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Amiga Format

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Colour PowerScan

The Power Computing colour hand-held

scanner for the Amiga is now available. This scanner offers the following features

- 4096 colours ■ 50-400 DPI
- 4 Scanning modes - Text
- · Grevscale · Colour halftone - Colour

The Amiga interface plugs into an A1500/A2000/A3000/A4000 expansion slot with a separate version which connects to the expansion connector of the A500/A500+. The A500 version has a through-port which is compatible with all Amiga 500 expansion peripherals.

The software supplied with this scanner is the new PowerScan Professional 3, which also supports the greyscale scanner and will be available as an upgrade to existing users of PowerScan for £15.

Colour PowerScan v3.0 features

· Real-time 'True-feel' scan option in colour halftone mode Images are stored internally as 12-bit graphics, not HAM. This means that no

quality is lost due to the Amiga only being able to display HAM images in 4096 colours

Images are displayed as HAM nictures . HAM images may be loaded from disk and edited using PowerScan 3 Image size that can be handled is limited

- only by the amount of memory available . Memory does not have to be chin memory as in many art packages
- Images can be saved in various file formats · View whole image function
 - Scale/rotate/skew image or clipboard by any amount · Crop image
 - · Clean up, lighten or darken image Variable zoom mode . Draw freehand, lines, circles, boxes and
 - polygons in various fill patterns, brush sizes, paste modes, or with the clip board image · Clipboards may be scanned directly, or
 - any shape can be cut from the main image
 - The software is compatible with all Amigas Supports Workbench 2 and ECS screen

modes

Colour PowerScan now available

New v3.0 Scan software

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Any owner's first steps in the world of the Amiga can be a wierd and won-The feeling of satisfaction at having completed a game of superb audioone priory typing and

printing your first letter with a wordnessee or adding the finishing touches to that DPaint masterpiece all are unique to what is the most flexible and powerful home computer in the world.

To reflect the experiences of new owners and beginners who might never have contemplated life after games, Amigo Computing attempts every year to place an emphasis on as wide a variety of subjects as possible and to approach these subjects in a down-to-earth way, thus welcoming new owners and new readers to our

This year, we've gone a little further than usual. Your magazine this month includes not only a guide to placing

those first few footsteps on the road to productivity, but also makes an effort to de-mystify the virus hoodoo explain the new AGA chips, which many of you will find inside your A1200 markines, and we have an in-death look at sound samplers, one of the most popular serious uses of the Amina over the past few years.

UK readers will also find our exclusive 80-page book, Mastering the Amigo, designed to help you over the first few stumbling blocks, and we have the usual array of quality reviews, games coverage, and shopping guides in our features. Gamer, and Amiga Market sections respec-

Our second disk containing the superb HiSoft Basic. allied to a major beginners' programming series beginning next month, should see many of our readers nuickly become competent and comfortable users of some of the most advanced technology available on the high street.

All this simply goes to prove that there's only one complete Amiga magazine in Britain, and you're reading it - Amiga Computinal

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WHO'S WHO

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REGULARS

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USA News The latest news from the Amiga's birthplace, including the rush to support the A1200

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FSP

The only Amiga letters page where sacred cows can be found tottering on their last legs.

ACAS

Advice dispensed, contacts made, and problems solved in the pages where troubles simply evaporate. 86

Zool packs from Silica just waiting to be won on page 93. On page 115 is the second part of our superb A3000 and OpalVision spectacular from Calculus

Public Sector

Shareware and PD utilities, games and demos 110 go under the spotlight.

A gentle introduction to the Amiga's myriad useful skills for beginners and experts alike

Video Master Home Music Kit

Canon BJ200 MultiFace

Nine pages of applications for the Amiga



Try our classified ads for those tempting bargains, Shop Window for the latest software and hardware, or turn on the Software Spotlight for expert guidance on the best around. There's also our unique Product Locator to help you find that elusive bargain in no time at all

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ARexx

COMMUNICATIONS

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SPECIALS

CDTV roundup

All the best and most exciting CDTV software gathered together and reviewed.

S-Express

Two top S-VHS genlocks, Hama and G-Lock, battle for video mastery

AGA close-up The new Amiga chip set examined microscopically in a warts-and-all report.

Grabbing with ease The latest Amiga video digitiser, Vidi 12,

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shows off its talents





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examined in a search for the best sounds

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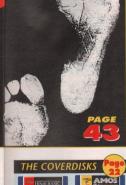
Effortless FX GVP's graphics engine given a full MOT at the hands of our multi-coloured mechanic... 72

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Nasty bugs The ultimate viral threat tamed with a bit of expert help.

WorkStation 2 Indispensable, and fully explained - the Amiga Computing killer disk.

Protext guide Part two of our guide to Protext v4.3, last month's fantastic freebie yet





powerful, beginner-friendly

programming language!

D-San, an essential musical extension to Amos! Total value: £601

This month we bring you one of the Amiga's most powerful and easy to use programming languages, HiSoft Basic, which we'll be supporting from next month in an extended beginners' programming quide.

There's also an invaluable extension for musical Amos users and the usual collection of superb shareware games and utilities, including Mouse Impossible, a Lemmings-style strategy game, and CAG for those who'd love to produce their own graphic adventures.



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ADI MATHS For 11 to 15 year olds



ADI JUNIOR COUNTING For 4 to 7 year olds.

Pound crisis to force Amiga prices up £30

AS EXCLUSIVELY forecast in last month's Amiga Computing, unfavourable currency exchange rates have now forced Commodore to plan a £30 price hike for all Amiga packs.

The move is due to come into effect on January 1, and will take the entrylevel A600 back above £300 and the new A1200 to over £400.

Like most multi-national firms. Commodore calculate their British prices based on the pound to dollar exchange rate, making allowances for slight

But since September the pound's value has sunk over 20 per cent from around \$1.98 to below \$1.55, although Amina prices are due to be increased by less then ten per cent

The firm had tried to maintain their price policy by cutting retail margins. but like many other computer manufacturers now say rises are now "inevitable". Commodore's Andrew Ball

by John Butters

said: "Our margins have been adversely affected since September. It's more than likely that our prices will go up." And now only an unexpected sterling

recovery can stop the A600 rising to £329, the Wild Weird & Wicked nack to £379. and the A600 Epic pack and standalone 41200 to £529

The A1200, however, still remains in a perfect position to combat any possible threat from rival manufacturer Atari, when

The 1Mb machine was due to be released in Britain during September with a £499 price tag, but as we went to press had still not appeared with dealers. prices to their previous levels if the pound

How the pound fell Sterling v US S 1.85 exchange rate 1.80 11/9 18/9 25/9 2/10 9/10 16/10 23/10 30/10 6/11 13/11 20/11 DATE

Information based on National Westminster \$ buy rates

Expansion trio on the way

ne expansion are "seriously expensive".

The third expansion from GVP will give the A1200 a SCSI interface, a slot for a maths co-processor and up to BMb of extra memory.

Supplied with 4Mb of 32-bit fast

"Once again GVP have come to the aid of Amiga users, pushing the boundaries of Amiga technology ever forward," said a spokesman for UK distributor Silica System

"For the first time home users can have a 32-bit true colour home com-puter with workstation performance at a price everybody can afford." Silica Systems can be telephoned on



upgrade, giving owners a Motorola floati Fitting onto the A1200's internal expansi

connector, the board is claimed to speed floating point operations by up to 55 tim that of the standard machine.

Those who will see most benefit from I board are users of memory and maths-inte sive applications such as animation, ray-tr ing, morphing, scientific calculation a image processing. It is made by Texas-based MicroBotics (0

1 214 437 5330), but is available in Brit from First Computer Centre (0532 319444). Sterling prices were unavailable at the til of going to press, although in the States I board sells for \$189 without memory.







Epilepsy warnings played down

BRITISH doctors have played down warnings from two leading games console manufacturers and scares in national newspapers that light patterns used in video games could trigger epileptic fits. Instructions supplied with Sega's Sonic 2

say that the video game may induce an enilentic seizure, and advises players to discontinue use if they feel certain conditions. Sena say they issued the warnings to protect themselves against possible legal action.

although the firm were unaware of cases of enilentic fits being caused by games given after one or two isolated incidents, a

spokesman said

A1200

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But experts stress that games cannot cause epilensy in people not affected by the condition, although they admit that light flashes in games played on some television

sets could trigger fits. Sue Cooper, spokeswomen for the British Enilensy Association, said that there are up to 350,000 British epilepsy sufferers but

fewer than 10,000 are sensitive to flashing "It's such a small proportion of sufferers that we don't consider it a problem," said Sue. She advised parents not to be put off buying video games for their children.

Children learn with graphics

CHILDREN between two and 12 years old are targeted for Childsplay, a new educational wordprocessor which can also be used for creating puzzles and graphical ideas.

AA upgrades development

554828), colourful graphics can be mixed with text, and a dual-layered display enables letters to be overlaid onto a graphical

Text is entered into the wordprocessor through the keyboard and various facilities are available for inserting and deleting indi-

Whole texts or single letters and words can then be recited using three voices con-

tained in a computer speech facility Other features include the ability to alter or supplement the program's graphics, and

a scrolling list of words that can be selected to allow progressive introduction to new vocabulary And the wordprocessor doubles up as a

ligsaw puzzle. Full pictures can be used as a backdrop, over which kids may be taught to assemble jumbled set of blocks.

"Childsplay has an excellent flexibility of design which allows a parent or teacher to constantly recreate the program to keep pace with the learning process of the child." said a Helios spokesperson.

"It's immediately enjoyable, and even the smallest children can play with it creatively without any instruction. The program really excels, however, as a means for parents or teacher to provide children with progressive creative activities and puzzles." Available now, Childsplay costs £24.95.

Extra choice for CD-ROM

A RANGE of CDTV-compatible CD-ROM drives has just been launched for most Amigas by Almathera Systems (081-638

Amiga hits the airwaves

THE world's first weekly radio show dedicated exclusively to Amiga enthusiasts is now Available to 33 million homes with normal satellite receivers, Mouse Trap is a 30 minute programme of news, reviews and opinion on all things related to the Amica.

It is the brainchild of television and radio broadcaster Chris Denning - who himsell owns two Amigas - and will feature erstwhile Amiga Computing technical editor left

tion of ISDN, the state-of-the-art service which allows video to be sent down telephone

It is planned to run for at least two months, and providing the audience builds to a respectable level it will continue indefinitely.

Chris says one of Mouse Trap's main strengths will be its ability to launch Amiga prod How to receive

"We've had availability of air-time for quite a while," says Chris, "At the moment it's used mainly for music, but better on Sky."

"Mouse Trap feels more like a bulletin board than a radio show, and we envisage phone-ins with experts once Transmitted at 9.30am, it is

repeated at 5.30pm and Wednesday morning at 1.30am.

the AS90 and owners of A1500s. A2000s

Three CDs are included in the pack,

among them Almathera's CDPD public

and A3000s can also use the drives.

Mouse Trap

Tune your satellite receiver into Astro Transponder 20 (Sky Sports) · Consult your satellite receiver's manual for

instructions on how to change gudlo channels Tune in to audio channel 7.56MHz If your satellite receiver is connected to your

audio amplifier, turn your television set of and your amn on.

they are claimed to operate twice as fast as one to 660 the CDTV and be more than 90 per cent Prices are £395 for an internal kit and compatible with CD-based Amiga software. They enable AS00 users to use compact discs without unplugging hard disks like

domain collection featuring Fred Fish disks £495 for an external model. Supplied with a SCSI card, the drives cost an extra £100.

Hard drives to go inside INTERNAL hard disk drives with between

20 and 120Mb of storage capacity are now available for the A600 and A1200 from Bradford-based Trilogic (0274 691115).

A connecting cable is supplied and the disks fit straight into the Amiga's hard drive slot. Each is formatted ready to use and can be re-partitioned if required

Trilogic claim the drives have a "very fast" access time and are quiet in use. Prices start at £119,99 for the 20Mb model, and range up to £349.99 for 120145

Adorage adds video effects

GERMAN video effects software Adorage is now available to British Amiga users from Micro-Pace (0753 551888).

The package enables users to create many digital-like video effects for IFF graphics, as developed with paint packages such as Deluxe Paint IV.

It has more than 700 effects based on transitions, wipes and visual graphics, and features the Super Smooth Animation format, cutting jitter when complex animations are played back. Standard effects include mosaic, splinter, shatter, windmill

6418). Based on Toshiba SCSI CD drives,

Shareware form eases registration SUBSCRIBERS to CompuServe, the giant on-line information service, can now register for

By completing an on-line form, users can register for programs and have the charge billed to their account. CompuServe then forwards the fee - minus a small charge - to the In addition to convenience, the service eliminates currency exchange problems found

by shareware users who live in a different country than the author. By typing a keyword such as Utilities or Games, users can view a list of programs by category, enabling them to easily find programs that suit their needs. "Shareware authors who make their programs available in CompuServe forums will be

"Several hundred programs have already been submitted to the database, which is updated on a continuing basis." CompuServe can be telephoned on 0800 289378.



News flashes

 ROMs can now be bought for Apple Macintosh emulators from Design by based firm sells Mar Plus 128k chips for £140 and all Mac II and LC ROMs for

• THE first in a chain of Future Zone computer games stores was opened in High Wycombe, Buckinghamshire a nationwide network of 130 shops. Farnborough and Aberdeen will see the next stores and in each town where

Euture Zone onens there will be a mas- SKY ONE are set to become the latest station to broadcast a games show, with a programme called The Game Zone due to be shown every weekday from

sive publicity drive.

The show will be produced by Hewland International, the same firm that makes Channel 4's existing Gamesmaster. Each show will have its

- LEEDS-based computer dealer First First Computer Centre (0532 319444). The move follows the introduction of a larger product range and service.
- · MOTOROLA are to extend their 68000 series of microprocessors with the release of a 68060 chip by the end of 1993. It is claimed that the processor will
- CREMINS struck November's review of the Order v2 database. SouthHams Software's telephone number should be 0752 880906 and we apologise to our readers for the mistake.
- THE A3000 and Opal Vision competition published in last month's Amigo Computing was sponsored by Calculus previously mentioned. The second part of the competition appears this month.
- CARRYING cases now available for A600s have enough space for peripherals and disks to be packed with the
- The grey holdalls are padded and feature Velcro fasteners, shoulder straps and rubber feet. Price: £14.95 from Silica

Systems (081-309 1111).

and page-peel, and the distributor recommends the program is run on machines with 2Mb of memory.

Supplied with English documentation, Adorage costs £79.99.

Book gives Amos tips

IDFAS, tips and inside information on how to get the best results from Amos are contained in a new book just published by Kuma Computers (0734

Amos In Action also contains details and opinions on the add-on packages available for the top Amiga programming language, and advice on getting your games published.

The book was written by programmer Len Tucker and is supplied with a coupon to enable readers to obtain a free games disk, Price: £12.95 (ISBN

Growing with AmigaDOS

EXTRA pages have been added to Mastering AmigaDOS Volume One, Bruce Smith Books' (0923 894355) guide to the Amiga's operating system New chapters include Commodities. and Fountain and Pipes, and other

revisions bring the book up to date with the latest versions of AmigaDOS. Written by Bruce Smith and Mark Smiddy, the 416-page book keeps its

£21.95 price tag. Its ISBN number is 1.873308.10.8

Epson improve their scanning H8 MARKETING (0753 686000) have been appointed as a distributor for Epson's GT6500

colour A4 flatbed scanner - the successor to the GT6000. Using driver software from ASDG, images can be scanned into any Amiga for incorpo-

It has a colour output resolution of up to 1,200 dots per inch, and can also handle line.

art, and 256 greyscale images for mono work and computer-aided design. The £938 scanner also has an optional sheet feeder for bulk optical character recognition work and can use an

adaptor for scanning transparencies and reflec-

Said Epson's Tony Petford: "We encourage customers to question the have a quality colour scanner with comparable mono capabilities at a similar price "

Meanwhile, ASDG (010 1 608 273 6585) have Enson scanner driver now supports two extra colour machines - the ES600C and FS800C



for video card

SOFTWARE supplied with leading multipurpose video card IV24 is soon to be upgraded, and an extra two programs will be included with the package. New utilities will include a dedicated

frame grabber called Mylad, and Digital Darkroom, an effects package for producing wipes, fades and transitions Paint program Macro Paint, meanwhile,

is promised several new features, and will run much faster Silica Systems (081-309 1111) have not

finalised upgrade details, but they will appear in our Updates pages once they are released

Watch and learn

A VIDEO just launched by Manchester based Crystal Concepts (0942 523387) aims to teach newcomers to modern com munications how to get started. The one-

Naked mice roam the City

THE latest craze in the City's for through mice, claims manufacture Spectravideo (081-902 2211).

The company says that televisi desks, and now they have added ar

riga model to their Datalux range. is claimed to have a high degree o ensitivity, accuracy and smi rice: £22.99





Cheaper drives for CDTV

CALCULUS Computer Stores (0543 251275) are offering CDTV owners Datapac 65Mb

access indicators . At the back there are two SCSI sockets - one of them for daisy chain-

The drive is supplied with an Encore SCSI controller and installation disk, a SCSI con-

ing up to seven SCSI devices - a device number selector and power on/off switch

nector cable for linking Datapac to the CDTV and Workbench 1.3 disks.

external hard disk drives at a special launch price of £349.99. Housed in a black impact resistant box, the front panel has power on and hard drive

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Joystick comes from outer space

CHEETAH (0222 8967777) have unwelled Argostick, the latest member of their FuturiStick range of Amiga joysticks.

It has been designed so that it resembles machinery you would expect to see marring the far-away land of some forbid-

den planet light years into the future. However, it retains all usual joystick features, including automatic fire and several Fire buttons.

"The shane and texture has been carefully sculptured to provide ultimate comfort and control for the most serious games

players," said a Cheetah spokesperson. "Cheetah's attention to detail is highly respected in the market place, but even the company's biggest fans will enthuse

over the Arnostick." Two versions of the joystick are available, one costing £12.99 and a microswitch model with a £14.99 price tag.

hour video shows beginners how to set up

software, how to download files from bul-

letin boards, and how to get the best from

It also says which archivers will get the

These include NComm2, SID, PKAzip

and LHArc, already set up and ready to

run. A three-month free subscription is

also available with one of Britain's leading

bulletin boards Crystal Concept boss Mr.

downloaded files up and running, and

contains 150 bulletin board telephone

the boards once they have logged on.

numbers and four software titles

Supplies (071-586 3429).

Blundell said: "We believe that with this package it is now possible for someone

with absolutely no experience whatever to get into comms. "They will be saved the bassle and frustration most beginners experience when

logging on to boards." Price: £28.95.

Zone help opens A LEADING distributor of Amiga music

equipment have now opened up their technical support lines for all musicians. Non-Zone Distribution (071-738 5444) customers will be asked to pay a small registration fee, but they will then be offered unbiased technical and buying

Technical help found online

TECHNICAL advice is now offered free to Silica Systems (081-309 1111) customers through a bulletin board just set up by the

Mailboxes are available for many types of popular computer including the Amiga, and technical support staff monitor the board frequently during the day.

In addition to finding answers to technical problems, the system can also be used for downloading latest software upgrades such as printer drivers and public domain programs

It operates 24 hours a day, and the dealer are currently looking at ways of setting up an online ordering service.

"We are continuously looking for ways to improve our support and service to our customers," said Silica spokesman Andv

"We have offered telephone and fax support for some time and this new bulletin board extends the service further." To access the Silica bulletin board at up to 2,400 baud, modern users should dial 081-309 5255. The protocols are 8 N 1

DO YOU KNOW SOMETHING WE DON'T?

Although Amiga Computing has scores of contacts in the Amiga 878888 or fax to 0625 879966. All information supplied will be

DIARY DATES

19 to 21 February 1993 7th International Computer Show Organiser: Westminster Exhibitions (081-549 3444)

Venue: Wembley, London An Amiga Computing-sponsored all formats event.

25 to 28 March 1993 Ideal Flectmair Games Show

Organiser: Ideal Home Exhibition (061-432 2642) Venue: Earls Court, London A new section added to the Ideal Home Exhibition

> 4 to 6 April 1993 European Computer Trade Show Organiser: Blenheim (081-742 2828) Venue: Business Design Centre.

London New software and hardware is previewed to the industry. No public admission.

23 to 25 April 1993 Midi Music Show Organiser: Westminster Exhibitions (081-549 3444) Venue: Wembley Exhibition Centre

Catch up with the latest Midi products. 16 to 20 September 1993.

Organiser: News International (071-782 6000) Venue: Olympia, London A public consumer electronics show. Commodore plan to attend.

OVERSEAS

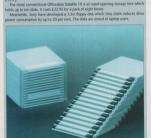
7 to 10 lanuary 1993 Consumer Electronics Show Organiser: (010 1 202 4578700) Venue: Las Vegas, USA Support from Commodore and leading games houses

24 to 31 March 1993

CeBit Organiser: Deutsche Messe (010 49 511890)

Venue: Hanover, Germany A massive electronics show which has been used for the launch of many new products including the A600.

 If your company is organising a show relevant to the Amiga and it's not listed, let us know so we can include the information in the diary



Cubes fill with disks

TWO new low-cost 3.5in disk storage systems are now available from Action Computer

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a cube to staircase design, allowing disks to be selected easily. A pack of six cubes costs

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PLEASE SEND A BROCHURE ON THE CITIZEN RANGE

MrMrs/Mss/Ms: Initials: ...

orth American Amigans lusting after Commodore's new A1200 could flirt with the machine but not take it home, at the World of Commodore-Amiga show held in Toronto. Ontario on December 4 to 6, 1992

The Amiga 1200 was on display in a number of dealer's booths, but wasn't yet available for sale. Commodore was promising machines for the US before Christmas, but couldn't commit to a 1992 release in Canada.

Interestingly, it seems that Canadian A1200s will have the UK-style keyboard with the small Return key and two blank keys, while the US machines will have keyboard with full-sized Left Shift and Return keys and no blanks. It's unusual for the two countries to end up with different configurations

The crowd was a bit smaller and more subdued compared than in past years which is unusual given Commodore's new releases and the increased attendance at US shows this year. The exhibitors were enthusiastic though and were happily showing off their wares.

Hot stuff There weren't many completely new

products, as most manufacturers had at least previewed their new programs at the World of Commodore show in Pasadena earlier this year, but there was some hot stuff on display One of the big hits of the show was

Digital Creations' Brilliance, the 24-bit paint program. Brilliance supports all AGA screen modes and stores data in 24-bits internally. This means you can load in a 24-bit

picture and touch it up, even on a classic ECS Amiga, and not lose any colour infor-



mation or detail. The company had just got the HAM8 version of the program up and running for the show, so it looked like they were going to miss their December ship date.

It should be available soon after you read this, though, if it's not already.

Gold Disk was showing the new Professional Page 4.0, which was almost complete. Along with 256-colour screen support on AGA Amigas, this update also adds a font previewer, visual letter-pair kerning, a free paint program (the creators of DPaint and Brilliance need not feel threatened), a page-sorter, and a number of new Genies (special ProPage ARexx macros)

ProPage has got a bit better at talking to the outside world, with new text import

modules and a much Denny Atkin reports wider range of graphics import filters including on the latest GIF. TIF. PCX. BMP. Adobe Illustrator, Aldus developments from Freehand, and of course the USA IFF and Professional

Draw. The price is still \$295 and the ungrade fee to v4.0 is \$75

INOVAtronics demonstrated Directory Opus v4.0. a vastly improved version of their popular directory utility. It had better be improved, as the retail price has jumped up to \$99, with a \$40 upgrade fee from previous versions (more than some people paid for their original version!) Along with a new, cleaner interface,

Directory Opus v4.0 now supports AGA screen modes (for both running the program and displaying pictures); Noisetracker, SoundTracker, Protracker, MED (with Mirlil) Oktahrzer 85VX and RAW sound files: and Anim and AnimBrush playback in AGA modes.

The program is now an AppWindow when run under AmigaDOS 2 or greater you can, for instance, load a disk into Opus Window simply by grabbing the disk icon and dragging it onto the Opus window.

This is a pricey upgrade, but with ever feature imaginable crammed into it, it certainly looks to be worth the money

Worth the wait

Soft-Logik is finally shipping Art Expression, their structured drawing program that supports EPS, ProDraw, and DR2D formats. Over three years in the making, the program is well worth the wait, and promises to bring new flexibility to Amiga graphic artists

The company also showed their new TypeSmith program, an outline font edito that supports PostScript Type 1. Soft-Logik DMF, and Compugraphic Intellifonts.

No longer are you limited to using one font with one program and having to go out and buy the same font in a different format for use with another - TypeSmith will easily convert between all the formats it supports

It will even let you load in Amiga bitman fonts or IEE pictures and trace over them! A full set of drawing tools and automatic kerning features will delight the desktop typographer.

Look for some great PD and shareware fonts after TypeSmith hits the market in lanuary at a suggested retail price of \$199.95.

Rumours

Commodore's Lew Eggebrecht spilled the beans on new chipset developments whetting Amiga users' appetites for future 24-bit machines (see my Pasadena show report for more details).

Even more interesting, though, were rumoured products that were supposedly discussed in more private settings by Commodore representatives. There was talk of the already-known SCSI-II controlle for the A4000 and the AT&T DSP module. which are apparently set to ship in the first guarter of 1993, but even more interesting were rumours of both a 68030 and less expensive 68EC030 model of the Amig 4000 that would appear early next year along with the A4000 tower. These machines could be just the thing

for folks who want more power than the A1200 can provide but who can't foot the hill for an A4000/040

Other interesting rumours included a PCMCIA 386SX emulator for the A600 and A1200 developed by a third-party in cooperation with CBM, full-motion video software for the Amiga operating system, and future support of the Kodak Photo CD

Vista gets more colourful sunsets

me with a beta version to preview for this column, and it looks hot (check out the accompanying screenshots).

Vistafro 3.0 will now render pictures in 256-colour or HAMB modes on the Amiga 1200 and 4000. Support has also

matically improved – you can now place pine, oak, and palm trees, as well as cacti, in your landscape. The program will also generate grass in a number of different textures.



Amiga, though).

Even with the new features, the program still retails for \$99.95. If fractal landscapes are your thing, check this out.



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"Wow! Look at what my Amiga is doing! Scott Andreoe, Portsmouth, New Hampshire "Works Perfectly. A Super Product." Leni Goldberg, San Pedro, California
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Hisoft Basic

n the vast Amiga world out there are quiet a few versions of Basic, but none quiet as easy to use and powerful as HiSoft Basic. One of the main advantages of Basic is its easy to understand commands which makes programming much more simple.

Unfortunately, though, most Basics are extremely slow. This is due to the fact that the computer has to turn each command in Basic into something which it understands before it can move to the next command in the program.

This process slows it down a consider able amount, so to get a Basic program to work at a more reasonable speed it has to be turned into something which the computer can understand more easily, which in turn will speed up the Amiga's running of initially Basic programs.

Compiling

The process of converting basic programs into something which the computer understands is called compiling HiSoft Basic has two main programs -HiSoft Basic, which is the integrated editor and compiler, and HB.Compiler, which is the compiler itself (required by the editor).

When you want to start programming you only need to load the HiSoft Basic program and not the HB.compiler. This is because when you program with HiSoft it always compiles the program for you and then runs it. This makes HiSoft one of the fastest Basic programming packages

To use HiSoft Basic you have to reset your Amiga and place the CoverDisk which contains HiSoft in the disk drive - it





HISoft uses the same easy-to-use layout as Workbench will auto-boot. Once loaded, click on the

HiSoft Basic Editor icon, which is main part of the program Once loaded you are presented with the main editing area which at the

moment is blank. If you now hold down your right mouse button you will see several menus appear at the top of the screen

One of the main advantages of HiSoft is its compatibility with other Basic packages. This means that you can load, say, an Amiga Basic program into HiSoft and compile and run it. This also means you can

essential

export HiSoft programs into most other Basic packages.

HiSoft is compatible with all Amigas with Kickstart 1.2 or higher. Obviously the more memory you have the easier programming will be - it is also handy to have an extra disk drive but this is not

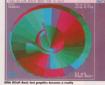
There are four pull-down menus alto gether which are Project, Search, Options and Program. HiSoft acts rather like a wordprocessor enabling you to edit your programs with ease.

Fast

We will now load one of the demos on the CoverDisk to see how easy it is and how fast HiSoft really is. First of all pulldown the Project menu and select the Load option. You will then be presented with the file requester. Click on the demos drawer and then double click on the triangles, bas file

You will now have a program called tri-





angles has on-screen. This program when me will draw coloured triangles to make patterns. If you now pull down the Program menu and select Run. HiSoft will compile "triangles" and then run it. To along it last press the Esc button and you will be returned to the listing.

You will notice how fast this program runs. If you were to load the same program into Amiga Basic it would run con-

When you load certain programs you may get an error telling you that the text buffer is not large enough for the pro-

gram you are trying to load. This does not mean you have run out of memory. but that the standard preset of 10,000 bytes is not large enough You can set the text buffer by pulling down the Options menu and selecting

Prefs. You can then type in the amount you wish to reserve for the buffer Buffer

If you already have a program in memory and have nin out of text buffer space, you must save your program before trying to increase the buffer, as changing the text buffer size will clear the memory and you will lose your program. You must leave at

this

t other

Amigas usly the er proandy to s is not r like a fit your is and all pullect the esented on the lick on least 100k for the system to operate in. As mentioned earlier. HiSoft's main advantage is its ability to compile Basic programs to make them run much faster. If you have a Basic program loaded and you wish to compile it, you can do this in two ways. To compile something, go to the Program menu and select Compile. You will then be asked if you want to

compile to disk or memory. If you select Compile To Memory, it will compile the program and allow you to run it. This is the quickest way to compile something, and it is also ideal for trying things out and debugging programs.

When you select Compile To Disk. HiSoft Basic will compile the program and save it to disk. If you have not previously NONAME. The compiled version will have the extension bas

When you have compiled a program to disk it becomes a standalone program which you can then run by double clicking on its icon from Workbench, but the program will need the hisofthasic library

file to run. Whenever you're doing any type of work with your computer it is a good practice to save out regularly, but more so when doing programming as the computer tends to crash more often if you haven't de-bugged your program properly. Regular saving of your work will save you a lot of typing!

If you are writing a new program which when run puts up a error message. HiSoft will ask you if you wish to continue running the program. Until you are familiar with HiSoft Basic you should reply with N. then go to the line which HiSoft tells you the problem is in and rectify it.

To get the most out of HiSoft Basic you should take advantage of our reader manual offer in this issue. With the manual you also get a version of HiSoft Basic specifically designed for 1Mb Amigas enabling you to use some more advanced features.

ParCheese

Author: Xavier Egusquiea

This game is a cross between Frustration and Ludo. The main idea is to get all of your markers safely around the board to your home base

You can play with up to three other players or against the computer. Before you start you have to pull down the Players menu and select which colour you wish to be, then select who you want to play. If you select the computer you must also select which level you wish to play the computer on and what colour the computer is. The computer can play for several opponents. Once you have selected who's



Oh no - he's nicking my cheese

Mouse Impossible

Author: Steve Holt

Mouse Impossible is a Lemmings-style game where the main object is to stop the mouse from stealing your cheese. This may sound a simple task but it's definitely not. There are a total of 30 levels for you to try to complete and with each level the task becomes harder and harder. Once Mouse Impossible is loaded, saving your cheese is

A mouse will try to float down to your cheese and steal it using a bunch of balloons. Once he has the cheese, a cannon starts to fire across the screen and you have to put various obstacles in the cannon's way to deflect the shots towards the mouse, making

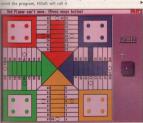
When the mouse begins his descent you must place obstacles in the path of the cannon. You can only place the obstacles while the mouse is descending, so it's best

You place the obstacles, which are on the right edge of the screen, by clicking on them with your left mouse button then putting them where you think they should be, finally clicking the left mouse button again.

While you are holding the obstacle you can click the right mouse button to turn it around - this makes the obstacle deflect the cannon's shots differently

When you complete each level you are given an end-of-level code, so when you play the game again you don't have to do the levels which you've already done

This game requires some skill in judging where to put the obstacles and the best bet is to study the level hard first, and try turning some of the obstacles over to see





illed trilimio Amiga style



playing and what colours they're using, it's time to start the game, so pull down the project menu and select Start.

The computer will then ask the player who is to go first - click the mouse button to roll the dice. You can't start to move your players until you roll a six. When you've managed to roll a six you

can then select which one of your men is about to start his trip home, then you roll the dice again to see how far your man is to move.

If you roll a six you can move six places then roll again, but if you get a six three times or more then one of your men must go back to the beginning and start again.

If your opponent lands on one of your men then that man must return back to the beginning and wait until another six is thrown before starting again. The aim is to be the first to get all his men home.

D-Sam **Author: AZ Software**

D-Sam is an extension for Amos, giving you an extra 46 sound-related commands Before you can use these extra commands you have to install them into Amos, which is a very simple procedure – just follow these instructions:

- Conv the file "D.Sam lib" to your Amos system directory
- Run the Config. 1.3. Amos program from Amos
- Load the default configuration Set loaded extension number 15 to ":Amos System/D-Sam.lib"
- Select Save configuration menu
- The D-Sam, lib is in the Utilities/D-Sam drawer. Once you have followed these simple steps you will have the 46 new commands built in to Amos. The new commands are all

designed to make it easier for you to create programs using music and samples With the extra D-Sam commands fitted into your copy of Amos you can play back samples and music directly from floppy or hard disk, which enables you to save memory, or you can load the samples into memory first then play them back.

SMP OPEN <samplenum>,<"filename"> (samplenum is valid between 0 and Opens IFF or RAW samples for playback

direct from disk file. SMP LOAD <samplenum>,<"filename"> (samplenum is valid between 0 and

Loads IFF or RAW samples from an AmigaDOS file to memory. The file must

exist, ie be lockable, and capable of mands D-Sam has to offer

supporting a seek() call. SMP PLAY <samplenum>, <channels> (channel is valid between 1 and 15) This plays a sample (num) on the channels

specified SMP CLOSE examplenums (samplenum is valid between 0 and

SMP RESET Stops all channels playing, frees all channels and closes all opened

Once you have learned these commands, you would be well advised to take advantage of our-special manual offer and start learning and using the more powerful com-

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CAG

Author: Marco AG Pinto

CAG is a utility for making your own adventure games. This may sound complicated but it's actually quiet easy, assuming you've sat and planned your adventure out first - this stops you getting in a muddle later on.

Included in the CAC drawer is full documentation on how to use CAG. There are also some demos for you to look at. If you get stuck just take a peek at the examples. Note that although there is a menu for sound, this is not supported as yet.

MidiPlayer Author: Paul Overaa

MidiPlayer is a CLI command used for playing standard Midi files out to your Midi instruments without the need to load

a Midi sequencer. It can be used in your startup sequence to play your favourite compositions every time you reboot your marhine To use MidiPlayer just type in:

MidiPlayer oath:songname

If you use it in your startup sequence then you must type it in as follows.

run >mil: emil: midialaver path:sonomane

Degrader

Author: Chris Hames Degrader is a special software utility to help people with WorkBench2.0 compatibility problems. It temporarily degrades a

WorkBench 2.0 machine to a 1.3 to enable you to use software intended for use on the 1.3 machines. When degrader is used it will only degrade the machine until it is reset more

than once, so once you have reset you machine more than once it will return to its original WorkBench2.0 status

Create Altenture

CAG's simple to use menus of work

Please remember that many of the pro gram distributed on the Amia

Computing CoverDisk are shareway releases. This means that the author have kindly allowed you, the reader, to sample the program before paying for it. If you decide to keep a program and intend to use it regularly you should

register as a shareware user with the author. Full details on how to register can be found, where appropriate, in the on-disk documentation

Shareware authors, if they don't receive enough registrations, will eventually stop releasing programs to the public which would dry up an indispensite supply of superb software. Keep the faith, and keep sending those fivers!

Tune of the month **Author: Torch**

This month's tune, Duelling banion can be heard by either double clicking on its icon or selecting it from the short-cut menu. Once started the tune will run in the background leaving you to do something else, maybe a bit of painting in DPaint...



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CDTV software is it any

ou can now buy a CD-ROM drive for your Amiga and use the growing range of CDTV software that is available. But why should you part with approaching £300 anyway? What can you do with it? Are the CDs now available worth handing over your hard earned dosh To answer to these questions I locked

myself in a room, plugged in my trusty Amiga with attached AS70 and examined some of the growing range of CDTV titles.

A Bun for Barney • £29.99 **BBC** Multimedia

This is a great advert for CDTV. In its raw form - without any interaction - it is a fairly simple story for children lasting for around

15 minutes. Even at this level, with its beautifully drawn pictures, Tom Baker narration and sweet story line, A Bun for Barney would keep many young children happy

But the best it yet to come. As the pointer is moved around the screen, which any inquisitive child is bound to do, and over certain areas of the pictures, it changes into a magic wand.

Press the button at this point and the pictures spring into life with bunnies that jump out and dance, frogs that leap and trees that sway. A definite trendsetter and one which all prospective CDTV developers should take a look at!

Advanced Military Systems £29.99 • Dominion

Most us, speaking from a masculine point of view, go through a period of being fascinated with guns, tanks and weapons. For

enjoin stoney through such a period this one's a must period this one's a must masses of information on the most deally and exciting (?)

Milkap lendower in the world.
Combining the world of computers and war, two popu-

lar pastimes of a lot of children. I would guess this is likely to be a small success!

All Dogs go to Heaven • £34.99 Merit Software

A pretty basic painting package which suf fers from being to simple for its own good. Very simple in concept, you have a series of drawings which you then add your own colour to - the '90s version of painting by

Select the colour, move over an area and then pour the colour into that area. For small children it's probably quite good, but

for everyone else it's just too limiting Even for children it has the limitation that there are only so many variations. If there'd been additional picture disks it would have had more potential.

Animals in Motion • £29.99 On-Line

A bit of an odd one this. Why anyone would want to spend just under £30 to look at a collection of black and white pic-

Iulius Alexander romp into the CDTV ROI

revolution to fin some good, som bad and som

tures of animals I don't know. However artist friend of mine has assured me that budding animators, illustrators and pair this collection is invaluable so I gues £30 it's good value.

Apparently the work of Eadwe Muybridge, which this CD is all about. trailblazing stuff when originally done still is for artists creating movemen

This CD shows his work as stills and mations and I have to admit that ever

Mrs Johnson bought a Bakewell tart in Derbyshire.

Jiyonson san wa dābīsha de baikuweru taruto o kaimashita.

Japan World is designed to teach Japanese Interactively

this made me want to try draw-I you've got artistic leanings, take a

Battle Chess • £39.99 • Interplay of chess with a difference. Using a wew of the board, you watch as your move around the board - under instructions - and do battle.

Amough it's another Amiga conversion and not a great one at that, it still has a lot movelty value and plays a reasonable ares of chess, something to waste away winter evenings with.

on where you actually played the name around the board. I think they'd have a far

Battle Storm • £29.99 • Titus great Amiga game perfectly adapted to

aggressive aliens trying to blow you to

No advantage of using this on the names go. Overall boring and

Case of the Cautious Condor £34.99 • Tiner Media

> lot of people have raved about this parbe done with masses of storage space. It's a simple detective story where you round, listening to other people's converalions and picking up clues. The graphics and there are loads of 'em - are fantasalmost real cartoon quality and the

Unfortunately I found the depth of emplay lacking - the only way you are RON s by a time limit (given enough time

omp

o fine

Let's face it. fractals can look pretty impressive sometimes

CD-Remix v2 • £29.99 Microdeal

The quickest way to describe this title is as a sequencer for CDs. You specify parts of a music CD which you can then remix, looping and repeating them at will

There are a couple of niggles but nothing serious, ie changeovers are a little rough, but these aren't the fault of the CD software and without some awfully expen-

sive studio equipment there are no easy These gripes aside, it's very simple and sweet CDTV application that will give owners hours of enjoyable find

Connoisseur Fine Art Collection £34.99 • Lascelles

Personally I've always wondered just who buys books with nothing but picture after picture in them. However someone must and given that, this disk is quite reasonable.

It's basically a collection of digitised photos of paintings across time, with explanatory text. If you're into this kind of thing. open your wallet and take your flexible friend for a walk, you won't regret it.

Dr Wellman . £54.99 Digita Multimedia

Where as most of the games reviewed here started off badly. Dr Wellman started well and kept up appearances. There are several different ways of getting to the information

The software utilises the medium well with lots of informative text, most of which is backed up with pictorial support.

To further help and give you confidence

ject matter - there is a lot of parration, and



the voice immediately helps being in a relaxed but confident manner. It contains a lot of information covering a many of the general medical topics you'd expect to come across in the home.

This is probably one of the few titles I looked at that I was sad to return - it almost made me want to cut my finger to find out how to apply the plaster!

Falcon • £49.99 Spectrum Holobyte

For the armchair pilot who's doesn't have another computer, Falcon is a pretty good introduction to combat flight simulators For A570-owning Amiga users, however, there are several better programs available for the Amiga

Possibily Falcon's biggest problem is that given the amount of control you have through the remote controller, you have only a small amount of control over the

This aside however, it's still a good game with lots of different missions, nice graphics, reasonable speed and OK graphics.

Fractal Universe • £29.95 Almathera

A lot of people are fascinated by fractals and if you're one of them then this is the CD for youl As well as the ability to generate fracticals (and let's face it, fractals can

look pretty impressive sometimes - see the screenshot of the Fred Fish Collection) Fractal Universe also includes full background information and a lot of text on the subject of fractal art

I can't help feeling however that £29 for this is a little over the top, but if you're into fractals then you should have it.

Fred Fish Collection • £19.95 Almathera

The Fred Fish Collection is a large assortment of programs, utilities and games. While for normal Amiga users their collation on to a single CD is to be welcomed (you don't want to know how many floppy disks it takes to store this collection mally) I'm doubtful of their use to the

CDTV user.

programs were designed for use with a keybenefit from it.

For A500 with an A570 however it's a great collection and a useful CD.

Fun School . £24.99 . Europress On the Amiga the Fun School range of educational software has been well

received by children. It's a fun and easy educational range that get children learning while they're having fun - which must be a good thing.

There's nothing exceptional in this Fun School series of several CD-ROMs each costing £24.99 that provide an educational age range from under five to over seven.

















The only question I have is that given that CDTV disks are supposed to be cheaper to produce and the capacity of one CD disk equals a lot of floppies couldn't Europress have put more than one Fun School title on a CD-ROM and charged

the same? Still if you've got the money and children to educate (surely a contradiction in terms?) wander down to your dealer and

Garden Fax Series • £34.99 Intersearch

The Garden Fax Series are in fact four disks. each costing £34.99, but because they are all so similar - the only difference being the type of plant they cover - I'm looking at them as a whole

Initially they are disappointing - gaudy colours and poor graphics they don't appear to offer much. But on further examination they provide an informative. detailed analysis of plants (along with photos), all of which is easily accessible.

Using a simple selection process which starts you at the top of a list of 200-odd plants, answering various questions you work your way through a series of conditions (light) colour, temperature etc) that your prospective plants must live in.

The program then presents you with a small list of plants to chose from, on which you can call up growing information and so on. Neat, simple and effective but could do with a little tidying up around the edges.

Global Chane

If you're into the rave scene this is a definite must. Abstract patterns set to some pretty wild audio tracks and a simple game thrown in for free.

The result is likely to become a cult product and will undoutedly further the Amiga's street credibility, but unlikely to sell in great quantity.

Guinness CDTV Disk of Records £34.99 • Guinness

One of many encyclopedia-type CDs. It's of film clips. For those interested in records,



therlock Holmes Consulting Detective – simply the best CDTV game yet really useful, product giving near-instant

access to a vast amount of information. Hound of the Baskervilles

£29.99 • On-Line This is the CDTV title of the famous

Sherlock Holmes case and I have no problem in recommending you stay with the book version. I can only describe this CDTV title as,

erm, poor, poor and poor. Very few pictures, no moving images that I saw, very little interactivity and generally lacking in quality The only redeeming aspect is the quality of the vocals - these at least have been

done by someone who knows how to narrate - clear and authoritative. If you're looking for a detective story or Sherlock stories, take a look at Sherlock

Holmes Consulting Detective. Illustrated Holy Bible • £29.99 **Animated Pixels**

A disappointing CDTV title this one, It's immediately obvious that little work went into this. There are blatant mistakes in the text where it has been mistyped and the Amiga-drawn pictures of scenes from the hible are lovey

Add to this that there's very little true interaction and it's a disappointing CD allround. The only real point of this CD is that you can search for particular words and verses, but I'd seen this done about 12 months ago on a PD floppy disk-based version. That cost about £8... it's you choice.



Sim City - a god game for town planners everywher

Global Learning Systems Imagine a language tuition course where you could hear and see the language in question. You could also call up information on just about every aspect of life in the country of the language. You'd have a powerful aid.

Japan World is just such a package. Maybe it's because I've always been fascinated by Japan, or maybe it's because this is a good disc in its own right, but either way I was really impressed by Japan World.

If there were other language courses (say French, German, Spanish) of a similar quality to this. Commodore would have a strong advert for CDTV!

Lemmings • £34.99 • Psvanosis What needs to be said that hasn't already heen said ahout

Lemmings? This is a pretty standard implementation of the classic Psygnosis It's a little disappointing that with all the storage space available

thousands of more levels weren't added and that the CDTV controller is not the best way to command your Lemmings, but it's still a great game. If CDTV is you're first computer you should take a look at

MyPaint • £29.99 SaddleBack Granhics This had great potential.

The CDTV as a home entertainment environment will obvious have a large number of young children using it. Every child I know loves to paint and draw and as such a CDTV painting package is agreat opportunity.

Sadly, MyPaint suffers from the CDTV's controller, which just isn't suitable for painting. Every

time I tried I just ended up with a stra-Japan World • £49.99

Given a decent controller like a draw tablet or light pen this program would great Philips CDJ system has a children controller that looks like it's out of a Fe Price factory and if such a product w available for CDTV I'd he only to happy recommend this

NASA - The Heroic Age of Span £19 99 • Trokia

This title uses Commodore's claim answer to FMV. CDXL. Unlike FMV with can display moving images occupying complete screen. CDXL can only hand quarter of the screen.

The consequence on this particular is a like watching a scrambled Sky Sate

CDTV and CD-ROM

options

Trackball Controller • £79.99 • Commodore

seasonal communes 12.19.399 Luminibilities specially an elternative way of controlling the pointer ricers. A large ball is mounted in a casing, Rolling the fair spaint of your hand moves the pointer oriscreen. Tracker balls have been available for the Arrings for a sit or ever really managed to visit the mounter or cortor's in eathering the process placement that tracker are down't require the process placement that tracker lifer. The Trackball Controller also has interfaces for it

Video Genlock Card • £149.99 • Commodore

Voice Master • £39.99 • Microdeal

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Actual screen. Not simulated.



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Louvre, Paris.

Cezanne stressed the form and volume of objects by simplifying and synthesizing outlines and arranging vanishing points above or below the horizon.

more

that Sherlock and Watson are actually sit-

unexplainable pauses as the next

images/data is loaded. Best yet, instead of

just dumping the graphics to the screen,

a slide projector type screen (complete

with video-style buttons) pops up, in

Sim City . £29.99 . Infogrames

A classic Amiga program adapted for

CDTV Unlike many other games con-

verted to work on CDTV, this is far more

The concept of SimCity is to build a

city, attract a population and then keep it

going. Throughout this period various

disasters befall you which you must also

SimCity is very absorbing and enjoy-

able and also has serious side to it to - all-

Several excellent educational files are on offer.

which the moving images are displayed.

There are no rough edges and few

ting there talking

capable of, Buy it

than a straight adaption.

Connolseur contains stunning artwork from the impressionists... CDXI pictures so you begin to believe

channel. This is a shame because The Herok Age' has real potential. The information is very interesting, the audio accompaniment is well done (you can for instance hear Neil Armstrong's immortal words as he first set foot on the moon!) and as a "multimedia" application its

It's just a pity it's not FMV! Hopefully when Commodore sort FMV out, Trokia will come up with a follow up which will

Psycho Killer . £29.99 . On-Line

Some has described this as the closest any movie. I wouldn't. It's long series of digitised photographs (of London) which you

Sherlock Holmes Consulting Detective . TBA

Icon Simulations

Sherlock Holmes Consulting Detective

This is no easy way to describe this -OK, maybe there is, but don't want to spoil the enjoyment you'll get from this The narration is perfectly timed to the

Exekias ACHILLES AND PENTHESILIA 550 B.C. Vase Painting, British Museum, London.

Achilles was a famous Greek warrior during the Battle of Troy. His body was magically protected except for his heel.

more...

...to ancient Greece, and all with educational notes impressive studio recorded sound, more than 10Mb of graphics and several new

At the ECTS trade show this was the application that picked up the very first CD-ROM software award. Highly recommended for any CDTV or Amiga CD user.

The Demo Collection . £19.95 Almathera

This game will probably sell a lot of Following on from CDPD collection, the CDTV units in its own right and should be Demo Collection is a must for A570 ownin every CDTV/A570 owner's collection ers, but not recommended for the CDTV it's the best example yet of what CDTV is owner. It contains loads of pictures, animations, fonts, games and two versions of the Amiga's operating system (1.3 and 2.04).

If you're a serious or hobbyist Amiga owner you'll find this a valuable CD-ROM, although some of the stuff could do with more documentation.

Wrath of the Demon . £29.99 REAHYSET

This title didn't even start well. Three megabytes of data it boasts, great, but a CD disks can hold 550Mb! Starting the game, things get a little better, with a very nice introduction sequence. Sadly it

goes nowhere from here. The ren control doesn't work with this type game, the game graphics are avera pretty poor sound (given what co have been achieved) and limited on play. Nothing really bad, but noth

Women in Motion • £29.99 On-Line

Another library of work from Eads Muybridge, this time a collection rather unattractive naked women. peculiar, but once again useful if ve into animation and drawing, or slit perverted...

Xenon 2 . £29.99 . Mirrorst A well known Amiga game, Xenon 2

must for any CDTV players sin because it's a great game. But for A users owning an AS70 it's now a little of date compared to recent ga released on floppy.

As a conversion little has been d apart from a new soundtrack from 8 the Bass added to accompany the ga



fun School 2 allows learning through game playing

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First steps to productivity

You're wasting your machine's potential if all you're doing is zapping aliens. Gary Whitely looks at some more productive applications

LIFE AFTER GAMES

One of the new generation of word publishers

Final Copy has many of the features associated with DTP programs

You may already have a graphics pro-

gram, but if you don't I would highly rec-

ommend Deluxe Paint III or IV. Although

Deluxe Paint IV is the latest version (4.1

actually). I still prefer Daint in many ways

information, set up and entered according to the requirements of the user and anything which can be listed can be set up as a database - library books, video cassettes, stamp catalogues, recipes - you name it. you can database it.

By first designing a screen template to take the data you wish to enter and then typing the data into a blank form for each senarate record a whole database can be built up, and updated as necessary. The data files can be selectively printed

out, or specific data can be found by searching for keywords, such as all occurrences of the surname lones, or all books about Amiga computers, for example

Database design requires both discipline and an awareness of exactly how you may need to extract the data in the future, but like most things a little practice will go a long way.

Graphics

As well as producing business graphics, which are often catered for within spreadsheet software, it's nice to be able to produce your own illustrations for newsletters, birthday cards, reports probably isn't that important if you play on printing in black and white anyway. Graphics produced with Deluxe Pain

(or any other which can output IFF formal images) can be imported into DTP or word publishing packages which can utilise hitmapped pictures, though in some cases there are restrictions on the number of colours that the software will use

Even if you can't draw for toffee there always the possibility of scanning in a logo or picture by using a relatively inexpensive hand scanner, or even an expensive flatbed model. By running a hand scanner acros an image it can be turned into a greyscale (or even colour with newer models) IEE file which can be used just like any other

Another way of grabbing pictures is to use a digitiser (such as Rombo's Vidi-Amigu 12) to capture images from a video camera or video deck with solid freeze frame.

Wordprocessing

What's the difference between wordprocessing and desktop publishing (DTP)? No. this isn't a joke, it's something which can be quite confusing - especially as some software packages now seem to be blending features which were previously regarded as being exclusively the domain of DTP software. Wordprocessing, as the name suggests, >



no longer a front runner in the Amiga DTP still capable of producing good results at a

as I find it simpler to work with, though of course it doesn't handle HAM (Hold and written with Transperite 2. a work-horse

and rarely a plimpse of even a Workbench Believe it or not, there can be more to computing than ranging haddles or col-

ecting keys. OK, playing games may be a lut of fun, but have you ever considered what else you can use your Amiga for? So nut that joystick down and pay strention while we reveal another side of our favourite computer - productivity. "Huh? And just why should productiv-

rilliant - you've just finished the rilliant - you've just finished the last level of Zool and are contem-

plating suicide because there are challenges left for your trigger finger. Putside a dark shape stalks the streets, ming ever closer until it reaches your A resounding crash shakes you back to mailty. Stumbling around in the dark you

malise that it's only the postman - and a orin creeps across your face. As you match the package containing that deskseems that things aren't so black after all. Yeah, I know, this isn't how real life nappens. But if you believe the sales figares it would appear that many Amiga numers are locked into a little world of

Their own anyway - games, games, games

by interest me?" you are probably asking. Well if you're old enough to have friends. possessions, money, hobbies and a desire to communicate with the outside world you might just find that productivity could improve your life, or at least help to make it more manageable If you run one of Britain's increasing

number of home-based businesses you'll have to keep accounts, turn out letters and reports and file information on cus-

However, productivity doesn't have to be just for the serious things in life. Maybe your school, youth group, sports club or want to produce it, as well as do some mice illustrations for it. Productivity can help here too, since it covers a multitude Spreadsheets, databases, desktop pub-

Ishing wordprocessing, disk utilities, accounts and graphics packages are all productivity applications, and they can all help you do better things with your Amiga than endlessly playing games. As you've seen, productivity software can be very wide-ranging. So to help you

DISK

NTY

figure out what's what, here are a few introductions to the main animals in the productivity jungle.

Databases

Every time you make a list of information, such as the names, addresses and telephone numbers of your friends, you are producing a database. In many cases this will take the form of

a little notebook, card index, Filofax insert or, in more upmarket circumstances, as data stored in an electronic personal

A computerised database is also a list of

Software

≺ is the processing of words. In essence this means typing text into your computer, editing it to your requirements, spell checking it, doing some basic layout and

then printing out the results. The inclusion of good spell checking software with a wordprocessor is very important, even if you consider yourself to

be literate, as many silly mistakes often creep through when working at speed. Most of these goofs can be filtered out quite easily with a spell checker, though you'll still need to proof read to catch those occasions where a correctly spelledword is in the wrong place - eq "the"

instead of "them".

This article was written on a wordprocessor (Gold Disk's Transwrite 2, in fact) but instead of being printed out it was delivered to Amiga Computing as a text file on a floppy disk

By importing the text and laving it out with the pictures in a desktop publishing program the pages that you are now read-

The major difference between DTP and wordprocessing software is that DTP can aso incorporate true graphics elements pictures, clip art, structured graphics and specialist typefaces, where wordprocessors only deal with text.

Inevitably this means that a DTP package requires much more memory to run successfully than a wordprocessing program, as it has to cope with so much more data - particularly when producing pages which contain large amounts of graphics.

Rut the distinctions between wordprocessors and DTP programs have become increasingly blurred by "word publishing" programs such as Pen Pal, Wordworth, KindWords 3 and Final Copy, which mix some of the features of DTP packages (such as graphic fonts and picture importing) with more traditional wordprocessing functions. Of course, this can only be an advantage to the user, as such software insuitably offers more bang for the buck.

Spreadsheets

Putting it very simply, spreadsheets are definable grids in which numbers can be placed and then manipulated

mathematically to provide results. By adding headings and column information and entering numerical data which relates to these headings it is possible entry book-keeping, financial forecast sheets and the like

Luse a spreadsheet to keep track of my Inland Revenue, in particular, are keen that I tell them what my earnings for each financial year are.

On one side of the spreadsheet I enter my income, along with any necessary details, and on the other my expenditure

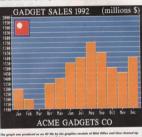
- which I break down into categories such as travel, bank charges, computer purchases. National Insurance payments and Every month I input all the relevant

data from my invoices, bank account and purchase receipts and then total everything up.

This way I can have an instant view of how the old bank balance stands, and where the money goes

In the simple example shown I've taken a theoretical cale and looked at some of their monthly grocery outgoings.

By dividing the year into months it's



easier to see patterns of spending emen and by breaking the purchases down in specific items it's possible to see exact how much has been spent on each item

Each of the monthly costs is placed in "cell", for example cell D8 holds the or of ten for March. The total yearly expen ture on tea can be found by adding all II monthly spending on tea together entering the formula SUM[D6:D17] in II TOTAL cell at D19.

When this formula is executed it at up all the costs in column D from D61 D17 and shows the result in D19. If any the data is subsequently altered, the to will adjust automatically, saving a lot

mealculation By printing out the results you can he a hard copy of precisely what has be happening in the kitchen during the year By designing different spreadsheets possible to keep a check on all kinds things - profit and loss accounts, footb league tables, stock control and so on.

Printing out endless lists of figures in the only way of seeing what's going on. many of the better spreadsheets and in grated software packages allow graphs be produced from selected sets of data. Pie charts, bar charts, line graphs choice is yours in this voyage into I

realms of big business.

Accounting Instead of using a spreadsheet to lay a

financial matters, a program such Digita's Home Accounts 2 takes an entire different approach. By defining a set transaction types such as CASH, HO SAL etc (for cash, hobbies, salary and on) and then setting up as many separa accounts as you need to reflect your fina cial affairs it is possible to keep track your financial transactions across a whi range of accounts and spending call

Expansion - what is it and why do it?

You might think that once you've bought your Amiga that that's the end of it, and that you've got all the hardware machines such as the A3000 or 4000 which include extra memory, hard drive, fast processors and all the rest. The range of add-ons which suppliers are keen to sell

Amiga owners seems never-ending, as you will no doubt be aware from reading the adverts in this magazine. Mice, tracker balls, disk drives, memory, hard drives,

graphics tablets, monitors, printers, scanners, digitisers and accelerators all crop up with monotonous regularity because these are items that people not only want to buy, but quite often actually need to accomplish their desired

Probably the most vital addition you can make to your Amiga is to upgrade the amount of memory (RAM) which

it contains. Extra RAM can make all the difference to success or failure, particularly in applications like desktop publishing, where large amounts of data or graphics can be RAM can also help to speed things up, as the computer

An extra 2Mb of RAM can do wonders for your machine's versatility, and upgrading to a megabyte of chip RAM (for those faithful to older Amigas) will help to ensure that you don't run out of screen display during those vital last minute document changes. In fact, many serious software packages require at least 1Mb of chip

The next essential for serious productivity work, and which connects to the Amiga's RGB output for higher

Professional users often use multisync monitors and deinterlacing hardware to reduce the screen flicker, but I imagine that such equipment will be well beyond your modest budgets, so enough said.

A second disk drive will prove invaluable to many users, especially when lots of multiple disk access is required, consider if you decide to get seriously involved with

Some programs, particularly DTP software, can require access to huge amounts of data, for instance has more room to crunch data in and doesn't Compugraphic fonts or clip art, and a hard drive will save have to spend so much of its time rearranging its

a great amount of access time and disk swapping. Buy the largest capacity drive that you can afford - the fill up much faster than you might expect - and go for SCSI one if you can.

Naturally, if you need to get hard copy, you'll need it printer. Your choice will inevitably be based both of cheap 9-pin dot matrix printers knocking about they ma well not provide the quality you are looking for, especial for DTP work.

Laser printers currently give some of the highest quality but can be pretty expensive to buy and to run Twenty-four pin dot matrix printers offer good quality reasonable cost, but are noisy, though they can do reason able-cost colour work and graphics.

For my money, a good printer buy would be a moder inkjet model like the Canon BJ10ex or Star SJ48. These provide very good print quality with whisper-quiet print ing. With some ingenuity and coloured ink refills they car

also provide nice colour output if you are prepared to improvise a little. A word of warning though - make sure that the printe you choose has a proper Amiga printer driver, otherwise you may well be buying a dead duck.

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Accounting software such as Home Accounts 2 offers on alternative approach to spreadsheet hook keening which many users may well prefer because of occessibility and user friendlines

As a newcomer to this approach I ound it to be very accessible and easy to get to grips with - though remember all the categories will take a bit of prac-

Because the accounts can be interinked, anything transferred from one to another can be tracked easily. Reports based on selected data or formats can be printed out for easy reading or inclusion

in documents I reckon that's it's just a matter of choice. Spreadsheets are probably more flexible in the long run, but for day to day administrative work in small business. home accounting or cost tracking, an accounting package will do an admirable job in all but the toughest circumstances.

Disk utilities

If you have ever tried to use the CU or

Workhench you'll know how frustrating it can be to do some very simple tasks, such as formatting a disk or moving a few files

Disk utilities are designed to free you from such drudgery and add more **Poductivity**

power to your elbow by providing a point and click environment where

operations (and often a great deal make it more quickly manageable

favourites such as Directory Opus (which I find absolutely invaluable) or SID 2 are so flexible that they can also be used to launch other programs, display pictures, play sampled sounds, archive mini Office

BUTTER TEA COFFEE DOGS HONTH, V £143.82 £198.67 £222.82 £488.13 £276.47 £483.56 £1.645.47

This surroutsheet is from Mini Office, but you'll find that it is very similar to most other

to all the disk manipulation, formatting, copying and other tasks that they

Hard drive owners will find such software especially useful.

As you've probably gathered by now, productivity can burn quite could improve

a hole in your pocket. But if you are in business you'll appreciate the time, effort (and cost) saved on doing manual book-keeping, typing letters, and producing printed materials, while the creativity involved in

producing a newsletter can be very satis ing, as well as educational.

By all means continue playing gam as we all know that all work and play makes lack a dull boy (or so they sa - but once in a while consider do something a little more serious. You ne know, you could even end up make

money out of it.

 Special thanks to Micro-PAC UK Ltd for the loan of the Mil Office and Home Accounts software illustrated in this article.

Recommended products

As a quide, here is a small selection of productivity software. Where possible recommended, prices.

Mini Office - Europress Software £40 Integrated spreadsheet, wordprocessor, database, business graphics and disk utilities package.

The Works Platinum - Micro Systems Software £40 Integrated spreadsheet, wordprocessor, database, business graphics and commu-

nications package. Gold Disk Office 2 - HB Marketina £90(7) Integrated wordprocessor, DTP program, spreadsheet, database and business graphics package.

Pagesetter 2 - Gold Disk £40 The same program as bundled in Gold Disk Office 2. Reasonably featured budget DTP program.

Wordworth - Digita International £80 Word publisher with many DTP functions

Final Copy 2 - Softwood Inc £67 Word publisher with many DTP functions.

Transwrite 2 - Gold Disk £30 Low priced but fast, well-featured wordprocessor ideal for almost all word-crunching tasks.

Home Accounts 2 - Digita £38

Directory Opus - INOVAtronics £30 Mega disk utility with lots of power

Delure Point 4.7 - Flortronic Arts 660

Power Scanner v2 - Power Computing £99 Hand scanner to produce mono IFF files. Plus, of course, the offerings from many PD libraries.



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IF YOU ORDER 10 OR MORE,

etting into sound sampling on the Amiga nowadays just couldn't be easier. There's a good range of hardware and software with prices that start from virtually free - ie the public domain software offerings - to units which have the price-tags and specifications which attract professional users

In short, there is something on the ARiga for everyone! Despite its popularity er there are still plenty of users who

we'vet to jump on, and enjoy, the sound ammie bandwagon. Whether you are a newcomer or not so't matter this month though, because

ere should be something in this sampling supertest to help or interest everyone. Topics first and foremost on the genda? How about we start with an volunation of what "sound sampling" actually is.

Complex

Musical notes are made up of sound waves that have a certain frequency (pitch) nd a certain loudness (amplitude). When come to that, you are listening to a lex mass of sound waves which dude many different frequencies and

f at any point in time you could take a snapshot of the sound you were hearing and measure the amplitude of that part of the soundwave then, using some agreed as a number

If you did the same thing over and over gain, a whole series of numbers could be obtained and, at the end of the day, you would have a list of numbers that represented the original sound.

his these ideas which form the basis of sampling. By using special hardware measures that amplitude information thousands of times a second it is posto build up a very detailed numerical, ie digital, copy of the original sound. For what should now be obvious reasons

the hardware units which provide this magic conversion are called "digitisers". Once the digitising process has been carried out the sound will have been turned into a stream of numbers.

This then allows a computer to be used to perform sophisticated editing effects - a user can take a piece of one sound, mix it with another, speed up or slow down the rate at which the sample is played, or even produce phasing and flanging effects by

shifting the time-position of a sample before adding it back to itself

These are things which are either difficult or impossible to do using conventional

analogue recording techniques. The quality of any digital sound depends on the accuracy of the original digitisation process and here there are two different variables to consider - the sampling rate. and the resolution of the numbers used to define the amplitude

It should be pretty obvious that faster sampling rates will give better waveform detail and equally obvious that increasing the range of numbers used to represent the amplitude measurements should also lead to better waveform detail. Because on the Amiga the final sou

will in most cases be played using the it nal sound chips, amplitude digitisation most Amiga digitisers is performed to accuracy of eight bits (allowing for

possible "loudness" values). One term you will hear over and again in the world of Amiga sampling "8SVX", which is one of the IFF stand ised file formats used for sampled soun

its claim to fame, as many of you already know, is that allows one Amiga gram to load and samples created w any other Amina

program, As far as b equipment goes you really need to into the world of se pling is some digit hardware and the s ware to control many of the Am



Top quality sampling with Audio Engineer Plus

mina Computing February 1993

Eight-bit
Amiga digitisers

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nd of sar e digits to be honest it is possible to get into the dot sound sampling even before getentrol it and digitiser unit. There are Iterally thoutended to good sound samples readily available and providing you have the software to utilise those sounds you can mix, alter, and use those samples to your hearts

Most people however, once bitten by the sampled-sounds bug, do go out and get the necessary hardware/software so that they can actually sample their own

sounds.

Although Midli doesn't come into the picture when you are creating and editing sound samples, you will find that having access to a Midli keyboard will be a big help as far as composing music is:

as far as composing music is concerned.

Many tracker programs and sequences:
which allow sampled sounds to be used to
create songs also allow the musical note
data to be entered using a synthesiser keyboard rather than the Amiga keyboard.

This makes life much easier and if you are going to use sampled sounds in this way a cheap Midi keyboard will be a good investment!

Almost all sound sample digitiser units attach to the Amiga's parallel port. Basically

Some terms explained

Clipping A waveform distortion aussed by a signal being too strong for exactly what i brings device.

RAM sca exactly what i provide RAM provide RAM

The circuitry gets overloaded and the top parts of the incoming waveforms get distorted or chopped off. The end result is always the same – a poor quality sound:

IFF 8SVX This is the IFF (Interchang File Format) name of a file arrangement used for storing sound samples.

you plug one end into the sound source – which might be a tape unit, CD, microphone, or some other audio signal output – and the other end into the parallel port.

The lower-priced units will probably have no controls at all. Higher priced units include spoth line-level and microphone-level inputs, signal gain controls, switchable parallel-through port connections (so that the digitiser can be left permanently plugged in) and perhaps a number of other goodies.

Having switched on and booted up the sampling editing software the rest is comparatively easy. Set an appropriate sample rate, adjust the volume of the input signal to a suitable level, and then just hit record. Your sample will be sitting in the editor waiting to be saved or edited.

OK, so some details do vary from package to package, but the above scenario should give you the basic idea of how easy RAM scanning This means exactly what it says – programs which provide RAM scanning facilities allow you to scan through the Amiga's memory and, by "playing" the data, look for sound samples.

Raw sample Basically a copy of the byte values of a sound sample waveform just as they appear in memory (as opposed to a sample stored in a specially designed file structure such as IFF 80VX).

the sampling process is. Be warned initially, your results may not be very on it takes time and practice to learn how get the recording parameters to their o mum values.

Practice does however make perfect and after a few attempts the whole process becomes second nature.

Tracker

In the early Amiga days, programmers needed a fast, convenient way of creating music for games and demos and one of the earliest utilities to appear was called SoundTracker.

SoundTracker.

Within a couple of years a number of these programs had appeared and the became generally known in the tracker.

pecame generally known in the trade trackers.

Being essentially programmers' to these trackers advanted as

these trackers adopted programmer-like conventions for specifying music sequences. Song descrip

tions were built around lists showing the times and the pitches at which various samples should be played, and so on.

While not ideal from a musician's viewpoint, this method of composing music rapidly became established, but the raws then on to create grams that were more user-friendly.

user-friendly.

One of the most successful trackers was a program called MED (short for Music EDitor) which allowed songs to be created by linking together.

small blocks of music.

These blocks could be arranged and repeated in any way so, once the blocks had been defined,

blocks had been defined building the song became very easy indeed. During the followers years a number of the

MED versions

hardware and software available today

The world of sound sampling is available

to you for just a few pounds. Paul Overaa

asks what sampling is, and looks at the



adio Master's stren its excellent softwo

wleased providing new editing facilities, a standalone song player utility called MEDPlayer, and support for Midi

Up to this point these programs were and the original programs still are - public domain, but when MED's successor, OctaMFD arrived a decision was made to go commercial.

IBAn enhanced version, called OctaMED has now been released and, as you'll ee from our product/price listings, it is by no means expensive.

OctaMED Pro is more powerful and ch easier to use than the original MED ogram and is highly recommended for those of you who need a tracker.

Samplers

Lots of magazine and PD disks include sound samples that can be extracted and sed for your own purposes.

Finding them is easy enough if you only have a few directories on the disk - especially if the samples have been given obvi-Renames such as crash.iff, bang.snd or

Locating them when the samples have essuintuitive names (eg PDX 80) can be h harder, especially if the disk is packed many directories.

More to the point - it may take a lot of time to look at every file in every directory! mathe result of course is that all too often you on miss potentially useful sound samples ust because they were not easy to identify. Fortunately there's a nice easy solution we automate the whole process and let the niga do all the hard work...

Search is a small CU/Shell utility that does just that. It looks not only for 8SVX sound samples but all common IFF files
that pictures, SMUS files etc).
It will even find things like Music X

CanDo DECK, standard Midi files HE Files), and the new AIFF (Audio IFF) that are going to be used by the new bit sampling products due to appearl To use it, just open a CLI/Shell window

and type Search followed by the disk drive to be looked at. SearchDFO:, for example, vill search all of the directories of the disk

Public domain freebies

in drive df0 and give you a list of the required files and their directory locations. This is the sort of output you'll get.

Amiga Computing IFF/SRF Search Utility (Paul Overam 1992)...

- ter time: diffind stuff/mic3

If you are searching a hard disk or a floppy with many files and nested directories then the program may take a minute or two to locate the required information, but it will he a lot quicker than other methods.

You can, incidentally, cancel the search operation at any time by hitting Ctrl-C or Ctrl-D. If you need a permanent copy of the program output, just redirect the output to a disk file, or to the PRT device. For instance the command:

SEARCH >RAM:contents.bft

will send details of the df1: analysis to a RAM disk file called "contents".

Sampling hardware and editing software

AMAS 2 . Microdeal . £100 This is an upgraded version of the very

popular AMAS sampling package which includes stereo digitising hardware that can sample at rates of up to 90kHz.

This sort of sampling speed can't be realised with the current Amiga range but the AMAS 2 software doing the driving can achieve mono recording sampling rates of up to 55.9kHz and stereo recording rates of 27.9kHz (replay frequencies are up to 55 9kHz). Software adjustable input level controls are provided and as well as the usual

cut/copy/paste type editing controls there are a whole range of effects that can be produced (echo, phasing, chorus, reversal and so on) and it is possible to overlay samples, swap and copy channels, fade in and out, and do things like stereo bouncing. Sampled sounds can be saved in IFF and

raw formats, and in a new "executable" form that allows samples to be played outside of AMAS 2 simply by clicking on an associated icon

The software also includes things like a 3D FFT (Fast Fourier Transform) display and a dual real-time spectrum analyser. A small, but reasonably useful, sampleorientated, Midi sequencer is also provided

and you even get a microphone thrown in AMAS 2 offers new users a very attrac-

tive total package and it's probably to this, plus the fact that it is a well supported product, that the package owes its popularity.

When you compare raw AMAS 2 results



with those of less expensive packages, such as TechnoSound Turbo and Beat Studio, you'll often find surprisingly little difference (or no difference) in sample quality. AMAS 2 software however is reasonably

powerful and, as an integrated sampling and editing package it must be said that because of this AMAS 2 does, at a price, win hands down over the cheaper

Audio Engineer Plus HB Marketing . £204

This Ramscan/GSOFT offering is, quite simply, the best 8-bit Amiga sampler available at the current time. Unfortunately it is also the most expensive.

Audio Imager and this includes two separate, and very fast. A/D (analogue to digital)

converters. The hardware is in fact rated excess of 300k samples per second and a is capable of sampling at rates well beyon that obtainable with Amigas fitted will 68020/68030 accelerator cards. Audio Engineer boasts solid constru

tion, switchable microphone and lin inputs, signal level adjustment, prints switch-through connections (so that the digitiser can be left permanently pluggi in) and above all a quality by which a other Amiga samplers are judged! Audio Engineer II, the associated samp

recording/editing software, is all extremely good - as well as offering all the usual types of edit effects, the software all includes time-stretching and time-compre sion, frequency cut and boosting via so ware filters, very powerful loop creatie

Sampled sounds

IFF Sound Sample Library . Walkabout Music One disk: £2.50, ten disks: £19.95 all disks: £49.95

There are a lot of sample libraries around but this one is absolutely brilliant and cover everything from the usual types of drums, bass, synth and piano sounds to obscure thing

list goes something like this... African, Indian instrument, Indian percussion, Arabic, Fa

East, European, Oceania, Americas, FX percussion, Drum Kit, Analogue Percussion, Land percussion, quitars, bass guitars, analogue bass, digital bass, brass, synth brass, pianos doubt at all that Walkabout Music have done an excellent job (helped no doubt by the

fact that they are all musicians and know the difference between a good sample and a ba If you want to get an idea of the quality of the library just get hold of the bass gura samples disk (it's actually disk 14 in their catalogue) - all too often bass guitar samples at

Sample Series . Gajits . £9.95

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

facilities, and special methods for providing playback of stereo samples at rates of up to 56k samples per second.

When used with machines such as a standard Amiga A500 or A2000, quite a bit of Audio Engineer Plus's high-standard hardware specification is inevitably wasted, but there's no doubt that this package is nevertheless the business. For the serious user it is worth every penny of the asking

AudioMaster IV HB Marketing • £70

s is basically the Aegis release of RamScan's Audio Engineer Plus software and needless to say it's not only brilliant but is generally regarded as the best Amiga 8-bit sampling software around at the pre-

Audition 4 . HB Marketing . £50

This piece of stereo/mono sound sample editing software comes from SunRize, a sompany that know an awful lot about mita sampling

hough the configuration menu has pedific options for selecting Perfect Sound amplers (another SunRize product) a eric option allows the program to work h any other parallel-port based 8-bit Amiga sampler.

Audition 4 is an excellent piece of software with a great many useful features, ncluding being able to preview and adjust effects in real-time before making permanent edits, and direct recording to disk or

Although it has been overshadowed in a number of respects by AudioMaster IV it is

Audio Sculpture . Software Management Group . £49

Music Pack 5 . PD Direct . £12 This pack contains a whole host of public domain programs, songs and samples

OctaMED Professional Amiganuts • £22.50

Despite the fact that it has a few rough erioes, this is one of the best tracker pro-

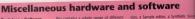
still a very capable, and well supported, program. Beat Studio . Pandaal Marketing

£40 approx This fairly new offering from City Beat

comes complete with all the hardware and software necessary to get into the world of Amiga sampling. The manual is lousy but what has sur-

prised an awful lot of people is the fact that, with a little care, the hardware can produce extremely good results.

The editing software is adequate but it



Pro contains a whole range of different

cause other control panels to be displayed tive track volumes, transposition, Midi set-

The remaining five menu panel buttons

There's a Block editor which is used for tracker format, a Graphic note editor which cannot compete with offerings like

in a variety of different formats; Song file and modules containing multiple songs

a single file.

Sound Enhancer Plus Omena Projects • £34.95 This unit sits between the audio outracts your Amiga and an external amplifier an

hardware and software package that joi

the ranks of Reat Studio, TechnoSound R

The hardware does what it is support to well enough but that's about all that of be said. On the whole TechnoSound Plus a much better proposition, and it is some

what cheaperl

Micro Sampler . Datel . £25 This is a budget-priced mono samp hardware unit which comes with so software. The hardware seems to do a m sonable job!

Perfect Sound 3 . HB Marketing 660

This is another combined hardware at software stereo/mono sampling syste which is able to produce excellent results comes from SunRize and the software pil vides most of the common editing facilit including fades, sample mixing, reversal. tering, resampling etc., required for serio work

Pro Sound Designer Gold Power Computing • £39 A reasonably priced hardware/softw

sampling system which, as far as value money goes, competes well with other se llarly priced offerings.

Sound Master HB Marketing . £130 This Aegis offering is one of the bell

hardware/software stereo/mono sample systems available and perhaps most imp tant of all it now comes with the brills Audiomaster IV software

The hardware includes a volume les control, overload indicator, line and mig phone inputs.



Crystal Sound • BlitSoft • £94 This 8-bit sound digitising unit has only just

AudioMaster IV or Audition 4.

started to arrive in the UK and there's no doubt that it is very good indeed. It provides twin, ultra fast, low noise A/D converters which can sample at up to 70kHz in

It has microphone and line level inputs (with active audio filters on all inputs), separate left and right gain controls and a printer pass-through.

Crystal sound is directly compatible with Audio Engineer Plus and Audition 4 if sampling in Perfect Sound mode.

Datel Stereo Sampler Datel . £50 This sampling hardware and software pack-

age does its job but it is not particularly impressive considering the competition.

Digital Sound Studio Silica Systems . £50

This is a good, easy to use, hardware and software 8-bit sampling system and one that has earned much praise from existing Good documentation is provided and

the program includes things like softwarecontrolled input levels and microphone/line switches which makes it easy to adjust input signal strengths. Another plus for this offering is that a four-track sample sequencer is included in

the software. The digitiser itself is well made and, all in all, this package is good value for money.

MegaMix Master . Rombo Productions • £40

This is another budget-priced sampling

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Sound Trap 3 Omega Projects • £130

This is a popular budget mono digitiser whose hardware includes a parallel port pass-through connector (so you don't have to unplug it to use your printer).

to unplug it to use your printer).

Sound Trap comes with its own software
the most serious users prefer to use it with
ages like AudioMaster.

Stereo Master • Microdeal • £40

In is a budget-priced stereo/mono-stereoning package which includes both hardware and software. Signal input, incidentally, is via a 3.5mm stereo jack socket rather than the separate phono conhectors used by most sampling hardware. Stereo Master offers the same basic types of facilities, quality, and ease-of-use as roducts such as TechnoSound Turbo.

Stereo Sampler 2 • Trilogic • £38

The digitising hardware but can be supwith a variety of different sample editsitivare. With Audition 4 for example the package costs £69.99 and this is quite a cerful, and cost-effective, combination.

At the higher end of the market

or non-professional users, Amiga samplers have caught on in a big way, but there is no doubt that the 8-bit amplitude limitation has severely limited professional and bai-professional interest in Amiga

ting.

Asia comparison, CD sampling uses a mpling rate of 44.1kHz and 16-bit ampli-

t is only comparatively recently that ther amplitude resolution digitiser units

have been announced for the Amiga but already there are three units to choose from.

AD1012 SunRize Board HB Marketing • £470

The AD1012 audio card fits inside the A2000/A3000 Amiga series and adds 12-bit digitising and SMPTE facilities to the outen.

It comes complete with SunRize's Studio of recording and editing software and this can record and playback directly from disk. You need a hard disk system with a fast drive to get the best out of this sightser and if you are thinking of intensive use with an A2000 machine you are likely to find you'll need a 68030 accelerator card as well

Clarity 16 • Microdeal • £150 This is the first low-cost hardware and soft-

ware stereo 16-bit sampler to be produced for the Amiga and it's due out any time. If it lives up to the press release it is going to be a winner because not only will it offer a 16-bit system that can sample at up to CD rates (44.1)4/2) but the software can convert between 8-bit and 16-bit formats so yout? Bill have IF 850% support 8 and 16-bit formats so yout? Bill have IF 850% support 8 and 16-bit formats so yout?

well as 16-bit file format support. Samples will be able to be played both through the stereo 16-bit cartridge output and through the Amiga's standard output

The hardware includes an integral Midi interface and the software will provide a sample sequencer and options for using the Amiga as a sample-based Midi sound expander.

AD516 SunRize Board HB Marketing • Price: TBA

with software and a specification that is going to attract professional audio-visual users, it seems as though it is a rename for



Studio 16 takes Amiga sampling to the limits

a board originally announced – some six months ago or so – as the SunRize AD1016. The AD316 hasn't arrived in the UK yet but there is little doubt that when it does it is going to have a price tag much higher than the AD1012 board – prices of around £800 have been suggested!

Conclusion

All the 8-bit digitisers tested behaved extremely well when presented with sufaable signals. With the more expensive packages you get things like input level control, Midi connections, printer through ports and so on, but whether these things are important, and worth the extra cost, depends very much on your particular needs. If for instance you are a musician/hi-fi freak who already ha mixing desk then you will not particul need a digitiser with input level contro If on the other hand you want to s

If on the other nand you want to a ple voices using a microphone or so other non-adjustable audio out but have no external way of alter signal levels, then you will nee digitiser whose input levels can adjusted. It's quite clear that quality-wise

and continued the state of the

There are now a lot of fairly chihardware/software entry-level digitis packages around but TechnoSou Turbo is quite a reasonable choice for first time buyer.

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Sampling tips and tricks

The key to good sampling is to get a good input signal to start with. Where possible this means sampling directly from source rather than using a microphone.

The object of the exercise is to avoid dipping but still ensure

the object of the exercise is to avoid cipping our size enholished a strong, clear signal is provided to the digither. To cheaper samplers will not have signal controls on them to it necessary to subject the volume of the actual source being use Some people find that a small hi-fi quality miner can provide to much control over signal gain regulatisation that couple with good quality leads even the lower priced samplers produce results shat come near to the top of the range samplers.

Remember also that for song creation it is not always necessary to create single note sound samples. Suppose for instance that you want to create a drum part consisting of bass drum snare, open and closed hi-hats – with perhaps a couple of tom

One approach is to program a Midi drum machine to play the drum part and then sample one har of it. Nowadays mos drum machines use high quality sampled drum sounds an sampling a pattern being played by a drum machine is a good way to get a good quality drum track laid down with the mini cany when tracted programs are evenly need only one single note an one voice (the sampled drum track) per bar is needed to reproduce the drum pattern no matter how complex the original part was.

to du di count care to a care care minima such that the drum part properly synchronises to the tracks whic will contain the other song data but as always practice make perfect and once you've got a suitable drum part you can course re-use it to your hearts content.

notes because again this allows a chord backing track to be created by entering just single notes.

Don't forget that your samples and music will sound must

your Amiga monitor.

There are plenty of reasonably priced amplifier and spea

Sound enhancers, units that boost particular audio frequ cies, are also available and these can sometimes dramatic improve the quality of the Amiga's audio output.

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FAST action

I think-it's needless to say that you are the best Amiga magazine in the world (needless? Say it all you like! - Ed).

I have written to you once again about piracy, and this time I'm sending you some names and addresses of pirates all

over Europe. I would like a reward from FAST, and if they'd send me what I'm asking I'll send

another 20 addresses of English pirates for I would like to inform them and to give

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to them these addresses and details of what I'm asking for Michael Arunnitis Pimeus Greece

The sealed paper you included with your letter has been passed to Bob Hay at FAST, but don't be surprised if the people named within it are not arrested at once

FAST receives a great many phone calls and letters concerning pirates and alleged pirates, but have resources to follow up only those for which there is evidence or a Bely chance of successful prosecution If your letter to FAST contains simply a list of names and addresses, it is unlikely to result

in the prosecution of those you consider to be nirates

However, if you supply FAST with pirated software and proof of its purchase, or some other solid evidence of piracy connected to an identifiable individual they will act at once

Your concern and willingness to act is areatly appreciated, and we urge you to keen up the good work

It's a giveaway As an Amiga owner of a few years now, I

have collected a wide range of PD software, and although I only recently started teaching myself to program the computer, I have now written a public domain program. The problem is I now

realise I haven't a clue how to release it. Please print an answer to my question as there is no program of its kind, and I think it will benefit a number of Amiga

owners. Chris Dobson, Bingley

Releasing a PD program is as simple as appending some documents to it stating your intention that it be PD, then sending

Ezra Surf's Postbag

Prop him a line at

n't got enough paper to reply personally. He migh Iso have to shorten your letters, so don't be offended if you end u

the disk to a number of PD libraries or uploading it to a few bulletin boards.

If you wish to retain copyright of your program to stop commercial software authors using the idea to make money say so in the documents.

As soon as you write and publish something, be it a program or a piece of text, it is your artistic copyright, so don't worry about the legal aspects.

If you wish the program to be shareware, state so in your documents and provide information on what donation to make, how to realster, and where to send the registration fee

A good bet if you're unsure about how to do this is to study the documents attached to many of the programs on the Amiga Computing CoverDisk, as these are often written and distributed by experienced shareware authors.

C Compendium I am learning the C programming lan-

quage, and find your Almanac programming column very interesting. What would be even more useful is a compilation of all the programming features ever published in AC I'm sure I'm not the only person stuck

with books that don't even mention sprites or sound or IFF picture files. By the way, a note to anyone starting C - NorthC from Amiganuts United is an

excellent, easy to use compiler, complete with editor. I highly recommend it. And finally, has anyone else had trouble with the CLI command Install? The common "Install Drive DFO:" asks for Workbench, loads the command, then

tries to install Workbench! After hours of thinking, I came up with the solution. Copy the command to RAM and use it from there Richard Wilson, Newton-on-Ouse

Thanks for the tip, though if you'd followed our beginners' column early in 1992, you wouldn't have had to sit for

hours working it out. Having said that, the best way to learn is to figure something out for yourself, so

Not a hum deal

I have just purchased a CDTV after selling my A500 Plus, so you could imagine my apprehension and the niggly doubts about whether I was doing the right thing. Well, readers, CDTV is fandabulous

floopy-based programs than my A500 Plus, and yeah it's a Workbench 1.3 machine, but what programs came out to utilise the Plus's extra capabilities except a few backs?

Even if CD programs never take off, it's not a hum deal CDTV is a very high quality audio CD which would cost you an arm and a leg. It has remote control and plays CD+G. What audio player can say as much?

Also, it's an Amiga in a very tidy box with an internal fan to keep it cool. Rest of all. I have the entire Fred for less than a return to Madrid for two Wait for the day when Monkey

Island 3 or Eye of the Reholder 3 arrives on a single CD rather than a van load of disks. Think about it. S Wilkinson, Bedford

Hmm ... I can't help wondering from the number of recent CDTV plugs if an internal Commodore memo might not have circulated to the effect that all employees were expected to write to Amiga magazines and extol the virtues of CDTV

Joking aside, everything you say about CDTV is true, and doubly so since the price drop last month. The only worry I have at the moment is that at the recent Amiga show in London, many software houses were present, but only a few were demonstrating even demos on the machine. let alone CDTV-specific titles.

Let's hope this situation improves.

Calling Croatia

My name is Matija Babic and I live in Croatia. This year, I finished my classes, and now I'm going to high school for computers. One of my English friends sent me your very best magazine, Amiga Computing, but I don't have money to buy it.

Please, if you can, send me some pictures and text from your new issue. I really love the Amiga, but I have a C64, so I hope that if I can't play on an Amiga, at least I can read about it. I hope I didn't take much of your

time. Thanks in advance for help. Sorry for my English, but they don't teach it in schools - all I know is from games

Matija Babic, Zagreb

Your English, if Jearned from TV and send Matija some pressies.

games, is startlingly Prize lesser thing you should apologise for. We are

pleased to help you, and a copy of the December issue is in the post as I type. Now it's the turn of our regular readers! Your full address is printed below in the hone that some of our helpful

Amiga enthusiasts will send back issues so that you can read to your heart's If this helps your linguistic progress, so

much the better.

Matiia Babic Aleja Partizanskih Pilota 5 41010 Novi, Zagreb, Croatia

OK, folks, get those seasonal hats on and



pation.

well done. I hope you find the Mastering The Amiga book on this month's cover of help in your future struggles. As for compiling the programming fea-

tures in one magazine or booklet, it's something we've thought about in the past and decided against because we felt there was not enough interest.

However, if enough beginning coders were to request such a booklet, we might be tempted.

Star search

Each month I purchase a copy of Amigo Computing for my daughters, and more often than not I find myself in the position of hogging not only the magazine but the computer for many hours.

I began after a period of time, to reminisce about my misspent youth sat in a Star Wars simulator game down at the local amusement arcade happily playing away until all my pocket money was spent. Answay, enough bout my past, as the

wife would say, I need help and plenty of it. Over the past three months I have tried to no avail all possible avenues available to me to find and purchase the Star Wars Trilogy game, but I have often drawn a complete blank. Using your many contacts, could you please help me with my dilemma and find a copy of this game so that I can

which I'd rather have.

the melting pot, I say!

Concerning the few, and I should imagine it's just a few, AC

readers complaining about the archiving process on the last few CoverDisks, one letter in ESP complains about PD disks not

being full, yet the AC disks are crammed to the top, I know

As long as the directions on these disks are clear and work-

I know the Quadrix game didn't de-archive on my WB1.3

Sorry to have to say this, but your Home Accounts disk had

machine, but it's working now, and it's nice to watch what's

a little bug in it. The archive calls for Home Accounts2, but the

disk has the name HomeAccounts2. Your customers will have

to rename the disk from Workbench by putting a space

I have had my Amiga and bought Amigo Computing since June

This includes no problem with viruses, missing disks or dam-

aged disks. I have tried all the other dedicated Amiga mags,

but this is the best. Oh, and keep on your soap box, Ezra old

1991, and in that time I've had no trouble except for Quadrix.

able, I think I'd much rather have my AC disks. Put them all in

would result in the user buying a different niece of software. Richard Romett, Wellingborough

To be fair, the problem of large-scale professional piracy is rife in the cartridge industry, though home copying is of course impossible without specialist equipment. This

is not the reason for high cartridge prices, however. Console games are often sold at ridicu-

lous prices because many contain, in effect, un to 6Mh of RAM. In addition, the consoles themselves are sold with very small profit margins, and you will find that the major manufacturers make most of their money from cartridge sales.

What will be a more accurate measure of industry claims about piracy will be the expected CD-ROM explosion. If CD-based titles sell for the same price as floppy-based games once the market begins to expand, the piracy argument will be scotched and the industry's cynical profit-making exposed.

Short and sweet Value for money is, I suppose, a personal thing, but after some more than favourable write-ups I set forth and spent more than £20 on Lure of the Temptress. then sat down ready to witness those comments over weeks of puzzle solving.

After two evenings, I was in a state of shock to wander into a location and find it was the end sequence. Being new to computing and a novice at adventures, I

couldn't see how hardened gamers, including yourselves, would find this the least bit taxing: Don't get me wrong, I agree with all

that was said about the game, it's just that there's not enough of it compared to Bloodwych, an old game that took me

Reply service

I am writing to convey an idea I have on improving your already excellent magazine. A common feature I find in most magazines of this genre is the statement "no SAEs please" on each of the letters pages.

To merit a statement in print I was pect this is a regular occurrence. This suggests, does it not, that if such a service was provided it would be popular with the readership. I hope that this letter will achieve, at

least, a question on this issue in your next reader survey or, more optimistically, a trial period whereby readers queries and problems can be answered in return for an SAE

Philip Ritis London

Sorry to disannoint you. Phil. but if we were to offer such a service, we would spend so much time answering letters that we'd never produce another issue of the manazine There are so many hundreds of let-

ters that we'd either have to spend all our time, as it would be impossible to employ people for the job. Replies in the Ezra column, whether

in person or in print, are statements direct from the magazine to the readers, and as such have to be written by Ezra (mel). Sorry, but there you have it.

months with no disk swapping at all. Where is the value for money? For me, VFM is a game like Monkey Island 2 or Bloodwych, or any game that takes a lot of time to finish and gets you think-

Graphics, though nice, are nothing without gameplay, and I suspect all Lure's disk space was taken up by graphics and sprites.

All said, I enjoyed what there was and think this game could have hidden value in that it could be a good introduction to adventures for children. I'd buy a sequel providing there was more to it, but that would require a full no stones unturned review.

Anthony Blackhurst, Hawes

Ah ... um ... slight problem here. The Gamer guys are a dedicated lot and do their best to give each and every game a

right good hammering. However, there are occasions when perhaps they don't have time to complete a game or - rarely - haven't the ability to finish it.

They usually make an effort to point out where a game will have less lasting appeal than others, but it isn't always possible. Rest assured we'll be looking long and hard at any new graphic adventures with value for money in mind.

Piracy excuse How can companies say piracy leads to higher prices? Just look at the prices for the uncopyable console games. Imagine paying £35 for a game which has the same graphics, sound, and playability as If piracy was stopped, it would not

about my mis-spent youth? I

P Mellors, Roumemouth

await some kind of reply with great antici-

The Star Wars games were produced by

Domark (081-780 2222), then released in

compilation form some years later.

Whether or not they are now de-listed I

Try Domark, and if they can't supply

you with the games, place an ad in our

classifieds section. One of our readers may

be prepared to send you the disks or do a

swap, you never know.

don't know, though I suspect they are.

result in more games being sold because nobody would have more money to buy the extra games.

Suffering from archive agony?

You could say someone will not buy an original product if they have access to the pirated version, but this would not hurt the industry as the money saved

proper killer.

chap! Keep on telling your customers to get themselves a

Chris Shea, Swansea

Thanks for the testimonial, Chris. Glad you like the magazine, and hope you continue to do so for a long time. As for the archiving debate, we kept well clear of the tech-

nique for three years because we thought it might cause problems, and it turns out we were right. However, our techie bods are on the case and they assure me

that all future archives will be fine. One small problem remains in that Kickstart 2.04 has a bug when formatting a disk in the internal drive. If the disk you booted from is write-protected, every disk you try to format

from that disk will appear as if it is write protected, regardless of the position of the protect tab. This is Commodore's fault and it is a widely documented bug

recently fixed with Kickstart 2.05. All those ASOO Plus owners out there who have had problems should simply write-enable the CoverDisk, re-boot, and de-archive from there. Problem

between Home and Accounts.

happening when one archives a program.

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Software

release been quite so imminent for guite so long. First we had then Mirage and now at long last GVP have finally thrown copious for ImageFX.

Regular readers may remember AC's exclusive preview of Montage - as was - in our September image processing special.

Since those beta-testing days, ImageFX has come a long way implementing all the features hinted in the early days while adding a few new twists fit to whet even the most discerning artistic appetite

The software and attendant donkeychoking manual come in the now almost mandatory ring-bound hardback, complete with an Scala style storage sleeve - ideal for easy access and perfect to impress your

Installation as you'd expect is simple. however the results are fairly surprising as not one but four separate programs appear Alongside the expected ImageFX the additional contents include ImageFX_WB, CineMornh and the curiously titled IMP.

As the name suggests, the ImageFX WB

program in the collection, CineMorph, may trate primarily on ImageFX and IMP, but

already he familiar thanks to last month's Morph Mania spectacular. Like ADPro's MornhPlus, the program can run as either a standalone or in the case of ImageFX as a loaded directly from ImageEX on request. Due to last month's feature. I'll concenfor those who missed the last issue here's a brief synonsis of CineMorph and its assorted morphing and warping skills.

As you can see from the screenshots, CineMorph employs a dual screen system for source and target images. Like both MorphPlus and Image Mr, the package Paul Austin takes a

long lingering look at Image FX, GVP's latest graphics spectacular

A grevacule preview screen, an extr

de if you're without a suitable disp supports both static warps and mor nlus animated morphs - alas there ontion for animated warps.

Again as is obvious from the scree CineMorph uses a mesh to define a ences between the source and destina images. Although undoubtedly the la morphing package as far as rendere concerned, it must be said that a ce



Altered

program allows you to open the program on the Workbench window, providing the power of ImageFX in the style of a commodity, instantly accessible as and when required.

This instant access is further enhanced by a "put to sleep" button which appears on both versions of ImageFX allowing the user to temporarily iconify the program while either retaining or disposing of any images already present.

The only notable difference between the custom and Workbench version is the lack of a Preview option within the latter.

Buffer

However, this doesn't mean you can't view images, as simply rendering the selected buffer instantly throws the current image to the rendering medium of your choice, whether that be a standard Amina mode or alternatively a dedicated display device such as the IV24, HAM-E, DCTV and the like.

Although the difference between preview and render may be rather confusing, all will be explained a little later, but for now perhaps the simplest analogy is to describe the Workbench option as an ADPro-style environment, where you only see the effects of your actions when the render option is applied. Conversely, the custom screen coun-

terpart provides a constantly updated preview every step of the way. The next Now we're reaching the heart of ImageFX. Although fairly bland, the toolbox is undoubtedly where most time will be spent. Like its predecessors, ImageFX offers an impressive array of processing tools and special effects including, balancing, composition, sizing, rotation, convolutions, transformations, filtering, Alpha channel support, special effects, brush handling, ARexx and last but not least the invaluable Hooks

images

The Hooks apply pre-designed ARexx programs to produce additional SFXs, but perhaps more importantly allow access to external programs such as the aforementioned IMP and CineMorph. Aside from image processing, the Toolbox is also the home of

the program's built-in painting tools. These tools include all the classics which benefit en masse from the added power of a true 24-bit painting environment thanks to features such as optional alpha channel, gradients, trace through, rub through, saturation, colorize (sic), hue and so on.

One of the few faults of the painting environment is the limited

going to happen.

graphics.

rush out and buy an IV24. Back in the real world it simply

Using the toolbox

number of display formats offered during preview. These are of

IV24, Amiga, Firecracker or HAM-E. Obviously if you're without

of the three aforesaid display boards you're stuck with basic Ar

colours or greyscales plus optional HAM. These

between straightforward colour, dithered colour, the afores

tioned greyscale with HAM remaining strictly old-si

the 24-bit buffer such basic Amiga graphics simply aren't or

enough for serious applications. No doubt GVP would like us a

Although bearable when image processing as a rough guide

Alas in this case basic really means basic with just 16 lo

Amiga Computing February 1993



amount of speed is sacrificed due to the ther cumbersome mesh editing system. process can be spectacular, especially on oft features such as eyes and mouths which lie on a fairly uniform backdrop.

mortunately CineMornh isn't quite as strong when dealing with hard edges such profiles or images with hard distinct out-



With the program's modular design, the addition of new and

sting display boards shouldn't be a problem. If GVP do the

refequin Opalvision Avideo or even DCTV, the success of

f like me you're without either the now defunct HAM-E or an

Although this provides access to a much wider selection of

explay formats, it invariably means painting is at best hit and

and invariably much more time consuming than a normal

mageFX would be assured - the question is, will they?

ander the image for an accurate overview

mint package.

or the event.

lines. When morphed or warped, hard edges do tend to "ghost" around the edges rather than transform with the same degree of accuracy offered by both Image Mr and to a greater extent MornhPlus

Having made a point of the program's ghosting problem it's worth stressing that freebie - very appealing considering that CineMornh in its stand alone form retails at

a staggering £99.95. The last software surnrise is mysterious IMP which when stripped of its acronym becomes the ImageFX Multi Processor. Although you'd never guess from the title the IMP is a batch editor in the style of ADPro's

FRED Fortunately for the use than the aforesaid FRED, but in turn does processing to sacrifice a lot of the sophistication and flexibil- the masses... ity available from its ADPro friendly counter

part. Like CineMorph, IMP operates as a hook as well as a pseudo-standalone which opens the IMP interface alongside the ImageFX WB program as a processing tool.

As you can probably see, the interface is pretty simple with a main and swap field for source images plus an excellent Alpha channel option which allows you to use a predefined series of greyscale masks as a transparency filter

between the two source images. Below the Alpha lurks the essential destination field,

batch

expect works as a definable repository for your animations rendered images or Going colour crazy

FX scores well with a whole selection of spreads and swaps, grabs and s

by the render, anim, or 24-bit output Other processing essentials include palette lock which when active applies the palette of the first frame to all subsequent images. Delete frames does as suggested, while

"wait for source" simply instructs IMP to wait for all frames to be created by an external source prior to executing the batch. The Prep and Proc options are perhans the most impres-IMP brings

sive of all the available gadgets The Pren ontion

allows you to specify either a single or selection of commands to be applied prior to processing, while Proc allows a separate selection to

be applied after processing. Fortunately no knowledge of ARexx is required as long as you stick to the supplied ImageFX commands. Customising the commands and the required rendering format is simply a matter of defining the

required effects within ImageEX before clicking the begin button. As a result, once batch processing begins IMP simply reads the existing set-

tings within ImageEX and acts upon them. Although fairly unassuming, IMP is in my opinion one of the strongest selling points of the ImageFX package, bringing batch processing to the masses without the need of any ARexx experience. For the busy graphic artist with neither the time nor the inclination to master ARexx. IMP is nothing short of a dream come true

ImageFX itself is separated into five distinct areas, all of which have their own unique interface occupying a strip on the intended application a few select gadget are generic throughout the program. These

include load, save, prefs and of course guit. The load and save options, although self explanatory, do have a few surprise in store when applied. For example when loading images there's no format selection

required, as the software automatically Rendering

As the name suggests, it's here where you can see your creations in all their plory providing you have a suitable display device attached. If however you don't have either an IV24, HAM-E or DCTV, I'm afraid you're stuck with standard Amiga

However, all is not lost, especially if you own an A1200/4000, as it's here where at been applied

ImageFX is totally at home with a 256colour display which with the assistance of the four available dithering formats. three dithering styles - either left to right, right to left or zig zag - and three definable strength settings ensures that exceptional good results await in the resolution

The software automatically senses which machine is being used and as a result automatically tailors the selection of screen modes and resolutions to suit.

Once the display method and dithering options are set simply clicking the render button instantly sends image to the

As you may have guessed, thanks to the distinction between display and render it's impossible to actually edit the rendered image as it's designed purely to give the best possible representation of

DCTV Bitplanes: @ 4 Planes Height: [] Lace X 1.81 (4-Nov-92) -- 8 1992 Nova De:



Quick and simple composition courtesy of the programs 24-bit double buffering

loads as long as the particular format is

already supported.

Such files include Alias, Anim, BMP, DCTV, DPIIE, FLI, GIF, HAM-E, ICO, IFF -

including IFF24, Impulse, Info, Ipeg. PBM, PCX, QRT, Rendition, Sculpt, Unix's PBM format, Targa, Tiff and VMEM. An impressive selection and no need to specify a

Added twist

On the output side, things are equally impressive with an added twist of a whole selection of options including the ability to save the working screen, the rendered image, the 24-bit buffer itself and finally

the swap buffer again in its 24-bit form.

For the working, rendered and swap buffer images the save options include anim, BMP, Clipboard and ILBM, while for the 24-bit buffer the selection expands to Alias, BMP, Clipboard, ILBM, PBM, Jpeg,

Rendition, Sculpt, Targa, Tilf, and VMEM.
Aside from the quit option the final ubiquitous gadget leads to the excellent.
Prefs screen which like IMP is a high point of the package. Although Prefs screens don't tend to lead to unbridled excitement this is a real exception.
On entry out're presented with a huge

range of customising features, the most

notable of which has to be the excellent virtual memory option which allows you to assign a drawer on hard disk as a temporary storage medium which will then masquerade as RAM.

This is nothing short of a masterstroke on the part of GVP. ADPro and to a lesser extent Image Master are notorious for their ravenous appetite for RAM which often means a massive investment in additional hardware or a major re-think of the project in hand.

As you might expect, VRam is noticeably slower than the real thing but thanks to intelligent design you can define when

the option is to be applied.

For example, you
can specify that VRam
should be used only
when required, either
with or without a warning message or alternatively that it should option is nothing

always be used or perhaps ignored alto-short of a gether.

Other Prefs high-masterstroke

Other Prefs high- **masterstrop**lights include the
option to define the

Preview and Render options, which in the case of preview include Amiga, HAM-E, and IV24 as either greyscale, colour,

Flexible scanning

Supported scanners and grabbers include the Espon ES300C, the Sharp JX100, Framegrabber and the, IV24's IVFG. Alas there's no option for the latest Epson A4 scanners such as the ES-600C and ES-800C or the excellent Via

Having said that, as with the majority of ImageFX functions scanners and grabbers are simple plug-in modules in the style of ADPro loaders which means in theory new releases only require a suitable module to join in on the act.

As you'd expect, all the necessary scanner setup options await including lendscape and portrait, the essential mono preview, image cropping via definite boxes, DPI settings, separate colour or IMI RGP scans and of course greycate — in short, everything that the scanners own software can provide plus instant access to the image processing power of the main program.



Printing

is almost essential within any serious image processing package, printing is taken siy, in the case of imageFX the present options include 24-bit printing via prefere of perhaps more importantly full PostScript support.

If you select the PostScript opioin you're presented with responsibility of the province of th

as comprehensive as either Image Mr or ADPro.

Nevertheless an one basic essential and the entrainance of the entrain





IMP, perhaps the one of the systems strongest selling points

dithered colour, or HAM – but no HAM8 I'm afraid. Rendering output fares a little better with Amiga 1.3/2/3, DCTV, EGS, Sage, IV24 and HAM-E, but unbelievably enough

but unbelievably enough there's still no sign of HAM8.

HAM8 update to the package but as yet it's still unclear how it is to be implemented and even worse whether the revision will be free or not.

Compounded by the fact that the program is more than happy with all other screen modes available via WB 3.0. As a result, a super hi-res 256-dithered render is a piece of cake, so why no HAM82 Influsting.

The remaining options deal primarily with

customisation including a complete selection of definable paths for every input/output feature of the package plus the required presest for any scanners, frame-grabbers or printers attached to your system.

The only remaining generic option is the

The only remaining generic opioin is the zoom controls which consist of three gadgets, two of which increase and retard the levels of zoom while the third allows instant screen refresh back to the default image size.

The verdict

If you read the preview of ImageFX way back in our September issue you may recall that the program won the title as potentially the best all-rounder. Now it's finally arrived that verdict remains pretty much the same.

Although the CVP marketing machine



A freeble with ImageFX, that costs £99.95 as a stend alone

would argue otherwise, ImageFX certidoesn't blow either Image Mr or ADPrio of the water when it comes to pure improcessing power. However wi ImageFX really scores highly is its exceintuitive design, ease of use, flexibility overall value for money.

overall value for money, if you class yourself as a general puruser ImageFX is probably the one for With ARexx, free anim generation, bascanning station, special effects, comtion, morphing and printing, it's perhapclose as the Arniga has yet come to an ite jack of all trades.

SYSTEM ESSENTIA RELD = Essential YELLOW = Record



Ease of use = 9
implementation = 7
/alue for money = 9
Overall = 8

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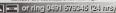
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and user-friendly preferences opt

VirusZ Preferences

✓ Audible & Visible Alarm
✓ Check Resident Vectors

✓ Check Memory For Viruses

√ Test Hunks On Startup

Check Crunched Files

The scenario is simple. You have qualte happly swapped disk with friends, bought and used a selection, bought and used a selection of the sele

meen infected with a common or garden imputer virus, and as if this isn't enough, it's also more than a little likely that it's our own silly fault.

Precautions are the name of the game when swapping disks every bit as much as when swapping sexual partners, and the user who exposes his or her machine to the ravages of Saddam or Lamer is usually suity of negligence.

Computer viruses, once the subject of appular myth and supersition, have over he past two years been tamed by the majority of careful owners due, in no small aut, to the efforts of a small band of dedisated shareware virus killer authors. However, for those green users still wet

Digital

behind the ears, the virus remains probably the most deadly threat to trouble-free Amiga use, and it is for those new owners that this article is repeated every year.

Having said that, treating the threat of viruses with contempt – usually brought about by the mistaken belief that today's virus killer will work tomorrow – is often the downfall of more experienced users, so we might all benefit from a refresher course.

There are two stages to virus security – prevention and cure. The first is immeasurably easier than the second and more effective, but it is surprising, judging from the number of readers' letters on the subject, just how many people either don't know As a host of new owners boot an Amiga for the first time, Stevie Kennedy takes a look at what could be their first disaster

diseases

18 : Memory & Vector Check Repeat Delay (2 to 128 seconds)

_____Handle Viruses Automatically _____ Create File Report
Use | Save |

the basic rules or never apply them.
Follow the guidelines laid out in this article and you should never suffer the agonising and strangely humilisting experience of viral infection. Fall to stick to a strict regimen of precautions, and heartanne will expendially follows:

surely as day follows night. Let's identify

the enemy. A computer virus is a small piece of code whose primary purpose in life is to copy itself from one disk to another.

Secondary considerations depend upon the virus, but range from simple repeated duplication, damaging enough in itself, to deliberate criminal damage of data and program files.

I say criminal, because it is illegal to knowingly spread a virus, let alone invent one of your own, and if any of our readers can ever prove that someone has carried out such a sed and pathetic act I would hope they'd do the decent thing and call the police immediately.

Some basic safeguards to avoid infection and infection is to keep all refuses to work as a background 24-hour checker, limit

disks write-protected unless data is to be saved to them. Despite scare-mongering reports a couple of years ago, it is impossible for a write-protected disk to become infected. Step two is to find a good virus checker. Unlike some supposedly expert advisors, we won't attempt to list the various checkers in order of effectiveness, as the only useful checker is the best checker.

For example, a recent article in another Amiga magazine rated VirusX at number five in a list of ten best checkers. Though good in its day, VirusX development has for long been abandoned by its author, Steve Tibbet, who made no

sones about the fact that the program's design made updating a for all new viruses a tiresome and ultimately pointless task. Since the middle of 1991, VirusX has been obsolete and mough still touted by most PD libraries (and the odd foolish agazine), should be evolded at all costs.

Similarly, some supposedly good virus killers have prove similarly, some supposedly good virus killers have prove after prolonged use, to be either inaccurate or inefficier Master Virus Killer is bugged in many of its versions as otherwise comprehensive virus detecting ability. Nuke, which many now mistakenly believe to be the best checker, has an annoying knack of "finding" Saddam on a clean disk, even when the disk-validator has been copied from a fresh disk. Such popularly promoted checkers, though worthy prorementing fasts in their own right should only be surchased.

Such popularly promoted checkers, though worthy programming feats in their own right, should only be purchased from PD pundits as second-line defences and used in conjunction with a tried and tested checker until their effectiveness under firs can be gauged. Step three is simply to apply the rules we have been urged

Step three is simply to apply the rules we have been urg to adopt for sexual relations – minimise your partnerships a always use a condom.

Translated to computer virus speak, this means don't ind change disks with others whose virus defences in it, and when a new disk is introduced to your system, which is her been the problem of the local translated in the people of the problem.

sure that it has been thoroughly virus checked.

By applying the three golden rules, no user need fear for his
or her disks. Ignore them and it won't be long before uncle
Saddam or cousin Travelling Jack pops by to say hello.

Boot block viruses The majority of Amiga viruses are

known as boot block viruses, because they hide in the tiny amount of space kept to one side for the boot block on a disk. Without a boot block, no disk will auto-

boot, and without a special custom boot block, few protected commercial games will work, so even the most primitive boot block viruses, sometimes irresponsibly described as "harmless", can be fatal.

A second and less numerous type is the file virus, so called because it exists on a

Software

disk as a separate file. These are by far the most dangerous, as they use a variety of cunning methods to disquise themselves, thus fooling your system defences.

Standard-link viruses, such as IRO, will append themselves to a program file. often the first command run in the startup-sequence, then attempt to go

Unless a virus killer is intelligent enough to figure out that, say, the Setpatch command has suddenly grown in size or contains tell-tale code. link viruses will sneak through and cause their havoc at a later

Saddam

Others, sometimes called Trojan horses, will entirely replace the infected file, change their own name to suit, and sometimes even try to match the size of type is Saddam, which became notorious shortly after the Gulf war, and which shot to fame when it was inadvertently distributed on the Amiga User International

CoverDisk in December 1991. Saddam replaces the disk-validator file, pads itself out to the same size as its host, then corrupts the bitmap on the disk's

As the bitmap is a digital map of the disk AmigaDOS sees that it is inaccurate. assumes the disk is unvalidated, and runs the disk-validator program in an attempt to sort out the problem. Hey presto, Saddam is invoked by the Amiga itself. In addition, the infected disk will no

The best virus killers

The only virus killer I would recommend without reserva-tion is Virus Checker from John Veldthuis. Now in v6.19 (at time of writing) Virus Checker has been constantly updated in line with the latest operating system changes and virus threats.

carried for, and it any user doubts the program's abilities, a quick glance at the comprehensive list of viruses in John's documentation should calm any fears.

Like all good checkers, Virus Checker can be fired up by a disk's startup-sequence and used as a full-time sentinel, or can be kicked in from Workbench for the odd disk

In addition, the program's file virus check can be insti-gated at any time, and memory scans are available if the user suspects something funny is going on in RAM. The program uses a "brainfile" to keep track of boot ocks - handy for those non-virus custom boot blocks lich would otherwise prompt a virus warning, and a very

which makes it a certainty that if a suit-

able virus checker is not used the disk is

Unlike some less aggressive strains, the

Saddam was just the first of a new

wave of link viruses, varying in their

sophistication, to hit the Amiga last year,

and only a few virus killers have managed

your checker is effective if you have been

using it for more than about a couple of

It is therefore pointless to assume that

Saddam virus, like the filthy little parasite

it is, simply wipes out its host disk,

to keep up.

checker worth relying on at the moment. Its comprehe sive library of link viruses (69 are covered by release 5.2 and a host of options including Boot Lab for boot blos saves and losds, user preferences, and file/memory sca ling abilities, give Georg Horman's program a dist

idge over most other checkers.

Not as simple in operation as Virus Checker, VirusZ is a superb second-line package for those sticky moment

Saddam, like the filthy parasite it is, wipes out its host disk

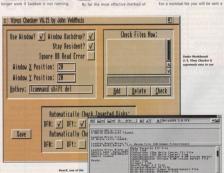
ensuring that your defences are solid is to get hold of one or more good checkers,

then register with the authors as a share-

is updated, saving you time and mon scouring the PD columns, and a possiheart attack when your obsolete dig defences keel over at the first sight of brand new virus. Without such people as Steve Tibb and John Veldthuis, the Amiga vir would be a much more dangerous opp

new version of the program as soon a

Were it not for the efforts of the largely unrewarded authors, information concerning viruses would be scare and effective killers as rare rocking horse doo-doo. They deserve your support.



Safe hex

hange, and publicise the di last year to form Safe

rirus killers at regular intervals, a or keeping in touch with an organisation offering the best and most up to date information should contact Eri

Snaphanevej 10, DK-4720 Praestoe Denmark, Phone: (+45) 55 99 25 12 FAX: (+45) 55 99 34 98

Speedy Gonzales, as Erik is otherwis known, will be pleased to receive an virus information, new viruses, or jui to us all a favour and get in touch

killer clad



ntil recently S-VHS hardware has been way out of reach for the average videophile. Fortunately prices are tumbling and the time could be right to take the next step up.

We'll start our adventure with G-Lock the very latest offering from GVP, a unit which leads the field in the battle against inflated pricing by retailing at literally half that of its Hama counterpart. The question is, does

the cash saving mean missing features?
The unit itself is a fairly bland black beastie offering RCB injust from the Amiga via a 23-pin flexi connector plus the genlocking essential of an RCB pass-through which connects directly to either a monitor

or at worst a modulator.

In addition to the RGB options sits a rather curious joystick connection which serves a dual purpose as both a power supply and means of input for the unit's secondary role as a colour splitter – ideal for both Vidi and Dipolsiew.

Along the side await the essential I/O connections which for input consist of two CVBS/RCA phonos and a single S-VHS/RSA mini-DIN. On the other side of the I/O coin await a single RCA phono out and of course the essential S-VHS mini DIN.

Pleasant

The final and rather surprising I/O option concerns sound. Again connected via a selection of phonos boasting two separate audio ins and a single/mono audio out.

Although a pleasant addition I must admit it's not exactly the ultimate audio/video answer primarily due to its mono only output. To accommodate the feature software

sliders allow adjustment of both bass and treble plus the overall volume. In addition a selection gadgets allow you to toggle between input channels or alternatively mix both signals into a single combined output. Unfortunately there's no way to adjust

the input gain of the audio signals. As a result, the relative mix between the two sources is defined purely by the strength of the incoming signals.

As a consequence you may still require an external mixer to achieve the desired effect, thereby cancelling out the advantage of the internal mixing options. Not perhaps the definitive answer to audio/video but resentheless a worthy addition.

Once the software and hardware are safely installed, it's time to boot-up - a pro-





cess which involves first activating the unit and then reboot to run the attendant

When active you're presented with the basic video control panel which can be tongled to reveal alternate audio panel. As the audio options have already been mentioned well stakt to video control which consists of a signal indicator, a selection of sliders controlling colour, contrast, saturation and brightness—all of which relate to the outpo-

ing video signal.
Following these come the three input gadgets which toggle between the two CVBS inputs and of course the single S-VHS/HB. Switching between them is instaneous and can be achieved either via the

G-Lock and Hama represent the cutting edge of Amiga S-VHS genlocks. Paul Austin brings you the definitive quide to two true power products

control panel, a hot key combination or

Alas G-Lock can only process a single video input at a time so there's no way to cross-fade between sources. In addition the connection of both CVBS and S-VHS simultaneously – although possible – is not recommended as signal interference between the two formats can cause real problems. Although cross-fading is out of the questo the unit does offer basic input switching ARexx, illustrated by an accompanyis script which fades one composite source black, swaps inputs and returns with the second. Due to CVBS/S-VHS incompatible this can only be achieved between the tax

Beneath the input selection sit the for







CVBS signals

nother Home exemple attempting the tricky fracti

knob. The only slight problem concerning changes

on the fly appears when switching

between key modes while the effect is fully

applied, as occasionally screen glitches necessitate a fade out prior to application.

cally a glowing testament to Hama's talents

there is one area in which it does suffer. If

you've happened to glance at the product

box there's a chance its already been snot-

Although excellent I must admit I'd like

to see a few more whistles and hells for the

£740 asking price. Such enhancements

could include audio support and crossfades

between an increased number of available

inputs. Still having had my almost inevitable

moan the Hama still remains the ideal

can afford it, buy it. If youcan't, start

saving...

ted - the iaw-dronning price of the unit

Although almost all of the above is basi-

essentials of modern Amina penlocking in the form of an external option which simply operates as a passthrough for the incoming

This is followed by the

Amiga option which in effect is the reverse of the Amiga's output completely

Next comes overlay, the bread and butter of any

self-respecting genlock, prosiding the classic combination of Amiga graphics above the incoming video

Lastly we arrive at the muerse ontion which simply reverses the effect of the making colour zero opaque while transforming all other colours of the overlaid graphic transparent to the ncoming signal.

Below the keying options await the three definable setup gadgets which allow you to specify a complete keying and signal prossing environment - including audio options - which can then be saved or togmied as and when required.

In addition to the basic audio and video controls another four control panels await all of which are devoted almost entirely to Glock's primary strength of signal processor.

Extensive As you can see from the control panel

screenshots, the support for signal processing is very extensive and reveals G-Lock's real iche as a professional signal processing tool.

From the fourth advanced panel you can tike advantage of the chromakey functions built into the AGA allowing you to specify a relection of colours as the keying channel. In addition you can also select any of the 8-bit

via channels as a keying medium in the style of the ECS. As the more astute readers may

u

have already spotted there's been irtually no mention of wipes. lades or indeed dissolves, and with good reason, as there are virtually none on offer, with the only exception being the aforemensoned input switching

Above all else this is the hardware's most damning indictment. apart for the basic keying quality a genlock - which admittedly is succilent - fades and dissolves are

perhaps the most important feature of any peneral purpose genlock Without the ability to subtly move

etween keying states a genlock becomes most useless to the average punter. Not mly does G-Lock refrain from keying transimmation either via ARexx, hot keys or hardsure but it also offers no means of adjusting the amount of static effect applied in any of keving modes.

The end result of this "all or nothing"

Getting connected

approach means that G-Lock will almost certainly have a very limited appeal to the mass market. Unless you're the proud owner of an AB roll editing system, a separate video mixer and God knows what else, attempting to employ G-Lock with any degree of subtlety would be at best a difficult proposition.

For the average user with an Amiga, a titler and suitable video hardware it's safe to say Gallock isn't the ideal choice unless of course your artistic aspirations stretch no further than bog standard overlays and inversions with no intros.

Having suffered a severe slap in the face as far as punter appeal is concerned, it must be said G-Lock will have a degree of appeal to professionals, primarily thanks to its unrivalled signal processing and transcoding talents which leave all other Amiga friendly S-VHS units for dead

Used with Scala or other such multimedia

As you've probably quessed the Hama is essentially a simply product which easily wins an award as one of the simplest plug-in and go products on the The actual keying quality in all states is

nothing short of breathtaking especially when working with a S-VHS source. As for ease of use, again the Hama scores high with key mode switching and signal processing beginning a simple matter of tapping the odd button and twiddling the occasional

applications as a multimedia tool. G-Lock could nevertheless be useful for, say, corporate applications, where some of its omissions would not be required anyway

Still, even with this on its side I can only envisage a select few who would be willing to invest such a sizeable sum for a signal processor which happens to boast basic genlocking as almost an afterthought.

It's possible you may have read a rather conflicting review of G-Lock in another surprisingly popular Amiga magazine. If that's the case it only goes to prove the old adage that you can't always believe what you read, especially if it doesn't appear in AC.

Hama

Although the Hama editorial is dwarfed by the G-Lock section, it's by no means a reflection on the product. The situation comes about simply due to the relative simplicity of what is a straightforward quality product with all the essentials plus a reasonable spattering of extras.

The most noticeable feature of the Hama is its overall look which basically screams quality from the moment it emerges from its packaging.

The most dominant feature must be the twin faders on the right of the unit, both of which are dampened to allow smooth and accurate transition between the Amiga and video signals.

To the left of the aforesaid sliders kurk the six video processing controls, the upper row of which allow variation of the RGB mix by a factor of plus or minus 30 percent, resulting in bizarre colourisation effects beneath the overlaid or inverted Amiga graphics. Below the RGB controls await the chroma

- alias colour, contrast and finally luminance. otherwise known as brightness. As you might imagine these final three are primarily concerned with getting the very best from the available source. Having said that, even here a few tricks

can be applied. For example a simple effect such as overlaving colour Amiga

graphics on top of an initially black and white video source which then gradually transforms to full colour. Simple but nevertheless effective.

Beneath the signal controls sit keying toggled buttons which like the G-Lock's software alternatives consist of a bypass. Genlock/Amiga and finally invert all of which operate in exactly the same manner as their G-Lock

G-LOCK







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VIDEO AND GRAPHICS

1960 monitor

I am an Amiga user who currently owns an unexpanded A1500. I wish to expand my machine, but want to be able to ungrade to Commodore's new midrange computer when it becomes available (probably the A2200, or A2400).

If I buy a Commodore 1960 multisync monitor, will I be able to use it without a flicker fixer? I have heard that some of these monitors suffer from various problems (pin-cushioning etc). Is there a test that I can make in the shop to see if the monitor suffers from this problem before I buy it?

Can you suggest a hard disk drive (around 52Mb) which is suitable for an Amiga (ie auto-parking and auto-booting), is reasonable cheap and would be most likely to have hardware compatibility with any new Amigas?

Also, Power Computing are selling a rewritable optical disk drive. Can this device be booted from under Workbench 2 and how reliable are they? Jonathan Dale, Switzerland

Commodore's 1960 monitor is quiet a good choice and can be used without a flicker fixer, but to use it to its full potential you will need one.

Pin-cushioning is where the edge of what you are displaying is curved, so to test a monitor for this the best thing is to just display the standard Monitor mogning? Interfaces ill? We're here to help!



Write to ACAS, Amiga Computing, Europa House, Adlington Park, Macclesfield SK10 4NP

Save your saes - we can't reply personally

Workbench screen and see if the and right sides of the screen cure or out

As for which hard drive to but choice would have to be a Quan 52Mb with either a GVP or N controller

Unfortunately Quantums are I controlled and the new Am 1200/2200/2400 machines all m with IDE controllers on-board w are extremely slow compared SCSI controllers.

Some companies are planning controllers for the new range Amigas, though - inclu Commodore themselves.

The optical disk drive you mentioned is quiet a good proand can be booted from ell Workbench 1.3, 2 or 3. When tried the Flontical it handled very well indeed

PCM cards I hope that you can provide

definitive answer regarding the me card slot of my CDTV.

The article in the December is your magazine regarding the future the CDTV proclaimed that the penal als now becoming available for A600 would be compatible with

It was therefore with great em asm that I reached for the phone

Does the AA chipset outperform a 386?

As the owner of an almost obsolete Amiga A1500, I was now that Commodore have scrapped the promised 42200 model

I already have a 16MHz 68020 accelerator with 32-bit fast RAM and 52Mb hard drive. I use my A1500 for just about everything fun but which isn't actually useful programming. Midi sequencing, games, writing the occasional letter, artwork (well I think it's art, anyway)

Can the AA chipset be fitted in the A3000, and do Commodore have any plans to sell future A3000s with the AA chipset as standard?

And the 64-thousand dollar question - what about the cost? I have thought many times about smashing my piggy-bank and getting an SVGA-PC/386. Only the AA chipset would convince me not to. Time is running out, Commodore!

lust how fast can that monster processor access chip memory? A megabyte of fast memory never seems to go very far these days! By the way, how much does it cost for full-speed expansion RAM?

Is it really zero-wait-state at 25MHz when you disable the caches? Is a 68881/68882 an optional extra? I system, although I enjoy a bit of ray-tracing.

haven't yet aspired to a maths processor on my current I also want to play games as well as use serious applications. How compatible are games with the 68030? My

68020 has been very poor in this area. The only games I have which take advantage of it are Stunt Car Racer and Formula 1 Grand Prix, Most games don't even load.

I swear that Archer Maclean is trying to play a tune with the disk drive stepper motor on IK+!. What wor me is that even fairly recent games such as limmy White's Whirlwind Snooker don't run on my 68020

To write in small print on a sticker on the box "not compatible with the Amiga A3000 and some 68030 chips" is just not on - any PC owner would have a fit if a game didn't run on his 80386 PC but worked fine on his friend's 8086 PC

Now I've got that mini-editorial off my chest, thank you for taking the time to read this letter. My apologies S Williams, Blackpool

Unfortunately it's hard to suggest which machine

you should consider next, mainly because you use your machine for quite a number of applications. Face it, is it compatibility you want or a better machine than your present one? If it's a better

machine you want then go for the A4000 OK, it costs around £2,000 plus VAT for a 52Mb hard drive, 2Mb chip memory and 4Mb fast memory

machine, but it's definitely worth it. Also Commodore have still got plans to produce

the A2200 and possibly the A2400, which will be the new AA chipset and probably a 68020 or 688 and some internal expansion slots.

It's not clear if they will come with the maths processor on board already or if it's a factor upon It is unlikely that Commodore will produce an Alli with the AA chipset in, as the A3000 used to be I top of the range Amiga and now the A4000 has a nitely stolen that position.

As for how much memory costs, its about £50 a Mb. The A4000 uses 72-pin SIMMs and yes, it is an wait-state access

As I mentioned earlier, it's hard to upgrade to new machine with more advanced chips fitted without running into compatibility problems.

Commodore have gone some way to try to red this problem by including a nifty hardwa downgrade option which is triggered by hold

down both mouse buttons while rebooting machine. This presents you with a menu asking you wh graphics mode you wish to boot up in, and if

wish to use CPU cacheing - although it must be that it doesn't work with everything. You're quite right - software houses should a

more attention not only to testing there software all machines, but also clearly marking their produces for compatibility.

he if urve to the of the 4Mb memory cards urve to the A600. uy, m omy dismay I was informed that the and extremely expensive personal Nex pory cards

e SCI Undeterred, I contacted the dealer whom I had originally purchased Amis whom I had originally purchased CDTV, who stated that, yes indeed, cor CDTV memory card slot is a stand will be perfectly but unfortunately they aid not supply me with a 4Mb card. ng SC Several other phone calls resulted in a

mighly equal split of affirmative and nge Table responses regarding the nature ludin CDTV slot ham therefore determined the ham had been of the perpetrator of this confu-Therefore determined to seek the eith the mighty Commodore itself. After erch anyone should know then they

d itse Unfortunately I was solidly refused less to any part of the organisation er than the telephone switchboard

S must be said that with an attitude with as this Commodore do not deserve memor loyalty which I and many others

shown in the past. issue a Any gripes aside, please could you uture my problem, since £200 is a lot periphs a pend on an ill-informed experiment. D Modeley, Staffordshire for th

A cres answer to your question is yes, PCM slot is identical on both the enths and and the CDTV, so the memory hone segrades should work, but some softand hardware options which advantage of the PCM slot might

This is because the CDTV is running have well been Workbench 1.3 and the A600 is 68030 Workbench 2.0 machine, so you mild have to check software availths compatibility

Workbench 1.3 machines. grade One of the main problems with CDTV A300 be the lack of memory. The CD drive mis quite a lot just to operate, and it as defi

50 pt

may be worthwhile investing in a chip memory ungrade which will give you 2Mb of chip memory.

offering this upgrade, called Mega-Chip. Try Alternative Image on 0533 440041.

of PCM memory cards try getting in touch with either Silica on 081-309 1111 or Power Computing on 0234 843388.

Bengali Fonts

Odd letters I have an Amiga 500 Plus expanded to

2Mb, which I purchased last January from Silica. I have external floppy and I use a Philips 8833 MKII monitor and a

Games compatibility

I have an old Amiga 500 with 1Mb of memory which I bought five years ago purely to play games on. I now have a massive collection of games - I especially enjoy role playing adventures which I have collected quite a lot.

My machine is currently being repaired, having a new internal drive fitted, as I am told the I/O errors and crashing that kept happening when trying to resurrect charac-

ters was due to a faulty drive. What I would like to know is, when my machine finally conks out, which computer I should be setting my sights on for games only? It must be compatible with as many

Cormen Rade Fssex

Unfortunately you're in the same boat as a lot of people with existing software collections who want to upgrade to a better machine

It isn't possible to move up to a new machine like the A600 or A1200 and still be able to use all of your existing software. In our tests the A600 is definitely more compatible, with around 90 per cent of existing software working fine.

The A1200, on the other hand, is only about 50 per cent compatible, but once software houses start writing games specifically for this machine it will be definitely the best upgrade choice.

Citizen 224 printer, I started to answer correspondence using KindWords 3 which has up to now been very good. Recently though, as I type, odd letters have been appearing in the text - "j" and

of my existing games as possible.

"p" were the most common. I slowed my typing speed down to ensure that I made no mistakes, but these odd insertions kept occurring.

Have you any ideas as to what the problem is? I thought maybe it was KindWords so I changed to Scribble but the same thing still happens!

D F Goodver, Turkey

It sounds as though you have a prob lem with your hardware and not your software. What I would do is open up a CLI window and then start typing.

If the problem still occurs then check you keymap is set correctly in your startup-sequence. If this doesn't work, get your Amiga checked out by a reputable dealer.

Make a disk

roblem.

As for your second problem with ome Accounts, I'm afraid your not lone. The problem lies with forkbench 2. When you click on the copies all the necessary files to RAM

PC compatibility de to leave I own an A500 v1.2, and was on the verge of upgrading to I can see why you might consider buying a PC but it's not

ed in the arriving in the next rectific Unfortunately, I have now reached the point where I need to

dwar able to take work home and, you guessed it, solding and DrawPerfect on the PC is the order of the day. ng the lacking a bottomless wallet, the time has come where I am ing to have to choose between a new Amiga and buying a which compatible. I'm afraid that my computing knowledge is minif you and the idea of fighting with a bridgeboard without help is

With that in mind, do you have any reasonable suggestions uld promut how I can stay with the Amiga, a machine for which I ware of the a great respect having seen the PC in action, and yet be roduct to actually go home at night?

E.S. McCarney, Shropshire

needed. If you buy say an A1200, which is able to read and write PC disks directly, then invest in WordWorth 2, you will be able to bring home documents written on a PC using WordPerfect, work on them then take them back to work. The PC at work will be able to read it back in with no prob lem at all.

As for importing pictures from the PC, again this is quite a simple task. Simply save your pictures on the PC in almost any format and then use a graphics converter on the Amiga.

You can get a graphics converter from most good PD libraries or if you find they don't convert as well as you want, AdPro 2 definitely will. AdPro 2 will convert virtually all formats of graphics into any graphics format you require.

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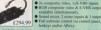
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The new AGA graphics chip set brings a vivid new range of colour to the Amiga line. Denny Atkin reports

Irue



mch 1,234,364 graphics non 3,220,744 other no

colours

round the beginning of 1986 a group of Amiga enthusiasts met at my local computer shop ded around the screen of an Amiga 1000 displaying one of the first digitised 4096-colour HAM pictures. "Amazing," one of them said, "it looks

just like a TV picture." I don't know where that guy is now, but the poor fellow would have probably fainted dead on the spot if I could have shown him an AGA-mode picture that day

Commodore's new A1200 and A4000 computers include the first truly enhanced chip set since the Amiga's introduction. The original chip set (OCS) was revolutionary for its time, with 32 and 4096-colour graphics and what was, at the time, unparalleled

graphics speed. The Enhanced Chip Set released a couple of years ago was nowhere near as innovative - it expanded the amount of memory available for graphics and let users run both PAI and NTSC software, but the new resolutions it added slowed down the machine considerably and offered a paltry four colours from a palette of 64. Amiga users were disappointed

I've heard very few complaints about the newest Amiga chip set, though. With a range of 16 million colours, 256 or 700,000+ colours available on-screen at once, and a four-times graphics speedup, who could gripe? Oh, sure, you say, but with those

improvements it's got to break most of my

software, right? Wrong! Perhaps the most amazing thing about the AGA chip set is that it's almost completely compatible with programs written for the earlier OCS and

The AGA chip set started life in the summer of 1990 as a project code-named Pandora. Commodore's Bob Raible was in charge of the project and designed the Lisa chip, which replaced Denise: Bill Thomas was in charge of Alice, which replaced Agnus. By the time the chipset reached prototype form it had been renamed AA (for Advanced Amiga), and was the heart of a prototype enhanced Amiga called the

Although the A3000+ never made it pass the prototype stage (about 50 machines were built for use for software and hardware development), the AA chip set was approved for a new Amiga, originalli named the A3400. Designed by Dave Haynie and Greg Berlin, this system events ally evolved into the Amiga 4000 released

late last year. By the time the chip set was released in the A4000, the name was changed again to Advanced Graphics Architecture, or AGA (there seems to be a sort of unofficial campaign going on amongst Amiga software companies and magazines to keep the All name, but AGA is the official Commodore moniker).

It's the free flicker fixer!

unterstuded modes.
For Instance, instead of opening a 640 x 512 16-colous
Interlaced screen, you can have the operating system open a
640 x 512 16-colour non-interlaced screen that doesn't filcker
This warn't possible on ECS Amigas because the non-interlaced resolutions with 256 vertical lines were limited to four

If you have a monitor that will handle VGA scan rates sore on this soon), you can choose a high-res, non-inter-red mode, but if you're using a standard 1084-style monitor u might choose 640 x 256 to avoid interface flicker. But what about those older proprams that don't know

The programs like Papelstram, for instance, can move be appeaded an 66th 321 to fine ministrated with milk control of the object of the control of the milk control of the control of the

considerations.

However, there are a number of hacks available in the pub-lic domain, such as Steve Tibbett's DoubleX, that will force all screens to be promoted regardless of how they open their

Older Amigas

This chip set is standard in the new A1200 and A4000, but can't be plugged into older Amigas. One of the big advantages of AGA is its enhanced speed - in most operations it's four times faster than ECS. Unfortunately, the faster chip architec ture requires much faster access to the computer's chip RAM, and there was no way to get a performance boost with AGA and remain compatible with older Amigas.

If you've got an older Amiga and wan access to the new AGA modes, it's time to buy a new computer. Although it's feasible to create a replacement motherboard for the A500 and other classic Amigas with the AGA chips on it, such a board would probaBy cost almost as much as an A1200 to

So just how big an improvement is AGA? about as big a jump over the original Amiga graphics capabilities as those were was over IRM's four-colour CGA graphics The original Amiga chips had a total miette of 4 096 colours, which translates to 6 levels of each primary colour. AGA acreases squares the number of colours mailable offering 256 levels of each pri-

many colour for a grand total of 16 million linurs available to choose from And you can now get more of those micurs on screen at once as well. While the original Armiga graphics chips were limited a displaying 32 colours (not counting tricks

HalfBrite and HAM) on lovres screens and 16 colours on hivres screens, the AGA thins can display up to 256 colours in all

Modifying The real fun comes in HAM mode.

Trough, Now that HAM has eight bitplanes play with (thus the name HAM8 for the new mode), it can display over 262,000 colours on-screen at once. The original HAM mode created new colours by modifying 16 base colours: the new mode has 64 use colours to choose from

This not only means you can get more plours on the screen, but it also virtually minates the colour fringing evident on original HAM files, Although Commodore advertises HAM8 as a 262,000 colour mode, that's not a real limitation

With careful picking of the 64 base colours, you can actually get up to 700,000 colours in the highest resolution graphics

The AGA graphics chips don't provide higher resolutions than were available with ECS, though, In fact, the available resolulions are exactly the same as on an A600 running Workbench 2.1 - 320 x 256, 640 x 256, 1,280 x 256, 800 x 300, 640 x 480, and the interlaced versions of those modes,

which have double the vertical resolution. But there's a big difference - while some of those modes were limited to 16 or even four colours with ECS, they can all display

256 colours or even HAM8 with AGA One thing to keep in mind, and this applies to ECS as well as AGA, is that the

With hi-res sprites you can now make that blocky arrow pointer look less clumsy

Amiga chip sets no longer have fixed builtin resolutions - they're completely programmable

An example benefit of this programma bility is the 800 x 300/600 mode added in Workbench 2.1 - Commodore added a completely new graphics mode without requiring any upgraded hardware. This means that industrious programmers will be able to create new custom screen modes.

The colour palette isn't the only thing that was improved in the AGA chip set. The sprite system has also been completely revamped. Sprites can now be up to 64 pixels wide, which means the entire screen can be covered with sprites.

Blocky Under OCS and ECS sprites were always

built from lo-res pixels, which made them a look rather blocky, especially on a hi-res screen. With the AGA chips sprites can now be lo-res, hi-res, or even super hi-res, no matter what resolution the screen is currently in. With hi-res sprites you can finally make that blocky arrow pointer look a lot less clunky.

Sprites can now be placed with much more precision. With previous chip sets, they only moved in lo-res pixel increments. which meant there were only 320 horizontal positions possible for a sprite

This made precise editing on hi-res paint program screens a bit challenging sometimes. Under AGA the sprite now moves in Super hi-res pixel increments, meaning you can place the pointer with precision in any As mentioned earlier, the new graphics

chips are much faster than the original Amiga chips. Previous chip sets talked to Chip RAM 16 bits at a time - even on the

Multicolor Settings Background Important Text Boark Edges Active Hindow Titlebars Red: 187 Eat Food Catories: 9674 VISalt.

AGA screen modes and monitors

Note: You can now do any colour depth, including 2, 4, 8, 16, 32, 64, 128, 256, EHB, HAM, and HAM8, in any resolution. Note also that multiscan m

DoubleNTSC: hi-res	640x200	VGA
DoubleNTSC: hi-res laced	640x800	VGA
DoubleNTSC: hi-res no flicker	640x400	VGA
DoubleNTSC: lo-res	320x200	VGA
DoubleNTSC: lo-res laced	320x800	VGA
DoubleNTSC: lo-res no flicker	320×400	VGA
DoublePAL: hi-res	640x256	VGA
DoublePAL: hi-res laced	640x1024	VGA
DoublePAL: hi-res no flicker	640x512	VGA
DoublePAL: lo-res	320x256	VGA ·
DoublePAL: lo-res laced	320x1024	VGA
DoublePAL: lo-res no flicker	320x512	. VGA
Euro72	640×200	VGA
Euro36: hi-res	640×200	1084
Euro36: hi-res laced	640×400	1084
Euro36: lo-res	320×200	1084
Euro36: lo-res laced	320×400	1084
Euro36: Super hi-res	1280x200	1084
Euro36: Super hi-res laced	1280×400	1084
Euro72: Productivity	640x400	VGA
Euro72: Productivity laced	640x800	VGA
Multiscan	640x240	VGA
Multiscan: Productivity	640x480	VGA
Multiscan: Productivity laced	640x960	VGA
NTSC: hi-res	640x200	1084
NTSC: hi-res laced	640x400	1084
NTSC: lo-res	320×200	1084
NTSC: lo-res laced	320x400	1084
NTSC: Super hi-res	1280x200	1084
NTSC: Super hi-res laced	1280×400	1084
PAL: hi-res	640x256	1084
PAL: hi-res laced	640x512	1084
PAL: lo-res	320x256	1084
PAL: lo-res laced	320x512	1084
PAL: Super hi-res	1280x256	1084
PAL: Super hi-res laced	1280x512	1084
Super72	400x150	Multiscan
Super72	800x150	Multiscan
Super72: hi-res	400x300	Multiscan
Super72: hi-res laced	400x600	Multiscan
Super72: Super hi-res	800x300	Multiscan
Super72: Super hi-res laced	800x600	Multiscan
A2024: 10Hz	1024x800	A2024
A2024: 15Hz	1024x800	A2024

Hardware A

IControl Preferences O (SHIFT) Screen Menu Snap: VI CTRL Text Gadget Filter: BLT Buoid Flicker: VI A (LEFT AMIGA) Mode Promotion: VI Cancet 1 Save Use

otherwise 32-bit Amiga 3000.

The AGA chip set gets a two-times speed increase automatically because it has a 32hit read/write path to chip RAM, allowing it to move twice as much data every time it accesses graphics memory,

However, that's not all! Newer RAM technology lets the AGA chips do two fetches from Chip RAM in a single memory cycle. This gives you the performance of a 64-bit chip set - four times that of the original Amiga chips.

If you've ever tried to run your Workhench screen in 16-colour mode. especially with overscan, you've seen a fullysaturated chip set.

Your entire Amiga system slows down because the custom chips and processor are fighting for access to your Amiga's RAM. With ACA's 4x handwidth the chips work so much faster that you can run in hi-res, 256colour mode without impacting processor

Bandwidth

Running a hi-res, 16-colour Workbench screen on an AGA Amiga actually uses up the same amount of bandwidth as a lo- res, two-colour screen does on a classic Amiga.

speed at all.

The new chips are so fast that, when you use the new Intuition double-buffering routines in your programs, you can actually create 60-frames-per-second animations in even the highest resolution modes, without taking over the machinel

The blitter in the AGA chips is actually the same as the ECS blitter - it's no faster at actually performing blits. However, blitterintensive graphics can still be much faster under AGA. Since the blitter has to share the RAM bus with the CPU and video display, it operates faster now since the graphics chins take up less of the bus time

The AGA chips are amazingly compatible with the original Amiga chips. When running programs that only support 12-bit colour values (four bits each of red, green, and blue), such as early versions of DeluxePaint, the operating system simply copies those bits into both the upper and lower 12 bits of a register, maintaining the annearance of 12-bit colour.

No problems

The vast majority of productivity programs that I've tried to run on the Amiga 4000 and 1200 have no problems with the new AGA chips or with mode promotion.

Games and especially demos are another matter, though, and many tend to flake out (non-graphic intensive games such as Sierra adventures and Maxis' Sim series work fine, though, even supporting mode promotion).

There's a solution for those programs that don't like the AGA chips. The chips can be told to turn off all the features that didn't exist in earlier versions of the chip set, thus increasing compatibility dramatically.

Simply hold down both mouse buttons when booting the computer to reach the boot menu. Click the Display Options button and you'll be given a choice not only of NTSC or PAL displays, but also of which chips you want the system to think it has -Original, Enhanced, or AGA

Simply picking Enhanced fixes most programs (you may also want to click Boot Options and turn off the processor cache as well to increase compatibility further).

Rooting a game with a custom boot block automatically selects ECS mode - you have to run the 3.0 version of SetPatch in your Startup-Sequence to activate the new AGA chip set features.

Most of the programs that require you to deactivate the AGA features have problems because they break Commodore's quidelines and attack the Amiga's hardware

directly, bypassing the operating system, If these name and demo programmers want to start creating stuff that supports AGA they're going to have to break down and finally read the manuals and learn how

to do things the right way. Commodore doesn't guarantee that the next generation of Amiga graphics chips (code-name AAA) is going to be register- compatible with the AGA chips. This means that any hackers who hit

the AGA hardware directly now are going to find that their programs break on the next-generation Amigas. To keep this from happening. Commodore isn't going to document how to directly program the video hardware - they want programmers to go through the operating system.

The speedy AGA chips and the faster processors found in AGA Amigas, combined with things like Intuition doublebuffered graphics support, should provide programmers with all the power they need to create fast-action simulations or dazzling demos without breaking all the

Commodore's official word is that anyone who bangs the AGA hardware is going to break in the future. This means we should see a lot more games that run from the Workbench in the future, and that you should probably not get too attached to

AGA-supporting software

AGA-supporting games that don't won from the Workbench. AGA is an incredible improvement out

the original Amiga chips, and the new colour depth and Super VGA-like resolution support once again puts the Amiga ahea of PC clones graphically. But Commodore's not stopping them

They've announced publicly that they already working on future chip sets that we enhanced sound (one area untouched in the AGA chips), provide true 24-bit graph ics, and speed the Amiga's graphics by another magnitude. Thinking of something more impression

than AGA is mind-boggling, though. you've go to your dealer to sneak a peek a the new A1200's AGA graphics, you'd be ter leave your credit cards at home, or you may find yourself having to explain whi your Amiga 500 has suddenly been replaced...



Choosing the right monitor can also use a composite monitor or TV set). If you want

The AGA chip set gains its resolution flexibility because it has programmable scan rates. However, to take advantage of the chip set's flexibility, you'll need a flexi-Unfortunately, you'll actually need a monitor more

flexible than the vast majority of those on the market. The original Amiga chip set output at a horizontal scan rate of 15.75kHz, and this is the rate supported by the original Amiga monitors such as the 1084 This scan rate supports resolutions up to 640 x 256

non-interlaced, and 640 x 512 interlaced (more with overscan). The new hi-res, non-interlaced modes added with ECS require a monitor that scans at the VGA scan rate of 31.5kHz The Amiga 3000's deinterlacer circuitry and add-on

flicker fixers also require a 31.5kHz monitor

You have three monitor choices with an AGA Amiga a 1084-style 15.75kHz monitor, a VGA 31.5kHz monitor, or a multiscan monitor that supports horizontal scan rates ranging from 15.75kHz to 31.5kHz (A1200 users to be able to use all the AGA screen modes, you really only have one choice - the multiscan. If you choose to hang on to your old 1084 when

upgrading to an AGA Amiga, you'll have access to all the new colour modes including HAM8, but none of the new hi-res, non-interlaced resolutions You'll still be much better off with AGA, since you'll

get the faster screen updates and the new colour modes (television sets and composite monitors offer the same modes as a 1084-style monitor, albeit in a much blurrier form. Still, the colour PAL composite output is much sharper than on an A520-equipped A500)

users problems. These monitors don't support the standard old Amiga resolutions, just the double-scanned 31.5kHz modes. If you run mostly Workbench-launchable programs, such as wordprocessors, paint programs, and desktop publishing software, you'll be OK because

screens run in 31.5kHz mode. However, any disks that must be booted from such as games, will come up in 15.75kHz mode, which will just look like a scrambled mess on a VGA-only monitor Also, the Guru and Boot Mode screens come up in

15.75kHz mode, so you won't be able to view these on a VGA-only monitor. Only consider one of these monitors if you never play games and if you don't need

access to the Boot Mode screen The best choice is a multiscan monitor that support horizontal scan rates between 15.75kHz and 31.5kHz Unfortunately, such monitors are somewhat more

expensive than the other two choices. Be careful, as many modern multiscan monitors

as a VGA-only monitor when used with an AGA Amiga. One of the best choices is Commodore's 1960, which of course supports all the Amiga scan rates. With a wide-range multiscan you can access every mode the

9) Amiga Computing February 1993

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Software

AM has always been a troublesome medium in which to work. Though capable of essive effects and colourful static graphics, it was always a non-starter for games purposes, and less than useful even for most animations

Graphics produced in Hold And Modify mode suffered from much larger file sizes than their 32-colour or Halfbrite (64colour) cousins, and in addition there was the dreaded HAM "fringing"

This effect, which crops up when HAM pictures are being created by hand or edited, rather than rendered direct from a ray tracing package, is the inevitable result of the compromise which lies at the heart

Of the 6-bits which make up every HAM pixel, only four are used for colour data. The other two are used to calculate screen colours by modifying one colour in respect to

the others around it. In arithmetical terms,

four bits give 16 true two bits lead to this figure being multiplied by 16 twice (because the older chips are 16-bit chips), and 16 x 16 x 16 is 4.096

Subsequent faffing about on-screen can often lead to rather inappropriate colours being selected, and when screen values are disturbed, such as when the user cuts and pastes a brush, so much messing

about with colours goes on that the poor old 6-bit HAM standard can't cope. Fringing is the result, and a messy result it

With the new HAM8, or 8-bit HAM, many users might be bewildered as to how so many extra colours can come from just two extra bits

The answer is that the colour data is now made up of six bits with the usual two added on for screen colour calculations, and as the graphics chips are now 32-bit, each of the two modify bits can modify a pixel 32 times over.

True 6-bit colour leads to 256 colours. and if you multiply this figure twice by 32, you get 256 x 32 x 32 - 262,144 colours in



MIGA

Stunning, near-24-bit HAM8. Fringing is still a The first AGAquality static graphics. problem with HAM8, ample testament to but as there are now so capable paint which you can find in many more colours and the screenshots on as the mode can be disthese pages played in much higher resolutions, the fringing Problem? We're still

package is at last available in the shape of an

ments for Denise and their best to minimise samples its wares the damage. Result?

updated DPaint ments for Denise and 4.1. Stevie Kennedy claims were made as to the A4000's anima tion capabilities.

Until the release of DPaint 4 AGA, how ever, there was no way to judge how according rate such claims were, as no paint packar or animation creator existed which man use of the new chips. We now have a mi world benchmark with which to put

AGA protégés through their paces. DPaint 4 AGA is new in only a fer respects. Virtually nothing has been changed over v4.1, and more or less only new features are related to support Kirkstart 3.0 and the AGA chip set, but III in itself is enough to warrant a very clim

When run, the package immediate shows its Kickstart 3.0 origins by offerm the user a number of display modes - 30 total - ranging from olde worlde lo-res. res, and hi-res interlace, to AA HAMI

Productivity, and Super h

Workbench 3.0's attention to detail means the advanced information or pixel speeds, scan rates, an so on is available for eat mode before the user make his or her choice, enablin selection of the best mode to any particular setup

Those using standard medium resolution monitor will be restricted in the choices, as will those using cheap, single scan rate VG

The former will not be able to use modes which scan at frequencies of more than 15.5KHz, and the latter will

more than likely be stuck with VGA mode. Ideally, good multiscan monitors, such as the better PC models (I've used an ADE 14in with no trouble) or the Commodon 1950/60 range should be used with AGE machines if the best display results are

Though on the whole silent on this mail ter. Commodore will sooner or later have to admit that improved machines require improved and more advanced peripherals. and the 1084S/Philips 8833 monitors so prevalent in today's Amiga market are not up to scratch as far as the A1200/A4000 range is concerned.

Once a display mode is chosen, the familiar DPaint 4 interface pops up and

Amiga

which does develop is

much less obvious than

Lisa and Alice chips (best

thought of as replace-

In addition, the AGA

with HAM6.

Fringeing is a problem with HAM8 images...

dealing with HAM,

even if in a much

improved set of

clothes. Early reports

from excited develop-

ers working on the

new machines indi-

cated that HAM8 suf-

fered from no fringing

and all sorts of wild

Camaro created in Imagine 2.0, then imported for the addition of titles and other graphics. Nice,

256 colour gradients are passable, but less than perfect

exploration of the colour capabilities of the new Amigas can begin. Let's start with static graphics.

Apart from AA Halfbrite mode, which offers the usual 64 colours, though from a palette of 16.7 million, all modes offer at wast 256 colours

Productivity modes (referred to as Multiscan in accordance with Workbench 3.0 monitor drivers), handles up to 256 colours, and AA-HAM+ offers 262,144 from a palette of the same size

PAL mode, the only display mode to firectly support genlocking, has a similar toread of colour and resolution options. from lo-res HAM8 to Super hi-res (1280 x 512) in 256 colours.

Excellent

Static screen images generated in PAL Fires laced 256 colours are of excellent quality, and for many purposes far more meful than HAM8. They don't suffer from linging, animate faster, and can be used directly with a genlock.

However, for static computer art, HAM8. especially in Productivity mode, is hard to beat. In this mode, a respectable 640 x 480 creen resolution results in almost square pixels, and HAM8 makes full screen gradient fills possible without noticeable stepping. For presentation graphics, artwork, and IFF export to other packages, this flicker-free mode will probably be the AGA user's favourite so long, of course, as that user also has a VGA monitor canable of displaying it.

The only blot on HAM8's copy book is fringing, a problem which becomes acute once a lot of detail is present on-screen. For example, it is virtually impossible to type text across a HAM8 screen, never mind a HAM8 screen which has been treated to a gradient fill. Fringing in these circum-

stances destroys image quality Though a problem associated with the HAM8 compromise rather than DPaint 4 AGA, the extent of fringing was a disappointment to everyone in the office, a sentiment which will surely be echoed by many future AGA users.

Not all is gloom, as there are ways to partially avoid fringing, but initial impressions are that HAM8 will remain, as HAM6, a mode most usefully employed by packages which render directly to it, such as ray

To give fringing a body swerve, I tried a text logo over a very gradual fading background from green to blue. The logo, utilising a red to yellow fill, could not be slight fringes developing, but it was at least a major improvement on direct typing to

Amıga

Super Hires Interlaced HAM8!



Imported rendered prophirs look stanning

screen. With a black background to the logo itself, the situation improved dramatically

By progressively reducing the logo's black background until it was no more than a keyline. I found it possible to produce perfectly good presentation graphics with fewer HAM8 headaches, but the problem never quite goes away unless the text is surrounded by a straight-edged solid box.

Rounded outlines, such as are unavoid able with most fonts, cause greater fringing than straight edges.

Laborious

DPaint's spare page comes in very handy for such work, as it enables the user to create and cut out text in a clean environment before swapping over to the main graphic for final positioning. The process is a painfully slow and sometimes laborious one, but is capable of good

Animated graphics using the new AGA screen modes have caused probably the most intense speculation since the A4000 was launched. Initial reports from the Pasadena show of a full colour Sentinel animation running at 60 frames per second in NTSC interlace caused heightened expectations of full screen, full motion 24bit movie work on a standard machine

While I wouldn't like to completely deflate these expectations. I have to at least put a dent in them. if only as far as DPaint's animation capabilities are In anything other than lo-res

Productivity mode (320 x 480), large anicient quality to be used in professional video productions.

Beautiful

In hi-res PAL interface using overscan, which is the standard video mode (remember that VGA and Productivity do not support genlocking), DPaint 4 AA can churn out beautiful images, but can only animate them in a jerky and less than use-Having seen Scala run DPaint-produced

HAM8 animations smoother and quicker, the suspicion that it is the software which is at fault rather than the hardware is a hard one to avoid

Smaller animations in 256-colour full video spec (hi-res overscan) are possible. and animate smoothly on the A4000, but try to use half screen or larger animations and smoothness quickly falls off.

Against a black background, larger text logo animations, scrolls, and so on are excellent, so DPaint 4 AGA should suffice for high quality video titling, but video quality computer movies are, as many cynics suspected, out of the question without

the use of single frame video recorders. What can be achieved with this package far outdoes any previously available paint/animate program, though to be fair to manufacturers currently developing competition for DPaint 4 AGA, the new chips and video modes are a major factor

Full screen 256 animations, superb HAM8 titling complete with colour gradiated text, and static images only the better 24-bit boards can better make painting and animating in AGA supremely pleasurable.

However, given an A1200 rather than an A4000, less than about 4Mb RAM, and a hard drive of less than 40Mb in capacity. much of this potential will never be A1200 owners who have read the

inflated claims made by some companies and the odd press report should be prepared for disappointment if they are not power peripherals to go with their power Amigas.



Compu



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've always liked the idea of digitisers. It is so rewarding when you eventually grab a brilliant image and spend hours fidding with it, and it's always nice when you have the equipment that will do the job

with the least hassle VIDI Amiga is one such piece of equipment. It's relatively simple to use and it won't cost you an arm and a len

To look at, it's a bit of an uninteresting piece of kit. In the box you get the disks, a phono-to-phono cable and an anonymous minor hassle, but I was surprised not to find one in the box, though Rombo will supply the cables on request and they are a doddle

The next task was the software. Usually I would recommend that large commercial packages like this be installed onto the hard drive if you have one, but in this case it doesn't seem to matter.

There is only the one disk supplied in the package so you don't have to do any disk swapping, thus it's not essential to install it to hard disk. On booting up the program you are faced with a main screen where you can set the preferences of the grabbing and the viewing of the image and another menu which lets you enter the editing carousel and grab options

The graphing screen is a relatively friendly environment. The top half of the screen is taken up by the image window. In the window you see the image which the video source is producing. Colour grabs are taken in about a second, and mono grabs in real grab ontions

These range from HAM and HAM-E to mono images. It also supports the 256colour format which will please the prospective A1200 buyers out there If you grab an image the machine will tell

you what you have grabbed by ticking the RGB and MONO boxes and the respective

Viewing

To view the images you just click on view but the machine must first mix the RGB together. How fast it will do this depends on the processor in your machine - in the 4000 it took only a couple of seconds because of the 040 processor but even when I tried it on the A500 it still wasn't that slow - 30 seconds at most for a complicated image

So you have your image saved and you're pleased with it - now what can you do? Flin back to the main screen along with the preferences and you'll find an editing option.

When selected this screen opens out into a full editing screen which lets you run the image through filters. There are various ontions some of which let you really ring the changes, such as the psychedelic filters

To be fair, the filters are very well done and don't detract from the image's original clarity unless you are selecting a soft filter to

put over your image

Improvements

I was impressed most by the negative filter which gives a really clean negative image. The editing booth also has image improvement options like find edges, image blur and image sharpen. On top of the usual filters you can flip the image on its X and Y axes and cut and paste sections of the image.

If you have plenty of memory you can use the Carousel option which allows you to show all of the pictures that you have stored up during you grabbing session.

It's also possible to grab several frames from the video image, store them into memory, mess about with them by pulling them off the carousel then playing them back as an

You would need a pretty awesome amount of memory to do this with full size colour or mono images, but the end result would be well worthwhile

I liked VIDI Amiga 12 because of its sim plicity. Setting the equipment up in the first place is always a bit of a struggle but once it's there you can forget about it. I found that it didn't interfere with any other programs I was using, and was overall a very well behaved piece of equipment.



Digital little box that plugs into your parallel port, The first thing to do was to set the thing

up. I'm not an expert with complicated wiring jobs. The machine I used was an A4000 so I could get the most out of the

software to begin with. The box plugged straight into the parallel port and the lead that comes out of the box goes into the floppy disk port.

It's a bit ungainly, the box, so your should make sure you have a lot of room at the back of your machine before you start

I then took the phono-to-phono lead and plugged it into the Video Out slot on the video. When using digitisers I always find it helpful to have another monitor set up to see what the image will look like onscreen before you actual take a grab. However, unlike most other digitisers, VIDI Amiga 12 doesn't require a second monitor, and displays all its images on one

For maximum flexibility, though, I plugged another monitor into the back of the video as you would for usual domestic use - this way I had the Amiga Workbench showing and the direct signal from the sideo going into the TV. If you're a bit conlused, refer to the diagram.

I must stress now that the VIDI's physical shape makes using it with A1500/2000 machines impossible unless a ribbon cable s used to connect the digitiser casing to the parallel port. This is little more than a

doodles Ben Styles looks at the VIDI Amiga 12 digitiser

Totally wired













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Minimum System Requirements: 512K RAM With Kickstart Version 1.3 or Higher.



INOVAGAMES

Rainbow

he PowerScan mono scanner. reviewed in AC several months

ago, set a new standard in affordble mono hand scanning that most other manufacturers have been chasing ever With PowerScan Professional v3 the ante

has, as they say, been upped, and upped both into the colour spectrum to the tune of 4.096 wonderful hues Consisting of a standard scanning head,

connecting cable, and interface with the sual disk-based software, ColourScan looks ke nothing other than a straightforward 64-grevscale mono scanner of the type so many budget DTP enthusiasts have grown

Give ColourScan one run over a colour mage, however, and the user's old faithful mono matey will find itself permanently reoused on the dustiest and least accessible helf. The image quality one can wrest from lower's latest release is stunning

Unshaking

ColourScan works in the same way as all and scanners in that the user must employ an unshaking hand to drag the scanning head over the target picture at a steady rate The image is imported using a fairly normal-looking 105mm scanning head, but istead of being stored as a 64-colour image a is internally buffered by the ColourScan software as 12-bit data in 4,096 true

As opposed to HAM (hold and modify). 2-bit true colour does not suffer from fringing, nor does it do strange things when scaled or ported to another screen resoluon. This enables ColourScan's software to convert and save an image as a 24-bit IFF, TFF, or 256-colour GIF.

Before saving, however, the by now stanfard array of editing options can be uplied. PowerScan Professional has a wide

The competition

t of its kind on the Amiga, and the ext step up is the 18-bit semi-flatber arp JX100, costing £600 or more. This scanner produces better result





and even murky domestic snaps can look OK

range of polygon and freehand drawing tools with which users can touch up or enhance the scanned image, and though these are tricky to use on a rough HAM scan, they add to the package's flexibility. Much more useful are the image pro-

representation such as displayed after a cessing tools, including flip, rotate, scale, and crop, the latter two of which will be essential for floppy drive systems. Images scanned in colour can result in IFF file sizes of over 1Mb, especially if saved as 24-bit

Again, cropping is a vital tool for scanned images, most of which will contain data which is not required. Most users will find it impossible to set up the scanning area so that only the required image extraneous data can be thrown away, saving time and disk space. Other more advanced tools include

skew, capable of pseudo-perspective effects, lighten and darken, which can be

Stevie Kennedy finds a hand scanner to make even Mr Major lose his greyscales

particularly handy for murky or overexposed scans, and clean up, which is unfortunately almost useless on colour scans as it tends to turn them into impressionist paintings rather than sharper images.

In total, PowerScan's image retouching skills match those of most other scanning packages, but the ambitious user will, as usual, require AdPro or ImageFX to really zap up those imported artworks.

In hardware terms, the scanner will be familiar to anyone used to the older mono units, with selection sliders for dot sizes and resolutions giving a possible spread of between 50 and 400dpl in mono mode, or 50 to 200dpi in full colour.

Reflections In addition, a handy brightness thumb

control makes it possible to have a stab at photographs with less than ideal exposure, though at the highest levels there is a tendency for the surface reflections from glossy photos to white out the picture detail rather than enhance it.

In shape and size, the scanning unit is just the right side of comfortable, and heavy enough that it feels substantial in use. Smooth scans are facilitated by the design of the unit's underside which

unlike some hand scanners I've seen is clear of obstructions

The roller, so important for good results, seems well mounted and doesn't protrude too far from the surface. On some scanners, badly designed rollers which either don't roll smoothly enough or stick out too far can lead to see-saw scanning, but ColourScan suffers from none of this. Overall, there is little on which to fault ColourScan. The software could be faster and the A2000 Zorro card interface a little

more robust, but other than these minor niggles, the only thing one can say about Power's new colour baby is that it does the job, gets results, and the results are excellent.



Ease-of-Use 8/10 Overall 9/10

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utorial

WorkStation



As more readers begin to sample the delights of WorkStation 2, we examine more of its capabilities and sort out a minor problem

orkStation 2 was designed with the A500 Plus in mind to take advantage of lickstart 2.04 and the more advanced Workbench interface it offered. However, ance the original design of the disk. Commodore have released the A600 and A1200, and this has brought on one small

The A600 has no internal battery backed-up clock, which means that when WorkStation 2 disk boots up, the martup-sequence fails at the command:

In trying to load the time from a non-exislent clock (on unexpanded machines), an error code of 20 is returned and every-

thing grinds to a halt,

The solution is a simple matter of editing the startup-sequence using QED and "There are so many buttons I'm beginning to wonder what happens when I press the wrong one!"

FixDisk is a disk retrieval system designed to cure some of the many problems which crop up on floppy disks, including read/write errors, corrupted files and the odd validation problem. As the latter will be more common, we'll look

Validation errors crop up when the "bitmap" is corrupt. Basically, a bitmap is a digital map of the disk's contents and where on the disk they can be found. Any disparity between the bitmap and the structure found by AmigaDOS when it examines a disk will cause the Amiga to

Disk-validator, built in to the Kickstart 2/3 ROM, can correct minor problems, but will give up on major messes. FixDisk,

look for the disk-validator file

however, will not. To fix an unvalidated Directory gadget at the top of its window. There's no need to scan the whole disk for bitmap errors, as FixDisk need merely ascertain where everything is

Faulty

Next click on the drive containing the faulty disk and click Disk Inserted when prompted. FixDisk will now slog its way through the directory structure, checking every file's exact location, then compare this to the hitman. If the hitman is incorrect, FixDisk says so and asks for permission to re-write it

Once the go ahead is give, the program takes only a few seconds to rectify the fault and the disk will be back to normal. For more serious faults, such as read/write errors, the complete disk scan will be needed If, for example, the Amiga complains

that a disk has a read error or a write error on block so-and-so, you will find that under normal circumstances the disk is rendered useless. Using FixDisk, however, some of the damage can be repaired. Repeat the procedure for the hitman

error, but this time click on the All button, which prompts FixDisk to trawl through the disk examining each and every file in turn until it finds a corrupt or damaged part of the disk. When this happens, a number of options will be

Many of these are best presented to coders and system experts, but most of us can expect at least to be able to Let's say the program tells you that there is a read error on block 1605, which happens to be cylinder 72, head 1, sector

10. The error is a bad sector checksum (RadSarSum) which means that EivDisk cannot match the corrupt contents of the block to the "checksum" which is used as a method for making sure none of the data has been messed up.

At this point, the temptation would be to scream in confusion and despair, but the canny user will click Retry, the Ignore if the fault recurs, then wait until the scan is complete. The next step is vital.

In the window to the left will be a list of the disk's contents complete with the disk block where the file header is located. To attempt to rescue data from a damaged block, select the file containing the damaged block, then click on Selected below the Check Files ontion

When the error is encountered, you can attempt to save the damaged part to another disk or the RAM disk, write over the block and destroy the original data, or keep on trying. While it may sometimes be possible to save the damaged data. some errors are too serious to remedy.

Cripplina

In this case, writing over the block may be the only option which, though erasing some of the data and possibly crippling a program file for good will at least allow the rest of the disk to operate without those annoving read/write errors.

If a damaged file is a data file, you may be able to save at least part of it, which is a lot better than nothing at all.

For now, that's all we'll cover on FixDisk. If enough enquiries come in from WorkStation 2 readers, we'll attempt to cover the more complex aspects of the program and look in more depth at its operation, but until then your manual should contain enough information to allow you to usefully employ its talents.

before the Setclock command. This effectively tells the Amiga not to bother with commands which fail for simple reasons. When the revised startupinquence runs on boot-up, the user will me the message:

and startup will continue as normal, My thanks to Mr T Gigg of Bristol for

writing in with this enquiry. All future WorkStation 2 disks will be dispatched with this bug fixed, but any users of unexpanded A600 machines with first issue asks can either carry out the modification putlined above or return their disks to Eropress Direct for a replacement

Keep those letters rolling in, folks. As you can see, they are all examined for possible problems or support issues and my bugs or suggestions passed on Brough this column.

On with the support column, Mr T French of Anglesey was confused by Disk. He managed to operate it to meck his WorkStation 2 disk, but writes:



FlxDisk can ap daunting, but perseverance pay off with this retrieval progu



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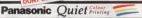
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Power of the press

ast month we gave away Protext v4.3 from Arnor on our cover. We also included a brief beginners' guide on how to create documents, move them around, and save them. Well now you have had time to familiarise yourself with Protext's layout, it's time to look at some of the more powerful features this version of Protext has to offer

One of the most important tasks before printing a document is to spell check it. Spell checking is very quick with Protext and well worth doing even if you are generally good at spelling, as many typing mistakes can also be picked up in this

Checking while typing is most convenient when used with a hard disk, or when the dictionaries are loaded into a RAM disk so that they may be accessed almost instantly. This option may be toggled on and off using the Typing Check option in the Option menu, whenever you

If this option is turned on, every time you type an unrecognised word Protext beeps to indicate the fact, allowing you to backspace and correct the word.

The other spelling checker options are accessed through the Spell menu which also has options to carry out maintenance on dictionaries and to use special commands to search for words in dictionaries, find anagrams and so on. Apart from checking while typing,

Protext provides four other ways to check spelling. Individual words may be checked

Become a word-crunching pro in the second part of our Protext v4.3 tutorial guide

by positioning the cursor on a word (or immediately after the word) and selecting the Single Word option.

If the word is recognised, a message saving so is briefly displayed, otherwise a dialogue box appears. Type in "teh" now, position the cursor over it and select the Single Word option.

The dialogue box which appears when a word is not recognised contains a number of boxes which may be clicked on, or selected by pressing the highlighted letter

The Store box stores the word in the dictionary so that it will always be recognised at any time in the future. The longre

at Spell Style Option

box causes the word to be ignored for the remainder of the time that document being edited.

The Skip box ignores that word for Imcurrent time only. Change returns you edit mode to make whatever channe

necessary to correct the spelling. If you don't know what the corre spelling is, Protext may be able to hell you by displaying one or more worth which it thinks you intended to use. The is done by selecting the Lookup option. Select the Lookup option and almo

instantly a window will appear containing a list of words. Select the word you wan by double clicking on it and it will replan the mis-spelled word in the text.

If there are more words than will I into the window, arrows at top and bottom may be clicked on to allow you to see earlier or later suggestions. The wor CANCEL lets you return to editing without

selecting an alternative word. While Single word is useful for just checking an occasional word, it would be tedious if you had to check every won this way, so Protext has the facility III

check the document in other ways. The Check From Cursor option is particularly useful for checking a section of

text of text from the current cursor postion to the end of the text When an unrecognised word is found

the same dialogue box is displayed at described for Single word. Once the conrection has been made, the check can be recommenced by selecting Check from Both the above options are particularly

convenient for checking text when you have made alterations, but if you want to spell check a whole document, Protest has a quicker method. Select the Check Whole Text option

now. Once the snell check starts, the screen clears and is replaced by a new display. Across the top of the screen is the menu of available options and beneath it is the area in which unknown words are listed. Once all unknown words have been displayed, each word is offered in turn. The Store option is the same at

Set ignore marker at Check whole text To save time you can spell check just one word

Working with more than one document

Protext allows you to load and edit many different documents (subject to available memory), switch between files and split the screen so viewed at the same time.

To do this, load a document then

elect the Swap menu. At the bot-om of the menu will be the name of that an entry New File

Click on the New File option and the existing document will disapdocument. Select the Load File

If you now open the Swap menu again you will find that the name of the second file you loaded has been added to the list of files being edited. Repeat the process again to load a third file. Up to 36 different files may be loaded at a time, subject to available memory. Click on the name of the file you first loaded and it will be re-dis-played. If you watch the status lines you will see that all the details

You can swap between files at will just by selecting the required file from the Swap menu. If you select New File and create a new document New Hie and create a new document instead of loading an existing file, its name will change to Unnamed until such time as you give it a name by saving it, or by using the Name file option in the File menu.

Blocks of text may be copied from the alternate file to the current file at any time. Mark a block in the cur-rent file, then select another file. The file you have marked the block

in has now become the alternate

in the Block menu and the block will be copied into the current

Swap back to the file in which you ally marked the block and it

will still be present. You can then delete the block if you no longer require it, or just de-select the block. Delete the block for now and then swap back to the file into which you copied the block. Mark a block in this file, then swap back to the other file and use Copy other block

As you will see, blocks can be a new current file

Laving out a document

One of the most useful features of a wordproces-sor is the ease with which the appearance of a document can be changed. We shall start by look-

ng at Ruler lines.
These determine where the left and right mar-gins will be and can also contain tab markers-rotext has three types of tab markers – Normal, Decimal and Centre – indicated by !, . and C sym-

Bediary for ensuring that columns or rigures or text are aligned neatly and the different types of tab marker have different effects. The normal tab marker (!) has the effect of aligning all text with its left edge aligned. The decimal tab marker (.) aligns numbers so that the decimal points all line up, or, if no decimal point, the number lines up with other numbers before the decimal point.

The decimal tab marker may also be used for

right aligning text. The centre tab marker (C)

causes text to be positioned equally either side of the marker. As many of these markers may be used in a line as you want and the different types may be mixed.

The active ruler is always 'the most recent ruler

earlier in the document than the cursor", or, if there is no earlier ruler, the default ruler set with

CONFIG and is displayed beneath the status lines when in Document mode.

If you scroll up and down through a document

ning a number of rulers you will see that the displayed ruler line beneath the status lines always changes to reflect the currently active

The left and right margins may also be altered by dragging them to the required positions on the displayed ruler line. Note that this is not pos sible on the ruler line in the document, but ruler lines can be changed by editing them as normal

One thing you will notice while experimenting move the left and right margins By default, Protext has the Auto Reformat

option selected in the Option menu, but it is

This is preferable to reformatting as each char-acter is typed which would cause the words to keep shuffling around as you edit to maintain the

If you move through an existing document, the paragraphs, in which case they will be reformatted to the new margins, or specifically make use of the various reformatting

when required using either the Format Text ption in the Text menu, Format Block in the

All of these perform the same task, but on text within the relevant areas is reformatted, so that it appears with all the currently set effects

before, as also is Ignore, but the Change option is slightly different in that it just allows you to edit the offered word. Once

the next word offered. The Lookup option is similar to that already described, but the correct word is selected by pressing the appropriate

number alongside each offered word. The View option allows you to see the unrecognised word in context by displaying a number of lines from the document, with the unknown word highlighted so that you can see what action you wish to take. The Back option is also extra and allows you to go back to the previous word if you want. The Check turrent block option performs the same type of spell check, but only on a marked

As already mentioned, this method of spell checking is the fastest, but if there is insufficient free memory Protext will be unable to check in this way. The solution

is to save the document and then select the Check a File option. You are then presented with the file

selector to select the file you want to check. The checking process functions in the same way as just described, but with large files the document may be checked in several sections, requiring you to correct any unrecognised words before file. If there is still insufficient memory the Check from cursor option should be used as described above.

the formatting of the text and are asked whether you wish to re-load the

any of the changes you have made affect document. If you wish to continue editing the document, you should elect to reload it at this point.

· Next month we'll be documenting some of the more advanced features of this powerful package.



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Secretary 2 of the control of the co

and Shareware

great selection of PD this time. especially chosen for the skintafter-Christmas crowd who rately need software without the shelling out

There's no lukebox lury this month (watch out for its return next time) but there are a number of excellent animations in the Dreams and Visions section, including the best Amiga movie ever! Stay

with me dear readers... Moria v5.4

PD Soft

Running from the Workbench, this menu driven adventure beckons you to "enter the dungeons of Moria...". Once you've selected the name, race, sex and class of your character, you can begin the game

The different moves or activities available to you are pretty comprehensive you can (once you've got 'em) use spells and scrolls, you're free to attack monsters, run, look around - indeed most of the usual adventure commands are there, tucked neatly away in the menus

The graphically-represented playing area occupies most of the screen, and although the icons are small and a little plain, they do their job perfectly well and it's not realism we're after here anyway, rather representation. The fantasy is always far more tangible if you let your imagination fill in the gaps.

Involved and thorough, this is bound to keep the silicon wanderers out there is Amiga land happy for a good while.

Canon Studio v1.1

PD Soft, by Wolf Faust This is a utility written to provide support for all Amiga users who have Canon printer drivers. Basically it prints IFF graphics to a very high standard, but it's in its ease of use and flexibility that it proves its

Printing is done straight from disk, which means that there's no call for a truckload of extra RAM every time you wish to print something more complex than a simple line drawing. Indeed, all you need is 300k spare, so it will run quite hannily on an unexpanded machine.

It supports most IFF-ILBM formats. which means that you should find little difficulty with compatibility of graphics files and this program.

But its main claim to fame is surely the power it puts in your hands as regards the quality of the printouts. Suddenly you can print graphics with up to eight greyscales on any black and white Canon printer, including the whole Bubblejet range. Should you be lucky enough to own

one of their colour models, such as the BJ800, you will be absolutely astounded by the 24-bit-quality printing capabilities that this program lends your printouts. There is a small but detailed ReadMe to Want a whole new world of graphics on your Canon Bubblelet? Ever fancied wandering around Ramsey Street? Phil

Morse rounds up this month's eclectic selection of cheap and free software



get you started, but in its complexity this program remains simple to use, and you shouldn't come unstuck.

Should you have a Canon printer/driver and even the vaguest interest in printing graphics, be kind to yourself and order a copy of this essential disk.

Neighbours

17 Bit. 2250A/B, by Arron Here is a little beauty, as they'd say down under. Even if you don't give a XXXX for the TV programme, the concept and the humour will more than likely endear you to this original graphical adventure.

Here's the plot - Paul has bought Ramsey Street! He's finally done it, the cold-hearted fiend, and the residents aren't too impressed. Your hapless task is A wide selection of Amiga art, anima

en and all things pictorial this mon starting with the amusing Road Hog Animation (Hugh Grove, 17 Bit,

This two-disk cartoon tells the story

of a laddish motorist with an evil grin and an Acme Animal Annihilator fitted

to cruise the countryside looking for

his car, who likes nothing better than

Well, he puts pay to the life of an

ocent worm (who, judging by the

to stop him. A dodgy digitised title screen from the TV starts you off When in control I headed straight for Jim and Helen's to do a little investigating.

Every location has a digitised piccie straight from the program, which is a major selling point, because it's a lot of fun. There are all the basic adventure commands which can be controlled from the mouse, aiding your progress.

There was a bottle on the table in Jim and Helen's house. So I took it, only to find it disappear from the screenshot and appear at the bottom of the screen in my inventory section. Very nice! Arryway, later I found the twins in con-

versation with the ever-wonderful, worldwandering Dorothy, and decided to ask Christine to help me "stitch up" that rascal Robinson Being his wife she refused, but her sis-

Mr Bad gets his come-uppance in the end - this time, at the hands of a

hedgehog with a secret! Intrigued? Well all I can say is that it makes a refreshing

The cartoon is impressively animated, with fine attention to detail - the evil

motorist and the hedgehog both draw you in to the action thanks to the ani-

n of their features. Give it a go

change, if you know what I mean

lovely red rose he was carrying, was more than likely on the way to his dot-ing worm-ess), but like all good stories

ter - loyal as ever - told me that in Mangel could "lend" me a key to Paul office, What a girl! I could document my attempts to said

Ramsey Street forever - suffice to say than was highly improper and had a lot of full in failing to achieve anything construction

My only slight gripe is some of the author's comments. Most are high amusing, taking a dig at the aforemen tioned XXXX and its contemporaries to instance, but adolescent sexism has m place anywhere.

Maybe the author does really believe that one of the programme's characters



Santa's Grotto (17 Bit, 2295) shows a

rather sickly family in a rather sickly Yuletide scene with a rather sickly Santi - except, look! They're getting up to

the cat's pulling sister's jogging pant down (I jest thee not) and various other



PD and Shareware

DLBH'D' BBUETM DAVE PATERSON 1991/1992

HELP CHIP FRST bbb944

CONFIGURATION LORDED

Melanie, is "not the prettiest girl in the world, but does have a strange attraction", but he should have kept such rubbish to misself. Still, this game is by and large underful - get it!

Play and Rave 2

Virus Free PD, CLU9.

his is a music module linker/demo maker lasically, it allows you to link together any umber of pre-written Amiga music modules and play them in a predefined sequence. Meanwhile, the screen displays, chops and changes and generally keeps the audience amused with pictures - again they're

thosen by you, and faded in and out, hanged and so on wherever you wish them The program is compatible with all Amigas, even the CDTV, and you don't need keyboard, as it's totally mouse controlled. Compatible with hard drives, the finished

Whay better way to test Blan's Barn by Dave Paterson then the test cord

demo can be saved where you wish, and spread across any number of floppy disks. There are basic controls over the music and pictures, and I would imagine that the largest bunch that such a program would appeal to would be the demo-makers whose main interest is music

For instance, a nice picture show could be generated by anyone with neither the time nor the interest to generate one from scratch, simply by using existing picture files from anywhere, or maybe scanning record covers, pop stars' faces and



es are goin' down in the Grotto

This is pretty basic, static stuff and flat a pancake, but to be fair there's been a

o anim I've had, I'll let it of he GIF Slideshow (17 Bit) contains a set cies grouped into various categories ace" gives us various digitised photos of earth, spacemen and radio telescopes,

nce, and "Money" displays the nts and backs of obscure bank notes nesia obscure enough?) - they've ne of these pics are mildly interest ng, but at the end of the day, anyone can ise photographs, however pretty they may be. A passable curiosity By the way, the Highlander de (17 Bit. 2288A/B) fares similarly od stuff, but try doing sor

nal with such rich source mal thing original, if unbelievably crass, is the Gladiators slideshow (17 Bit, cards" (complete with photos) of all your fave Gladiators stars. I'm sorry, but there are limits...

Robert Leiper's Slemmings (17 8it 2284) has our fave suicidal chums play ing baseball. It's nicely animated stuff complete with action replays, and there's beer humour there too (right

one – and the rather strange closing equence – this demo, rough around se edges and all, deserves a look in.

me! This isn't a 17-Bit mor - although "movie" is prot

This video contains far and away the

seen, period. Based on the Star Wars plot it is wickedly humorous, and Amiga graph ics supremo Tobias Richter should feel ius tifiably proud of this 50 frames-per-second

24-bit, HAM-based masterpiece. Still not reaching for the phone? Well, it took four A3000s six weeks working around the clock to render this anima Get ordering, it's wicked! Laters!





PD and Shareware



Calling PD libraries If you run a PD library, or have release

anything as PD, then send it to me and that's an order! Although I can promise to review everything, I do loss harassed reviewer offer?

I'm especially looking for weird and wonderful PD (go on! deviate!) as we as music disks (they don't have to rave or dance) - anything you think grab a jaded, world-weary hack's attention. The address?

Phil Morse, PD Submissions Amiga Computing, Europa House Adjington Park, Macclesfield, SK10 4N

Effy bags in the area!

Storyland 2 Amiganuts

This is described as an "activity adventure". It's pleasingly simple, being based around clear pictures of various objects and a central "text box", with a big,

There's the usual mix of magic and spells, seemingly irrelevant objects which turn out to be useful, and some nice animated graphical bits, such as the one when you move to another land (there are five) which looks like the Time Tunnel, as in the cult sci-fi bash as shown a while

Obviously intended for children, and testing powers of memory as well as

be played with an adult present or available - sometimes it's not quite as intuitive as it could be

Still, it's all presented very clearly, and I've never seen an adventure quite like this before, I liked it.

Wizard Wars

A strategy game for one to five players.

Wizard Wars is complex and compelling. Once you've told the computer how many people are playing and what their names are (the computer can play for any of the players should a deficiency of will-





The beast-like

middle is a demon, and he's

not popping in for a cup of ten





Storyland 2 is simple and colourful

shown a map of the island on which the game takes place, complete with features such as hills, mountains, forests, cities, villages and castles.

You are a wizard, and you must destroy all the other players' wizards in order to claim dominance over the island. Quite why you couldn't all live together as one family is not explained, but suffice to say that none of you are in any mood

Like the other wizards, you live in a tower. You need to destroy their towers to get them, and to do this you must summon demons. To summon demons you must gather certain attributes.

Pacifists will frown to know that even if you wish to do a little pottering around instead of mass destruction, you'll still need demons, because they are your only protection against the other wizards' demons, unleashed to get you.

The graphics are good, it's well programmed, and any strategy fan who's looking for a new challenge will find much of interest in this game.

Apart from one or two niggles - th program returned me to AmigaDOS one friendly as it could be - this is rathe good.

Contact addresses

Amiganuts, 169 Dale Valley Road,

PD Soft, 1 Bryant Avenue, Southend-

on-Sea SS1 2YD 17 Bit, First Floor Offices, 2/8 Market Street, Wakefield WF1 1DH

Virus Free PD, 31 Fardingdon Road, Swindon SN1 SAR



llegal OctaMED

righted program, making this action illegal.

Apaet from v1 and the non-sine v4 QctaMED is only available from Amiganuts at 160 Dale Valley Road, Southampton SO1 6QX. Anyone else effecting this program is treasing the law.

Aming Computing February 1993

VIRUS FREE PD

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MANDELBROT GENERATOR. Is a very easy to use mandlebrot maker, it runs at a good speed and features user definable options, as well as enables you to run incompatible software on the release FREE COPY 1.8. The latest version of this po

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relation with COLFA Vity house, which we shall be shall b etc. This is easily the most powerful Amiga soft-mare copier currently available. If you need to hake a backup, you need this. UTTLE OFFICE, is a very useful office kit, which bottains a real little Word Processor, a data-base, apreadsheet and graphics package.

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AMOS UPDATE 1.34. The latest release of Amo lastures new music routines, which means no more converting modules before playing them.

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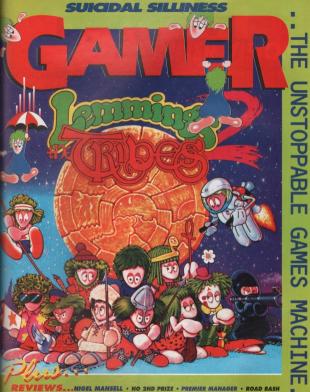
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WALKER PREVIEW, FIRST LOOK AT LEMMINGS 2, TWO PAGE WEEN SOLUTION, AND WELCOME ONCE MORE TO THE CHEAP SEATS - LORDY, IT'S PACKED!



Cobblers as an art form

News flash

Thank God that articles like the "Screen Dreams" piece that appeared in this month's copy of The Face are infrequent, and that mis informed writers such as the one responsible for the piece are few and far between in the computer world.

I would advise any male gamer out there to read this article just to see how clueless these idiots are. I say male because the article is directly aimed at men.

idiot3 are: 3 ay mind directly almost at men. Gavin Hills, author of the aforesaid piece, makes a sad, unfounded and pathetic attempt to trivialise and break down the computer games world into psychological similes.

games world into psychological similes. It is clear from the article that Mr Hills has no idea of the current games market. Your average grandmother knows as much about the current games scene.

For those of you who haven't read the article. I'll give you a brief idea of what he was saying. The opening paragraph has references to the fourth level of Desert Storm - an inaccurate reference I might add, as the game is

Desert Strike, a Megadrive title. How many of you male games out there agree that "masturbation and computer games go hand in hand? Not many I'd imagine. And how many dedicated male games agree that 'shooting them up on screen and solling your favourite hanky may both be furtive exercises..."

He goes on with this poor excuse for a Freudian interpretation of the computer game world, deciding that racing games encourage joy riding, that computer games are a sexual outlet for the average adolescent teenage, and indeed that they're 'a healthy alternative for contential ridin murderers and executive.

otential child murderers and perverts".

But his doesn't stop there, the obscenities go
n. "Knights of Knobt' "t", "Colostomy Castle"...
think old Gavin is the one who needs the psyhoanalysis, don't you?

They think it's all over...

But they're wrong – it's not over yet. Sensible Soccer, the biggest sport game of 1992, has just been improved. With the new title of Sensible Soccer v1.1, the game has loads more features and is almost guaranteed to be in the top three Christmas sellers.

three Christmas selers.

It now features new and improved goalkeepers. In the first game the goalies were a bit wishy washy, but now the goalies can recover more quickly, catch the ball properly.

mins game the goales were a outwiny warry, our row the goales can recover more quickly, catch the ball properly, punch the ball away and when it's too hard to catch and up the ball over the bar or around the post. Thus all these coupled together make the goales a lot harder to score soles.

For all you Vinny Jones fans there is trouble on the horizon. Any cynical professional fouls will now earn your



players a red card and a long walk back to the dressing room – Plus there's more! The new backpass rule is included, so that means your

The new backpass rule is included, so that means you goalle can't pick the ball up, but he can run all the way up the pitch and score a goal.

An the firew season's team and players frames are he included plus there are some more brand new comedy cutty, tom teams.

Well what can I say? I'm speechless, Having played the

new version I can say that it's loads better and much more fun than the original – a bargain if ever I saw one. There is good news for people who own the original

There is good news for people who own the original game. You can upgrade your copy by sending your disks to Renegade. Call them on 071-481 9214 for more details.



Kixx out the jams...

US Gold's budget label Kixc has just released a brand new sub label. Entitled Kixx XI., the company have a whole for of forthcoming releases lined up. These include Midwinter, Battlehawks 1942 and Future Wars which are reviewed Cheips Seats with month – theick them out.

Also received are Zak individed on the Auent Mindberholets and individed unles and the Last Clubable — the Grej Neutrus. The games are more expensive than your average budget software. All of them cost £12.99 except for Indi ines which will cost you a penny under £15.

Looks like a lot of money for a budget game, but I think you'll agree that these games are all really good and are hat little bit extra. Just don't make the prices any higher, OK? All releases mentioned here should be available now.

Large sweaty men and big weapons



The race for the Christmas number one is hotting up and it looks as though Ocean are preparing to lead their big guns. Coming your way this Crimbo is Lethal Weapon, WWF European Rampage and as previously reported Cool World and Universal Monsters.

Cool World and Universal Monsters.

Lethal Weapon is based on the trials and tribulations of Martin Riggs and Roger Murtaugh from the Lethal Weapon film trilogy. You get to choose to play either Riggs or Murtaugh – each has varied abilities and has to tackle the missions in a different way.

There are five missions in all in which you have to conquer drug smugglers, terrorists and the Organisation or save hostages under

The game which is an arcade shoot-em-up is Ocean's biggest film licence ever and should be available now for a measty price of £25.99. Ocean's big game is WWF European Rampage and hopefully it'll be better than their first effort. This time all your favourite wrestlers unite for a European Rampage Tour.

Hulk Hogan, The Ultimate Warrior, The Natural Disasters, The Nasty Boys and Legion of Doom are all featured. The game can be played as a two-player Tag-Team or a one-onone grudge match.

It says on my wonderful press release that there are over 62 (count 'emi] individual moves for each wrestler which find very hard to believe, but we shall see. Expect to see a review fairly soon. WWF

European Rampage will cost you £25.99 and should be available at the beginning of December.



Contraptionsgate -Cute repair man in bug scandal

Mindscape's next release is a game called Contraptions. It's an isometric 3D puzzle game very much in the style of

the now classic D/Generation.
You take the part of a "cute" repair man and must work your way through a huge machine fixing "bugs" and making repairs while looking for the tools with which you can exact these repairs.
Switching levers, jumping on pressure





pads and turning screws will enable you to enter other rooms which in turn allows you to progress through the levels. If it's half as good as DXGeneration then it'll be very good indeed. Contraptions should be available around about now for

BBRACSLE, Hmm, err I know, SCRABBLE...

Yes, the world's leading word game is just about to appear on your Amiga. Billed as the ultimate game of verbal wizardry to hit the home computer.

Computer Scrabble is the definitive '90s version of the famous game. It's the same fun-packed blend of skill and chance which enhances your word power as you play, but it does have some social features.

Brilliant computer graphics give an extra dimension to the game, as well as having the advantage of all pieces staying one ozord, so there's no chance of one of your relatives having one too many on Boxing Day and crashing into the board and ruining have been as the company of the company of the company of the company on the company of the compa

Lecked into the game's memory is every page of the Chambers considered into the game's memory is every page of the Chambers called in seconds. A special souverint computer print-out of the called in seconds. A special souverint computer print-out of the final board position can be put into effect at the touch of a buttion, so you can remember how badly you losts. Release date and price are as yet unknown as we go to press, but it should be available yety soon.

Kirk to bridge, I'm skint...

Hooray. The game that furry collars and strange people who drive Capris have been waiting for Star Trek the game is being ported over from the PC.

watch the re-runs of the '60s classic, then the game, when it finally reaches the Amiga, will be a necessity. Sources say that the majority of the story lines have been taken from the four

Sources say that the majority of the story lines have been taken from the series with all the Romulans, Klingons and Forms of Alien Life that are 'not know it'.

CAVER

INNER VISION Full to bustin' - not even room for the charts!

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Wartime nostalgia – with Robert Mitchum nowhere to be seen
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Source: Lemmings 2

The return of the brain-dead cutie pies

something else

NSELLS RIGELMYA

GREMLIN = £29.99 = 1 meg = Joystick/keyboard = Out now

Isewhere in this stupen Issue of Gamer you will find me singing in a loud voice the praises of Gremlin's other release. Premier Manager, and vowing to collar either Biff or Ben into reviewing Mansell so I can spend as much time a possible with my beloved Wycombe

Well a true indication of the authority I wield is evident in the fact that here I am, reviewing them both. Have you ever noticed how much of a miserable sod Nigel Mansell is? It's

inbelievable - the guy lives in a three million pound house in a tax haven, and gets an eight figure salary for doing the thing he loves most, yet the only time we see any noticeable twitch of his moustache is when Ayrton Senna spins out off the track in a horrifying accident.

All credit to the bloke though - not only is he one of the few truly successful contemporary British sportsmen, but he also has to cope with the slobbering schoolboy adulation bestowed upon him by the ever-excited Murray

In order to supplement his meagre income. Nige has lent his name to the latest go-very-fast-around-a-track-'emup from those Lotus-like fiends from

Ben had a good look at the game for his review in ST User Gamer, and was far from impressed, which worried me greatly as I didn't want to believe that the game I had been looking forward to so much was a small but pungent heap of Tibetan Ilama droppings.

Ah, Silverstone - home of the

British GP and £5 pints of lager

a generous options screen that as well as offering you the standard gear and control method choices, also enquires politely as to whether you would like to "improve with Mansell" or take lessons in "driving school" before launching yourself into the full race

Well I'm no nance, and was raring for a bit of real racing action, but dedicated chap that I am, thought it only fair to explore all the avenues, so to speak.

Driving school was my first stop. and the concept is very simple. Choose any track on which to practice - no other cars are present, and the maximum speed of your car is restricted, the idea being that this will enable you to learn how to control the car. Come on, please - I'm sure we can cope with moving the joystick from side to side and pressing the Fire it's daft.

Improve With Mansell allows us to om around the track to the accompaniment of a running commentary from the man himself. This is a much better idea than the Driving School the racing line is indicated, and in theory the comments from Nigeyhabes should teach us the best techniques to use.

In practice, however, whenever I tried looking up from the track at the snippets offered ("stay on the track", avoid hitting things"), the result was invariably my car wrapped around some advertising hording or other. It's a nice touch, but not much help at all, I'm afraid

After dispensing with all the frills and inconsequentialities it was time to get me some action. Every track from the 1992 Grand Prix circuit is here in all its macadamised glory you can choose to race a single circuit, in which case you take your pick, or pack some clean clothes and a couple of new engines and opt for the full GP season.

The full season begins in South Africa and culminates in Australia as does the real thing. A handy intro screen gives some indication as to which bits on your car you should tamper with by outlining the nature of the track - bends, straights and so

You can if you wish get straight into a race, in which case you will find yourself at the back of the 12-car grid. Qualifying is a better idea - two laps round the track with just a couple of other cars provides an excellent (and a little too easy) chance of beginning the race on the front row.

As far as the gameplay gom NMWC is good, but not great. The racks are well laid out but the screen updates are just a bit too slow to ulate a Formula One racing car travel ling at nigh on 200 miles per hour. The miniturised track in the to corner of the screen succeeds when

Improve With Mansell' fails in provi ing you with as much in-race inform tion as you need All it does is tell you where the car

are on the track, but then you're me really intersted in the price of mile Brazilian cheddar when your cheel are wobbling with G-force, are you? One element of the game which suppose is realistic, but annoying

nonetheless, is the sheer difficulty a overtaking other drivers. The on time I won any races was when started in pole position. Points are awarded as per the usu

Grand Prix rules, and a place in th top three in any race earns an an mated sequence which takes a whi to load and would be better left out As you would expect from Gremlin

Mansell is a polished game, not will out its faults, but which should appeal to race fans due to the opti it sports and the full GP season.



office who liked the car sounds. PLAYABILITY Very user friendly

ADDICTION 0000

I was impressed, but doubt I'll play it were much after the full season.





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best 'rasher', or some such gubbins.
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and EA suffice with telling Amiga owners that

PLAYER A



types like yourself - you begin the whole







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o you remember - oh about two years ago - Britain was in the relatively early stages of a deep ression, repossessions were on the up, employment was spiralling once again and to too it all England were knocked out the World Cup thanks to a pathetic Chris addle penalty. Remember? It's all coming lick isn't it?

Psygnosis - a fine upstanding software house from the city that gave us the Beatles and car theft - took a good look at the sorry ices of the people around them, and were

What was once a great and happy land was awash with gloom - the population needed something to make life worth living

So they created Lemmings - a 459,000evel cartoony puzzle frenzy that was so miginal, so funny and so damned addictive the economic and social problems of British Empire were solved overnight.

OK, so it didn't have quite that much mpact - but the vast majority of Amiga and memselves spirited away to a distant plane where the existential problems of humanity ecame much less important than saving big-nosed beasts. Yes, it went down a

A year or so later, as discontent began to massert itself and the nobs at Psygnosis aci suits that were the fruits of Lemmings, a umble programmer presented Bernard wonosis with his next meal ticket - Oh Nol More Lemmings, the data disk

Once again the gaming public went wild, and even the office cleaners browsed The Lambourghini showrooms in between ins to Monte Carlo

But the clock keeps turning friends, and #5 almost a year since we were blessed for dodaing tomfoolery.

Psygnosis - who in the meantime have employed an entirely new staff, since the lemming generation" have long since etired to luxury villas on the Algarye and losta Brava - realised that the time was lones to grace our TVs and monitors, and have duly obliged. The result is a full sequel,

and sports the moniker Lemmings 2.



Paul Roundell, the closest thing to a lemming we've got, points the stupid creatures in the



Much more versatility allows your lems to jump, float, build and even fire arrows!



We're looking forward to it mate

who don't know what Lemmings is all about, so I'll briefly explain. The basic idea is to ensure that X amount of Lemmings make their way safely from one end of a level to the other

A major obstacle that stands in your way is the unshakeable fact that Lemmings are thick. They're stupid. They just haven't got a bloody clue mate - over cliffs, off tall blocks. they just cannot grasp the concept of death.

You must therefore steer the emptyheaded rarely-seen mammals in the direction of safety, all the time making cunning use of what few talents they actually do possess, such as the abilities to jump and dig There - now you know

Anyway, Lemmings 2 is here, and whereas the prequels had us saving lemmings just for the sheer nobility of it all, we now have a plot.

The lemmings want to leave their island home, and must build a big vessel for the purpose. However, they can't leave without the fabled magic talisman, and as with most games nowadays it seems, the talisman is broken and the parts spread around the various levels just waiting to be collected

Psygnosis have given their pets loads more skills this time, and depending on the situation the lems can jump, dig, float upwards on a balloon and even skill Although the sorites are the same size as

ever, you'll see Beach Lemmings, Polar Lemmings. Space Lemmings and others, performing against even better backdrops than Complete with the harder puzzles and

funky tunes, Lemmings 2 seems set to be a massive hit on its release in the early New Year - and of course, the full and unexpurgated review will appear in all its glory in these very pages for your consumption.





NICKY BOOM

alike, you know, Actually, you've

scapes, jumping on strange creatures of varying size and nastiness to either save a lowed one or to collect the bits of some allsum of most platform plots.

It doesn't stop them selling by the bucketmoaning and get on with doing what I'm paid for. Nicky Boom has lumped well and truly

go again) as we are informed by the manual obviously Nicky is just your average six-year-old

French boy, spending his days doing what-But shock horror! Nicky's granded has

been kidnapped by a wicked witch who is keeping him locked in her dungeon until he

est People, of whom he is custodian lets go of the kitten he was torturing and sets off into the (probably enchanted) forest MICROIDS = £25.99 = 1/2 meg = Joystick = Out now



ow does this boy look the super hero type?

Boom extended family unit. Why he didn't just didn't tell his dad I don't know, but

ies have been turned by the witch into her surprise - jump on their heads to eliminate them. Sweets and cakes are littered around

to give our hero extra strength, and bombs

Sound FX are well above average -

VISION a little too cute

AHDIO of sound FX.

PLAYABILITY complexity of the levels can lead to cetting lost now

ADDICTION Nicky Boom was a pleasant surprise - one I'll come

sampled speech in there - and the anii Nicky Room is unlikely to be remember

Swahili crop rotation techniques.

RAWAY THOMA

SOUNDWARE = £25.99 = 1/2 meg = Joystick = Out now ues a leg at each corner, a stumpy tail at

eep in platform mood folks - at least for now - because it's time to meet a cute little British bullog called Thomas. Well actually, he's not particularly cute - in fact to be brutally honest it seems as though this beast has chased

at least half a dozen parked cars too many. Um, come to think of it, the probability of and far more likely to plump for a native canine to fill any vacancies in the hero department than they are to employ a for-

eign mutt. He is definitely a buildog though - oh



the back, flabby jowls and a big "I am a buildog" badge that effectively ends all Having just complained at some length

gushing enthusiasm as I briefly outline Tear-- you have to collect stuff and avoid/jump

The items Thomas must collect are diamonds, which have carelessly been scator persons unknown. They're all over the blooming show - in trees, under bridges. and the more you collect, the more points

you earn. Riveting stuff this, innit? I'm a sarcastic old so and so, and to be fair Tearaway Thomas is actually quite a woods near Thomas's home, with most of the all-important diamonds at first nestling tantalisingly in the branches of trees

seem, bears inhabit the woods of this pic-

Well no - the truth is, the bears are of

The rest of the game is very much in the same vein, with cute creatures aplenty

wasn't for one specific feature that lifts it the fastest moving I've seen, making the game far more enjoyable to play

The cuteness of it all means that few gamers above the age of about ten or sters among you. Tearaway Thomas is a fun

AUDIO 0000 dear, this tune is in denoer of driving me madi

PLAYABILITY

ADDICTION Yes it's fun, but interest may

w Thomas is running very fast Sehruary 1993

PREMIER





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The most comprehensive and sophisticated football strategy game ever.



Gremlin Graphics Software Ltd., Carver House, 2-4 Carver Stroot, She

Depending on the success or failure of your management skills, your team will either find itself leaping up the Divisions on route to the

to four player of the player o

BILL'S TOMATO

PSYGNOSIS = £25.99 = 1/2 meg = Mouse = Out now

orrect me, if I'm wrong, but I egetable as the hero. Before you write in. hothered what the hell it is?

Bill's Tomato is a puzzle game, but it's simple - you have to get your tomato from

simple that you might think it's crap. Well, it's not. Bill's Tomato Game is one of the most

challenging puzzle games I've ever played. Your tomato starts off on a springboard form situated on the other side of screen. starts and stops the process of your tomato

being hurled. The only problem is that the springboard throws your tomato straight up in the air, so there's no way the tomato is going to get to the other side unless some divine intervention is out into effect. The divine intervention comes in the form of fans, springy platforms, tack in the boxes and bricks.

As I said before the game is set against time, so your tomato will never die unless you don't complete

enough. This enables your tomato lands. so you know where to put the objects to belo him across.

Easy, huh? Nah mate, there are all manner of evil objects and beasts



Well, the game is so easy to explain that's

wrinkly tomato with his beautiful girlfriend.

cers, our hero decides it's time to act and jumps with his girlfriend out of the van that

chums, spies our hero's girlfriend and decides to kidnap her.

wage war against Mr Squirrel. his girlfriend. Will he succeed and he forever

happy or will he get to the top of the tree OK, so there's the plot. Oh stop laughing, it's not that unbelievable, well OK it is, but don't tell the tomatoes, you'll hurt their

So, is Bill's Tomato Game any good? Well. ves and no. Yes, because of the original idea. No. because after a while it does get a bit

monotonous and a little boring. If you're waiting for Lemmings 2 as your mend Bill's Tomato's as something to be get-Game, it's a reet smart laff to while the hours away.

VISION 000 tful cutesy graphics with AUDIO

Nice time, but if you don't like it you PLAYABILITY House controls are easy to

use. Good for a youngster ADDICTION ain's addictive, but does get



of the tomato...



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we learned that the kindly Gremlin person was to nay us a visit last week, a anticination swept through the

We'd been looking forward to the arrival of the much talked about Nigel Mansell World Championship for weeks, and since I had long since scheduled myself to review it I was delighted at the prospect of a Friday afternoon swerving round the circuits and generally being a right pain in the aerofoli. Somebody asked if he was bringing "that football management game" as well.

I replied, uninterested, "Uh, yeah, I suppose so" - and promptly returned to that small place in my mind where I had already begun tuning my Williams.

Well. Gremlin Man duly arrived and I could literally smell the fumes from that ultrapowered engine as he neared the Gamer hovel - he swore blind it wasn't his aftershave With the Mansell box nestling ingly under his arm we exchanged an ings, and then before I knew what w happening he hit me with the bomba "All right, shall we have a look at Pres Manager first then?

What? Premier who? Was this some of loke? Now. I'm happy to look at a about any computer game - it's my after all - but when you have a many licence thrill-em-up such as Nigel Manual your disposal, a football management of

starts to look a bit poxy. There was nothing for it - Biff was a rilled in for this one, so over he came to talked through it, while I perched imtiently beside him.

Up to four players can take part, learned, and I was invited to join in this itable managerial feast.

This was at eleven o'clock. Six hou later, long after Gremlin Man had disa

Famous footballing quotes no. 78 - Tommy Docherty: "Well I didn't know she was your wife!"

PREMIER MANAGER

GREMLIN = £25.99 = 1 meg = Mouse = Out now





OPERATION SCREEN

This is the main screen, from which all the major features of the game are contr Finance, club staff, transfer markets, player profiles, league tables and more are a accessed from this point.







TEAM

DK so we're Wyrombe Wanderers and here is the motley crew that constitutes our team. A team is ranked through five varying levels of fair, good, very good and superb and through world class exceptional and finally The Ultimate As you can see, we've got a long way

to go - think we'd better check out the transfer market.

peared and Biff was arranging his lift home. I was still doggedly guiding the mighty Wycombe Wanderers through the league and cups - bladder full lunch uneaten, and Nigel Mansell discarded and untouched

Needless to say some hectic workload juggling and rapid arm-twisting - not to mention bribing - took place in order that I tould review this masterpiece, and thus further my excuse for playing it lots more.

or other in this issue, but frankly I just don't

Let's just clear one thing up before we go on. If this were a review of computerised thess, and you couldn't play, it wouldn't hold too much interest for you would it?

Similarly, those who loathe football are unlikely to be swayed by even my enthusiasfic persuasiveness - but hey - read on... you

You begin your career as the manager of a GM Vauxhall Conference League team the choice of exactly which is yours - and the basic aim is to achieve as much success as possible from your humble beginnings. hoping eventually to become Premier League champs and maybe even win the European Cup



FINANCE

Before we can splash out on any new players, it might be an idea to consult our finances. It might look like a lot of money - but good players don't come cheap, and wages, bills and ground repairs won't take care of themselves pither

Loans are available, but interest rates are high, so be warned.

Not only will you utilise all of your mighty managerial skills, but a goodly amount of business acumen is required too. in order to ensure the overall stability of the

Premier Manager has got so many features that I really don't know where to start so look at the boxes littered around this page for a run-down of the game's various features. This isn't all of it by any means - I haven't even touched upon the cup competitions or injuries or... I could go on.

Most people who do follow football are likely to support a league team, and may be disappointed that they can't jump straight into the game as Liverpool or Man United. In fact the only way in which you can change clubs is by being offered a new



TRANSFER MARKET

Having kidded ourselves that we can afford to spend, it's time to see just what's for sale. All team details are correct to within a few months, and there are plenty of famous names up for grabs. By clicking on the magnifying glass

icon more detailed information - and the asking price, gulp! - can be learned.

position at the end of a season - obviously dependent upon how well you fared. This doesn't detract from the game in any way. and if anything only makes the whole thing more realistic - let's face it - Liverpool versus Stalybridge Celtic in the Conference league isn't really likely, is it?

If you are a fan of this kind of thing, or have been disappointed by previous attempts - indeed even if you are an Eskimo hermit living on a glacier above a Norwegian hamlet with no access to electricity -

buy this game Buy it, buy it, buy it. I love Premier Manager so much I want to have its bables.

Paul



SPONSORSHIP This is the most frequent and lucrative form of income available. Companies will be queuing up to sponsor you at the beginning of the season (even the odd

quality magazine!) but a string of poor results will soon see the support drop. Check for new sponsors after every couple of matches











Once you have made sure your team is training hard, you're almost ready to play the first match. Have a look at the opposing team first - they're ranked in the same way as your own team - and set your formation and playing style according to your strengths and their weaknesses. This should be a walkover!



Yes. I know the game screen is small. but it's the result that matters. The match can be played at six speeds; the slowest is about 1/4 real time, the fastest about 30 seconds.

The name of the player currently on the ball is displayed, as are those of the scorers. Substitutions can be made at any time and - oh... I've lost.



TRAINING

You could be forgiven for thinking that you had a team of slackers after that performancel Phone the coach to ensure your players are being properly trained. All players can train to either shoot,

tackle, pass or handle (advisable for goalies only). On returning from injury. a player will not train until instructed to do so - keep a check.



LEAGUE TABLES

Hang about - what's all this? We're in Division 1! Well, I did tell you I spent a lot of time on this game. It's all very well being in Division 1, but a look at my finances at this stage would show a balance that's £7 million in the red. Excuse me while I go and sort it out.

Oh by the way, Gremlin Cheat 1 is just my nickname - honest. February 1993 GARM

t's nice to see a company that has thought of a different way to produce a sequel to a game instead of adding the usual III's after the name of the old

Millenium have done a bit of lateral thinking and produced Aquatic Games, the sequel to the classic James Pond.

Old James is a bit knackered after doing this typ lark; so he decides to go get a bit of relaxation in. But there will be none of this namby-pamby lying around on a beach rubbish. Old James wants some good wholesome exercise – sad but true. So where better to get the exercise he's after than at the Another Sames.

For some reason you don't play James in all of these events. It isn't stressed who you are but it's not really that important – all I know is that all of the competitors are supposed to be friends of James.

The first event is just a sprint, which entails the usual obscene waggling of the joystick, but you are not running on a track that's much too easy.

For the most part of the race you are running on water so if you slow down you will sink. You are racing against a frog who is pretty speedy. Event two – Feeding time. You play a

tubby character standing on a bridge, and you have to fill up your bucket and feed the fish that poke their head out of the water. Next up is the Grass Race. A friend of old

Next up is the Grass Race: A friend of old Jimmy's is a unicycling shark – everybody should have a unicycling shark for a friend, but alas we don't.

You have to pedal his unicycle along the course and jump over all the different obsacles that stand in your way. The course runs from left to right, like the sprint but it has lots of hills and things that you've got to pedal

I found the control method on this a bit tricky. It's like trying to rub your stomach while patting your head. You have to pull



Just what does James think he is doing this walking on

£25.99 • MILLENIUM • 1/2 meg • Joystick • Out now

AQUATIC GAMES



the joystick round in a clockwise fashio thats fine until you have to jump over obstacle, when it's a bit tricky too keep momentum going.

Reading the list of the various events make you think that they're pretty west you'd be right. After the Grass Race you he Kipper Watching which is almost as bus as it sounds. You are in charge of six so who are having a kip (a nap to our sound

The rowdy beach people keep thrombeach balls at our comatose friends so stop them waking you have to jump up adefect the balls away with your head in the

seal style.

Along with the 100-metre splash there as a couple of adaptations to normal event like Leapfrog which is just a version of many the search of th

There is also a trampoline (sea sponsection of the games, the first I have esseen. You have to go through all the pieces like a proper trampolinist. Once yo have done the set moves in the time gliany extra somesaults you do give you expected.

By far the trickiest game in the tourment is the shell shooting section. Odd-looing crabs come at you from either side of a screen, and you score points by flipping acaching them, flipping them into vats of incial or shopping them to burst the overhaballoons. I always seem to get electrocum by the electric electipe things.

I liked the Aquatic Games a lot – graph cally they're sound and the FX are quit amusing in places. It's a nice change from run-of-the-mill sports games.

I also thought that the practice option were a hell of a lot better than normal instead of the usual one practice mode the are three on different levels, so if you're real slowy like me you can go on the this level first. Well thought out and good fun.



Covely cartoon-like graphics that raise a smile.

Cool little tunes and some good sound FX.

A welcome change from your normal sports game.

DDICTION

OCIDIO (CONTROL OF CONTROL OF CONT

30%

16 GARRER February 1993

Feed the fish to keep 'em down. All very surreal



SOUPE :

Star Wars flashback



A hearty stap on the back is deserved by Psygnosis for this one I think. After their recent our of turkeys this recent our of turkeys this recent our of turkeys this recent our heart broaders. How many of you readers out there aged between 17 and 18 collected Star Warr figures in your youth? Oulte a few I would expect, and if you really saved up you pocket money you could get the Millenium Falcon or a Scout Wallice.

If you are either too old or too young to have had Star Wars figures then you are bound to have seen Beturn of the Jod. the last instalment of the Star Wars trilogy. On this film appeared Scout Walkers, large ungainly machines which walked on two legs and took a two-man crew. This Scout Walker and the subject

This Scout Walker and the subject of Psygnosis's new game have rather an uncanny resemblance. But Biffa and I are not bothered what the game looks like in relation to other

On screen, Walker is a lateral crolling shoot-emup stroke strategy ame, a simple, get to the-end of-the level-and-kill-the-big guy sort of thing. You, being the single-man crew, have to get to the end by guiding your machine with a simple left to right movement and using the mouse

lt's a bit of a tricky control method at first but it's challenging instead of irritating. Also it quite fun having one person on the controls and one Parties Partie

on the guns - a bit less challenging but you can enjoy the carnage more. Walker is also another poke in the eye for the myth that says you must have good graphics for a good game. While being graphically sound as far as the background and the Walker itself go, the graphics are a fair and smooth representation of the programmer's idea. The enemy troop, however, are nothing more than badly-drawn lemmings, if that. But they are well animated, and they certainly do the job of doing you in. They run at you with admirable stupidity and chuck grenades in your general direction.

Some of them fly helicopters, some of them even climb up the back of your machine and plant bombs. Not satisfied with grenades they fly helicopters, drive forries, bombers and various other

mechanical armaments. Graphically the animation on the helicopters and the other ground vehicler is pretty but I was really impressed with the sound. When your guns overheat there is wonderful sample of predator when one of the soldiers is firing an empty gun (you smart sod = 60).

smart toor—roy.

The other really impressive bit of sound is when the helicopters fly on you get the sampled sound of a helicopter and some really dodgy funk music banging away in the background.

On the finished version of Walker you'll be able to view out of the cockpit of the Walker while it is moving, as well as the side view.

I'm not sure what the point of this will be - seeing as the head is swinging around all the time it might be a bit of problem looking at what you are doing but, let's

wait and see.

When the full version of Walker hits the streets it should be a stonker and it shouldn't be too far off.



guns, lorries, and bomber planes, they really don't like this Walker guy



spelling - dubious though it is a little more time poring over their English

I'm not going to do that at all: but if I was lous and our cross-Channel cousins are romoletely daft

On closer inspertion though it transpires

the silly spelling for now, eh?) has had his defeated in a battle by the king some 50 vears earlier

niak has made the king's son his lester, and Buffoon is said to be already challenging Andrew O'Connor for the title of funniest

once again engage in the customary royal

A problem is the fact that Amoniak has



COKTEL VISION = £29.99 = 1 meg = Mouse = Out now



Who said video games didn't incite violent tendencies?

about four million ferocious beasts protect-

to attempt the unlikely rescue are a couple

card - he's a cheeky young fella and tends to get a good drubbing at some point from

of the two - a kind of Sid Large if you like, the by Winkle's comedy banter. enough of these comedianic allegories, and

be familiar with the gameplay, but will probably be thankful that this sequel sports one less sprite, and is therefore less fiddly to

bludgeoned by a variation of heavy hour

Despite their being two characters manipulate, the point-and-click control very user friendly. A nice touch I found record any pieces of pertinent information

An irksome feature that occurs in a no many games of this nature is that some logical, and Goblins 2 is no exception.

Thankfully the superb cartoon graphs and funny EX Inot the music mind - turn off for God's sake) more than compensate sustain major brain damage in attemption to complete the game, though the joliny

it all will more than satisfy. chuckles and hair-pulls for just about an



AUDIO

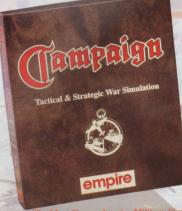
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trolling both guys together, DDICTION experts, but you won't want to

leave until it's over



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DALEK ATTACK

teve Wright. In the afternoon is protected under copyright - nineteen ninetee twoo...

Unless you tune in to Radio One between three and six on weekdays you could be forgiven for believing that the cheap but cheerful adversaries of Doctor Who had dropped off the face of the planet.

the face of the planet.
Call it sentimentality, call it a cheap
way of filling air time, but all things
Who-like are going through something of a comeback at the moment.
Re-runs of the old Doctor Who

Re-runs of the old Doctor Who series are popping up not only on UK Gold, which will readily show any old pap, but also on the rather more credible terrestrial outlet, BBC2. And now, to top it all, Admiral soft-

And now, to top it all, Admiral software – little brother of education and budget specialists Alternative – are releasing for our delectation the game of the favourite foe, Dalek Attack.

I remember when I was about four or five years old and Jon Pertwee was our erstwhile do-gooder from the planet Gallefry. We got a coloured television aroundthis time.

It took my mum about three weeks to peel me from the living room celling after I discovered for the first time that the monsters weren't all black and white after all. Potty training was set back months, I'm telling you. Like all Doctor Who fans, I was

enthralled by the scary and futuristiclooking Daleks (this was around 1974 remember), but even at this tender age was a little confused as to how these robotic wash tubs could navigate a terrain full of potholes and contours on wheels the size of hapen-

ADMIRAL • £16.99 • 1 meg • Joystick • Out now

voices and point blank refusal to adhere to even the simplest laws of physics though, the Daleks were, and remain the favourite and most recognised of all the Doctor's adversaries.

Davros, the Dalek leader and part-time kebab shop proprietor, has wheeled himself out of retirement once again for yet more

ment once again for yet more outer-planetary evil. Well actually it's more like inner-planetary evil, because he's

evil, because he's spaceship. Or maybe a sate attempting to destroy the earth's ozone layer with the help of his evil minions.

Somebody should have told him that the job's already been taken most of the population are undertaking it on a voluntary part-time basis but anyway, that's what he's doing, and he's hope blars him.

and he's happy, bless him.

As usual, it's up to the Doctor to foil this dastardly plan, doing what he does best, which is... er, just what does he do exactly, apart from run around forbidding landscapes with an assortment of haplets assistants, that is? Well anyway, let's just say the Doctor must foil his plans, and leave it at that.

Dalek Attack is a five-level multiscrolling shoot-em-up. Oops – no, stop right there – it isn't a shoot-emup at all, because if memory serves me correctly. Dotor Who is a pacifist. It's a sonic screwdriver-em-up. this

implement being the trusty tool that the Doctor is never without. Having said that, one blast from his screwdriver and the baddles certainly look dead to me – maybe they're just mildly concussed and suffer no seri-

ous after effects. Oh who cares?

As I was saying before I so rudely interrupted myself,

the game is set over five levels - beginning in London, we travel through Paris, Tokyo and New York before finally arriving on Skaro,

home planet of Davros.
Each level is very large, and the whole game is quite a challenge from the start. Nothing much new to report in the gameplay area – dispose of the nasties (a large proportion of which are obviously Daleks) in traditional fathion, picking up bonuses

and other useful items as you go.

The Doctor himself is a very versatile chap - jumping from buildings,
hanging off ledges and scaling walls poor old Sylvester McCoy would turn
in the grave his career was buried in
if faced with challenges such as

these.

Speaking of SIy, he's one of the three Doctors you can choose to bethe others being Tom Baker [complete with daft scarf] and Patrick Troughton. In two-player mode you ween have a choice of which assistant you want to take, although thankfully Bonnie Langford intri included.
Good God – it'll be Lione! Blair as the



Dodgy character this one - kept winking at me he did!

Doctor next.

There will be those who critic the graphics for being flat. It's that a few parallax backgroun could only have enhanced the gabut I was more than impressed the level of detail, and the realism the city backdrops, particularly part where the Doctor gets flatten by a New York yellow cab.

It's not often we mention price to in a review, the idea being that game either will or won't stand up its own merits. Dalek Attack is original twist on a fried and test formula – at seventeen quid it's estanding value for money, an abulute must for all Doctor Who fans.





Excuse me for asking, but we're your new neighbours. You don't have a spare sink plunger do you?







83%





Jingle bells, Jingle bells, Jingle all the way. It's Christmas and it's time to spend some serious money, but if you fancy keeping those moths in your wallet a little longer. here's a whole plethora of budgets, you old misers

Ben's selection



Battle Hawks Kixx XI = £12 99 It's a flight simulation in which you can fly in famous

This is one game that gives other computer gwo-

Prince of Persia

So enough about where I work, what about the game? You have to rescue the princess from where

games. You begin your quest in the middle of the castle. You are unarmed so the first thing to do is careful because there are a lot of unsafe floor tiles - some of them open up new rooms to explore and some of them will dump you on huge spikes.

of moves to master. Prince of Persia would be a pretty nondescript game if it weren't for the graphics, which make it a good buy,







a computer game. It may make me

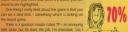
Trivial Pursuit Hit squad = £7.99

To persuade people like me to play their poxy computer games, software houses

have started producing board games on computers. Well I don't care, I won't play. Foremost of these compu-board games is Trivial Pursuits. A classic game up there with Monopoly. Cluedo and Snakes and Ladders - but does it work? Well I will tell you now that there is a fair difference between this and the normal

board version. Instead of using dice the game uses darts to determine a random One thing I really liked about the game is that you

can set a time limit - something which is lacking on There is a question master called TP - an annoving prefer the board game, but it is a fair conversion.



Biffa's selection



This sequel to the classic Switchblade was drooled all over by the computer press and is still just as sexy today as it was way back then.

The story goes like this, Hayoc has been living up to his. Switchblade GBH Gold= £9.99

GBH Gold # £9.99

name and has decided to take over control of the Cyberworld. The only person who can possibly save the world is a Blade Knight and it just so happens that a chap called Hiro is the only living Blade Knight in the whole world. And guess what? He lives just around the corner from Havoc. Cue platform remonarous within inolvers our Japanese hero lickling some robot and other such natties.

Cue patrom romparama which involves our Japanese hero accord source roots and other soon resourtif he gets to wreck Havoc's deadily plans.

One of the best platformers you're ever likely to see – it's certainly on my

top five list of platform games.

The graphics and sound are brilliant plus the level of playability is simply stunning. The game is a right toughy to complete – believe you me, it will

take you more than a couple of goes to finish it.

Some things do improve with age and Switchblade 2 is one of them.

Are you still sady mourning the disappearance of Niget Mansell from Formula One Grand Prix racing? Are you weeping because that russly Ayton Senna rammed our Nige in the last race of the season? Are you crying because Nigel is going to make millions while drive-

Are you crying occuration region is giving to insect mixed where careing for Paul Revenue and will be that rich that he will be able to fill up his swimming pool with champagne and use E50 notes as tolet paper?

Well are you? Do you need a nice little budget racing game to take your frustration out on? If you answe lives then with a bit of luck... here's Supercars 2.

Instead of just simply racing around the track, you can also blow up other competitors using various violent weapons. Good fun, eh? Supercars was the original game and there are loads of differences between Supercars 2 and its predecessor. One is the graphics

which are a lot smaller, but are more detailed.

Personally I don't think it's as playable as the original. You tend to concernate on killing your opponent rather than winning the race. Apart from that,

responsify from times is an purpose of a time displace to the control and to the control and to the control and the control an



Supercars

GRH Gold • £9.99





ine the smile on my face when it arrived in the office last were Yes, it's been re-released on the Kixx budget label and I'm happy as Larry.

RVF Honda is one of my all-time favourite games. I think it

because when I asked my parents on a house any seal of 190 per and 190 per and

screaming as the stating nothing date channing most decoded by subjected the track.

All my emotions and senses were being put into overdrive. It has great graphics, good sound, but it is as playable at something that is so playable it? beyond deficiency in certainly learn me enter.

banned. Addiction-wise you couldn't go far wrong – it certainly kept in cained for weeks and weeks. RVF Honda is brilliant and for only a tenner you'd be a complete for buy it.



RVF Honda

Midwinter

Kixx XL = £12.99

wastes getting together a tream of crack commandos to destroy the evil enemy.

Who the evil enemy is I haven't a clue, because somebody has lost the manual. You get the idea thought, graparist evil and good has to save the world.

seen the 3D Construction Kit you'll know what I mean. Unfortunately the game is showing its age, it does hold your interest for a couple of hours and then it tends to get a bit monotonous and boring.

If you like this type of game then you'll already have Midwirter. One in eating thing is the price. Modwinter will cost you £12.99 – £3 more than y normal budget game. Hmm, a little bit much for a game that's a few yo old and showing its age.





ne of the biggest disappointments of my life came when I was about seven or eight years old. I brink it was Halloween, but it might have been Christmas, and occurred at a fancy dress party held at our local parish church.

Now my mum is dead good at sewing and had spent days working on what turned out to be an absolutely top wizard's outfit – pointly hat, moon-and-stars jacket, made wand – the lot

magic wand – the lot.

I was a bit shy as a lad and didn't really want to go, but after a little persuasion and the threat of a spanked bottom, along I toddled in all my repair.

ded in all my regala.

On arriving my mood improved almost instantly, not only because I spied the Grandstand "Pong" video game and numerous chocolate treats that constituted the prizes but because all the other kids' outfile.

Well I was laughing. I can tell you, as that sorry bunch of misfits traipsed hopelessly around the parish hall in dress that looked

about as faincy as a Michael Foot overcoat. Pong was mine for the taking! When it was time for the prize giving I sat between my parents with a smug grin on my greedy little face – a grin that would soon turn to utter disbelled as some gill or other from my class at school was ushered

with the fabled rong as a reward for her pathetic-looking fairy outfit. "But well done to everybody, especially Paul Roundell – and his mumi", boomed our compere ioxially. All was not lost – at least

"And now ladies and gentiemen, please give a big round of applause to our infants for last week's smashing play," he continued, whereupon a dozen or so five-year-olds trooped towards the front to be dutifully furrished with Spangles and Texao Thew Bars. Scandall The sweets were for the kiddles

there was... No... Second... Prize.

Video games have come a long way since the days of Pong – now renamed the Sega Master System – and Thalion are taking a bit of a risk in thrusting yet another racing game into a market already overcrowded

with mediocre offerings.

If No Second Prize is to have a hope in hell of raking in a decent chunk of the Christmas loot it will have to provide us with substantially more entertainment than the wast majority of its predecessors.

was imposely on so proceedessiviit does – in fact I think it's rafe to say that it's one of the very best racing sims around, and it even has a story. The most completely fabulious one-of-a-kind biliteratic dreamcycle in the world is up for grabs – the owner is unknown but has offered his machine as a prize to whoever proves themself as the best

motorcycle racer in the cosmos.

Competition has been narrowed down to just six riders – two women and four chaps – who must now race head to head for ultimate supremary.

mate supremacy. You can choose whichever rider you want to be after checking their individual strengths and weaknesses. Some are particularly good on bends, or may be very fast, while others have a high hit point count, meaning they can sustain all manner of

After making this momentous decision you will then need to decide how to set up your bike. Basically this involves choosing a sensitivity setting for the mouse – no Joystick option at all, which is a

poption at all, which is a bit of a shame – and ocking the gears onto either manual or autonatic. Having done his, you're ready to ace. There are 20 must chug bravely round them all for points - coming last actually results in a deduction

from your overall system. Chag really wasn't the right word to use at all, as the game is incredibly fast. Viewed from a 3D driver's eye perspective, it will have you and anyone watching swaying from side to side as you swing around bends, under bridges and into surprised bystanders.

bystanders.

Changing gear manually involves toggling a couple of the keys, and is a bit rickly
at first considering control is by mouse. The
game has a replay mode, and you can
worth your hopelesiness from four separate
angles including from a chopper – I enjoyed
plying the replay beckwords as it gave me
the impression that I was actually overtaking

Graphics and sound are pretty much what you would expect from this kind of game, which is not meant as a criticism—how could I complain when it's as fast as a this? Since my last encounter with a real motorbike resulted in treatment for abrasons in a Greek hoppital, I implif not be the best person to advise you about the difficulty, but it does seem very hard.

In the races I did manage to finish I came sixth out of six every single time – there's nothing at all wrong with the control, once



race. There are 20 tracks in all, and you wow - the choices are limitless. Where did this lot come from - Venus?

Hot rubber, throbbing engine, and other such entendres

NO SECOND PRIZE

THALION • £25.99 • 1 meg • Mouse • Out now





That's not fair - he's got a bigger bike than me. W

mastered – it's just hard.

Hard it may be – but I played it solid in couple hours without becoming estimately frustrated and I'm dying for another go right now. Well done I halion on proping one of the best racers I've seen.

















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it yet? Come on, it's easy - they all Nah, only joking, the proper answer is that they are all flight simu-lators. More to the point, all the anyone can fly them.

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On well titled another one. Thank God for that I'm bobbins at plane games (crash of lighting followed by small thud). Oh dear, God does move in mysterious

dear, dod does move in mysterious ways. Look what I've just received – a brand spanking new copy of Reach for the Skies. Gusp! It's 1940, it's summer and the

thing could happen because you get a many or Britain, the choice is entirely up to you. So, if you're good enough you could change history. Everyone knows that Britain won





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NAU INFO TENTONE PANGE THE MILES BEARING THE DEG

Almost all of the game is spent in the air in your plane – or I should say planes, because you actually control a squadron. This enables you to hop from plane to plane during battle –

go left and right to go, err right. Oh and you push the Fire button to umm, fire. See, simple.

meters to confuse you and the control panel looks authentic enough. There is only one little problem

ith the enemy. You can accelerate time, but it's not option to start off in the air, so you're much closer to the enemy. The game is quite difficult and chasing the enemy over land and sea

easily, though.

Once your flight has been completed you have the great chance to watch it all again by using the video





southern coasts of England in al



0000 Hmm, not much to report, but what there is is suitable enough

PLAYABILITY 0000 Good honest fun, plus it's

really easy to control ADDICTION 0000 If you fancy a flight game then get addicted to this one







The Gamer Guide to...



Stuck? Well, yes you probably are if you're reading this page. Don't worry I won't laugh at you, I'll just smirk slightly...

ight kids, without further ado, here's how to do it...
Pick up tongs. Open cup-board. Take the lard and the knife.
Take the crystal ball. Take the copper Take the straw. Use knife on reed.

ite. Use tongs on guard rail. Take the wood. Go back through portrait and place on hook. Take the sleeping draught and use it on the seeds to create a drug. Use drug on

Click again on hideaway and take the wooden mould. Use grey key on the skull. Take the ring. Exit room. Use ring on copper ball. Use the straw and the wood on the fireplace. Use flute on Ween. Use strawberries on

Take gold. Take strawberry jam. Use flute on Ween. Use the jam on Urm. Use Urm on the fireplace. Use the cauldron on the fireplace. Use the gold on the cauldron. Take cauldron and use it on the wooden mould.

made. Exit through facing door again. Use golden key on padlock. Take the half statue. Click on trap door to exit.

Take the tibia. Take the torch and use it on the hearth. Take the torch. Take the planks. Exit through the hole in the wall. Take the rope. Click on skull. Use ring on cauldron. Use copper ball on orbit on the skull. Take

the moon stone.

Use the tibia on opening. Take copper ball back. Exit through the hole.

dron on hearth. Use the lard on the cauldron. Take cauldron.

Exit back through the hole. Use the oil on the opening. Click on the lever. Exit right once more. Use the rope on the lanks. Use the now bound planks on the precipice. Exit through the

Take the sun stone. Use the torch on the torch holder. Take the spear that the guard on the right is holding. Take the tibia – it would be quite hard

e tibia is at the bottom of the guard on the left guard's right leg Use the tibia on the spear. Use the newly constructed tibia-spear on cur tain. Use tibia-spear once more on the blackberries. Take the blackber



Use the flute on Ween. Use black-berries on Urm. Use Urm on hole key that Urm drops for you. Use the key on the door lock. Exit through door. Click on the sword. Click on the hook holding sword to

wall. Take sword and use it on the

the cauldron on runes. Place moon-stone in the niche. Place sunstone in niche on top of the moonstone. Exit right to the other room once again Click on sun and moon symbols, the

the crown symbol.

Take elixir from the hole in wall. Now click on the moon and sword symbols then click on the crown symbol again. Take effigy from the sec-ond hole in wall. Exit back to the stele. Place effigy in the niche. Swap the sun and moonstones around and you'll obtain your first grain of sand.
Click on bridge. A monster will
appear and won't allow you to pass
over the bridge. In the meantime a feather will float down. Use the



feather on the chest. Some objects will appear. Take the pollen and the

pieces of quartz that are lying near Now mix the venom and poller together in the cauldron to create potion. Use newly created potion or leaves. Take strawberries from bush

Give the strawberries on Urm. Take gold and use with half statue. Use the now full statuette on the water. Urm will take the elixir before you cross

Click on strawberries. Urm will











ur cauldron on the middle hole. An vor will appear. Use the Orivor on e pile of gold. Exit by clicking on

will turn into a piece of quartz. Take the tiara. Use the torch on the bram-bles. Use Cauldron with the ring, then use the copper ball with the tiara. Use

trap on wasps. Exit through door. It's now time to fight the dragon. You are given three magic pendants

until the dragon changes to a wasp and you change into a worm.

Now all you have to do is use the wasp trap on the dragon who is now of course a wasp. Use the flute on

Ween and Urm will appear...again! Take the cherries from the bottom

of the tree and give them to Urm. Urm will then take the wasp trap from out of your way. Exit via the door on the right-hand side. You are now the

Click on mechanism and take the phial. Now this puzzle does vary, but use Petroy to help you figure it out. It tures of the circle, triangle, square and the hexagon.

The key to the puzzles is how many

Take the hammer and use it on the arm of the statue. Take the amphora and use it on the hearth. Take the wood and use it on the hearth. Take the ECU and the rag and put them in

Take the gargoyle and use it on the cyma. Click on stone. Click on fountain and take the lichen. There are

some numbered teeth, click on then in this order, 12, 4, 6 and 3 and the

Use the lichen on the hearth. Use the magnifying glass that's now on the floor on the beam of light. Use phial on the enclave. Use rag on water. Use wet rag on head of statue then use it on the head's eyes to

reveal some quartz.

Use the pollen on the right eye and take the flower. Use the venom on the left eye. Use pipe on snake. Use coil on gargoyles. Use wet rag on coil. Use flower on hearth.

Use leaf on hearth. Finally use the formation has taken place use copper ball on small statue that has appeared. Click on statue. Exit igh doo

You now own all three grains of taken to Volcano Island and if you don't rescue her she's just about to

become a wife to the slimy Kraal.

So, there's still plenty more of the quest left, but I'm not going to tell







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Talking

he arrival of Amos Professional has caused quite a few ripples among Amiga programmers, and those of you that have been reading about it will have noticed how much attention is given to the ARexx interface -

The problem with Amos for many programmers was that ARexx was a bit too alien to the Amiga environment. Adding an ARexx interface goes a long way towards making it a truer Amiga environment, while at the same time allowing it to live up to its name as an alternative AMiga Operating System.

The thing with Amos is that it makes so many things so easy - it can almost be viewed as an application generator (like CanDo for instance) rather than a language

For instance, it offers split screens that are not available under Intuition, it has automatic double-buffering that makes the Intuition alternative look like a nightmare, not to mention all the thought, it can be used to design excellent interfaces.

Possibilities

Linking all this presentation power with existing Amiga applications opens the door to a lot of possibilities. Most modern Amiga programs support ARexx these days, and it is nice to know that all this software can now be linked to Amos Pro. After all, there are almost no Amiga application generators without an ARexx port. So I was

more than a little curious to see what Amos Pro had to offer. First of all, if you are using Amos Pro directly from its boot disk, then you will have to load up ARexx separately, using the "rexxmast" command, but if you have been following this series you probably already know that! If you are working from Workbench 2.0, then, of course, ARexx

should already be running. Amos Pro has a special command for running other Amiga programs in the background, called "Exec" - don't confuse this with any other part

The ARexx Library Calling all ARexx programmers..

the M.C. Mexx Library.
This new source of ARexx software
will be redistributed free of charge on
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If you want to play your part in the
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With Amos Pro and ARexx, you can get your programs communicating with an unprecedented degree of ease. Alex Gian discusses a minor revolution

of the Amiga's operating system! Any program that could be launched from the CU can also be Jaunched from within Amos, eq.

Rexxmast can be started like this if necessary. The "Exec" command can also take an optional argument, to determine where the output of the command should go The default is NIL:. This option was not work-

ing on my version of Amos, but a small bug like this is inevitable in these early days. I am sure it will be fixed soon If you want to redirect the output of your

"Exec" command to a file or window, you can still do so by using the standard DOS redirection operator >, eq:

free Statemofile "dffammere

But since this article is about the ARexx interface, why am I concerning myself so much with the CII interface? You will see in a minute. The following Amos instructions and functions

are provided for direct support of ARexx: ARexx Open - Open a special ARexx port. ARexx Close - Close the ARexx port. ARexx Exist - Check if a port is really there ARexx Wait - Wait patiently for an ARexx mes-

sage at the special port. =ARexx = Return the status of any messages at =ARexx\$(n) - Return the nth ARexx argument

ARexx Answer n - Reply to an ARexx message and set the return code

As you can see they are useful for opening an ARexx port and receiving ARexx messages. They correspond roughly to the equivalent functions of the rexxsupport.library, which we have already seen, but are even simpler, since only the specially opened port is checked.

These commands are meant to be used inside a loop which constantly checks if any new messages have arrived, and processes them as they come in. The technique has been fully described in the Oct '92 issue.

"But hold on a minute!" you may say, "that's all fine for receiving ARexx commands, but what

loud and clear

if I want to send an ARexx message?"

A good question! After all, since we are likely to be using Amos as a front end, it is probably more important to send commands out, than to receive them. That is, you are more likely to want to use Amos to control other programs, than the

Interestingly, there is no direct way to send ARexx messages out. There is no equivalent of the ARexx instruction "ADDRESS" or any other means of accessing external host ports.

As a result you are left with an ARexx interface that is well implemented, but only half there. I am almost led to suspect that the designers of the ARexx interface were not fully aware of the possibilities of ARexx.

For the time being, if you want to send out ARexx messages you will have to resort to the "Exec" command which we have already

Instead of sending out an ARexx command directly from Amos, you write an ARexx script that does the job, and launch it from Amos. If your script is called sendrommand revy then

Exec "rx sendconned

Your ARexx script must be saved in the rexx directory, otherwise you must specify the full path. Small command sequences can also be sent directly as strings, but you must remember to embed the quotation mark, eq:

the most elegant, and also slows down the ARexx messages, since they have to go through the

If you want your ARexx scripts to run asyn-

combination. Script outputs can be redirected

Unfortunately the automatic system (the SET EQUATE BANK instruction) was not working when I tested it, so I had to get all the values from the include files, but I trust that this will be fixed.

(and saved) to files for later use Does this mean that Amos ARexx port is a failure? Not in my view. The features provided are sufficient for the occasional user, and programmers who == + need more can easily create it I am also certain that we will see Amos Pro. and better ARexx facilities will Exec "rs "+Chr\$(34)+"address "PORT_E" "DO_ET" appear if they are needed.

> special-purpose application generator, and if you need a custom ARexx interface.

fledged language, rather than a

Amos, or more probably in assembler. Just as in any other language, the standard message-passing and port handling routines of

the exec.library apply; so do the ARexx message rules of the rexxsyslib library I managed to write a routine **Programming interfaces**

to invoke ARexx macros directly in just a few lines of Amos code Macros can be either commands or functions and results are returned as

That's more like it! Now I can use my library of spe-ARexx macros from within would have had to rewrite them all in Basic - that would

ARexx interfaces are bound to appear in the future. There is a large area to explore. Getting Amiga programs via ARexx is going to be more in the domain of so-called serious programming, so a bit of DIY is only natural at the beginning, As someone who is interested in using Amos

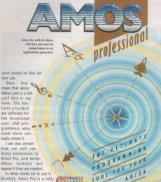
Pro as a front-end for applications, I like it. Be prepared to see some really interesting programs. The potential is certainly there.

An apology

In a previous article (Oct '92), I described the ARexx interface of Gold Disk's HyperBook. At the time I said that despite having one of were minor problems with WorkBench 2.0. I am pleased to say that Gold Disk have in fact cor-

While it does not have the advanced graphics abilities of a CanDo or Amos. HyperBook still remains one of the most charmingly simple pre-

Its excellent ARexx interface also allows it to









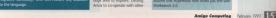












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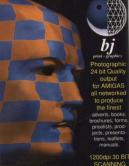
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DTV for beginners

lave you been putting your close friends and family through festive camcorder torture, endless shots of uncle Frank vodelling into the great white telephone. little Johnnie doing unspeakable things with the Christmas pud, and countless other memorable cinematic moments?

The guestion is, how do you add a little style to the proceedings? Well, as you've probably quessed, here's where the Amiga comes in. Although Santa may have only delivered the

basics in the form of a standard machine, you're still well on your way to a masterpiece without the need for any additional add-ons. But before you dive for the record button it's well worth spending some time with the software

exploring the massive potential of what has become the ultimate DTV workhorse There are a few points you should keep in mind. First, video signals are made up of interlaced sig-

nals and as a result you should ensure that the Amiga is using interface prior to any recording. Secondly, a standard Amiga display in any resolution is by default smaller than full-screen video. As a result, use of overscan is essential if you want

to avoid annoying borders around the edge of your artwork when they appear on-screen Saturation limits

The final essential is to ensure that the colours used within the image do not exceed the saturation limits required by a composite signal. To do this before committing any images to tape, first go to the palette requester and select each used colour in turn

As you do this, the various RGB saturation levels will show as a figure between 0 and 15. As you cycle through the colours ensure that saturation levels does not exceed 12 in any of the three This is an essential to avoid the dreaded colour

bleeding often associated with Composite/VHS video. This prerequisite applies to any project bound for videotape. As a consequence, always stick firmly to this figure

Within certain packages the 0 to 15 levels are replaced by a 0 to 255 system for increased accu-

Built for the job

If the Commodore compendium is wearing a little thin, perhaps it's time to get serious. Paul Austin explains the basic steps of DTV



With Dipolatie nonemerful Mess requester, a wid-

racy. Within such packages the maximum levels should not exceed 192 to avoid excessive blood-letting.

Aside for the essential interlace, optional but advisable interlace and of course adherence to suitable saturation levels, the rest is pretty much up to your imagination.

However, there are a few pointers which make life much easier and your creations even more impressive. For example when using brightly coloured text on equally colourful backdrops it's always a good idea to use a dark keyline around the

This is yet another ploy in the battle against bleeding. Even when composite saturation levels are met, second or third generation copies can still bleed badly without the intervention of the afore-Yet again good old DPaint comes to the rescue

with an automatic keyline feature entitled Edge which can be found lurking within the brush menu. To employ the feature, simply cut your text out as a brush and then highlight and release the edge

It may need several applications to arrive at the desired keyline, but once complete you instantly solve the problem of second generation bleeding and in addition make your creations far more eye-

Apart from basic colour precautions the only other essential aspect of quality control is to invest in quality RCA/phono connections. Whenever possible always use well insulated connections and try avoid excessive cable length.

If both of the above are ignored, image quality will invariably suffer due to the sometimes frightening amounts of interference generated by assorted household appliances.

tion is always a real crowd-pleaser. Again DPaint comes to the rescue with arquably the best anim generation and control system of any Amiga paint

package. If you're still not in a fit state to begin wading through the DPaint manual, a little experimentation can soon fill in for actual study time. First create the number of frames you require then design a logo or opening title.

Next cut out the graphic as a brush and then stamp it down with the right mouse button in the desired position. Now select the move requester from the anim pull-down menu and simply type a few random figures into the distance and angle

Experimentation

In the case of the angles it's usually a good idea to stick with 45 degree increments in order to keep things tidy Now before you do anything else, under no

where the experimentation begins. On the other side of the requester you'll find the Preview option which allows unlimited dry runs prior to actually drawing, which on complex or large anims can take an age, especially on standard

When you're happy with the effect, simply click on the draw button and make vourself a wellearned coffee while the software automatically renders the anim

Once complete you can add additional frames by simply moving to the end of the anim and appending as many frames as you need. As long as you don't go mad, even a standard machine will be more than capable off generating an impressive anim/title sequence.

Once your creation is complete, simply connect the Modulator Out to the Video In on your VCR and record your masterpiece onto the desired section of tape using the RF out on the video - connected to a TV - as a guide to placement. If possible make a copy of you master prior to

recording as once the button is hit there's no way back. Happy titling...

















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Using libraries

Cobol can be coded quickly, but the program runs slowly - the source code is

A second-generation language like assembler is coded slowly and painfully, but the program runs quickly - the source code is computer friendly. The C language is somewhere in-between - it is reasonably quick to write, and can be compiled into

fairly efficient machine code. C is becoming standardised. This makes it very portable. Source code can be written and tested on one type of computer, then compiled into object

code, tested and run. The source code can then be copied to a completely different type of computer (or network), and should compile and run successfully.

C does not have input and output facilities of its own - these are added from a library or set of related routines that can be linked with the object code. Each compiler comes with a set of standard C library high level input and output functions.

Lower level

In addition there are several Amiga libraries, each containing lower level routines for use in your programs. These functions are often called by higher level C library functions.

These programming pages will concentrate on the Amiga library routines rather than the C syntax, unless I have a storm of protest from my readers.

The C language can be extended almost indefinitely, by adding routines and creating a custom library, or by including third-party libraries.

Let's look at C libraries. The main compiler header directory contains some header files (they have .h as a suffix) in addition to its sub-directories. These header files contain the ANSI-compatible

prototypes of the standard input and output functions, and other definitions. To use one of these functions, the appropriate header file should be included with the source

code. This command tells the compiler to add the header file at compile time, but not clutter the source code with it.

This source code will be more portable than the source code using Amiga Library routines, but not

Demo routines

brary routines. From the Exec library, OpenLibrary(libName.ver-on) opens a chosen library. A pointer to the library base is sturned. Closelibrary(library) closes a library. From the Dos library, Delay(limeout) waits for a given time ut. Output() finds the file handle for writing text in the current

dow. A pointer to the current filehandle is returned.

Write(filehandle,buffer,length) will write to a file or a win

The complete program source code listing (amillib.c) is or

When the object program (amilib) is run, the program open the DOS library. If the library opens successfully, the program

Library routines can help both assembler and C programmers. Margaret Stanger does some borrowing

as versatile or efficient. The program source code listing (iolib.c) is on the CoverDisk. When the object program (iolib) is run, the program displays a message using the built-in formatted print "printf" command, and then another message by using the standard library "fprintf" command to write to the

current output file or console The main Amiga libraries used are Exec. DOS. graphics and Intuition. Exec library routines handle the multitasking and the lowest level of interaction between the hardware and the software.

DOS library routines handle input and output control. Associated with each library is a special file with the extension ".fd", these files are usually found on the Extras disk in their own directory. An .fd file contains a list of the routines in the library, together with the input parameters that each routine takes. The more recent ANSI-compatible compilers have a proto directory included with the compiler headers.

Prototype

This directory has a header file for each library. containing the prototype for each command. If you open an Amiga library at run time, all its routines become available. The linker knows where to find the routines, and can link them to the rest of the object code

The OpenLibrary routine is found in the Exec library, all the Exec library routines are always

Assembler programmers can now have sprites designed using a program like DPaint. The height, colours and pixel data can be saved on disk and read into an assembler program when required. Each sprite has a data list of data word pairs. The

first two words of each sprite's data are control words to initialise the

Bits 15 to 8 of the first control word contain the vertical position of the first line of the sprite, bits 7 to 0 contain the sprite's horizontal start position.

Bits 15 to 8 of the second con trol word contain the line after the last vertical line of the sprite. Bits 2 to 0 of the second control word contain the most significant bits of the first line, last line and horizontal position respectively

The last two data words always contain zero. The intervening data words contain the pixel data. The first two sprites use colours 16 to 19, the next two 20 to 23, the next two 24 to 27 and the last two 28 to 31.

The sprite data is copied into chip memory. The Copper list can be set up to copy the address of the start of each sprite's data into the appropriate SPRPT registers. The colour instructions can also be included in the Copper list.

The DPaint utility was used to save two sprites as separate "brushes", producing a short IFF file for each brush. I designed the sprites to be 16 pixels wide. I used four colours, the first being transpar-

The file reader module "readsprite a" can read and interpret this file, or a similar file produced by another artist program. The routine 'readfile' is similar to the IFF sprite

file in last month's Amigo Computing, a simplified picture file reader without a routine to unscramble compressed data. The routine can return the height of the sprite to

the calling program. The routine is:

spriteheight = readfile(mame,spritedata,colourlist) (60,41,42)

The inputs are:

name - the pointer to the name of the file containing the data

spritedata - a pointer to the memory array to hold the sprite

bitplane data (the address of the third word of the sprite)

colourlist - a pointer to the memory storing the colours for the sprite (the colourlist address plus an offset for colour 16.20.24 or 28)

The output in Register 'd0' is:

spriteheight - the height of the sprite contained

The routine will look for the usual chunkheaders in an IFF file. The BMAP chunk will be decoded to give the sprite height - the other data is either known (width and depth) or irrelevant (data from the screen the brush was saved on)

The CMAP chunk contains the colours used when the sprite was designed. These colours will be copied into the correct place in the colourlist.

The BODY chunk contains the bitplane data the routine copies it into chosen area in memory. All other chunks are read, and their data ignored. The routine could easily be extended to process these chunks.

The sprite height is returned so that the position of the last line of the sprite can be calculated and put in the second sprite control word. The main program will then have all the necessary sprite and colour information for the Copper list.





















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Sound essentials

hether you're a dedicated muso or just an interested bystander with a shiny new machine waiting at your fingertips, getting into Amiga music can be much cheaper and simple than you might imagine. To start we'll look at the market from the

bystanders position, highlighting the cheap and cheerful products which for as little as £2 allow an absolute beginner to create music on a par with anything found on commercial games software. As you've probably guessed, we're talking PD and more precisely Med - a program that's been the premier PD soundtracker clone for longer than

most Amiga musos would care to remember. Due to its prolific success and countless updates - courtesy of its creator Teigo Kinnunen - the PD libraries are literally fit to burst with countless revi-

sions of the aforesaid Med. However, if you're after the very latest offering Amiganuts United is undoubtedly the first place to look, primarily because they've managed to obtain exclusive rights to distribute the licenceware eight channel version which when complete with manual comes in at a less than PD price tag of £30.

Commodore 64

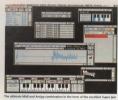
Although eight channels may sound more attractive than the four track shareware alternative the additional tracks do not play samples but merely sequence Commodore 64-style synth

For the beginner these additional tracks aren't essential. As a result, the four track is perhaps the ideal beginners choice for testing the water prior to the larger investment in the licenceware alternative As mentioned above, almost all the major

libraries - with the exception of Amiganuts - carry the four track version for around £2. When ordering be sure it's the latest, namely v3.20 Like all the soundtracker clones, Med employs

standard 8-bit samples as its primary sound source. These can be either created yourself - see this month's sampler roundup - or alternatively there are a wide selection of pre-recorded effects and instruments that can be bought direct either on disk or CD from PD libraries or dedicated sample suppliers.

If you're happier with pre-recorded sounds quality commercial sources include the Zero-G Datafiles which carry both CD and disk-based col-



lections. They're available direct from

Time and Space, PO Box 306 Herts, HP4 3EP Tel: 0442 870681

Although of excellent quality, the vast majority of the Zero-G samples are heavily dance-oriented with assorted scratches and popular hook lines. For any would-be DIs or rave fans the collection is ideal. However if you're planning to build original tracks from the ground up the next collection namely the Sample Series, is probably a more attrac-

tive proposition. This series comes from those loveable Mancunians at Gailts Music Software. Unlike the Zero-G collection, the Sampler Series is comprised entirely of sounds borrowed from the latest synths. If you're interested in a more purist approach to plagiarism you can obtain the aforesaid collection

> Gajits Music Software , I-Mex House 40 Princess Street , Manchester M1.6DE Tel: 061-236 2515/4

A step up the ladder

If you've still got a few pennies spare from Christmas, Blue Ribbon Soundworks offer an intermediate package which allows the user to employ software for any musical beginner

their own or pre-recorded samples as part of an automated six-part accompaniment The software, entitled Superjam, allows you to

begin building a bridge between the internal sounds of the machine and the world of Midi. The package works by allowing you to assign any one of numerous styles which then form the framework within which your five automated musicians will literally jam along with

All you need do is add the chords of your choice and of course play your part as the lead soloist, No matter what chord progression you add, the other members will automatically play a suitable

For example, if you specify a rock style with a chord progression of say E minor, G and A, your automated bass player is almost certain to rip straight into Smoke on the Water

Ok, nobody said the package is perfect, but with a bit of practice you can easily generate perfectly acceptable lift music which can then be worked into a pseudo-original or used directly as backing music on various multimedia exploits. Besides the fun and functionality of the pack-

age, the beauty is that it's equally at home with Midi information as it is with converted Amiga

If you're looking for an affordable and interesting introduction to composition plus both an educational and speedy production tool. Superlam is perfect.



















choice boasting an extremely user friendly edit-ing system and intuitive design.

On the downside, the package isn't the cheap-est as the now rather elderly but usable MusicX

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E-mail culture

wonder how many people reading this have acquired a shiny new modern over the festive period? If you are one, do you know how to behave in the comms world? Do you know what to do and not do to make yourself Like any other community activity, the golden

rule is to consider others as well as yourself. In comms this basically means you should be aware of what your activities are costing others. Although access to most BBSs is free (other

than the cost of your phone bill), somebody has to nay for all the files and message areas made available to you.

A BBS is generally run on an amateur basis. The sysop is using his own equipment that he's hought with his own money. He's also paying at least rental for the phone line you dial in on. One of the biggest attractions of a modern is

the opportunity it gives you to grab software cheanly and easily. You find the file you want. download it, and bingo - the latest version, or patch, or demo has cost you just a few pence.

But how do these files become available to you in the first place? Where does the BBS get them from?

Cheanest

Well there are several ways for sysops to grab files for their lists. The simplest is for users like you to upload interesting programs to the BBS. This is also the cheapest for the sysop.

Another way is for the sysop to download new files from other boards, which costs him money. Yet a third way is for you to send the sysop files on disk - a lot cheaper than uploading if you have a slow modern.

Just check to make sure the sysop can handle your disk - many boards catering for Amiga users are actually run on PCs.

Most boards have an upload/download ratio policy. This simply means that you can only download a certain number of files before you

must upload something to the board. The span with this is that you might not have any software that isn't already on the board. If

· Always give your real name and stranger knocked on your door and gave you a false name

• Take a few seconds to read any news, bulletins, instructions and so on - it'll save you far more time and money in the long run.

• Don't ring the sysop voice at night - the BBS may be running but the sysop is probably tucked up in bed. If you need help during unsolog on again another time.

Joining the bustling comms sub-culture brings with it its own responsibilities and rules. Pat Winstanley talks etiquette



you feel like this, don't worry. You're not alone. An alternative which many sysops are happy with is for you to become active in the message areas. The more interesting messages a board contains, the more attractive it is to other users of that board. Yet another alternative is a download credit sys-

tem. With this you literally buy credits, each credit allowing a certain number of bytes to be down-Some boards running this system even give download credits as prizes in competitions on the

Panic

When either uploading or downloading, try to check your own setup as far as you can before calling on the sysop for help. Take your time too. It's very easy to panic while you're worrying about a phone bill, but it's well worth checking out any instructions. Menus and prompts are generally easy to use if you stop and think about what you're trying to do. Common sense is all you really need to work things out.

One of the most regular problems is setting

"protocols". These are methods of computers talk. ing to each other - like Zmodem and so on - and need to be the same at both your end and the BBS

What it boils down to is that your local BBS is providing you with a free service. If you want to stay on good terms with the syson you should try to put in as much as you get out of the board. A very common complaint among sysops is the

rudeness of callers who log in to their boards. trawl the file lists, download everything in sight, then simply log off again without so much as saying "Thanks"

It only takes a few seconds to leave a message for the sysop, and your feedback on a board's services will always be welcome. That's not just a computer at the other end of the line. There's a human being there too!

nley can be contacted on Fidone at 2:250/107.99 or as peewee@cix.com niga Computing

Keep your sysop happy

. If a board states the hours it's online, respect the fact that the BBS line. Don't call outside the stated

· Always log off the board using

nique to make things simple for any . If you must log off "illegally"

• If the board's file areas are sorted

(dropped carrier for instance), try to

it will help him sort out any problems

· When uploading files, try to com-

press them first - sysops don't have

your accident may have caused.

area. If not, upload to the sysop's general area. Either way, leave a description of the file too.

 If you want to download a file which will take longer than you have available, ask the sysop nicely and he'll probably upgrade your

· Don't pester the sysop for privileged access to the board. When he trusts you, and knows what you want and need, he'll probably upgrade you permanently

















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The right tracks

t seems that every program on the Amiga written with Amos has some lovely piece of music to go with it. Don't you wish that you could make music like that? Well you can It's tempting to steal other people's music off of

bulletin boards, demos and so on. But wait, don't touch that dial. The tracker programs you need to make beauti-

ful music are all public domain, with the exception of certain versions of MED which are what they call "licenceware" These disks costs a bit more than PD disks, but

the author of the program gets a royalty every time the program is sold. They almost always feature what we call in the trade a "pattern editor" like you find on most modern drum machines and certain Midi sequencers. The sounds in trackers are always samples, like

the kind you can make with your own sound sampler, with the exception again of MED which also uses the sound chip in the Amiga to create synthesised sounds, what we call "chip music". Most trackers come with disks of sounds for you

to get started. The way they work is that you assemble patterns, short sequences of music lasting for 64 beats.

Make a chain

Then when you've made a pattern for your verse, chorus and other fill-ins etc, you chain them all together to make a complete piece of music. You specify which pattern you'd like to play and

in what order, and the program plays each pattern in turn to make meaningful music. Sometimes. So for example you could have an intro on pattern 1, a verse on pattern 2, a chorus on pattern 3

and a fill-in on pattern 4. The real kick of a pattern-based sequencer is that you only have to input your patterns once and then they can be played and arranged as many times as you like, rather than a more linear system which would mean you'd have to type the tune in every time

Creating pleasant music with a tracker is easy, as

Writing a convincing soundtrack for your Amos creations is actually very easy. Phil South says: "Let the music play..."

Pro users take note

built in to the program.

If you are using Amos Pro you don't need
to use a converter or any of the programs
mentioned. You do however need a copy of
MED or Noisetracker to make the music in the

is available as licenceware, where the author gets a fee each time the program is bought. You can get information about MED from Amiganuts United, 169 Dale Valley Road Hollybrook, Southampton. Tel: (0703) 785680.

you can have four tracks (in some cases even eight with programs like OctaMED Professional) and you can put the notes in one at a time in what we call "step time", or play along with the other tracks live on the keyboard in what is termed "real time"

Step time is easier for learners as you can fiddle about with each track of the pattern until it sounds right. like typing words into a wordprocessor and editing them until the spelling and syntax is

Once a piece of tracker music has been made. or produced, you can convert it to Amos ABK format and load it into a program or into a bank in Direct mode. The Amos disks contain many different converters to serve most of the different kinds of tracker such as Noisetracker Soundtracker StarTrekker, Protracker, Games Music Creator, Sonix and so on

All you do is run these very clever little Amos programs and they read in a tracker file and spit out a ABK file onto disk ready to be loaded. Some of these programs work fine, but the

problem is that so many of the tracker programs (being in the PD for some time now) have all been revamped and re-written so that they are very different in format from the originals Some tracker tunes will not play properly once

they've been converted. Usually the reason is that the samples are too long or the system has changed.

Either the tracker has a pattern length which is variable and not fixed at 64, or it stores its samples in a different way. Luckily, there are ways around this - see the programs documented in the box on this page for some ideas.

Do try to cultivate the use of tracker programs. You'll find they are not as hard to use as you might think, and the results will be all your own work, rather than just a steal from someone else.

Write stuff

Musical tools

A recent addition to the Deia Vu licenceware library is Music Engine by Paul Townsend (aka Technical Fred Software). This program lets you use tracker music without having to convert it. What this program pro-

vides is an interface between Amos and the Shell. You can use this to play many different music file formats, and this is done by running an appropriate "player program" which means you can hear the music without having to convert it. Once you've bought the Music Engine pro-

gram from Deja Vu, you are free to use the source code, if it's for public domain, shareware or licenceware use, providing of course you acknowledge the source of your source. If you



software, however, then you have to contact the programmers to arrange a suitable fee. Music Engine is a very powerful tool, and not just

for driving music programs. The trick is a very good one, and although it's handy for music, it's powerful enough to run any program from the Workbench, effectively making your Amos system multitask with other programs.

For more details of Music Engine (disk number

LPD79) get in touch with Deia Vu Software, or write direct to: Technical Fred Software, 117 Hilton Lane, Walkden, Worsley, Manchester M28 5TB. Phone or Fax: 061-703 7842.

Another fine program disk from the Amos PD Library is the MED Utils disk, containing a copy of MED v2.13 and some convert utilities to make the SoundTracker modules from MED more palatable to the ST-to-ABK converters. The disk number is APD155.





















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Clips ahoy!

ne thing that can really slow down the you have to stop and draw a graphic to illustrate something, especially if you are not too good at pixel painting

I tend to draw things on paper and then scan them, finding this a much quicker way to achieve what I want than trying to do it with Deluxe Paint

But it still takes time, and it would speed things. along no end if I had a massive clip art library into which I could dip and pull out an appropriate

Good Amiga clip art has been hard to find. Many PD libraries have disks full of the stuff, but in my experience 99 per cent of it is unusable, either because it has been poorly drawn in the first place or because the images are so small or of such a low resolution that you can hardly see what they

It's encouraging, then, to see more and more dedicated Amiga clip art companies advertising their wares. We're going to look at two collections in this article, both of bitmapped (IFF-ILBM) clip

Volumes

The Artworks clip art collection contains more than 1,400 images in total, spread over eight volumes, each disk containing between 115 and 270 images

Each volume covers a specific theme. Currently these are: Pets: Castles: Cottages & Churches: Trees; Signs & Symbols; Wild Animals; Prehistoric Life; Signs & Symbols II and Weddings & Family

Everything is in straight black-and-white, perfect for the mono desktop publisher. The individual images are collected together on a number of pages. To use an image you must load the page into a paint package, cut out the image you require, and save it as a brush. Then you can import it into your DTP package.

All the images have been expertly drawn on a computer - no roughly scanned stuff here. Some are incredibly intricate, like the skeletons on the Prehistoric Life disk and the bouquets of flowers on Ben Pointer gets into artistic mood

Prehistoric 1 ife

The Artworks collection contains some of the highest ity bitmapped clip art I have ever seen

Weddings & Family Occasions, Others are simpler. like most of the incredibly useful Signs & Symbols.

If you were to buy the whole collection at once it works out to an average of less than 4p per image - buy a single disk and they work out at between 3p and 6p each, depending on which disk you buy

Jaggies If I have one criticism it is that on the whole the

individual images tend to be too small. Most have to be published at quite a small size in order to get rid of the bitmap jaggles - scale them up large and, like all low resolution bitmaps, they look awful. But most of the time you don't tend to use this

king of clip art large, so I guess it's the old swings and roundabouts scenario again - if the images were larger you wouldn't get so many on a disk, and consequently they would end

up costing more each Unlike a lot of clip art collections

I have seen, 99 per cent of Artworks' stuff is extremely high quality with respect to perspective. scale and detail. Perhaps the only area where

there is room for improvement is with the few images that feature people's faces, which don't contain much character. But I'm picking nits. This collect

The images in the Magic Clip-Art ground the block outlines so that the lapales are less evident when printed tion is certainly very good value for money, and is highly recommended

The Magic Clip-Art Company has come up with an idea to try to reduce the bitmap jaggies. Although all the images in its collection are basically black-and-white, they have all been subtly blended with grevscales around the black outlines (called "anti-aliasing") so that when they are printed the laggies are not so evident

There are 23 disks currently available, grouped into seven subjects. Because these are 16 colour pictures, each disk contains only between 18 and 26 images, but each image has been saved individually so you don't have to bother loading them into a painting package to cut out brushes. Whimsical Animals, 94 images on four disks, are

cute cartoons of animals, usually with a large white space left free where some text can be added This kind of stuff is of limited use and tends to

get tired quickly when use a lot, but on the plus side the images are quite large, and are very well drawn.

Well drawn

Three disks of Funny Attention Getters (76 images) are along the same lines as the Whimsical Animals - well drawn cartoon images with white spaces for text, The 86-image Sports collection comes on four

disks and features action snapshots from most popular sporting activities, and a few that aren't so popular.

These real-life images aren't so expertly drawn as the aforementioned cartoons, and a few of the athletes look positively unathletic But if you are producing a sporty newsletter,

you'll find them useful enough. The Recreation collection is really an extension of Sports, another 79 images on four disks. Finally there's Silhouettes, 70 on three disks

Subject matter varies greatly here, from sport to animals to shopping to weddings The anti-aliasing does indeed help to reduce the apparent jagginess of the images when printed large, although if printed very large everything

tends to have a fuzzy look around the edges. Printed small they look fine. Cost per image averages out at about 25p each, making them a tad expensive compared to the Artworks collection. But then these are larger images, so you are able to publish them larger

without the jaggles getting too bad.

















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EPSON won an Amiga press Gold Award for its GT6000 colour scanner it became the first sub \$1000 full A4 flatbed scanner for the Amiga and offered scan rates of upto 300dpi in hoth 24 bit colour and 256 grey scale monochrome. Now EPSON have done it again. They have launched the GT6500 and prices start at £799.

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Developing CDTV

ince multimedia became a buzzword some years back, much play has been made of the huge investment needed before development can even begin.

Yet on the Amiga CD-ROM development is surprisingly easy and relatively cheap. Indeed I know of at least one developer who, refreshingly and contrary to traditional marketing wisdom, is quite proud to explain how their development is carried out in a bedroom!

CDTV software development consists of several distinct phases. Firstly any graphics (moving or still frame) and sound must be "captured" and stored in digital form, enabling them to be manipulated and stored by the Amiga/CDTV

Secondly, the actual software is written - digital data and software are closely integrated to the extent that until the format and nature of the files that hold the graphics is known, software development is limited

These two stages are typically done on standard Amiga systems, albeit are accelerated and equipped with some serious capacity hard drives. The software is written and tested as normal Amiga software until it is finished.

Third-party

The next stage is the movement of the software and images to CD-ROM. This is done by a thirdparty company who return a single master CD.

With this master, final testing is done. Believe it or not, until this stage, the application will never have been loaded or used on a CD-ROM! Typically this master CD-ROM will contain some errors and the software will need be tweaked and a new mas-Once this testing is complete, the master is sent

to Commodore US for approval. Having finally passed all the testing, it is sent off for duplication. Then it finds its way to the shops for selling.

Just now I explained that the images and sound are "captured". This makes it sound a lot simpler than it really is. Image capture and sound capture are a specialist area in their own right.

In its most basic form you could use a standard Amiga sound sampler for audio data, a video digi-

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Ever wondered how software gets from an Amiga to a shiny plastic disk? Julius Alexander explains

tiser to grab still frames from a moving picture source and a flatbed scanner (Sharp, Datel etc) for printed matter

Strangely - and purely as a sideline - it is actually a lot simpler and cheaper to capture images for use in a computer than it is to digitally reproduce an image or photograph for commercial printing. The reason for this is that printing resolutions are currently a lot higher than typical screen . resolutions.

A point of caution to wanna-be CDTV developers - when considering which pictures and sounds to use in your application play careful attention to copyrights.

Several large American computer companies. realising the importance that classic works of art will have in the future of multimedia and their value as such, have already started buying (in bulk) the copyrights of original classics!

This is also the reason why companies like Sony, with their huge libraries of commercial films and records, are so valuable as developers of multimedia applications

Next month I'll take a detailed look at the actual software that is available for development purposes. But to round this month off, here's a quick taster For actual software development there are a great number of programming languages available which can be used. For the fastest programs you

can't beat assembler (which is the "native language" of the CDTV and Amiga). Cryptic

Unfortunately writing programs in this native language is not easy, with commands being cryptic and far more work being required to write assembler programs than other languages. But if you're a perfectionist and want the fastest programs, you can't beat it.

For the more light-hearted, there are a growing number of software tools which allow you to write applications using English-like instructions. One of the most popular development tools of this kind is Amos. This program allows Amiga software to be written easily and simply Another easy develop-

ment package is Scala, which is brilliant if you can't program but

want to create multimedia appli-

It's older brother

Scala MM is considerably more powerful but has limitations in that you can't produce standalone applications that can be give away.

These four programs are my firm favourites for multimedia development, but there are also a lot more (some better, some not) and next month I'll be taking a look at these For those wishing to start development, it's probably first worth looking at some of the

many CDTV titles now available, testing them and generally playing around with them - alternatively you could always read the review of CDTV software in this very issue.

In this way, you can find out the mistakes, errors and also the good points that other developers have made, and in doing so save yourself makfeatures you've found

PRO-PUNTER

Pro-Punter II is a remarkable piece of software that gives you a much higher than average chance of winning on the horses.

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course/going/class editors and will configure to metric weights distances, thus allowing

configuration for racing anywhere outside the UK where relevant data is available.

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(Min IMb memory required)

This is a major software undate for the Pandaal hand scanner available for the Amiga

- Darthy An Prop The new feetures include: Dual screen layout with main screen and additional 16 colour grey scale screen.
 - Convert scanned dithered images to 16 True grey scales Colour control using 16 colours from a palette of 4096 Brightness control to adjust grevecale
 - Two levels of Zoom with full grey scale editing Draw freehand, lines, circles, boxes and polygons in line or fill mode Add Text Option with a selection of fonts
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Vidi Amiga 12 is the ultimate low cost colour digitiser for the Amiga. There are no filters and no separate RGB Splitter, Colour images can be captured in less than a second. mono images are grabbed in real time. Fully compatible with any video source.

- Some of the features include:
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Now you can be a Style functions available at the Style functions available at the bound of a button. You can create and mix your own chart sounds — add realistic effects to games — produce stunning demos — or simply enhance the quality of your sound sounce with incredible real time effects. Features include:

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package is a small hardware interface that plugs into the external disk drive port at rear of the Amiga and your external disk drive (if you have one) plugs into the back of the interface. This allows the Digital Bit Image Copy Mode to use the Adaptive Pulse Width Modulation routines

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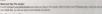
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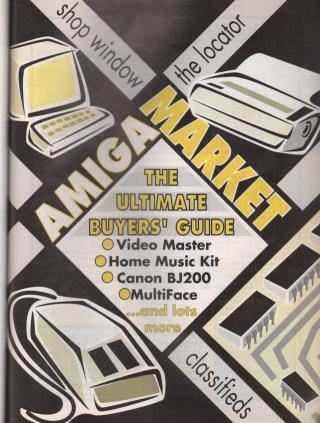
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world over, all up for grabs in the only essential Amiga classifieds section

rom the evidence of our recent mail order survey, far too many readers have suffered the ultimate mail order rip-off when, having paid in advance for goods, the items fail to materialise.

Surprisingly, your answers also indicate that few of our reg-

ular readers take the matter up with the authorities, presumably either because they resign themselves to the situation, or they are unsure about their rights.

Consumer protections can be broken down into two broad

categories – those dealing with the advertiser's duties, and those concerned with the outcomer's rights. The two often overlap, but it is always best to simplify such a complex subject.

Advertisers have a duty according to the Advertising Sundard Authority guidelines to ensure that their advertising memors are legal, decent, honest, and truthful.

In other words, if they specify a delivery date, the goods must be delivered within the specified time. If a product is advertised as having certain properties, it must match the claims made for it.

Additionally, any special conditions stated, such as money about offers, devely options (couries, same day dispatch, and so on) or "guaranteed satisfaction" claims must be afferred to. Few Ampa owners seem to realise that if a company to deliver within their own deadline or a reasonable period of time (28 days is the normally accepted period), the cutine (28 days is the normally accepted period), the cutine (28 days is real normally accepted period), the cutine (28 days is real normally accepted period), the cutine (28 days is realized) and the special period of the cutine (28 days is realized) and the special period of the cutine (28 days is realized period), the cutine (28 days is realized period), the cutine (28 days is realized period) and the cutine (28 days is realized period).

The company has a legal duty to return the money as it will have failed to meet normal trading standards. If the money is not returned, the consumer has several options.

First, writing to the company concerned by registered post, detailing the date of the advertisement, the goods ordered, price, and date when the order was posted or telephoned, the customer should make the strongest possible compalint about the company's poor service. There is little point in pussy/footing around when a company fails to deliver.

If this approach fails to elicit a satisfactory response, such as a firm promise to deliver the goods within a certain time, the customer should take the matter further. Far too many people seem determined to waste their own time and energy in protracted postal arguments with companies who have already shown themselves to be usersuctoredly.

Remember, though, that if an alternative offer is made and the customer accepts it, all bets are off and you must wait until the agreed time elapses.

Step two is to consult a consumer advisor, either at the

What do you do when a mail he code of practice is enforced by the Association of Mild Order

order company takes the

money and runs?

local Citizens' Advice Bureau or Trading Standards office. Experts at these offices will be happy to offer advice on the best way to proceed in your particular case, and a letter from such an organisation to the gulty party might be enough to prompt some action. Depending on whether the quity company or publication in

which the advertisement appeared is a member of certain trade organisations, a recognised scheme of compensation may be available.

be available.

For example, the Periodical Publishers' Association runs its own mail order protection scheme according to which the monthly magazine compensates its readers, then claims the

money from the defaulting company.

The scheme is expensive and is not used by many monthly magazines as it relies on the ability or honesty of the directors of companies to meet the personal promises they make to the publishers.

Other protection schemes include MOPS (Mail Order

Other protection schemes include micro (mail Order Protection Scheme) run by mary national daily papers, and the code of practice insisted upon by the Mail Order Traders' Association.

If a company is a member of MOTA, any complaints about a

company's bad faith should be addressed to the organisation, which will investigate alleged breaches of the code.

Companies sporting MOTA's symbol will normally be of the more reputable variety and less likely to rip off their customers, but the more safety nets there are, the better. A simiar code of practice is enforced by the Association of Iral Under Publishers (ADOP), but as this organization consists mostly of book and record clubs, it doesn't figure greatly in the Amiga market.

As for customer rights, there are several. Apart from the

As for customer rights, there are several. Apart from the rights created by the duties imposed upon trading companies, customers have the little-publicised right to a full refund if the goods are returned within seven days of delivery.

goods are returned within seven days of delivery.
In other words, if a hard drive was advertised as "lightning quick" – a nondescript claim which it would be difficult to either prove or refute – and the customer found it to be less than so in his or her opinion, a full refund could be claimed regardless of

any other considerations

This is a statutory right and one which no company can overturn. In addition, the customer can insist on a delivery date when a product is ordered.

If the company agrees to this, the customer can refuse to pay for goods if they arrive late, regardless of the company's usual delivery times. Forcit pite full extent of the law and consumer rights on mail

order companies is the only way to force the unreliable outfits to get their houses in order.

Useful numbers

Mail Order Traders' Association: 031-227 4181

Mail Order Protection Scheme: 071-405 6806

Periodical Publishers' Association: 071-379 6268

Check also with directory enquiries for your local Trading Standards Office.

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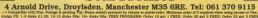
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Home Music Kit

Picture this scenario. You are a bit of a music buff. You're sat down at home on a Sunday, twiddling your thumbs. Harry Secombe is screaming his head off on Highway and you are bored with a capital "8".

What you need is something to occupy yourself with. What could be better than escaping off to your Amiga and laying down some music tracks?

Alas, you have no music package. You are also a bit of a beginner when it comes to the actual making of music.

What you really need is a sampler to be really cheeky and nick loads of samples from other top pop/rock/rave musicians. A sequencer and a sound processor would come in handy as

Unfortunately you'd need some really expensive kit to make the kind of sounds you want, so what are you going to do about it? Well, a package that might suit your needs is the Home Mark fix by Power Computing.

There are two main parts to the Home Music Kit. Real Time Sound Processor 2 is one and Digital Sound 3 is the other. Real Time Sound Processor allows you to add special effects to your music while the digital sound studio lets you create your own music by putting together various parts of different songs, and remiking them to your own meetls.

Apart from the software there is also the hardware. This is the stereo sound digitiser which fits smartly into the parallel port of your Amiga and is only slightly larger than your average har of soon.

Before you start to create the tunes you want, you can to change the sounds by adding special effects to them - but only if you want to. You can sample whatever you want, but by adding the special effects you can add your own personal touch

The screen of Real Time Sound Processor consists of three windows. The first is the adjustment window which allows you to change the parameters relative to the current effect. Each parameter has a sider which allows you to change the values. The next window is the logic window. This represents the

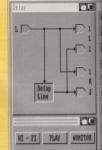
Shop Window

The team round up an exciting collection of goodies that'll have you hammering those credit cards...

parameters graphically in a logic diagram window. This will allow you to see at which moment the parameters will start influencing the sound. It's not entirely useful, but is very adversional.

The last window is the control window. This allows you to listen to the sound transformed by the special effect, and you do this by clicking on the Play button.

There are another two buttons in the window. One is the Monitor button, the other the Hi-Fi button. Monitor allows you to listen to the sound directly without any effects - very handy if you keep on flicking between the Play and Monitor. Real Time Sound Processor II



buttons to hear exactly how the sound has changed.

The Hi-Fi button lets you activate or de-activate the audio

filter of the Amiga.

There are 32 special effects to choose from. These range from simple echoing effects to a stereo phaser to choruses to flances to just about any effect you can think of.

If you have enough memory you can have up to 10 effects loaded in the memory simultaneously. Another helpful option

Video Master

It is usually a foregone conclusion that when different pieces of hardware are combined into a single package it's going to be a load of rubbish. Video Master is the exception to the rule. It is, in short, probably the best piece of hardware for the A500 that I have seen this

Video Master is described as an integrated multimedia video and audio sampler which is a bit of a mouthful, but it is what it says and it does one hell of a job.

The hardware itself is just a box that you plug int the side of your \$00. This is where you plug your audi and video sources in. Setting it up is a doddle – just slo in the box and off you go.

Plug your video source directly into the box – you don't need an extra TV screen to monitor the video source because the software copes very well, but I'll explain about that later.

When the software is booted up you can choose the sampler, the digitiser or the sequencer. Firstly I had a

lay with the digitiser.

The source monitor is a 3in by 5in box in the top
eft-hand corner of the screen, and with this you can

watch the video image and get it to where you want to grab from. When your video image is where you want it, you just click on the record button and off you

go. The length of the film you grab depends on the amount of memory, but don't let that put you off. I was using a bog standard A500

IMb and I was getting a good 10 to 15 seconds of film at 25 frames per second. If you want you can grab at a slower frame rate to get more film time.

You can put the film rates to a practical use. For example if you take a ten-second sample at 12 frames/sec then play it at 25 frames/sec it will obviously become faster on the playback.

Audio

Nothing can describe the playback you get after you have grabbed the video image. It's absolutely wonderful. The image is crisp and the frames run as smooth as silk. You must bear in mind that the

images are greyscale but that really doesn't matter was completely gobsmacked.

After you have grabbed the film you can do all manner of strangeries to it. If you click on the screen control button Tint you can grab the film in any one of six colour shades. Alternatively you can colour indi-

The aspect of the video section I was most





is the facility to link the program to a Midi instrument

This way you can modify the sounds coming out of your Midi instrument, so one of your pre-set sounds can be alreaded in 32 different ways.

If making music starts getting a bit boring and you feel like a break, then why not try hooking up a microphone to the sound processor? You can now sound like a Dalek or as if you're in a concert hall. Try to keep a straight face while shousine "exterminate" I can exarantee you'll collagse in a fe of giggles. Not very proper I know, but fun is one of the main reasons for making music! So, you've had your fun, now back to the business of making music using the Digital Soudio.

You can either load up an altered sample or record a brand new one without any effects on it. Before you record a sample you must first set the frequency (rate) and size of it.

The rate range is in hertz – the higher the hertz the better quality sample, the lower the worst. The size allows you to set how long the sample will be in seconds. You can also set the autostart on or off. This tells the program to wait for a sound signal before it records.

Once you've recorded the sample, you will need to edit it.
You can now delete, cut, copy, paste, add, invert and swap the sample. There are a few more options, but there isn't room to

explain them all in detail.

Probably the most important part for making actual music is

the sequencer. This allows you to sequence your samples in a certain order to create a piece of music. Depending on memory allowances you can carry up to ten samples at any one time. Now when making your tune, these samples won't go very far, so the best idea is to find music that will loop easily, or it's a lot easiler to sample some resilication.

band than one of Jimi Hendrix's solos.

Even though the sequence is the most important part of the package, it is not like normal sequencers. You have to actually type in some execution commands to tell the computer which sample you want playing where and so forth, it is very strange are first har after a while world issue set took and the second solo of the second solo o

The Home Music Kit does have its faults, like the strange sequencer and the fact that sometimes the effects don't sound right with certain types of music, but it does have its plus points. The package is extremely friendly and fun to use.

You will need to spend a couple of weeks on it before you get really competent, and you might want to buy a separate sampler and sequencer to make your music that way instead, but if you want an all-in-one package then the Home Music Kit could well be worth taking a look at.

The second secon

Supplier: Power Computing
Phone: 0234 843388
Price: £49.95

impressed with was the grabber. The quality of the images were better than the image grabber we use here at AC towers!

As per usual you can view the image in any of the usual modes - interlaced, non-lace and hi-res. The grabs may only be greyscales but the clarity is brilliant. All images save as standard IFFs or ANIMs for use in other packages.

Next I looked at the sampler. I thanked my lucky tars, it's actually easy to use. All the other samplers I have looked at in the last six months require a degree in sound engineering to use. With Vidico Maxter you have simple record, play, and listen buttons for basic work, no top of which there are fader controls, reverses and invert options which lets you fiddle with the original sound.

Because the film and sound are both competing for the memory you only have a limited amount of space, so the sampler has a squash option that lets you squeeze the sample to half its original size.

so the sample: an experience of the sample loses half of its This action does mean the sample loses half of its clarity but the sample quality is a precty high in the first place. To make the sample smaller from the start you can reduce the sample rate. The highest rate possible is fishtz which gives pretty good results, but the lower you put the sample rate the lower the quality.

The sequencer is one of the most advanced I've seen

The sequencer is one of the most advanced I've seen but that is still a damn sight easier to use than any other sequencer

Pre and, sinched met. The man and met. The met. Land met. The met. Land met. The met. Land met. The met. Land met. L

ments for the film and audio section like film looper so that a relatively short piece of film will seem like a very long one.

Last but not least is the system card. This is a fa tastic idea that I have never seen on any of the oth sampler or digitiser packages. It allow you to confi ure how much memory you wish to use on the sar pler and the digitiser respectively.

You change the values by using a simple * and sign. So if you are dealing with very simple images on the digitiser it leaves you more memory to play with on the sampler.

of the sample.

I can't really say everything about Video Master in this small review, but if you are into images and sound sampling I recommend that you check out Video Master for yourself.

Supplier: Microdeal Phone: 0726 68020 Price: 669.95

Canon BJ-200

Canon's bubblejet printers have proved to be extremely popular

with Amiga owners, particularly the 8J-10 and 8J-20 models. There are three obvious reasons why they are liked so much - they produce high quality results, they are inexpensive compared to other high quality inkiet printers, and there are specific

Amiga printer drivers for them. But these low-end bubblejets are a bit slow, printing text at about 80 characters per second (cps) in high quality (HQ) mode, about 100 cps in high speed (HS) mode

Graphics printouts also sometimes have a banded appearance - dark horizontal lines every quarter of an inch or so, caused by every pass of the print head overlapping the previous one slightly. The extent of the banding depends on exactly what it is you are printing, but these are faults you can forgive, considering the low cost of the printers.

But wouldn't it be nice if text printed faster and if there was

The BI-200 is the latest in Canon's mono bubblejet range.



Sticking up at the rear of the printer is a cut sheet feeder that can take about 80 sheets. Ordinary A4 eaper is fine, but the feeder is wide enough to take anything up to 9.5in. wide, so envelopes can be fed through it as well. The feeder works with paper from 64 to 90 gms, mancolly-fed individual sheets can be up to 105 gms. Overhead projector transparencies

can also be used, but you need to feed sheers of this through one at a time

The BL200 is the first of Canon's bub blejets to feature the new 16-bit actively seeks the next print position. The print head, which is part of the disposable ink cartridge, has also been redesigned These new features

have resulted in much faster text printing and greater accu

In HS or draft mode the BJ-200 can whizz along at 248 cps in HQ mode it can do 173 cps. In real terms these figures mean that a page of 10 cpi (pica) text printed in HS will come out of



the printer in about 20 second or three pages a minute to put a another way. The same page in HO mode will take about 30 seconds to print. Something else that's new to the 200 is SHQ mode - Super High Quality. This slow down the text output to 124 cps (about 40 seconds per page) and uses more ink, but the results are superb

In HS and HQ modes graphics dumps are still slightling banded, although nowhere near as much as with earlier bubble jets. In SHQ mode, however, graphics banding is a thing of the past, even on ordinary bond or photocopier paper The results on proper inkiet paper are stunning - every be

as good as a laser printer, and in some cases arguably bette The BJ-200 has two emulations - BJ-10 and Epson LQ. In Ba 10 mode there are two typefaces available, Prestige and Courier; in Epson mode there are eight - Roman, Sans Seril Courier, Prestige, Script, Orator, Orator-S and Draft.

BJ-10 mode is better for graphics printouts, Epson mode gives you more text flexibility. A small control panel on the top of the printer enables you

to select between HS, HQ and SHQ printing modes, as well at Typefaces and character sets are selected via dip switches

which are positioned under a small cover to the left of the con-On the front of the printer is a cover which pulls forward to

320x512 HAM images, printed with Canon Studie

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15cpi Mode Print

1*ESX&'()*+,-./0123456789::<*>?@ABCDEFGHIJKLNNOPQRSTUVWXYZ[\]'_'abcdefghijklmnopqrstuvwxyz[\]CueaaaaceeefffAAsm40600ay0

17cpi Mode Print

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The new Canon's internal fonts produce clean, crisp fonts



allow you access to the ink cartridge. Embossed on the inside of this cover is guide to dip switch settings for both BJ-10 and Foson modes

Without going anywhere near the manual I was able to set the switches various ways to get various results. It isn't diffcult to do

Although the 8I-200's recommended retail price is more than £400. I'm sure you'll see it selling for just over £300.

Keen in mind that printers are not computer-specific, so it. will be well worth investing in a PC magazine to find a

greater range of dealers.



MultiFaceCard

If you are into expanding you Amiga with stuff like printers, scanners, modems, digitisers and samplers, then you very quickly learn that the Amiga doesn't have enough holes in it. to take them all at once.

Most of these kind of peripherals plus into either the serial or the parallel port - a common combination of kit is a printer and a hand scanner, or a printer and a sampler, or a printer and a hand scanner and a sampler

Chonging and changing between peripherals can be a real pain because you have to power down the computer, swap kit, and power up again. Only fools and rich kids plug things into the serial and parallel ports while the Amiga is switched

The answer of course is more holes, and that's what the MultiFaceCard gives you - two more parallel ports and two

more serial ports The model currently available is a half-length card that fits into one of the Zorro II slots in the Amiga 1500, 2000, 3000

MapDevice Includes o | Mount

Despite its apparent technical complexity, the MultiFaceCard is easy to set up and the software is simble to use

or 4000. An Amiga 500 and 500 Plus model is planned, which will fit into the expansion port (with a through port), but it has

The ports themselves are on the end of four cables that connect to two standard brackets that screw into the holes provided at the rear of the computer. Each bracket has one nectors are of the 9-pin type, which is the standard in the IBM world - serial cables with 9-pin connectors are readily available. but if you fancy making your own the manual details the pin-

It also tells you how to wire a null modern cable in order to connect two Amigas for data transfer

The parallel ports are standard Amiga, with +5V on pin 14 as normal so that samplers, for example, can draw their power

The software is simple to set up. The manual describes the procedure clearly, although beginners might be a bit frightened

from the Amiga.

by all the talk of devices and mountlists. But it's quite painless, and the whole system can be set up to

switched off and click on icons to turn various ports on and off when you require them Should you prefer using the CU, then there's a MapDevice

command that can turn any or all of the four extra ports on The software is fully multitasking, so it's perfectly possible,

for example, to be printing something and scanning something and sampling something all at the same time, although you'll appreciate that this takes memory and will obviously slow down each process by a certain amount. The question to ask yourself is if not byvine to keep power-

ing down to swap kit is worth £149. It certainly is to me



Add more ports to the MultiFace Card



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Databases

Prodata 1.2

A fast, visually uninspiring, but powerful database with quick searches, good formatting and password features, and a variety of powerful options, Prodata is the best choice for general home and business use for those unwilling to spend the extra on Superbase Pro 4.

ing to spend the extra on Superbase ror 4. Prodata is a fittle less friendly than it could be and has no support for graphics or sound within records, but it is an excellent workhorse and will suffice for most jobs. Users who prefer wysiwg packages, or who insist on user-friend-liness, would be advised to skip this one.

> Supplier: Arnor Phone: 0733 68909 Price: £99.95

Superbase Professional 4

This package does everything, end of story, Superbase Pro 4 (584) is a monster of a program with a huge manual and its own built in programming language. The latest version, due for release soon, will even enable users to produce standalone databases for use at customer information points and so on in exactly the same way as dBase and other high-end PC packages.

S84 already has its Database Management Language (DML) similar to the SQLs found in PC packages, so the expert user can produce extremely complex reports full of calculations, cross referencing, and so on.

In addition, the package is stuffed with class touches and is easily the most visually awe-inspiring business package available for the Amiga. Granhics and sound can be incorporated in a record to

be played or displayed at the click of a user-defined button, palettes and displays can be customised to the heart's content, and there are VCR-style controls, menus, and a host of clear requesters to aid user friendliness.

SB4 is the expert's choice, and the first stop for business users, but it is very expensive and definitely not recommended for the average user.

> Supplier: Oxxi Inc Phone: 0753 551888 Price: £299

AmiBase Pro III Originally developed from a shareware program. AmiBase

Originally developed from a shareware program, Amissae Professional III has been souped up and released as a budget commercial release in much the same way as PowerPacker III was. The program still looks like shareware,

Software spotlight

Every month, we examine in brief a selection of the best software on offer. This time around, the critical eye falls on databases and spreadsheets

but it is a deceptively powerful little beast which beats some of the expensive packages in more than one area.

area.

Regular readers of Amigo Computing will already have
AmiBase Professional II, distributed on our CoverDisk last
year, so vill will come as no surprise to them.

It is quite fast, has good search and filtering options, and is easy to use via the button controls supplied for most functions. It even has support for graphics which the user can attach to a record then view through the good offices of

Serious users will give this one a miss, but at the price it's well worth a look.

Supplier: Amiganuts United Fax: 0703 785680 Price: £10

Spreadsheets

Professional Calc

Easily the most appealing spreadsheet to look at (a job hard enough in itself), ProCalc is also one of the more powerful. Developed by Gold Disk, the makers of ProDraw and ProPage, the package is slick, well presented, fairly easy to use, and fits well with the rest of the company's range.

Worksheets can be laid out in a range of fonts and text effects for maximum impact, then output to a PostScript printer, and there are several options for the generation of grants and charts to aid presentation of your data.

All graphs can be created as IFFs for on-screen viewing, or output as ProDraw clips for use in either ProDraw or

ProPage.

With the direct ARexx hotlink between ProPage 3.0 and

ProCalc, this package has to be the first choice for those with an eye to visual impact.

> Supplier: HB Marketing Phone: 0753 686000 Price: £129.96

K Spread 4 This has to be the first choice for business users, by virtue of

the massive range of features kuma have crammed into it. K Spread 4 has the most extensive range of power features of any Amiga spreadsheet and the most import/export options.

The package will accept Lotus 1-2-3 data, Data Interchange Format (DF), and straight Ascii data tables, so it is ideal for Amiga owners with PCs at the office who want to do some serious work at home.

to do some sensus work at home.

Not as slick or easy to use as ProCalc, K-Spread is nonetheless a well put together program with plenty of menu and keyboard short-cut controls, and if you can get over the GEM-style desktop (a throwback to the program's original ST version) it is the obvious business buy.

Supplier: HiSoft Phone: 0525 718181 Price: £105.75

DGCalc

An old and mostly superseded program, DGCalc is for those with basic spreadsheet requirements and very little else. It has no graphics support, little in the way of special features, and looks appalling.

Having thus dismissed it, the program still does the job of crunching numbers, and as long as you don't expect anything fancy – calculating the monthly household doget is about as far as it should be allowed to go – it's a decent buy at the price.

Supplier: Digita Price: £39.95 Phone: 0395 270273

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GVP A500 HD+

If you're going to start anywhere, why not with one of the best? As is usually the case with CVP hardware their HDseries is both fast, reliable, flexible and thanks to a recent slash in price a lot more affordable than you might imagine.

If quality counts you can't go far wrong with a drive that's not only one of fastest on the market but also boasts the option of an additional BMb of fast RAM, a SCSI port and a game switch which unlike some doesn't disable the publicant RAM.

As with almost all hard disks there's a whole range of sizes available starting from 40Mb stretching right up to 213. If you're interested in the basic version it will set you back a very reasonable £349 — which is literally a full £100 cheaper than the figure asked on the units initial release.

Supplier: Silica Systems Phone: 081-309 1111 Price £349 (40Mb unpopulated)

A530 Turbo

As a logical progression to the HD+, the A530 Turbo is a obvious choice. Although physically identical to the aforesaid HD+ the A530 is a different kettle of fish altogether.

Although not strictly just a hard disk it's nevertheless well worth a mention especially for those who take their computing seriously. Like its predecessor the AS30 has an identical selection of disk sizes – minus the 40Mb option, a

SCSI port plus the option for up to 8Mb of 32-bit RAM.
As you may have guessed thanks to the reference to 32-bit RAM, the unit also boasts the power of a 40MHz 68030 which can be fitted with an optional 68882 co-processor.

When the combination of hard disk, accelerator, FPU and RAM are put together you're dealing with a powerful beast which on pure speed will easily out-gun a standard Amiga 3000.

On top of all of this, both the HD+ and AS30 will accept the services of a plug-in Vortex 286 PC emulator which somehow manages to squeeze in among the ever growing band of components.

Supplier: Silica Systems Price: £849 (basic unit – 80Mb h/drive) Phone: 081-309 1111

Rössmoller Hard Disk

Or to give it its full title, the Rössmoller 52Mb Quantum. Although the word Quantum is synonymous with quality it must be said that the hardware around it doesn't quite

HARD TIMES

The A500 hard disk guide. All you'll ever need to know in a nutshell...

match up. Unlike the majority of drives mentioned, the Rössmoller doesn't have the option of adding any additional RAM. In addition power is provided solely by the Amiga and as a result excessive drain on the machine can be a real problem.

Another minor irritation is that although the drive is a SCSI there's no way of daisy-chaining additional drives to your existing Quantum. Still on the other side of the coin the unit does offer a DMA pass-through which allows you to exploit the services of any other peripherals that take advantage of the side slot.

However it's worth baring in mind this could cause even more power problems if they to are powered solely by the

The drive arrives pre-formatted, so all you have to do is simply add the software of your choice. If you don't want whistles and bells and can live without LEDs the Rössmoller is a respectable bargain basement investment.

> Supplier: Sysons Associates Phone: 081-907 2100 Price: £319

AVS Trumpcard 500AT

Just like the HD+, the AT comes in a very pleasing Amigaesque moulded plastic case complete with power and access liahts.

Like the Rössmoller the AT also arrives minus a PSU, but unlike the aforementioned drive it doesn't appear to suffer from any of the Rössmoller's power problems, even when equipped with a full complement of 8Mb of RAM.

Both the drive and RAM are extremely economic concerning power but even so an option for an external PSU has been added. The reason for this seemingly unnecessary option is the drive's DMA through port.

Like the Rössmoller, the option allows the connection of

CD-ROMs and other side slot peripherals without the need to remove your drive – a problem which haunts a lot of the opposition.

With a reasonably quick 52Mb Quantum, up to 8Mb of RAM, DMA pass-through and arguably the best and certainly the easiest installation software on the market, the AT is one of the most attractive options around.

The only problem with a S2Mb AT interface as opposed to the equally spacious SCSI drives offered by the opposition is that of speed and expandability.

Although about average for speed transferring 530k per second, its main downfall is its inability to daisy-chain extra

If however you think one drive will be more than enough and find DMA access essential the AT is a very attractive option.

> Supplier: MicroPace Phone: 0753 551888 Price: £399 (52Mb unpopulated)

Ashcom ADDHard 45Mb Last but not least we arrive at a real punter product in the

form of Ashcom's ADDHard 45Mb. Not perhaps the most inspiring title even to adorn a drive but if it's value you're after, who cares what it's called? The drive itself is the ultimate in simplicity – no SCSI

port, no RAM expansion, no PSU, just a bargain basement price tag which suits the basic do-the-job design of the drive

It's small and rather unassuming in comparison to the style of the CVP and AT drives, but still retains a modicum of minimalist dignity.

As you might expect, speed isn't the drives strong point.

especially in relation to the dynamic duo of the AT and HD+. Still having said that if you're making your first move from a floppy-based system it's nothing short of bilistering. Like the Rössmoller, the drive comes completely formatted with either Workbench 1.3 or 2 so installation is a simply case of plug-in and you're off.

If you're after a cheap and cheerful introduction to hard disk use without any of the frills offered by the opposition, the Ashcom is just about ideal, especially if you're on a tight budget.

> Supplier: Ashcom Design an Developments Ltd Phone: 0530 411485 Price: £265 (45Mb drive)

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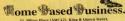
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