnoWorld

**SPECIAL
REPORT**

SAMSUNG

A GLOBAL POWER IN THIS TECHNO WORLD

SAMSUNG

What makes an electronics company outstandingly successful in this ever more competitive TechnoWorld? Is it innovation? Ingenuity? Engineering? Design? Simply marvellous products? Luck? Are there other factors that will give one company the rewards of billions rolling in while others just fall away and even go bust?

Could it be, in the final analysis, a combination of many different elements brought together by visionary leadership and a dedicated workforce that produces an environment in which creativity and efficiency flourish, and build a small company into a global force? Now that sounds more like it, doesn't it?

Commodore Business Machines, for example, established at roughly the same period as Samsung Electronics, at one time looked as if it would become a global force in the TechnoWorld. It developed a worldwide market for very good quality and popular products. It had an enthusiastic user base for those products. It gained a reputation it could have built upon. But, through poor business judgement, lack of vision, and failure to invest in people and products, Commodore came crashing down and has disappeared.

In a Special Report in **AUI** this month, we examine in depth Samsung, a company that has succeeded where Commodore and many others have failed. Samsung at one time was

considering buying Commodore, mainly for the Amiga, and it would have made a very much more reliable saviour for that computer than the equally ambitious but now defunct Escom turned out to be. It is also somewhat ironic that Ali Demin, one of the star people

... the third or fourth largest electronics company in the world... the fifteenth biggest company of any kind in the world.

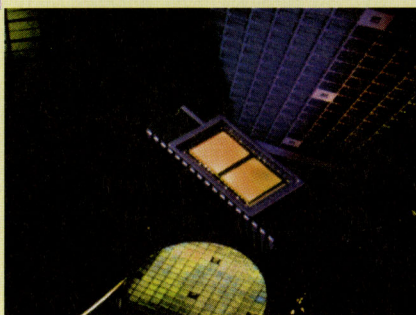
of Samsung in the UK - in fact, the 1995 Samsung Employee of the Year Worldwide - used to work as a senior manager for Commodore.

Ali Demin and the 200,000 other Samsung employees globally have taken Samsung in just a few years from a moderately successful South Korean company to a global giant trading in some 140 countries with a turnover of more than \$80 billion - £50 billion a year.

Fifty billion pounds a year... that is a lot of money and a lot of electronics. It is a lot of televisions and computer monitors; Samsung is the biggest TV and computer monitor manufacturer in the world. It is a lot of microwave ovens; Samsung is producing a million or so a year in the UK alone. It is a lot of mobile phones, fax

machines, and printers. It's even a lot of aeroplanes, and next year it will be a lot of cars too.

It's enough to make Samsung the third or fourth largest electronics company in the world. Enough to make it the fifteenth biggest company of any kind in the world. Enough to leave anybody staggered by the sheer size and diversity of this company, which has grown almost ten times the size it was just ten years ago, while so many other once comparable organisations have fallen by the wayside in the same, for Samsung, frenetically productive decade.



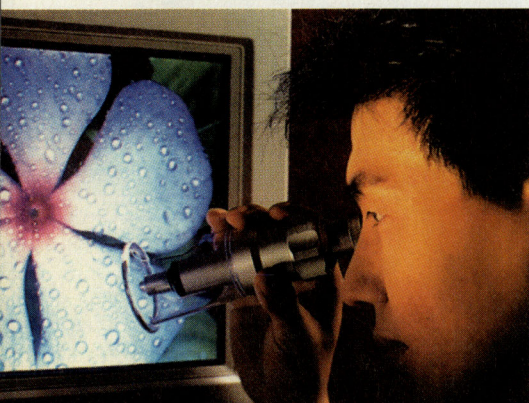
Samsung is unusual in having made so much progress so quickly. Yet it is typical of the lightning speed of change that takes place in the fastest growing industry in the world - technology. In the UK alone, Samsung's Computer and Peripherals Division over which the ex-Commodore manager Ali Demin presides, the turnover has risen dramatically from virtually nothing five years ago to a forecast £40

million in 1997.

Aside from its global sales Samsung, if not exactly dominating, is certainly the major player in the computer monitor market in the UK today, with around a 25% share that has been achieved in a little over three years. Samsung monitors have gathered handfuls of industry awards which have given the public a high opinion of the quality of the brand. It is now doing the same, grabbing loads of awards, for its latest CD-ROM drive, an eight speed. It is also about to introduce into the UK a slim, high spec. Notebook computer that dealers are already queuing up for and which we exclusively review in this **AUI**. What, you might ask, doesn't this company do in the TechnoWorld?

Samsung is making those Notebook computers at a factory in Limerick in Ireland owned by computer company AST, in which Samsung has a substantial shareholding. And its monitors, now approaching a UK production level of 1.3 million a year, are made at a manufacturing plant in Wynyard Park on Teeside that cost, just over a year ago, a little matter of around £600 million to build and is still expanding.

Samsung is now all over the world and especially successful in the UK. So this month's Special Report investigates what makes this global giant tick and why Samsung is a name to watch for in This TechnoWorld.



Samsung has invested US\$ 12 million to develop the 14.2" TFT-LCD capable of processing 260,000 colours yielding superb picture quality.

The development of 14.2" TFT-LCD has made possible a wall hanging TV (left).



we also won best supporting role

And the winner is... you.

With 13 major awards (including, of course, best picture), we're fast becoming a screen legend.

But there's a lot more to our market-leading monitors than meets the eye. Because behind the screens, our technical crew is on-call to

give you on-site support for a full three years.

And let's not forget the rest of the supporting cast. Our notebook PCs, CD-ROMs and hard disk drives possess the same star quality.

Samsung. Now showing at a dealer near you. Call 0800 521652.

SAMSUNG

SMART AND soft

A company which employs 200,000 and turns over more than \$80 billion - some £50 billion - cannot be ignored. Yet in spite of Samsung's remarkable global performance, the company's name has been until recently in the UK relatively unknown, possibly mostly recognised through its ubiquitous advertisements on the trolleys at Heathrow and other major airports around the world. Three key managers in the Samsung's UK Computers and Peripherals Division told Ashley Cotter-Cairns where they fit in with Samsung and how it has made such an impact in recent years in the UK.



Employee of the Year

Name: Ali Demin
Title: General Manager, Computers and Peripherals Division, Samsung Electronics UK.

Ali Demin is Anglo-Iranian. Educated at Brunel University in the UK, where he studied computer science, Ali Demin has more than 20 years of experience in the British computer market. Much of his time has been spent establishing companies through increased sales, as well as improving distribution and customer service networks.

"Salesman of the Year" for mainframe supplier NCR, Ali Demin moved to Epson when it entered the UK market in 1981.

Its Dogmatix laser printer was "set to change the world". "It was so much cheaper than anything else. I'd been selling printers for £60-£70,000 and here was a company offering them for a couple of thousand. No-one could believe it", he remembers wryly.

Moving to Epson meant learning a new type of selling and Ali Demin had to start from the bottom of the ladder once again. "My experience of learning from the ground up in the organisations which I have belonged to has been vital. If anything, these companies were paying me to learn their business before I joined other companies and put this experience into practice."

By 1982, Ali had control of sales for the whole of the UK. Shortly

afterwards he moved to a division of Commodore UK, as International Sales and Marketing manager. He also served a stint as General Manager. "Commodore was one of the first companies to succeed in mass marketing computers. What I learned there was vital to me." This became the only profitable area of Commodore which made it a target for internal politics. When the vice president of Commodore's German operation insisted on moving the division to Germany, Demin decided that it was unfair to take the job while his staff were made redundant.

So Demin left for laser printer manufacturer Kyocera where he established the company's sales and marketing network. "Kyocera became number two, behind only Hewlett Packard, in just two years. It became a recognised corporate brand."

Nobel Prize

Ali Demin was then recruited by Samsung. "There was a lot of deadwood to be removed. The company had a poor image in this territory. I restructured and revitalised every level of the operation."

After five years with Ali Demin at the helm, Samsung Electronics' UK Computer and Peripherals is now a leading player in every one of its areas of operation. "Samsung aims to be in the top ten at the very least in all of its markets," Ali Demin told **AUI**. "We are number one in monitors and in the top few companies in CD-ROM and hard disk drives."

Ali Demin was voted Samsung Employee of the Year 1995. Considering the competition - some 200,000 people worldwide - this is a considerable achievement. He is the first non-Korean director to receive the award and his prize included a trip to the headquarters in Korea. "It's the Samsung equivalent of the Nobel Prize! I was utterly delighted.

It reflects well not only on my own efforts, but also the efforts of my staff, who are very loyal and exceptionally hard working."

The road to recovery in the UK market was not an easy one to travel. The computer market declined steeply throughout 1991-92

The company is one of the few which offers a three-year warranty as standard on the majority of its products.

and Ali Demin has not forgotten the hard times. "It's nice to look back on it now, but at the time it was most difficult. When we came through, everyone felt like we'd ridden out of battle - which we had, in a way. We've come through the worst of times and so now we can look forward to enjoying the best of times."

Ali Demin is determined to ensure that every member of staff receives a share of the company's success. He has strong views on creating the right balance between current rewards and investment in the future. "Fighting for a share of the apple is not constructive. What I always believe is that we should discover a way to plant the seeds from the apple and create an orchard, for the benefit of ourselves and those that will follow us."

Smart and Soft

Samsung is the largest manufacturer of DRAM chips in the world. It owns nearly 50% of AST, another major worldwide PC brand, and is both vertically integrated and multi-faceted. Almost every component of every product it sells is built by the company. With factories and sales operations selling to 140 countries in every

area of the globe, Samsung can take advantage of any opportunity which presents itself. "Opportunities only occur once, so it is vital to make the most of each one when it is discovered", says Ali Demin.

The UK has seen significant investment by Samsung in recent years, culminating in a new monitor factory in Teesside which will employ 3000 staff. A Billingham factory is already producing one million television sets per year. The Teesside factory will produce a further million screen units, which will be sold exclusively in the European territory.

Perhaps most refreshing is Samsung's and Ali Demin's management philosophy. Samsung has begun a corporation-wide process of reform starting with the Korean directors, and Ali Demin is enthusiastic about its success. "Everyone can perform better than they expect to with the right working environment," he said. "We should challenge everything we do. Can it be improved? The company's catchphrase is 'Smart and Soft'. We want to be intelligent, yet flexible enough to make the most of the intelligence."

Leadership, Ali Demin believes, is all about demonstration by example. "Management is not about arm's length decisions. You must be actively involved. Intelligence, ability, and hard work are the ingredients for a positive workplace. Everyone must work together without obstruction and, if someone wants to climb, give them a hand up instead of grabbing onto their ankle."

Big Yet Small

Trust, Ali Demin believes, is vital if this process is to succeed. "We have to be very big, yet very small. What's the point of being approachable if ten people have to meet to make a simple decision? Managers are there to manage, so I



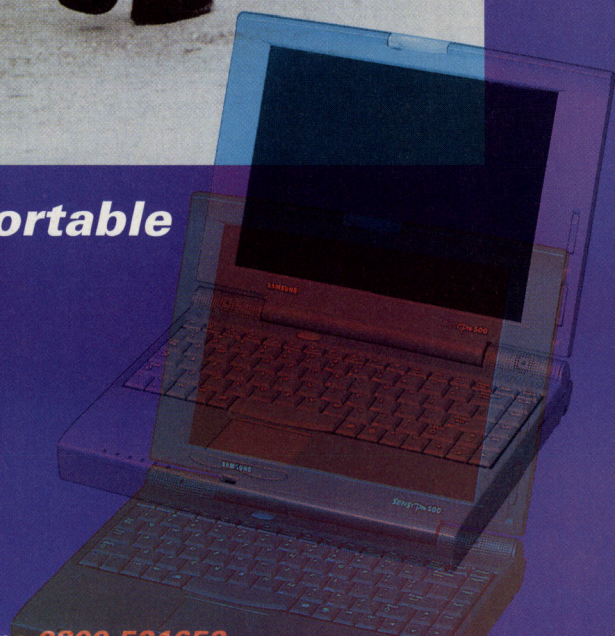
***The SensPro500, the small portable
with the big spec***

Follow Your Senses . . .

SAMSUNG

ELECTRONICS

Samsung Electronics UK Ltd. Freephone 0800 521652



let them get on with it. We operate an environment which encourages winners. No-one wants to be on the losing side. Offering a dynamic, energetic atmosphere naturally encourages the ambition and ability of people."

Nine of Ali Demin's staff completed evening degree courses last year and he believes in encouraging the development of his team. "Everyone is capable of learning from everyone else. If someone sees a colleague succeeding, he will want to succeed too. There's no room for the poisonous people - the negative or the undisciplined. It's my belief that, if you are committed and hard-working and enthusiastic, you are at the top of your profession, regardless of whether you are a director, a receptionist, or a sales person."

On the walls of the offices of the Samsung's Computer and Peripherals division headquarters in Surbiton, west London, there are posters with that company slogan, "Smart and Soft", but there is also another poster on many walls. In stark black and white, it says "Always give the customers more than they expect". One of the basic tenets in commercial promotion is to surprise the potential customer. For customers dealing with Samsung and Ali Demin, the pleasant surprise is getting more than they expect and in this commercial world, that's always a very pleasant surprise indeed.

Brand Perception

Name: Charles Bows
Title: Product Marketing Manager, Computers and Peripherals Division

Charles Bows began his career working on the Esso consumer promotions. He was a member of the team responsible for introducing Tiger Tokens, one of the most successful petrol loyalty voucher schemes ever. From Esso, Charles moved to NCR, where he concentrated on sales in the imaging systems division for three years.

When AT&T took over NCR, it sold off the imaging systems side of the business. However, Charles had noted that Samsung manufactured PCs for NCR and he was impressed with the quality of the machines. He joined Samsung in 1993.

"I noticed that the company was performing strongly, but perhaps was not making the most of its marketing. There seemed to be an opportunity for me to develop the company's image in a very competitive sector. Since then, things have come on in leaps and bounds, financially and in terms of



Charles Bows

the quality and choice available to the end user."

One of the biggest challenges facing Charles Bows was the education of business buyers, who viewed Samsung as "Something like the Amstrad of the Far East". This was not helped by sitting at the cheaper end of the consumer sectors the company occupied.

Much time was spent image building using Samsung's market-leading monitors. The UK press and public became aware that here was a company producing the very best at highly competitive pricepoints and this image became horizontal, leading from monitors to other products by cross-market association.

"It's really not a case of simple brand awareness. Brand perception is much more important," Charles Bows comments. "Across the board, the Samsung name has become synonymous with quality and value. We've used the example of UK investment to prove that the company is far from being just another Far Eastern giant with a financial interest in the UK - Samsung wants to give back as well as taking away."

Economies of Scale

The company is one of the few which offers a three-year warranty as standard on the majority of its products. This reputation for reliability has won it many friends. "Less than 1% of our monitors have been returned and, on some new laptop models, within the first three months of launch we have not received a single returned unit. That sort of reputation speaks far more loudly than bold advertising slogans and flag-waving. People come to know and trust your company."

Samsung has three major long term goals: market share; brand perception; and profitability. The first is already becoming a fact, with 8% of the hard disk market and 4.5% of the CD-ROM sector. This places the company firmly in the top ten

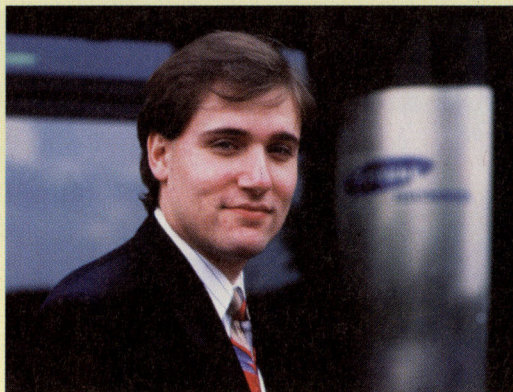
of companies and it has aggressive plans for its notebook PCs. "We want to be in the top five for notebook sales by the year 2000," said Charles Bows. "We have tremendous advantages. At present, everything except the CPU and the hard disk drives are manufactured by Samsung, and the hard disks will shortly be made by us. That allows unprecedented quality and price controls. Economies of scale mean that we don't manufacture anything unless it's done in millions. Twelve and a half million hard disks will be built by Samsung this year alone."

Recent market research has shown Samsung that it is well on the way to achieving its second objective too. The worst perception noted among customers was neutrality towards Samsung products, which the monitors and notebooks in particular have a very strong brand perception.

"Some items have a lower brand perception than they ought to, because they are out of sight. Most CD-ROMs and hard disks go inside their host machines, so users don't realise that they even use Samsung products!"

Samsung also leads by example, building a reputation for being ahead of its competition. "CD-ROM is an area where the technology is booming," Charles Bows said. "We looked carefully at the market and decided that the much-hyped six speed CD-ROM was going to be a short-term filler before the eight speed versions, so we stayed out of the six speed battle and concentrated on eight speed."

Education of Samsung consumers is not done directly. "It's a matter of educating the Press, so it can inform the consumer. Few people purchase a PC or perform an upgrade without reading around their subject. Products are always advertised to the trade and consumers simultaneously and, when something is announced, it must always be available to meet the demand. That's very important. Ability to deliver is a vital part of consumer perception."



Graham Jones

The future for marketing Samsung will make the most of multimedia and the Internet. "Computer users are technically aware and tend to believe messages received in their 'language'. Internet users will trust what they read on the Internet, and CD-ROM presentations are effective ways to broadcast a message to multimedia users."

The Personal Touch

Name: Graham Jones
Title: Pre-sales Support Supervisor, Computers and Peripherals Division

Graham Jones has worked in the technical support side of computing for nine years. Originally joining a computer wholesaler in its warehouse operation, he moved on to configuring systems and customer support services. "I came to Samsung in 1990."

Graham Jones' job is not run-of-the-mill. "I have to try to make computers not work!" he said, laughing at the irony of it. "Systems have to be tested with every possible configuration, so that the customer won't find an error and lose time and money trying to sort it out. Such an occurrence would damage our reputation."

Graham Jones also organises Press review models and sends samples to dealers. Feedback from these people is passed on to headquarters by a variety of routes, but Graham's input and technical experience are vital. "I need to encourage dealers, the Press, and customers to give their criticisms of the systems and make suggestions for future products. Ideas of mine might be passed to the marketing people, who will bounce them around and come back with new suggestions. We all work together in this way."

The ability to meet the exacting demands of the customer, without causing him or her any problems is essential to Samsung's success and Graham Jones has an assistant who aids him in this task. Bespoke setups are created, so the customer receives the product with hard and software upgrades and requirements tested and ready to run.

Graham Jones' ambition is to educate dealers about Samsung technology. "I'm sure that this is the next stage for me," he confided. "You need someone who knows and loves the product to demonstrate it to the dealer. That's as much a sales job as anything else, because the dealer can see that the product he's committing to is capable of living up to the expectations of the consumer. It's the personal touch that I want to create." **AUI**

GLOBAL *view*

**Multinationals are an important economic and geographical power.
What happens when they set up shop in Britain?**

Multinational electronics companies are a significant economic and geographical force in the UK. Samsung Electronics Company's 108 hectares plant in Teesside, for example, will employ 3,000 people by its completion in the year 2000, representing an investment of around £550 million in an area of economic regeneration. Already, 1,000 staff are working there

turning out 1.2 million computer monitors and 900,000 microwave ovens a year, with fax machines and other products to follow in 1997.

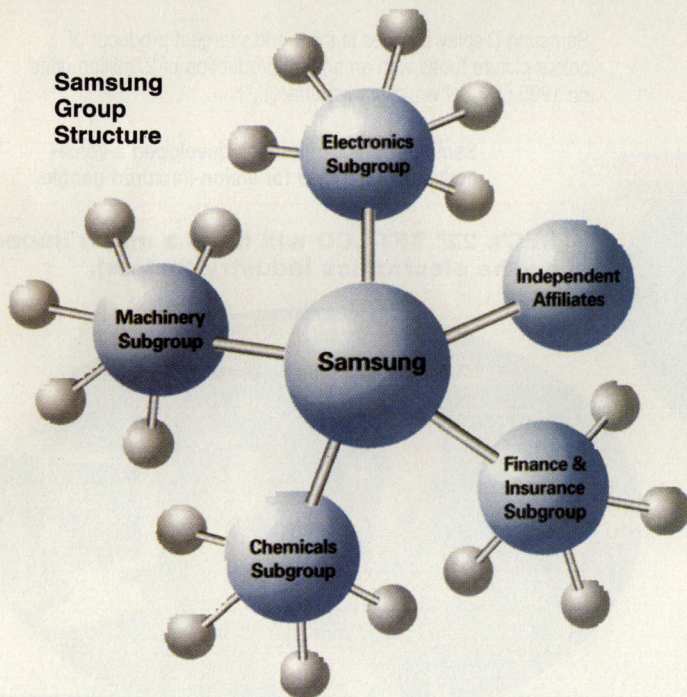
Other Korean companies, such as LG Electronic, Daewoo and Hyundai are also making investments in the UK worth hundreds of millions even billions of pounds. The Koreans are coming, and they're coming fast.

Their arrival has a major impact on the host country, as Neil Hood, professor of business policy and director of the International Business Unit at the University of Strathclyde, explains.

"It doesn't take too smart an undergraduate to paint a picture of the optimal inward investment project in an ideal world," he admits. "It's got large employment, it employs people with high skills,

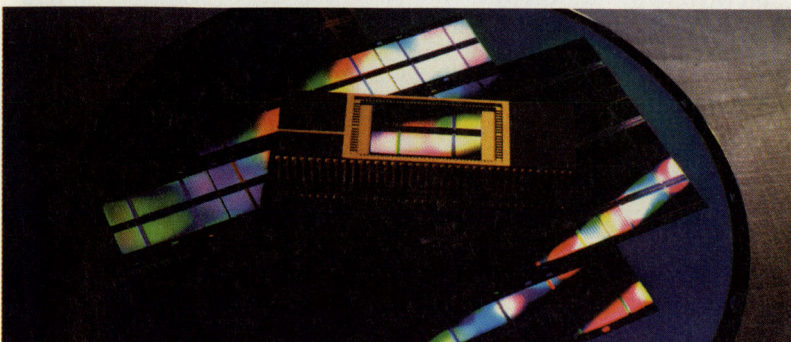
it's got research and development with it, product development, marketing, etcetera, etcetera, etcetera. It's a fully fledged corporate entity.

"Many of today's inward investors are not like that. They are part of global networks that are not directly replicating an indigenous business. But we can't be vexed about that because it's part of an international competitive



The Samsung Electronics Subgroup has five electronic affiliates: Samsung Electronics, Samsung Display Devices, Samsung Electro-Mechanics, Samsung Corning, Samsung Data Systems.

256M DRAM: world's first memory chip capable of storing the equivalent of 2,000 newspaper pages of information (below).



Samsung Headquarters, Korea



model that the world is working to. Realism says that we're either in it or we're not."

Samsung is a good example of the complexity of multinational companies. Although rooted in South Korea, its Samsung Electronics Company (SEC) division runs 18 overseas plants. These produce around 29 per cent of its televisions, video recorders, refrigerators, washing machines and microwaves but by 2000, 74 per cent will be made overseas. "SEC goes wherever there is a market," says Choi Seung-woo, director of marketing and regional strategy in SEC's global operations division. In the UK alone, the Computer & Peripherals UK Division has gained 25 per cent of the computer monitor market. The division is also making strong headway in notebook computers now manufactured in Limerick, Ireland, and other hi-tech products.

Governments compete hard to draw companies like Samsung in.

"You've still got clear evidence of centrality in Europe," admits Hood. "The area is Brussels, London and Paris and into Germany. But now a lot of the money from governments provided for inward investment is designed to counter that and diversify from this central region."

Once established here, it is easy to imagine multinational companies shifting their money about in such a way as to avoid paying taxes to their host nations, while sending their profits home. But Peter Muchlinski, a senior lecturer in international law at the London School of Economics, says it is not as simple as it sounds.

"There's a standard principle that all member countries of the Organisation for Economic Cooperation and Development use, known as 'the arm's-length principle'," says Muchlinski. "This determines whether the amount declared for tax purposes in the UK is the same as it would be if

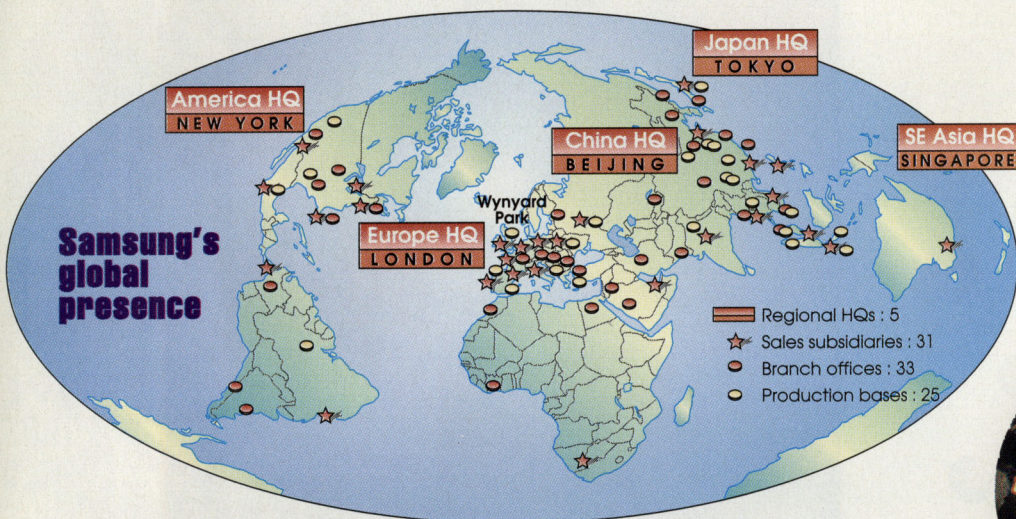
the company was independently trading with a foreign partner rather than its subsidiary."

The theory goes that multinationals should buy components from their own companies for the same price as they would from unrelated companies. This means they cannot artificially inflate their expenditure, show fewer profits and pay less tax. It's all well and good in theory, but difficult in practice. "If the payment is a royalty payment on specialised technology that's been transferred into the UK subsidiary by the foreign multinational, who's to say what the arm's-length price of that unique technology is going to be if there isn't an open market in that technology?" says Muchlinski.

For companies like Samsung efficiency is vitally important. This is part of the UK's attraction. According to Tony Henderson, public relations officer at Wynyard Park, "This area offers a high

quality workforce and a good transport infrastructure to ports and airports, while the UK has a strong economic position in Europe, and the support from central and local government has been instrumental in bringing us here." Unusually in the component assembly business, some 80 per cent of the Samsung workforce is male, reflecting the pool of unemployed, and therefore available, skilled labour in Teesside.

"A multinational company will be linked by alliances, joint ventures, and relationships of that type with other businesses in the world, and won't be defending this or that piece of Britain on its own," concludes Hood. So Samsung's global spread enables it to draw components from around the world, assemble and manufacture in places like Wynyard or Limerick and then re-export the finished products again. Samsung is a part of a new global order that is rewriting the geography textbooks.



Samsung Display Devices is the world's largest producer of colour picture tubes with an annual production of 27million units on 1995 (17% of world market share).

Samsung Electronics has developed a voice-activated computer for vision-impaired people.

SEC's 22" TFT-LCD will have a major impact on the electronics industry (below).



At the '96 American Consumer Electronics Show, Samsung received the "Innovations '96 Design and Engineering Award" for six outstanding products including its VCR.

In the right direction

As if to emphasise that geography influences every aspect of our lives, Samsung's monitor manufacturing plant at Wynyard Park runs lengthwise from north to south. This means that the production line staff tend to face west, while the monitors face east. Is this some sort of bizarre planning requirement? "It actually minimises the effect of the Earth's magnetic field," explains Samsung's Tony Henderson. "Our monitors are prepared using the gauss setting process. The electro-mechanics which produce the images on monitors are distorted by the magnetic field, and facing east minimises the distortion." At home and in the office, too, an eastward facing screen should offer a slightly clearer picture which will make viewing easier over a long period of time. As the leader in the computer monitor market in the UK, Samsung is surely facing the right direction.

The Skys The Limit With Samsung



***Samsung Electronics are not just full of Hot Air
when it comes to Monitors.***

***The Launch and Maiden Voyage of the Worlds Largest Monitor
marked our U.K. Number 1 position in the monitor market***



Samsung Electronics UK Ltd. Freephone 0800 521652

SAMSUNG *town*

Samsung calls itself 'the Family'. In this special report from Korea, Claire Hutchings uncovers the human side of an industrial giant

It is a town like no other. Yes, it has roads, apartments, restaurants, a shopping centre, medical centre, library, and even its own football ground and TV broadcasting centre. But unlike any other, you will not find it in an atlas.

Stepping inside the walled and well-guarded 'Samsung Town', you would be forgiven for thinking

that you had just stepped onto the set of a sci-fi movie. Tended lawns line empty streets while yellow-jacketed workers beaver away inside futuristic glass buildings. Even its museum is like no other. There is no entrance fee, no queues. And you will find no paintings or archaeological artefacts. Just state-of-the-art gadgets – telephones,

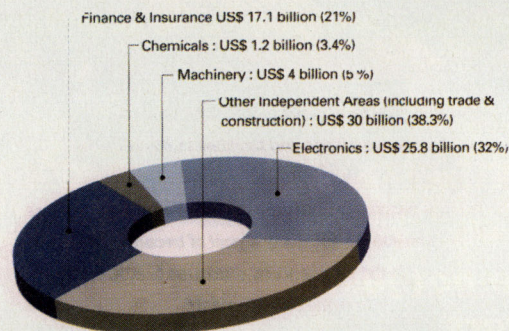
microwaves, fridges, televisions and vacuum cleaners.

Yet this town, situated on the outskirts of the ancient fortress town of Suwon, is very real. And the hi-tech exhibits proudly displayed in the museum are the creation of the 21,500 people who live and work at the largest electronics manufacturing site in the world.



- Sales by Business Category
- 95 Total Sales US\$83.8 billion

What Samsung sells



In 1995, Samsung Electronics was the world's sixth largest manufacturer of semiconductors and the largest manufacturer of memory products.

Samsung Electronics holds the largest market share in the world for monitors (17%), and second largest market share for microwave ovens (18%) and VCRs (11%).



Thinking big – the largest monitor in the world.

Samsung's milestones

- 1938 – Founded in Taegu by Lee, Byung-chull as a trading firm to supply rice and agricultural commodities with neighboring countries
- 1969 – Established Samsung Electronics
- 1970 – Developed video-cassette recorders, and integrated circuits for televisions and telephone exchanges
- 1974 – Entered the heavy industries and petrochemicals
- 1975 – Initiated production of electronic guns for cathode ray tubes (CRT's)
- 1979 – Introduced first Samsung-made cameras
- Entered aerospace
- 1980 – Entered semi-conductors, telecommunications, computers, factory automation systems, and genetic engineering
- 1981 – Developed a magnetron, a component for VCRs
- 1983 – Unveiled the 64K DRAM chip

Not everyone who works at Samsung Electronics Company's (SEC) Suwon complex is a resident. Some travel in from nearby Suwon, others commute in



on shuttle buses from Seoul, 48 kilometres away. But for 6,000 workers, 'Samsung Town' is home. Young people who have moved here from other parts of Korea live in self-catering apartments located in one corner of the complex. Once they marry, they will be expected to move out.

Just before 7am, the Suwon complex comes alive. The TV studio gets ready to broadcast its early morning news programme. Streams of workers, most in yellow jackets, make their way to their factories and offices. Everyone from production worker to senior manager wears the same uniform. At their workplace, staff sit down to watch a daily 15-minute broadcast updating them on what is happening in the company. Once this is over, work can begin.

To first time visitors, Korean corporate culture can appear somewhat disciplinarian and authoritarian. But considering that the ethical bedrock of Korean

society, Confucianism, emphasises respect and deference to those in authority, it is little surprise.

"Samsung employees are renowned for being expected to work hard but they are well-paid and are proud to work for the company," explains Professor Park Sam Ock, an economic geographer at Seoul National University. "That is why there has been no need for trade unions."

Certainly, when it comes to staff facilities, nothing has been spared. There is a medical centre, dentist, gymnasium and library, as well as an advice centre where staff can arrange everything from interest-free housing loans to help with tuition fees for their children. It can even help with holidays – a precious commodity when annual leave is only five days and you must work three Saturdays out of four every month. Samsung owns its own chain of hotels offering special package deals to staff. The island of Cheju, on the

southernmost tip of the peninsula, is one of the most popular holiday spots.

'Samsung Town' even has a shopping centre with its very own department store selling everything from clothes to discounted electrical goods hot off the production lines. Only those spoilt by the big department stores of Seoul will be disappointed by the choice on offer.

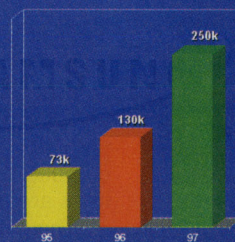
Can the UK expect its very own 'Samsung Town' in Teesside? SEC's electronics plant in Wynyard, which currently employs about 1,000 people, although when by the year 2000 there will be a staff of 3,000. A football pitch is currently being laid, but as yet there is no department store and no museum. But a major training establishment open to more than just Samsung employees is planned for December 1996. As Tony Henderson, public relations officer at the plant says, "Who knows what we will have at Wynyard Park in four years time?"

Samsung's milestones

- 1988 – Introduced the world's first 4mm camcorder
- 1989 – Introduced the 4M DRAM chip
- 1991 – Introduced the 16M DRAM chip
- 1992 – Developed world's first 64M DRAM chip
- 1993 – Developed a digital video disc recorder with green laser
- 1994 – Developed world's first 256M DRAM chip
- 1995 – Established Samsung Motors Inc. to manufacture passenger cars
 - Acquired a 40.25% stake in AST Research Inc. of the US
 - Acquired Rollei Camera
- 1996 – Joint venture with Bell Helicopters

Samsung Electronics UK

1996 - 1997 Sales Forecast Monitors



During 1996 Samsung plans to spend 5.2% of total sales on research and development.

Samsung's major achievements in R&D include:

- Flash memory card player
- 22inch TFT-LCD
- High-efficiency multiple evaporator refrigerator
- 3-D graphics controller chip
- High efficiency silicon solar cell



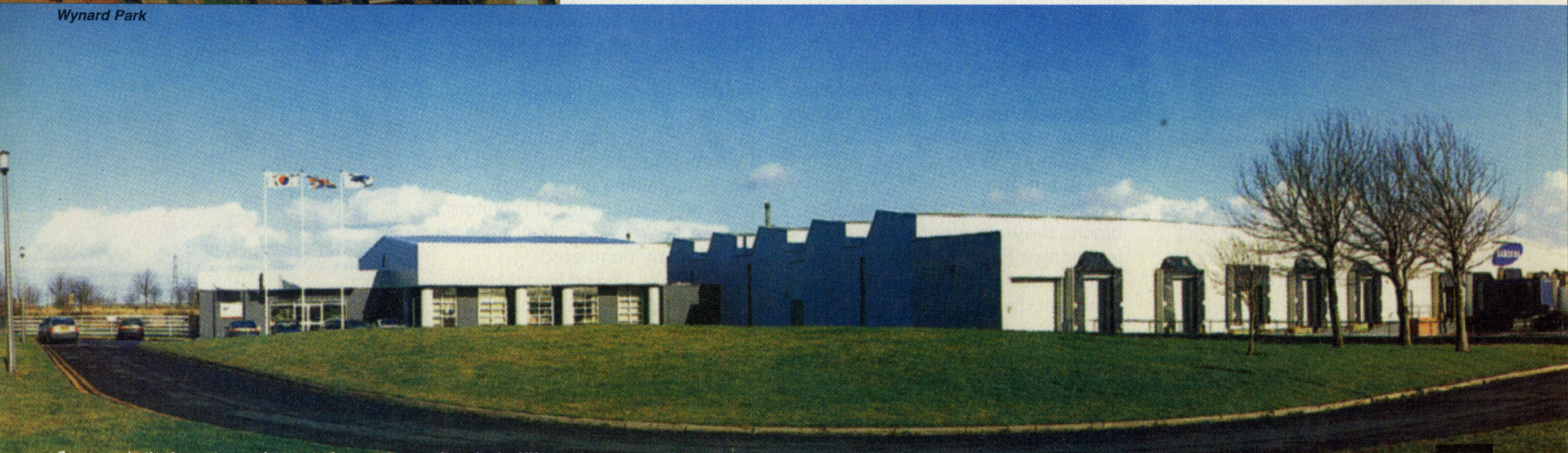
How Samsung's sales have grown

(Unit : US\$ Million)

Year	Net Sales	Net Income
1985	13,739	109
1986	16,967	187
1987	21,955	259
1988	29,414	498
1989	34,247	511
1990	40,873	330
1991	43,896	348
1992	48,941	375
1993	51,340	521
1994	63,854	1,678
1995	83,800	3,800



Wynyard Park



Samsung is the largest manufacturer of computer monitors in the UK.

POCKETABLE *laptop*

Getting ahead of the world, as usual, even before the UK PC magazines were allowed it, AUI is able review the new Sens 500 laptop from Samsung, David Ward was chosen as the one to exercise his fingers.

For the business computer user on the move a laptop PC has become THE essential tool. So much extra work can be done away from the office; on trains and planes, for instance, that efficiency experts must have rubbed their hands with glee when the first machines came on to the market.

Those first portable computers were nowhere near the sophistication of today's leading laptop manufacturer's devices, and this Sens 500 from Samsung, on which I am writing this review, is no exception.

Opening the A4-sized computer reveals a 12" LCD screen, an 87-key keyboard, and the novel feature for controlling the cursor. Where most other laptops rely, instead of a mouse, on a trackball or a micro-joystick "nipple" to move the cursor around the screen, the Sens 500 has a touch-sensitive tablet that uses the tip of your finger to guide the pointer. Beneath this there are two buttons that match those found on ordinary mice, but the touchpad will also react to 'clicking' if you smartly tap the pad when the pointer is in the position you want.



The new Sens 500 laptop, at work in our office.

Keyboard

The keys are large enough even for those of you with sausages for fingers and many have multiple functions reminiscent of those on the old Commodore 64 or Sinclair Spectrum. These extra attributes are called upon when the control (Ctrl) or function (Fn) keys are depressed.

The Sens 500 we reviewed is classed as a multimedia computer. Consequently it has a CD-ROM drive, built-in mini stereo speakers, a microphone, a 180Mb hard drive, and 16Mb of on-board

memory (both upgradable to your specifications). The 100MHz Pentium processor certainly gives this PC plenty of oomph, and the high-brightness LCD display is sharp and clear, even from awkward angles, which is not surprising when you remember that Samsung spends a huge proportion of its income on research and development to keep it the leading manufacturer in the world of TV and monitor screens.

If you need to access MS-DOS disks then it is necessary to power-down the computer to remove the CD-ROM drive and replace it with the floppy disk mechanism. Both are only 19mm thick and held in place by a lever/latch underneath. This may not be the most convenient, but you can't have everything in a computer this small. Two PCMCIA slots are also provided.

The whole thing is kept going by a removable rechargeable Lithium-Ion battery pack and a little icon on the bottom right of the Windows95 'workbench' keeps you informed of the status of the battery's condition.

External loudspeakers, headphones, microphone, keyboard, or docking station can be connected using the variety of sockets around the periphery of the Sens 500. There is also an infra-red window at the rear of the unit that allows data to be transceived between machines.

The Sens 500 is no lightweight in terms of both the physical strength and the power it possesses. It certainly did everything that it was called upon to do, it even keeps your legs warm. At the expected retail price of under £2000 it will definitely outsell many of the more expensive Japanese and American competition.

Conclusion

Portable computers offer, these days, more and more of the abilities once only provided by desktop biggies. This Samsung notebook computer has a feeling of the future about it. It has power, it has quality, and it has all the talents that are needed for the whole range of computing packed into an easily portable package. What more could you want?

EVERYTHING BUT *the kitchen sink*

Samsung seems to have decided that if it can do one thing well it ought to be able to do many things very well indeed. It has an astonishingly wide variety of electronic products that it manufactures and markets around the world. It devotes possibly a larger proportion of its huge turnover to research and development (R&D) than almost any comparable company. That enables it to bring out an enormous number of products

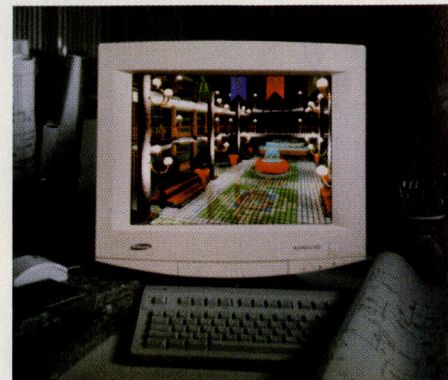
across the whole range of consumer and professional electronics.

The Sens 500 notebook computer is just one of an ever increasing range of leading edge products from Samsung's Computer and Peripherals Division in the UK, and one that utilises many of the building blocks they already manufacture for today's PCs - semiconductors, LCD screens, and so on. However, the company still brings

in high quality components from some outside manufacturers. The Sens 500, for example, uses a Toshiba CD mechanism.

Samsung is really strong and getting stronger across the whole range of the peripheral market. One major area, where in the UK it is establishing a dominant position, is in computer monitors.

Samsung's SyncMaster range is peculiarly numbered. SyncMaster 17 and SyncMaster 15 both indicate the screen size,

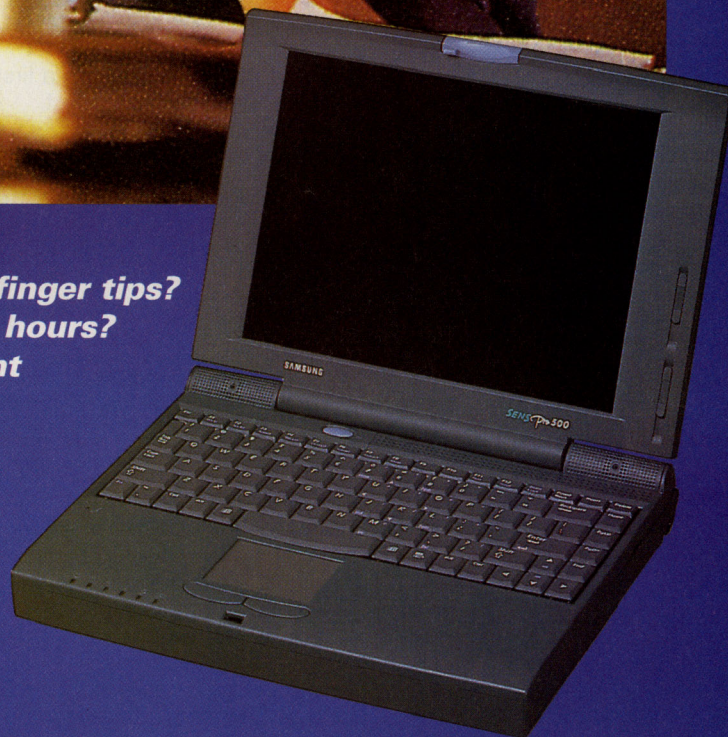


The 17GLs!

Why is this woman looking so happy?



***Is it that she's got 12.1" of perfection at her finger tips?
Or, that she knows it's going to last for three hours?
Or, is it just that she's pleased to have brought
a Samsung SensPro500 Notebook?***



Follow your senses . . . Freephone 0800 521652

SAMSUNG

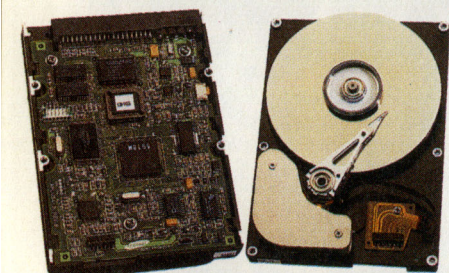
ELECTRONICS

17" and 15" respectively, while those with 14" screens are called SyncMaster 3! Yet this interesting labelling system should not obscure the fact that Samsung leads the world in monitor manufacture, and has scooped 13 major magazine awards in the UK alone for the quality of its monitors.

All models support the usual PC scan rates and have high-resolution 0.28mm dot pitch screens, except the 17GLSi which has an even better 0.26mm dot pitch. In fact the 17GLSi is so good (we use one here on our A3000) that it was frequently seen at the recent European Computer Trade Show at Olympia where its pinsharp picture was chosen to set off the colourful games being demonstrated.



The 17GLSi is a dumb monitor - it does not have speakers. But for those with a need for noise from the computer (and don't want the hassle of external loudspeakers) Samsung's 15M and 15Me could be the choice. The Me is an economy version of the M, with a maximum resolution of 1024x768 compared to the M's 1280x1024. Each has a pair of speakers adjacent the screen for stereo sound output.



Korean computer manufacturers once had to rely on

imports for drives. Samsung have left all that behind with their own range of gigabyte plus hard disks and CD-ROM drives. The latest of these is an eight speed ATAPI (E-IDE) internal drive with an access time of 146ms and a maximum data transfer rate of 1.2Mb/second... makes you yearn for the good old days of 150k/second transfer rates doesn't it? And more is yet to come. Although Panasonic have proclaimed their ten speed drive, Samsung hope to launch a twelve speed model later this year or early next.



This could be their last CD-ROM product, for they already have pre-production models of DVD drives. However, the eight speed CD-ROM drive has already picked up a bagful of industry awards and at a probable street price of around £100 it looks a first class value for money product, especially as the amount of software that needs anything more than eight speed is hardly to be seen yet.



DVD - the next big thing?

DVD is the "next big thing" and Samsung have invested \$5 million in creating a player that adopts the DVD standard for audio-visual material. The new machine, demonstrated in Seoul recently, is capable of many of the features taken for granted in today's VCR machines (except that it cannot record - yet). Two movies on a single disc will be DVD's capability, but it is the computer software manufacturers who are



looking forward to DVD-ROM's initial four gigabyte capacity with glee.

Nowadays computers and telephone communications go hand in hand. Although yet to release a modem, Samsung do a range of telecom products from cordless telephones through to GSM mobiles, pagers, and fax machines.

Twice their analog phones, the SH-710 and SH-810, have received the 'Editor's Choice' accolade from "What Mobile and Cellphone" magazine. Now they have entered the GSM digital phone market with the SGH series.



Samsung produce a broad range of fax machines intended to satisfy everyone from the home office, with thermal paper roll and built-in ansaphone, to the multinational corporation with its need for high-capacity plain paper machines with copier capabilities.

From a company that dominates the world of computer monitors you would expect it to produce an equivalent range of top quality TVs. It does. From a tiny set with a 5" screen up to 32" widescreen models, Samsung have a TV to satisfy any need. Most sets are provided with a rear SCART socket and front mounted audio-visual phono sockets for the



attachment of camcorders or game consoles.

Their R&D has recently enabled Samsung to show a 22" LCD screen, the first in the world, that will help bring in the age of the "TV hanging on the wall".

Of particular interest to **AUI** is the 25" CI5944AN with its NTSC capability, double rear SCART sockets and front AV terminals; and also the TVP 3350iS combination set with built-in video cassette recorder. This has two tuners so you can record one channel while watching another. It is also NTSC capable and has the front AV terminals too.



A full range of video cassette recorders backs up the TV range. All have long play (LP), while some models are equipped with VIDEOplus - something that we are not completely in favour of as it makes life too easy! For the desktop videographer we would definitely recommend the SV160i with its NICAM stereo VHS Hi-Fi facilities, jog shuttle, still frame, and slow motion.



But the best by far, especially for those of you dealing with tape recorded internationally, is the SV300W World Winner Video. This machine has a video drum containing six heads - two for the Hi-Fi sound and four for the superior picture quality this machine is capable of from NTSC, PAL, or SECAM picture formats. With a digital picture facility you get perfect still frame and slow motion, and there is a super long play mode for those who want to buy only one videotape ever.



On the camcorder front two models have been particularly outstanding. The VP-J52 won the gold award as 'Best Beginner's

Camcorder' from 'Camcorder User' magazine, while the VP-U10 gained a 'Video Camera' 'Best Buy' rosette.

From video equipment Samsung move on to audio. Samsung have a selection of midi and mini music systems all with CD players and twin cassette decks. The top models in the midi range even have turntables, so you can still play those old-fashioned vinyl LPs.

Portable audio equipment, the so-called 'ghetto blasters', are well represented and so are those other devices whose power is often measured in Watts - microwave ovens.

From 700 to 950 Watts, Samsung has a large variety of models. Digital or analog controls, built-in grill or fan-

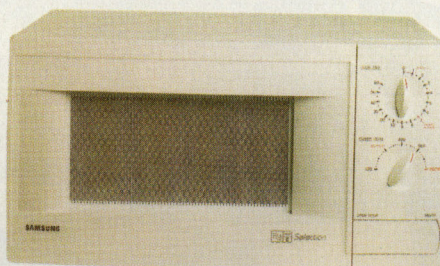
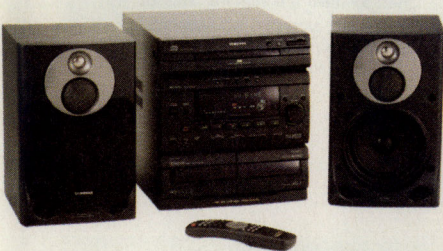


assisted convection cooking. There seems to be a model for any budget or size of household.

Samsung are not simply an electronics company. Chemicals, motor vehicles, steel, watches, medical equipment, civil engineering, and aerospace projects are being run by subsidiary companies alone or in



joint ventures. As you can see from the range of products we have covered here - and there are many more that this astonishing company produces - Samsung is a highly versatile company indeed.



So what does make Samsung, this phenomenally successful TechnoWorld company, tick? As a computer magazine we are closest to its Computer and Peripherals Division's activities in the UK. If we judge Samsung by that part of its global empire, then we see an organisation that benefits by massive technological research and development which these days requires such huge investment that seemingly only a globally powerful corporation can afford to carry it out.

The Computer and Peripherals division, as a part of Samsung Electronics UK, also has the back-up of a strong organisation in the

UK and the rest of Europe that assists it through establishing the Samsung name as a brand to be respected for quality and value for money across a wide range of electronic products.

It also has the advantages of scale - Samsung can produce a million plus monitors in the UK alone, keeping the quality up and the cost down. It uses the R&D to go for quality, reaps the awards, and builds on that success to gain public confidence and sell more of its products. For hard drives, CD-ROM drives, Notebook computers, and printers, it shows the same visionary and dynamic approach.

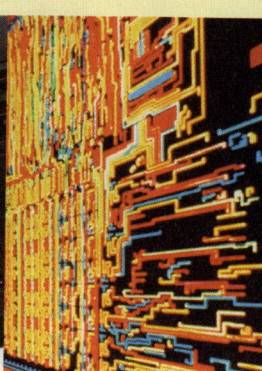
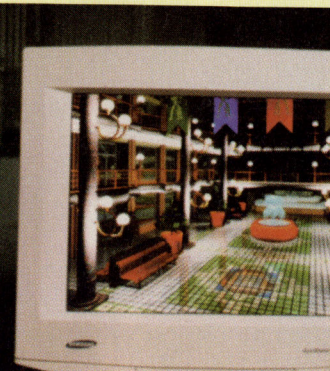
Simple, isn't it? Perhaps not... For Samsung also adds to all that the well-organised drive of a skilled and motivated marketing staff who are encouraged to be creative and constantly reinforce the message that they want the brand to represent; that buying Samsung is a guarantee of quality and value for money.

The organised, almost unified, corporate strategy may stem from what some sceptical Europeans categorise as Korean regimentation and naivety - the corporate Smart and Soft philosophy might sound like that, but it works around the world and in the UK too as the remarkable

success of the Computer and Peripherals division shows.

This TechnoWorld is about technology being applied to the real lives of people. Samsung seems to be a company that is achieving that through vision, skill, dedication, and energy. It is those qualities that have made it, in the last ten years, into a global power.

With its huge and increasing technological resources and the growing strength of its brand across a whole range of electronic products, it is hard to imagine that Samsung will not, in its next decade, drive ahead even further into the global leadership of the expanding TechnoWorld. **AUI**



How to build a computer giant

SyncMaster Monitors

A complete range of 14", 15", 17" and 20" award winning monitors, all featuring Energy Star Certification, Power Management Systems and conforming to MPR II and CE certification. All monitors come with 2 or 3 years on site warranty, with 15" and 17" models being Plug and Play (Windows'95) compatible. And now we've started building in Britain.

DriveMaster Hard Disk Drives

High capacity 3.5" drives ranging from 850MB to 1.2GB, all covered by a three year warranty. Featuring an Enhanced IDE interface, full IBM PC compatibility and designed to meet the requirements of today's complex storage requirements.

Synabro Pentium Tower Systems

A Pentium 90Mhz processor, PCI architecture, 2MB video card, 8MB Ram as standard, Midi Tower casing and two years on site warranty are just some of the features that combine to make the Synabro System the ultimate solution to your computing needs.

MyLaser Printers

Windows based - GDI & PCL 5 - laser printers. Giving 8ppm output at 600DPI. Featuring a sealed unit toner and drum cartridge capable of printing 6000 A4 sheets. The MyLaser comes with two years on site warranty and full plug and play compatibility.

SCR CD-ROM Drives

State of the Art, Quad speed CD-ROM drives, which are plug and play compatible, feature ATAPI/Enhanced IDE interface, provide some of the fastest data transfer rates, come with one year warranty and are compliant with all industry standards.

SENS 800 Notebooks

Pentium based MultiMedia Notebook PCs, with removeable 2.5" Hard Disk Drives for added security, 10.4" dual scan or TFT screens, built in microphone and speakers and a three year warranty. The MultiMedia docking station includes a dual speed CD-ROM drive, and stereo speakers for full Multi-Media applications.

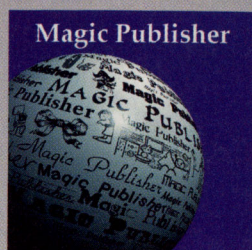
In 1974, Samsung was a relatively small electronics manufacturer. Today, it's one of the largest electronics groups in the world. To ensure such rapid growth continues, we're investing heavily in the next generation of computers, CD ROM players, laser printers and high definition monitors. What's more we've just opened our first UK plant. Because, quite simply, the better we get, the bigger we get. For more information call Freephone 0800 454 352.

SAMSUNG
ELECTRONICS

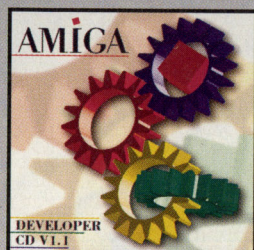
NOW MANUFACTURED IN THE UK

The **Workbench** and **CD-ROM** is the ideal companion to your workbench. On this CD you will not only find the best programs, that are available for the Amiga, but you will also get them ready/turn from the CD. In addition to this there is an installer script that installs the desired programs to your harddisk.

The CD covers all areas of interest, all, the programmer, the user, the creative and the gamer will find what they are looking for. On this CD-ROM there are many shareware programs, some of them at a special price, if you get registered. There is e.g. **Shapeshifter** for 40.-DM (instead of 50.-DM), in addition to this there is a 50 MB Mac partition, so that you can start playing around with Mac applications right away. Then there is **PowerPlayer** for 20.-DM (instead of 30.-DM), **AmigaWorld** for 20.-DM, **AmigaWorld** for 20.-DM, so that you can try it right away. **AmiWin**, the new X11-server for the Amiga is available for 440.-DM (instead of 500.-DM), so can be more than 100.-DM with this CD. Therefore you only have to send in the appropriate page in the booklet to the author of the program. **\$24.95**



On this unique CD-ROM Set you will find all you need to create nice looking documents. If you want to write a book, if you want to design a poster, if you want to create a 3-Page for the Internet or layout a magazine, you will find all you need on this marvelous CD-ROM. There are more than 10,000 Fonts (Colour Fonts, Bitmap Fonts, IFF-Fonts, Adobe Fonts, Intelligent Fonts, TrueType Fonts and DMF Fonts), more than 5,000 cliparts and 150 printer's trays. Many of these are exclusive to Magician Publisher. You will also find a complete installation of PostFax (more than 300 MB), containing a complete set of 600x600 dpi! In order to create good looking documents, there is Final Writer 4 SE and Wordworth 4 TD. Both rated as the best word processors on the Amiga. For creating good looking Internet WWW Documents there are all available Free / Shareware programs for the Amiga, including many backgrounds and special clipart for this purpose. The 100+ pages booklet contains printouts of all fonts and clipart. Special B&B section is also provided. **649.95**



The official developer CD from Amiga Technologies contains all the material you need to start developing software for Amiga computers. This includes: The CD32 distribution package. In addition to the original five disk set developer you will find the "Build-CD" CD writer package Packages contributed by third parties: The WBPA and ActionFSM packages, courtesy of Ralph Babel; The Envoy v2.0 developer kit, courtesy of IAM, Inc.; The iNet v225 developer kit, version 2, courtesy of Interests, Inc.; The Kiskometer package, courtesy of Angela Schmidt; The Enforcer v3764, courtesy of Mike Sinz. Information in support of forthcoming operating system developments. Additional developer material: BOOPHS and gadget image classes. The AmigaOS 2.04 example code, as part of the AmigaOS 2.04 developer kit. The AmigaOS 2.04 code examples; The complete set of registered IFF forms: IFF, XIFF and related files; All IFF packages released by Commodore-Amiga, Inc. covering 1988 through 1992; The camd v371 MIDI developer kit; The SANAd II standard package and developer kit; The Installer v431 package. International support material: Sample text using the full ISO-8859-1 character set; Translation guidelines. The updated 3.1 Native Developer Kit: "C" and assembly language header files, linker and runtime libraries; System documentation and tutorial texts; Example code covering the Amiga OS 3.0 and 3.1 features; The NewIFF v39 package; The AmigaGadget and Datatypes packages and example code. Reference material. The collection of AmigaGadget names, courtesy of Spring 1987 through January/February 1991. The collection of AmigaGadget 2 articles in AmigaGadget format, covering January/February 1990 through March/April 1993; also included are the printable issues in PostScript and PageStream format; Hardware related articles; The Includes & Autocodes in AmigaGadget format. £14.95



Aminet is the world's largest collection of freely distributable Amiga software. Up to 10,000 users access the vast archives every day, and countless programmers publish directly via Aminet. Until recently access to Aminet was restricted to international network users. With Aminet Set 1, consisting of 4 CDs, the complete archive is published the first time. This CD-ROM-collection, which is dated January 1995, offers an almost inexhaustible reservoir of top-value Shareware. A wide variety of programs is included: Applications, Games, Demos, Pictures, Mods, Animations, Developer-Material, ... It contains approximately 4 gigabytes of software in 12,950 archives and you will enjoy the comfortable userinterface. **£29.95**



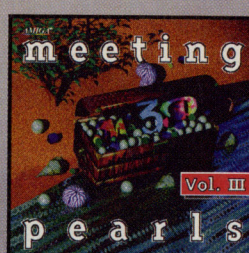
AMINET SET 2, dated November 1995, consists of approximately 4 gigabytes of software in 12,000 archives. Whether you like applications, games, communications or programming, the SET gives you all you need. Easy to use index files and search facilities make accessing it a pleasure. **£34.95**



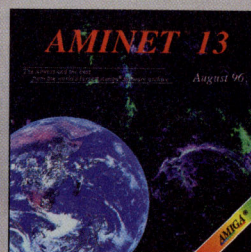
AMINET SET 3, dated July 1996, consists of approximately 4 gigabytes of software in 9,000 archives. Also included are full versions of Imagine 4.0, XiPaint 3.2, OctaMed 5.0 and some commercial games. Whether you like applications, games, communications or programming, the SET gives you all you need. 95 MB Utilities, 79 MB Documents, 408 MB text software, 12 MB Disk/HD tools, 7 MB Hardware related, 756 MB Pictures & Animations, 208 MB Graphics software, 394 MB Graphics & sound demos, 563 MB Games, 64 MB Miscellaneous, 685 MB Music modules, 28 MB Music software, 131 MB Communications, 91 MB Development Software, 88 MB Business software. Easy to use index files and search facilities make accessing it a pleasure. **£39.95**



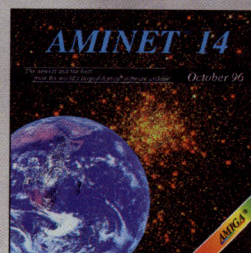
This CD contains 1070 games for the Commodore Amiga from different categories. Action, Jump & Run, Card Games, Puzzles, Strategy Games - a whole range of computer entertainment awaits! Gamers' Delight will hold you captivated for hours and guarantees long-lasting pleasure. 70 games are commercial versions - no public domain & no demo! This CD can be run on any Amiga with CD-ROM drive. 1 MB free memory and lovstuck/lovrnd. **£26.95**



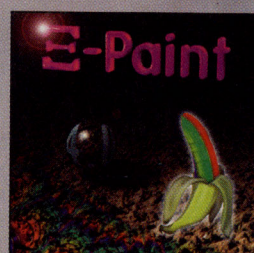
The *Meeting Place* Volume III contains 650 MB of the finest CD software via a special user interface, which has been created to allow you to find the program of your choice with ease. The contents: 10 MB Packer, Cruncher, Archive Programs - 3 MB CDROM Utilities - 21 MB Communication and Network Programs - 5 MB Debugging Tools - 29 MB Development Tools - 13 MB Floppy, Hard Disk and SCSI Programs - 8 MB Educational Programs - 9 MB Games - 3 MB Graphics Programs - 39 MB Internet Movie Database, Updated Version - 7 MB MIDI Tools and Programs - 27 MB Mods - 12 MB Music Programs - 21 MB Pictures - 13 MB AmTTC and more for Networking - 60 MB Documentation, CDROM Databases, etc. - 96 MB Utilities - 30 MB software available on any CD-ROM - 15 MB Utilities - 30 MB HTML Pages - 10 MB Fonts and typefaces, benchmark programs, icons, programs for amateur radio and electrical/electronic engineering are also included. **\$8.95**



Still available! **£14.95**

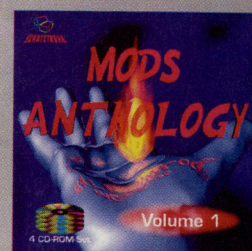


Aminet CD 14, dated October 1996, consists of approximately 1.1 gigabytes of software in 2400 archives. Since the release of Aminet CD 13 more than 750 MB new software has appeared. User friendly access software makes the Aminet CD 14 a pleasure to use.



PixelArt 4 is the new version of the leading edge, 24-bit pixel program. It's suited to the demands of novice and expert alike, and within a short time, you too will be able to produce beautiful and creative art in 16.8 million colours. This version of PixelArt allows animations as well as easy-to-use raytracing capabilities.

Overview of Features: • Diverse point functions including colour, contrast and saturation adjustment • Mask, outline, recolour and fill functions • Airbrush with adjustable spray functions • Lightweight function for manipulating maps and animations • Text functions with anti-aliasing using Compagographic fonts • Support for a variety of graphics cards • Limited Undo • Diverse manipulation of alpha channel • Supports multiple layers • Layers to combine different projects • Effects port • Drop & Drop colour palette and filter module • Extensive documentation • 60 textures, 50 landscapes, 30 other pictures and many fonts included. **£49.95**



Do you like Music? Do you like Computers? Do you like Computer Music? Then, this collection is what you need! 4 CD-Roms full of MusicModules! More than 18000 mods of any format (MOD, S3M, XM, IT, Amiga Synthetics...) all sorted by Composers in priority, by Groups, by Kind, all stored in uncompressed form, readable under all the major platforms, all coming along with 11MB of Module Lists (ASCII, AmigaGuide...) and 23MB of Module Players and Trackers for many computers. Released with the full agreement from more than 200 musicians (PC and Amiga Scene) who provided me with a personal infofile and picture, as well as many previously unreleased modules! Enjoy this 7 years titanic work! Prepare to listen to 1000+ hours of Music! **£25.95**



NetNews Offline Vol. 1 is the first disk of a new bimonthly published series of Amiga CD-ROMs which contains all Amiga-related newsgroups from the internet. Every volume features about 50,000 articles which contain hot rumours, important information about all aspects of the Amiga, press-releases, discussions and flame wars, ... A newreader is included. NetNews Offline is the cheap alternative of getting in touch with Usenet. **£14.95**

WorldWideWeb:
<http://www.schatztruhe.de>


GTI
Grenville Trading International GmbH
Carl-Zeiss-Str. 9
79761 Waldshut-Tiengen · Germany
Tel +49-7741-83040
Fax +49-7741-830438
Email: Compuserve 100336.1245

WHAT'S NEW?

MicroMap

The MicroMap is a pocket-sized, foldaway, optical viewer which enlarges miniaturised credit-card sized maps into pin-sharp images. Mini maps are more user friendly for hikers, skiers, mountaineers, motorists, and tourists on foot, than traditional maps which can be unwieldy.

The interchangeable cards are standard maps reduced by a factor of about 30, decreasing an A3 sheet to the size of a credit card. The MicroMap's concave lens ensure there is no distortion.

Price £19.95. The MicroMap comes with a set of UK road map cards, but packs are available which include Outdoor Leisure Maps, US cities, European cities, and UK cities as additional extras.

Contact: Innovations Tel. 0990 807060

Psion Powers Up

The latest palmtop Psion 4 computer has been radically upgraded when compared to previous versions. Gone is the clunky NECV30 processor, an 8086 clone, and into its place comes an ARM710 RISC chip delivering 40 million instructions per second. Phew!

Meanwhile NEC themselves have brought out a 64-bit processor using MIPS technology (see The Chips That Made History in this issue) with more than three times the processing power of the ARM chip mentioned above. The new device is destined for use in Personal Digital Assistants (PDAs), set-top boxes(!), and digital cameras.

Be on the PowerPC

Be Inc. demonstrated the Be Operating System (BeOS) running on a PowerPC-based Macintosh computer built by Power Computing Inc. at the MacWorld Exposition held in Boston recently.

Since Be introduced the BeOS late last year, the company has consistently stated that it plans to bring the BeOS to platforms beyond the company's BeBox personal computer product line, and to license the BeOS to personal computer manufacturers, value-added resellers, and OEMs.

"We've designed the BeOS for the next decade's applications, rather than legacy software," Jean-Louis Gasse, president and CEO of Be told AUI. "With BeOS for

Martin Witton and David Ward report on the innovations coming our way from This TechnoWorld.

PowerMac we aim to demonstrate the power of a true multitasking, object-oriented operating system - even when running on a single processor PC. We also hope this further shows our commitment to bringing the BeOS to a wide range of personal computer users, and to an open approach to accomplishing this", he went on.

The BeOS brings to the PowerMac platform a true, pre-emptive multitasking, multithreaded software system, offering protected memory, true virtual memory, and an application architecture based on shared libraries and modular code. The system's API is object-oriented, an approach to software development that helps speed the addition of new application capabilities.

The BeOS claims to use the latest in graphical user interface concepts to produce an operating system that is both powerful, and simple to use. Within the BeOS, a variety of "software kits" and application tools provide a wealth of functionality that includes integrated database capabilities, 3D graphics, support for audio and MIDI data streams, integrated Internet mail, remote log-in, and file and web serving capabilities.

In addition to these capabilities, the BeOS incorporates many of the data and network standards in use today, such as TCP/IP networking and Internet protocols, TrueType[®] and Postscript[®] font technology, MPEG and QuickTime[®] video formats, Posix and standard UNIX tools, and more.

Contact: Be Inc., Suite 336, Immeuble Olivetti, Rue de l'ancien marche, 92800 Puteaux France Tel. 33 1 49 06 73 77

DVD in the Doldrums

Toshiba, Matsushita, and Hitachi have all announced that their DVD players will be out in time for Christmas. Unfortunately the software suppliers are working to another schedule and don't expect product to be ready until mid-1997. And we all know that hardware does not sell unless there is software to go with it. And we all know the dates for software delivery are not set in stone either.

Although there are 170 companies signed up as DVD software developers, a recent survey showed that less than 20 of these had actually started working on projects. The problem that's affecting the 'rush' towards DVD is the legal

complications surrounding copyright of audio and movie material.

And while all the arguments are raging about what will fill up DVD's massive 4.7Gb storage capacity (about 8 times as much as a standard CD-ROM), researchers at the University of Buffalo have created another optical disc technology that could up data storage into the terabyte range. By changing the plastic material from which ordinary CDs are constructed, the researchers have found that they can build multi-layered discs which are easier for laser beams to read and can therefore hold the equivalent of 1000 CD-ROMs. Yes, that's right one thousand CD-ROMs.

Anyone for the complete Coronation Street? Every episode since the series began on one disc! Yuk!

Goodbye Laser, Hello Micromirror

In last month's AUI NewsFile we told you about the Proxima Desktop Projector that uses a Texas Instruments Digital Light Processor (DLP) to form the images. The DLP is an array of microscopic mirrors under computer control mounted on a silicon chip. When 'switched' they can bend light and do it fast enough so that they can build up images in the same way the scan-

ning electron beam constructs a picture inside a TV tube.

Now engineers have begun to work out how to use DLPs to replace the print engines in laser printers and copiers. So far they have managed to produce images with 600dpi resolution from prototype devices. So watch this space.

Sunglasses for Conservatories

The Vinyl, which is supple and easy to apply is just smoothed onto the wet surface of glass and plastic conservatory roofs or doors and windows. It sticks to any shape yet can be repeatedly removed and re-used. Costing about £92 for a typical 8x8 foot conservatory, it is guaranteed for five years, but has a life expectancy for much longer according to the manufacturers.

As well as keeping conservatories cool, the vinyl has the added bonus of bouncing back the sun's harmful UV rays to keep furniture and fittings from losing colour. Additionally, say the manufacturers, it acts as insulation and protects plants.

Contact: DIY Plastics (UK) Ltd., Regal Way, Farringdon, Oxfordshire SN7 7XD Tel. 01367 242932



Sun Shade Vinyl will turn overheated suntraps, such as conservatories and greenhouses, into cool refuges.

Investing in Global Technology

If you would like to pour your millions into some hi-tech investment you might talk to Henderson Touche Remnant. They claim to be the largest manager of dedicated technology funds in Europe, with around £700 million under management. HTR Global Technology fund was launched in 1984 with the objective of providing maximum capital growth from investment in companies involved in technology. With 80 companies in the portfolio, including Psion, Logica, and Intel, the Fund also invests in rapidly growing companies around the world according to HRT's geographic policy.

Contact: HTR Investor Services, Freepost KE 5906, Brentwood, Essex CM14 4YW Tel. 0800 832832

Bundle of Databases

Cambridge Scientific Abstracts (CSA), a major producer of database services covering a variety of subjects including Environmental Sciences and Pollution Management, Aquatic Sciences and Oceanography, Biological Sciences, Computer Science and Engineering and Conference Papers and Market Research, is now bundling its titles in closely related groups so that users can benefit from substantially reduced subscription costs.

All CSA databases are available for Internet access, a total of some 40 separate titles are now offered either as a Complete Collection or in sets such as Aquatic Sciences & Fisheries abstracts; Biotechnology and Bioengineering; Microbiology; Safety Science & Risk; Biological Sciences and Environmental Sciences & Pollution Management.

Prices vary, with the Biological Sciences set on offer for £2,930 but, if purchased separately, would cost £21,585. Yes, it was £21k, which might seem a tad OTT for your A500...

Contact: Microinfo Ltd., P.O. Box 3, Omega Park, Alton, Hampshire GU34 2PG Tel. 01420 86848

New Sensor System

The Planetary Integrated Camera Spectrometer has been designed to gather data at a fraction of the weight and cost of similar equipment used on previous interplanetary probes. The new sensor system includes three types of camera and weighs just 5 kilograms. It consumes far less elec-

tricity and occupies a smaller volume than the old sensors used on space flights, according to the engineers at NASA's Jet Propulsion Laboratory in Pasadena, California where PICS was designed. So a space probe carrying the system could be launched by a smaller and cheaper rocket, they claim.

PICS designers collaborated to produce a set of three instruments that share common optical elements. The package includes two visible light cameras, an ultraviolet spectrometer, and an infrared spectrometer.

After email - vmail

Video over the Net has not been particularly successful as short clips take ages to download and produce poor quality images that are strung together into jerkily moving pictures. Now VDONet of Santa Clara, California, claims to have come up with a way to send live video over the Net at 10 to 15 frames per second. This contrasts with a European TV's normal standard of 25fps. VDONet claims it can squeeze all this information down an ordinary phone line using a 28.8 kilobits per second modem.

Digital Star Wars

Europe's digital TV channel Canal Plus, the French pay-TV company is the first in the television deregulation revolution which allows TV companies to take cash directly from viewers. This is thought to be likely to free the industry from its traditional dependence on advertising and allow channels with small audiences to be profitable.

Small audiences? They don't have to be all that small. It is being said that the recent contract made by the UK football Premier League will be the last, though it will bring hundreds of millions to the clubs. The reason is that by the first years of the next century the top clubs will be using digital TV to provide each club with its own channel on which the club's fans will get coverage of every match in which their club is taking part.

Conventional pay-TV services, transmitted on analogue signals, such as was put out by BSkyB for the Tyson/Bruno fight, have already proved to be lucrative for Canal Plus, BSkyB, and the Netherlands' NetHold. The digital explosion has now multiplied pay-TV's potential to an extent which other media groups are unlikely to be able to resist.

The BBC, for example, is already

planning to devote resources to similar developments and its unpopular Director General, John Birt, is always going on about "The Digital Age of Communications". Whether that Digital Age will turn out to be anything but another way of squeezing more money out of the viewing public is yet to be seen.

Virtual Open University

Taking the concept of distance learning one step further, the Open University of Catalonia, in Spain, has been built around communications technology. The first 200 OUC students are scattered around north-eastern Spain connected to lecturers, tutors, and hi-tech resource centres via a tailor made web.

The students can ask questions, compare notes, and send work via electronic mail; chat in virtual cafe's; and consult the virtual library. The pilot group are taking business studies or educational psychology.

One thing hasn't changed - the OUC puts on a study week where the students can actually get together and, being young, Spanish, and doubtless passionate, that may turn out to be the most stimulating and educational, if not in the academic sense, week of the whole course.

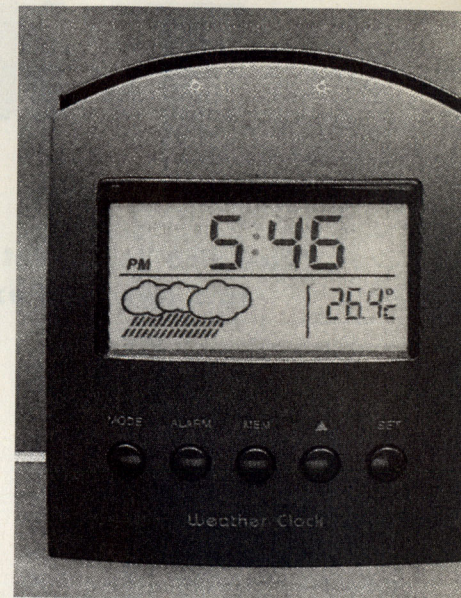
Survival Mysteries

Anglia Television's Survival documentaries have been translated onto CD-ROM for schools. The long running TV series is now interactive with the Survival Mysteries of Nature, price £29.99, and comes complete with activity sheets for pupils.

From Anglia Multimedia, the CD-ROM features three half hour documentaries on senses, hunting, and flight.

GeoConcept

Many businesses find computerised geographic information systems helpful when analysing data by locality or region, but making full use of Geographical Information Systems (GIS) often requires specialist programming skills. Kingswood, a UK GIS specialist, and Alsoft, a French developer, hope to bring GIS to a wider audience by launching the UK version of Geo Concept, a geographical information system that can be linked to a company's existing databases and spreadsheets without expert programming.



Wake up to a Twister?

Storm Warning

A digital alarm clock, price £49.95 is available which contains an advanced electronic barometric technology that forecasts weather and monitors temperature. The alarm clock alerts the user if the weather is about to deteriorate fast, with the forecaster giving an audible storm warning alarm some hours before it actually happens. Features include weather forecast symbols, indoor temperature display, temperature memory function, 12/24 hour clock with alarm, and calendar.

Contact: Innovations Tel. 0990 807060

A Stitch in Time

Doctors could soon be using lasers to improve their accuracy in stitching according to AEA Technology in Harwell who are developing the laser technique.

Suturing delicate areas of the body can require precise judgement of the tension of the thread. If it is too tight or slack the surgeon could cause long term complications. The researchers at AEA are using thermoplastic thread, which has been softened by irradiation.

An optic fibre transmits an argon or carbon dioxide laser beam to a head containing focusing lenses. These lenses then bring the beam to the same thickness as the thread. Surgeons will use a TV camera to view the beam's precise position. The AEA researchers are reluctant to reveal exactly how the laser controls the tension of the suture until preliminary trials are completed at the Leicester Infirmary. **AUI**

THE NEXT BUS

'Firewire' is the latest buzzword to arrive on the technoscene. David Ward reveals how this new and exciting interface technology could supersede both SCSI and IDE.

Over the years various interface standards have been developed for linking peripheral devices to computers. In our Amiga experience we are familiar with RS232, better known as the serial port; Centronics, the parallel port; IDE and SCSI, the two hard disk bus interfaces.

Both the serial and parallel interfaces were designed to have only one device attached to them. Initially both were used to drive printers, but then other devices were invented that could use the system - modems on the serial, and various types of digitizer on the parallel port.

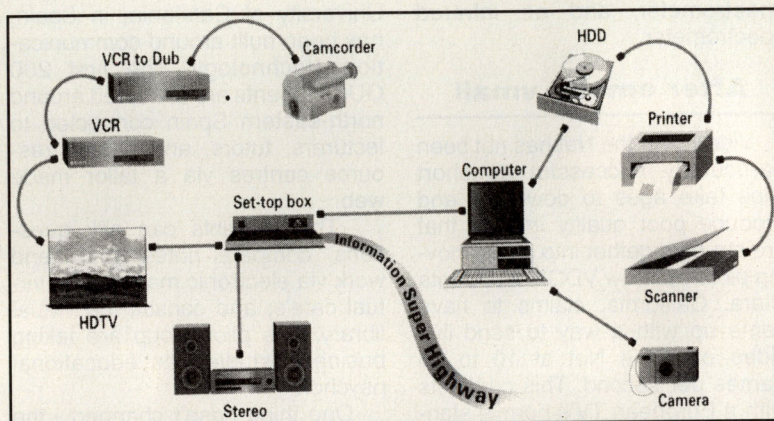
Why serial and parallel? The serial port is so called because the eight data bits that make up one byte - say a character to be printed - are sent one after the other down one wire. The parallel port, on the other hand, sends all eight bits simultaneously along eight wires. This is the faster method. In both port designs, there are extra wires that handle ground signals and the control signals that tell the computer when the device is ready to receive or send data.

IDE and SCSI

With the introduction of hard disks, much faster interfaces were required. Initially PCs were equipped with ST506, while minicomputers had ESDI. These evolved into IDE (Integrated Drive Electronics) and SCSI (Small Computer Systems Interface) respectively.

IDE soon became a handicap for the ever progressing PC. Its maximum data transfer rate was 5.75Mb/second and its on-board electronics only understood hard drives, and only those with a maximum of 16 heads and partitions no larger than 528Mb. It also could only support two devices in a master/slave relationship.

SCSI was much more advanced. For a start it could move data at 10Mb/second and it was able to have any kind of SCSI equipped peripheral, to a maximum of 7, attached to it. This meant devices



How Firewire will benefit the consumer. (Diagram courtesy of Texas Instruments.)

such as scanners, printers, CD-ROM drives as well as hard drives.

But even this flexible system was soon found wanting. Computers and their peripherals kept getting faster, and there were more peripherals that needed to be attached.

There are already devices on the market that have a Firewire interface. The first out was a camcorder produced by Sony.

IDE was improved to Enhanced IDE by the Small Form Factor (SFF) committee - a group of American hard drive manufacturers. The new specification practically doubled data transfer rates, allowed for gigabyte plus sized disks, and gave the PC the chance to use CD-ROM drives albeit with SCSI type commands. At roughly the same time SCSI was upped to version 2 giving it 20Mb/second data transfers, and Wide SCSI was introduced that doubled the number of data lines to allow even faster transfers. While SCSI 1 and 2 devices can be mixed, Wide SCSI uses a different connector and is not compatible.

Yet with all this activity the com-

puter manufacturers wanted more, especially with multimedia on the horizon.

Firewire

Some of the companies involved in the EIDE and SCSI specifications joined with computer manufacturers like DEC, IBM, and Apple to form the IEEE P1394 committee. This group was set the task of designing a cheap, simple and, above all, fast peripheral interface.

They came up with Serial Bus, a twin twisted pair copper wire system which demonstrated 200Mbit/second data transfers in prototype form. That's right, 200Mbit/second (25Mb/second - that's almost enough for live TV), with an expected 400Mbit/second (50Mb/second) rate in production models. It was developed from Apple's own Firewire bus and this name stuck, people preferring Firewire to 1394 or Serial Bus. Wouldn't you?

At the same time Microsoft and Intel conspired to produce their own rival standard, the Universal Serial Bus (USB), but it could not compete so Bill Gates has thrown his lot in with the Firewire consortium.

There are already devices on the market that have a Firewire interface. The first out was a camcorder produced by Sony, the CCM-DS250. And this points you in the direction that Firewire will take. Not only will it be used to link

hard disks, CD-ROM drives, scanners, and so on, in fact anything already normally SCSI equipped, but it will also be used for linking audio-visual products to computers. Video recorders, digital TVs, and more have already been envisaged as having the high-speed bus interface built-in.

How It Works

In SCSI data passes to and fro along a ribbon cable attached to which are the peripherals. Each of these has an ID number in the range 1 to 6. It's a bit like having a narrow lane with up to six houses situated along its length. At the end of the lane is a depot (the host computer, ID0) from which vans containing packets of data are dispatched. Only one van can occupy the lane at any one time, so data intended for No.3 comes out of the depot, down the lane, and into No.3's drive. However, if a van from No.5 is heading towards the depot with a data packet, the van for No.3 cannot leave. IDE is similar, but with only two 'houses'.

Firewire is more like a double-tracked railway line with stations along its length and a terminus at one end. Any number of trains can occupy the track providing there is a safe distance between them. A train leaves the terminus with a packet of data, its destination indicated on the front. When it reaches the first 'station' (peripheral), another train can leave the terminus (host computer). The first station then passes this train onto the next and so on until the destination header matches the intended station. Meanwhile trains are also travelling in the opposite direction back to the terminus and between other stations.

You can see how the whole process of transferring data along the bus has been speeded up when compared with SCSI. Let's hope the designers of the next Amiga can see that this is one interface a 'multimedia' computer should have built-in as standard. **AUI**

HiQ Limited

Serving the Amiga User since 1988



Why not try our Internet site at www.hiq.co.uk

Multimedia PowerStation options for all Amigas



Speakers not included.

PowerStation Specifications

1. 200 Watt power supply for complete Systems including monitor on one power switch. (Your Amiga power lead needed).
2. Good looking high quality steel construction.
3. Five drive bays. Various mounting configurations.
4. Ideal monitor stand and cables slide underneath.
5. SONY 2.4 speed CD-Rom drive.
6. Siamese PC upgrade compatible.
7. Low cost when compared to single drive cases.
8. DOES NOT VOID WARRANTY.

Limited Edition

8 SPEED Surf Squirrel Power Station pack
only 200 available EVER!

£329.95

Siamese Tower Version



Speakers not included.

Siamese System

Ver 1.5 Software now Shipping.

Siamese Pack

The Ultimate Amiga to Windows 95
connection System.

For Sales/Enquiries call Buttersoft 01908 261 466

!! A1200 3.5" STAR DRIVE BUYS !!

JTS 1Gb Only £179.95 ULTRA SLIM

JTS 1.6Gb Only £199.95

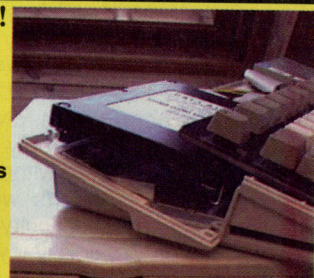
JTS drives formatted, and Magic
Workbench plus PD Software installed.
Includes cable pack.

Fits as easy as a 2.5" Drive, call for details
UK Post & Packing £7 (CityLink)

SCSI Drives

Quantum 840mb Lightning **£179.95**

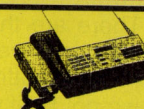
Quantum 1.2Gb Lightning **£249.95**



HiQ Ltd, Gable End, 2 The Square, Hockcliffe, Bedfordshire LU7 9NB

Email address:- steve@hiqltd.demon.co.uk

All prices include Vat, Please add 2.5% for Credit cards
unless Connect and Delta versions



TEL 01525 211327

Call for brochure

FAX 01525 211328

CARE QUALITY & SERVICE

QUALITY INK JET & BUBBLE JET REFILLS

Our refills use only top quality inks. You buy direct from us hence our
superb quality at sensible prices.

Black refills for HP Deskjet 500, 510, 550, 500C, 550C, 560C, 660C,
850C

CANON BC-01, BJ103/EX/SX/ BC-02, BJ200, BJ130, BJ300, BJ330
EPSON STYLUS 800, 1000 CITIZEN PROJET. OLIVETTI JP150, 250, 350.
6 refills (3 on high capacity cartridges) kit 120ml pure black £16.99
CANON BJC600, BJC4000/4100 20 refills pure black 120ML .. £16.99
EPSON STYLUS 4 refills 120ml pure black £16.99

TRICOLOUR REFILL KITS:

HP Deskjet range 10 refills of Yellow, Magenta & Cyan 180ml .. £24.99
CANON BJC600, 4000/4100 10 refills of Yellow, Magenta & Cyan 180ml
..... £24.99
EPSON STYLUS COLOUR/II/IS Yellow, Magenta & Cyan 180ml
£24.99
"Print Head Recovery Fluid" for unblocking nozzles new larger size, new
lower price £6.99

All kits come with full instructions • Other refills available.

Important: Please state type when ordering

T-shirt printing is simple, just print onto normal paper & iron on. One
ribbon gives lots of prints. We can also supply ribbons in many
colours, T-shirt and normal ink.

Prices include VAT & postage. To order send cheques/PO payable to:

CARE PRODUCTS

Dept AUI8, 15 Holland Gardens, Watford, WD2 6JN

or use Visa/Mastercard or Education order.

Fax order line 01923 672102



COLOUR PRINTER ribbons & reloads

To Reload a ribbon is easy, just remove the top, take out the old ribbon &
reload it with a new one.

	Complete ribbon	One reload	Five reloads
Citizen Swift/ABC/240 etc	£11.95	£6.99	£29.95
Panasonic KXP2123/2124/2180	£9.99	£6.99	£29.95
Panasonic KXP2135	£9.99	£6.99	£29.95
Star LC200 9pin	£9.99	£5.99	£29.95
Star LC24-10/20/200	£9.99	£6.99	£29.95
Star LC24-30/LC240	£8.99	£4.95	£19.99
Seikosha SL95	£14.95	£6.99	£29.95

Black Printer Ribbon Reloads

Citizen Swift/ABC/120D 5 black reloads	£9.99
Star LC10/20/100 5 black reloads	£4.99
Star LC24 range 5 black reloads	£9.99
Seikosha 1900/2400/SL95 5 black	£9.99
Epson FX80 to LQ800 range 5 black	£11.99
Star LC24-30/LC240 5 black reloads	£14.99

Special Re-Ink

For Panasonic 1080/81, 1123/24, 2123/80, 2135, Star LC200 9pin, Epson
LQ100/150, Oki 182 to 390 range. Black bottle will re-ink 100+ ribbons. £9.95

T-Shirt Printing Ribbons

4 col Citizen Swift/ABC/240	£19.99
4 col Panasonic 2123/2135	£19.99
4 colour Star LC200 24 pin	£19.99
Reloads for above	£9.99
4 colour Star LC200 9 pin	£12.99
4 colour Star LC10	£10.99
Reloads for above	£7.99
Black Citizen Swift/ABC/120D	£9.99
Black Star LC10	£9.99
Black Star LC200 9 pin	£9.99
Black Pan KXP1080/81	£9.99
Black Pan KXP1123/24	£9.99

TEL ORDER LINE 01923 894064

The Online Column

Anthony Mael finds that some who are not online don't care, but Abe Lincoln can be heard and Alameda can be seen on the marvels of the Super Vertical Specialised Information Superhighway.

A company called Dhillons - that's the spelling, don't blame us - claim to be the first Internet-based food delivery service. One problem that strikes us is that they are based in Falkirk, which we know from the football results, is in Scotland.

It would seem that if you were to make an order say, for a Hawaiian Pizza - that's with pineapple and ham, which always seems to appeal to women; a roly-poly pudding which some women throw away without even tasting; and some artichoke hearts with caviar, they might have a tiny bit of difficulty getting them to you while still hot. Especially if you lived in, say, Cornwall.

There are things which we would not think are better served by the Internet than a rather more local outfit. But then, as usual, we could be wrong. So if you want to try the oddly named Dhillons maybe for a haggis or two, they are on <http://www.almac.co.uk/dhillons>

Number 01715865606... your time is up.

Research by Bellcore, a US telecom company, has shown that interruption of telephone services is a definite possibility unless telecom links are upgraded. Bellcore have pointed out that nearly all voice networks were designed to carry calls of an average duration of three minutes.

With people now surfing the Internet for hours at a time and with the growing increase in this digital data traffic over the voice system, this could mean loss of service or restructured tariffs. In other words calls could get more expensive the longer you're on the line. But isn't that already what happens - sort of.

Web Wonder Unwebbed

The US market research firm Forrester Research, which once encouraged corporations to get into publishing on the World Wide Web, has announced that the idea is "a dead technology". George Colony, Forrester's chairman, told **AUI** "You can't make money from the Web", and he backed this up with examples of firms suffering losses. These included 'Wired Magazine' and its £227,000 loss per month, 'Starwave' and its £195,000 monthly loss, and 'Realtors.com' which lost nearly £8 million running an estate agency network in the US.

Colony indicated that the problem lies with the fact that most Internet users at present are men, who are less likely to buy services and products offered over the Internet than women and children. Once Network Computers and

set-top Internet boxes become more prevalent he sees money to be made, mainly through advertising and charges for downloading applications. You have been warned.

I don't believe it!

Recent rumours in cyberspace that Microsoft had been approached to port their Explorer Web browser to the Amiga on behalf of VISCorp have been scotched after the originator of the innocent phrase that started the ball rolling admitted that he was only conjecturing.

However, news does reach us that users of IBM's O/S2 Warp software will have a version of Netscape's Navigator, albeit an old one, in version 4 of the operating system codenamed Merlin. Java too, is to be incorporated, but there is still doubt as to whether Merlin will include support for Windows95 and NT applications.

Not on, but in the box.

Sony and Mitsubishi have joined Philips and others in announcing TV sets with built-in Web browsers. Sony's WebTV has been supplemented by a set-top box called WebTV Internet Terminal (catchy name don't you think?). The unit contains a 33.6kbps modem and special software to filter out the naughty bits of the Internet. Web services are provided by the appropriately named WebTV Inc. and users get unlimited access for under \$20 per month.

Mitsubishi, on the other hand, have launched a large screen TV called DiamondWeb. This 28" TV is fitted with a PowerPC 801 chip running the 'David' set-top box operating system and Java.

Research by Philips indicates that there are 40 million US households "hungry" for WebTVs, and this knowledge has not been lost on other companies. One such is WebTV Networks, a fledgling operation that has been signed up by Sony and Philips for their browser software. Other electronic companies are similarly taken with their product and are opening their wallets. WebTV Networks has also attracted funding from ex-Microsoft founder Paul Allen to the tune of hundreds of millions of dollars. Who can blame them, market research company Frost & Sullivan predict a WebTV market worth \$26 billion within five years. Perhaps they should talk to the other market research company Forrester who don't take quite such an optimistic view of the finances of the Internet.

Ya-Who?

Webcrawler software provider Yahoo must be shouting "Ouch!" as Dallas-based Miss

King's Kitchens have filed a lawsuit against the company. Miss King - and her Kitchens - are claiming that the Internet company's name infringes their chocolate, cherry, and pecan confectionery known under the brandname of "The Original Texas YA-HOO! Cake".

Are Yahoo trying to have their Internet cake and eat it?

Don't Know or Don't care?

Research by GfK Marketing Services says that 100,000 homes joined the Internet in the last three months. That means roughly 1100 each day.

The research also suggests that 75% of current subscriptions to online services were taken out in the last 12 months.

However, out of an estimated 4.5 million homes that possess a personal computer, still only 9% are currently online.

Sixty percent of those questioned replied that they had no requirement for being Online. "This would tend to suggest that although people believe they know what the Internet is, they probably do not realise its true potential", says Martin New, GfK's IT specialist.

Interestingly, GfK do not appear to have an online address themselves. Don't they know about the Internet or its potential?

Super Vertical Specialisation

Ray Hammond, a guru of the Internet, in a forthcoming book, *Digital Business - Surviving and Thriving in the Online World*, says that "companies who understand the culture of the networks will govern the world of tomorrow."

"Govern"? That may seem a shade OTT, but Hammond goes on to declare that the key to commercial success will be specialisation, radical distribution methods, and a totally different marketing approach.

A radical change has happened in distribution methods in the last thirty years or so. The corner shop is disappearing, as is the department store. Instead we have the supermarket and the out of town shopping mall.

Hammond's predictions are for an equally radical change brought about by the Net. "On the Net," he says "people find you, you don't find them. That is the fundamental point that every has to apply to their marketing."

It is like turning the normal practice of selling on its head.

"In other media, we bludgeon people with marketing. On the Net, you have to lie in wait for people at exactly the right place. What will happen over the next 18 months to three years is



Ray Hammond, the Guru says don't bother to try on the suit.

that we will move to an economy of what I call 'super- vertical specialisation'."

That seems to mean that you don't try to cover a whole swathe of different sectors, but home right in on one.

"It's the ultimate in niche marketing because of how the customer shops on the Net, we will target them far more specifically."

Hammond gives the example of a London estate agency that lists only "super-expensive" Mayfair properties on its site. "This is exactly the right way to exploit the Internet. There's no point trying to cover it all. Selling Mayfair apartments means a very carefully defined clientele. But that clientele is all over the world. Only people who really have the means to buy such costly properties in Mayfair would bother to look at the site."

Another big development that Hammond writes of in his book is "super distribution". "Distribution, shelf space, warehousing - those are the headaches for most product-base companies. On the Net, you can avoid it all."

"Take CDs for example. CDs cost about £10 of which half goes to the distributor and half to the shopkeeper. But a massive amount has to be spent on marketing the CD to the customer who otherwise wouldn't know about it... On the Internet, the real manufacturer's price might only be £1 and he also benefits from a worldwide customer base, not just a few shops or chains."

Looking even further into the future, Hammond suggests that clothes shopping will be even more revolutionised. He predicts that we will be able to send "representatives" of ourselves exactly fitting all our measurements winging over the Net visiting "cyber outfitters".

"When we want a new suit, we will send our digital mannequin representatives into cyberspace and try them on for us. We'll be able to see what the garment looks like - and us in it - from any angle. No more contortions in front of mirrors or embarrassment in front of sniggering sales staff."

Interestingly, Ray Hammond denies that

everything he predicts will come about. "Prophets are always wrong", he says.

Yet Hammond, who was once a consultant to Apple and has written many books on aspects of technology before "Digital Business" is, in some ways, just extrapolating from what we are already beginning to see Online. Often, extrapolation from what we know does not turn out to be a simple straight line to the future, but I quite like the idea of getting a suit that will fit me perfectly without even having to bother to go to a shop and try it on.

Hammond also wants his forthcoming book to 'evolve' by having it added to by readers through the Internet with suggestions and other feedback.

For more of Ray Hammond's provocative ideas, or even when the book comes out to be a kind of co-author, visit him on <http://www.hammond.co.uk>

Meet Me in The Library

Talking of research... we were, weren't we?... In the old days - pre-the online world - many people not only took out Jeffrey Archer or Catherine Cookson books from libraries but actually sat there doing research on whatever subject interested them. I once made a visit to the British Museum Reading Room - holy of holies - and was, probably by mistake, admitted to do some research on Robert Burns using the original documents. I came away singing Auld Lang Syne with delight.

Although, as that other Celtic poet Mary Hopkin used to sing, "Those were the days, my friend...". Now if it's research you want to do, online is the place to be. The Electric Library is a resource where you can tap into full text publications and images at one site.

If you want to check it out it is on <http://www.elibrary.com>

However I bet you won't get the same feeling that I had of touching what Robbie Burns had touched. And, especially online, there's many a slip twixt'...

For The People

One of the most famous and most moving expressions of the nobility of humanity is the Gettysburg Address. No, that is not somewhere you can send letters to, but the speech made by President Abraham Lincoln in which he set forth the extraordinary principles by which life could be lived with dignity. One of the statements he made was that government should be of the people by the people for the people - a far cry from some of the crap political manipulators we get nowadays.

Pride of place among mementoes from a visit to Washington some years back is a facsimile of Lincoln's Gettysburg Address. It is a real facsimile, not something sent over the telephone line.

Now, however, you don't have to go to Washington D.C. to get a copy of this great speech. You can hear it. The American Society for Historical Documents (<http://www.panix.com/~ashd>) is providing the only known audio recording which was discovered last year by a

historian in Illinois, Lincoln's home state. It is being made available online as a .wav file.

Can this really be the great Abe telling us how it should be among civilised people? Listen in and find out.

The Fat Lady is Singing

Another audio delight that could come your way is opera highlights which can found on car company Toyota's Fat Lady Sing-off site (<http://www.toyota.com/hub/livingarts/opera/>). The latest music to your ears could be La Bohème. So if your tiny hand is getting frozen or at least tired, tune in to Toyota.

Exciting

Yahoo is well-known on the Net, but it has an up and coming challenger, the excitingly named Excite. This exciting new tool is claimed to let you really turn on the power of the Net, leaving Yahoo far behind. Excite says it is the first "concept-based" navigation tool on the Net. You just type in the general area in which you are interested and Excite is claimed to have the intelligence to search through reams of information and bring you the stuff you want.

Excite also offers you news, reviews, columns, and even interactive cartoons.

If you want to try something excitingly new, it's very simple, search out <http://www.excite.com.de>

Step Up to The Round Table

One of our favourite Online names is Web Whacker. It may sound like something from the recent demonstration of Sado-masochists but it isn't. The same company The Foreskin - sorry Forefront Group Inc. have come up with a newie which they claim will bring you the next generation of online chatting. They claim Roundtable moves your web experience from information interaction to human interaction. Now that sounds rather agreeable, doesn't it?

With Roundtable, it is claimed, that you have instantly the power to exchange documents, URLs, photos, illustrations, and slides or video images with friends or colleagues. It also has some interesting sounding features such as whisper, moderated, unmoderated, and that titillating expression "private conferencing". And you can have unlimited participants in your privacy too.

If you would like to download a free trial demo, visit Forefront's home page at <http://www.ffg.com>

Finally...

How would you like to work an interactive camera on the Net. You can with something called City of Night Live Camera. On www.citynight.com/camera, you can make a camera pan left and right over Alameda in California. The camera is set up in a radio tower so you get a full 360 degree view with camera movements of 15 degrees per push. The pictures are updated every two minutes. Isn't the online world just marvellous? **AUI**

ZOO TIME

John Russell takes a trip to a Zoo. No, he's not going to visit his cousins but examining a development that shows what a tigrish machine the Amiga is.

Quite a few places of interest have invested in Amiga-based systems for multimedia presentations. The most famous of these is London's Transport Museum with its network of CD32s providing information and entertainment to the thousands of visitors it receives each year. (If you think pubs are of interest, then you can find quite a few equipped with electronic trivia-style quizzes which are, believe it or not, run off CDTV's!)

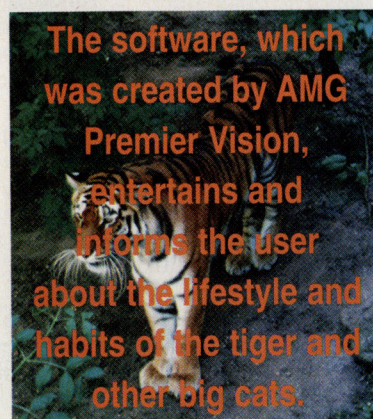
Other places tend to go for stand-alone systems. Maybe an Amiga A2000 controlling an interactive programme from a laserdisc, or even a CD32-based outfit with laserdisc player doing a continuous rolling demonstration of a company's products.

Recently I went on behalf of **AUI** to see an interactive point of information system at Colchester Zoo, a small but perfectly-formed animal park south-west of the town - once the capital of this realm - on the B1022, not far from Heckfordbridge. (Heckfordbridge? You made that up! ED.)

Compact

It's amazing how much is crammed into what appears to be a

small space. If the zoo were situated on level ground, the exhibits would have to be spread over a large area if they wanted to display such a diversity of life. However, Colchester's zoo has the advantage of being built on hilly ground, so there is the opportunity to use the vertical dimension to stack the enclosures.



A new complex had just been completed which contains the central rest area from which all the exhibition areas can be reached.

I had come specifically to see the system that had been installed in the room overlooking the tiger enclosure. This was some way

down the hill, and there were some steep pathways to negotiate before I reached a 'log cabin' whose interior is decorated with displays showing where tigers live in the world and how they are faring.

The room has large picture windows along two sides so that you can see into the tiger's enclosure and down the hill. My luck was in and one of the graceful beasts was standing perfectly still not three metres away observing deer on the opposite side of the park. This was a good chance to study the beautiful creature close up without bars intruding. I believe the windows are semi-reflective so the tigers cannot actually see the visitors watching them from the darkened interior of the cabin.

Multimedia Disc

In the centre of the room is a long wooden console, the top of which has two monitor screens recessed into it. These are standard Commodore monitors, but each is protected by a glass plate with a touch-sensitive plastic sheet attached. Deeper down are two CD32s running a specially designed interactive program on tigers from compact disc.

The software, which was created by AMG Premier Vision, entertains and informs the user about the lifestyle and habits of the tiger and other big cats. As well as pictures and text, there is a commentary too. Navigation through the package is done by touching the large on-screen 'buttons' visible on the monitor. The plastic touchscreen detects the position of the finger and the CD32 is informed which button is being pressed. It can then move on to the requested section.

Onslaught

In use the package was a little slow to react, but I think that was mainly down to wear and tear, a fact made evident when a horde of children descended on the unit and



a multitude of little hands were 'pressing' every button in vision. No wonder the poor CD32 gets confused. However, it stood up bravely to the onslaught, many of which, doubtless, it has to withstand daily.

The whole system is attractively-designed, easy to use and obviously highly popular. Considering the limitations of the CD32, not a few including specially its memory restrictions, the lively program running there was something of an achievement. It was able to show many different aspects of tigrish activity which clearly enhanced the overall information that could be gained from such a visit.

This program shows what can be done with ingenuity and creativity to improve what would otherwise have been just a familiar if somewhat impressive sight of tigers in their natural(!) habitat in Essex.

This kind of multimedia program will increasingly become a part of "visiting" experiences. The kids of today are technologically literate - even blasé. Those I saw at the Colchester Zoo using AMG Premier Vision's multimedia presentation clearly found it entertaining and instructive, which is what this kind of development is all about. The system had obviously to be set up in such a way as to resist pretty rough handling and it was very pleasant to see the Amiga at work in this form of application. I will resist the temptation to say "Nice presentation, pity about what happened to the computer". So, if you're in the area, pay a visit to Colchester Zoo and see Amigas mixing with the animals. It always has been a tiger of a machine. **AUI**



Willy Waving

Anthony Mael and David Ward report from the Show where grown men turn to toys for the boys, pretend that it's the real world, and for Amiga read Trotsky.

Again the games bandwagon rolled into town, the second time this year. The Autumn European Computer Trade Show was a three day event at London's less prestigious exhibition centre of Olympia.

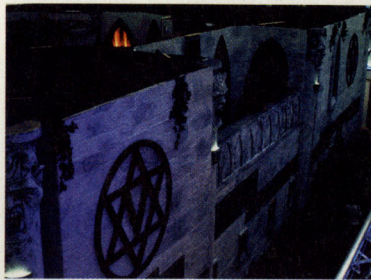
This time day one was not dominated by hordes of juveniles masquerading as Press or developers. Most of the crowd were genuine European business visitors. Tickets said "No students or under-18s admitted" and Security was ensuring this happened. One woman frantically insisted her eight year old was an accredited member of a French TV computer games programme. Oh really? But he was not let in.

Shocking Stands

Once inside there was the shock of the stands. Previous years had been lean ones and stands had been less ostentatious, reflecting the marketing budgets of the time. Now the surge of PC CD-ROM and, in particular, console games have put cash or the hope of it into the pockets of the software houses and encouraged them to build software mansions.

As we have pointed out in the past, the whole thing is now absurd. When the ECTS began the idea was to get away from the "Impress the Punter" attitude that had led to an elephantiasis of stand building in the old PCW Show. It was not only the cost but also the appalling noise which drowned any discussion that led to a brief moment of common sense striking the computer games world. It persuaded them that the unobtrusive professionalism of the Business Design Centre in London's trendy Islington, with all stands of equal size and no blaring loudspeakers, would make better business possible.

That was then and this is now. Gargantuism is back in style. "Willy waving" somebody commented, as they gazed in either awe or contempt at the Virgin stand that reput-



Prepare to repel the invaders. Virgin's 'castle' was rumoured to have cost £600,000.

edly cost £600,000. "Who are they trying to impress?" Another asked. "This is supposed to be a trade show!"

Size to computer games companies bosses is obviously important. Though because of it and the now ubiquitous deafening sound echoing through the hall, each stand needed to have an inner sanctum closed off so that some business conversation might be heard.

With EA's usual good taste, their pavilion was plain white. Undecorated, with none of the fake rock or battlement excrescences with which other stands were gruesomely clad.

Castles, pyramids, and dungeons abounded. Apparently no expense had been spared. There was even a remote controlled balloon, courtesy of Microsoft's half million pound promotional budget for its forthcoming "Hot for Windows" games, circling the statically displayed Fokker World War I biplane suspended overhead by Empire Interactive.

Sony occupied their now traditional area up on the balcony at the rear of the main hall, filled with PlayStations. Rumours of a drop in

price of Sony's console to £149 were circulating, but there were suggestions that since the Nintendo N64 was unlikely to appear in the UK this year the price would remain at £199 at least until Christmas.

However, it is full steam ahead for Nintendo's new baby in the USA with a reported \$20 million TV advertising campaign but only two titles: Mario 64 and Pilot Wings to go with it. The general view was that the machine may be big but gamers are odd, they like to play games on their hardware and no software, no market.

Systems that seem to have quietly been forgotten include CD-i and 3DO. Ex-EA and now 3DO boss Trip Hawkins revealed how his former hardware company is turning to PC CD-ROM developments, with Philips apparently doing the same.

His ex-company, Electronic Arts, followed style with a very large stand built with their usual good taste. Their pavilion was plain white, undecorated, with none of the fake rock or battlement excrescences with which other stands were gruesomely clad. Elsewhere some high-heeled curvaceous blondes, smiling dimly and handing out promo leaflets, patrolled the crowded aisles clad not in fake rock but real black leather micro-minis. With toys for boys like them who needs video games? Though that probably wasn't the message they were supposed to be selling...

Non-Machine

As for the Amiga.. Perhaps it can best be compared to Trotsky in the USSR. When Stalin had Trotsky ice-axed in Mexican exile, this once



Empire's biplane evoked memories of the Blue Max and Red Baron, but Microsoft's orange blimp (visible top left) reminded us of the comedy alien in the film Dark Star.

leader of the Russian Revolution was excised from the Soviet history books. The Amiga is now for the games people the Trotsky of computing. It is a non-machine, it does not exist except with shrugs and rueful smiles of sympathy.

There were the remains of it. Three ex-MDs of Commodore were at the Show. David Pleasance, nearly buyer-out of the Amiga, now VP of a PC component empire; Steve Franklin, who runs a PC company called One Stop; and Kelly Sumner is with Gametek. (see below).

But when you ask the games houses if they are developing anything for the Amiga, they offer to sell you at knock down prices Amiga games which they have killed off. Even after they have spent considerable cash and working many months on them.

One not very large company that built its major success from the Amiga told us that the last game they developed cost £500,000. On the Amiga? Not on your life! Just for the PC. And they wouldn't even consider an Amiga version.

Yet all is not entirely paradisiacal everywhere, even in the PC and console world. This time last year it was all smiles on the BMG stand as big deals were announced. Now, with longtime games marketer Andrew Wright gone, it was doom and gloom as writs were flying. GameTek are reportedly suing BMG for close on £1 million and a similar figure from David Braben - author of Frontier: First Encounters.

It's not been all smiles at GameTek either. Three years ago Kelly Sumner left Commodore as MD and took over the European operation of the US firm. The good choice of Elite 2 boosted sales, but problems in the US led to ever increasing losses. Last year they hit \$15 million and something had to be done. Sumner is now in charge globally and that something has turned out to be job losses. With claimed good product lined up for release later this year and early next GameTek may recover.

CONTINUED ON PAGE 66

Taking **RISCs**

Part Four

Chips That Made History

Simon Goodwin explains RISC chips in AUI's definitive series on the little things that have changed our lives so much.

In the mid-80s mainstream microprocessors from Intel and Motorola faced a challenge from new chips. These were the RISC architectures, born of research at IBM and development at US universities.

RISC Heritage

The grandparent of today's RISC (Reduced Instruction Set Computer) chips was the IBM 801, first made in 1979. With characteristic IBM-style imagination, it bears the same number as the building in which it was developed.

The design of the chip was based on work that started in 1975 when IBM engineer John Cocke lead a team trying to make a very fast controller for telephone switching. That project was abandoned and the 801 never became a commercial product, but it introduced the simplified instructions that are now the basis of RISC computers.

The term RISC was coined at Berkeley University in California, where experimental processors were developed in the early 1980s. One aim was to reduce the amount of silicon used to control the inner working of the processor. Prototypes contained less than 10% control logic, where more than half of the transistors in a 68000 are concerned with instruction decoding, resource allocation, and internal control. Processors like the 68000 are called CISC designs - Complex Instruction Set Computers.

The 32-bit Berkeley RISC prototypes had a peak throughput of ten million simple instructions per second. Throughput is a measure of the number of instructions completely performed, from start to finish, in a given time. The aim of a good RISC designer is to make the throughput of a chip as close as possible to the peak rate at which it can fetch instructions.

CISC Problems

Most RISC processors set out to execute at least one instruction

for every pulse of the clock signal that regulates processor speed. CISC processors take a varying number of clock cycles depending on the complexity of the instruction. A simple register-to-register add requires two pulses on a 68020 or 386, while long division may need fifty or more cycles to yield a result.

68020 instruction sizes vary from two to twenty-odd bytes, requiring anything from zero to 64 bytes to be transferred to or from main memory as the instruction is performed. The DBEQ instruction performs four distinct operations, combining a conditional test, count-down, check against a limit, and optional loop back, in one classically CISC instruction.

Entire C library functions like string comparison and concatenation can be generated by rolling one more CISC instruction into the resultant loop. The latter instructions do as much work as four or five RISC equivalents. Processors from the 68010 upwards can store both instructions internally, boosting speed further.

Such powerful instructions simplify programming but complicate the internal design of the processor, and can lead to bottlenecks and delay when you're trying to do something that does not map precisely onto the existing instructions, and have to build it up from simpler steps.

This is particularly likely on Intel CISC processors, where instructions are especially limited in the contexts in which they can operate. Register and addressing restrictions abound. You often need a handful of simple instructions to get ready for the next complex one, and the program runs in fits and starts.

RISC instruction sets are simplified by omitting instructions that take an unpredictable amount of time. Specialist CISC instructions for boundary checking, long division, data-structuring, stack manipulation and memory-to-memory operations are eliminated. It's considered better to use a sequence of short, simple instructions than to slow everything down by implementing lots of special cases.

Complex instructions make CISC chips hard to interrupt, as the worst-case time to process an exception depends on the latency of the slowest instruction. Despite their high clock speeds, modern CISC processors respond to interrupts more slowly than their 8-bit ancestors - one reason why such chips still find a home in racing cars.

Slowest Speed

CISC instructions are classically implemented by microcode. Incoming instructions are broken into little steps, which are performed in sequence to yield the desired result. This approach is elegant but potentially slow. Extra decoding time is needed to partition the instruction and allocate resources.

The worst case comes when a long instruction is followed by one which is slow to execute. First the execution unit stalls while the long instruction is fetched, then the instruction fetcher stalls while the execution unit performs long arithmetic or range checking. At any given time, the whole system runs at the speed of its slowest part.

Instructions that divert the processing flow may cause delays, often referred to as 'stalls' or 'bubbles in the pipeline'. The next instruction will already have been fetched before the branch is taken and the processor realises that subsequent instructions should be read from a new location.

The exact order of instructions makes a big difference to throughput. Much of a CISC processor performs interlocking, effectively holding things up till all stages are synchronised. It's hard to take advantage of short cuts as the

processor just runs into a bottleneck somewhere else.

RISCing It

No single feature distinguishes RISC from CISC rivals. The difference is as much one of philosophy as of implementation. The RISC idea is to make the processing of individual instructions as fast as possible by streamlining the internal design of the processor, even if this makes the chip harder to program.

The theory is that most programmers are insulated from the inner complexities of the processor by the use of a high level language compiler. In practice this is fine until you need to debug your program - or compiler - when gruesome implementation details may become a problem.

Compilers try to minimise problems introduced by the pipeline, such as register dependencies between instructions. There's a potential stall if one instruction depends on the result from an earlier one, because the required result is not available when the pipeline needs it.

There are two ways around this. The simplest is called result forwarding, and uses special paths 'upstream' along the pipeline so that results are available promptly. The more general technique is to shuffle and interleave instructions so that such dependencies do not exist. This is a good, if tricky, job for a compiler.

To make things easier, RISC chips have lots of registers which can be used as accumulators. This helps the compiler keep temporary results for piecemeal evaluation without resorting to slow off-chip transfers.

Some instructions can easily be replaced; many RISC chips have one register which always contains the value zero. This can be used to replace special instructions with more general versions. For instance, the 68000 supports a TST instruction which sets condi-



Pssst! HOT COMMS News from the leading AMIGA Network people . . .

HYDRA SYSTEMS are offering a new line of Serial Communications products for the A1200, based on the latest LSI technology.

Making a break away from the usual Motorola chipsets, European Comms specialist VMC's new top-end design offers FOUR 460 K/Bit serial ports on an A1200 internal card of only 3 square inches. The particular strength of this design is VERY LOW CPU overhead, around 4% per channel @ 115 K/Bit - BBS Operators really need this device! VMC Drivers are 100% serial and parallel device compatible - the cards don't conflict with any existing Expansion fitments, and like the 2 serial / 1 parallel version are on the street for only £75 inc. The bi-directional parallel port runs at 230 K / BYTE / sec.

Fulfilling our claim to carry EVERYTHING there ever was to Network your AMIGA . . . we are now shipping INET-225 TCP/IP from INTERWORKS; this £95 feature-laden TCP suite has a fully automatic Installer which will have you on-line in minutes . . . there's MORE: now we released the Twisted-Pair / BNC version of our long running A2/3/4000 ETHERNET card, we're reducing the price of existing stocks of BNC-only boards to £150 + VAT . . . look out for our A1200 PCM Ethernet Card release soon . . .

HYDRA SYSTEMS

Red Lane, Kenilworth, UK. CV8 1PB Tel:(+44)(0)1203 471111 Fax: 473333

DO YOU WANT A NEW HARD DRIVE?

WORRIED ABOUT INSTALLATION OR THE CARE OF YOUR AMIGA?

WORRY FREE ZONE

THIS IS OUR GUARANTEE OF A QUALITY SERVICE TO YOU

**Full Range Of Hard Drives Available From
160 Mb.....£109.99 To 2 Gig.....£315.00**

Pound for pound, the price of our hard drives, including our quality service, is unbeatable.

All you have to do

- 1) You call us
- 2) Very next day, professional courier carefully picks up your computer
- 3) We then test your computer
- 4) We then install the hard drive, cable, partitions and workbench
- 5) We supply the install disk and utilities disk
- 6) The courier returns your fully guaranteed and tested computer

You are so pleased to work with your new, expanded computer with no hassles, no worries, that you tell everyone you know about our excellent service

GC Electronics

12 Newmarket Street, Consett, Co. Durham DH8 5LQ

Tel/Fax: 01207 502 249

tion flags depending on a value, and a CLR instruction, a quick way to clear data. These can be replaced with zero register manipulations, storing it for CLR and comparing with it for TST.

To keep a constant, high instruction rate, all RISC instructions for a given architecture share one fixed format. This speeds decoding, but programs become verbose as the instruction size must be big enough to fit all the information needed for the most intricate case, even if all those bits are rarely needed.

RISC programs are usually longer than equivalent CISC code because there are more bits in each instruction, as well as - usually - more instructions required to do a given job. RISC processors get around this by having wide paths to and from memory, and trying to keep values in registers as often as possible.

Buses that are 32-bits wide are normal, with 64 and 128 bit versions upcoming. Many RISC chips have separate buses for instructions and data, so that they can access both at once, in a scheme known as Harvard architecture, named after the North American university where it was popularised. These arrangements also make it practical to link several processors with shared data memory.

The alternative, Von Neuman architecture - named for the mathematician - uses a single bus for code and data. This simplifies design outside the chip, at the price of extra complexity within. Eight bit micros, and the CISC 68000, 68020, and Intel processors from 8080 to 80486, use Von Neuman architecture. It's not ideal for RISC designs because it can make instruction throughput uneven as the bus switches back and forth between code and data usage.

RISC chips incorporate a 'load/store unit' to look after transfers between registers and memory. Each such transfer needs a separate instruction, and arithmetic and logical operations are not combined with the transfer as they could be on a CISC processor.

One 68000 instruction can read a value, adjust it, set flags according to the outcome, and store the result. Such an operation takes up to four steps on a RISC processor, but might still work out faster once the steps are spread between stages and interleaved with other internal operations.

MIPS Measure

As the term RISC was coined at Berkeley, researchers at Stanford

University started a project called MIPS. Rather than its normal meaning - Millions of Instructions Per Second, or Meaningless Indicator of Performance, as some would have it - this acronym stands for Microprocessor without Interlocked Pipeline Stages, though it probably started out as a pun on the more conventional meaning of MIPS, as well.

The Stanford MIPS project quickly developed a 32-bit processor capable of executing 20 million instructions per second, using 'just' 125,000 transistors. This was made it simpler yet much faster than a 68020. Designer John Hennesy left Stanford to found an eponymous company, now making processors for Silicon Graphics Workstations.

IBM RISCs

IBM finally got a RISC-derived product onto the market more than a decade after their original research, when they launched the PC-RT in 1986. The ROMP processor in the PC-RT is barely a RISC design, despite its parentage. The PC-RT has seven instruction formats, 118 instructions, and a multiplexed 32-bit bus, rather than the fast Harvard architecture of the prototype.

The register set was trimmed down to 16 registers, and variable-length instructions were implemented, sacrificing RISC performance to reduce program size. Overall performance fell short by RISC standards, averaging three cycles per instruction, but the processor was remarkably simple, with only 45,000 transistors.

IBM engineers went back to the drawing board and developed a new RISC architecture, again derived from the 801 project, which also spawned a co-processor for 3090 mainframes. The next version became the POWER architecture, first used in 1990 in expensive but blisteringly fast RS/6000 workstations. These are significant because they inspired the PowerPC architecture, which may yet save the Amiga from the great computer place in the sky.

HP PA-RISC

The PA-RISC family was born when Joel Burnbaum left IBM Labs to design a new range of processors for California calculator-to-printer company Hewlett Packard. Burnbaum's 'Precision Architecture' made its debut in 1986 and has gone through eight 'generations' in ten years.

HP developed their PA-RISC processors for minicomputers and Unix Workstations. The original mo-

del had 32 main registers and worked with 32-bit instructions and data. It had a single bus for instructions and data, but later versions expanded to 64-bit registers and addressing, with Harvard architecture.

One very interesting thing about PA-RISC is that it was the processor family preferred by Commodore engineers led by Lew Eggebrecht (remember him?) who worked on top-of-the-range Amiga developments before Commodore went bust. Alas this plan evaporated with the West Chester development team.

Acorn's ARM

UK micro-makers Acorn joined the RISC bandwagon in 1986 with the development of their first ARM processor, a 32-bit chip implemented with just 25,000 transistors. The first models had 32-bit internals but a 26-bit external bus. Later versions are 32-bit throughout. The name originally stood for 'Acorn RISC machine', later 'Advanced RISC Machine' as processor developments were hived off into a separate company.

The ARM has a three-step pipeline. It loads one instruction, decodes it as it loads the next, and executes the first while decoding the second and loading a third. The instruction set of the ARM is strikingly similar to that of the 6502 which powered earlier Acorn computers. The makers claim that ARM code takes no more space than 32-bit CISC code, and works out substantially more concise than programs for other RISC chips.

The ARM design is elegant, probably because it was the brainchild of a programmer, Roger Wilson, rather than a hardware engineer. The first ARM chips were built as gate arrays, using a ready made logic grid to implement a simple but fast processor on an off-the-shelf chip. It is a cheap, low-power design, which made it ideal for Apple's Newton computer. It also powers Acorn's Archimedes range, and Panasonic 3DO games consoles.

Bright SPARCs

Research work begun at Berkeley turned commercial as their RISC design developed into SPARC, the engine of modern Sun workstations. At first the acronym stood for Sun Precision ARChitecture, but the first letter now stands for 'Scalable' as manufacturers like Fuji and Texas Instruments joined the bandwagon, with Sun's blessing.

The first SPARCs appeared in

1987, publicising many ideas from the Stanford project. Like initial ARMs, SPARCs began as on off-the-shelf gate arrays, rather than full custom chips designed from scratch. SPARCs are 32-bit chips with a plethora of registers - 128 or more - of which 32 are accessible at any time.

AMD's 29000

Today Advanced Micro Devices (AMD) are best known for Intel-clone chips, but in the 1980s they sold a range of 'bit-slice' processors which could be assembled into a computer with any required word size. In 1987 this 2900 range was supplanted by the 29000, a 32-bit descendent of RISC work at IBM and Berkeley. The AMD version has 64 global registers and 128 more for local use.

The 29000 has more flexible register windowing than the SPARC. It supports window sizes variable between one to 128 registers, with a CISC-style stack pointer. It's used in fast laser printers and Apple Mac graphics accelerators.

Motorola's RISC

Spurred by developments at rival firms, Motorola made their own RISC chips in 1988. Initially known as the 78000 series, Motorola's RISCs were later re-numbered to 88000, but have nothing in common with the CISC 68000 family. They're much like HP-PA RISC.

The 88000 series uses Harvard architecture. Original 88100 chips worked best with a pair of 88200 add-ons to control the code and data buses; later 88110s had caches and memory management built-in.

88000s are conventional RISC processors with 32-bit instructions, the usual 32 user registers, and a large bank of 'shadow' registers used to store intermediate results during interrupts. Transfers to and from memory are buffered to save time, and 88000s support 'delayed branches'.

Delaying allows the instruction after a branch to still be executed, even if the branch is taken! This minimises the stall, but makes programs harder to follow. Compilers copy the first instruction inside a subroutine or at the start of a loop to the location just after the branch, so the processor stays busy while it seeks out subsequent instructions.

AUI

Next month

See how RISC and CISC mix (just don't try saying it) in the next *Chips That Made History*.

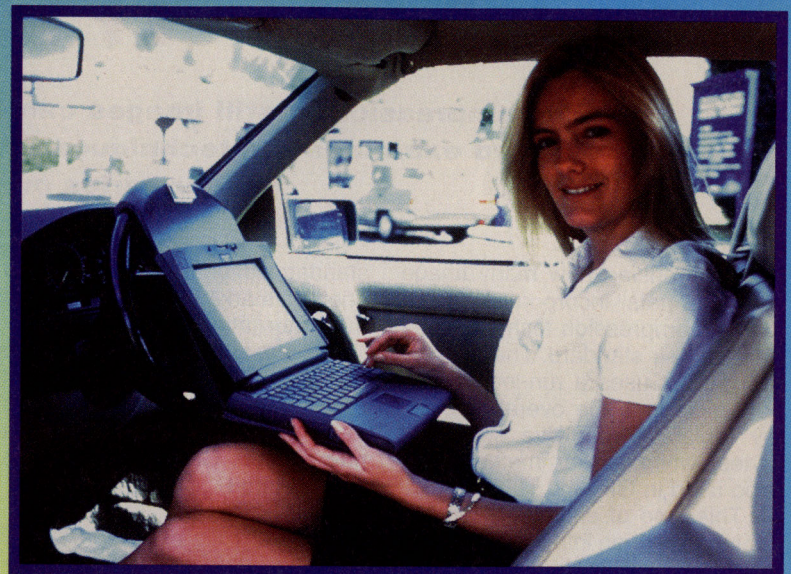
Turn your car into a mobile office



With the advent of the laptop computer, you are now able to conduct "business as usual" while on the road. You can look up prices and figures on the spot, record order and delivery details, enter appointments... and all without having to return to the office.

The Auto Pult Mobile Desk

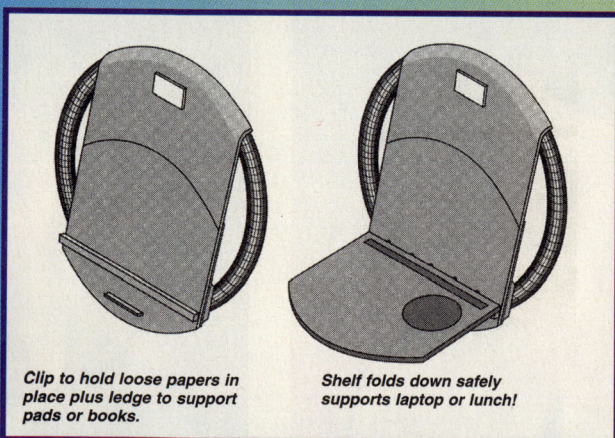
- * Designed to fit neatly over the steering wheel
- * Fold down shelf supports a laptop in a comfortable working position
- * Constructed from sturdy, impact-proof ABS plastic
- * Paper clip holds brochures, papers and documents in place
- * Bottom edge supports a book or manual
- * Shelf doubles as a lunch table with handy drink slot to steady cup or glass
- * Folds flat for storage in seat pocket or boot
- * Full 5 year guarantee



It's so easy to work from your car

The mobile desk lets you work from the driving seat, within reach of the carphone and even the cigarette lighter, allowing a mains adapter to be used. It holds paper in place and frees both hands for reading, writing and inputting data.

NATURALLY, THE AUTOPULT MOBILE DESK IS ONLY FOR USE WHEN YOUR VEHICLE IS STATIONARY.



AUI ORDER FORM

☐ Please send me Mobile Desk(s) at the special price of just £39.99 plus £ 3.00 P&P.

☐ I enclose a cheque for £ made payable to AUI Ltd

☐ Please charge £..... to my American Express/Visa/Mastercard

Card No.....Expiry Date.....

Signature.....Date.....

Name

Address.....

Postcode.....

Please send coupon (photocopy welcome) and payment to: Mobile Desk Offer, AUI Ltd., Unit 2, Utopia Village, 7 Chalcot Road, London NW1 8LX

If you do not wish to receive information from other companies which may be of interest to you, please tick the box ☐

Please allow 28 days for delivery.



The BIG Squeeze **PART 4**

Off the PEG

The compression of still images can be carried out in several different ways. David Ward examines the techniques used for all methods in this latest instalment in our series on shrinking filesizes.

It is surprising how many image file formats incorporate simple data compression techniques as part of their standard. The Amiga's IFF format uses a run-length system to reduce the overall file size by replacing repetitive strings of bytes, while similar methods are also used in GIF and TIFF.

This type of encoding was fine for incorporation into the image formats designed for the pictures that were typical of the type used at the time they were first put forward. However, with the increase in the number of colours and the resolution of images stored and processed by computer, it became necessary for a new method to be found. And it needed to be a method that would be supported across all platforms.

JPEG

The realization that pictures were to become a major part of the computer world's repertoire forced

standardization onto a usually 'proprietary' marketplace. Two groups, the International Telegraph and Telephone Consultative Committee (CCITT) and the International Standards Organization (ISO), collaborated by forming the Joint Photographic Experts Group to study what was required.

The JPEG committee realised that it was not necessary to have a lossless encoding scheme that stored every nuance in the picture.

This new committee soon became better known by its acronym - JPEG - and subsequently the set of encoding methods they came up with was also so named.

A typical high quality photographic image, if digitized at a mere 300 dots per inch and with 24-bit colour resolution, could occupy a massive 25Mb of storage space on a computer system. Even by applying the best archiving algorithm available, that image could probably be shrunk only by about 10% down to 22.5Mb, so little as would make virtually no difference.

The reason why the archiving algorithm has minimal effect is due to the amount of information stored in the image. Unlike text, or even clipart, photographs do not have lots of recurrent information held within them in the same way that the algorithm understands data. These apparent random details, photos are often referred to as 'busy' images because of this, make life difficult for the archiving program which is trying to find repetitive strings of bytes.

Clear blue sky would be a good example of large areas of a picture

that an encoding scheme would find ideal, but this is not often the case. A blue sky, which to our eyes may appear as one colour, could be picked up by the computer as many different shades if digitized in 24-bits. This all adds to the encoder's 'overheads'.

The JPEG committee realised that it was not necessary to have a lossless encoding scheme that stored every nuance in the picture precisely due to the fact that the human eye cannot perceive these tiny differences. So the best course of action was to use a 'lossy' compression routine which could discard subtle details while not affecting the overall appearance of the image. It would also help reduce the final file size.

DCT

The first hurdle to jump was that of how to define what is and what is not relative to the picture. The simplest(!) way is to convert the

A nice gentleman named Mike Hill kindly posed as our model for this photograph. When scanned at 300dpi and in 24-bit colour the resulting image is 5.2Mb in size.



The same photograph saved at maximum quality yields a JPEG of filesize 605k.



Reduced to 351k the photograph is very good.





Top left: This image of a racing car is stored as a 78k file.
Above: Doubled in size again the picture is still acceptable.
Left: The racing car image has now been enlarged to twice its original 'default' size. Fractal technology maintains the detail.



Right: This shot of Tower Bridge, original filesize is over 1Mb, is compressed to just 42k using fractal technology.



picture into something more easily handled by the computer.

First, the image is divided into 8 by 8 blocks that each represent 64 pixels. Each block is then put through the Discrete Cosine Transformation (DCT), a mathematical formula that converts the pixel values in the block to an average value plus 63 frequency (the number of occurrences) values.

The average value is called the DC coefficient, while the frequency values are known as AC coefficients. It is these latter values which hold the detail of the image and they are reduced in number by a technique known as Quantization. This is merely a simple mathematical operation that scales all the values by a set amount. During this process many of the AC coefficients are scaled down to zero and, as redundant information, are

therefore removed.

A typical block of 64 values could, theoretically, be reduced to 16 or fewer significant numbers by Quantisation prior to the next stage in the compression process - our old friend Mr. Huffman's variable run length encoding.

As described above, JPEG will compress a monochrome grey-scale image with ratios up to 15:1 without appreciable loss of image quality. But what about colour?

With a colour image we are looking at much more data, for there are three image planes, one for each primary colour - red, green, and blue (RGB). These store the chrominance (colour) and luminance (brightness) details. To reduce this amount of information, the JPEG scheme requires the conversion of the RGB colour data to YUV, a format that enables the reduction of

the chrominance data while luminance remains the same.

The human eye is also more aware of brightness differences than colour ones, so this conversion reduces colour data stored compared to luminance data in a ratio of 4:1. YUV encodes an image as a brightness value (Y) and two colour difference values (U & V for blue and red). These last two can be used to reconstruct the green data using simple addition and subtraction in conjunction with Y.

Phew! Those still with me are excused for tea and biscuits while we wait for the others to catch up.

So what it all boils down to is that a 3.2Mb image can be squeezed down to 155k with us, the users, unable to tell the difference. That's a ratio of 20:1, but the wonderful thing about the JPEG algorithm is its 'tunability'. The operator of the

compression package can determine the compression ratio by altering the effect Quantization has on the AC coefficients.

In Art Department Professional, you can select the 'quality' of image saved in JPEG format as being anywhere on a scale between 1 and 1000. In Photoshop, you are provided with a fixed choice of four including 'High', 'Medium', and 'Low' qualities. Obviously the higher the quality selected, the more likely your output file will look like the original, but JPEG does have a 'lossless' option that does not discard any information within the picture.

Fractals, Wavelets

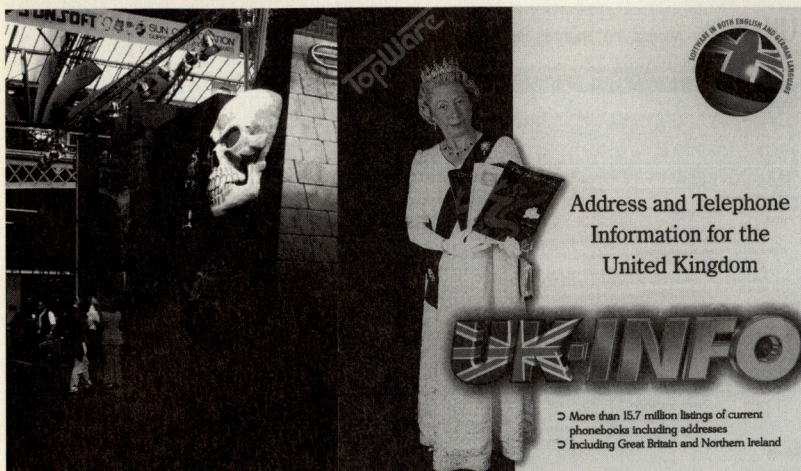
JPEG is a symmetrical process, to get back to your original file you simply reverse the original encod-



Now down to 215k and the image is still acceptable.



At 156k the JPEG algorithm is just starting appreciably to degrade the image, but it is still viewable. We could go lower, but JPEG was not designed for fancy graphics effects.



ECTS - No expense or taste had been spared.

Snooper's delight. For under twenty pounds you can have access to nearly 16 million telephone numbers, names, and addresses.

CONTINUED FROM PAGE 64

One company at the Show preparing to receive a writ is German publisher TopWare. Why? They're expecting trouble from BT when they release their UK-INFO CD-ROM later this year. The disc contains a database that holds 15.7 million (not always up to date) UK telephone numbers and addresses. And this is searchable in many ways, the usual town and street, and the downright naughty telephone number only - something which BT's considerably more expensive PhoneDisc does not allow.

The price for this snooper's delight is only £19.95, a mere fraction of what BT charge. It was TopWare who forced Deutsche Telecom to drop the price of their telephone directory on disc from the DM3950 (£1172) level to a more reasonable DM30 (£13). This is one disc that you should snoop up when it goes on sale. It runs under DOS or Windows.

Tucked away in the corner of the Koch Multimedia stand was a Toshiba DVD player. A few film clips were being played back but there was little interest from the passing crowds. Don't they know what the next big thing is to be?

ECTS is about games and what the industry will try to make us believe is popular. Yet when you look at the massed monitors blaring out the tuneless computerised sound effects and see the gaudy, fast, and furious graphics, the question must be asked "Are these games any more exciting to play than games of the past?"

The answer looks very much in the negative. They are certainly bigger, in development and marketing budgets - and housed in bigger stands too, but are they more playable, more exciting, longer lasting? From what we could see, even in the newest machines, they

were the same old stuff. Massive guardians at the end of shoot 'em up levels... platform leapers... beat 'em ups with bigger characters... grotesque, blood splashed Doom-clones... and relentless speeding around more real-looking, but no different, race tracks. Is this what a multibillion pound industry does? Go on making the same old childish toys with flashier technological packaging?

This winter expect to see motor and bike racing sims, fantasy role playing, and fantasy war gaming in magic realms on console and PC. So what's new? We can tell you that you won't see those games - at least not new ones - on the Amiga.

Is this what a multibillion pound industry does? Go on making the same old childish toys with flashier technological packaging?

One experienced and somewhat world-weary games guy told us "Things can't go on like this. The really big boys, the Sonys, the Hasbros and the Mitsubishis, are moving in and they will eat up the rest of us. Nothing very original happens now. A racing game is a hit and then everyone has to have one. There was creativity back in the Amiga days. Not now. There is only money."

Yes, there was creativity. The Amiga was a mass market computer that allowed highly creative things to be done by programmers, artists, and users. All that there is now in today's games world is willy waving. **AUI**

CONTINUED FROM PAGE 59

ing process. Decompression takes roughly the same amount of time as it took to compress the original file.

Two other image compression schemes rely on asymmetry to get better compression ratios than JPEG. These are the Fractal and Wavelet compression routines, and they require intensive processing of the image by specialized silicon to achieve the fantastically small file sizes of which they are capable. However, decompression can be done quickly in software to reconstitute the original image.

The Fractal technique, developed by Dr. Michael Barnsley, looks for fractal-like patterns within an image. Once found, these mathematically simple shapes can then be multiplied up to reform almost the original image. Compression ratios of over 100:1 are possible without too much loss of detail and, unlike JPEG, the compressed file can be expanded to larger than the original without pixelization destroying the effect.

Compression ratios of over 100:1 are possible without too much loss of detail.

Wavelet compression (see box) was also, like fractals, derived from the mathematics of chaos theory. Research began in the 80s with groups at London's Imperial and Kings Colleges and the Orsay-Paris University using the impulse-like 'wavelets' to describe an image. It is only now that commercial concerns are beginning to offer applications using this type of image processing technique. One such company is Texas Instruments with its military PhotoTelesis image transmission software offering 300:1 compression with wavelet technology.

Although considered better than using a DCT-based system, because DCTs introduce errors and wavelets can reproduce the original exactly, they have yet to overthrow JPEG. Even fractals have had a hard time getting established, mainly because that encoding scheme has been proprietary to Iterated Systems - the company set up by Dr. Barnsley to exploit his discovery. **AUI**

Next month we shall explain the application of these methods to moving images and see how to turn 27Mb into a file of only 150k!

Wavelet Theory

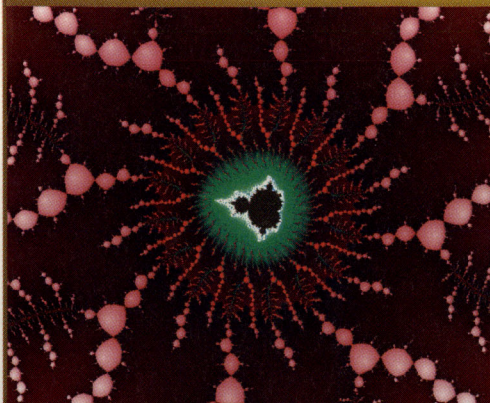
When audio compact discs were first introduced some Hi-Fi buffs scorned the new technology, claiming that the pure analog waves of music could not be accurately represented by a bunch of numbers. They saw that the conversion of the curvaceous waveforms lost 'something' when they were divided up into square blocks, and that when these digital signals were converted back again, the disc player had to 'guess' what the missing parts of the curves looked like. Hence their music was not replayed exactly as the original. It was only an approximation.

The Discrete Cosine Transformation works in a similar way to the digital to analog converter in a compact disc player. Instead of music, we have a digital image that is converted into a series of waves of different frequencies. The finer the detail, the higher the frequency, but not everything can be described in this way as some finite point must always be reached.

In the JPEG encoding method, it is these finer details that are lost by Quantizing, and most of the time it works correctly. However, there will always be some aspect of the picture that will defeat the system and in video that is usually an 'edge'.

Wavelets describe a picture in a different fashion. Instead of the pixels being described as frequencies, they are described as vectors - quantities that have magnitude and direction. In other words each pixel can be described using numbers that report their relationship to one another. Now if we take the vectored picture and rotate it slightly we have a new set of vectors. It is the difference between these two sets, the resultant vectors, that are wavelets.

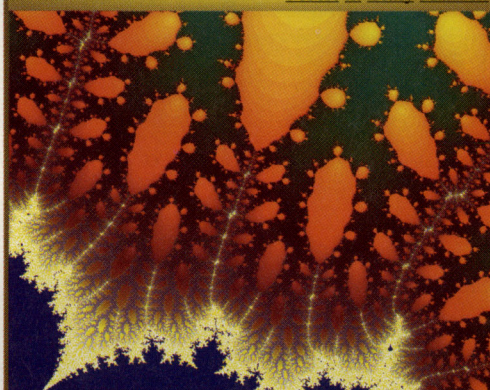
These wavelets can then be put through a progressively smaller digital filtering system to find the smallest number that will describe the original image. The difficult part is finding the best angle of rotation between the two vector planes.



The Bubble Mandel: Ready to Explore it?



The Majestic Orchid Mandel! Forest in Leafy Mandel!



BigPlanet AGA: Map pictures on great spheres!



BigPlanet AGA allows you to map all your Amiga IFF pictures on great and very high resolution spheres with many special effects possible: simply adjust the light source angle and you get immediatly a very nice moon croissant!!! Very easy to use with its full graphic interface and its real time preview for all effects. For all AGA Amiga (1200 or 4000).

BigPlanet AGA: £ 25 (+P&P)

ART&FRONTIERS

© 1995 Fabrice Jaouen & France-Festival-Distribution
Use Exclusive and Great Formulas Ever Seen!

The Multi-Fractals now has a name on Amiga. This software Art&Frontiers offers to you a very easy exploration of a quite impressive number of fractal sets:

Mandelbrot classic, Mandelbrots 3 to 7, Mandelbrot Cubic Leafy, Bubble Mandelbrot, Orchid MandelBrot, Mandelbrot Imperial, Quad Fractals, Phoenix, Eagle, Manowar and many others with for each one an easy accessibility to the corresponding Julia with a simple mouse click!

A recoloration in 256 colours automatic and adaptative to each type of fractals. Unlimited Undo functions and powerfull automatic calculations of animation!!!

All screen modes of Amiga AGA System are available even unlimited overscan!

Developed in C language Art&Frontiers allows very high speed, full multitask, reliability and offers a very easy exploration of all these exclusive fractal sets like Cubic Leafy, Orchid or Bubble Mandel that renew completely the fractals' domain with their incredible forms and Majestic effects!

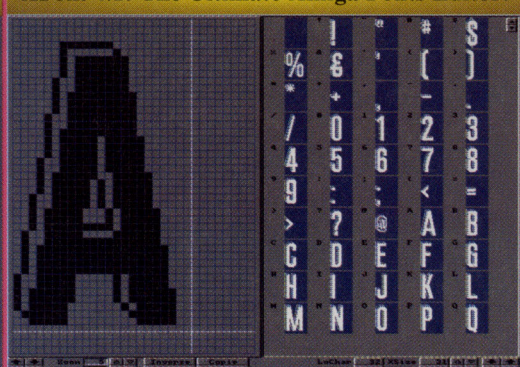
The pictures here have been calculated on a basic Amiga 1200 in very few minutes! Work also on all Amiga 4000 or all others Amiga equipped with 24 bit cards able to emulate AGA Intuition like Picasso, Retina...

Ideal to make fine gifts: we certify that these fractal sets are completely unknown on Amiga so you can easily impress all your friends or family! At more we sell it (on 6 disks) in a very nice and closed package.

ART&FRONTIERS: £45 (+ P&P)

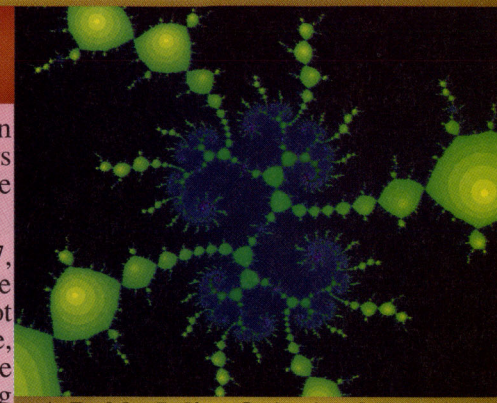
For All AGA Amiga (1200/4000) or All others with 24b cards.

AFont 4.1: The Ultimate Amiga Fonts Editor!

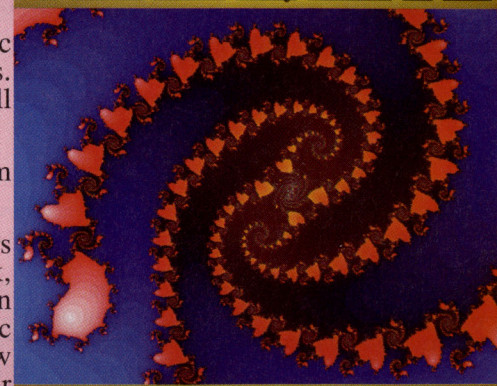


AFont is an exclusive creation from our most famous developer: Denis Gounelle under the management of France-Festival-Distribution. With AFont you can edit, zoom and change all your Amiga fonts even very big size fonts (until 256 pt) with possibility of multiple effects: double/half size, variable Italic, rotations etc. Can also edit PC fonts and convert them in Amiga fonts!!! For All Amiga.

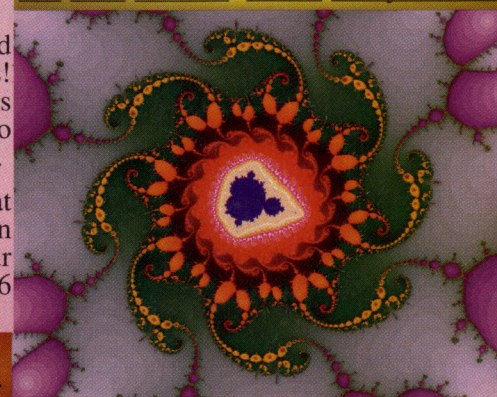
AFONT V4.1: £25 (+P&P)



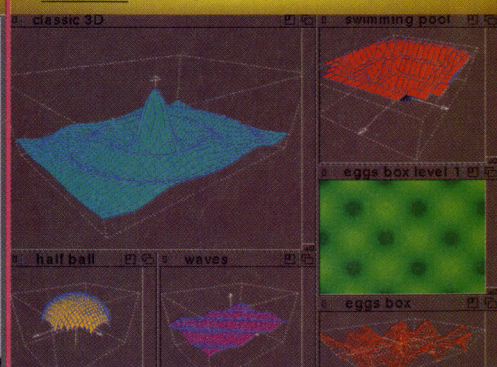
A Buble Julia: Only Art&F do it!!!



The Love Mandel: Hearts Everywhere!!!



T.U.F.: The Universal Functions Tracer!



T.U.F. is realised (in C) by D. Dolimier for his professional needs in Mathematics. It allows to trace all mathematical equations: 1D, 2D, 3D, Cylindric, Conic, Quadric, Graph fusion, Derivative & Integrale functions, and even Fourier Transformation! Full support for Multi-windows, Multitask, and all Amiga Screen Modes. For all Amiga with WB 2.0, 3.0 or 3.1.

T.U.F V2.3: £25 (+P&P)

All these software are exclusive products of F.F.D and are sold in full English Versions (Interfaces + Manuals).

ALL U.K CHEQUES IN POUNDS ARE ACCEPTED

If you live inside U.K payment must be in U.K pounds by normal U.K cheque. For outside U.K please convert pounds in French Francs (£1 -> 8 FF) and send us an International Postal Order in FF directly to our street address.

Normal Post & Pack: +£6

Registered Post & Pack: +£10

TOTAL:

France-Festival-Distribution: 3 Rue Anatole France FR 13220 Châteauneuf-Les-Martigues. FRANCE.

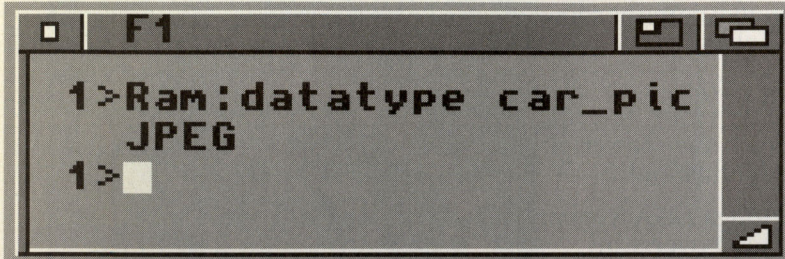
Fax: (+33) 42.76.18.70. (24H/24)

Tel: (+33) 42.09.05.15. (8H30 - 20H30)

Minitel Service: 3615 FFD

File Identification Using Datatypes

Even from 680x0 assembler the Amiga's datatype system makes it easy to identify the general characteristics of a file. Paul Overaa provides the details.



This month's example shows just how easy file identification is when using the datatypes library.

Datatypes were introduced with Workbench 3.0 in order to provide a way for applications to handle various file formats without needing to know intimate details of the file structure. In a sense, a datatype can be regarded as a program that hides the file format details. Programs can open the datatypes library, give it a filename, and ask whether it recognises the format. The datatypes library simply looks at its list of available datatypes, and then either sends back a file type identifier, or a signal indicating that the file was not recognised. Once a datatype has been identified there are various other datatype library functions that can be used for reading/using the file and identifying the various 'methods' (associated functions) that can be used with that datatype. For this month's example however I'll stick to a nice easy task - identifying the general characteristics of a file.

The two functions used are ObtainDataTypeA() and ReleaseDataType() [see boxes for details] and if the call to the first routine succeeds we get a pointer to a DataType structure. Within this there is a dtn_Header field present which points to a header containing the entries shown in figure 1. To identify the file we simply take a look at the name fields. Printing the dth_Name field, for example, would provide a general description of the datatype.

Putting It Together

Obviously the datatypes library needs to be opened and, in order to print the name back at the Shell, the dos library also needs to be available. ObtainDataTypeA() requires

a (read) lock on the file [obtained using the dos library's Lock() function] and, once this is available, the call to ObtainDataTypeA() can be made and the datatype header address obtained from the returned datatype pointer.

For this month's example we are printing the name using the amiga.lib printf() function which needs to be given its arguments on the stack. It's easy to do as well - just push the arguments onto the stack, call printf() and then adjust the stack afterwards like this:

```
move.l dtn_Header(a0),a0
move.l (a0),-(sp)
pea format
jsr _printf
addq.l #8,sp
```

You will also find a routine for printing various error messages and so on. In this case I've used a WRITEDOS macro which makes use of the dos library's Write() function just to illustrate another way of writing text back to the Shell. The code fragment for the above main steps is shown in listing 1 but you find the complete source for the example on this month's Super Disk. If you want to modify or just re-assemble the example you will need to link with the amiga.lib library [because printf() is being used].

Running the program is easy: just open a Shell window and type the name of the program (datatype) followed by a space and then the path/filename of the file you wish to examine. Try using the example to identify IFF sound, picture files and so on, and see just how easy this sort of identification task has now become thanks to the datatypes library. **AUI**

```
STRUCTURE DataTypeHeader,0
ULONG dth_Name Descriptive name
ULONG dth_BaseName Base name
ULONG dth_Pattern Match pattern
APTR dth_Mask Comparison mask
ULONG dth_GroupID Datatype group
ULONG dth_ID Data type ID
WORD dth_MaskLen Mask length
WORD dth_Pad Unused (must be 0)
UWORD dth_Flags Flags field
UWORD dth_Priority Priority Setting
LABEL DataTypeHeader_SIZEOF
```

Figure 1 - The datatype header structure

```
moveq #DTST_FILE,d0
move.l lock,a0
move.w #NULL,a1
CALLSYS ObtainDataTypeA,_DataTypesBase
move.l d0,datatype_p
beq.s no_dt skip if OK
```

```
dt_found move.l d0,a0
move.l dtn_Header(a0),a0
move.l (a0),-(sp) datatype description
pea format
jsr _printf
addq.l #8,sp adjust stack
```

Listing 1: Datatype identification and printing code.

Function: ReleaseDataType() - free datatype node

```
ReleaseDataType(dt)
a0
```

Input data... dt - pointer to DataType structure

Return value: none

Function: ObtainDataTypeA() - identify the data type of a file

```
dt = ObtainDataTypeA(type, handle, attributes)
d0 d0 a0 a1
```

Input data... type - for files DTST_FILE
handle - for files BPTR lock
attributes - NULL at present

Return value: dt = DataType pointer or NULL if fails

Cracking the Shell

Shell scripts can be powerful allies. Kevin Bryan explains the basics used in building them.

Up to now we have been, in this Series, covering AmigaDOS commands that you would type directly into the SHELL. Over the we are now going to use some more advanced techniques involving scripts and environment variables.

Let's examine one of the commands that is found in most scripts - the ECHO command.

ECHO is the AmigaDOS print command, rather like PRINT in BASIC. You would mainly use it in scripts to inform the user of what was going on, like in this script segment:

```
echo "Copying
amigaguide.library to your LIBS:
directory..."
copy
Goodies:PPGuide/Libs/ami-
gaguide.library TO Libs:
```

That way the user isn't left staring at a blank screen while the drives are whirring away.

Used on its own the command simply performs a line-feed, but you would normally use it to print a text string enclosed in quotes (") like so:

```
1.> echo "Amiga User
International is the best."
```

Should you want to include quotes in your text to 'draw attention' to a particular word or phrase then you would have to 'escape'

them with the asterisk * character like so:

```
1.> echo "This is how we include
**quotes**"
```

As you might expect, the asterisk can be escaped too:

```
1.> echo "We can also include
the ** character if we want to."
```

Another escape sequence is *n or newline. Try this:

```
1.> echo "Amiga User
International*nThere is no equal."
```

To get an output like this:

```
Amiga User International
There is no equal.
```

All these modes can be mixed together as required as long as the results don't conflict with each other. Type this in as a single line:

```
1.> echo ""*n*e[3;4mEffects*e[0m
like these can *e[1mreally*e[0m
*e[2;43menhance*e[0m your
*e[2mtext.*e[0m*n"
```

A handy feature, particularly in scripts is the way in which the output of ECHO can be redirected to a file e.g.

```
1.> echo >RAM:DateStamp "This
file was created on " noline
```

```
1.> date >>RAM:DateStamp
1.> type RAM:DateStamp
```

Try it.

ECHO also takes advantage of AmigaDOS' multiple argument parser e.g.

```
1.> echo " Just*n" "like*n" "this"
```

```
Just
like
this
```

Take a look at these examples below. They use ECHO, FIRST and LEN to strip the 'Year' or the first three letters from the 'Month' output from the DATE command. They also takes advantage of the command's multiple argument parsing.

To Get the Year

```
1.> date >env:date
1.> echo >env:date2 $date len=2
1.> echo "$date2" first=4 len=2
```

To get the Month

```
1.> date >env:date
1.> echo >env:date2 $date len=6
1.> echo "$date2" first=8 len=3
```

Don't worry if you're not sure what all this \$date2 business means, we'll be explaining the finer points of Environment Variables like these next month.

There will be a practical script, "Auto_VC", on a future SuperDisk that uses the above technique. Be sure to keep an eye out for it and do take note of the ReadMe file with it.

Don't be concerned about the finer points of the script for the moment, the three lines we are interested in are:

```
date >env:date1
```

The output of DATE is redirected to a file in ENV: called "date1" where it becomes the environment variable \$date1. \$date1 will look something like this: Tuesday 29-Oct-96 23:35:01

```
echo >env:date2 $date1 len=6
```

ECHO Options:

TO - Send the output to a file without using the redirection character '>' e.g. echo TO RAM:Temp "Hello"

NOLINE - Normally ECHO produces a line-feed after printing but sometimes it is necessary to prevent this. In a script for instance.

FIRST - This keyword is rather like BASIC's Right\$ command. It works by skipping over the first few characters of the string and printing the <n>th one.

LEN - Like FIRST, this keyword can be used on its own, but is best used with FIRST

This is the clever bit. Redirect the output of ECHO to a file in ENV: called "date2". That output is \$date1 or in other words the contents of the file in ENV: named "date1". The equivalent of saying;

```
echo >env:date2 "Tuesday" "29-
Oct-96" "23:35:01" len=6.
```

Due to the AmigaDOS v2.0's multiple argument parser, ECHO treats this as three separate arguments.

The LEN=6 part turns the output into; uesday Oct-96 :35:01

```
echo >env:date3 "$date2" first=8
len=3
```

This is then ECHO'd to another file called "date3". As "\$date2" is surrounded in quotes i.e. "uesday Oct-96 :35:01" it is treated as a single argument but starting from the eighth character and with a length of three characters. "Oct" is the result.

If all this seems a little confusing then practice with FIRST and LEN yourself. After a while it will all become clear and you'll be amazed at just how powerful the ECHO command is.

We seem to have drifted into 'Environment Variables' and that is a subject that could easily fill an entire article all by itself. **AUI**

Coloured and/or enhanced text can also be printed using special ANSI escape sequences in your strings or on their own.

```
*e[0m ; Cancel all modes and reset to normal
*e[1m ; Bold text
*e[2m ; White text (colour 2)
*e[3m ; Italic text
*e[30m ; Grey text (colour 0, same as screen)
*e[31m ; Black text (colour 1)
*e[32m ; White text (colour 2, same as *e[2m)
*e[33m ; Blue text (colour 3)
*e[4m ; Underlined text
*e[40m ; Grey background colour to text (colour 0)
*e[41m ; Black background colour to text (colour 1)
*e[42m ; White background colour to text (colour 2)
*e[43m ; Blue background colour to text (colour 3)
*e[7m ; Text foreground and background colours become reversed
*e[8m ; Weird one this, the text becomes completely invisible!
```


Form-Fill ARexx Applications

PART 2

Paul Overaa concludes his form-fill discussions by explaining the compound variable based form definition technique.

Many of the routines provided in last month's code may well have looked quite simple at first glance. On closer examination, however, you will have seen that a number of the functions, `DisplayForm()` and `ClearForm()`, for example, used exposed compound variable stems `g.` and `f.` This allowed whole sets of message and record field placement information to be delivered to the routines that handle the form. Since these compound variables hold the key to understanding how the form-fill arrangements work, the first job this month is to look at these often rather confusing entities.

First, let's get the formal definition out of the way: a compound variable name contains at least one period and at least two other characters. The name may not start with a digit or a period and, if there is only one period, it may not be the terminal character. So `'z.14'` and `'animal.horse'` are valid compound symbols but `'20.t'` is not!

The first part of the name, the portion up to and including the first period, is known as the 'stem' and so the stems associated with the two valid symbols just mentioned are `'z.'` and `'animal.'` The rest of the name, the part after the first period, is called the 'tail'.

When ARexx comes across a compound variable name it follows a very straightforward expansion plan - it simply generates a derived

name by replacing any references to the various parts of the tail with the values of those symbols. However, there are a few points worthy of note. These statements for instance:

```
say video.
video='no data available'
video.name = 'Witness'
video.tape_reference=124
say video.name
say video.tape_reference
say video.location
```

would produce VIDEO., Witness, 124, and 'no data available'. Why? Because the second and third SAY instructions print the contents of the name and tape_reference tails that had been set up in earlier statements. In the last case the location tail had not been set to any specific value so ARexx initialised it by setting it to the name of the associated stem. As this has been defined as the string 'no data available' it is this string which gets printed.

Notice that the stem part of a compound variable can be referenced and initialised in isolation (without specifying a tail value). Stem assignment statements must, however, include the period in the name because without this ARexx would think it is dealing with a simple variable. Secondly, it is not an error to use an uninitialised element of a compound variable, but when such items are used they

take a default value which is the same as the stem.

The Loop / Field Placement Connection

Tail elements do not need to be text-based, variables holding numbers can also be used. One dimensional arrays, for example, are easily set up by defining a compound variable with a tail that consists of a single variable name. A list of values might be collected from a user and effectively stored in an array `x.i` using this sort of loop:

```
x. = 0; say 'how many items';
pull N
do i=0 to N-1
  say 'enter item' i; pull x.i
end
```

In the example form-fill script provided last month these ideas were taken a little further by using multi-part tails. An `f.` stem was used with a numeric tail symbol coupled to field name, screen row and column co-ordinates and a field reply length entries like this:

```
f.1.name
f.1.r
f.1.c
f.1.l
```

and to specify a form layout all that had to be done was create compound variable sets for each

field in the form like this:

```
f.1.name='Book Title: ';
f.1.r=10; f.1.c=4; f.1.l=37
f.2.name='Author: '; f.2.r=12;
f.2.c=4; f.2.l=16
```

making sure that the `f.FIELD_COUNT` was also set to the number `f` fields defined (since the loop based form handling routines expect this).

Converting Your Own Scripts

Modifying a SAY/PULL based script to use these arrangements is easy. For example, these two statements used to collect the title of a video in a conventional script:

```
SAY 'please enter video title?';
pull title
```

would firstly require an appropriate form field definition. For example

```
f.1.name='Video Title: ';
f.1.r=12; f.1.c=4; f.1.l=16
```

coupled with a statement that collects the data typed into the field when the script was running. Since all responses come back as another compound variable set, `reply$.`, collection of the equivalent screen field entry would just be a matter of using a statement something like this:

```
video_title=reply$.1
```

The way to get to grips with this type of compound variable use is to experiment by modifying the script provided last month - creating forms that are useful to you.

And that's really all there is to it. As you'll know from the previous instalment, quite a number of other coding tricks were used, but under the surface it was the existence of compound variables within ARexx that ever allowed this technique to be used in the first place. **AUI**

The example script for producing form-fill applications was provided with the October issue. If you missed it then AUI back order should be able to help you out!



SADDLETRAMPS PD

Amiga Licenceware Specialists



F1 Licenceware (We stock the full F1 range - over 130 titles)

F1-087 TELE-TITLE II	£3.99	F1-127 TELL THE TIME	£3.99
F1-089 A.B.G.T. AMOS V3	£4.99	F1-131 TEENY WEENYS AGA	£3.99
F1-110 FALLING DOWN	£3.99	F1-136 GUIDE TO BLITZ	£4.99
F1-113 AMOS AGA Ext	£3.99	F1-140 Q WHIZZ	£4.99
F1-116 WILLYS NIGHTMARE AGA	£3.99	AMOS PRO COMPILER (inc. manual)	
F1-118 A.B.G.T. WB3 VOL 4	£3.99	Supercharges your Amos code and creates stand alone programs. Comes complete with AmosPro updater, compiler, extras disk and full printed manual. Only £14.99 post free	
F1-120 AMOS INTUITION Ext	£3.99		
F1-123 WORD PUZZLER PRO	£4.99		

5th Dimension Licenceware (Full range available - over 25 titles)

FDE-002 THE HISTORY MACHINE. . .	Huge database containing important facts & figures £2.95
FDU-004 DISK SYSTEM V3.0. . .	Create your own multi-media disks, for catalogues, education, etc. Easy to use point and click interface, rated 95% by Amiga Shopper £2.95
FDU-005 MSR MUSIC V1. . .	This is a superb collection of copyright free music modules £2.95
FDG-012 HILT II. . .	Superb strategy game with loads of missions and top graphix £3.95
FDG-015 ROTATOR. . .	Brilliant arcade puzzle/platform game, commercial quality £3.95
FDG-016 SPLAT! . . .	Classic arcade fun with this new 'Breakout' clone featuring fish!! £2.95

Prices & Ordering

1000's of great PD disks in stock from
50p to 80p each
Please add 50p to your order total for
Postage & Packing

STOP PRESS

Programmers required to produce high quality games, utilities, and educational titles. Good bi-monthly payments and professional product presentation.
Contact us today for your free info pack.

NEW AmiVoice v1.0

Powerful new Invoice/Order form application with ease to use interface, address database, invoice database, stock code sheet, plus exclusive session print feature. Ideal for home or small business use. Includes printed manual.

Requires minimum WB2 plus Hard Drive

SPECIAL OFFER PRICE £5.00 +50p P&P
~~RRP £5.99~~

Send just 50p for our superb, easy to use, custom written CATALOGUE disk, supplied FREE with first order. Contains full details on ALL Licenceware & PD

24HR TEL/FAX 01709 888127 24HR

E-Mail - phil@ware5d.demon.co.uk

1 Lower Mill Close, Goldthorpe, Rotherham, South Yorkshire S63 9BY Please make Cheques/Postal Orders payable to SADDLETRAMPS PD

NO MERCY - NO EXCUSES

If you need an excuse, send us £1 and we'll send you the best excuse for ordering from **NO MERCY SOFTWARE**. You'll receive our March '96 catalogue disk and our game disk or utility disk.

(Please state which machine you own).

All our PD is 45p per disk

Disk packs by return: All pack £5.45 each (inc postage) + free catalogue disk

ADULT PACK (AGA)

Pam Anderson (2 disks)
Cindy Crawford (3 disks)
Strip Poke V3 (Game)
Opponents Disk (For above)
Hot Girls (2 disks 83 pics!)

Please declare age 18+
No signature - no disks! *
(10 disks) 18

ARCADE GAMES (AGA)

Alien Bash II
Secret Elf Squad
Kellogs Lane
Deluxe Galaga 2-6
Deluxe Pacman
Cybersphere
Transplant
Hyperdrive
Dr Strange II
Nesquick
(10 disks)

KIDS PACK

Kids Only
Artistix
Storyland II
Back to School (3 disks)
Speak & Spell, Maths
Learn & Play (2 disks)
Childrens' activities
(10 disks)

EDUCATION PACK

GCSE Maths Paper
Amiga World
Amiga DOS Tutor
Guide 2 WB3
Education Pack (5 disks)
Typing Tutor
(10 disks)

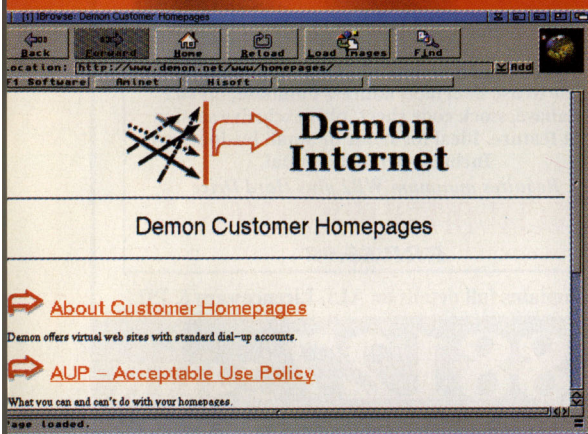
ADULT PACK EGGS I MEG

Girls, Girls, Girls.
China Girl Anim 1
China Girl Anim 2
Showering Girls
Pam Anderson Anim 2
Pam Anderson Anim 3
Wendy Hamilton Anim 1
Wendy Hamilton Anim 2
Oh La La Anim
Barbie Anim
(10 disks) 18

Phone 01845 526412 for more details

Demon Internet Gimme Five!

Steve Bye praises Demon for their sudden largesse and explains how to take advantage of their generous gift of 5Mb of free Web space.



This is where you can get more information on building your free web site. Although it is not Amiga related in any way (surprise!) there's a lot of useful do's and don't's to read about.

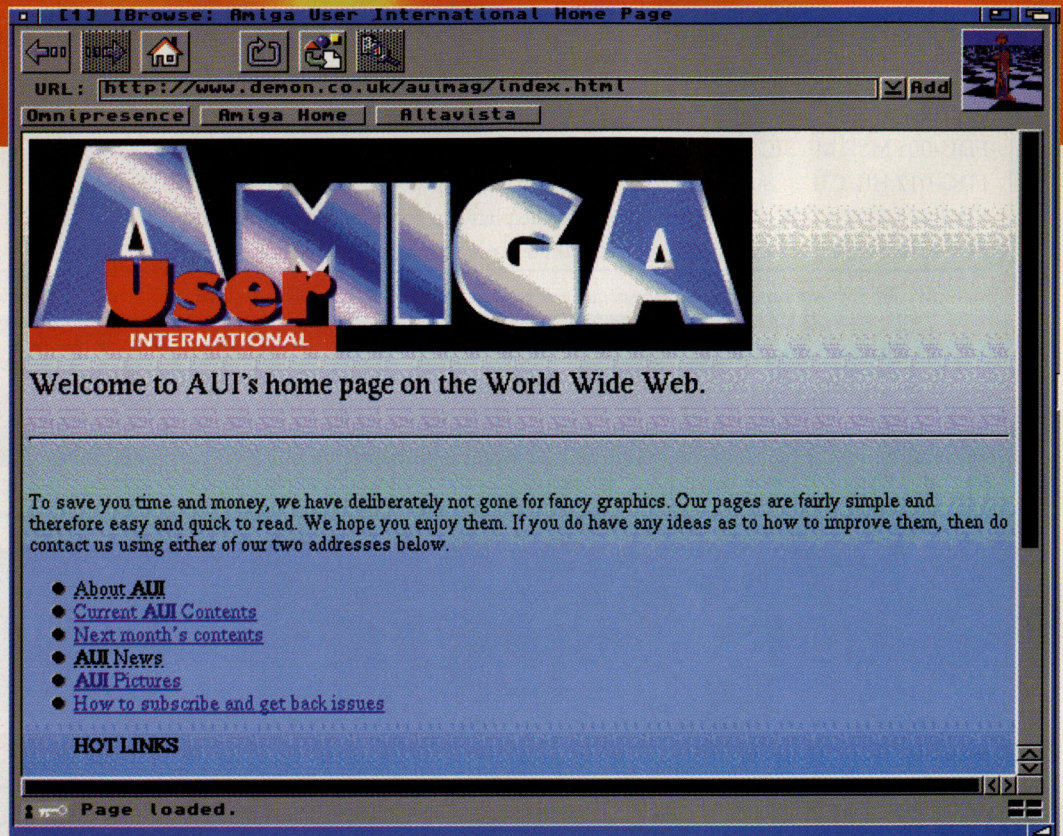
If you have an Internet account with Demon then you will probably know by now that as from the 1st. August all 'tenner a month' users have been allotted 5Mb of free Web space. This was quite a pleasant surprise for most Demon users as there were plenty of rumours doing the rounds estimating anything from 256k (not enough) and upwards. The '5Mb' rumour also circulated, mainly on the assumption that it was the least space previously sold by Demon and thus would be the give away minimum. It proved correct. Another astonishing feat of generosity by Demon is that you can even use your free Web space for business purposes, truly amazing in this day and age.

FUQs

Frequently Unanswered Questions... However, all is not roses. The FAQ offered by Demon on how to upload your pages is nothing short of ludicrous. I suspect the Demon helpline will be at breaking point with users asking very pertinent and basic questions that should have been explained properly in the FAQ. Let's hope the FAQ is updated very soon, but for now, here is my attempt at clarifying what to do. You can take a look at the FAQ and other information about Demon Homepages on <http://www.demon.net/www/homepages/>

Take Me Home

This is not an article about constructing pages using the HTML language. There are plenty of books covering the subject, archives



The AUI home page. Plain but informative.

on Aminet, and so on, try <http://www.richie.demon.co.uk> for example, but you could always get an idea by downloading pages to see how they actually work.

What I will do is take you step by step through how to upload and view your Web site once you have created it. Don't forget it is very easy to make changes to your pages even after you have uploaded them for the world to see, so don't panic.

Right. I am now assuming you have some HTML pages created and ready along with any graphics that your pages require, but before we get uploading there are a few things that need to be mentioned. First, it would be sensible to keep your graphics and any archives you are going to store in separate drawers. On my homepage I have a 'gfx' drawer and an 'archives' drawer. Do not put your HTML pages in a drawer though.

Every Web site, or Homepage if you prefer, has a front page that has to be called index.html. This will be automatically loaded first by

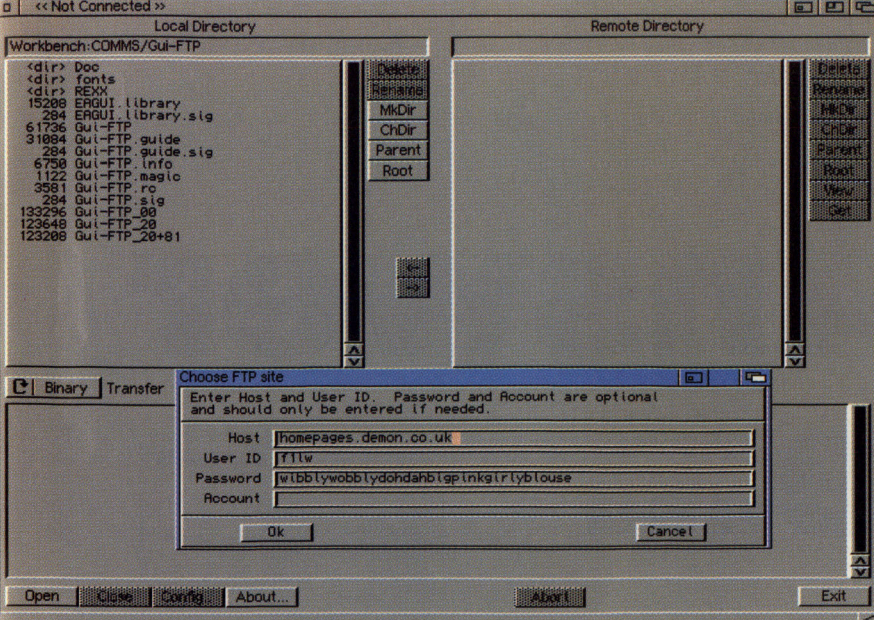
anyone accessing your site, unless they specifically call up a certain page by name. As an example, **AUI's** Home page is at <http://www.demon.co.uk/auimag>. If you enter the site using that URL, the index page will be loaded automatically, but if you entered <http://www.demon.co.uk/auimag/news.html> you would go directly to our News page.

Testing, testing...

Now you have your Web pages ready to go. Give your site a test run on your browser before uploading them. Use the 'Open Local File' option in your Web browser to load in your index

Tip

Always use lower case letters only in file names, otherwise files and pages may not be recognized. For example, [Links.html](#) will not be recognized if you call it using [links.html](#).



Using Gui-FTP to upload your pages is pretty straight forward. Try remembering that password.

page and check that all the links to other pages work. Once you have done that connect to the Internet and test any and all the links to other sites on the Net that you have. If that all works fine then you are ready to upload your pages.

To achieve this you will need an FTP program such as Gui-FTP or AmiFTP, both available from the Aminet in the 'comms' directory. Presuming you have Gui-FTP up and running, link up to the Net and click on Gui-FTP's 'Open' button and type in the following:

Host: homepages.demon.co.uk 'Host' is the site you are connecting to on the demon server,

User ID: your node name 'User ID' requires your node name, this the part after the @ in your e-mail address, for example my e-mail address is 'steve@f1lw.demon.co.uk' so my node name is 'f1lw'.

Password: your Demon password 'Password' is the same password you gave for your Demon account. This is required to stop people fiddling with your site.

What happens now is that a unique directory is created for you on Demon's server, the names of the directories are made up with bits of your nodename, but that need not concern us, all you need to know is that you will be placed into an empty directory that from then on is your free five megabytes of Web space. Every time you connect to your site you will be placed into this same directory automatically.

If you took any notice when I suggested you create drawers for your graphics and archives then you will now need to create the drawers on the Demon server. It is very easy in Gui-FTP, all you need to do is click on 'MkDir' and type in the name of the drawer to be created. Once you

have done that you will see the drawers created on the server, double click on a drawer to open it and copy the relevant files across to it from your hard drive.

Remember not to copy your HTML pages into a drawer, leave them in the root directory on the server. You are now the proud owner of an Internet Web site.

What's my URL?

Your URL for your Web site will start with 'http://www.' then your node name (**AUI's** URL is different because we are on another server) and then '.demon.co.uk'

So if your node name is 'fred' your home page URL would be:

<http://www.fred.demon.co.uk>.

This a pleasant system because if you know a demon user's nodename, you can easily check to see if they have a home page without the hassle of using search engines.

Use the 'Open Local File' option in your Web browser to load in your index page and check that all the links to other pages work.

Stardom

It takes roughly 24 hours for your pages to be visible to the world. However you can view your pages instantly using what is called 'proxy'. To achieve this using AWeb, for example, you must set the proxy settings in the 'Settings/Change settings/Network2:Proxy' menu to:

<http://www-cache.demon.co.uk:8080/>

then select 'Disable Proxy' from the 'Control' menu. You can then see your new site in all its glory, but nobody else will be able to, unless they use 'proxy'. This gives you a chance to do some testing and updating before you start getting visitors.

Counting Visits

It is always agreeable to know how many people have visited your site, and you will find

AUI MENTOR

Tip

The graphics you use on your pages will look so much better if you make your GIF files transparent. The easiest way to achieve this is to get hold of a copy of 'Image Studio', the demo will do, load your GIF file in and then save it out using the 'GIF 89A' option. You will need to tell Image Studio what colour you want to be transparent, this is usually colour 0, but if that doesn't work then experiment, you will soon catch on.

This is the Amiga logo without transparency (above) and then the Amiga logo with transparency switched on (below). A lot tidier, don't you think?



The Amiga's leading licenceware vendor

Welcome to the F1 Software Homepage. Take a look around, there is plenty of great software to download and all the best Amiga links as well as on-line ordering, interesting facts and pics about F1 and some FREE full priced software for a promotional period only.

This site is best viewed with IBROWSE, VOYAGER or AWEB. Add me to your hotlist NOW!



The Amiga's leading licenceware vendor

Welcome to the F1 Software Homepage. Take a look around, there is plenty of great software to download and all the best Amiga links as well as on-line ordering, interesting facts and pics about F1 and some FREE full priced software for a promotional period only.

This site is best viewed with IBROWSE, VOYAGER or AWEB. Add me to your hotlist NOW!

yourself feverishly checking your site every day until your counter reaches that first 1000 hits. Initially setting up the Demon counter looks complicated, it is not explained very well in the FAQ, of course, so here is what you do.

On your index page insert the following two lines:

Visits to this site since 1st August 1996

You can change the text parts to your needs. There are various things you can do with your counter to make it look a lot better, but for now this counter will serve its purpose. Remember that if visitors to your site do not load in the graphics their visit will not count, so it is worth prompting them to do so.

There are also scripts to put the date and current time on your pages, which we will cover in a future article, if you want to know now, check out my Web site (<http://www.f1lw.demon.co.uk>). Demon only supply you with one counter, but you can get another free counter by linking to <http://www.digits.com> and reading all about it on their site.

Webmaster

Demon insist that you have a 'Webmaster' address linked to your index page too. This is simply so visitors can email you comments and troubles concerning your site. Just copy the following to the bottom of your page:

Questions/comments about this site - Webmaster

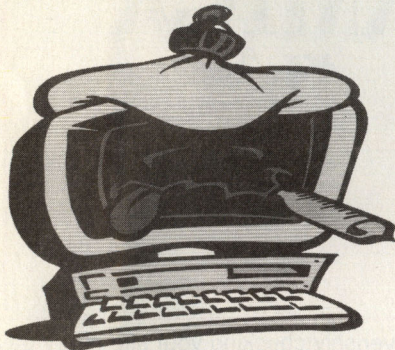
Where 'xxx' is your nodename. You will receive the e-mail in a Webmaster mail box in your mailer program, so keep an eye on it.

That is everything you need to know about the basics of getting your homepage up and running with Demon. There are many other little things you can do to enhance your site and we may look into these another time. **AUI**

Tip

There are some self-help newsgroups set up by Demon for people with Web pages. These are really good fun and informative. You can try Demon.homepages.authoring to ask questions and read hints and tips on constructing your site, and Demon.homepages.adverts to advertise your site when you are ready. This will generate a few instant hits for you, it got me 99 hits almost straight away. Looking at other Demon users pages is also a great way of picking up tips on improving your pages, of course.

The Amiga Answer Machine...



That master of the mysteries of the Amiga, Andy Eskelson, Guru of the groundbreaking question and answer, is here again with the magic response wand to wave over and waft away your problems and perplexities of a typical technological type.

Answer Types

APPS	Programs etc]
VIDEO	Video related problems
COMMS	Communications
PROG	Programming
OS	Operating System
PRINT	Printer Problems
COVERDISK	Cover Disk problems
OTHER	For Anything Else

COVERDISK



Re: Munch, SuperDisk 82
Firstly, many thanks for answering my letter in the May 96 edition of AUI regarding my modem. Much appreciated. Now to my next query. My setup consists of an A500 fitted with a 0.5Mb trapdoor RAM expansion and modified to 1Mb Chip memory or 0.5Mb Chip and 0.5Mb Fast (selectable via a toggle switch), keyboard operated ROM sharer board with Kickstarts 2.04 and 1.3 installed, Action Replay cartridge Mk3. Star LC20 printer, Technosound Turbo II sound sampling cartridge, Cumana external drive and a Philips Mk1 monitor. I thought I would write in to see if you can offer any help as to why Munch (AUI SuperDisk 82) fails to load, as I suspect other readers have had similar problems. I dearchived the disk to floppy with no problems. Upon running the game, the annoying software failure rears its ugly head:

The game seems to fail while trying to locate the APSYSTEM directory which should contain the Amos.library (which is not on the disk), and also fails while trying to load the Amos.library

which is in the libs/ directory.

I've tried everything I can think of, including creating the APSYSTEM directory on the disk and copying the Amos.library into it using Directory Opus, but the game still fails to run. Any help would be gratefully received.

Craig Daines
Yapton

Dear Craig,
The problem is with the Amos library. Shove it in your LIBS: directory and things should start working.

Please try to remember to tell me exactly which SuperDisk you were creating, Munch was on SuperDisk 81 not 82. This helps me track things down.

COVERDISK



Dear AUI,
SuperDisks 83/84, Lottery Checker. You say this program can only be unpacked manually, as I am new to the Amiga I haven't a clue how to do this. I have read my manuals and can't find anything.

Mr. A. Ray
Derbyshire

Dear Mr. Ray,
This gets rather complex, and

as you are new to the Amiga, I don't really advise that you attempt this unless you are very confident.

We put a fix on the July (85/86) coverdisks.

To unpack things manually you need to:

Get hold of the SuperDisk with the DiskSpare system on it. Install this as per the instructions and then you will be able to access SuperDisk 84 in the normal manner.

Copy the Archives/AUIJun96c-a.lzx to the ram disk, and then onto floppy to keep it safe. You will then need to have the lzx program available, and issue the command lzx x AUIJun96c-a.lzx in order to uncompress the files.

COVERDISK



Dear AUI,
Please could you help me with a problem I am having, my set up is an A500+ (2Mb) WB 2.04, extra drive, and Epson LQ-100 printer connected. The problem I have is installing the X-Files backdrop on to my Workbench screen, (AUI SuperDisk No.83), I have viewed the logo via Deluxe Paint III, but when I try to install it through WBPattern? I can load up through projects on the menu bar, but soon as I find the

correct file I click OK and it comes up the screen

"cannot read file". I have even installed the file on its own disk, but still no joy. Please can you help! Please find enclosed S.A.E. for your reply, pretty simple please as I am quite new to all this.

Peter Lang
Suffolk

Dear Peter,
The short answer to your problem is that Workbench 2.04 cannot display a background picture. Workbench 2.1 and above can, and the instructions refer to Workbench 3.

There are utilities such as MagicWB that will allow you to display backdrops, but I can't find anything SMALL. (Bearing in mind that you only have a floppy system)

COVERDISK



Dear AUI,
Having just returned hot-foot from the newsagent with the July issue of your most excellent mag I found that you printed my SuperDisk query which has been bugging me for some time. Over the past few issues I have managed to get at all the programs on your

SuperDisks by simply switching off my external floppy drive (df1:) and unpacking to hard drive only. Not ideal I suppose, but it has been working to a degree. I still got the odd crash, but I managed to live with that.

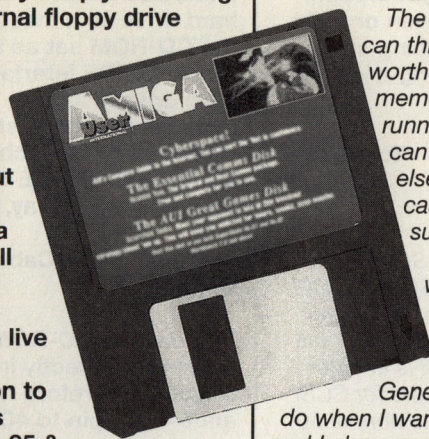
Moving on to this month's SuperDisks, 85 & 86, I managed to unpack all the programs with the exception of AUIJul c, d, & e. AUIJul d & e made the system crash and sent the date back to 23 May 96, 19:35, but AUIJul threw my computer into an absolute wobbly. First of all, after crashing and then re-booting my hard drive I found a checksum error had been created on DH0:, which is the partition I unpack to. I ran the partition through DiskSalv2 and sorted out the checksum problem, but then had problems validating it. A requester came up with Error validating DH0:{108Mb}, block 1319953934 out of range. DiskSalv once again cured the problem. This wasn't a freak occurrence as I unpacked AUIJulc a second time with exactly the same results.

The only hardware I have in use is the Hawkboard, an external floppy, a soundblaster, a printer and, of course, a monitor. I wouldn't have thought that this caused a power supply problem although I have heard that the older power units are better.

As I said in my first letter, I have no problems with coverdisks from other mags (I only buy them if the disk is of interest to me) so I can't figure out why I have this extremely annoying problem. OK so I can still eventually get to all the programs on coverdisks, but it is one hell of a long process and quite frustrating. Luckily I back up my hard drive on a fairly regular basis.

As I appear to have your SuperDisk team stumped perhaps you have another reader who has encountered a similar problem and has found a solution?

Vic Storey
Norfolk



Dear Vic,
The only thing that I can think of that might be worth checking is memory. Were you running low perhaps? I can't think of anything else that might be the cause apart from as suggested before.

Other than that, why not install diskspare and unarc things manually?

Generally that's what I do when I want a specific file, and I also unarc into ram: which tends to protect me against things going wrong.

HARDWARE



Dear AUI,
I wonder if you can help me or at least my two grandchildren. I am not really computer literate although the two young ones are learning fast. They were bought an Amiga A1200 about two years ago and since then have had an internal hard disk drive fitted. All works well but ever since the computer was bought we have been worried about the fate of the Amiga. The grandchildren would now like a CD-ROM. Upon making enquiries from a well known firm in respect of a model to be fitted via the PCMCIA slot I was rather put off by the remark that I might be wasting my money as the required CD-ROM discs would need to be for the Amiga standard and in the present circumstances one might not be able to get such discs much longer.

In my ignorance I had thought that if I purchased the drive for them then it would be possible to purchase any of the CD-ROM discs on sale. Now if the assistant was correct will I be throwing money away as seemed to be suggested? (not a good way to make a sale but refreshingly honest!) The AUI magazine does seem to have quite a few adverts for CD-ROM disks, but mostly for games. I am sure they will want more for educational purposes like Encarta etc. Is it really true that any CD-ROM equipment I would have to get for the Amiga will not read other discs?

I am aware that you do not have a crystal ball and will have no idea what the new owners will do, but are you in a position to? I apologise if you have already answered similar questions, but I now turn to you completely confused as to whether I should now offer them another PC (which they will need to wait for) or go along with what to me seems still a first class easy to use computer (at least for the youngsters!)

H. Gautrey
Danbury

Dear H. Gautrey,
CD-ROMs are silver discs of the same style as that used by an audio player, but of better quality. The information is recorded onto these disks in a defined format. Most CDs use the ISO9001 format standard. This means that any CD-ROM drive can read any CD-ROM put in it. Now here's the rub:

The CD DRIVES might be a standard, but computers are not. It is impossible to RUN a PC CD-ROM on an Amiga computer, the processors are completely different, and it just will not work, so things like Encarta (a PC program) are out.

However, if there are any pictures or text on the a PC CD-ROM then the Amiga can access these and providing the correct viewer programs are installed you will be able to read/view these files. I have several PC CD-ROMs full of clip art, fonts, C source code, and so on, and I use them all on the Amiga without problems.

A CD-ROM that attaches to the PCMCIA port is usually of the SCSI type, this is also more useful if you want to attach more hard drives. Providing that it is SCSI, you can easily transfer the hardware to another computer fitted with a SCSI interface card. Bear this in mind and you will protect your investment to some extent. However, CD-ROM drives are dropping in price all the time, so it may be that by the time that you want to change (if ever) it won't be worth the bother of buying a SCSI interface for whatever computer you end up with.

The Amiga market is still moving, and I expect that it will continue to do so, but as you say it's down to Amiga Technologies to get things going again.

HARDWARE



Dear AUI,
I have suffered repeatedly with a fault with my A1200 since purchasing the machine in December '92. After twelve months use the mouse pointer stopped moving. Finding the mouse to be okay I contacted Wang Ltd. to repair the problem while still under warranty. I wasn't present while the engineer called, but his report said he had replaced the CPU board. (I presume he meant the motherboard).

Everything was fine until March '95 when the same fault occurred. With the warranty expired I took the machine to the shop where it was purchased. They said the part of the motherboard connected to the mouse port had burnt away. Although they could not get the part, they did repair the board.

In January '96 the fault happened again. I saw smoke accompanied by a burning smell and so immediately switched off the machine. The computer was then repaired as before.

In March of this year the board burnt out once more. I was told the damage was too severe to be repaired and so I would need a replacement motherboard. I have contacted various Amiga companies with no success. I have also tried contacting Amiga Technologies through directory enquiries, but was told there was no number listed. My letter to them has so far gone unanswered, leaving me with no idea of what to do next.

I would like to know...

What might be causing the problem? (4 times on 2 different boards)

Where could I buy a new motherboard? How much will it cost?

Would it be better to buy a second hand A1200?

Would the best solution be waiting for the next generation of Amiga? If so, is there a real possibility of a trade in?

My present equipment is as follows: A1200 with 2Mb of chip RAM, Kickstart/Workbench 3.0, 1 external 3.5 inch Zappo drive as DF1, Microvitec 1438 monitor, Canon BJ10sx printer.

Kevin Earl
Plymouth

Dear Kevin,
There are several companies that advertise repair services in **AUI**. They handle Amigas for a fixed price, give one of them a call.

The main point is what on earth is going on. Smoking circuit boards is a serious short circuit, probably between the +5V and ground. Are you unplugging your mouse and plugging in a joystick? Whatever you are doing I would start looking at whatever you are using on that port, as it is likely that this is the root cause of the problem.

As for waiting until a new Amiga comes out and doing some kind of part exchange - all we can say is, don't hold your breath. No-one, and we would certainly guess that includes Amiga Technologies and ViSCorp has any idea when the "next" Amiga will arrive - if ever. There are immense technical, manufacturing and marketing problems to overcome before such a machine can reach the public.

So if you cannot get one of the repair companies to deal satisfactorily with your 1200, getting a second hand one might well be the answer.

HARDWARE



Dear **AUI**,
I regularly buy your magazine and have come to value your knowledge of the Amiga world.

My problem is with the new A1200 machine which, as you know, has posed problems due to Escom putting in a different internal disk drive thus preventing certain software from loading correctly. My dealer has been unable to find any information relating to the hardware patch which corrects this problem. I am now at an impasse and do not know who can assist me to obtain this item so that I can use my machine properly. Could you possibly advise me who to contact. I would be most grateful.

Mr. T. J. Reeves
Staffordshire

Dear Mr. Reeves,
The problem is that the new drives do not have a RDY signal, and this causes some software to try to read the disk before the

disk is up to speed. There is a solution to this problem posted on the Aminet, but it involves a knowledge of electronics to implement.

Perhaps you should consult one of the other dealers who advertise in **AUI** and ask their help before you go ahead with the technical adjustments.

HARDWARE



Dear **AUI**,
I have here a SCSI compatibility question to tease your brains with. A friend of mine who works for the Government is having a bit of a clear out in his office and being the Govt. they have masses of Mac Pluses lying around all with SCSI-1 "40SC" hard disks. I have been offered some of these drives. What I need to know is - is the SCSI Squirrel backwards compatible? I have been told by the nice chaps at HiSoft that it is and should almost definitely work. But one of the Computing teachers at school says I would need a different cable/adaptor (which I thought anyway after reading your hard driving reviews for SCSI-I and -II compatibility). He says the mechanisms are different and he is not sure if they would work at all due to different speeds and things.

Please can you set this matter straight as to whether I can use these rather old tech. Mac drives before I accept 3 or 4 of them and then buy a Squirrel. For your information the drives in question are 40Mb each, have two "Centronics" style connections (for daisy chaining), power socket, on/off switch and a dip switch all on the back, and a neat Apple badge on the front.

My machine consists of an A1200 with 81Mb Toshiba HDD, external floppy, Canon printer, Samsung "M" monitor, and 2Mb RAM (I intend to get a 4Mb upgrade in the near future).

I enclose a stamped addressed envelope to save you time in replying. By the by - I do like your magazine, it still costs under £4. By the by, on your SuperDisks could you please implement an "install

everything in one go" option, having to install seven or eight times to get everything off the disks in time wasting and annoying, please?

Tony Milroy
Ayrshire

Dear Tony,
The Squirrel is a SCSI 1 device that 'knows' about SCSI 2. SCSI 2 is a more advanced software set. There is no difference in the Interface. (Fast SCSI is another matter) The connectors for SCSI 2 are specified as the normal 50-way IDC for the bare drives and a high density 50-way connector for external use.

SCSI 2 devices are supposed to work on SCSI 1 interfaces as well.

I ran an Apple type hard drive on my A2000 for years without any problems. The only thing I can warn you about is that some older drives take an age to run their self checks. I always had to warm boot my drive before it would load.

HARDWARE



Dear **AUI**,
After reading and re-reading all my past (and present) issues of Amiga magazines, I still haven't found a simple, yet comprehensive, account of "How to fit on internal IDE CD-ROM drive". Since your magazine is a bit more detailed in your help pages, I wonder if you can help me (and probably hundreds or thousands of Amiga owners wanting to upgrade). I have been dying to buy a Mitsumi Quad speed IDE CD-ROM for my A1200 because it's so cheap at the moment. Obviously I need a case for it, but I can pick up a cheap PC Case for a tenner! Anyway, On the back of the CD drive there is a standard 4-pin power plug, an IDE Interface, a digital sound out and (I think) on analogue sound out. Both the sound outputs are marked RGGL. (Presumably Right-Ground-Left channels) These fit into a PC 16-bit Soundcard.

My A1200 is fitted with a Fujitsu 260Mb IDE Hard drive. I

understand that I can use the hard drive as a master, and fit the CD-ROM set as a slave on the same IDE interface. As my hard drive is a three and a half inch drive, I obviously have a three and a half inch to a two and a half inch IDE cable. (44-pin to 40-pin.) Okay,

Question 1 - Cables and Connectors.

Does the CD-ROM ribbon cable plug directly into the Amiga? (Therefore needing another 44-pin to 40-pin cable and then a 3 way 40-pin connector plug for the Amiga's IDE interface. Or do I fit a standard 44-way 'Y' ribbon cable? One end to the CD-ROM, the other to the hard drive, with the central connector to the Amiga IDE interface. This seems the logical choice. BUT! Since all these ribbon cables end in female sockets. I guess you would have to find a gender bender plug with 44-pins on each side. This will fit between the 44-way 'Y' connector and the 44-way to 40-pin Amiga IDE cable. Is that correct? (and if so, are these plugs available?)

Question 2 - Sound.

Since the CD-ROM drive doesn't have a headphone socket. Can I convert the analogue sound output leads to end in normal phono jacks so that I can plug them into a stereo Hi-Fi amplifier for playback? Would the digital sound output be better? I'm also assuming that since my hard drive can play back sound through the IDE interface, there should be no problem with the CD drive playing sound, through the Amiga sound outputs, and therefore I don't need a 16-bit soundcard do I?

Question 3 - Software.

Since the CD-ROM is essentially a PC drive, it comes with installer software for that machine. So I guess that will have to be thrown away, so, will I be able to use the PD driver AmiCDFS with the IDE CD-ROM drive, or do I have to buy the ATAPI package? What's the difference? (Apart from about 40 quid!) (or 70 quid with cables!) Can you buy CD32 emulation software separately?

Question 4 - Operation.

Okay. I get this all together. I boot from my hard drive, do I just have to put "mount CDO:" in my user startup, and it all works? Since the CD is effectively slaved to the hard drive, do I have to change the unit number in the mountlist for the CD-ROM or hard drive? Do I have to set a priority number for either the CD or the hard drive? What happens if I want to boot from the CD? Can I boot from the CD? And loads more questions later, folks!

If I can get answers to all those questions I'll be a happy man - and I'm sure that if you print this letter, it might help a lot of Amigans to make their mind up whether to buy cheap PC CD-ROM drives. (I knew PCs were good for something or not!) Maybe even settle the old SCSI vs. IDE choice. At least we'll have a bit more information. Many thanks for a cool Mag.

Martin Buchan
Chiswick

Dear Martin,

1) Cables. What you describe would work. The cables are simply paralleled up, so the position does not really matter. HOWEVER a word of warning. The Amiga IDE interface is not specified to run more than about ONE INCH of cable. Any more than that might cause problems. Many users have got away with using extra long cables, but many have not.

It would be more common to have a 44-pin connector and then two 40-pin connectors, and two power plugs.

2) The Audio outputs on the CD-ROM are intended to plug into an amplifier. The connector on the PC soundcards is often just that, a handy connector to a jack plug.

You NEVER play sound through the IDE. You load a data stream that is converted into sound. Get the difference?

You don't need a soundcard, the Amiga has the equivalent built-in.

3) ATAPI is what you really need if you want to run a IDE CD-ROM. AMICDFS is a filing system. I expect you can buy the software separately, but I've never tried.

4) Generally the software will mount the CD for you, but in

essence you are correct. Shove the mountlist icon in the DOSDrivers drawer and that's it.

You only have master and slave choices to set. The unit number is the interface, leave it alone, same with the priority.

Booting from the CD might be a problem, the early boot screen might help, or you might need a special boot floppy or program, again this would normally be part of the CD32 emulator package, but I've never used one so I can't be 100% on this.

HARDWARE



Dear AUI,
I own an Amiga A600, with an internal 80Mb hard disk drive, and an Amitek second floppy drive. I have several questions regarding my wonderful computer.

1. I have recently bought the hard drive, and after installing it I found that it will only boot from a soft reset. I have been told that I will have to cut a cable. Please could you give me some information on which cable it is?

2. Ever since we got the hard drive, I have been experiencing random software failures. Some games especially, will just return to the Workbench at the end of a level for example. Why does this happen?

3. At the moment I only have Pagesetter2 and Interword, which limits me to what I can produce. I hate all the messing about with text boxes, and want a word processor which is easy to use, not too memory intensive, and fairly cheap (under £50), and powerful (if it exists!).

4. My final question is about expanding the system. I only have 1Mb of RAM, which is fairly limiting, especially for graphics. Which RAM upgrades would you recommend? What is the difference between Fast RAM, Chip RAM, and virtual RAM? What is the maximum amount of RAM I can have?

I have enclosed a S.A.E., so please reply, as I'm really stuck. Keep up the excellent work at AUI.

Chris Birkingshaw
York

Dear Chris,

The hard drive problem is often cured by cutting the ribbon cable trace on pin one of the connector. Please get this done professionally as it is not always the cure, and it should be done in such a way that it can be repaired.

Now that you have added a hard drive, it will eat into your memory pool for its buffers and so on. Some of your problems could be as simple as low memory, sometimes badly programmed games cause the trouble. It's really impossible to say that there is any one reason for such problems.

The WP in Pagesetter is quite powerful, there have been some very good offers floating about, try looking at some adverts. (Hint Wordworth 5SE)

RAM expansion is RAM expansion. Take your pick, just beware of clashes with the PCMCIA slot should you ever decide to use it.

Chip RAM is a portion of the Amiga's memory that the custom chips can access directly. These chips do all the display functions and sound. By allowing the custom chips to access the RAM directly, this takes quite a big load off the main processor. The custom chips can block the main processor from accessing the memory.

Fast memory is memory outside the range that the custom chips can see. The main processor has full access to this memory, thus it is faster than Chip memory hence its name FAST memory.

Virtual RAM is where you set up a system that uses a part of your hard drive as additional memory. This is very slow and is normally only used in special operations. Sometimes graphic rendering programs need very large memory allocations, and virtual memory is a fairly cheap method of providing this. Generally you will not get involved with virtual memory.

About 8Mb is the limit on your machine as it stands, but do beware of the PCMCIA slot which has its own address ranges. If you fit an accelerator then you will be able to add much more memory.

HARDWARE



Dear AUI,
Thanks for a great mag, I have had many useful utilities off the SuperDisks. I enjoy the Amiga Answers best, which brings me to my problem.

I own an Amiga A1500, Kickstart 2.04 Workbench 2.1 with a GVP 52Mb Quantum hard drive, (A2000 HC+8 Series II) which as I am sure you know is a SCSI drive with a SCSI socket at the rear. I also have 2Mb of SIMM memory chips on the GVP board.

What I want to know is, which is the best CD-ROM drive for my computer? I want the CD drive to be Multi-Session and double speed or faster. As I already have a SCSI device, a SCSI drive seems to be the obvious choice.

SCSI drives seem to be very expensive. Would it be better to buy an IDE drive and an adaptor card to fit in one of my Zorro slots?

I thought your answer to Mr. Alan Smith in June Amiga Answers was going to cover this question, but unfortunately you skated over the problem. (Mine not his).

Dunc Elliott
Norfolk

Dear Dunc,

I would agree with you 100%, SCSI is the best bet. It is possible to fit other types, but the cost of the additional interface pushes the price up quite a bit. SCSI drives are not that much different in price, grabbing a nearby telephone directory size PC mag I see:

The Panasonic Quad Pro IDE is priced at £109 and the SCSI version at £139, also I spotted the Toshiba 4 speed IDE at £139 and the SCSI version at £150. Although by the time you read this, those prices may well have dropped. We are covering Samsung in this AUI and apparently they have an IDE eight speed drive at around £100 street price, so look out for that. SCSI is SCSI, I've not heard of any problems with the mainstream drives, so look about for the best deal.

HARDWARE



Dear AUI,
I have acquired a Commodore A2000 big-box Amiga. I would dearly love to upgrade this lovely old machine, but unfortunately have no manuals, or any other documentation relating to it.

Reading the AUI July 1996 Issue of your magazine, you refer in an answer to a letter

under the title "Hardware" on page 78, to articles in the Amiga User International Magazines of August/September 1992 on upgrading the Amiga A2000.

Are back copies of those dates still available from your good offices? If so would it be possible to send me copies of the issues, or possible photocopies of the articles in question? I am a subscriber to your magazine for some considerable time now, so you know you are good for the costs involved by return of post.

If these back copies/articles are not available, could you possibly print my letter, asking any readers out there for any manuals/etc. or back copies of the AUI in question, to assist me in this project. I would refund all costs, of course.

I know there are upgrades available, having seen them advertised. I have booted the machine using a WB1.3 disk, so it works all right. I have also opened the machine up and after noting the details for the configuration (copy attached) recoiled in fright, not knowing which was what inside of it.

Michael Maybury
Merseyside

Dear Michael,
Upgrading the A2000 is fairly easy, but there is a fair amount of dismantling to do in order to get at the ROM chip. (Which is under the power unit).

We do not have back issues of every issue, and looking at the list on page 56 in the July issue it does not seem as if it is there. (August and September 1992 are sold out - Ed.)

As for manuals, to be honest the manuals that come with the A2000 are pretty basic, you can cover most if not all of the subject with one of the third party books. Also if you get the full upgrade set, you get a new software manual with that.

FEEDBACK



Dear AUI,

I have to say that the Amiga User International Q & A is quite easily the best of all the Amiga mags, and generally the part I read first. I've read some very interesting stuff in your pages over the issues and

you've been a great help on many occasions, so thanks.

First, I've got a bit of a question. Like most Amiga users, I enjoy contacting like-minded people via the mail for a bit of a chat and exchanging various software (strictly PD, of course). The point is that sometimes I get given disks which are heavily affected by the king of floppy frustration; old Johnny read/write error. Sometimes the disks can be saved by "Quarterback" or similar, other times the errors can be formatted out, but often they are more stubborn than a very stubborn thing (perhaps a mule, for instance).

Although I haven't had much experience of this horse/donkey farmyard crossbreed. No honestly, I haven't. Don't let anyone tell you anything different. One solution, which any Amigans with access to a PC may find useful, is to format them in "File Manager" on said PC. This seems to thoroughly iron out most errors first go. However, one day, I came across a pair of small, yet really rather powerful, magnets.

Being an inquisitive chap, I decided to take them home with me for further inspection. After spending an enjoyable 3 seconds testing how strong exactly the magnets were, I grew tired and decided to place them next to my cassette collection. It appears that I placed them rather too close, as one cassette mysteriously developed a quiet band approximately once every revolution. Eureka; I had learnt the principles behind "magnetic media".

Anyway, one day I received an exceptionally naughty disk which just would not let go of its read/write error pals, and I must say that I reached quite a plateau of frustration, being one who never likes to let a "good" disk go to waste. And then it struck me; if a magnet can cause a quiet band on an audio cassette, perhaps it can also be used to thoroughly erase the data on a floppy disk? Well, out came the magnets and I set about subjecting the "pesky" disk to rigorous magnetic treatment. After a few minutes, I attempted to format it again, and this time guess what? It "took" the format, quiet as a lamb! (although I have very little experience of how quiet lambs actually are, but I suspect that it

depends largely upon what you happen to be doing to them.)

At last, my question; does using a magnet to erase the data on a floppy disk in any way risk damage/unpleasantness to either said disk or, more importantly, your Amiga's disk drive? So far, I have experienced absolutely no problems, and the magnets are about the most reliable way of ridding persistent read/write errors I've come across, but I haven't had to use it more than a couple of times. I have enclosed an S.S.A.E. for a simple answer to this simple question.

I fully realise that the chances of this letter being printed in its entirety, if at all, are slim, but I would like to think that you'd consider my tuppence's worth of value to other readers, namely John Wombwell and A. MacAulay (AUI Aug. 1996), who were interested in upgrading their Amiga A500's to Workbench 2+. Well, I bought an A500 originally (late last year) as my introduction to the Amiga world, in the belief that it was still THE home computer to have.

I was soon bombarded by insistent bleats in magazines that I must upgrade, and besides I, too, wanted to use your SuperDisks. Being an enterprising lad, I set about looking through commercial adverts about upgrading, and soon stumbled upon adverts for new Kickstart chips versions 2.04 and 2.05 for around the £20 mark.

Minimum investigation rewarded me with the knowledge that these chips could be used as a direct plug-in replacement for the Kickstart 1.3 in my A500 (indeed, the A500+ uses Kickstart 2.04, doesn't it?), so I purchased 2.05 (apparently "better" than 2.04, although cheaper from many places) for about £25.

It came stuck in a piece of black foam in a black plastic "anti-static" bag. No "instructions", nothing. As I've

said, I am an enterprising lad, so out came the screwdrivers and off came the lid of my precious A500.

Step 1: I "earthed" myself on a nearby radiator.

Step 2: Not wishing to rule out the obvious, I started looking for a chip bearing the words

"Kickstart" and/or "1.3". A fruitless search.

Step 3: I knew I'd be looking for a chip in a holder (rather than surface mounted) in my trusty

A500, so I ruled out anything directly soldered down.

Step 4: I counted the pins on the new chip, then started counting pins on other chips in my A500, mentally marking out possible candidates, one very likely.

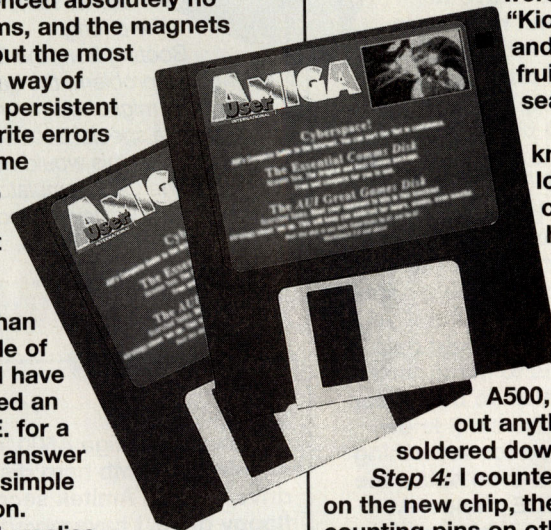
Step 5: I had now managed to narrow it down to about 3 viable alternatives, but I didn't want to risk blowing anything up, so I went back to the supplier via the telephone.

Step 6: After briefly explaining my predicament, the helpful young gentleman on the other end of the phone clearly explained that I was looking for... A vertically-mounted chip, With the notch on the top edge. With the same number of pins as the new one. Positioned somewhere near the bottom-left corner of the motherboard, when viewed from the front.

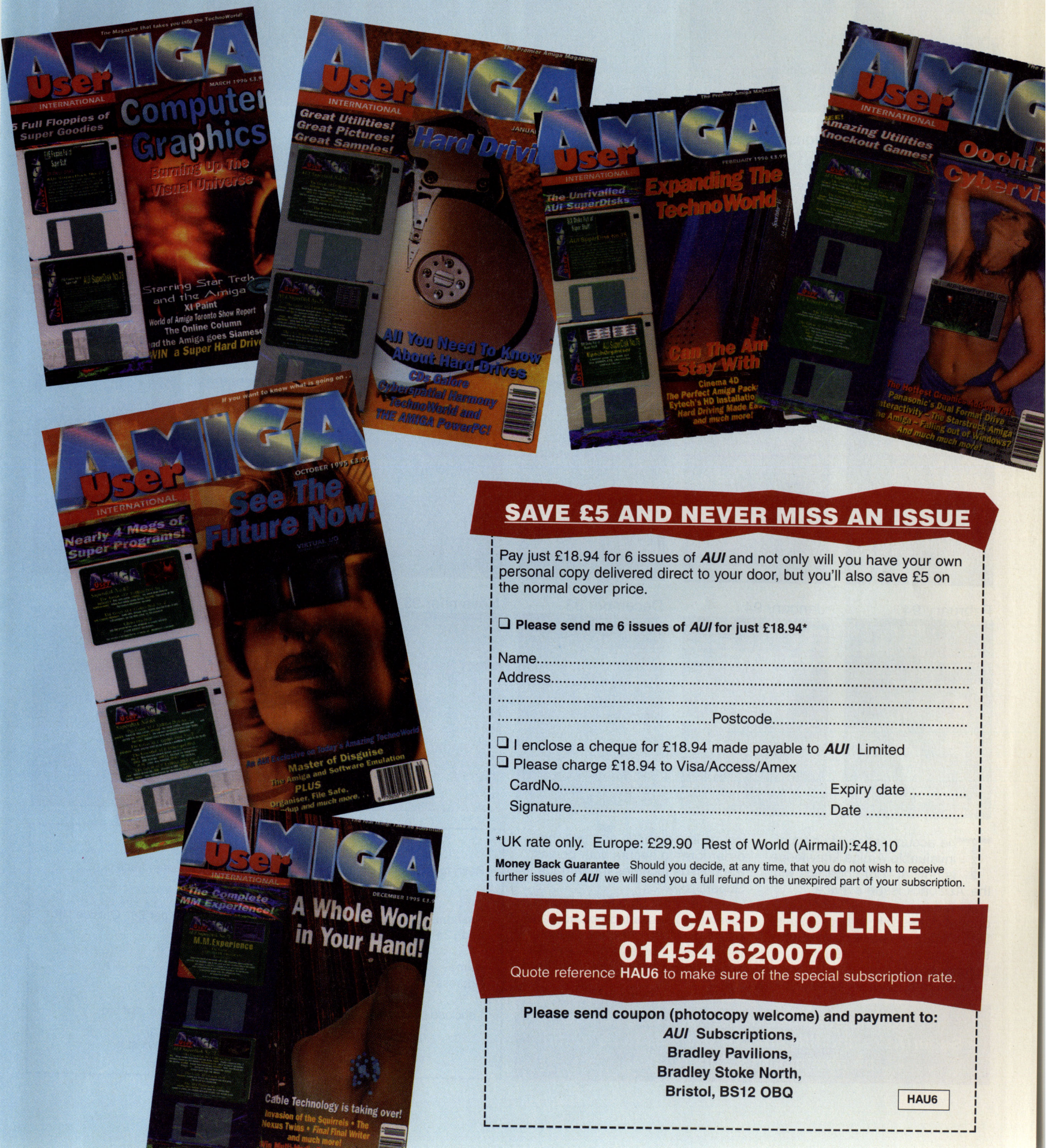
Step 7: Bingo! I'd got it. Using a small, flat-bladed screwdriver, I very gently levered the old chip out of its socket, working on one end, then the other, so as not to bend its pins. Out it popped and I plonked the new one in, making sure that its notch was at the top edge.

Step 8: Swiftly replacing the lid & all screws, I booted my machine to be swiftly rewarded with the fabled purple, animated screen. Yeah! The first thing I did was to begin to unpack my AUI SuperDisks.

So, what have we learnt? That a Kickstart 2.05 chip can be bought and simply installed for under £30 to importantly upgrade your A500. I have since



SUBSCRIBE!



SAVE £5 AND NEVER MISS AN ISSUE

Pay just £18.94 for 6 issues of **AUI** and not only will you have your own personal copy delivered direct to your door, but you'll also save £5 on the normal cover price.

☐ Please send me 6 issues of **AUI** for just £18.94*

Name.....

Address.....

.....Postcode.....

☐ I enclose a cheque for £18.94 made payable to **AUI** Limited

☐ Please charge £18.94 to Visa/Access/Amex

CardNo..... Expiry date

Signature..... Date

*UK rate only. Europe: £29.90 Rest of World (Airmail):£48.10

Money Back Guarantee Should you decide, at any time, that you do not wish to receive further issues of **AUI** we will send you a full refund on the unexpired part of your subscription.

CREDIT CARD HOTLINE

01454 620070

Quote reference **HAU6** to make sure of the special subscription rate.

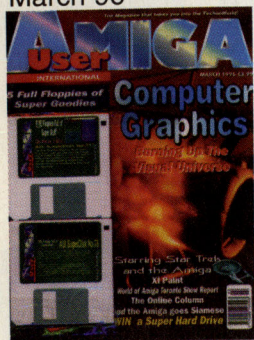
Please send coupon (photocopy welcome) and payment to:

**AUI Subscriptions,
Bradley Pavilions,
Bradley Stoke North,
Bristol, BS12 0BQ**

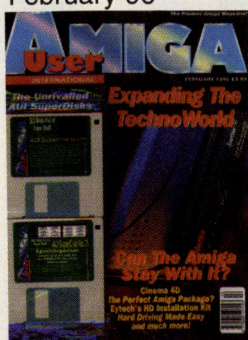
HAU6

AUI BACK ISSUES

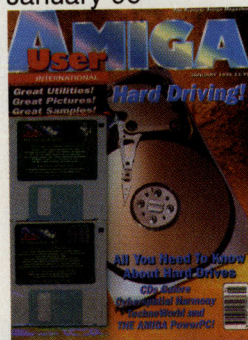
March 96



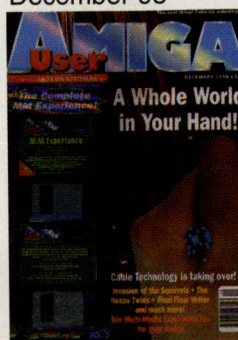
February 96



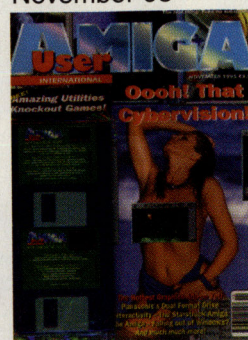
January 96



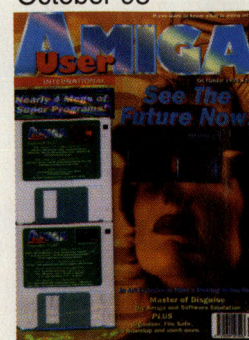
December 95



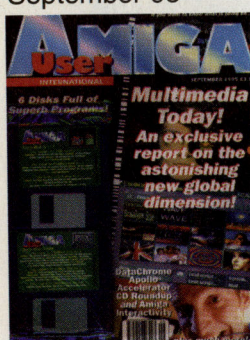
November 95



October 95



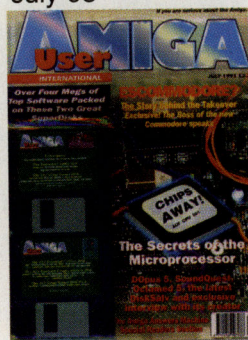
September 95



August 95



July 95



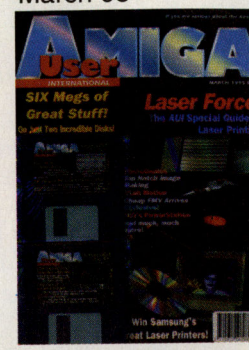
June 95



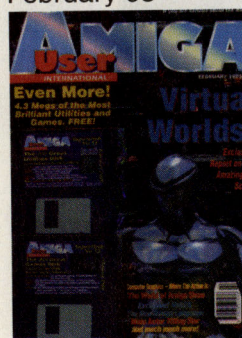
May 95



March 95



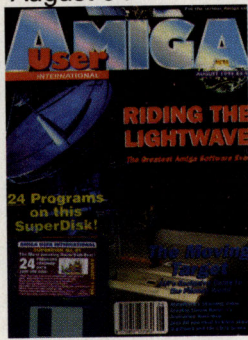
February 95



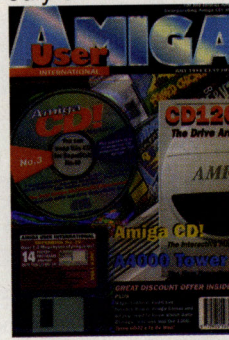
January 95



August 94



July 94



June 94



May 94



February 94



January 94



December 93



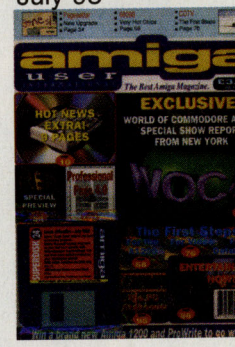
November 93



August 93



July 93



The accumulation of years of invaluable Amiga knowledge is now at your fingertips with the **AUI** back issue service.

Great demand has seriously dented our supply of back issues. Undaunted, we have opened up the vaults and uncovered the Editor's secret stash.

Scan through the available

issues listed above and use the order form to secure your copies. Each issue includes the famous SuperDisks.

Issues cost £6 (UK) or £7 (overseas), including postage and packing. Make cheques payable to **AUI Ltd**. Postal orders are also accepted but, sorry, no credit card sales.

A complete index of the back issues, the SuperDisks and the **AUI** CD-ROMs, is to be found on next month's SuperDisks.

Back Issues Order Form

Rush me the following issues at £6 (UK) and £7 (overseas) each:

Rush me the following disks at £1.50 each (Minimum order £6. Outside UK add £2 P & P per order):

Name

Address

Postcode

I enclose cheque or money order for £ payable to **AUI Ltd**

Send your order to: Amiga User International,
Unit 2, Utopia Village, 7 Chalcot Road, London NW1 8LX.
Please allow 21 days for delivery.

seen complete upgrade kits to give you A500 Kickstart & Workbench 3 for £80. Note that I didn't get Workbench with my chip, but if I'd really wanted the damn thing I could have written off to AT, or gone to a A600 owing mate for an illegal pirate copy, if I'd been an incredibly unscrupulous person.

My point? There's absolutely no need to pay £100 for a hard-to-track-down Kickstart 2 upgrade pack when you can do as I did, or just pay £80 for Kickstart 3 (A600 users may this).

Best advice; buy an A1200 thus getting a half-modern Amiga and opening up a whole new world of AGA software!

Thanks for a great magazine and I await to hear if my magnets have wrecked my disks, A1200, or both...

Gavin Gunn
West Midlands

Dear Gavin,

Last points first. The upgrade packs do contain some very good documentation (the WB2 docs were especially good). There are some motherboard differences that you may need to address, as it involved placing a strain between two pins on the Kickstart ROM. So generally the warning is to be careful if you take the chip only route.

Your first point about magnetic media brings up some interesting points. Of course, all floppy disks are magnetic, however not all disks are equal. High density disks tend to be less magnetic than the low density disks. This means that they need a stronger magnetic field to change the magnetic polarisation of the track to record a bit of data. This is one reason why some low density drives have problems if you try to use a high density disk.

In order to maintain a clean magnetic signal up to three areas on the disk are magnetised during write operations. The centre of the track is where the data is recorded, and either side a 'guard band' is also recorded. This band is blank, and it helps prevent data from the adjacent tracks 'bleeding' across. Even on a floppy the physical tolerances are quite small and a slight misalignment between the recording drive and the reading drive can cause severe problems. A misalignment of half a track will make the disk unreadable.

Bearing this in mind just think of the problems that disk

duplication houses have, such as those that produce the SuperDisks. For a start they don't use standard disk drives. The recording machines can be calibrated very accurately and are constantly checked to ensure that the disk is recorded plumb in the centre of the track tolerances.

Erasing a disk magnetically is quite common, and it's even more common for magnetic tapes. To be absolutely correct you should use an AC magnetic field to do the erasing, starting off at a high level and then gradually reducing the level of the field to zero. This is to ensure that you don't magnetise the disk into one fixed state, you get a nice unmagnetised disk from which you can start fresh from. With a magnet the best you could do is start with the disk fairly close to the magnet, and then gradually move the disk away, passing it across the magnetic poles of the magnet as you do so. The worse that can happen is that the disk will be totally unusable, it won't damage the Amiga drives.

FEEDBACK



Dear AUI,

I am writing I'm response to the query about an internal A1200 SCSI interface by Ian Aisbitt in the July 1996 issue. You state that you've never heard of any such device, but indeed there was one, the DataFlyer SCSI+. I was sure I had read the review so I started flipping through my non-AUI issues. It goes on the internal IDE controller, but fear not, there is some sort of pass-through for your old IDE drive. That was the ups. On the downs: apparently there are some programs that won't run with it (SysInfo for one). Anyway you might want to try it out, Ian. Oh, it's being sold by Siren Software for £69.99.

Could you recommend any books on assembly language for the Amiga? Preferably one that covers all the processors.

Søren Schilthauer
Denmark

Dear Søren,

Thanks for the feedback, I wonder which magazine and page you found the info on. Obviously not in AUI, as we date the issues, not number them.

I have been corresponding

with Ian, and the Dataflyer was not considered for the reasons that you mention, and Ian also wanted to fit an accelerator at some time. I'm happy to report that Ian has now fitted the Blizzard 1230/IV and the SCSI adaptor and this has cured all his problems.

Books, you won't go wrong by looking at Paul Overaa's books on the subject, published by Bruce Smith Books.

There is an advanced and beginner's book available.

FEEDBACK



In the June 1996 issue, Ian Wilson from South Yorkshire wrote to you regarding his hard drive/memory problems on the CD32/SX1 combination.

I can confirm that it is a memory addressing problem and not an insufficient power supply.

My system comprises of a CD32, Rev. 2 SX1, 260Mb 2.5" hard drive, 2 floppies, 8Mb 70ns Fast RAM and a Goliath power supply and I have exactly the same problems. As far as I can deduce, it's a bug with the SX1, as I'm on my second CD32 and have upgraded the hard drive and memory, but the problem still persists and the SX1 is the only common factor.

The only solution I can see, (as the SX1 isn't manufactured anymore - so no technical support), is either buy the SX32 and bin the SX1, or buy an A1200 and transfer the hard drive and memory across, and then ParNET the CD32 to the A1200. Which is precisely what I intend to do when funds allow.

By the way, my CD32's were bought 20 months apart, but were manufactured in the same month - September 93. Wasn't Commodore's policy of supplying dealers with "slip-cases" for the CD32 box a great money-saving idea? Who cares that the customer isn't getting a "factory-fresh", latest revision product?

Chris Miller
Dumfries

Dear Chris,

Thanks for the feedback confirming the memory problem with the SX1.

Slip cases, that's a common policy and I think that there was only one revision of the CD32 so I don't think it matters this time. The marketing ploy was changed a couple of times however, the case comes in useful then.

OS



Dear AUI,

A couple of weeks ago, I was using my Overdrive at my friend's place when his power supply gave up while writing to disk. After this, of course, the Overdrive would not boot (hardly surprising). When I finally managed to access it, I discovered that it would no longer format fully due to physical damage to the disk.

I tried to map out the bad blocks but each time it encountered them it just locked up and refused to progress any further. The only way I could retrieve it was to locate the bad blocks manually and partition them out. This gave me 407Mb out of 410Mb which I can live with. However, now when I boot from the internal drive and try to access the Overdrive by double-clicking the AQ icon as before, the Overdrive partitions will not mount.

The only way I can get it to mount now is by changing the settings in AQ HD Toolbox to automount, which puts the Icons on screen from bootup, whether I want them there or not. I rang VISAGE, who supply the Overdrive but their technical department was unable to help, having never come across the problem before.

This is not a major problem, just a nuisance, but nevertheless I would appreciate it if you or any of my fellow readers could shed some light on it for me.

Norman Etherington
Peterborough

Dear Norman,

It sounds as if you have damaged the disk information blocks as well. I doubt if there is any physical damage at all, but I



would think that there are quite a few bad links still on the disk. I would suggest that you take everything off the disk and perform a low level format, then an AmigaDOS format. That should automatically map out any bad sectors, and get you back to a good starting point.

After you reinstall you should find that your system works as before.

OS



Dear AUI,
Setup: A1200 2Mb RAM, 323Mb hard drive, 2 external disk drives, a Citizen 120D+Printer (Soon to be upgraded) and using all this through a TV with SCART.

Now on to my query. I have a friend who has a PC, and when he boots up, he can interrupt the startup sequence and bring up a menu. This menu allows him to control which setup he is about to use. He can run a choice of operating systems and so on. Is there any way that I could do something like this, but instead of having different operating systems, having different setups? For example, I want to run a piece of software which requires as much as possible and so I would like to boot my Workbench with the bare minimum, or have a full Workbench setup. I know a fair bit about AmigaDOS and am I am wondering if there is any way that I can achieve this? If you can help, it would shut my friend up.

By the way, keep up the good work with the magazine. It is the only one which I subscribe to.

D. Easterbrook
Cambridge

Dear D. Easterbrook,
Anything the PC can do, the Amiga can do easier.

There are several startup control programs in the PD, but you can also do the same from AmigaDOS. Just bring up a option list and run the required file from it.

I won't bore you with a full example as you already have such a thing.

Have a look at the SuperDisk Installation script. That has a short startup sequence which then loads the options screen. When you press a letter it loads the script for that letter. Instead of decompressing a disk, you can have as many startups as you want. (I was looking at SuperDisk 87)

Briefly:
It runs 'startup-sequence'
Then runs the file 'options'
Then runs A, B, C... whichever you press
Then runs options again at the end of A, B, C...

In your case A becomes startup1, B is startup2

OS



Dear AUI,
After many long years of following the Amiga and its fortunes, I have, at long last, thanks to some good fortune, been able actually to own one!
I recently purchased a second-hand A1200, with hard disk, extra drive, monitor, printer, software etc., but I am experiencing a few small problems with which I hope you may be able to help me.

1) When I have installed something to the hard drive, and then wished to remove it, I have simply used delete from the menu at the top of the screen. This works fine, except every time I switch the A1200 on or reboot it, before the Workbench screen opens, a screen flashes up for a second or so (difficult to read it in such a short space of time!) which appears to say "looking for.... not found" for all the things that I have deleted from the hard drive.

Why is this? And more importantly, how do I get rid of it? (When I got the machine, several things were already installed on the hard drive, if this is of any help).

2) Klondike. I have several Klondike disks. What are they, and what do I need to use them?

3) When I reboot the A1200 with the external disk drive connected to the computer, but switched off, three icons appear on the workbench screen DF1???, DF2??? & DF3???. Why is this? And can I get rid of it? They seem to be of no use and also cause the A1200 to take much longer to boot. Also, is it normal for the disk drives (internal and external) to continually click while no disk is in them? Are they simply looking for a disk that isn't there?

4) When I bought the A1200, I was told that it had an 85Mb hard drive. This seems to be

separated into 3 partitions - DH0, DH1, and DH2. My question - is this a set arrangement, or can I add another section to it? - DH3 for example.

5) I have accidentally deleted the diamond font from the hard drive. Although I have the Amiga fonts disk with it on, I can't get it re-installed on the hard drive. I have tried using Intellifont but it seems this is only for outline fonts, and will not work, unless, of course, I am doing something wrong. Is diamond gone or can you help?

6) Lastly, could you recommend any Amiga books to me, especially concerning use of the hard drive?

That's it. I apologise if any, or all of these questions are obvious or simple, but as a newcomer to using an Amiga I am a little lost.

Mr. C. M. Ray
Northants

Dear Mr. Ray,
Some software required the use of what is called an 'Assign' This enables the program always to look in one place to find the files that it needs. However, that place may be different on everyone's own Amiga. For example, if you have a program called MegaData, a fictitious database program, you might store the program and its data files in your Utilities drawer, inside the database drawer, inside the MegaData drawer.

That's a bit of a mouthful to sort out, so you can give it a short-cut by using Assign. The programmer will have made the program look in the device called MegaDrawer:

Note the colon, this indicates that it is a device.
DF1: is a device,
DH0: is a device.
Assign creates a software device.

You can use assign from the Shell, and in this case the syntax would be Assign MegaDrawer:
Utilities:database/MegaData

When you perform a file operation on MegaDrawer: it is the same as performing the operation on Utilities:database/MegaData.

There are two files that control the startup of the Amiga, they are: Startup-sequence and User-startup, both of these live in the S: directory on your hard drive. (And on most boot disks) Don't mess about with these, or you could get into real

problems. Before you do anything, format a floppy and make a copy of these two files. If things go wrong you can then copy them back.

Use ED (type ed from the Shell) and open the user-startup as that is the most likely place for things to be added. If programs follow the guidelines, they should not add anything to the startup-sequence.

Look for lines starting with Assign, and which contain text pertaining to something that you have deleted. You can comment out the line by placing a ; at the start of the line. Once you have commented out the lines that you think are the problem you can save the file, and then reboot. If the problem goes away you can then re-edit the user-startup and delete the lines that you edited out.

Here's a part of my user-startup
;BEGIN Rexx
Assign Rexxc: Workbench:Rexxc
;END Rexxc

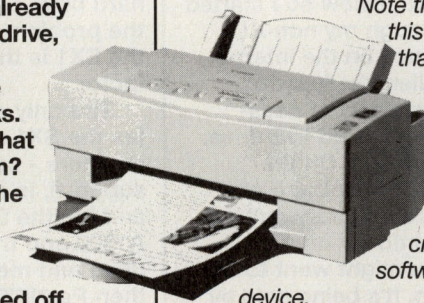
;BEGIN general purpose Assigns
Assign AnswersIFF:
Wolf:AnswersIFF
Assign AnswersTXT:
Wolf:AnswersTXT
Assign RadioData: Riker:RadioData
Assign WxData: Riker:WxData
Assign OCR-Text:
Picard:OCR/Migraph_OCR
;END general purpose Assigns
It is common practice to put a begin and end comment around the various parts of the file, just to act as a reminder.

I have several devices, called Wolf: Riker: and Picard: which are partitions on my hard drives. I have created a short-cut to parts of these partitions with assign. OCR-Text: is really pointing to the Picard partition, in which is the OCR drawer, in which is the Migraph OCR drawer, which is where the output of that program is stored.

Klondike is a card game, (Solitaire) shareware the last time I saw it. The disks that you have are card sets for it.

DF1, DF2 and DF3 with the question marks are probably other filing systems. Have a look in the Devs/DOSDrivers drawer. You should find a few icons in there, which will be the filesystem info for the drives. The Amiga is clever, it can read several different filesystems providing that you tell the Amiga about it. Moving the unwanted icons into the storage/devs drawer will solve that problem.

The disk clicking is the Amiga testing to see if you have inserted a disk. There are lots of utilities that will stop the clicking, you can also shove a disk in the drive, that works



just as well. I've got so used to the clicking that I ignore it now.

You can partition a hard drive whichever way that you want. There is no real standard. You need to have a boot partition which is normally called Workbench: and there is often a partition called Work: The HD install program used to split the drive into two equal parts and call one Workbench and the other Work, for large hard drives this is not much good. Adding a partition will mean that you have to reformat the hard drive, which means that you will have to back up everything and then put it back again. This is something that you should only attempt when you get a bit more familiar with the Amiga.

Open the fonts drawer on the hard drive up, and also the fonts drawer on the Amiga fonts floppy. Drag the Diamond drawer from the floppy and drop it into the hard drive fonts drawer. That should be enough to get things going. You might need to double click the fixfonts program (normally in the system drawer)

Paul Overaa has produced a beginner's book which is quite good. Also the Bruce Smith books are worth looking at. The beginner's books are all pretty basic, and it depends on what style you prefer. To the Amiga the hard drive is just a fast and big floppy.

OS



Dear AUI,

I've read information on utilizing PC Internal SCSI devices, CD-ROMs, and hard drives housed in a PC tower case with 200W PSU. I would like to connect my A600 in this fashion by way of a Squirrel SCSI-2 interface. I phoned 1st Computers and they seem to think that cabling could be a problem; Power Computing Ltd. were apathetic. Squirrels are designed for connection to externally housed SCSI devices and as such a Centronics connection is used. The internal SCSI devices require 50-way internal connections. There is apparently no problem in using CD-ROMs this way as PD software such as AmiCDFS is available for doing this type of work.

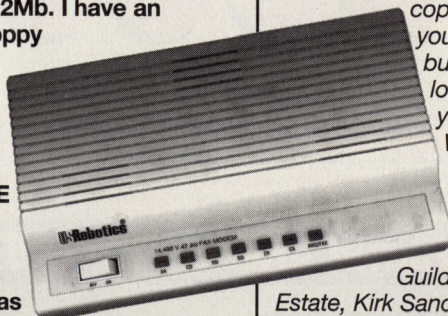
Having expanded in this way would enable me to expand more simply by than using an A1200, or if all hope fails and

Amiga goes the way of Betamax video, I could use all the lovely SCSI hardware with an IBM-PC clone. (Amigas are personal computers, PCs too, although by the way some people go on you wouldn't know it).

My second problem is probably due mainly to a lack of proper understanding, possibly incorrect installation and poor documentation by Commodore.

My computer is a second-hand A600 with 1Mb memory upgrade to 2Mb. I have an external Floppy drive.

A
250Mb
(244Mb)
Quantum
Daytona IDE
Hard Drive,
added after
purchase.



The Extras disk I have is not an original A600 one, but a copy of my brother's for his A500+ - hence v2.04.

My computer gets very confused. It can't run Fountain as Diskfont.library v37 can't be found, the version in libs: on the original Workbench disk is 36.66. Some newer software requires a Locale.library and catalogues, but when run they say Locale.library is installed incorrectly. I know that its part of the newer O/S. What am I supposed to do? What is the correct way to install the required library and files?

My third question relates to support from games manufacturers. In early January I bought Acid Software's Super SkidMarks. It says in the manual that a hard drive installation utility for the tracks will be issued. I sent off my registration form and have yet to receive a reply. I can't find any contact address in the games manual and I did not keep a copy of the registration card. Please can you help me either contact someone or something.

Thanks. I've included a floppy disk with some pics and sounds on it and a S.A.E. for reply, if at all possible. Keep up the good work. LONG LIVE Amigas of all sorts and sizes.

David. R. Hickson
Cumbria

Dear David,

There is no problem in building such a system. All the connectors are standard items. The 50-way Centronics connectors can be

crimped onto a ribbon cable to form a conversion. Whoever you spoke to was a bit clueless I think. Give Brian Fowler Computers a call (01392 499 755) he sells ready made SCSI towers that will do what you want.

You must get the complete set of disks for the A600. You are running a mixture of Workbenches, and this is causing havoc. Run Workbench 2 or Workbench 3 but not a mixture. Installing the library

is just a matter of copying the file into your libs: directory, but you can expect a lot of trouble unless you get a complete Workbench set.

Acid Software is care of
Guildhall Leisure
Services, Unit 15,

Guildhall Industrial

Estate, Kirk Sandall, Doncaster, South Yorkshire DN13 1QR.

What am I supposed to do with the floppy? Pictures and sounds are all very well but seriously, I would have preferred an ASCII copy of your letter!

OTHER



Dear AUI,

I have recently got rid of my A600 for an A1200 yippee! What a difference, but first my set up: A1200, Cumana disk drive, MPS1230 printer, Ferguson TV/SCART with Screenbeat 3 stereo speakers.

The A1200 is standard, that is 14.7MHz with 2Mb RAM. Now for the problem. With my A600 I used the Diskspare device that you at the office use for your excellent SuperDisks, with this I could format any disk up to 984k on FFS or 954k on OFS, the 984k is no mistake this happened all the time that I used the FFS to format my disks.

Now on my A1200 no way will this happen, because the most I can format to is 954k without the trashcan. I have tried to change the Highcyl from 79 to 80 in the Devs:DOSDrivers/DS1: to see if

that will make any difference, but when I do that I get a "Cannot format last block" message, so back it goes to 79. So no matter what I do I cannot get any more than 954k out of it.

I have enclosed a printout of the DS1: for you to look at. Can you please tell me why this is happening? Or is it one of those things with the A1200?

One more thing, could you please tell me how to do AmigaGuide doc's to be more exact? I have noticed with the August edition disk No. 88 there is a program called Forbidden, when I load it up and run Forbidden I can see a menu display so you can take your pick. When I write a document using the ED all I get is a normal display, but with no menu using the Multiview. I have tried using all sorts of ways to produce a menu but I have had no success so far.

When I load in ED and then load in Forbidden I can see things like "@Node, @Endnode" and so on, what does this all mean and can I make use of it to produce my Multiview/Amigaguide menus in the documents?

M. J. Lee
Wigan

Dear M. J. Lee,

It is most likely that you have run into a hardware problem. Diskspare does push the drive units to their limits. It is probably just a fraction too much for the particular drive that you have fitted in the A1200. You didn't tell me if you had an Amiga Technologies A1200. They have non-Amiga disk drives fitted. Commodore units are okay.

It's far to big a job to describe AmigaGuide in Amiga Answers. Commodore released the AmigaGuide system onto the networks and it is available to anyone who wants it. Any good PD library should have the archive. The archive contains all the instructions you need. The codes that you see are the formatting for the document. Node and endnode are sort of like sections of a document that you can jump to with other commands.

When writing to Amiga Answers please include as much information as possible about your system and about the software/hardware you are running. This will help determine what your problem might be and possibly its solution!

Send your questions to:

Amiga Answers,
Amiga User International
Unit 2, Utopia Village,
7 Chalcot Road
London NW1 8LX
or E-MAIL:

amigauser@cix.compulink.co.uk

Sensible World of Soccer

95/96 European Championship Edition

Time Warner Interactive £19.99

They're doing it on purpose! Time Warner Interactive have picked a strategy that ensures they'll continue to sell Sensible World of Soccer right up to the year 2000. Even though I'm happy that about this, and that Sensible World of Soccer is probably every footy fan's dream, it's a game that turns up about as often as those silly 0891 chat-up ads that appear frequently on TV after midnight.

Sensible World of Soccer is still the best football game in the world, superbly programmed to the best abilities of the Amiga, and only on the Amiga. Have you ever played it on a fast PC? Now that's sloppy programming!

The designers of the game wanted Sensible World of Soccer to be the best footy sim in the world, and the most accurate too. They hired Mike Hammond, author of the European Football Yearbook, for the invaluable information on the 26,000 real-life players his book contains. So when you want to buy that obscure Hungarian player, he's there. This way Sensible Software ensured there is a strong management side to balance the game's arcade-style action.

Sensible World of Soccer 95/96 European Championship Edition is game number five in the series and it's not at all that different from the rest! Poor old Sensible Software, who left Amiga development for pastures new after Cannon Fodder 2, are still plugging their successful Sensible Soccer games. Why? Simply because it's an easy way to make money.



At first glance, Sensible World of Soccer Euro Edition looks exactly like another one of its other footy cousins. Most of the changes are purely cosmetic, apart from the new title music by the great Richard Joseph. Team training is new, it allows you to give your team tactics. The crowd is a bit more animated and management control has been increased. While this is the Euro Edition, Euro96 has been obviously added. And the latest updated player transfers that have happened are included too.

Most of the annoying bugs which plagued the original game have been happily removed.

As it stands SWOS 95/96 EURO is still the same game really, and let's face it, it's cashing in on Euro96 for it could have been offered as an update or data disk. However, if you've never had the pleasure of playing the best soccer game in the world, and the best version on any platform, now is the time to get this one. Unless you want to wait for the inevitable 1998 World Cup version to come out.

VERDICT

Graphics:	85%
Sound:	80%
Gameplay:	95%
Overall:	95%

CHROMA

DATAchrome

**LOADS JPEGS GIFS PCX BMP TIFF & MORE
DIRECTLY INTO IFF-ONLY PACKAGES
DPAINT/FINAL COPY & WRITER/SCALA ETC
REQUIRES WB 3.0 & ABOVE - £29.99 (DEMO AVAILABLE)**

NEW - DATAchrome GOLD

**GIVE YOUR IFF-ONLY APPLICATIONS
DATATYPE SUPPORT - GRAPHICS AND SOUND FILES
LOAD & SAVE 24-BIT JPEGS FROM DPAINT!
DIRECTLY LOAD WAY & VOC SOUNDS
DIRECT CRUNCHED FILE LOADING & ARCHIVE FACILITIES
REQUIRES WB 3.0 & ABOVE - £49.99**

WHAT ELSE DO WE SELL?

GENLOCKS (LOLA / RENDALE / AMITEK / G2)

**LOLA L2000 - £349 L1500 - £175
WITH FREE VIDEO SOFTWARE ON REQUEST**

A1200 RAM BOARDS & SIMMS

**MAGNUM A1200 ACCELERATORS
VIDI AMIGA 24 RT DIGITISERS
POWER COMPUTING PRODUCTS
COMPLETE AMIGA SYSTEMS (PACKAGE DISCOUNTS)**

SYSTEM SETUP SERVICE/NEW USER SETUP - ASK

CHROMA

01328 862693

153 HOLT ROAD, FAKENHAM, NORFOLK NR21 8JF

FREE FREE

**GAMES CHEATS
1.4 EMULATOR
ON ALL ORDERS**

UNDERGROUND

FREE FREE

**LIBRARY DISK
POST & PACK
ON ALL ORDERS**

PLATFORM GAMES

- 1233 ROACH MOTEL
- 1296 HARRY HADDOCK
- 1365 A12 ORANGE MAN
- 1330 CAPTAIN BONUS
- 1322 NICKY 2 NOT 1.3
- 1461 CHARLIE COOL
- 1444 SEEMORE DOOLIE
- 1418 GUNNY GOO
- 1553 LANCE-O-LOTS
- 1521 HAPPY MONSTERS
- 1522 JIMMYS A1200
- 1504 SOLDIER 2 DISK

SPACE BLASTERS

- 911 SOLO ASSAULT
- 498 THE LAST REFUGE
- 596 GORF INVADERS
- 343 CYBERNETICS
- 1083 DE-GALAGA 2.5
- 1434 SPACE BLASTER
- 1473 EXENX ASTEROIDS
- 1478 PHANTOM NO 1.3
- 1469 ALIEN SHOOT OUT
- 1551 REBELLION A12

ARCADE GAMES

- 555 HUGO V2 5 DISK
- 1338 STRIKE COMMAND
- 1451 NIBLER NIBLET
- 1448 MORPHING GAME
- 1445 10 C.W. GAMES
- 1500 24 U.P.D. GAMES
- 1477 BOMB MANIACS
- 1468 SNAIL RACERS
- 1525 GUN-FIGHTERS
- 1523 A12 GLADIATORS
- 1502 SNEECH V1.5

P.D. VERSIONS

- 024 ELF & PP HAMMER
- 477 CADAVA-VENUS FLY
- 022 GDS-TI/MACHINE
- 026 ROBOPOL-TRECALL
- 815 LEMMINGS PACK
- 023 RICK DANGEROUS
- 472 TETRIS GAMEBOY
- 027 CHUCK ROCK-ICE
- 1457 TI-FIGHTER
- 1501 A12 PENGUINS
- 1524 A12 COALA DEMO

COMBAT GAMES

- 941 FATAL BLOWS
- 938 MARTIAL SPIRIT
- 1238 WEAPON MASTER
- 1428 CYBERFIGHT 3 DISK
- 1548 FIGHT A1200
- 1545 ROCKY V4 NO 1.3

CLASSIC GAMES

- 011 ASTEROIDS
- 693 MISSILE COMMAND
- 778 OVERLANDER
- 692 SPACE INVADERS
- 308 DONKEY KONG
- 951 FLAMING ENGINES
- 469 THE ROAD TO HELL
- 811 CAR MANIACS
- 1417 FENDERS V2
- 1466 KNOCK OUT CARS

SIMULATORS

- 926 HELICOPTER
- 332 SEALANCE-SUB
- 333 BATTLE CARS V2
- 1273 A12 TRAIN DRIVER
- 1455 BATTLE ZONES
- 1014 CRAZY GOLF
- 366 GOLF 18TH 2 DISK
- 822 CRICKET AMOS V2
- 630 TEN PIN BOWLING
- 104 FUTURE FOOTBALL
- 1171 C-ANGLER 2DISK
- 1247 S-SCORER NOT 1.3
- 1373 ICE HOCKEY
- 1251 TOUR TENNIS
- 1329 PRO BASE BALL
- 1465 2 DISK A12 TENNIS
- 1317 A12 GONE FISHIN

HINTS & CHEATS

- 821 PASSWORD MANIA
- 820 MEGACHEATS
- 681 SIERRA SOLUTIONS
- 1118 UP TO DATE V1
- 1358 NEW SOLUTIONS
- 1462 SOLUTIONS V2
- 101 TERROR LINER V1
- 1081 ADULT TETRIS
- 1145 A12 NUMBERS
- 1307 TERROR LINER V3
- 1335 ADULT DROIDS
- 1328 ADULT JIG SAWS
- 1001 2 DISK ADVENT V2
- 1514 STRIP SLOTTOR
- 1533 DRAGONS BALL
- 1517 X BOMBER GAME

TETRIS-COLUMNS

- 294 KLACK-TRIS COLMS
- 107 TWIN-TRIS TETRIS
- 293 DR-MARIO COLMS
- 597 TETRIS PRO
- 1215 BLIT-TRIS A12
- 1240 ROCK-SLIDE
- 1371 A12 STEP FIVE

PAC-MAN GAMES

- 230 SUPER PAC MAN
- 102 LADYBUG PAC MAN
- 252 YUM YUM PAC MAN
- 1096 A12 PUC-MAN
- 1138 A12 CYBER-MAN
- 397 DELUXE PACMAN
- 923 A12 BOMB 32
- 1346 WALES PACK MAN

BREAK-OUT & PONG

- 003 MEGABALL V1
- 459 MEGABALL V2
- 007 BATTLE PONG
- 421 REBOUNDER PONG
- 1323 CIRCUS NOT 1.3
- 1459 CYBER BREAKOUT
- 559 MEGABALL V3

BOULDERDASH GAMES

- 731 HAUNTED MINES
- 254 EMERALD MINES
- 121 MARATHON MINES
- 351 ROYAL MINES
- 480 BLUE DIAMONDS
- 1423 MINE TRASHERS
- 1527 ICE MINES PRO
- 1528 MORE YAMS V2
- 1529 MORE YAMS V1

PUB-CLUB GAMES

- 222 FRUIT MACHINE
- 932 MEGA FRUITS
- 375 CARDS SOLITAIRE
- 1073 CARD PACK
- 1112 A12 EX CARDS
- 1246 CRIBBAGE CARDS
- 1304 CHECKERS V2
- 598 PIN BALL FLIP
- 1362 PUB DARTS
- 1450 SNOOKER NIGHT
- 560 WORLD DARTS

BOARD GAMES

- 032 MONOPOLY USA
- 631 SCRABBLE
- 296 RISK (GLOBE-WAR)
- 472 CHESS GAMES
- 910 NEW MONOPOLY
- 1433 LIFTS & LADDERS
- 116 STAR TREK 2 DISK
- 297 NEIGHBOURS 2DISK
- 1209 LOST PRINCE
- 1310 A12 SP-DOOMER
- 1331 THE BURGER BAR
- 1359 A12 ALIEN SPACE
- 452 ELDRITCH NO 1.3
- 1526 A12 MAD-H 2 DISK
- 1503 4 DISK ANGST A12

ADVENTURE GAMES

- 876 GLOBAL NUKE WAR
- 1185 A12 CRITICAL HIT
- 1374 A12 MARATHON
- 1347 BATTLE AT SEA
- 1431 U.F.O. UNCLOTHED
- 1547 SOLO STAR TREK
- 953 CHANQUE 2 DISK
- 1066 MINDBENDERS
- 1135 SPRING-TIME
- 859 10 PUZZLERS
- 1424 PING-WIN NOT 1.3
- 1463 FULL SCHNEBITZ
- 1550 PUZZLE PITS V2
- 1546 X BALL PUZZLE

MUSIC GAMES

- 868 THE SUPER LEAGUE
- 876 SCOTTISH LEAGUE
- 310 TOP OF THE LEAGUE
- 404 METROS MANAGER
- 321 AIRPORT
- 322 MICRO MARKET
- 443 SLAM BALL
- 1412 ULTIMATE MANAGER
- 716 POP MUSIC QUIZ
- 309 THE QUIZ MASTER
- 462 WHEEL OF FORTUNE
- 991 2DISK STAR TREK

LOGIC GAMES

- 119 DRAGON'S TILES
- 112 DRAGON'S CAVE
- 323 OXYD LOGIC
- 1037 MARBLES GAME
- 1035 ATOMIC GAME
- 1369 BOONMECK!
- 1412 OOZE! NOT 1.3
- 1513 2 DISK TTRACKS

AMIGA LEISURE

- 205 AMIGA PUNTER
- 228 PERM CHECKER
- 886 LEAGUE EDITOR
- 1210 LOTTO LUNACY
- 1438 AGENE VERSION 5
- 1557 THE ORACLE 2 DK
- 11993 MEGA LEMMINGS
- 1204 TAZ INTROS
- 1220 MEGA JAMMIN
- 1302 DUNGEONICS
- 1285 MEGA INTROS V2
- 1274 ZDSK CONTROL
- 1271 PIXEL STORMS
- 1456 TAZ INTROS V4
- 1454 AVALON RESPONSE
- 1439 BLOWING BRAIN
- 1415 MYSTIC ILEX
- 1414 2 DISK DOVE
- 1544 OXYGENE V3 2 DK

A1200 MEGADEMOS

- 460 TEKNO RAVE
- 430 2 DISK DATA X
- 262 2 DISK PREDATORS
- 1120 ZDSK QUEEN V2
- 740 4 DISK MANGA
- 1040 3 DISK GLAMOUR
- 1108 SSK STAR TREK
- 1436 2 DISK P ANDERSON

AMIGA SLIDE SHOWS

- 704 REVELATIONS
- 061 PAT NAGEL'S GIRLS
- 936 AVIATION HISTORY
- 1107 TO BOLDLY GO
- 1472 YABBA DABBA DO
- 465 KIDS PAINT
- 664 FUSION PAINT
- 063 ULTRAPAINT
- 349 SPECTRA COLOUR
- 748 ILLUSION PAINT

ARTWORK PROGRAMS

- 071 GRAPHICS CON KIT
- 070 GRAPHIC UTILS
- 133 FRAC LAND BUILD
- 1299 A12 MAGNIFI-CAD
- 1460 A-Z PAINT PAD
- 080 VIRTUAL WORLDS
- 084 PUGGS IN SPACE
- 233 COOL COUGAR
- 651 FAIRLIGHT 242
- 831 RED DWARF
- 475 BAIT MASKING
- 463 MR POTATO HEAD
- 865 TAROT MASTER 2DISK
- 271 NEWTEK V2 2 DISK
- 347 NEWTEK V3 2 DISK
- 187 ANIMATION STUDIO
- 1447 2 DISK JAP MANGA
- 1449 BATMAN V JOKER
- 1422 2 DISK NAVIGATOR

AMIGA VIDEO

- 329 VIDEO INSCRIPT
- 790 VIDEO TRACKER 5 DISK
- 148 5 - MOOVIE
- 1309 2DISK BELL PAINT
- 220 FUNK KEYBOARDS
- 431 RAVE KEYBOARDS
- 202 MED V3.2
- 200 SOUNDTRACKER
- 729 DRUM MACHINE
- 787 SONIC DRUM KIT
- 866 OCTAMED TUTOR
- 738 OCTAMED V2
- 136 THE ART OF MED
- 192 THE COMPOSER
- 618 MUSIC DATABASE
- 981 AUDIO ENGINEER
- 661 4 DISK MED-WORKS
- 1099 QUADRAPLAYER
- 1435 PRO-TRACKER 2.3

CLASSIC - POP

- 201 PIANO CLASSICS
- 234 VIVALDI 2 DISK
- 342 AMIGA-DEUS
- 213 DIGI CONCERT V2
- 620 BAGPIPE MUSIC
- 488 EXPRESSION V2
- 473 RHYTHM'S DANCER
- 1088 MELLOW CD MIX
- 1147 7 DISK JUKE BOX
- 1375 2 MEG DACO V1
- 1453 MYSTIC MUSIC
- 660 KORG 01W 8 DISK
- 218 HOUSE 2 DISK
- 206 SELECTION 7 DISK
- 647 SOUND FX 3 DISK
- 619 DRUMS 2 DISK

SAMPLES - MODS

- 660 KORG 01W 8 DISK
- 218 HOUSE 2 DISK
- 206 SELECTION 7 DISK
- 647 SOUND FX 3 DISK
- 619 DRUMS 2 DISK
- 239 SLIDESHOW MAKER
- 381 ADVENTURE MAKER
- 808 MAKE A DISK
- 242 MENU MAKER
- 724 AMIGA FAX
- 585 2 DISK PARNET
- 1032 MAX B.B.S. KIT
- 1560 INTROS MAKER
- 506 A1200 VIRUS
- 160 M.V.K. PLUS
- 993 VIRUS 2
- 1183 2DISK VIRUS DATA
- 612 4 DISK TOOL-KIT 1
- 1030 A12 DIONIC TOOLS
- 1076 AGA TOOL-BOX
- 1181 M.U.I. NOT 1.3
- 1342 ENCRYPT UTILS
- 1343 SPEED UTILS

DISK & SYSTEM

- 166 SYSTEM TESTER
- 467 FILE UNDELETER
- 194 DISK OPTIMISE
- 356 ENGINEER'S KIT
- 245 FIX DISK
- 168 HARDWARE MANUAL
- 766 GEOGRAPHY
- 532 MATHS 5 DISK
- 644 ENGLISH 4 DISK
- 486 LANGUAGES 4 DISK
- 270 PLANETS 6 DISK
- 304 ENIGMAS 5 DISK
- 059 AMIGA TUTORIAL
- 1123 WORLD HISTORY
- 1361 2 DISK INTERNET
- 1345 2 DISK BAT-B-BRIT
- 1311 2 DISK TITANIC

DISK COST £1.25 EACH, NO MINIMUM ORDER, ALL VIRUS FREE AND USER FRIENDLY

All Games are on 1 disk and run on all Amigas unless otherwise stated.

PICK AN EXTRA DISK FOR FREE WITH EVERY EIGHT DISKS YOU PURCHASE

UNDERGROUND P.D., 54 CARMANIA CLOSE, SHOEBOURNE, ESSEX SS3 9YZ. Tel: 01702 295887

Name: _____ Amiga Model: _____

Address: _____

Postcode: _____

ONLINE PD

Tel: 01704 834335 BBS: 01704 834583

SPECIAL SOFTWARE DEALS

FULL GUI INTERNET PACKAGE (HD REQ) - 24 DISKS	£16.50
FULL GUI INTERNET & COMMB PACKAGE (HD REQ) - 31 DISKS	£21.75
COMMS PACKAGE - 7 DISKS	£5.25
MAGICAL USER INTERFACE PROGS. #1 & #2 - 12 DISKS PER PACK	£8.25 EACH
ADOBE FONTS #1, #2, #3, #4 & #5 - 15 DISKS PER PACK	£10.50 EACH
COLOUR IFF FONTS #1, #2, #3 & #4 - 15 DISKS PER PACK	£10.50 EACH
MONO IFF FONTS #1 & #2 - 13 DISKS PER PACK	£9.00 EACH
IMAGINE TEXTURES/OBJECTS - #1, #2 & #3 - 9 DISKS PER PACK	£6.75 EACH
SPECTRUM GAMES #1 & #2 - 15 DISKS PER PACK	£10.50 EACH
COMMODORE 64 GAMES #1 - 10 DISKS	£25
CG (COMPUGRAPHIC) CLIP ART 1 - 9 DISKS	£7.50
CG FONTS #1, #2, #3, #4 & #5 - 15 DISKS PER PACK	£10.50 EACH
CG FONTS #6 - 12 DISKS	£8.25 / SAMPLES VARIOUS 270+ - 10 DISKS

FREE P&P ON ALL ABOVE PACKS

POSTAGE & PACKING

UK PD ORDERS	75p total
General peripherals	£1.25 each
500 labels ... £1.50/1000 Labels	£2.25
Modems/Hard Drives Etc	£7.50

BLANK DISKS

10-20 Disks	40p Each
21-100 Disks	35p Each
100+	Phone

**ALL HI-QUALITY DISKS. 1 FOR 1
REPLACEMENT GUARANTEE. THE
ABOVE PRICES INCL. LABELS & FREE
P&P. (MIN ORDER 10 DISKS)**

**Phone for your FREE 3 disk catalogue OR send 39p SAE OR 75P
(ALL ORDERS SEND OUT BY 1st CLASS RETURN POST)**

PERIPHERALS

100 CAPACITY LOCKABLE DISK BOWSES	£4.49
10 CAPACITY BOXES PERSPEX / WHITE	£1.20
INK JET REFILLS (PHONE FOR COMPATIBILITY)	£11.99
MOUSE MATS (RED / GREY & GREEN)	£1.49
A1200 & A600 DUST COVERS	£3.49
DISK DRIVE CLEANER	£3.49
CRUISER MULTI COLOUR JOYSTICK	£10.99
COMP. PRO EXTRA CLEAR JOYSTICK	£12.99
COMP. PRO EXTRA MINI CLEAR JOYSTICK	£12.99
560 DPI 3 BUTTON MOUSE (BLACK/BEIGE)	£14.99/£12.99
500 COLOUR WRAP AROUND DISKS LABELS	£3.99
1000 COLOUR WRAP AROUND DISKS LABELS	£7.99
1000 TRACTOR FEED LABELS (2 ACROSS)	£5.49

**WE STOCK 11,000+ PD DISKS.
SO IF THERE IS A DISK YOU
ARE LOOKING FOR & CAN'T
FIND IT, WE MAY HAVE IT!
PHONE NOW & FIND OUT.**

COLLECTIONS IN STOCK:

**FRED FISH 1 TO 1000,
ASSASSIN'S GAMES 1 TO 261,
LSD UTILS 1 TO 149 & MORE.**

HARDWARE

Dynamode Modems (Incl. 2Yr Warranty & FREE £35 starter pack)

Modems in Beige colour to suit Amiga	Modem only	Modem & GP Fax
14.4V32Bis	£89.99	£129.99
28.8V34	£149.99	£189.99

All with Group 3 fax capability, BT & CE Approved. (INCLUDES: 112/92 page manual, serial lead, phone lead, installation guide, UK PSU, FREE PACK: 31 disk set of software for use with the INTERNET, BBS's, FAX, COMMS/INTERNET GUIDES for 1st time users, getting started/useful numbers leaflet, double phone adaptor & 10mb of FREE BBS credits.
*** Our Modems are highly rated in ALL the Amiga Magazines*** GP Fax (The Ultimate Fax Software Solution) £49.99

A1200 Memory Boards (Incl. clock & FPU socket) OMB-£49.99 / 4MB-£89.99 / 8MB-£119.99

A500 / A600 Memory Boards A500 to 1MB £19.99

A500+ to 2MB £24.99 / A600 to 2MB £24.99

A1200 1Gig Hard Drive £174.99

Other Hard Drive sizes available ... £POA

Hard Drive Fitting Service £19.99

Phone now for ANY other hardware required

CHEQUES & POSTAL ORDERS PAYABLE TO:

**ONLINE PD, DEPT AUI 11, 1 THE CLOISTERS,
HALSALL LANE, FORMBY, LIVERPOOL, L37 3PX**

Alien Breed 3D 2

- The Killing Grounds

AGA Amigas only (68030 and extra RAM recommended)

Team 17 £19.99

How greedy can you get! Team 17 have been writing their truly marvellous Alien Breed series of games since as far back as 1991 and here we are in the summer of 1996 and yet another breed sequel wangles it's

TECHNICALLY ADVANCED 3D GAME EVER PRODUCED FOR THE AMIGA' from off the box and forget to play the game. Marking it as 100% perfect instantly?". No. Alien Breed 3D 2 is something very special.

game very challenging. Sounds okay, but what about the weapons of mass destruction? There are 10 different powerful types: the usual rifle, shotgun, grenade launcher, rocket launcher, and a few others, but I won't spoil it for you, as you'll have fun discovering them.

And what about the new Breed of Aliens? Just like the first game I remember how quick and tough they were, and by level 10 it was murder. Each level got more and more deadly. In this sequel the alien intelligence has been upgraded, and that means you haven't a clue what lies around the next corner! It's a question of keeping your wits about you and remembering to keep your cool when the going gets tough and the aliens get tougher. Finding your way around can be tricky, but since the first game was

texture mapped, 3D rendered aliens. It's all there! And the sound is equally impressive too, especially the effects. One in particular, you hear some nearby aliens murmuring away in a room about their next method of attack, is very creepy.

What a game! The great two player death match game is still included, but it doesn't end there either. Also included is a level design editor, a sound editor for creating your own specialised samples, and a graphics editor for you to design your own texture maps.

Just over a year ago after we screamed at PC owners that Doom could be done on the Amiga with Alien Breed 3D as the last best hope, now along comes Alien Breed 3D 2 which is nothing short of stunning!

The game plays fantastically well and all A1200/A4000 owners should get this unrivalled and soon to be classic game. Nothing comes close. Alien Breed 3D 2 is the single most crucial serious step forward for the next millennium of Amiga games this decade. Alien Breed 3D 2 is the best game I have ever played and it's better than you could have ever dreamed it to be!



way into the shops. Let me begin by that 'Alien Breed 3D 2 - The Killing Grounds' is quite possibly the greatest release ever for the Amiga. There, I've said it.

But wait, I've not even discussed the game in detail and already I'm ranting and raving about how good it is. Well, I know what your some of you are thinking. You're thinking "Did he read that text flash report boasting 'THE MOST

In Alien Breed 3D 2 there's a great deal to explore and although there are only 16 levels, they're huge and tough to complete! Although Breed veterans will have found the first game a tad easy to get through. Unlike the first game, the sequel is mission related, meaning each and everyone of the levels has a set task to complete over 3 different environments. This makes the

criticized for having no map the designers have opted for an in-game holographic one that cover 360 degrees.

This leads us to the graphics: On a standard A1200 you get Normal Res 2-2 pixels. Or even better, if you have and 030 and above with Fast RAM you get super duper High-Res 1-1 pixel mode, which is breathtaking - the light sourced gouraud shaded,

VERDICT

Graphics:	91%
Sound:	92%
Gameplay:	93%
Overall:	94%

V12-PD

**Dept AUI
PO Box 14, Louth
Lincolnshire LN11 8LF
United Kingdom
01507 450114**

10 PD DISKS FOR A FIVER FROM A LIBRARY OF 15,000+, BLANK DISKS WITH LABELS AT £2.50 FOR 10, TRADE AND BULK DEALS ON BLANKS MUCH, MUCH CHEAPER THAN ANYWHERE ELSE IN THIS MAGAZINE!

THE LARGEST GLAMOUR ONLY BBS IN THE UK CAN GIVE YOU THE CATDISK RIGHT NOW! CONTAINING OVER 11000 ADULT PICS AND COMPATIBLE WITH AMIGA, MAC, PC, RING FOR THE BEST FUN YOU CAN HAVE THIS DECADE ON 01507 450114 BETWEEN 9PM AND 9AM. UPTO 28.8K (MINIMUM 2400BPS), 4 GIGS AND 5 CD'S ONLINE. IT'S A GAS

Special offers, extremely limited, ring now...

Bulk blank disks at outrageous prices, as well as PD. 500 disks of PD for a stupidly low price of 120 quid! Owing to a superb new supplier of blanks, all our blank prices are once more available, ring or get a catdisk for further details. Regular orders get huge discounts, ring for further details!

Have you any old hardware you want to trade in for disks? Old printers, monitors, HD's, disk drives, CD's, computers, anything considered for Amiga, PC or Mac. Bulk PD offered or bulk blanks in return and your old gal will get a new home! Ring for a deal on any trade in. We also sell on reconditioned hardware as and when it is available.

Other services include flatbed scanning, digitizing, sound sampling, membership, PD swaps, foreign PD available in large numbers, brand new and direct from the authors! Our membership for one year's Catdisk update (24 disks!) is only £6.00, get the latest PD available within minutes of it being released, and our fab disks for a year without bothering to ask for it each month. Platinum membership is 15.00, and entitles you to 10% off PD, a year's Catdisks as they're released, 30% off scanning, 30% off blanks as PD, 25% off digitizing, 30% off sampling, etc, etc, etc! Don't miss it, or you'll cry for days!!!

You lookin' at me? Lumme, I hope not ...

Hello for another month. That was a bit boring wasn't it, erm, let's try again. Hiya,hiya, hiya every Man Jack o'ya! That's better! OK, let's get down to business, you are flicking through this illustrious mag, looking for some PD action. Where's the best place to find such an article? Here, of course! And that's why we're:

IAT PD Company of the Year 1996.

You don't get that from sitting around all day, you get it from being the fastest, cheapest and goshdarned best PD library in the world. And then some. So makes ol' V12 the best!

* The lowest prices in this magazine by a very long way, don't take our word for it, look around, even the tiny ads at the back aren't cheaper.

* 24 hour turnaround. With our turbo powered PD we always outstrip the competition for speed. We're not called V12 for nothing!

* The largest selection of high quality PD anywhere in the world. Over 14,000 titles and all at 50p each! If you want it, chances are we already have it and 3 different programmes like it too!

* Undeniably the best Catdisk in the world. There quite simply isn't a Catdisk that has had so much time spent on it. Sorry, but perfection was demanded in a Catdisk and we believe we've got as close as it's possible to do without looking inhumanly smug all your life. And its free. So get one, Mister.

* Moe worldwide swapping contacts than you could imagine, PD comes in from dozens of locations on every continent (except Antarctica, curiously...) This means more exclusive PD than you've ever seen! And all at 50p eh, I can't imagine how it's done.

* Friendlier service than you could ever dare to expect. No quibbled return policy guaranteed, and that's a promise.

Here's our revised prices, a many of you wanted bulk discounts, now you've got them! Ain't we nice....Amazingly, we supply the disks on these prices too, this is why we're voted number one and not some rip off 1-3 quid a disk company. Hurrah!

1-5 Disks = 65p each

6-9 Disks = 60p each

10+ Disks = 50p each

20+ Disks = 40p each + 3 FREE

30+ Disks = 35p each + 5 FREE

50+ Disks = 30p each + 10 FREE

P&P is only 50p on any size order!

Disks are 25p each including P&P if you supply the blanks!

So now we're the best, we can flaunt our undoubted superiority and simply look extremely smug with ourselves all day, wrong! We want to keep the title and work like little squirrels or other hard working little fluffy mammals to keep it! Prices continue to be lethally low, 24hr turnaround is now guaranteed or you get free disks for every day's delay(!), and new titles keep coming (oo-er) in the Catdisk. There's noone better us, it's just not possible I'm afraid. .

And a message to all Workbench 1.3 users, we still support your system and have the largest 1.3 collection in the world, our catdisk works fine from scratch on 1.3, so give the old friend a boot with some new excitement! Of course, WB2 and AGA Amiga owners are supported better than a pig on stilts too, everyone's welcome, everyone's catered for. Gor blimey gav'na, get on the V12 lurve train and go to heaven!

And of course, the first step into V12 Palace (take the 12th turn off from the M180) is the Catdisks. What do you want from a Catdisk, cos it's likely we will have incorporated it into this ballistic little double barrelled baby! Over 45,000 lines of text, it will automatically detect what model of Amiga it is in and change as it boots to use the system to best effect. Have an HD and want to install both disks to it? No problem, it's only one mouse click away, as well as another icon to remove it all too! Don't have an HD but want to install it to RAM instead? No problem either, optional RAM installation for over 1500% speed increase, and all in 1.5 meg of RAM (chip or fast!) Have the standard 1 meg and want to run it combined from ram and floppy? No problem either!! It will install certain regularly used parts of the cat for a 100% increase in speed! A mouse driven interface, animations, music, pics, still hires laced graphics (even on an A500!) and the humorous listings that we are well known for. Oh go on, send for it. It's got games too now!!!

For a Catdisk, ring the number above, or write and ask. It's free this month so get it and start seeing how a PD company should be! What have you got to lose? We don't bite you know. When you're looking

Anyway, that's about all V12 has to say this month, except have another happy Amiga'ing month, and no matter what happens we will always supply floppy PD to the customers that want it, we won't follow everyone off to CD only land, so don't worry. You'll always have someone looking after your needs.

Greetings this month go out to Wolfman, Topdog, Freak and Budda of NFA, Iceman of Carnage, Icon of LSD, Mr Spoon, Michael Carter, Johnny 5, Stefan Mansier, The Beyond the Frontier Crew (hi), Rob Davaiu, Rigsby, Hunterheim Supplies, Madonna, Kylie, Danni, Bonjovi, Kiss, Andy Gibson (DMC deserves 99%!), Trousers MC Bernie, Jacob Grizzly, Bentley Belisha and Frilly Midge, and all those people we've typically forgotten.

Flatbed Scanning Services

Flatbed scanning is now available to a professional standard, with dpi up to 2400 x 2400 dpi, every format from ILBM to JPEG, and every resolution from Lores-NTSC to Superhires - full overscan pal and custom resolutions beyond that. We offer this service out to any PD company, or any Amiga based company at discount trade prices, and also to any Amiga owning individual at the very low prices, ring us for details. We are at least 3 times cheaper than dedicated scanning bureaus. Any Amiga company who wishes to offer our service can arrange an agreement with us for some serious discounts, so make those scanning dreams come true! Remember also, our digitizing service, when allied with scanning, can offer computer representation of any object, any picture up to about 4 square metres(!) with no loss of quality. Please ring for further details.

WE STOCK ALL THE COLLECTIONS INCLUDING ASSASSIN'S 1-250, FRED FISH 1-1000, SCOPE 1,220, AMIGAN, ARUG, NEW ZEALAND, IMAGINE OBJECT COLLECTION, CLIPART COLLECTION, BARBIE, AMOS, LEGAL TOOLS 1-149 AND THOUSANDS MORE. WE NOW ALSO SELL CD'S CHEAPER THAN EVERYONE ELSE, EVERY AMIGA CD AVAILABLE IS, ERM, AVAILABLE FROM US!

15,000+ Titles, that's more than a library with less than that!



A Load of Pinballs For You Lucky People!

As the countdown to the next millennium begins those awfully nice people at 21st. Century have got Year 2000 fever and deluged **AUI** Towers with complimentary copies of their popular pinball sims - Pinball Fantasies, Pinball Illusions, Pinball Mania, and Slam Tilt. They say that the next millenium will be a load of pinballs!

In turn, **AUI** decided that the best time to give away these wonderful gifts would be in the run-up to the festive seasons. So whatever your celebratory occasion for this time of year, do pop a card in the post and start pinballing.

Now here's the catch...

These games are designed to run on AGA Amigas ONLY. The exception is Pinball Fantasies, which should run on ANY Amiga with 1Mb of Chip RAM. So the prizes are divided up accordingly.

...and the difficult question.

What was the name of the first commercial Amiga computer? (Clue: More than a 1000 were made).

How to enter

Send your answer together with your name and address on a postcard or the back of a closed envelope to:

The Great **AUI** 21st. Century Pinball Giveaway
Unit 2, Utopia Village
7 Chalcot Road
London
NW1 8LX

Mark your entry in the top left hand corner 'AGA' if you own an A1200 or A4000, or 'OCS' if you have one of the older machines fitted with 1Mb of Chip RAM. Closing date for entries is December 2nd 1996. We will try to get prizes off to you so that they arrive at your address before the 25th.

Good luck - You'll need it!

The OCS Prizes

The first four entries marked 'OCS' will each get a copy of Pinball Fantasies. This game is designed to run on any Amiga with 1Mb of Chip RAM.



The AGA Prizes

The first entry out the **AUI** woolly hat will win a copy of each game. In addition there will be two runner-up prizes of Slam Tilt, Pinball Illusions, and Pinball Mania. Plus six extras prizes drawn at random for a copy of one of those three games.



Write to Reply

Back in his international mood, Bud Vennos answers reader with reader, has readers answering themselves and receives a personal pressie. And he gets paid for this?

Dear *AUI*,

Firstly, thanks for printing my letter in the July issue. It didn't bring a flood of support, just 1 e-mail so far but it's always good to hear from other users. Anyway, I have solved my problem by changing my modem. I sent the Sportster VI back and now have a Sportster 288 which works fine although, when it arrived, I found that I could not get it to work. On the 'phone to USR only to be told to send it back to them for checking. It turns out that some modems have been supplied with the wrong 'phone cable. So, at last, my modem and I are working in total harmony, surfing the 'net, e-mailing around the world and faxing away quite happily.

I have to admit that when I first wrote to you I was extremely angry about the situation and the lack of advice and help available. But I've calmed down now and everything is working as it should.

I feel I must point out that all the people involved in this problem i.e. the dealers I bought the modem from and US Robotics have been as helpful as they could under the circumstances. I realise that Tech help staff cannot be expected to know absolutely everything about all products and that there are other ways of contacting them than on the 'phone BUT not all of us have access to fax machines to take advantage of Fax Back services and the help on the BBS's is often quite limited.

Thanks again for printing the letter.

I actually contacted all the Amiga mags I read, but *AUI* was the only one to publish the info. Oh well, at least I tried.

Regards

Paul Ferguson

Dear Paul,

I'm glad you've solved your problem and most of all that you have calmed down. People who get too het up about things that generally are not finally serious end up with nasty ulcers, heart trouble or someone giving them a good whacking. Keep cool, things can always get worse!

There is too often an assumption on the

part of many companies that the purchaser of equipment of any kind will be able to solve most of the problems with the minimum help, which is by no means always true. There's an item in the *NewsFile* this month which says the EC are trying to get through a regulation that puts the onus far more on the supplier. It could be up to six months that the item will be returnable. That will put the fear up some suppliers, don't you think?

Dear *AUI*,

What's all this politics about the Argentine. The chap from Buenos Aires (Sept Issue page 97) never mentioned it so why did you! This is an Amiga Computing Magazine (and a very good one). A war is a war once it's declared you make sure you win. I don't care if that ship were moored in its harbour YOU SINK THEM ALL. Like the Yanks were right to drop the BIG ONE we was right to do everything to WIN. I'm not ashamed of sinking it. Are they ashamed of the Sheffield?

And I'm no bloody Tory just in case you think I am.

I'm sorry about the outburst but I think it needed to be said anyway all the best to you all at *AUI*

Cheers,

Ken Walsh
London

Dear Ken,

Just read the next letter.
And see my reply after it.

Dear *AUI*

Thank you very much.

I'm very pleased for the response to my letter. First, from Mr. David Ward, and now from Mr. Bud Vennos. I'm sorry for the delay of my answer.

First, I'm a bit slow to write in English; second, I'm using my (little) free time in preparing the first Argentine's Web Site devoted to AMIGA. It will be available soon. I'll notify you the news.

The war IS a great pity in all its sense. I like Internet for its universal nature.

No frontiers here. And, of course, no soldiers. I don't like people like Thatcher, but I DO like the music of "The Beatles", the genius of Sir Clive Sinclair, and (You guessed it?) magazines like *AUI*.

I want to do a census of Amiga users here, but it's not easy, because only a little are "wired" now.

The majority are kids playing games. On the other side, the Amiga is in great use by TV-cable operators, mainly in small towns across the country.

I know the history of the C-64 in Argentine. But today it is impossible to repeat it with Amiga. The actual politics in the economy had destroyed the electronics industry.

I'm very affected by it. My "marriage" with electronics lasting for more than 30 years. (I'm 48) Do you like some history?

My "First encounter of the Digital Kind" was in the early 70's. Then I was trained by NCR Argentina as a service technician for the NCR 400. It was a "computer" programmable with punched paper tape. It was made with Germanium diodes and transistors, and had a magnetic disc memory of about 1k. (Yes, 1k!)

The other computer I'd loved was the Spectrum. I'd used the Timex-Sinclair 2068 for industrial applications! (No PC's in those times)

I'm very afraid for the future of the Amiga. I don't want to "archive" it like the Spectrum. I agree with Mr. Vennos. The Argentine's beef is very good. (My father was a butcher).

Hasta la vista.

AMIGA por siempre!

Marcelo Duschkin
Buenos Aires
ARGENTINA

Dear Marcelo,

You are like so many over the world who graduated to the Amiga. You found it a very special machine and have a particular affection for it that comes from regarding it as rather more than just another disposable bit of technology.

And we are all afraid now for the future of the Amiga, the last thing we want to see get is the same fate as the Spectrum.

Your father a butcher? You must have had some great "parilladas" - which I believe means those great "grillings" of delicious Argentine steak.

And now, Ken...

I agree with you, if you are fighting a war, then you hit the enemy with everything you have when they are endangering you, but you don't cause unnecessary loss of life for the sake of continuing a conflict for your own political benefit. And that precisely seems to have been the reason behind the sinking of the *Belgrano*. If you do that you are no better than the very nasty Generals who at that time controlled Argentina and

invaded the Falklands/Malvinas for their own political advantage.

Marcelo who, by chance, wrote at roughly the same time as you, seems to me the perfect answer to your "outburst" (your word!).

Doesn't he sound a very civilized Amiga user? Isn't he an Amiga user with whom we could all relate? Yet he could have been aboard the Belgrano and among the many who were drowned when it was quite unnecessarily sunk while it was steaming AWAY from the British Task Force.

And while **AUI** is a magazine that is for the general interest of Amiga users, Write to Reply is used by readers for writing in their own points of view on all sorts of subjects, and it is intended to give you and other readers the chance to read the view of us at **AUI**.

After all, we do say that **AUI** boldly goes where no other Amiga magazine etc. That's got mean something, Ken. I think one of the things it does mean is that we believe all our readers are bright enough to appreciate there is more to life than simplistic ideas, two of which are murderous nationalism and unprincipled political opportunism.

And, as an example that the totality of **AUI** readers' concerns is not just about memory expansion or hard drive partitions, here below is letter just received.

Dear **AUI**,

I thought of a little joke on the train home one evening and I thought you might want to include it in your magazine. Here goes:

Q) What's the difference between a dictatorship and the Tory Government?

A) You get job security under a dictatorship.

Yours sincerely,

P. Casson

Dear P,

Having for some years lived under a dictatorship, I would say that the job security you might get could be cleaning out the latrines in jail, but I think it was a Tory Lord Chancellor, Lord Hailsham, who called the present first past the post electoral parliamentary system "An elected dictatorship".

Dear **AUI**,

Can you put some Worms and Frontier patches on your coverdisks please?

Not the ones on the Aminet. We have these.

Thanks,

Matthew Glover and Steven Jones
Tipton
West Midlands

PS. WILL YOU PUT SOME GOOD DOPUS EXTENSIONS ON COVERDISK PLEASE AND ALSO WILL YOU PUT A NEW FRONTIER GUIDE ON (UPDATED)

PPS. Good mag and well done for

keeping the price the same. Good coverdisks too.

Print our names in a letter in the mag PPLLLLLLEEASSSSSEEEEE!!!! WE ARE LOYAL READERS

Dear Matthew Glover and Steven Jones, I'll pass your request for the patches etc. along to Imdad Shah. Watch out for the SuperDisks.

And loyal readers, we love 'em!

Matthew Glover and Steven Jones,
Tipton West Midlands.

Matthew Glover and Steven Jones,
Tipton West Midlands.

Matthew Glover and Steven Jones,
Tipton West Midlands

Matthew Glover and Steven Jones,
Tipton West Midland

How do you like your names in the magazine? Enough for you? Fame at last!

Dear **AUI**,

I am an Amiga owner and user for over 5 years. I've been buying **AUI** for time to time (imported magazines are quite expensive here in Poland). I always felt that I am "well informed" in Amiga news and products after I'd read your magazine. I've bought September issue of **AUI** and as usually started to read The **AUI** News File. More precisely "Going Somewhere?" and "Out of Phase?" are files that have shaken me completely.

I know one can think that Poles have no reasons to love Germans, but author of "Out of phase" must doesn't like them for sure! What I could learn is that phase 5 is small, unknown company and that they cannot understand they are too small, too poor and too stupid people to develop and produce their own Amiga clone! What a bullshit! phase 5 is the largest worldwide manufacturer and developer of Amiga peripherals.

Don't say anyone in England hasn't heard such famous names in Amiga world as Blizzard and CyberVision! They have also announced PowerUp project and quite real too see soon in the shops the new CyberVision 3D product.

And what does PIOS? No ideas, no releases, no products, no dates, any development. Read Haynie on the Internet. We cannot build the new chipset, because it's too complicated - says Dave. So what he wants to do? PC with an Alpha or PowerPC CPU and NT as a primary OS? What there is going to be cool and great and mysterious in such machine (we want to convince people any way, don't we?) And you hope such people like Haynie can develop the Amiga Of The Future? At least phase 5 has clear schedule for nearest and their more distant future.

Another story is if they will manage to do what they promised, but I am sure

they do what their best to survive, to grow and to not allow a nightmare of "only PC" future. That's what I had to say about.

Now something little different: When I read advertisements in **AUI** I couldn't find dealer selling advanced Amiga hardware, such as fast graphics cards, network, turbo, etc. Is there someone in UK who needs Picasso, CyberVision, Ariadne, Viper or anything else little more complicated to the typical A1200 memory expansion? Or maybe Amiga is already completely dead in UK? I hope I am not right.

PS: Sorry for my bad English

Amiga loyal user and (not quite loyal) reader of **AUI**

I hate PC, I hate Windows, I hate Microsoft.

Artur Muszynski
Poland

Dear Artur,

It's strange that this month nationalism, or accusations about it, seems to have reared it's very ugly head. See the letters from Ken Walsh and Marcelo from the Argentine. One thing I can assure you of is that no expressions of any shade of xenophobia appear in this magazine, at least unless we publish a letter from a reader that will be controverted. There is absolutely no sense in which the "Phase 5" item should be read or was intended as anti-German. Those who write in the front pages of this magazine may be unfortunately 'intelligence-challenged' - not you Sir Editor, of course! - but they wouldn't be allowed to remain for a single issue of **AUI** if they in any way expressed such vicious notions.

As for your point about the size of phase 5 or its scope in creating a "new Amiga", what the item expressed was a reasonable doubt that in this PC dominated world the huge costs and time involved in developing such a machine are likely to be far too great for any but a massive multinational electronic giant. If Samsung, who are seen in this **AUI** in a Special Report to possess such resources, were to decide to it, they might succeed, but equally even they might not with the increasing acceptance of the PC as the universal standard for the mass market.

If you want to see what I mean take a look at the situation of Apple, which had a much stronger position with its Mac than Commodore had with the Amiga and even so, are now in trouble.

You may, and many would agree with you, hate the PC, Windows, and Microsoft, but you have to face reality. They are on top and look likely to remain there.

phase 5 have produced some good products, and may continue to do so for the Amiga market that exists, but can phase 5 challenge the PC, Windows, and Microsoft? I say good luck to phase 5 but I doubt it.

CONTINUED ON PAGE 97

CAPRI CD DISTRIBUTION



ALL AVAILABLE
TITLES IN STOCK

AMIGA CD32

225+ CD TITLES/150+ CD32 TITLES/80+ CDTV TITLES

NEW RELEASES

MOVIE MAKER VOL. 1 £29.99	ZOOM RELEASE £19.99
AGA EXPERIENCE 2 £19.99	HOTTEST 6 £19.99
EMULATORS UNLIMITED £19.99	AMINET 12 £14.99
AMIGA DEVELOPERS CD £19.99	MORE WORMS VOL. 1 £14.99
AMIGA UTILITIES 2 £19.99	SCI-FI SENSATION 2 £19.99
C64 SENSATIONS 2 £19.99	SOUNDS TERRIFIC 2 £19.99
WORKBENCH ENCHANCER £9.99	3D IMAGES £9.99
AMINET SET 3 £34.99	NFA UTILITIES EXPERIENCE £14.99
AMINET 13 £14.99	EPIC ENCYCLOPEDIA £29.99

**BACK IN STOCK ★ HUTCHINSON'S
ENCYCLOPEDIA £.99 ★**

OFFER 1 ★ LOCK N LOAD £4.99 ★

OFFER 2 ★ CDPD 1 £4.99 ★

THIS IS JUST A SMALL SELECTION OF THE TITLES & SPECIAL
OFFERS WE HAVE. PLEASE WRITE OR RING FOR THE LATEST LIST
(PLEASE SPECIFY WHICH MACHINE &/OR CD DRIVE YOU HAVE)

CAPRI CD DISTRIBUTION

Dept AUI11, Capri House, 9 Dean Street, Marlow, Bucks SL7 3AA (VISITORS WELCOME)

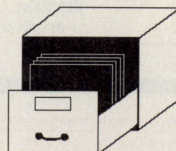
Tel/Fax: 01628 891022

TRADE ENQUIRIES WELCOME



✱ AMIGA PD – ALL models ALL versions ✱

The
KEW=II
Collection



P.O. Box 672
South Croydon
Surrey CR2 9YS
Tel: 0181 657 1617

Public Domain and ShareWare
– fully tested, documented and virus free!

THE LEADER

– OTHERS CAN ONLY FOLLOW!

The LATEST in PD and
SHAREWARE!
PLUS! Free help & advice by
post or telephone - anytime.
✱ Written Help! sheets.

**FREE
P&P**

✱ Edited & Printed docs.
✱ YOU choose the programs
WE make you YOUR disk.
✱ 1-3 FULL disks £1-50 each.
✱ 4 plus disks £1.25 each.

UNIQUE 'Pick Your Own Programs' for FULL DISK VALUE!

✱ FREE CLUB MEMBERSHIP ✱
INFORMATION PACK &
CATALOGUE DISK only £1

✱ Including the LATEST Virus Checker & FREE updates ✱

INSANITY



**QUALITY AMIGA
PUBLIC DOMAIN**

**000's of disks in
stock!!! Including
entire assassins
collection, AMOS
collection, clipart,
fonts etc & many
other games,
utilities.**

**You name it, we
can get it.**

**For full listings & a
free game send 50p
and an SAE for our
latest catalogue disk.
For more information
call (0378) 054637
after 6pm.**

99p
PER DISK

**Cheques/P Orders
Payable to A P Varley,
Insanity PD
542 Grange Rd,
Gilligham, Kent, ME7 2UH**



Bruce Smith Books

New Books for your Amiga

Bruce Smith's Total! Workbench 3

The complete guide to Workbench on Amiga A1200 and beyond. The long-awaited follow-up to the best-selling A1200 Insider Guide. All aspects of using the Workbench are covered in depth with plentiful illustrations, practical examples and tutorials. Nothing is left unexplained.

ISBN: 1-873308-55-8, 416 pages. £19.99 inclusive.

Bruce Smith's Total! AmigaDOS

Suitable for any Amiga with AmigaDOS 3x-A1200, A4000 etc. AmigaDOS is built into every Amiga and learning how to use it can greatly enhance your use of the Amiga. Every AmigaDOS command covered.

ISBN: 1-873308-56-6, 512 pages, £21.99 inclusive.

Paul Overaa's Total! Assembler

The complete and up to date guide to writing superb programs for your Amiga. Follow the step by step examples (all provided on disk) and you'll soon master Amiga assembly language programming techniques. ISBN: 1-873308-57-4, 512 pages, two disks, £24.99 inclusive.

UK Comms - Internet and More

This is the complete computer communications book with everything you need to get started and progress in one easy to use package. Written by John Kennedy and Darren Irvine. ISBN: 1-873308-40-X, 320 pages, £19.95 inclusive.

BSB - Masters of Amiga

Practical: Real examples with no detail left out and no assumptions made; step by step tutorial text with examples and illustrations at every important point; great design to make information easily accessible. **Useful:** Comprehensive reference material fully indexed and with no stone left unturned; programs, routines and utilities on disk; technical appendices, bibliographies and glossaries. **Reliable:** The best authors, regularly updated; Amiga developer status.

Bruce Smith Books publishes a complete range of books for your Amiga. Whether you run a secondhand A500 or an A4000 040 we've got a book for you.

Send or ring for a free catalogue.

24 hour credit card hotline:

01923 894355

Cheques/POs/cards to:
BSB, Freepost 242, St Albans,
Herts, AL2 3BR



Dept. AUI 99b London Road, Gloucester, GL1 3HH.

Presents....

Lottery Winner Pro III For only £5.00

80% Amiga Shopper Xmas '95.

Grime - Only £4.99

THE map editor. 94% "Star Buy" Amiga Shopper Xmas '95.

LightSpeed - Only £4.99 (2 Disks)

Sublime Software present the ultimate Tron/Tag game. 1.5MB

Smart CardZ - Only £3.99

Klondike for non-AGA machines. Dozens of converted cardsets.

All prices include p+p. We are offering up to 50% royalties!

Please make all cheques payable to SHOAH

ARENA

To have your company entry in the AUI Arena,
telephone 0171-586-7717 or fax 0171-483-1774

AMIGA

User
INTERNATIONAL



crazy p.d.

FREE!!!

2 GAMES FREE
WITH CAT DISK

PD PRICES
£1 PER DISK
BUY 5 GET
3 FREE

LATEST SOFTWARE JUST THIS MONTH!!!!

HOW TO BEAT THE FRUIT MACHINE	U1059
AIBB V6.5	U01269
KID'S DESKS	U1800
NUCLEUS	U1082
PITCH 'N' PUTT	G1083
SKIDDY THINGS 3	G1000
TORGUE	G1001
ROTATOR	G1902
MIDICRAFT	U1005
THE FINAL FRONTIER	U1000
TOTAL IRRELEVANCE	U1002
BUG	U1006
STEREOPTICON 2	U1004

ADULT TITLES

LITTLE 'UNS
BIG 'UNS
CELEBRITY SP
GLAMOUR GIRLS
ASIAN LADIES
SHOWERING
STUNNERS
ALLAGA

CRAZY PD

DEPT USER1
165 LOMOND ROAD
TOWNHEAD
COATBRIDGE
ML5 2NJ
TEL: 01236 434469

WE ALSO STOCK
LOADS OF SOUND
SAMPLES/MODS
ALSO 100s OF
PRINTER
DRIVERS
BLANK DISKS

A CHANCE TO WIN
100 PROGRAMS
PHONE FOR DETAILS
HOW TO ENTER
OPEN TIMES
24 HOURS

FUTURE PD

Dept AUI10, 64 Stapleford Road, Luton, Beds LU2 8AY
Order line: 01582 36157 - no credit card needed

FREE FREE FREE FREE FREE FREE

- Voucher for **7 FREE PD DISKS** sent with 3 disk catalogue
- Catdisks **FREE** with any order or send 3 x 1st class stamps
- **FREE P&P** 1st class & **FREE GIFTS** on cd's & licenseware:
Mouse mat (worth £2.50) 4 TDK disks (worth £2.50)
90 disk labels (worth £2.50) £1 off each cd

SHOAH LICENSEWARE

- TDK disks (no extra cost)
- Order two titles and pick a free gift from above
- Smart Cardz** - klondike for non AGA machines - £3.99
- Grime** - The 94% Best Buy game map editor - £4.99
- Lottery Winner Pro 3** 80% Amiga Shopper - £5.00

PD DISKS 16,000 titles

1 to 9 30+ 10 to 29
45p **30p** 35p
per disk

TDK disks add 10p

Aminet Pick & Mix Archives
- from **15p** each!

GUARANTEED

- Only quality DSDD disks, no unreliable, damaging HD disks
- Next day despatch by 1st class post (75p P&P) or get a refund
- No quibble replacements

LATEST CD'S - only £17.50

= Pick one free gift per cd

AGA Experience 1 or 2

Zoom 2 Utilities v2
Hottest 5 or 6 Epic Collection
17 bit 5 LSD 1, 2 or 3
And many more - see catdisk

10 DISK PACKS - only £2.40 FREE P&P

Big Name Games PD Mix 1 or 2 AGA dreams (demos & games)
Platform Games Mixed Fonts Assins Games Packs
Kids Pack Education Arcade Games
Klondike Card Sets, chose your own theme - add 50p...
... + another 150 in catalogue, please specify your workbench.

Cheques payable to M Wood please

KOBRAHSDOFT QUALITY PD

Don't get bitten by buying cheap, poor quality PD. We sell the best. If we haven't got what you want, please tell us and we will get it. We have over 5000 titles available, so we should have something to interest YOU! We pride ourselves on our speed of delivery - we try and send out every order on the same day it is received - no waiting for DAYS. We accept payment by cheque, PO and Access and Visa. To give you an idea of what we stock:

UTILITIES

MIDPLAY - plays music modules
MOST V1.56 - Text Viewer
INPUT LOCK V1.1 - Security Lock
CHARACTER GENERATOR
DMS V2.03 - Data cruncher
MIDSPOLLER V1.2 - DIR Utility
CD PLAYER V1.1 - Plays your CD's
A BACK UP V4.03 - Back up utility
ADAM V3.0 - Calculator
VIRUS CHECKER - Detects viruses
CALENDAR - Super Calendar
POWERCALC V1.5 - Draws graphs
TURN V4.0 - Latest Comms program
POWERPLAYER V4.0 - Music Util
RECALL V2.3 - Diary program
SCHEDULER V1.2 - Organiser

GAMES

MISSILES OVER XERION
NIBBY 2
MUTANT PENGUIN
MULTI TETRIS
TIME RUNNERS 17
RUNNEMINE 6
MORTON STRIKES BACK
SPIDERMAN 2
DEADLOCK 8
SPACEBALLS
DONKEY KONG
FLIGHT OF THE INTRUDER
MEGABALL
STEWARDS ENQUIRY
GALAGA 92
DEFENDER

We have hundreds more games and utilities and also: DATABASES, GRAPHICS, ANIMATIONS, SLIDES, MUSIC AND SOUND DEMOS, EDUCATIONAL PROGRAMS, FONTS, CLIPART, BUSINESS PROGS.

We also stock a wide range of Spectrum and Sam Utilities.

Prices: Disks £1 each, or send for free CAT disk or order to:

KOBRAHSDOFT, Pleasant View, Hulme Lane, Hulme, Longton, Stoke-on-Trent. ST3 5BH
or phone 0178 230 5244. We also take Access and Visa P+P UK Free Others £1.50

PenDragon PD

50 Binbrook Way, Willows Estate,
Grimsby, S. Humberside DN37 9AS
Tel: (01472) 886386

We stock Fred Fish, Assassins, 17Bit, Scope, TBAG, NZ, Arug, Demos, Games, Fonts, Music, ClipArt, Slide Shows, Animations, Game Cheats and more.

Accessories: Blank Disks, Flip Top, Mouse mats and Mouse houses. All at reasonable prices.

Send 2x 1st class stamps to receive a catalogue disk.

Public Domain 1-10 disks £1.00 each
prices are 11-20 disks £0.95 each
21-50 disks £0.85 each
Over 50 disks £0.80 each
Over 100 disks £0.70 each

Plus 75 pence
Postage &
Packing on PD
disks per order

AMIGA BOOKS FROM DTBS

Mastering Amiga Beginners (WB 1/2) ...	£9.95	1.3)	£9.95
Mastering Amiga Beginners (WB3)	£19.95	Amiga ROM Kernal: Includes (2nd Ed. - WB 1.3)	£14.95
Mastering AmigaDOS 2 Vol 2 (Reference) ...	£19.95	Amiga Hardware Ref. Manual (3rd Ed. WB 2) .	£34.95
Mastering Amiga Printers	£19.95*	Amiga ROM Kernal: Includes (3rd Ed.)	£34.95
Mastering Amiga System	£29.95*	Amiga ROM Kernal: Libraries (3rd Ed.)	£34.95
Mastering Amiga AMOS	£19.95	Amiga ROM Kernal: Devices (3rd Ed.)	£25.95
Mastering AmigaDOS 3 Tutor	£21.95*	Amiga Real-Time 3D Graphics	£14.95
Mastering AmigaDOS 3 Reference	£21.95	Computers & Chaos Amiga Edition	£14.95
Mastering AmigaDOS Scripts	£19.95	Amiga Game Makers Manual	£16.95
Mastering Amiga Programming Secrets	£21.95*	Amiga BASIC: A Dabhand Guide	£15.95
Amiga A1200 Beginners pack	£39.95	Secrets of Frontier Elite	£9.95
Amiga A1200 Workbench Pack	£39.95	Total! Amiga Workbench 3	£19.99
Amiga Gamers Guide Vol 1	£14.95	Total! Amiga AmigaDOS	£21.99
Amiga A600 Insider Guide	£14.95	Total! Amiga Assembler	£24.99
Amiga A1200 Insider Guide	£14.95	Total! Amiga Workbench	£19.99
A1200 Next Steps	£14.95	Total! Amiga DOS	£21.99
Amiga Disks & Drives	£14.95*	Total! Amiga Assembler	£24.99
Amiga Workbench A to Z	£14.95*		
Amiga Assembler Insider Guide	£14.95*		
Amiga Hardware Ref. Manual (2nd Ed. - WB			

FREE postage in U.K. Europe airmail & Worldwide surface mail add £1 per item. Airmail outside Europe add 25%
Access & Visa orders accepted. Tel/Fax 01706 812 800
Send SAE for descriptive catalogue.

We also support the Commodore-64 - send for list and stock a vast range of PC books.

DTBS (Dept AU05) 7 Castle Lane, Todmorden, Lancs OL14 8AF
Tel/Fax: 01706 812800

To have your company entry in the AUI Arena,
telephone 0171-586-7717 or fax 0171-483-1774

**£1.10
per
disk**

CLASSIC AMIGA PD SOFTWARE

**Buy 10
get 3
FREE**

ANIMATIONS		UTILITIES			
AN39	Charlie Cat 13 4 disks	•	UT190	MWB Backdrops x HD	•
AN38	Roswell Incident	•	UT189	PicBoot 95 HD	•
AN37	Star Trek NG	•	UT188	WB3 Backdrops 4 - Swimsuits	•
AN30	Flintstones 'xxx'	•	UT173	Superdark 2 Blankers HD	•
AN35	Friday the 13th 3 Disks	•	UT167	Apex Sideshow Maker	•

BUSINESS				MISC			
BU94	The PD Office	+	•	M2	Magic Workbench	+	•
BU92	Final Word	+	•	M3	Jokes Disk	+	•
BU89	Everyday Organiser (HD)	•		M6	Landscape Gardener	+	•
BU86	CA Business 1	+	•	M8	Fotofit 96	+	•
BU74	Text Engine V5.D2	+	•	M22	Last Will & Testament		5+
BU72	Typing Demon	+	•	M23	CV/Resume Writer	+	•
BU66	Pelican Press DTP (3 disks)	+	•	M31	Award Maker Plus	+	•
BU13	Little Office	5+	•	M72	Morse Code	+	•
BU04	Visicalc Spreadsheet	5+	•	M75	Grannys Cookbook 2		+

DEMO/MUSIC			UTILS		
DE182	Mods 29 5/+		UT159	Printer Drivers	5+•
DE182	Class Samples	5+•	UT158	MUI V3.3 HD	•
DE174	Hypnosis Demo	•	UT156	Tetra Copy	5+•
DE165	Crazy Sox Demo	•	UT153	Term 4.6 2 Disks	•
DE164	Dream with Me	+•			
DE125	Sonic Drum Kit 2	+•			
DE126	Hippo Player	+•			

EDUCATIONAL			CD-ROMS		
ED102	The Good Sleep Guide	+	UT149	New Icons V2 HD	
ED104	Dinosaur Trivia	+	UT148	Directory Opus 2	+
ED101	Basic Electronics 2 Disks	5+	UT139	Virus W/Shop 5.9	+
ED98	Barney Meets Santa 2 Disks	+	UT135	Virus 2 V 1-30	+
ED97	The Travel Guide 2 Disks	+	UT113	RD Prep HD	+
ED93	MS Astrology	+	UT106	WB2 HD Installer	+
ED80	WB2 Tutorial	+	UT107	WB3 HD Installer	•
ED53	Physician 5+		UT79	MWB Nature Backdrops	+
ED49	Amiga Beginner	5+			
ED02	Language Tutor	5+	Aminet 12	£13.99	
ED01	Highway Code	5+	Desktop Video	£12.99	
			Grolier Encyclopedia		£24.99

GAMES					
G369	Monty Carlo	••		Hot 6 0	£14.25
G368	Lance A Lot	•		AGA Experience 2	£19.25
G366	Champions of Dawn RPG		••	Utis 2 (2 CD Set)	£19.25
G365	Vendetta 3RG	••		Matic WB Enhancer	£9.99
G364	Hillclimb	••		Nothing but Gips AGA	£19.25
G363	Cobical Worlds Puzzler		•	Pro Fonts & ClipArt	£8.95
G360	Slider 2 Puzzler	••		Word Atlas	£29.25
G359	UFO Fight 2p	••		Magic Illusions	£4.99
G350	Bacman	•		Adult Sensations	£17.50
G351	Alien Hunter	•		Sexy Sensations	£14.99
G339	Madonna Nude Puzzles		5+•	(CD Roms add 75p per CD for postage)	
G338	Duck Blast	••		SS54	XXX Calendar 96 2 disks •
G332	Friday Night Pool	••		SS52	Sex Queens 96 2 disks •
G322	Commando Raid	••		SS50	Hot Tarts 96 3 disks •
G325	Hollywood Trivia	••		SS51	Barb Wire (Pam Anderson) •
G319	Castle of Dreams	5+•		SS45	Wet N Wicked •
G315	Platman	••		SS44	Hot N Sexy •
G302	Croak 2	••		SS06	Pawnbroker ••
G298	Traindriver Sim	•			
G288	Depthcharge	••			
G260	S. Monopoly	••			
G231	Overlander	••			
G166	Danger Mouse	5+•			
G121	Pro Bingo 1 Meg	5+•			
G118	Snail Racing	••			
G115	Dungeon Pinball	••			
K100	Klondike AGA 3 disks		•		

NAUGHTY SLIDESHOWS	
	</

ALL DISKS

£1.00 each. ORDER 10
GET 3 FREE.
P/P 75p.

Free Catalogue Disk with 1st
order.

5 = A500 + = A600 • = A1200

A1200 PACKS

Wordworth AGA•Print Manager•
De Luxe Print 4 AGA•Diggers•Oscar
ONLY £11.95 + 75p POSTAGE

NEW

HOW TO BEAT THE FRUIT MACHINE

All the trade secrets revealed.
Beat the fruit machine at its
own game!

A 600/1200

WIN-WIN-WIN

HORNESOF P.D

Est 1990

Dept (AUI), 23 Stanwell Close, Wincobank, Sheffield S9 1P2
Tel/Fax: (0114) 296 7825 Mon - Sat 9.30am-7pm

PD DISK PRICES

1 to 5 disks 65p
6 to 9 disks 60p
10+ 50p
Or send your own and pay
just 30p each

We stock over 16500+ PD
disks, over 150 licenceware
titles. You will be spoilt for
choice. Now added adult/
glamour disks, over 100
titles available. PD prices
(10) for £5.00 + Postage.
For our catalogue send
2x1st class stamps or get
one free with first order or
Email us at:

CHORNE.@DCANDY.DEMON.CO.UK

New Adult/Glamour
section now on our
catalogue disk

We also stock: Shoah Licenceware & Horizon Software titles



CREDIT CARD HOTLINE: 0114 2967825

Arrow Pd

For two disk catalogue send three 1st
class stamps or a cheque for 75p. Choose
either **FREE GAME** or CD catalogue.
Please state Workbench version.

PD TITLES (99p per disk)

7569: Gox-Fruit machine game (1) Any
8002: Rescue Elvis RPG (1) WB2+
7642: Monsters of Terror (1) AGA
7649: Wheelbarrow Sim (1) AGA
7610: Gemz (1) Any
7651: SuperUtils 8 (1) WB2+
7655: EasyPrint (1) AGA
7556: Belle's Paint (1) Any
7431: VirusZ (1) WB2+
7435: UK Demo Creator (1) Any

COLLECTIBLE CARD GAMES

Magic: The Gathering
Gift Box £14.99
Everything for two people to start playing
Ice Age Starter Deck £6.75
Ice Age Boosters £2.20
Alliances Boosters £1.90
Star Wars Ltd Ed Starter £5.99
Stars Wars Ltd Ed Boosters £2.25
Coming Soon! X-Files CCG
For details and complete list see, our Cat
disk.

PROGRAMMERS WANTED

We have started up a
licenceware scheme under
the name of
**Arrow-Dynamic
Software**
and we are looking for high
quality software. So, if you
are interested in earning an
excellent royalty then please
get in touch and ask for our
FREE Programmers
Information Pack. You have
nothing to lose but you could
have a lot to gain.

COMPETITION TIME

To celebrate the launch of our new
licenceware scheme, we are running a
competition for all you programmers out
there. We are offering prizes for the best
three submissions. In addition, the winner
will have their program released as an
'Arrow-Dynamic Software' title. Get in
touch today and ask for a free entry pack.
What are you waiting for? Get
programming!
(Closing date 31.03.97)

P&P 70p on any sized order.

Cheques made payable to
Arrow Pd.

ARROW PD, P.O. BOX 7,
DOVER, KENT. CT15 4AP
24 Hour Ordering Hotline: 01304
832344
e-mail: pj@arrowpd.demon.co.uk

**SAME
DAY
DESPATCH**

11 DEANS GATE
RADCLIFFE
MANCHESTER M26 9YJ
0161 723 1638

**SHOP OPEN
12-9PM 7
DAYS**

ARENA

To have your company entry in the AUI Arena,
telephone 0171-586-7717 or fax 0171-483-1774

AMIGA

User
INTERNATIONAL

TopLess Girls. Aga Only
S 72. Aga Big Bust Girls #1
S 73 Aga Big Bust Girls #2
S 74 Aga Big Bust Girls #3
S 75 Aga Big Bust Girls #4
S 76 Aga Big Bust Girls #5
S 77 Aga Big Bust Girls #6
S 78 Aga Big Bust Girls #7
S 79 Aga Big Bust Girls #8
S 80 Aga Big Bust Girls #9
S 81 Aga Big Bust Girls #10
S 82 Aga Asian Girls Disk #1
S 83 Aga Asian Girls Disk #2
S 95 Aga Babes Bottoms #1
S 96 Aga Babes Bottoms #2
S 97 Aga Babes Bottoms #3

S 98 Aga Small Bust Girls #1
S 99 Aga Small Bust Girls #2
S 100 Aga Small Bust Girls #3
S 101 Aga Small Bust Girls #4
S 102 Aga Small Bust Girls #5
S 103 Aga Small Bust Girls #6
S 104 Aga Oriental Babes #1
S 105 Aga Wet Babes #1
S 106 Aga Wet Babes #2
S 107 Aga Sultry Babes #1
S 108 Aga Sultry Babes #2
S 109 Aga Sultry Babes #3
S 110 Aga Sultry Babes #4
S 111 Aga Sultry Babes #5
S 112 Aga Sultry Babes #6
S 113 Aga Sultry Babes #7

All topless slideshow disks are **over 18**
a signed statement must be attached to
order for these disks stating 18 & over
ORDERS WILL NOT BE SENT OTHERWISE

Disk Prices
1 to 11 Disks £1.00p each
12 to 19 Disks .75p each
20 Plus 50p each
Min Order £5

Payment to G.V.B-PD
Catalogue Disk. 3. 1st Stamps
A1200 or A4000 to view these disks

Send all orders to:
G.V Broad Ent
Dept AUI Nov
43 Badger Close
Maidenhead.
Berkshire SL6 2TE
tele 01628 36020 6pm-7pm eves
01628 773149 10am-10.30 morns
PLEASE DON'T CALL AT
OTHER TIMES

PENGUIN PUBLIC DOMAIN

Art-Animation-Music - Playable Demos-Fonts -
Games Compilations - Clipart-Assassins -
Miscellaneous-Games - Demos-Music Utilities -
Education-Funpack 1-36 - Scope 1-220-Fred
Fish 1-1000 - T-Bag 1-77
Slideshow - Utilities-Ham Radio - Business-
Jam 1-10

50P EACH

POST AND PACKING FREE

RING OR SEND FOR A FREE CATALOGUE
0589 722502

AMIGA

PO BOX 179, READING,
BERKSHIRE RG30 3DD, ENGLAND



PD POWER

We stock over 10,000 disks

PD from only 25p

For **FREE** catalogue disk+
FREE game + **FREE** copier and more

Please SAE to PD POWER (DEPT AUI)

15 LOVETOT AVENUE
ASTON, SHEFFIELD S31 0BQ

CHROMA

DATAchrome

LOADS JPEGS GIFS PCX BMP TIFF & MORE
DIRECTLY INTO IFF-ONLY PACKAGES
DPAINT/FINAL COPY & WRITER/SCALA ETC
REQUIRES WB 3.0 & ABOVE - £29.99 (DEMO AVAILABLE)

NEW - DATAchrome GOLD

GIVE YOUR IFF-ONLY APPLICATIONS
DATATYPE SUPPORT - GRAPHICS AND SOUND FILES
LOAD & SAVE 24-BIT JPEGS FROM DPAINT !
DIRECTLY LOAD WAV & VOC SOUNDS
DIRECT CRUNCHED FILE LOADING & ARCHIVE FACILITIES
REQUIRES WB 3.0 & ABOVE - £49.99

WHAT ELSE DO WE SELL?

GENLOCKS (LOLA / RENDALE / AMITEK / G2)

LOLA L2000 - £349 L1500 - £175
WITH FREE VIDEO SOFTWARE ON REQUEST

A1200 RAM BOARDS & SIMMS

MAGNUM A1200 ACCELERATORS
VIDI AMIGA 24 RT DIGITISERS
POWER COMPUTING PRODUCTS
COMPLETE AMIGA SYSTEMS (PACKAGE DISCOUNTS)

SYSTEM SETUP SERVICE/NEW USER SETUP - ASK

CHROMA

01328 862693

153 HOLT ROAD, FAKENHAM, NORFOLK NR21 8JF

Weddings

ORIGINAL CLIP ART

NEW from
artworks



- ❖ Over 100 original, full colour, fully
scaleable 'vector' wedding images.
- ❖ In Adobe Type 88 EPS format for
Final Writer, Wordworth (not 3.1SE)
and Pagestream etc.
- ❖ Or in ProDraw format for ProPage,
Pagesetter, ProDraw etc.
- ❖ Also available for PCs.
- ❖ Only £19.95

Please make cheques/PO's payable to ARTWORKS
3 Pond Side, Wootton, Ulceby, Lincs. DN39 6SF
Telephone: 01469 588138



Email: artworksuk@aol.com

ONLY AVAILABLE FROM ARTWORKS. NOT PUBLIC DOMAIN

DELTRAX PD

Send 2x25p stamps for full catalogue to:
36 Bodelwyddan Ave,
Old Colwyn, Colwyn Bay, Clwyd LL29 9NP



FREE PD SOFTWARE

AMIGA – PC – All Computers

Call (0181) 651 5436 or

Write to 45 Brookcroft, Linton Glade, Croydon CR0 9NA

www.icpug.org.uk

Independent Computer Products Users Group

THE AMIGA USER CLUB

- ★ FREE PD!
- ★ Membership Discounts!
- ★ FREE MONTHLY Newsletter!
- ★ Special Offers!

Send SAE for details or telephone

EXAMPLE PRICES

Brilliance V2 £61.99
Lightwave 3D £432.99
Citizen ABC Printer
..... £144.00
Premier Manager 3
..... £18.00
Sharp TV Monitor
..... £162.00

PLUS MANY MORE!

We also supply Amiga Software/
Hardware to non members –
telephone for details

The Amiga User Club

22 Heol Marlais
Llandybïe
Ammanford
Dyfed SA18 3UY
Tel: 01269 851413

SOFTWARE CITY

REPAIRS

FOR ALL AMIGAS
ANY MODEL

Ring for quote

Tel: 01332 363675

ASGARD SOFTWARE

THE BIG 100

YES! 100 Games
on 7 Disks only
£6 post free

Arcade/Puzzles/
Cards etc

ASGARD SOFTWARE
20 LANGDALE DRIVE
FLANSHAW, WAKEFIELD
TEL: 0924 363059 (24HRS)

Convert your Amstrad COLOUR MONITOR £10

	DIY	MADE
464/6128 (CTM 644/0) Picture only	£6	£10
464/6128 (CTM 644/0) inc Stereo Speakers	£31	£40
464/6128 PLUS (CM14) inc sound	£9	£15
464/6128 Green (GT-65) Pic Only	£6	£10
Dept AU Hagars Electronics 127 High Street, Sheerness, Kent ME12 1UB		
Tel: (01795) 663336		
Money Back approval P&P inc		
CQ/P.O./ACCESS/VISA/SWITCH		
Delivery 2 days		

SNAPPY PD All disks 50p

For catalogue send first
class stamp
80 Ottawa Road, Tilbury,
Essex RM18 7RH
(also 5D Licenceware)

ZEN

COMPUTER SERVICES

Sales and Support
for the pro-video
user. After 20yrs in
the TV industry and
7 yrs with AMIGAs,
we can build, install,
upgrade, and do
most things with
computer graphics
and video systems.

“where computers
and  video
come together”

Talk to us about
Lightwave3D PAR,
24Bit Cards, Monitors,
TVPaint, Wacom
Tablets, SCSI Disks,
DAT, CDROM, RAM,
Scanners, Genlocks,
Fonts, Subtitling,
Prompting, Custom
Programming,
(even Windows/NT/
PCs!)

Tel/Fax 0161 793 1931
Compuserve 100046
36752 Silver Birch Grove, Swinton,
MANCHESTER, M27 5FZ

ARENA

To have your company entry in the AUI Arena,
telephone 0171-586-7717 or fax 0171-483-1774

AMIGA

User

INTERNATIONAL

The Platform Game Construction Kit 2

This is the software package you have been waiting for.

With PGCK2 you will be able to create amazing games with total ease.

From designing the game map, editing sprites, creating motion patterns for the baddies, placing collectable items everything is totally controlled by the mouse and requires absolutely no programming knowledge.

Once you have created your masterpiece you can create boot disks to be sold or put into the public domain. Three such games disks are included in the price.

Also provided is a utility to convert your game map into a poster, you can even add your own music and customise title screens and game over messages.

PGCK2 is backed up with comprehensive documentation.

Works on all Amigas with 1MB memory or above.

Fully Featured Commercial Product

The PD Utilities Collection

The PD Utilities collection is a 20 disk set containing the best of Amiga Public Domain. Each disk is over 95% full and the programs are neatly arranged in their respective folders for easy transfer to a hard drive. This set requires Workbench 2 or above.

To order simply tick the box/s which apply and send this advert together with a cheque payable to D Smith to...

Flat 11, 4 Rosslyn Road, Longton, Staffordshire, ST3 4JD

The Platform Game Construction Kit

£19.95 ☐

The PD Utilities Collection £14.95 ☐

S&S AMIGA PD

PD from 70p

S & S Computer Supplies

Tel 01695 625063

Or send SAE to
9, Windsor Road,
Up Holland, Lincs
for FREE Index.

We stock
Assassins, Fred
Fish, LSD, ClipArt,
Modules,
BackDrops, Fonts,
Games, Business
Software & Utilities
Plus Hard Drives,
Fuji Blank Disks,
Mats & Disk Boxes
at low prices!

**FREE p&p &
FREE local
delivery!**

COMPUTER SUPPLIES

COURSES IN DTV

at

EAST SURREY COLLEGE

Short courses and one year
long courses in Desktop Video
using Amiga computers

Validated by City and Guilds

Take a course to:

- ★ Use Deluxe Paint IV and Broadcast Titler (AGA) to create videographic artwork and animations
- ★ Digitise images from video
- ★ Learn industry procedures for editing down to video using 3-machine edit suites
- ★ Find out about the hardware used

CONTACT

MEDIA, ARTS AND COMPUTING

East Surrey College

Redhill, Surrey RH1 2JX

Tel: 01737 772611

EMAIL: denis@mediv.demon.co.uk



ADVERTISERS INDEX

Analogic	2	Darren Smith .	91-96	.....	91-96	Pixel Digital	91-96
Arrow PD	91-96	Deltrax	91-96	HI-Q	55	Premier Vision	99
Artworks	91-96	DTBS	91-96	Hornsoft PD ..	91-96	Quantum Leap	13
Asgard Software	91-96	Epic	6/7	Hydra Systems ...	63	Saddletramps PD	63
.....	91-96	Eyeteck	13	ICPUG	91-96	Samsung	100
Blittersoft	11	First Computers ..	19	Insanity	91-96	Shoah PD	91-96
Bruce Smith Books .	91-96	Future PD	91-96	Kew II Collection	91-96	Software City	91-96
.....	91-96	Gasteiner	21	.....	91-96	.....	91-96
Capri CD	91-96	GC Electronics	63	Kobrahsoft	91-96	Underground PD	85
Care Products	55	Golden Image	23	Megatronix	17	.....	85
Chroma	91-96	GTI	51	On-line PD	85	V12 PD	87
Classic PD	91-96	GVB PD	91-96	PD Power	91-96	Wizard Development	3
Crazy PD	91-96	Hagars Electronics ..		Pen Dragon	91-96	.....

Write to reply

CONTINUED FROM PAGE 90

And if phase 5 comes out with a PC-beater that makes the terrible trio back down and brings the Amiga up to the front of world computing, I'm willing to dance a polka or if you prefer it, a Chopin waltz, outside the Polish embassy in London.

David Ward replies to the next letter.

Dear AUI,

In respect of your article entitled "EZ v. Zip" in the September issue of your otherwise very good magazine, I felt that I must point out to your readers some inaccuracies in the article and explain to your readers why I bought a Zip drive despite your recommendation to do otherwise.

Firstly I feel that Syquest have very little faith in their EZ135. One look at their Web page will show you that they are pushing their EZflyer230 very hard. EZ135's are being sold for 100 dollars in the USA. According to various rumours on the Net and quite believably this is lower than the actual cost of making the EZ135, this indicates one of two possibilities. That Syquest is prepared to make a loss on the drives in order to gain more market share and possibly try to recoup the loss by making a profit selling the disks. Syquest could also have dropped the EZ135 in favour of EZflyer230, which is selling for little more than the EZ135 did when it first came out.

DW: When that article was written the price drop to £89 + VAT was announced as we went to press, so the conclusion was altered to match. Only later it was discovered that the EZ135 was being discontinued.

The article states that "The ZIP drive arrives with a 'free' SCSI card for the benefit of PC owners". This implies that Amiga owners are paying for an interface that they will never use. This is incorrect. Only the internal ZIP drive comes with a PC SCSI interface. The external ZIP drive, which most Amiga users will opt for does not include this unnecessary interface.

DW: It was made quite clear that we were testing the internal version (which came direct from lomega). The 'free' SCSI card is just that... not free. You must have paid for it somewhere in the price, and because the internal version does not require a casing or PSU, and is the same price as the external Zip, then that is where the money comes from.

Why would "most Amiga users" opt for the external drive? Sensible ones will

have already bought a cheap mini-tower for their CD-ROM drive and an internal Zip or EZ can then be added without all those of extra power supplies being necessary.

The article gives conflicting information about the position of the ZIP drive in the SCSI chain. It initially says that there is a jumper to choose between an ID of 5 or 6. Later on in the article it states that the ID was originally at No.4. I think that you should clarify for your readers that there is a switch (not a jumper) at the back of the ZIP drive for choosing between an ID of 5 or 6.

DW: Yes, there is a slight confusion. My text does not state that the Zip was set to ID4, rather it was hoped to be inserted into the chain at position 4 - there is a difference. There is no switch on the internal version. It is a jumper that only allows you a choice of ID5 or ID6.

Again, the article states that the Compaq/3M LS120 drive holds 21Mb. The LS120 in fact holds 120Mb. The main disadvantage of the LS120 being that it has an average access time of 70ms and a data transfer rate of 400-665KB/s, which is not quick enough to behave like a hard drive, unlike the ZIP drive which is faster than my old hard drive.

DW: We apologize for the error. The original floptical that the LS120 was based on was 21Mb, but as you say the new disk can hold 120Mb. Our mistake.

The "rumoured" rival to the lomega JAZ drive has in fact been out for some time now. It is called the Syquest SYJET1.3Gb and it seems to be a good match for the JAZ drive which is faster but has a smaller capacity.

DW: The SyJet has not been "available for some time". In a call to SyQuest this week they stated that the launch of the SyJet has again been delayed - this time till October. If it were available then it would be in the shops.

For me, what tipped the balance in favour of the ZIP drive is that ZIP drives have sold over 1 million units. This has had the knock on affect that ZIP disks are available in most high street shops. In contrast the future for the EZ135 disks does not look as good. Also, whilst surfing the Net, I have seen some reports of dodgy EZ135's.

DW: I only recommended the EZ for speed, capacity, and new low price. SyQuest will continue making the disks for many years to come, and the EZ230 is backwardly compatible.

We use an EZ here because our printing company does too. We have had no problems so far, even though the disks are regularly sent to and fro through the mail in jiffy bags. (Since this reply was written the office Zip drive has suffered a 'hardware malfunction').

Finally your article neglected the "ZIP tools", available from HiSoft or free with

a ZIP drive from them. These allow control over the more advanced features of the ZIP drive like password read/write protection and temporary write enabling. The ZIP drive also has a built in auto-correction mechanism, for correcting read/write errors on the disks.

DW: The article was designed to show that you can attach both the EZ and Zip 'out of the box' with no hassles. HiSoft's Zip Tools were neither supplied nor offered and are unnecessary if you are using the Zip as a mega-floppy. All types of drive use error correction algorithms.

I appreciate your magazine for giving me an opportunity to correct what in my opinion was a flawed and biased article.

DW: If you've used an EZ then you would be biased in its favour. I was given the Zip by lomega on 'long term loan', but that in no way influenced my conclusion... the EZ is a better device. However, better devices do not always survive, witness Beta v. VHS, or Amiga/Atari/Acorn/Mac v. PC.

Yours Sincerely

Richard Davies.

'Nuff said.

Dear AUI,

I have just read Steve Bowie's review of the LightSpeed videos in AUI, October, 1996. Unfortunately his glowing review is seriously misleading to your readers and I would advise them to think twice before taking out a subscription.

I took out a 12-issue subscription to the LightSpeed videos in January this year. At the time the videos were intended to be issued monthly. The videos consist primarily of tutorials sent to LightSpeed by LightWave users. In April I was informed by LightSpeed that insufficient material was being submitted to them to allow for monthly issues. They said that subsequent issues would appear every two months.

In fact no issue of the LightSpeed video has shipped since January this year. I think your readers should be aware of this before they decide to subscribe to videos which may never be produced! I have cancelled my own subscription and am awaiting a full refund.

Regards,

Frank Hand
Dublin

Greetings!

Further to my mail this a.m. re my experience with LightSpeed videos - I have just come across the following in the LightWave Mailing List. It appears the LightSpeed videos are to be discontinued.

Regards,
Frank Hand

Extract from the LightWave Mailing List
The Lightspeed Video Magazine was an

idea that had not been done before in the Lightwave community. We started with the best of intentions. The idea of Lightspeed was to have the Lightwave community come together and support each other.

Since most Lightwave users have some kind of video gear, we assumed a lot of users would help out by putting together tutorials and then send them in. We could weed through the good and bad and put out a monthly video. By doing this, we could pass on the savings to customers by charging \$12 or less for a video under a subscription. This way everybody could enjoy new video tutorials. Granted, the video quality might not be the best when most tutorials are being sent in on 2nd or 3rd generation S-VHS copies, but that wasn't the point. The whole idea was to get tutorials out to LW users at super reasonable rates (practically cost).

Unfortunately, we have received almost no tutorials since starting this. This has made it nearly impossible to maintain a regular release schedule, let alone a monthly one. If the truth be known, we haven't received any tutorials from anybody except a select few since the last issue was released.

Currently we almost have enough to put out two more issues (#6 and #7). David Warner will be kind enough to do one more tutorial for issue #7 to fill that one up. After issue #7, the Lightspeed Video magazine will be discontinued.

This decision was made just a couple days ago, and a formal notice will go out to all subscribers.

For those of you who have subscriptions or have recently subscribed, you will have the option of taking your unearned issues and getting a refund or preferably having it credited towards some of our other products (including any back issues of the video magazine you might have missed) that Lightspeed has. We will not be taking any more subscriptions at this point.

Issue #6 is being duplicated and should be shipping in about 10 days. Issue #7 will be shipping sometime in November.

It has been fun doing Lightspeed and we were glad to be a part of a new idea, unfortunately the market was not big enough to support this particular idea at this time (if you ever did a tutorial for Lightspeed, you know how hard and time consuming it is, especially compared to doing a text tutorial for a print magazine (which pays the same amount). I want to especially thank the few tutorialists (most of them contributed more than once) that helped get things rolling.

Again, I apologize for the inconvenience this may cause some of you, but we are not running or hiding. We are offering full reimbursement to all. We can only hope that future endeavours pan out more smoothly. Please do not call our order lines about your subscription unless you plan on

cancelling prior to issue #7. A form will be mailed out with issue #7 that will detail the amount you have owed to you along with the option to have it credited towards other products (including all our new ones) or have it credited back to you.

Best Regards,
Manuel Coats
LIGHTSPEED

Dear Frank,

There doesn't seem much more to say about it, doesn't there? Except that we seem to be in for a fair amount of stick this month!

Steve Bowie, though as any journalist, can only work with the facts as he finds them. When he was writing he was obviously under the impression that the Lightspeed situation was as he described it. That it wasn't has emerged both through your letter, for which we thank you, and for the very upfront explanation given by Manuel Coats of Lightspeed, which will have to go down as one of those "It seemed like a good idea at the time" stories.

And Finally...

This next was not a letter sent in by one of our usual readers but was passed on to me by the Editor and I think that it is worth printing. It comes from what is probably a very heavy law firm in London.

Dear Sir,
Biro Bic Limited

We act for Biro Bic Limited who are the owners of the trademark "biro" in the United Kingdom and sixty other countries. Our clients' attention has been drawn to the AUI Test Drive feature (sic) in your issue of October 1996 in which on page 33 under the heading "Letraset" the word biro is used as a general term for a ballpen. Our clients have been advised that they must be alert to draw attention to any possible infringement or misuse of the word "Biro" and to request correction where appropriate, in order to preserve the value of their Mark.

Accordingly, we draw your attention to the matter on behalf of our clients and should be grateful if you would point out to your staff that "Biro" is a Trade Mark and trade name and, in connection with ballpens, should not be used except for pens sold by our clients under that Mark. When so used, it should normally be spelt with an initial capital.

So there you know, don't you, all Amiga users? Biro, with a capital initial and don't use it to describe "ballpens" - which I always thought were ballpoint pens - or is that someone else's Trademark?

And finally, finally...

I don't get many presents from grateful readers - or ungrateful readers either, but I have just received one and a letter addressed to me personally.

Dear Bud,

You're a sarcastic begger, aren't you? I refer to you reply to my letter in the July 96 issue. Yes, it's J. English again. To put an end to your wondering (and longing???), my given name is James but only my mother addresses me thus, everyone accedes to my wishes and calls me Jim. As indeed you are welcome to.

Anyway as a token of my esteem, please have the enclosed mouse mat (only 91 to go now!). As you see it is a reproduction of the "The Nettles" by Damien Thirst!

Dear James - Oh sorry, Jim,

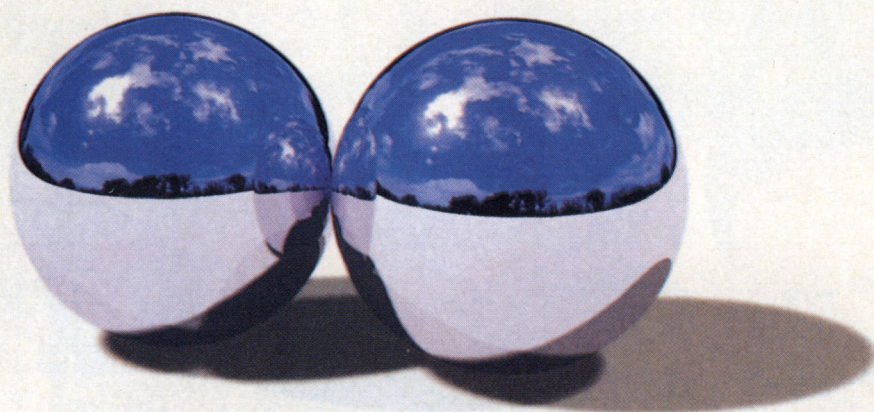
Thanks for admitting me to your intimate circle, I'll go to sleep tonight whispering "Jim, Jim" to the Amiga by my side. And I'll put my head not on the pillow but on the mouse mat and I swear I will hear the sea roaring in it as if it were a seashell. I would reproduce it here but I feel the Commodore design on it must be so valuable that all over the world there would be fakes appearing and we can't risk that if you still have 91 originals to get rid of, can we?

If any other generous AUI reader wants to send another artistic pressie I could do with a genuine Van Gogh, say a large one with sunflowers in it. I need it to cover up a stain on the wall from which I have taken down the picture of a girl who thought I was in love with her. (I just couldn't stand her whispering in my ear "Big boys don't cwy. Big boys don't cwy" especially when what she was doing was so painful.)

Anyway, thank you, Jimmy boy, a Commodore mouse mat is what I've always wanted. Do you by any chance have an Escom one you could send me too?

**Send your letters to:
Write to Reply
Amiga User International
Unit 2, Utopia Village
7 Chalcot Road,
London NW1 8LX**

**If you wish to send Email
letter to Write to Reply or
Amiga Answers,
AUI can be contacted on CIX as
amigauser@cix.compulink.
co.uk
(Please include your full address.)**



WE'VE GOT WHAT IT TAKES.

At New Tek everyone told us not to do it. Take a 3D program powerful enough to produce the visual effects for seaQuest, Babylon 5, Hercules and SPACE: Above and Beyond, and sell it for only **£995** plus VAT. Why? Because it's what we believe in. New Tek makes powerful, easy-to-use tools for everyone – not just the Hollywood elite (but we like them really a lot). No matter who you are . . . beginning animator, graphic artist looking for new

tools, corporate producer wanting better business presentations . . . you name it. LightWave is the program you can afford today that will be there for you tomorrow. No matter how good you get . . . it's got what it takes! For more information call:

amg

0171 468 3444

Windows 95, Windows NT, SGI*, DEC Alpha, MIPS, AMIGA



MODEL



ANIMATE



RENDER



LIGHTWAVE 3D™

amg, 105 Ladbroke Grove, London W11 1PG
Tel: 0171 468 3444 Fax: 0171 468 3488



we also won best supporting role

And the winner is... you.

With 13 major awards (including, of course, best picture), we're fast becoming a screen legend.

But there's a lot more to our market-leading monitors than meets the eye. Because behind the screens, our technical crew is on-call to

give you on-site support for a full three years.

And let's not forget the rest of the supporting cast. Our notebook PCs, CD-ROMs and hard disk drives possess the same star quality.

Samsung. Now showing at a dealer near you. Call 0800 521652.

SAMSUNG