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AMIG/ COMPUTING

MAY 1992

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Baby Amiga launched

THE GIANT CeBit electronics show held in Hanover, Germany at the end of March was the launch pad for Commodore's latest Amiga, the A600.

Basic details of the machine were exclusively revealed in the January issue of Amiga Computing, when it was known as the A300.

The A600 is similar to the A500P. It is housed in a smaller case without more like the C64 than any other Amiga.

Enhancements include a built-in TV modulator and the ability to use memory cards of between 512k and four megabytes capacity.

Memory cards offer advantages over traditional storage methods including speed and memory saving. and they are more secure against software piracy. However, they cost much more than floppy disks.

The new Amiga can be bought with or without an internal hard disk drive. Supplied with a hard drive, the machine is called the A600-HD. Storage capacity ranges from 20 to 120Mb and standard A600 models

John Butters reports from Hanover

can have drives fitted as extras. Using surface mount technology, the computer does not have the A500P's side expansion port, and the trapdoor underneath has been made non-standard. Owners will be unable to use many existing Amiga acces-

Like the A500P, it uses the 16-bit Motorola 68000 processor and 8-bit stereo sound. It is sold with one megabyte of memory, an internal 3.5in floppy disk drive and uses Workbench 2.04

Head of Commodore Germany, Helmut lost, said the A600 could be described as the world's most powerful colour portable computer. He said it plugs straight into TV sets, which can be found in most homes and

In Germany, prices are DM900 (about £315) for the basic A600 and DM1.200 (about £421) with a 20Mb



hard drive. The A500P also costs DM900. There are no confirmed details of UK availability, although trade newspaper Computer Trade Weekly recently predicted it could go on sale in Britain sometime between Easter and June for £399.

Gould confirms new machines



ONLY days after the A600 was unveiled in Germany, Commodore's pres ident Irving Gould confirmed to Amiga Computing that new Amigas are on the way.

Asked about the A4000 and another planned machine expected to be pitched between the A2000 and A3000 he said: "We plan to maintain our role as an innovator, with new product introductions in the future."

Gould dismissed rumours that the giant intend to switch to faster chips for entry-level Amigas. He likened running an A500 from a 68020 or 68030 processor to people owning Ferraris and driving them in a ten miles per hour speed zone.

But he said: "As prices of Motorola chips come down - and in this industry prices never go up, they always come down - you will see new products coming from Commodore making use of these processors."

Swifter service

fidence with an order from the machines to be used at 4,000 rural post offices.

The dot matrix models will be tomer receipts, standard post office forms and accounting documents with up-to-the-minute

Police Amiga wins award

AN AMIGA-based system used to train police procedures for controlling crowds at football grounds is on the wanted list for police forces across Europe after it picked up a top technology award.

Vistrain grabbed the 1991

nology award. Vistrain grabbed the 1991 European Training Technology Event Application Award for the most innovative and cost-effective application

of training technology. Working with the National Computing Centre, the Scottish Police College developed Vistrain following the Hillsborough disaster where 95

Fans died.
"Providing classroom simulations of large scale events such as crowd disturbances has always been a daunting task for trainers," said John Eary, manager of training products and ser-

"By developing programs using the AmigaVision multimedia authoring language on the Commodore Amiga, we produced an invovative solution at a fraction of the price of any other PC platform."

> Commodore go East

CDTV push at CeBit

CDTV featured heavily in the Commodore corner at this year's CeBit exhibition, with a new system called Amiga CDTV being unveiled. It includes a CDTV player, remote keyboard, floppy disk

It includes a CDTV player, remote keyboard, hoppy usak drive, mouse and Amiga OS and manual.

All the peripherals are housed in a black casing to blend

in with the player and the bundle costs about DM2,300. A monitor can be bought for an additional DM550. Poor sales since the player's launch were defended by

management. They said that Commodore had been ploneers in the CD market and that many people still didn't understand the technology. Helmut Jost said that during the initial sales period

Helmut Jost said that during the initial sales period lessons were learned and he was confident the machine would succeed.

Irving Gould was sure that CDTV will not become a nonstandard system such as Beta video recorders. "Don't confuse the CD-ROM industry as a VHS/Beta. If

you go back to Beta or VIS you have to remember that was a machine to do one thing, and that was to show movies on a tape," he sald.

"With CD-ROM technology, in my opinion, there will meve be such a thing as a standard. There is room for many manufactures and I'm predicting that you will see several different manufacturers whose machines will not be com-

patible – they will be on the audio side.

"But there is no need for a standard because the machine is only as good as the software. People will buy a particular machine or a particular brand of machine because of the

software that is available that will do a job for them."

He concluded: "A CDTV, or computer for that matter, is

only a doorstop – all you can do is use it to keep the door open, without a good program. Our product only sells because of the software, whether we like it or not."

For owners of A500/Ps wanting to use CDTV software, the new CD-ROM drive was on display. Now called the A570, the company predict that 50,000 drives will be sold in Germany before the end of the year. Sales will be restricted by a production limit and interna-

tional demand. There has still not been an announcement on a UK release date.



CAN PARTIES. PRINCES ASSESSED.

Third centre formed

THE Amiga's multimedia role has been strengthened with a third specialist centre being formed at a computer graphics and audio-visual equipment supplier. Reflex will be adding the A2000 and A3000, along with the Personal Video Producer bundle, to their range.

"Reflex is a value added retailer, Multimedia is tallor-made for any VAR and the Amiga is a bespoke solution," said Reflex boss John Weatherhead. "I'm happier selling the Amiga than I'd be selling against it," he said.

Trn nappies seining use anniga users it to exeming against a description of the Commodore's multimedia salse director Barry Thurston said: "By combining the Amiga with Reflex's extensive range of computer graphics and AV equipment, sophisticated presentations on any scale or budget are made simple."

Reflex are based in Reading, Berkshire and can be telephoned on 0.734

13611.



Left to right: Reflex's MD John Weatherhead, Commodore's Barry Thurston

ITV join computer fun

A SECOND television programme devoted to young computer and video games players is scheduled for HV channels on the run up to Christmas.

Produced by Yorkshire Television, the as yet unnamed programme will be presented by Andy Crane and aimed primariles at biblione mode between 18 to 4 children mode between 18 to 18

The 25-minute programs as been given a broadcast s f 5.15pm on Thursdays a still cover all formats.

The existing Channel 4 game elevision show, Gamesmaste thich started at the beginnin f January, is now achieving a udience of more than three

Storing more

soon to become available for the A3000, Commodore's multimedia division have confirmed. Up to 1.44Mb of information can be stored on suitable disks.

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When you'do not want these features. switch them off and the PC880B will sit quietly, without clicking. pretending to be simply an extra drive

The PC880B, the only drive to introduce Blitz Amiga, the Power anti-click device and to combat

viruses, is only available direct from Power, priced at just £69-95 We have noticed how pricey unintell-

igent drives are. Perhaps, it's your turn to tell people where to stick it Due to the precision nature of the Blitz copier high ensity disks may be required with some into

A STO. MANO. . C Description

Dual Drive



Our latest dual drive uses the slimline, ultra low power NEC drive mechanism. This drive takes less than half the power of a normal floppy drive. The new dual drive includes all the features you would expect from a Power Computing Drive. The NEC drive mechanism is able to

access high density 1-44MB disks. While this may not be of use to you at the moment (the Amiga can only access 880K), watch this space for our new 'high density' Interface, on the market soon!

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Splitting transfer

PEOPLE who transfer large files, such as pictures, from Amigas to other types of added to ASDG's (010 1 608 273 6585)

Version 2.1.0 of package has a new SPLT feature to enable files which can not be copied onto a single floppy disk to be split into manageable chunks and then put back together in their proper

order. Programs to run under AmigaDOS. supplied with ADPro. The utility will be sent free to registered users of ADPro 2 and owners of earlier versions can

upgrade for a small charge. In the UK contact Silica Systems on 081-309 1111

Raid raises demo trouble

DEMO disks were confiscated during a raid on a public domain library by trading standards officers recently, and Amiga libraries could soon be forced to remove similar programs from their catalogues

It is alleged that many of the 39 Atari ST disks taken from South West Software Library breach copyright. Most feature movies or music from top groups.

Two policemen and a Federation Against Software Theft (FAST) investigator supervised three men from Dorset Trading Standards Department during the swoop on SWSL's Poole office.

Shocked library proprietor Martyn Dryden claimed: "Rumours coming back to me suggest that this was a FAST raid - this is totally erroneous. They were simply there in an advisory role.

"If it ends up that we can't distribute demos we could be forced to close." Said FAST investigator John Lowder: "The BPI [British

Phonographic Industry] watchdog for music copyright have been in touch with FAST.

"There has already been a meeting to discuss music demos and any copyright implications," he said. Lowder could not comment on the SWSL case.

The BPI are now looking at the whole demo situation. Anti-piracy co-ordinator Tim Dabin told Amiga Computing: "We can't make any distinction between this and any other piracy medium.

"The fact that it's on floppy disk is irrelevant - reproducing copyrighted material without permission is an offence. We are now comparing PD disks with the original work in order to establish whether it's the same recording.

"Under the Act either civil or criminal proceedings could be taken, although the best way to handle it would be to educate people that they are committing an offence."

Dorset Trading Standards Department were unavailable for comment.

QuickWrite writing better

WORDPROCESSOR QuickWrite has been polished up to make it easier to use. American software house New Horizons have just announced. Documents can be saved automatically at timed intervals to reduce the amount of works lost through mishaps, and new commands enable users to set up the default working environment and save it for future

Version 1.1 is available in Britain for £49.95 from Silica Systems (081-209 1111). Upgrade details remain to be confirmed.

More CDTV at Dixons

HIGH Street giant Dixons have given CDTV a boost with a decision to sell the player at more stores

Commodore say that Dixons is increasing the number of outlets stocking the machine from 36 to 100 because of heightened consumer demand. The manufacturer claim that the Christmas advertising campaign for CDTV

"increased dramatically" awareness and demand for the product. Meanwhile, an unconfirmed report suggests that CDTVs are now being sold running from Workbench 2.04. Commodore spokesman Andrew Ball denied the



toke mare CDT

......... Workbench improves again

THE WORKBENCH operating system has been improved further, as v2.04 upgrades finally become available for owners of older Amigas.

Some developers already have WB2.1, a software upgrade with new features and improvements. They

include the ability to read, write and format PC disks. Requiring the Enhanced Chip Set, it also has sound improvements and better system configuration. But it could be next year before WB2.1 is included with new machines.

"There will be no change this year on retail products," claimed Commodore's Andrew Ball.

"The Amiga operating system, as we all know, is an evolving creature which we are always improving for our users. It's impossible to say how long it will take to bug check and clean up."

Commodore have just started selling upgrade kits to v2.04 through Silica Systems (081-309 1111).

Included in the packs are the Kickstart 2 ROM, manuals and Workbench 2, fonts and extras disks. Price: £79.95. Super Fat Agnus and Super Denise chips can be bought as

Better backgrounds

FONTS, borders and backgrounds for use with Deluxe Paint are the speciality of a new firm called MS Images. All disks cost between £2.50 and £4.50. For more information write with an sae to MS Images, 84 Averil

Road, Leicester LE5 2DB.

Star replacement

HOME computer users are among those being targeted for Star Micronics' latest 24-pin black-and-white dot matrix

A replacement for the LC24-10, the new model has ten letter-quality fonts including italics, and prints at up to 210 characters per second in high speed draft and 64cps in letter-quality mode.

An LCD panel is intended to make the setup easier, and Auto Emulation Change can automatically sense and select either of the resident industry-standard emulations from the computer control codes sent. The LC24-10 also has a 16k buffer which is expandable up to 48k and the capability for original plus two copies printing. Said Star's sales director Roger Bayley: " I expect that the

LC24-20 will gain rapid popularity, when our customers start talking about the new features normally found only on the expensive models available today." Recommended price is £304.33.

Almod at home users is Stor's latest, the LC24-10

SWITCHSOFT (0325 482454) have announced the availability of an Input/Output Port for controlling robots, electrical motors, sensors and mains appliances through an Amiga

It plugs into the computer's printer and joystick ports and gives eight outputs and up to 13 digital inputs. The port can be programmed using most Amiga languages including Basic.



Aquarian grab DKB

Aming takes control with Switchsoft's new LO or

AQUARIAN Public Domain (0703 685006) have been appointed the official UK distributors for DKB's range of products.

Among them is a 2632 board which plugs into the unused expansion slot on Commodore's A2630 68030 accelerator to enable up to 112 megabytes of 32-bit memory to be added.

Supplied with four megabytes of memory, it costs £650.

Citizen take driving seat

Scrolling scripts

SMOOTH Talker is a new teleprompting program for producing a full-screen prompting display which can be scrolled vertically using remote control at various speeds. Displayed on black or white backgrounds, text can be in

any normal Amiga font at up to 50 point. Individual lines of text can be highlighted at cue markers inserted. Users can import text from wordprocessors in Ascii format,

or text written using the software's built-in editing features. Scripts may be exported in Ascii, saved in an internal format with font and mark-up information, or printed. Supplied with the remote control, Smooth Talker is avail-

able for £141 from ZEN Computer Services (061-793 1931).



Show for Frankfurt

THE Amiga show calendar has been given a new event in Frankfurt. Germany, World of Commodore '92 will support all Commodore machines and the manufacturer will exhibit, Organiser Fairs and Fun (010 49 8106 34238) are expecting 200 firms and more than 100 000 enthusiasts to attend

. **Dialling for Dyspell?**

AMIGA users wanting to get hold of Sally Systems' dysleyja software Dyspell, (see Newsline March 1992) should telephone Max Lipman on 0628 24626. Supplied on 15 disks, the package costs £411.25.

. Support for Olympic bid

COMMODORE have joined forces with car manufacturer Mercedes Renz and German airline Lufthansa to promote the city of Berlin's bid to host the Olympic Games in the year 2000. The venue for the games will be chosen in September next

........ Simulator stays

ELECTRONICS giant Philips are to continue bundling flight simulation software with their stereo colour

Microprose's F-19 Stealth Fighter package will be included with the Philips CM8833/II until

And the manufacturer have warned buyers that grey imported models do not have the free software and are sold with a European power lead.

Boxes should be marked with BEAB BS415 safety standard approval stickers, they say. Recommend price: £229.99

More memory for Plus

FRONTIER Software (0423 567140) are the latest company to release memory expansion for the A500P. XTRA-RAM A500+ fits into the trapdoor underneath the computer to give the machine up to two megabytes of

Unpopulated, the board costs £15,99. With half a megabyte the price is £34.99 and for £49.99 a one megabyte version can be bought.



atler release mare Amiga memory

Sales grow worldwide MORE than three million Amigas have now been sold worldwide and the sales

trend is still pointing up, Commodore claim.

The firm say there was a 21 per cent increase in sales during the last three months of last year and predict that the four millionth Amiga will be sold by the end of the year.

........ Dial for playing power

A SERIES of 15 telephone numbers have been set up for games players with healthy bank balances, aimed at giving news, tips and reviews Called Games Power, lines are available for most popular home computers and consoles including the Amiga. An index of services can be dialled on 0891

Calls are charged at normal premium rates of 36 pence a minute during cheap rates and 48 pence at all other times.

Night flying for A320 A320 Airbus pilots are to be

able to buy the first accessory disk for the flight simulation nackage within the next few weeks.

Thalion have announced that it will give the ability for proper night time flying and enable users to practice techniques such as airport approach and landings. The disk will cost

DIARY DATES

12 to 14 April 1992 European Computer Trade Show Organiser: Blenheim Online (081-742 2828) Venue: Business Design Centre,

A trade-only show where many of the year's releases can be pre-

28 to 31 May 1992 Spring Computer Shooper Show Occupier: Rlenheim PEL (081-742 2828) Venue: Olympia, London An area called Amiga Shopping Centre will be devoted to the

6th International 16-bit Computer Show (081-549 3444) Venue: Wembley Exhibition Halls, Lordon

10 to 12 July 1992

The second show of the year, for an event that's getting more and more support from the industry.

6 to 8 September 1992 European Computer Trade Show Rusiness Design Centre Royal Agricultural Hall, London

A new trade-only event for the computer leisure industry. **OVERSEAS**

28 to 31 May 1992 Consumer Electronics Show Organiser: EIG/CEG Venue: Chicago The show opens for the first time for the public on May 30, 1992.

8 to 11 October 1992 Organiser: AMI Shows Europe (010 49 8092 24086) Venue: Koln Messe A chance to catch up on the year's developments in the active Amiga

26 to 29 November 1992 World of Commodore '92 Organiser: Fairs & Fun (010 49 8106 34094) Venue: Frankfurt Exhibition Halls The main Commodore show in Germany - 100,000 visitors expected.

• 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.

UK grows for CompuServe

COMPUSERVE, the giant communications service, now has more than 11,000 members in Britain, making the company the UK's leading sup plier of online information.

It has more than 1,500 databases which include news, electronic mail. educational and reference information, computer support, shopping and entertainment information.

"We have enjoyed tremendous growth since entering the UK market," enthused CompuServe's Andrew

"We took measures to ensure the service was available at reasonable rates to users across the UK, and to develop, resources to provide CompuServe's excellent standards of customer service."

CompuServe can be called on 0272 255111.

Another plant for Germany

ANOTHER Commodore production and logistics centre is to be built in Braunsweig, Germany. Company president Irving Gould said the plant should be opened by the end of this

........................ **Memory power**

SEVERAL new Amiga memory expansion boards have been added to Power Computing's growing range of products. Upgrades are available with between 512k and eight megabytes of extra memory in a variety of formats.

Amiga users can buy a 16-chip 512k upgrade with battery-backed clock for £24, while for memoryhungry users an eight megabyte expansion with fast RAM and a thru-port to connect to hard

drives costs £299. For full details call Power Computing on 0234 843388.

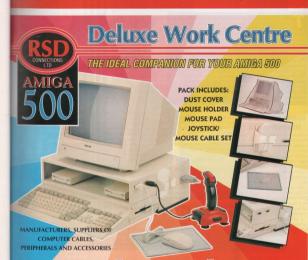


Drive with Canon OWNERS of Canon laser and bubblejet printers including the popular BJ-10e can

now get hold of the latest Amiga drivers free from Canon. Modem users can download them from a special bulletin board by dialling 081-669 4586 or by sending a blank disk to Canon at Canon House, Manor Road, Wallington SM6 0AJ.

Do you know something we don't?

Although Amiga Computing has scores of contacts in the Amiga world. we need you. If you have some hot news ring John Butters on the news desk now on 0625 878888 or fax to 0625 879966. All information supplied will be treated in the strictest of confidence.





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This advert is an exact reproduction of the packaging used on the Deluxe Work Centre



ruiga componing

the Spring Justice on each bold on February 14 to 15, on board the Queen Many, which is now permanently better did rough teach (Gallerina, Many) and the state calculates that was actually the stripped out origine room of the state of the s

Unfortunately, Southern California's first real rainstorm in years put a damp on the show. While some regions did experience flooding due to poor drainag the weather wasn't actually that severe.

the weather wasn't actually that severe.

Still, it seems many California Amigans either feared the wet roads or were afraid they would melt in the rain, so the show actually had its biggest atten

dance on the last day, when the ayy coareu.

This was a sort of "upgrade" Amilixpo. While there were very few new prod

ucts in evidence, it seemed almost every booth was selling a new version of an

older program.

Innovations at Inovatronics

Inovatronics wowed the crowd with their HIQ ASOI Tower, which they will be distributing in the 15 for CheckMate. With there Zoro II slots, a video slot, and a A2000-style accelerator slot, this cover looks like it will be very popular at US\$699.95, especially considering that you can buy the HIQ and a new A500 for less than a new Amiga 2000 sells for over here.

The company also showed upgrades to their popular Directory Opus and CanDo products. Opus 3.41 fixes a number of bugs, adds support for AmigaDOS 2.0 functions such as Applicons, custom fonts, and ECS screen resolutions.

It also lets you view IFF images crunched with PowerPacker. CanDo 1.6 features gameport support, so you can use it for creating games (although not fast action games); proportional sliders in CanDo-created windows; a better online help facility; and support for reading and writing binary files.

Inovatronics products are available from CheckMate Digital in London.

Rafting the PageStream

SoftLogik were showing off their new HotLinks Edition add-on package for PageStream. HotLinks allows programs to share data files — if you update the data file using one program, the changes will occur in the other as well.

HotLinks Edition includes the HotLinks system software that allows interprocess file sharing; PageLiner, a text editor designed specifically for use with PageStream; and BME, a bitmap editor

What's New USA by Denny Atkin

that will load standard and 24-bit IFFs and allow you to crop and touch up a grey-scale representation of the picture, while maintaining all the 24-bit colour

Softtogik announced that they've softtogik announced that they've to other developers, so they'll be able to add Hottinks support to their applications. Softtogik reps said that they'd be turning their attention to finishing up Art Expression, their professional-quality structured-drawing program, as soon as they ship Hottlinks Edition.

Of Interest to both PageStream and ProPage users was Computer Safari's booth, showing some absolutely fantastic PageStream and PostScript Type I Ionis. If you're looking for out-of-the-ordinary typefaces, Computer Safari is the company to contact.

Their Disk #26 contains four different Star Trek fonts, covering the originaries titles, the move titles, and the Next Generation typefaces. Disk #22 has heresylphics and a Kingon font, while Disk #24 has more conventional (but still fancy) typefaces like Wedding Text and Surfside. Computer Safari can be reached at 333 W. Main St., Suite K, Woodland, CA 95695 USA; phone/fax number (916) 666-1813.

Gold Disk magic

Gold Disk showed Professional Page 3.0 to an enthusiastic crowd, but the product wasn't finished in time to ship at the show (it did finally ship in the US on March 9). The product has a magical new addition that makes it considerably more powerful — Genies.

Actually a set of sophisticated ARexx macros, the Genies can automate the creation of sophisticated page designs. The 30 sample Genies add functions such as automatic envelope addressing, mail merge, and grid creation. If you're ARexx-liferate, you can so over 300 ARexx commands to create your own Genies for custom page layouts or linking to other ARexx-sawy program.

ProPage 3.0 adds Undo, a muchneeded feature; five new Compugraphic outline fonts; a hot-link to the upcoming Professional Draw 3.0; support for con-

verting PostScript Type 1 fonts into Compugraphic outline format; and new import filters for ProWrite, excellencel and OuickWrite.

Demonstrated along with ProPage 3.0 was Metadigm's MetaScan. This software for the Epson ES-300C 24-bit flatbed scanner will scan directly into Professional Page, ImageMaster and other ARexx-capable programs too.

It will also display directly onto various 24-bit graphic adaptors as it scans. This software was very speedy, and looks to set a new standard for Amiga scanning software. Metadigm can be reached at (714) 253-2828.

CSA's speed demons

CSA, the original manufacturer of Amiga accelerators, were showing a number of new products. The Rocket Launcher is a \$699 board that doubles the speed of Commodore's 25MHz A2630 accelerator board by adding a 50MHz 68030 and 68882 to the combination.

The 38 Special is an upgraded version of CSA's popular Mega-Midget Racer. This 38MHz 68030 board for the Arriga 500, 1500, and 2000 computers include a roll 8th of 32.bit drynamic RAM and support for 512k to 2Mh of ultra-state RAM. It allows you to switch-bast state RAM. It allows you to switch to the 68000 for compatibility purposes. The board starts at \$1,250, so it's only for the dedicated speed nut.

If you absolutely must have the fastest Arniga on the block – or in your city, for that matter – you'll love the CSA 404 Magnum board, unveiled publicly at the show. This price; (\$3,995) board for Arniga; \$100 and \$2000 contains a \$25Met 68040, 1Mb of ultra-fast static RAM, and 4Mb of \$2-bit dynamic RAM. The 404 can be upgraded to 64Mb of dynamic RAM.

It also includes a parallel port, the serial ports (one is RS42, as RT supports Apple Table 1, 2007), as RT supports Apple Table 1, 2007, as RT supports of RS40, and RS40, and RS40, as RS40, a

New Virtual Realities

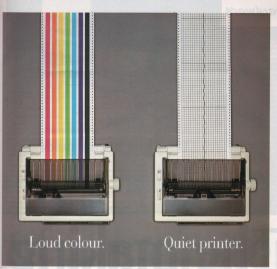
Virtual Reality Laboratories Inc were debuting their new update of virtarro the show. VistaPro 2.0 will now directly render to the DCTV, HAM-E, a Firecracker 24 graphics cards, You're no longer limited to rendering randi landscapes and VRLY's DEM geography files – you can load an IFF picture a convert it into a landscape.

Landscapes can now be cropped, and a new bounding box feature lets you render only visible portions of the landscape, which can reduce your rendering time considerably. Unless you have an accelerated Amiga, though, you should the land of the land of the control of the landscape of the landsc

Other new features, such as a wireframe preview mode, let you get your picture set up just slight before committing yourself to a long rendering session. Your final picture can be enhanced with four different kinds of detailed trees and new shadow effects. Best of all, this much-enhanced program your has a new, lower retail price of only USS990,5, a reduction of a terrain render.

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The 24-bit buyers' guide

DCTV

If you glance down the price list of available graphics systems, DCTV stands out alongside AVideo as far and away the cheapest option on offer. However, it's worth remembering that at present there's a small sacrifice to be made for the impressive cash saving - that of output.

Unlike all the other systems, DCTV does not supply an RGB output. At the

moment it offers a purely composite sig nal – although there are strong rumours that an RGB option is soon to be added.

RGB or composite, that is the question. but what is the difference? Well, in short it is clarity. With RGB you see the image in its purest form - basically all the colour data appears onscreen and, to use an acronym from the world of wordprocessing, it's a wysiwyg (what you see is what you get) display. In the case of DCTV you're forced into the compromise of composite. As a result, the original RGB output is converted into a lower quality composite display. Although this may sound dramatic, it's not as bad as it sounds. For example, if you want to produce art or animation which in its final form is to appear on video, DCTV is ideal. Recause VHS video works entirely with

> In this month's mega monster feature, AC's Paul Austin and Stevie Kennedy

The making



provide the definitive guide to upgrading your Amiga

an interlaced composite image, a composite input signal is ideal. The big bonus for DTV fans is that with the system you always know exactly what your art is going to look like. As a result, any bleeding or excessive saturation can be spotted well before committing your creations to

This attribute of DCTV's output is, if anything, a bonus rather than a restriction. as the conversion from RGB to composite - which has to take place with any VHS video production - can throw up some very nasty results if the colours within the RGB signal exceed 191, or around 12 in the Amina's colour palette

Added attractions

Aside from the price, DCTV also boasts some impressive added attractions. At the forefront of these is the built-in frame grabber which allows you to capture images from video and import them directly into the paint package. The importance of this option can't be stressed enough as it adds a huge amount of potential to your art.

The final bonus concerns the system's option to save its creations as standard 24bit files. As I mentioned earlier the composite display can't show RGB in all its glory, but the system still gives you a good idea as to how its RGB alternative would actually appear.

Perhaps the easiest way to describe the difference between a DCTV and an RGB image is to equate it to the display quality between a monitor and a TV. The ideal application for DCTV is perhaps self explanatory. As an intro level videographic

With perfect composite output, built-in frame grabbing and the option to store its images in its own display format occursing only around 50k as opposed to the 500k that the same RGB image would require, it's ideal, and perhaps the perfect vehicle for hudget 24-hit animation.

Having moaned about the lack of RGB. it's perhaps worth mentioning that even with the constraints of composite, DCTV still manages a palette of between four and eight million colours - impressive figures, especially if you need to keep a close eve on your finances.



000000000 Value for money -----

Overall

system, DCTV is almost impossible to beat.



AVideo preview

This is the latest board on the market retailing at an amazingly cheap £599 for the 24-bit variant and an Ily impressive £249 for its 12-bit sterpart. We haven't tested the d fully, as the one sent for review o, which was returned due

heless, we can still bring you As far as features go, the new board

ars to be well blessed with a full 24-bit display, 768 x 580 video spec resn, a double 12-bit 4,096 buffer

plus the option to overlay Amiga graph enough, it's also fully genlockable and claims to run on a standard 1Mi hine, although in reality an accelera

haps the biggest attraction has to be the inclusion of TVPaint 1.5, the software package that's widely regarded as premier 24-bit paint program As I mentioned earlier, the board has

that the AVideo option could be the per

thrilling instalment of the AVideo story...

of a monster

GVP's IV24

The IV24 made without doubt the biggest marketing splash last year. The board hit the streets in a blaze of glory with a collection of bundled software which includes Caligari, Scala and MacroPaint. On top of the additional goodies come built-in extras such as picture-in-picture or PIP, on-board frame grabbing, in line flicker fixing and full broadcast spec display.

Sounds great, doesn't it, but I'm afraid it's not quite as big a bargain as it first appears. The first let-down concerns the bundled software, Both Caligari and Scala have been seriously restricted in relation to their original forms and in all honesty don't deserve the same titles as their stan-MacroPaint, on the other hand, is



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indeed all that its forerunner ever was and perhaps even more. Unfortunately this still only makes it a very mediocre package in relation to other 24-bit paint programs.

Having said that, the problems related to MacroPaint are likely to be the result of the board's unusual method of updating its display rather than a fault within the software itself. Unlike other systems the IV24 doesn't send its outout direct to the screen: instead all data is first sent to the flicker fixer in a series of separate blocks. On arrival the data is processed by a built-in library into the necessary format for the screen

As you can imagine, this can be a lengthy process and causes a very noticeable delay during screen update. Apparently this limitation is unavoidable due to the architecture of the board - as a result, its anneal to freehand artists has to be badly affected.

The final cause for concern is the application of some of the board's more exotic features, such as PIP and internal frame grabbing. Unfortunately, both of these features need an RGB input signal to operate - not an easy thing to obtain

from a standard VCR As a result, anyone with a VCR or camcorder which doesn't support RGB would needs an external RGB-to-composite converter. Originally this meant extra investment on hehalf of the user but recently all that has changed thanks to a new and aggressive marketing ploy on the part of

both Silica Systems and GVP. See this month's Undates column for further

Although the above may appear to be solid doom and gloom for the board, it's by no means as redundant as it may sound For multimedia applications even with the restrictions on screen update, it still remains one of the most flexible boards in the business for general 12and 24-bit applications

With the constant release of thirdparty support software, it's future as a potential multimedia workstation may well become its saving grace. For more details on TVPaint and the IV24, again take a look at this month's Updates col-

Image quality 00000000 Flexibility 000000000 Software support ----

Value for money 0000000000 Overall 0000000000

Harlequin

Perhaps the biggest compliment that we could pay to the Harlequin is that it was the first serious 24-bit board available on the machine and has remained the benchmark by which all subsequent 24-bit releases have been judged. It wouldn't be unreasonable to say that

the Harlequin, along with the soon to be released 32-bit Imagica board from G2, is firmly aimed at the professional graphic artist who sees quality as his or her prime concern. The image quality and resolution of the board still remain unrivalled. This in itself is an impressive testament. When you combine image quality, unri-

valled resolution. 32-bit architecture and the ontional Alpha channel which can be used to produce seamless transitions between video- and computer-generated images, plus additional special effects, the Harlequin is by any standards an impressive product To add the finishing touches, the

Harlequin benefits from the very latest ver-

the best for Image quality sion of TVPaint Unfortunately The Amiga Centre Scotland

Tersoft still insist on retailing the aforesaid package at a frightening £800 plus VAT.

This is especially infuriating considering the new AVideo board comes complete with TVPaint as part of a standard package and still manages to retail at under £600 for the complete system.

Aside from the rather inflated price tag of

the board's associated software, it's almost impossible to find fault with the application and output of the software/hardware combination. Nevertheless this doesn't mean the board is faultless

What it does it does perfectly, but it's perhaps what it doesn't do that in the past has been be its only flaw. Although as a display platform it's unsurpassed, the lack of a built-in frame grabber severely affects its flexibility and effectiveness for general 24bit applications.

However, there could be light at the end of the tunnel in the form of a dedicated frame grabber which at this very moment is winging its way to the office, and claims to work perfectly with the board retailing for around £240. As a platform for ray traced and hand-

drawn 24-bit images, it's still easily the best. As a general purpose utility board its case could soon be improved by the release of

24-bit board

the new frame grabber which will be tested to the full in the next issue of AC's For a graphic artist involved in the cre-

ation of high quality static images or singleframe recorded broadcast TV and video, it's ideal. If the aforesaid artisan required more general abilities it might be worth waiting for our review of the new Imagica board - with built-in frame grabber - before making a final decision.



Imagica VD2001 In the world of Amiga-based 24-bit art, the VD2001 is definitely the old soldier of

the collection. This particular unit was the very first 24-bit board. Although old, it es have one major disadvantage.
The problem is simply that of resolution, Even at its best the board cannot suppridee spec signal. As a result, its useful-iss for video-based art is extremely lim-Image quality

oard could easily enjoy a new lease of

As a video workstation, it's been super seded by more recent releases. As a bog standard 24-bit paint and ray tracing platm, it's only bettered by the likes of Harlequin and TVPaint. Basically if you're Image quality

0000000000 Flexibility 0000000000 Software support 0000000000

Value for money

000000 Overall 0000000

Graphics jargon buster

Composite RGB and sync combined into a single signal Separate signal for each component colour plus a sync signal Available on 32-bit boards allowing external software to apply enhanced video effects such as graduated transitions between video

and computer -generated images Display card capable of showing images made up of over 16.7 million

32-bit board Identical maximum image capacity as 24-bit but with an extra eight bits available for additional software-controlled image enhancement

Hard drives

Possibly the biggest problem concerning upgrading isn't the initial cost of the specific bits of additional kit, but the associated odds and ends that are almost essential for any serious application of your new toy.

For example, ray tracing without an accelerator and a hard disk is akin to root channel work without anaesthetic. All three go hand in hand. The same applies to almost every power application. As a result, a good quality and in some cases a fast

For A500 owners the ideal choice has to he the ASOOHD+. It's not the cheapest but reliable and flexible drives for the A500. For applications such as animation, DTV, DTP and multimedia, the ASOOHD+ is ideal.

perfect. Other benefits include a built-in SCSI interface, an on-board 64k cache, plus the

option for up to 8Mb of extra RAM. Although you may think a single HD is all you'll ever need, believe me if things get serious it will take no time at all to fill a 52Mb drive and eat up your existing RAM - especially if you're working in any of the

areas listed above As a result, the option for additions via a SCSI connection and extra RAM on board could well make the initial added invest-

ment worth it.

Compromise

If you're not quite so dependent on speed, another drive entitled the Hobbyte A590 could be the perfect compromise Although ₹ too boasts a SCSI interface, ₹'s expansion. On the good side it is, on average, £100 cheaper than the GVP ASOOHD+

and set still offers a 52Mb Quantum. The word Quantum is quite Iterally syn-

in exactly the same way as any other

optical is the perfect choice. The initial cost is indeed grim but from then on an extra 128Mh is only £30 away. Each disk is formatted and initialised

Perhaps most important when upgrading any desktop-style Anriga with a hard disk is the card ento which it sits. Like the top of the range ASOO drives, the best hard cards come with the epition of a full complement of SMsh additional memory plus a built in SCSI interface.

Boards such as the CVP impact series 2 and the Nexus boast All of the above

and take control of additional SCSI peripherals to the limit by handling up to

seven extra SCS devices iron a single card.

If you're unlikely to go any further than a single drive and don't require extra

RM on bount, perfect tokes include the Dataflyer from Hard Cache Ltd and

the NS Trumpcard from Diamond. Even with these initially basic cards there's

still an option to upgrade later with additional daughter boards and optional

SCS pass thru cibbs.

of drives always go with a Quantum, even if there's a bit more expense involved. Other common formats include XT and

Seagate. Although both do the job, they're slower and less reliable than the more technically advance Quantums. The option of choice is usually limited to

1500 owners and above. Nevertheless the rule is always to check the brand of any drive before parting with your hard-earned cash, as it's by far the most important element within the unit.

If you've made the extra investment and plumbed for a 1500 or above you'll have

the added bonus of Zorro slots. With these little hearties expanding your machine's horizons becomes infinitely easier than for those limited to the A500.

Again, the hard card question is a case of horses for courses. If you're simply looking for expanded storage, the Zorro-based hard disk can be infinitely more cost effec-

Cheap hard card and hard drive combinations are many and varied. The only proviso is to think long and hard about your choice of hard drive, Quantum again being the perfect choice given sufficient funds.

The optical option

At the moment there's only one choice step in mass storage. Power Computing are the only company retailing an optical drive in the UK. At first glance the optical appears a rather pricey option, but as someone once said, looks can be deceptive.

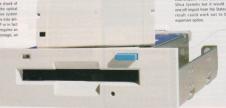
With the internal version retailing at £999 plus another £199 for the controller card, this IBM convert is sure to put the financial fear of God into even the most stout-hearted among us. The same financial terror equally applies to the optional external version.

Cost effective

Having recovered from the shock of the initial expense, however, the optical is easily the most cost-effective system for the high-end user. If you're into animation, 24-bit art, serious DTP or in fact any area in which the Amiga requires an almost limitless amounts of storage, an hard disk. Whenever you want to access another disk simply eject your the current one and fumble around in the disk box for another 128Mb to slide in its place. The only slight compromise concerns the seek or access time of the drive. A fast hard drive will locate the necessary data as quickly as 11 milliseconds, and Commodore's AS90 will manage 28ms

The optical, however, only manages 60 milliseconds. This may sound a tad disappointing, but in the optical world this is about standard rather than a slow exception. To offset the slow access time, the drive has an exceptionally good transfer rate which peaks at an impressive 1.5Mb per second. On big files this more than makes up for the initial delay in locating the data.

The only optical alternative is to go for an even bigger version of the Power drive. In this case it's a GVP IBM variant 650Mb optical with almost identical access and transfer rate as its 128Mb counterpart. These are available from Silica Systems but it would require a one-off import from the States, and as a



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Some things are worth waiting for ...

HiSoft Devpac 3

Devpac Version 3 is here at last. The two earlier versions of HiSoft Devpac for the Amiga set a standard in 68000 assembly language programming which was hard to lift, from the editor through to the debugger; in fact so many features have been added and improved that we feel confident in the claim that Devpac 3 is the ultimate assembly language development system on the Amiga ... for now!

A new multi-window editor with (including multi-views on one file). extensive user configuration and full Workbench 2 or 1.3 automatically.

The Assembler

assembler is now at least 40% faster than ability to pre-assemble files for inclusion assembler on the Amiga.



Devpac 3 gives complete control over the assembly process

The Debugger

Devpac 3 is provided with a versatile debugger/disassembler for bug hunting and on your program as you like, including its source code; then set breakpoints, single-step processors and the floating point chips.

Devpac 3 comes complete with all the necessary include files, a linker, many examples and a clear

HighSpeed Pascal

error detection is fully interactive

At last, a new Pascal compiler for your Amiga; HighSpeed Pascal, Compiling at close to (based on the new HiSoft multi-window editor), HighSpeed Pascal is the answer to

The compiler is very close to the standard set by Turbo Pascal 5 on the PC and enables inline assembler provided and we also supply a special version of our 680x0 debugger which allows you to debug Pascal programs at a source code level.

The full Pascal language is supported including such worthy additions as structured constants, flexible string handling and absolute variables.

HighSpeed Pascal comes complete with

High Quality Software

HighSpeed Pascal is remarkably friendly

Accelerators

in terms of value for money and sheer choice the user with an eye to speeding up his or her Amiga has, if you'll forgive the cliché, never had it so good. The selection of accelerator cards now on offer ranges from the sub-£200 ICD AdSpeed card to the latest £2,000+ 68040-based Single Board Computers (SBCs) complete with their own hard drive interfaces, memory, parallel, and

Those charged with the task of cateadd-ons cannot, unfortunately, profess to have "never had it so good". If anything, the job of recommending a single board

Reasoned

This section is aimed at users with a within which to work. No definitive "this is the best card of the lot" answer will be given, instead, we'll concentrate on value-for-money and compatibility with the sort of aims one might have for such

Put simply, the aim of all prospective approach the issue thinking only of percentage points and hundredths of a sec-

So what requirements are these? The

worst thing that could happen to you is to discover after spending £1 500 on a wonder-widget, that it crashes out every time bought it in order to enhance. The second worst thing is to realise that the package in question doesn't run much faster than

To avoid such disasters, users should first of all decide in which area their software is most heavily speed-dependant. If you are using a turbo ray tracing package. for instance, you'll need a fast maths co-Workbench and ray tracer. Ray tracers live and breath mathematics, and the FPU

speed is all-important to them. This means that a 68030 card with 25MHz CPU, 25MHz FPU, and 4Mb of 32bit RAM would suit your needs better than a 33MHz 68030 with no FPU. The latter 25MHz FPU would outperform it in most number-crunching tasks.

Again, with the price of 68030 cards falling rapidly this year, many users will opt for one of these rather than spend the extra hundreds for an 040. The 68040 cards are undoubtedly several rungs higher on the speed ladder but prices, with the possible exception of the new Fusion Forty. tend to follow suit. Why spend hundreds extra on luxury when utility will suffice?

comes into play, however. The 68040 chip



has an FPU built-in, but the 68030 does not. When many manufacturers quote you a low price for their entry-level 68030 card, includes an FPU. If it does not, you could end up spending a couple of hundred more to get the best performance from your ray tracer.

Cheaper

If your most pressing need is to make ProPage or PageStream work fast enough to design your magazine on time, you might find that a combination of one of the cheaner 68030 cards and a multisyno The money you'd save by going for the cheaper board would pay for the monitor and flicker fixer, and the corresponding screen refresh improvement is a great help when working in such a screen-orienta wysiwyg environment. Put another way, it is too easy to see an accelerator as an individual unit. They may cost much more than any other peripheral you'll ever buy, but they are peripherals all the same and must coexist with your existing system and software.

Some users will find that their new super-fast card has almost negligible perceivable impact on the speed of their software. In particular, any piece of software which has never left you vavoing while working on a 68000 system is not the ideal candidate for an expensive speed

That said, if you're into ray tracing, 24bit graphics, DTP or animation you'll have to make the choice at some stage, so let's take a stroll down the boardwalk.

The GVP series

Great Valley Products (GVP) were one of the early entrants in the Amiga accelerator scene and have built a deserved name for speed and reliability over the past few years. Their 25MHz 3001 card is still one of the most widely used of all boards, despite being superseded by 33MHz models and the new 68040 cards

The latest GVP accelerator range includes the Combo cards, a 50MHz 68030 card and the new G-Force 68040

The 22MHz Combo card includes in its £599 retail price a 25MHz 68882 FPU, 1Mb of 32-bit RAM and an integral 32-bit SCSI hard drive controller. The speed improvements offered by a 22MHz system might not satisfy the semi-professional, but for DTP and graphics enthusiasts it should be sufficient and provides an excellent justabout-affordable entry-level board, especially as it negates the need to buy a hard drive interface

Remember, however, that the basic 1Mb RAM included in the £599 price tag is not enough for most uses, and the card should be bought with extra memory. A



ACH ardware

1Mb GVP-specific SIMM for the card will cost £69, which as you'll notice is quite

This is because CVP use last (60 to 40ns) "Durst mode" SIMMs designed specifically for their boards. The good news is that the boards have a better performance as a result, and the bad news is that upgrading a CVP card can be a very expensive exercise. The 33MHz Combo, with it is basic 4MHz RAM and 33MHz elements of the combo with the service of the

G-Force, which has a deceptive entry price of £1,799, is a 88040 card running at 28MHz. It works only with the A3000 under Kickstart 2.04, but at the moment enjoys the advantage of being supplied with free 2.04 upgrade ROMs for owners of older A3000s.

The card is certainly fast, and has the mark of quality construction you'll find with every GVP card, but our preliminary tests showed it was a shade slower than the Mercury and Fusion Forty boards. To

Systems Associates

CSA have been in the market with their Mega Midget Racer cards for some time now, and they have a name for reliability. The design of the Racer is a standard "piggy-back" layout which requires the

add to this, the basic specification G-Force comes with no RAM, is expandable only to 8Mb, and relies on CVPs high quality, but expensive, RAM upgrade SIMMs.

Those fast SIMMs should stand the G-Force in good stead for 24-bit animation and so on, but you'll have to wait until next month's 68040 Supertiest to find out just how well the boards perform in practical application and over a longer period of time.



Amiga to be opened, its 68000 levered out and stuck on the accelerator board before the whole lot is plugged back into the CPU socket on the mother-

Mega Midgets are available in a variety of configurations from low-price units with only a 68030 and no RAM or FPU, up to 50MHz CPU and FPU with SMMb RAM on a RAM card slotting on the side of the Midget Racer board. The



GVP 3050
Speed
Compatibility
Value for money
Overall

boards perform well in practice and after the initial hassle of installation they hardly ever come to the user's

attention.

As far as value is concerned, the Mega Midget Racers are quite close to Solid State Leisure's A/B5000 cards. Benchmark tests indicate that there is little to choose between CSA and SSL cards with similar configurations, though I personally would be surprised



if the CSA boards, with their compact surface-mounted design, didn't work out as more reliable in long term. The latest CSA accelerator is one of

The latest CSA accelerator is one of the most fully-featured cards available at the moment.



Magnum 40/4

As this article is being written, the first Magnum 40/4 ("forty-four") cards are on their way across the Attentic, bringing with them a 33MHz 68040, SCS12 hard drive interface, RS482 serial port and parallel port, making them the first of a new breed of Single Board Computers (SBCs) to

At an asking price of 33,995, the 40,4 is not for the certhuilast, but the first two 33MHz boards were sold to the Pentagon and it can't be long before this sort of top-end technology starts to posh the amiga into areas in which it has never before been used. Look out for a full review of the 40,4 next month.



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RCS Fusion Forty

you saw our review of the original Fusion Forty card, you'll know just how severe a caning it received at our hands. Mappily for RCS, the new hoard is so much better than the first one we minwed that I find it difficult to believe it

s the same product. Running at 28MHz and sporting brand new ROMs and software, the latest

2.04 and is very fast indeed. It is also more stable by several orders of magnisude, and popped its clogs only once

According to the AIBB3 benchmarks, used nowadays by most manufacturers and testers, the Fusion Forty beat G-Force in some benchmarks, and the Mercury in others, which is pretty good for a card which had such an inauspiclous start last year. With its new price of £1,395. Fusion has to be the best buy for speed-hungry A2000 owners, especially as this price includes 4Mb RAM on

The one annoying niggle remaining with Fusion Forty is its hatred of 16-bit fast RAM. With a RAM expansion card. fitted to your A2000. Fusion will refuse to kick up as it maps its own memory

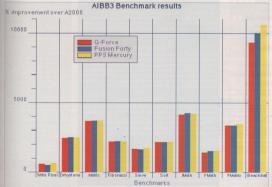
RCS Fusion Forty

exactly where the auto-configuring 16bit RAM wants to go. The result is that you have to disable the RAM card's auto-configure mode (assuming the card has a jumper for this - not all of them do), then use the software supplied with your card to add the memory after boot up

This is a fairly silly situation, but as long as you intend to stick in 040 mode. the 4Mb on a basic Fusion Forty should keep you going. On the other hand, you'll need 8Mb to fully utilise some software, such as TVPaint, and if you kick up in 68000 mode, you'll have only the standard 1Mb to play with unless your RAM card can be manually configured.

Users and prospective buyers shouldn't despair, though, as RCS's software engineers are shipping new versions of the software to solve the problem as we go to press.

Speed 00000000 Compatibility 00000000 Value for money 2000000 Overall -----



In a straight race, Fusion and Mercury are almost neck and neck, with G-Force half a length behin

Solid State Leisure

just about the only British company presently designing and building their own accelerators, Solid State Leisure offer a range of competitively priced 68020- and 68030-based systems. The range starts with the AS000-16, with a 16MHz 68020 and 1Mb RAM for less than £300, and goes all the way up to the B5000-40.

including a 40MHz 030 and 4Mb RAM. The only board in the range to fit in an A2000 Zorro slot is the B5000-40, the rest being designed as piggyback units. They all perform well, and in certain configurations are excellent value for money. Build quality wasn't as good as most of the other boards we reviewed, but the 85000-25 on test performed reliably enough.

The cards are as easy to fit as any other piggyback unit, which means not very, and fitting will invalidate you warranty in any case. For A500 owners there is little choice until the card-in-a-box Golum Turbocard becomes available, so if they choose either an SSL or CSA unit they'll just have to live with it. Console yourselves with the thought that fitting anything in an A3000 fast slot is hell itself.

SSL B5000-25

Compatibility

000000000 Value for money

0000000000 Overall

0000000000

Progressive Peripherals and

Software

Progressive Peripherals joined the speed race late in the day with their A2000-based

68040 card last year. The board was well

built, stable, and fast enough to augur well for the company's late thrust in this sector. PPS's latest release is the Mercury 68040

card for the A3000, and if our initial tests are anything to go by, it looks every bit as

Mercury, like G-Force and Fusion Forty. is a 28MHz card. Unlike G-Force, however, the PPS board has room for a whopping 32Mb of extra memory, and is supplied

good as the original board.

with 60ns SIMMs. These aren't as fast as the lightning-like 40ns GVP SIMMs, but Mercury can accept

Speed 0000000000 upgrade path is cheaper than GVP's. In terms of speed. Mercury performs well, even with its slower SIMMs, and just pipped G-Force on the AIBB3 benchmarks For those completely batty on percentage

points, the differences are fairly noticeable, but in practice when working on something like PageStream you'd be stretched to say which card your A3000 was using.

We're reserving judgement until next month's 68040 test, by which time we'll have completed exhaustive tests using more practical applications, and had a chance to see how stable the boards are over an extended period of time.

PPS Mercury card

Speed 000000000 Compatibility 00000000 Value for money 000000000

Overall 000000000



Accelerators jargon buster

32-hit

Then it like size or exists memory type. A new memory year many many memory and a 20 bit byte and con hold less information. It follows that a system based on chucking much larger numbers around can send data back and forward much quicker. You must make sure you have enough 32-bit RAM with your accelerator card, as it is a waste of time using a 68930 or 040 with 16-bit memory.

80ns vs 40ns

Egiply announced would be written as composition to other words, it's a rather short sign, in microbig circle, however, a rannounced is an appreciable and of their strates to a quick chart at the loss top or a circler to delive united print in the loss top or a circler to delive united print in the strate of the strate in the loss of the circle. An 80m AMA clip takes before a long to access as a single the strate in the strategy in the strate in the strategy in the strate

FPU (maths co-processor)

The Floating Point Unit (PFU) is an envoluable aid to all "number-crumfting" task. A number crumfting task is anything involving the computer in millions of calcula floors, such as ray bracing, statistical analysis, and so on. Without the 66981 (66988; Eamly of FPUs most accelerator cards would run a lot sower in practice, to amother detail to work to see for when buying a card is the FPU

fitted, 68040 chips have the equivalent of a 68882 built in

Intelligence of the programs of the program of the program of the program of the programs. They are designed to keep track of system memory, and in particular any shadow ROM area being used by Richstart.

As the finature is to little used, there is now a selfCoglo or in without MMU and costing significantly less, and this is used on the new, cheaper CSA Midget Racer cards and the Microbotics VXL-30 range

Product information

24-bit cards Harlequin is a product of Arniga Centre

Unit tested: Harlequin 2000, 2Mb VRAM, Alpha

DCTV is a product of Digital Creations Inc Distributor: Silica Systems

Imagica VD2001 is a product of G2 Systems

Impact Vision 24 is a product of GVP Inc

AVideo 24 is a product of Archos Ltd

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Unit tested: 28MHz 68040 with 4Mb RAM

Mercury is a product of Progressive Peripherals Distributors: Marçam (081-941 6117), or Power Unit tested: 28MHz 68040, 4Mb RAM

G-Force is a product of GVP Inc Tel: 081-390 1111 Unit tested: 28MHz 68040 with 2Mb RAMs Combo: 33MHz 68030, 33MHz 68882.

Mega Midget Racer is a product of Computer Unit tested: 25MHz 68EC030, 33MHz 68882

85000 is a product of Solid State Leisure Ltd. Unit tested: 25MHz 68030, 33MHz 68882, 2Mb RAM

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Again, unlike the competition, the LP1200 inductes a powerful document description language as standard. This flanguage, make printing systems, in particular, forms and document templates can be designed and stored descriptionally in the LP1200's unique PLASH ROM, alleviating the need for pre-printed forms.

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the original Amos, have taken a long look at the package's good noints and produced a version specifically aimed at people just starting out in pro-

Before you can enter into the exciting and glamorous world of the computer professionals, the two disks which come in the package must be installed onto four (count 'em!) separate disks. These disks are not supplied. If you are lucky enough to own a hard drive, you can install it there.

Installation

You get a funny feeling that this package is something special when you first load the installation program - it asks you for your name! After you enter it, Easy Amos will create a unique special registration number for you.

I must congratulate François Lionet (the program's creator) for producing one of the most painless installers in the world - it's now as simple to install on a hard drive as it is on a floppy disk.

Just what do you get for your money in software terms? Well, the installation process creates three disks - the fourth blank disk is required to store the programs which you will undoubtedly create while working your way through the hefty 400-page manual.

The first disk is where Easy Arnos and its associated accessories are stored. If you are familiar with the older Amos you

Fasy Amos offers many of Amos's powerful features while remaining accessible to beginners. Kyle Rees peruses the package

Painless

orogrammin samples and combine them into one

may be interested to know that these programs are far superior to any that appeared on that package. The accessories are useful utilities

which allow you to simplify the boring and complicating jobs which usually make up the bulk of computer program-

ming, leaving you to get on with the exciting creative bits. The first accessory

is the Sample Bank Maker. This will take any number of standard Amiga sound

large file. This makes replaying and manipulating them very simple, especially with the demonstrations in the Accessory number two is the Bob Editor, A Bob is an animated object that

can move around the screen. They're used in games to create players, aliens, spaceships, in fact anything! This program is quite large but has to be seen to be believed - it includes everything an artist could want.

Not only does it have most of the drawing tools found in many popular art packages (such as Deluxe Paint), the program also allows you to import Bobs by grabbing parts of standard Amiga screens. There is even a rudimentary animation facility. The third accessory lets you take a standard Amiga screen, created with a program like Deluxe Paint. and compact it down to an incredibly small size. For all you technical bods out there you can have a picture which takes up 32k in memory reduced down to 6k or even less

Finally, the fourth accessory is mindblowing. It is a fully functional disk utility in a similar mould to CLIMATE, SID and many others. These, and other similar programs, allow you to look at all the files on your disks, as well as providing you with facilities to format disks, copy, print and examine files and so on.

One of the nicest features of this program is that if you examine a Bob, a picture or music file, or a sound sample, you

can actually see or play it. All of these utilities can be launched with a single keypress from the program



ne of the many example programs supplied with the package



sample bank creator takes the effort out of son

ACSoftware

editor a feature which many people will find very handy.

Disk number two becomes the examnles disk. This is where all of the Easy Amos demo programs are stored, Among this varied selection are a nifty Breakout/Arkanoid type game, a twoplayer cycle race (with parallax scrolling). a simple address file, a Kick Off clone (well, almost!) and finally a rather natty little scrolling text demo.

Tutorial

The final disk becomes the most essential part of the Fasy Amos package - the tutorial disk. This disk contains many things, including a selection of programs demonstrating the programming principles explored in the manual.

The largest portion of the disk is taken up by a series of example programs which slot together to form the complete football game which I mentioned earlier.

The excellent manual together with these highly commented-upon examples take you from the program's conception through to completion. If you have not started to understand some of the principles behind computer programming once you have studied this part, get wor-

A challenge game is also squeezed onto this disk. As Easy Amos is advertised as teaching the beginner to program, this game forms the core of the whole package. It presents a selection of questions from each chapter in the manual and challenges you to answer them

Obviously if you have absorbed the knowledge contained in this book you will be able successfully to work your way through this challenge. Results can be saved onto a floppy disk so there is no need to tackle every chapter in one sit-

The environment in which you create your programs has changed a little since the earlier incarnation of Amos. The screen and file selectors are now made up from eight colours, making things look a bit more interesting. As is the current vicine. Furoncess have gone for the Workbench 2.xx look, sort of metallic with lots of relief on the dialoque boxes.

Unfortunately everything is a bit, errr what's the word, blue! Yes the whole screen is blue, not my favourite colour. You can change the screen setup with a click on the menu, but the built-in colour selections look as though they have been put together by a colourblind designer, Yuk!

So how about the manual? This, after all, was probably the most criticised point of the original Amos package, which contained an excellent reference manual but didn't give any help or advice to the beginner

Well you will be pleased to know that Mel Croucher, a funny man known for his love of strange.



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the very beginner. It starts by assuming you know very little about your Amiga and advances from there.

The are 20 chapters to this book. As you work your way through this special script you will notice that it doesn't just teach you about programming your Amiga, it also includes strange quotes from sources as diverse as Groucho Marx and the Bible. Each quote is relevant (in a rather offheat way) to the section in which it is placed. This is certainly a welcome relief from the usual tedium of some so-called computer "tutorial" hooks

Towards the end of the manual, advanced topics such as the new Amos Tutor are covered. The Amos Tutor is a complete debugger for your programs. It allows you to step through each section of your mega-hit, list variables - in fact do just about anything, and all while the program is running in the background.

Great depth Each chanter covers its own topic in

great depth, providing diagrams and sample listings aimed at easing you through the lesson at hand, There are a couple of down points

though. The first is in the LOGIC chapter. Without going into my entire life story, I have learnt that structured programming is here to stay - an A-Level in Computer Science and many jobs have taught me this

The LOGIC chapter has a rather large section devoted to the antiquated "COTO" command, much more than the "GOSUB" or the "PROCEDURE" portions. I would hate to see an entire generation of computer programmers grow up believing GOTOs are a part of life - they aren't! Fortunately you can just ignore this page and explore the

more sensible structuring commands. The chapter devoted to MATHS is rather small. I know you can gain a lot of information about computer maths from some nice text books but I would like to have seen more lengthy explanations and sample programs for the trigonometry bit.

Humorous

Those points aside, this really is the best programming book I have read for wars. Not since the early 80s when old Sir Clive Sinclair produced that little ZX81 beastle has programming seemed so easy. At its best the manual is an amazing in-depth tutorial; at its worst it is a friendly and humorous reference quide, which can't be a bad thing at all! When you have become a program-

mer capable of fantastic feats with Easy Amos, you can increase your knowledge and skill by upgrading to the package's hin brother. Amos. Amos incorporates many advanced features not found in Easy Amos, such as a complete 3D graphics extension. The upgrade costs £19.99, against a retail price of £49.99.

This is a unique and friendly product. Suffice to say that if you want to learn how to program, this is for you. By the time you have worked your way through the entire package you should be able to produce some great programs. Go out and buy it



The Bob editor has a wide array of painting tools and can old in the creation of great Bobs

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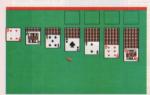
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THE Games Lose yourself in your six favourite card games with Martin Wilson's excellent compendium of Chance



he Card Games program is actually six games in one tight little bundle of fun. Classic favourites include Klondike. Golf and Pyramid, so you should find enough here to provide hours of entertainment.

Unlike many card game programs, Martin's faithfully reproduces the picture cards, so your Kings, Queens and Jacks appear as they should. This not only makes the program more attractive to look at, it also makes scanning a Klondike deck for possible moves a lot easier, as the picture cards can be spotted with ease. To select a card in any of the games, click once on it and it will start to flash. To move it, just click on the destination. If the move is illegal, the screen will flash and you'll have to try placing the card somewhere else.

GFXConverter

ing to and from IFF and Raw graphic formats, with a few hidden extra features up its sleeve. Unlike many IFF-to-Raw converters with their difficult to use CII interfaces and simple conversion-only approach. GFXConverter will enable the user to save sprites, bobs, and copper lists. The program handles all Amiga screen modes, including EH8 and HAM. can handle images up to 1,024 x 1,024, and, saves Bobs as source or binary code with masks thrown in to the bargain. All this from a friendly, menu-driven interfacel Programmers who insist on boring difficult to use programs will ignore GFXConverter, but they should be in a minority. For technical details and full instructions on how to use the program, see Desmand's doc file on the CoverDisk

LastHope

We've had DiskSalv, TrackSalv, and Finally FixDisk 1.2 on the CoverDisk over the past few years. Now comes LastHope, the latest in file retrieval programs. LastHope is designed to look for very lost files, including those with damaged or missing headers, and save them from oblivion. It only works with the

standard filing system at the moment, so will only work with floppies. Hard drive users will have to stick to FixDisk until Manuel updates the program. To use LastHope, just run the program, insert the disk from which you want to salvage files in the drive, then tell the program to start scanning. A picture of your disk's contents will build up, sector by sector. with damaged files shown in red, and when the scan is over you'll be asked which files, if any, you want to save out to another disk

Please remember that this is a shareware program, and should be supported as such. You'll find details on how to register as a shareware user in Manuel's ondisk documentation.

ProgHelp

ProgHelp is designed for all those pro-

and so on without all that CLI faffing **Print Spooler**

about

grammers out there who use a variety

of text editors, debuggers and assem-

blers from different usually shareware

sources. It offers the chance to inte-

grate the programming process under

one front end program, making it easier to skip from assembler to debugger

Print Spooler consists of an AmigaDOS device handler to replace the PRT device, a couple of simple CLI commands, and a mountlist entry

To set it up on your system disk, follow the instructions in the on-disk documentation. You'll have to do a fair bit of copying and so on, but if you use SID, TDM (such as supplied on the GraphicStation), or another directory utility this shouldn't be too painful.

Alienbounce



Bouncing aliens, a seemingly impregnable mothership, and only a feeble little laser to defend yourself! Yup, it's another alien shoot-'em-up and a very playable one too

The game opens with fairly easypeasy aliens, who die after being hit twice and don't move too fast. As you progress in levels, however, the pace quickens and more aliens appear with each attack wave.

Superbase Special The AC guided tour

to our amazing Superbase Personal giveaway...

hanks to AC and your discerning owner of Superbase Professional, one of the Amiga's premier databases. It's a program that not only provides access to a fully functional relational database, but also gives you the option to include a limitless number of records and instantly display related graphics at the touch of a

Continued Support

In next month's AC we'll continue to support Superbase with the first in a number of support articles that will help the novice user master the basics of this excellent program

As well as AC's continuing support Oxxi. the owners of Superbase Personal will in conjunction with AC, be offering a series of amazing upgrades to both later versions of the Superbase range as well as manuals and upgrades for Superbase Personal itself

All, of course, aimed at any reader who wants to exploit this excellent program to the full.

To get you off the mark we'll start with a brief quide to the program and how to create your first designer database. If we assume you've booted the program you'll be greeted by the copyright notice and a prompt in the menu bar informing you that the program is empty. As a result, the first job is to load a file from disk.

To do this, simply click the right mouse button and move to the Project menu which you'll find on the far left of the menu bar. Once active, the pull-down will appear with some items active and others ahosted - this is simply because the program requires data to activate all

Select Open/File and a requester will annear showing all the available files on the disk. With the mouse select the address file and click OK.

Now the database actually contains some data we can start the tutorial proper. Perhaps the most striking aspect of the program has to be the tape deck controls which combine to make Personal and indeed the entire Superbase range one of the friendliest database formats

Have a look at the box for a description of each control. In some cases the effect is rather self explanatory, but with others you'll discover some of the program's more interesting hidden talents.



To start you off this month we'll go through the creation of a simple database which when complete will form a basic phone book complete with name, address, number, comment and date fields.

The first job is to close the current

FREE!

with next month's magazinean informative user's quide to the essential Superbase

Personal functions! In our special cover-mounted freebie, a whole range of the program's powerful features will be explained and demystified, with handy hints and tips on how to get the hest from the most useful free gift any Amiga magazine has ever brought its readers.

database via the project menu. Once clear select New from the same menu and a prompt will appear asking you to name the new file. For our example type Names&Numbers, followed by OK.

New Requester

At this point a totally new requester appears into which we'll add all the relevant definitions for each field in the new file. First click on text - this again produces a fresh requester giving you the chance to define the number of charac-

ters in the string. Reduce the figure to 15 using the arrow icons and click on OK.

Now click in the Field box and type Firstname, Click on ADD and your first field will be defined. If at any point you make a mistake or perhaps wish to alter part of the definition, simply click on the field in question within the main requester window and it will automati

cally be selected for editing To create the next field, click on Clear to remove the old definition and follow the same procedure again by clicking on text defining the string length, but this time make it 20. Type the word

> window, finally adding the new field to the list. Next comes the phone number itself. Again, click on Clear and then select Text. adding the value of your Number but also click on the Req icon with this option active. Superbase Professional will insist on a number from the user -

> Lastname into the field





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much use without a number. Finally select add once more. Now follow the same procedure as above using the word Comment for the field name, while leaving the required icon inactive. We suggest a text string of about 50 characters usually enough for a fax or alternate phone number plus a few brief reminders.

The final field holds the date. This is a useful addition as you can use it to keen track of your calls by editing each record as you use it to record when a conversation occurred, or perhaps as a marker for subsequent calls

Again, click on Clear to empty the last set of definitions, but this time only actiwate the date icon. This again produces its own requester which allows you to define how the dates within each record will appear onscreen.

For your first adventure in information technology, simply select OK as the default setup. Finally type Date into the field window followed by Add to complete the definition. Now your definition is complete, check that all the fields are

ICE.

correct and then click on OK to continue. At this point yet another requester appears prompting you to add the indexes you require. To do this simply click on the Firstname followed by OK then repeat the process with Secondname. Finally, click on OK to com-

plete the process. At this point you'll be returned to the Superbase Personal main screen. To fill the new file select New from the record pull-down menu and the new template for the Names&Numbers file will appear. All you need now is a few friends - not included - to add to your database, and

you're in business. After you've added the new data to each record, select Save from the record

menu and all the relevant information will be captured for posterity in your own designer database. Feel free to experiment but if you're going to attempt some serious tinkering make a backup of the original disk - it will be used as the basis for subsequent tutorials as it stands.



Sorting through flies the easy way thanks to the friendly face and sower of the filter command



Faulty Disk?

Tape deck controls

lest on the list is the rause soon wison wan recree the ulmaness as a store through your data thanks to the fast forward and revenif doors. Next comes the Stop icon which does exactly as the name suggests and halts the program's high speed search functions, mingrid by the total constraint Third and ninth are the Move to Beginning/Move to End icons which minantly loop through the data list to either the beginning or end of the data

stop icons are activated.

The fifth and seventh icons simply advance or retard through the database in increments of one.

ements of one. The Up arrow is slightly less obvious and is used to restore the display after takin program functions are complete. Decasionally functions terminate displaying associated data, and as a result construction and the thickness with the unrenth selected record.

The fload there knots are potentially much not powerful that he rest. The float activates the key record function which allows you to search the currently effected related to a manufacily arrange or manerical sequence, indeer refers to the field within a record which superbase uses to list the records in a file. So to example, if the records within a file wore indeeded my attrainment, the filer would appear in descending order from a to x - Austin, forms, Carthwigh, and so on.

Touch Button Filters

us Heid. As you've probably guessed, field refers to the individually elements within eadh record - Forename, Listname, Address and so on. The next ion bides perhaps the most powerful function of all the tape deck controls. Clicking here reveals the Filter Requester which when mastered and fil the through an entire database, selecting and displaying only the exact data you the through an entire database. Selecting and displaying only the exact data you have been selected to the control of t

will once not the score where entiring a line containing paperins, the program will occupe that particular records a external search path and attempt to load and display the particular graphic associated with the record in question. If you try to use this option with the Address database currently loaded the program will return the message. "no external file field defined", in other words the Address file doesn't contain graphics.

HARD DISK DRIVES

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Alternative 3D textures

n a break from tradition, the pro Ific Alternative Image are about to launch their second internal release The Alternative 3D Textures This is a selection of 18- and 24-bit backgrounds created by Alternative's very own Henri Bujko - originally for use within the company's commercial exploits

The collection isn't solely secondhand, as several original textures have been added to sweeten the already tempting pot. Having said that, the majority are 18-bit creations - scanned in-house - and edited to produce high quality backdrops aimed primarily at the ray tracing and 24-bit paint com-

Along with the 18-bit images come a selection of 24-bit creations which Alternative farmed out for scanning and subsequent inclusion in the collection. Although the prospect of employing 18 - as opposed to 24-bit may cause concern among the purists, the contrast between the two is negligible it only really becoming apparent when applied to extremely large

As well as 18- and 24-bit colour images, the collection is also available as eight-colour Scala-style backdrops. colour greyscales for bump and altitude mapping within Real 3D and Imagine plus good, old-fashioned Ham for the financial mortals among use. As a result, pros and amateurs alike have an equal opportunity to get in on the

The 18- and 24-bit options come in two volumes with approximately 14 disks to each. The average file runs to about 750k - as a result it doesn't take a genius to work out that you'll be looking at, on average, an image a



The Amiga software market is as buoyant as ever. Paul Austin brings you all the revisions and revamps - first!

disk. Each of the two 24-bit volumes cost £50 a time - which I must admit seems a little pricey. Nevertheless, the results speak for themselves, so it's perhaps a classic case of "you get what

Having had my little moan, it's worth stressing that the Alternative collection - even at £50 per volume - is still a fair price in comparison to other 24-bit texture collections

If you're a more traditional artist - in other words skint - there's perhaps a more attractive offer in the form of Alternative's Ham examples which are made up of between 30 and 40 texture files for a mere £30.

The 18-bit, 24-bit and Ham collections all come with a selection of Henri's favourite Real 3D animation files to get you started, which among other things reveal a few tricks of the trade. The most interesting addition is a file which sets up an environment containing the notoriously tricky water effect.

For more details contact Alternative Image on 0533 440041 or fax them on 0533 440650.



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TVPaint and IV24 on test

The heart-rending saga of the IV-24 and its associated (and somewhat problematic) paint package goes from strength to strength. As promised in last month's update spectacular I have indeed got my sticky little fingers on the board's latest release, TVPaint. The package itself is



the power Whelet If the



from the Big Edit option, which allows you to scroll around and edit images above the board's available resolution, and the fact that there's no support for an Alpha channel - that particular option requires 32-bit architecture.

On boot up, the program appears to be identical to the original. The differences only appear when you start to apply the paint. The old IV problem of slow screen update will still annoy purists, but it's not quite as bad as the appallingly slow Macro

Aside from the slight speed enhancement, the biggest benefit is the actual application of the paint. Unlike Macro Paint, TVPaint applies the correct colour to the canvas as the stokes are applied. As a result, it's sure to be infinitely more attractive to those interested in freehand art.

Having mentioned the plusses, it's time for the odd minus. Although the speed is far from perfect, the worst flaw concerns graduated areas. For example, when a sizeable airbrush is applied, it produces very noticeable colour stepping as the gradient fades. This also applies to all graduated fills. It's true the problem can be partially repaired with some additional dithering, nevertheless it's far from ideal.

The cause of the problem is down to



the programs 12 bit display. It is possible to view the image in true 24 bit but painting is strictly restricted to12 bit, not an ideal situation by any means. To sum up, it's fair to say that TVPaint, although still by far the most flexible and functionally wellblessed package in the business, is nothing short of a disappointment on the IV. If the graduation problem could be addressed it could be a totally different story, but at present I find it very hard to recommend the extra expensive involved in upgrading to this particular variant of the generally excellent TVPaint. If any additional upgrades appear, you'll be the first to

For more details contact The Amiga Centre Scotland on 031-557 3260.

Saxon Publisher

v1.2 With the recent release of PageStream 2.2 and the imminent arrival of ProPage 3.0, the DTP race is really hotting up. To add even more fuel to the fire, Saxon Industries are on the brink of releasing an all-new version of Saxon Publisher.

As a result, don't miss the July issue of AC, as we'll be providing the definitive guide to DTP, structured drawing and the costs involved in turning your onscreen creations into fully-fledged publications. Plus there'll be a thorough guide to the big three programs, which by then will be slogging it out for the title of the top DTP pack-

age Perhaps the most noticeable enhancement in Saxon Publisher is the addition of a fully independent PostScript interpreter,

SaxonScript Professional. This standalone program comes as part of an overall package and is designed to convert standard Arriga-based output into its PostScript

The next impressive addition is the option to employ both Macintosh and PC Type 1 fonts, without the need for any font conversion It's true that other packages such PageStream can also employ such for but only via a rather complex and con

ing conversion process. The next totally original and interest option is Saxon's proprietary monitor ca bration utility, which corrects monitor phosphors to ensure maximum onscree. colour accuracy. With this addition, tha famous phrase "but it looked OK onscreen..." could become an excuse of the past...

Aside from the variety of whistles and bells which all three boast, perhaps the most important addition to any package is its ability to utilise additional fonts. Here Saxon Publisher does particularly well, with access to all downloadable PostScript fonts including Adobe Types 1 and 3, plus Compugraphic Type 3 fonts, which are widely available from ProPage PageStream, Agfa Compugraphic, Adobe Systems and, of course, the public

Presentation masterpiece

Way back in the January issue of AC we were the first magazine to explore Oxxi's excellent Presentation Master, a program which we believe has had nothing like the

equivalent.

Although the package is marketed as a presentation system, it has a lot more notential than just that. Along with its primary forte as a multimedia platform comes one of the most impressive PostScript paint packages yet seen on the machine.

As a result, extremely stylish and professionally structured art can be knocked up at impressive speeds and then used as an individual element within a presentation, or added to the program's text and graphical display formats to produce quite stunning results.

The only problem in the past was the program's inability to

save out separate EPS files from the aforementioned PostScript paint module. The only way to extract PostScript for application within DTP packages was to export the entire page and then incorporate this into your journalistic masterpiece.

Now this irritating limitation has been

ule which makes it possible to select either a single element within the PostScript image, or alternatively a group of images. Once selected, these can be saved out as individual EPS files and pasted with ease

This single module instantly transforms the Presentation Master into a perfect and extremely powerful PostScript paint package ideal for avid DTV fans everywhere. An added bonus is that the new files will be in the standard Adobe Illustrator format, thus

into any DTP package.

the images should appear onscreen in all their PostScript glory in any of the major DTP packages. According to the program's author, Gary Bonham, a whole series of modules

are planned and will either be released as commercial additions or free-bies through the PD. Watch

banished thanks to a A perfect example of PM's point program in action.

Only on IFF, but PostScript is on its way...

Hot news for GVP's board

tunnel. Added appeal is provided by the arrival of TVPaint, but this is only the tip of the iceberg, as GVP make a

Silica, the UK distributor of the IV, are at this very moment posting new ROMs to all registered users. The

est the increased update speed is at best negligible The second bit of excellent news is

that the new ROM isn't the only free-bie on offer. As regular readers will know, the IV24 requires a RGB signal

rd unit aimed at the general user. ica spokesperson Andy Leaning led that a broadcast-quality unit will available later in the year at a very affordable price



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hen it comes to programming your computer it is obviously important to decide upon a language to use. Some languages are better suited to certain applications than others and it can be a difficult task ascertaining which approach to

acopc.

The most popular language on the Amiga is undoubtably C – not surprising, as most of the operating system was developed in BCPL. However, HiSoft have just released a Pascal compiler which is set to rival C for its low-level programming

features and speed.
HighSpeed Pascal is a new version of an oid language, Pascal was originally conceived around 1972 by Professor Nildaus Wirth of the Zurich ETH — his institute — and has remained in use in academic Circles ever since its inception. It is not only an academic language, however, as Turbo

Pascal has proved on the IBM PC.

Pascal is widely tought structured and first contact with it is usually found when somebody takes on a course of higher education. Most computer science students will find that their course relies heavily on Pascal programming and it is the first structured language except for Basic

which they come into contact with.

Pascal is a strongly typed language,
that is to say that the variable types and
declarations cannot be mucked about
with. For instance, in the C language there
is no type checking which basically means
you can store any type, any place, any

Not that C programmers drink a lot of Martini, but if you put an integer where a procedure or function expects a char variable to be the compiler won't know the difference. In Pascal you need to rely on types being of the correct, well, type!

This is how Pascal encourages good programming skills – it is a tidy language, and enables a program from one source to be easily modified and maintained at a later date by a different programmer. Pascal programs are much more readable than, say, a C program will be, and as such more understandable in a quicker period of time than their C equivalents.

pendo of time than their L equivalence.

Pascal has been in use for such a long time because of its ability to teach and encourage structured programming. It is quite likely that it shall remain so until another language with better features comes along.

Contender

Such a contender for the programming crown could well be MODULA-2 which is a relatively new language intended to supersede Pascal. But it has not been taken up by many people and could well

Anyway, back to HighSpeed Pascal. The first thing that strikes you about this product is the packaging — a disk wallet containing two versions of the Workbench, 1,3 and 2,0, and the Pascal compiler disk. Accompanying these are the rather large ring-bound manuals, one being the user manual and the other a technical reference.

ence manual.

The IBM PC is the industry-standard personal computer and as such has a

number of compilers.
Borlands' compilers
are popular, such as
Turbo Pascal and
Turbo C, and
HighSpeed Pascal on

the Amiga is intended to allow portability of programs between the machines. HighSpeed Pascal contains many com-

mands which emulate those in Turbo Pascal, particularly the graphics commands for setting palette colours and drawing lines. To

test this out I took a mandelboot set program written in Turbo Pascal and entered it into the Amiga. The program needed a few small alterations where the Turbo command was not available to HighSpeed Pascal but this was minimal.

Pascal but this was minimal.

The first thing I noticed was the speed of the compiler – this is where the name HighSpeed comes from! It's very fast, and compiled the program in under five seconds – well, after all the typing errors had been corrected. Indeed it's so fast that

Control and Contro

A compiling error is notifie

there's very little time to see it compiling all your program — it only displays the current line at the time of compiling. If your program is fairly short, say 20 or 30 lines, you'll only ever see it compile one or two of them.

After compilation, the mandelbrot set program ran and worked as expected. This is a test of floating point maths and as such is quite a good estimate of how fast

Pascal with pzazz!



Pete Bullock looks at HighSpeed Pascal, a powerful version of an old language



Preferences m be set for the session or som the calculations are. The program took 100 iterations and approximately five hours to complete the set, which in a high-level language is relatively fast. A similar program written in AmigaBasic would probably have taken much longer

HighSpeed Pascal also caters for those who already program or intend to program their machine at the lowest level, as it takes advantage of all the custom library routines in the Amiga's ROMs. It is a relatively simple task, as all the library routines are contained in a datafile called a unit. This approach is used to ensure compatibility with 1934 Turke Barcal

A little difficulty was encountered when using these functions, but HiSoft do offer a technical support line. If you're having problems. I strongly recommend you get in touch with them

Each library has an associated unit and this provides support for all the C structures and constants which the Amiga expects when using the ROM routines. All the structures, constants and library routines named have remained the same except for those which conflict with the reserved words in the Pascal language. In this case HiSoft have added an underscore to the library name and have documented most of the changes in the manuals.

Test

As a test I decided I would try to initialise a screen and window structure and use these to open a screen and a window. After consulting the Libraries and Devices manuals for the required screen and window structures I began to program in Pascal.

As I mentioned earlier, the structures required are contained within the associated library unit. All the user need do is initialise the structures with the required values and then call the resident library routine. Filling structures is fairly easy, although with a language like Pascal the code is much more involved than, say, its assembler equivalent.

If you're defining a type as a specific structure, you will find that all the structures you require are spelt the same as in the ROM manuals but prefixed with a "t" to denote type. Likewise, all the pointer

Manual dexterity - the documentation

Some products are let down by inadequate documentation. This can be a major problem if you buy a product and intend to work with it seriously. With HighSpeed Pascal, however, the documentation is of an excellent quality and is aimed at the beginner as well as the professional user

The manuals supplied with the package contain much information to get you started as soon as possible, whether you are an old hand or a beginner. There's a complete introduction to the language explaining Pascal's various statements and variable types and information on file handling. The chapters on the language are very informative and help instil a better understanding of how programs are constructed.

An introduction to the language takes up a large part of one manual and I suppose is intended to teach Pascal programming, albeit at a very rudimentary level. However it is complete and if you've programmed in other languages it should suffice as an introduction to the language.

If you are a beginner then you should consider buying a textbook, as this will contain much information and examples to get you started. I have no reason to believe that examples contained within a textbook would not work in HighSpeed Pascal it contains, as far as I can see, all the standard types and statements of standard Pascal as well as other customised features.

Files on the Amiga can be a real pain, needing many variables to get you working with them. But HighSpeed Pascal takes the commands used in standard Pascal and adds a few of its own to enable the efficient programming and use of files.

The reset and rewrite commands from standard Pascal are implemented along with a few other file commands. Compatibility with standard Pascal and Turbo Pascal is maintained as much as possible

As in Turbo Pascal, the various constants and library routines are contained within a unit. You can inherit a unit into your program by the Uses command. You would, for instance, type the following to inherit the various library routines and constants:

This would inherit the exec and dos library routines and also the intuition functions and constants which enable you to use screens and windows. As you can see, it is a fairly easy task and should present no problems to an avid Amiga programmer.

There are chapters on some of the units functions and a complete list of error messages. The error messages are not explained enough for my liking and more thought could have been put into the documentation. This could be particularly annoying for the beginner where a full explanation is required in order to get things moving.

Also implemented is an inline assembler so you can write assembly language routines alongside Pascal routines, if you're interested. If you're considering working with the assembler, a complete list of instructions is provided and the assembler supports all the various commands of the 68000 processor including the DC directive for declaring types and sizes. The user manual is of a good quality and contains informa-

tion on the editor explaining the use of the various features like cut, copy and paste. There is also a section on the compiler how to compile, building your own units and its various menu

Compiler preferences are covered too. The preferences contain things like range checking to ensure that array dimensions are not exceeded within your program.

types are prefixed with a "p". After having completed the programming the program was compiled. Typing errors reported by the compiler were corrected and then the program was run. It worked fine - the only error was in the text contained within a Pascal string.

The title of the screen was prefixed with a "k" which was not specified within the text string, and this "k" also appeared in the windows title - soon sorted out by using a function supplied in one of the units to convert from a Pascal string to a C

If you are interested in programming at a grass roots level then HiSoft recommend you get hold of the ROM Kernel manuals from a good bookshop, as you'll need to use and convert the various structures to the Pascal equivalent of a structure which is a record. However most of the structures have already been defined and you should have no problem in using these within your own programs.

Supplied with the package is the Devpac debugger which allows you to debug your Pascal programs at a source code level. The explanations of various debugger commands are thorough and include items to enable you to get to the root of the problem straight away.

Loop the loop

One thing which is particularly annoying is that you cannot interrupt your program while it is executing, so you cannot break and debug. If your program runs in an infinite loop you simply have to turn the machine off and start again. I'm sure a break could have been implemented but it seems you have to program it into your programs yourself. While using the product I experienced

a number of problems concerning built-in library routines and their expected variable types. This is not much of a problem as a quick phone call to HiSoft's technical support department helped me out enormously. In fact, I recommend that you register with their technical support department - the help they supply is

As a product. HighSpeed Pascal is a good buy - it's relatively cheap and of good quality. The documentation is excellent and you are supplied with two versions of the Workbench depending on

which machine you are using - a 1.3 or the new 2.0 500 Plus. If you have learnt Pascal at college and are interested in programming your Amiga using the language, or want to take full advantage of its low-level facilities, then HighSpeed Pascal could well be what you're

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ast month's support column took the form of an easy introducing to the Directory Manager (TDM), which is central to many of the operations you'll be carrying out with your CraphicStation disk. To use the program just to copy and delete files, however, would be to miss its great potential.

You should by now have noticed the funny little bar at the bottom of the central gadget strip. This is the external command gadget, and its deceptively modest appearance belies its true power. It is one of TDM's most useful features.

When you first load TDM, the external command gadget will sport the word "Run". This is the command is presently set to apply to the program of your choice. To run a program this way, click on the program to highlight it, then click on the command gadget. If you have chosen an executable file — a program rather than a document or ion—it will now run.

Numeric keys

So much for running programs. If you're thinking "so what If I want to us another command?", try the numeric keys at the top of your keyboard. Keys one to zero toggle the command agolg through the ten commands you can set up for your own use, though only fire of them are in use when you boot up The CraphicStation.

Using Brun to run a program in the background, MMPP to view normal and powerpacked test files, PSPshow to examine IFF files, and QED to edit test files, you can control, through TDM, a wide variety of tasks, lust press the correct numeric key to select the command you need, then click on your file and on the command gadget and off you go.

Try moving to the S: directory, then press numeric key five to display the QED



TDMConED is friendly and easy to use

command. Now click once on the startupsequence and once on the command gadget and the QED text editor will load up

with your startup-sequence ready to edit.
You should be able to carry out as many operations as you like without having to directly load QED or resort to CLI to use PPShow or MMPP, but what happens when you tie of the five options on offer?

The left-hand side of the TDMConED screen is dominated by the ten extended by the ten extended command bars, and changing them is very easy. To get rid of the "Crud" of sing and replace it withs, say, the EAECUTE command, you just click in the box containing "Crud" of, delete it, and type ISECUTE. If you save the prefs settings and reload TDM, external command six will now be Execute, and you can apply it to any script command you'd like to run.

As you go on to customise your GraphicStation disk, deleting the odd program you never use and adding your own, TDM's ten external commands can be used to control such utilities as NewZap to edit hex files, or the AMOS compiler.

hex files, or the AMVOS COMPUTE.

The uses of this function are really only limited by your requirements. At the moment, the external commands function isn't as stable as it might be, but author Chris Pettet will be continuing to update TDM. Register as a shareware user and you'll receive all future upgrades.

Settings

Continuing with TDMConED, the righthand side of the screen enables access to some other settings. There's the system time, which you can't change from here, the palette control sliders, and the location of TDM external files. To the left of these is a section for archiving programs.

Tou aboutdn't change the external files post well seen to the TDM dig file, and the archiver will be of use only if you put one on the disk. There wan't enough roce on the time the time the own disk you disk or you go your disk, you can set the extent, add, and last parameters according to the programs' instructions, then use it from TDM by disking on the files you want to archive and pressing V.

The palette sliders, on the other hand, are ideal if you find our tasteful, refined, easy-on-the-eye colour scheme is not to your liking. If you are a person of such (ahem) dubious taste, you can

change all of TDM's colours except black and white, then save your prefs so that the program boots in whatever colour scheme you find most agreeable.

To aid you in choosing your colours, there's a list

Format disks from Inside TDM or the press of a single key

GRAPHIC STATION

TDM internals

of the various text strings you'll find on your TDM screen below the set of siders. Keep an eye on these as you change the default colours to ensure you don't end up with text that's too hard to read against the background colour.

Once you've fiddled enough and saved out your TDM preferences, you might be annoyed at having to quit TDM and reload it so you can use the new settings. You don't, however, have to go through this hassle – all you need do is press the U ley to update your prefs settings from within TDM. This forces TDM to read the current TDM. dig file from the S: directory and pick up the new setting.

up the new security.

To finish this month, I can't leave you without mentioning the other two very use ful key commands available direct from TDM. If you want to format a disk, for example, jate press the Fise, As long as the Format command is in your STS-System directory (which it is on TGM) (arghicStation), a requester will pop up to ask which drive you want to format, then you'll be asked for a name.

If you want to read a text file, and can't be bothered using the more powerful MMPP, TDM has a built-in text reader which can be used by highlighting the text file of your choice and press-

ing the R key.
Please note that no matter what you do, you won't
be able to read powerpacked
files with this option, and will
have to resort to MMPP.
Most of the documents on
The GraphicStation are pow-

on con make view

Stevie Kennedy concludes his tour of GraphicStation's file manager

-

erpacked, so the read function will be of little use at first, even though it's faster and easier than using an external command.

You should by now know enough about TDM to keep you going, so we won't be returning to it in the support articles. Remember that it is a shareware program, so if you're going to rely heavily on TDM, contact Chris at the address given in the About message (press the A key) and send him some reward for his labours.

Next month, we'll start to look in detail at the utilities on GraphicStation, beginning with Paul Burkey's Picturesque paint program.

GraphicStation brings together the best in graphics utilities. To order your copy, turn to page 128



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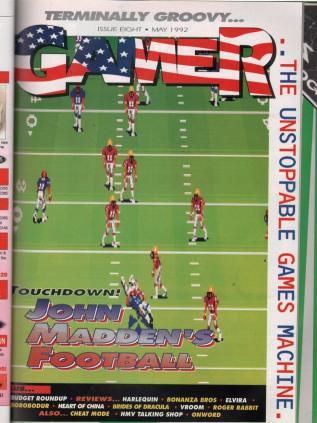
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Lets delve into the Amiga lucky dip...

Willy, Horny and all the gang your Grandad's ghost who

As well as the rather delectable Heart of China reviewed in these very pages. Dynamix have also got Willy Beamish waiting in the wings. Those who keep an eye on the PC games market will probably have heard about

Willy's an average nine-year-old, living at home with Mom. Dad, little sister, big sister and a dog called Horny. However, life as a nine-year-old offers plenty of scope and teachers, but you've also got the more unusual aspects of life to deal with. Like Helt lokes and puzzles galore, graphics.

review, as always, next month.





Tanked Up

ready to let their long awarenes such und of the shed.

Pacific islands it the title, and it looks set to boal even from Yanken into a cocked hat. The year is 1995, and some sinister reage flushes are threatening words peace by mandaing the Yanan Xana Pacific atold. Your plateon is done set to the scene is it is ju to you to toop them. It looks a bit more involved than its predecessor, with a lot more attention to invite details plus faster 3D. Look out for a bill receive next month.

traversing Hell to bring goodness and

Hit and Myth Also lined up for the review treatment next issue is System 3's hot new property. Migh ha arready swept the board on the 8-bit formats and is garnering a bit of a reputation on the I

overhaul since we last saw them, and ily now. Could it be the bestest platgrapevine is anything to go by, it could





In the air tonight...

Mergerian in cardinality to preve themselves a right old bortch of smart alocs with the control of the control





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Don't forget to mention Amiga Computing when you write. If you want further information on the show then call 0891 122997 (calls cost 36p per minute cheap rate, 48p per minute all other times]. And, hey, have a nice day y'all.

GANER May 1992



BlackMai L

set a pictorial treat. Our lovely cs-Gamer editor, sit Boardman, doing a quite convincing impersoon of big, cuddly hat from Eastenders. Apparently, to been offered the job as fast stand in for all her and any saucy kissing scenes with Frank ther, played by badding hunk Mike Red. Joots is all to be "considering the offer". More news as we et it.

The Ginger Ninja

Now here's a competition for all you ladeez in the louse. Who's this fine specimen of prime man meat? It none other than Andrew 'Beefcake' Southam, was chum from PC Today, local meringue-eating thampion and star of Another World.

out there are swooning yourselves silly over him, so here's a chance to win a signed photo of the man himself. And just to bump up the stakes a bit higher, we'll bung in a free copy of the new Roger Rabbit Sime (which we must point out, will not run unless you install it on to a hard drive).

to craim your piece of this Inuty stud, and of ourse the Roger Rabbit game plus some badges, F-Shirts, posters and whatever else will fit in a Jiffy hag, simply write and tell us, in no more than 100 words, why you deserve this prize. Grovel, beg, lied and generally lick our shees and we'll send the goodles to the most sycophantic letter we receive. Good link's laders of the service of the goodles to the most sycophantic letter we receive.





GAMER INNER VISION

Bingo, hatstand, palaver, partridge and...

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HARLEOU

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bouncy, bouncy bounce

remlin are ultimately famous for brilliant driving games, so it is indeed very strange that a platform game going by the name of Harlequin has appeared on the Amiga. Harlequin has been billed as probably the strangest game ever. Hmmm, we shall see.

Does everyone know what harlequins are? They're the chaps who dress up in masks and funny chequered pyjamas. They look like a cross between Dick Turpin and a court jester. Bugger knows what they do.

Apparently, in a far-off forgotten corner of the imagination is a smart world called Chimerica. This world contains all of our dreams and distant memories. For years and years it has thrived due to everyone's hopes, dreams and memo-

The sole inhabitant is a young boy with the name of Harlequin, Fancy being stuck with a name like Harlequini A John or a Dave would have been far more acceptable. Anyway, Harlequin spent his early years exploring the bizarre world of Chimerica. But all children grow older and

Harley is no exception. Sure enough, the world of Chimerica began to lose its appeal - it was a case of 'been there, seen it, done it' for poor old Harley.

He had become accustomed to the

bizarre and unexpected. He had finally turned into an adult. Gone were the bored Harley decided to bugger off and get a new life.

In his absence, Chimerica slowly fell into a state of disrepair and the land entered an age of cold reality lhow a land falls into an age of cold reality is beyond me). So with the prospect of no salvation in sight, Chimerica's sadness deepened until one day its heart broke and everything was silent.

The years rolled by and then out of the blue, Harley appeared (hoorah). What he saw he didn't like and he knew it was all his fault, so he set off with one all-consuming purpose - to mend Chimerica's broken heart. You play the part of Harley and you

must find the four broken parts of Chimerica's heart before finding the exit which has now become a heart itself. There are many lands in Chimerica

for you to explore. There is a definite puzzle element to the game - a lot of the time it involves pulling levers and such like. A lot of the puzzles are quite puzzling - I suppose that's why they call them puzzles - but after a while you get to know how things work and the rest of them become a little easier to work out

To help Harlequin out there are sev



happen? I'll never eat another fish finger as long as I live

eral objects dotted around that are essential in his quest. My favourite object is the Space Hopper which allows Harley to reach higher platforms, and he can even crush his enemies who plaque the land of Chimerica.

Hearts are Harley's only kind of firepower, but thankfully there are two sorts - pink ones and red ones. The red hearts are the more powerful of the two, but they don't last long.

Overall Harlequin is a damn fine platform game - it's a perfect example of how far the genre has advanced. The graphics in are stunning to say the least and it's backed up with some top-notch Harley prances, skids [tut, tut], jumps

and swings about the screen like a demented monkey. On the sound front there are a whole plethora of tunes for you to enjoy, but you have an important choice to make between the tunes and the sound effects, because unfortunately you can't hear both at the same time.

Harlequin has an easy control system, so you won't be frustrated when the going gets tough. It's got to be said that this is a storker and a half. I don't really think strange is the word to explain Harlequin - perhaps "completely bonkers" is more appropriate

Ionathan









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I think I should win some of the games reviewed in this issue of Gamer because... (in less than 20 words)

O

About you:

BONANZA BROS.

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Avoid the searrhlight if you want whopping

here's been a lot of thieving recently, hasn't there? What with Hudson Hawk quipping and robbing his way through Ocean's platnicking jewels in Electronic Zoo's Daylight Robbery, Now US Gold have joined in with the light-fingered duo, The Bonanza Bruvs. What has the twisted commie pinko software houses encouraging our children to steal and commune with Satan, and wear ties and smart shoes.

They're luring the youth of today to bathe in the fire and brimstone of Hades. Corrupting the innocent wide-eved teenagers with their promises of digital violence and pixelated titillation. Still, it's a larf, innit? And Bonanza Bruys is one helluva larf. But before we get too deeply

embroiled in the ups and downs of the gameplay, let's take time out to have a mug of steaming Bovril and check out the plot for this festival of thievery.

The two brothers, Robo and Mobo. have just given up their life of crime. Very sensible of them. But of course, things don't stay that way for long.

They are contacted by a spooky Mr Big-type bloke who asks

them to do some jobs for him. OK, so it's exactly the same plot as Hudson Hawk, but this Mr Big actually wants our heroes to rob his own buildings. No, he's not trying to fiddle the

insurance, but he wants the world's best burglars to test his security systems

for him. Cunning, eh? Thus, the orange twosome are ordered to retrieve a set number of objects from all of Mr Big's buildings. They must use all of their skill to avoid or stun the guards, dogs and

Once all the objects in a building are nabbed by either or both of the brothers, the exit opens and you can leg it to the roof to nab a lift from your

Ronanza Blimp on to the next level So, that's the basic idea of the game, but how well does it work? Very well actually The graphics are small because the screen is split

in two for the two players, but there are plenty of nice little details to watch out for. They've even managed to keep the ray traced feel to the The sound isn't quite as good as it

could have been, with a fairly crap tune and few FX, but what really counts is gameplay and Bonanza Brothers has got it where it matters. The relatively simple idea means that it's easy to get into and soon you'll be sneaking around like an expert tea leaf With two players, the action really

hots up as you race against your mate to collect more objects. An added element of strategy comes

in when you get knocked over by a guard. As you sit on your burn, all the objects you pifered are scattered about you and an unscrupulous partner can nip in and steal them for his or her

So before you start, it's always best to check that your so-called "mate" is really on your side, or you could be left to get out of the building alone and emoty-handed while they twiddle their thumbs on top of a massive pile of bonus points. So, do it to them before they do it to you!

All in all, Bonanza Bruvs is a pretty groovy game. The run-around-and-col lect-things formula is fairly old hat there days but the two-player option keeps it fast and furious. If you're looking for something a little bit out of the ordinary, give the Bruvs a go













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limey. What a dodgy concept, eh? A game where you have to throw petrol bombs through the window of MacDonalds to win. Very ideologically unsound. Still, that's what you must have to do, or else why would they call the game Diner Blaster?

What? Oh, it's Dyna Blaster. So no MacDonalds then? No petrol bombs? Thank goodness for that. Mind you, it still involves a rather unhealthy obsession with exploding devices. And killing your friends. But, hey, it's all for entertainment.

The basic concept behind Dyna Blaster is a simple one. You've got to run around a maze, blowing your way through the walls and trying to kill the other players. Also out for your blood are some squishy alien things who stop you from just hiding in a corner until it's all over Along the way you can collect power-

ups to give you more bombs and bigger explosions, and even mystery bonuses that can either help or hinder you, depending on how lucky you are. Like I said, simple but bloody good fun.

Now if you're the sort of person who has no friends at all, Dyna Blaster may not be quite as appealing. You see, for the best effect, you really need as many

players as possible. The game comes with a special dongle that plugs into your serial port. As well as acting as copy protection, it also allows an extra two joysticks to be plugged in.

Add another player on the keyboard and you've got simultaneous five player mayhem. On your own though, you have to play the computer and it's just not the same. Serves you right for being unpopular. Ha ha ha ha. Ahem. Before getting into all the wanton

violence and exploding people, you must define the terms of victory. For instance, if you want a quick game then the first player to win a round is the overall champion. If you want a more prolonged contest then the first one to score five victories is the overall champ

So, with that relatively easy choice out of the way it's into the game proper. And blimey, it's a corker. Dyna Blaster is just one of those games that grabs you by the trousers and forces you to play it over and over again.

Friendships are shattered into pieces as previously civilised human beings wrench their joysticks into unnatural shapes and howl obscenities at each other. Some will choose to keep themselves to themselves and try and stay alive that way, others will charge



House by Barrett. Pricey number, apparently

around the screen dropping bombs everywhere and generally scaring the more timid players.

In short, it's an incredibly involving game. I'd even go as far as to say that this is the sort of game that you could suggest playing at a party and not get beaten up by your mates

'Hey everyone, let's play on my computer!" Shut up you boring get. Nobody plays on computers at parties.

"But I've got Dyna Blasteri" "Oh right. Me first." "Sod off, that's the best joystick!" "How come I always end up using the keyboard?"

"Assargh, you got me." 'Get the one in red. He's got the biggest explosions." "Why isn't my joystick working?"

And so on. It really is a communal sort of game. Just don't play it with anyone who's bigger than you, or you'll probably get beaten up quite a lot.

The graphics are smooth and quite cartoony, with your little bomber men looking for all the world like Lego men in space helmets. The sound consists of a bouncy tune and - absolutely essential in this game - beefy explosions

In the end though, it's playability that counts, and Dyna Blaster has got so much playability it's got huge crates of the stuff filling up giant warehouses. If

playability was loaves of bread, then Dyna Blaster would be Warburtons. Bribe them, beg them, sell them your family but somehow get your mates round with some joysticks and revel in the sheer gorgeousness that is Dyna





It may look like a simple game but it's hideously addictive D HAY 1000

Cill I

level. To help you with all these prob

down to a lower gear too guickly and

to weave your way around the track,

Yes, I have to admit. I've been converted into a driving freak. I must rush out and apply for a Formula 1 driving

lane, then this racey number is for you

can honestly say that I've seen the light. Vroom has to be the coolest, bestest

are the smooth and ultra-fast graphics and the realistic sounds. As you hurtle around the six available circuits, the engine sound changes pitch with each gear change and acceleration and, with practice, the sound of the engine will lell you when to change gear without Even the engine sounds from the

then fall as you leave them standing. There are tunnels to whizz through on your manic way to victory, which produce a whooshing sound as you go through them, and of course there is the inevitable clangl as you mistime a turn or crash into some Sunday driver. It's not all about keeping on the track

though - for instance, you'll have to maintain your tyres should you be too keen on leaving the tarmac to say hello to rapidly oncoming trackside objects. Each crash will diminish their perfor-

mance and gripping ability, making those tight turns a nightmare. You also have to keep an eye on your fuel chances of attaining that number one position. You must also be careful





make it snappy, I'm in kind of a hurry



On the grid, right at the back due to a poor performance on my part during the qualifying lan





PLAYABILITY I could play this till the cows came home



EMPIRE = £25.99 = ½ meg = Mouse/Joystick = Out now

his compilation from Empire is a collection of four titles - Space Ace, Kick Off 2. Pipe Mania and Populous. All of the games have won some award or other so

they should prove excellent value for money. So let's trip down memory lane and check out what made these titles so worthy, shall we?

Kick Off 2

Rick Off was the footie game that set the stan-dard, so when Kick Off 2 was let loose upon those adoring footie fans it was bound to be an award winner. It may not have astounding graphics, but the addiction and gameplay are

tupendous.

You can change your team's kit to suit your teaste and you can play in the league or the tup. The ball control system is very intuitive.

and very good - once you master it, that is a subject to a subject to give an electric from a feet, and may go they set pieces from a feet, make it set looks and fare of all fares. You can an it one when the substitutions during a match and there is a reply facility to view to the second possible to the second possible



Space Ace

award back in 1990. The the joystick at critical moments. The animation was very impressive, not surprising considering Don Bluth, ex-Dis-The sound was pretty cool too, with lots of digitised speech and effects. Some crit-

it. One friend of mine even videotaped each portion of the frustrating games I have ever played, and two of my joyes became airborne, sailin

Overall

Pipemania

I never could get into this game, probably because it is one of those nextly types that make my head the so much. You have to score as nany points as possible by build

ered pipe parts. To confound matters, you h the flooz to contend with which flows through the pipes shortly after you start. Once the flooz fills a pipe, ou cannot remove it and if it spills ut of the end of your pipeline, the

As I said, puzzle games are not something I lunge for on the software shelf, but that isn't to say that this isn't any good. I'm sure those with a taste for the odd puzzle will find this absorbing, but



Populous



Your sole objective as God is to encourage your population to ultiply. In so doing you gained more Mana, or power, to enable you to do tivine deeds such as bringing have to etholic you to do tivine deeds such as bringing have to the enemy with catastrophes like earthquakes and floods in an attempt to wipe them out, thereby defeating your oppor



D May 1992

It has taken control. It owns their minds. It imprisons their bodies. It even absorbs the building!

D/GENERATION

A secret project is out of control at disguise itself, has taken over. And it Over 120 rooms filled with traps and st Genog Corporation, the world's is your task to destroy it. leading biotech research lab. The But first, you must find a way to

building is in chaos. All employees are either dead or zombies. The security system is blasting away at anything that moves D/Generation, a malevolent

organism that uses virtual reality to

stay alive. Then, as your understanding of this evil force

increases, you can take the fight to the enemy. The tools you have are sparse. Little more than ingenuity and determination



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I know I put that nutritio



Looks like the fish hasn't been fed for a while

TABBIT IN TING HAVOC

Harve only - Joystick - Out now

but how does it play? I don't think we need be reminded of just how crap games with amazing graphics tend to be, do we? Dragon's Lair? Space Ace? Nice to look at but about as playable as a strippless guitar.

Thankfully, Roger doesn't suffer quite as badly as those aforementioned cock-ups, but even so it's not quite everything it

The trouble is that with so many sounds and animations clogging up the memory, there's very little room for a proper few hours, but once you ve ge each scene sussed it becomes bit of a chore having to g through the same routine ever time you play, just to get to new level.

The good point of the game besides the spanky presentation is that it's ideal for lids. It's th same price as most other games rather than masquerading unde an inflated price tag to justify the graphics, and youngsters will b snellbound by it.

pelibound by it.
It's also fairly easy to get in to,
to they should be able to proteed

course, it does need a hard drive to run which will put it out of reach for a lot of people, but if you do have a hard drive with a spare 2Mb on it then this could keep the sprogs happy for a good

long while.

For the rest of us though, it's a nice attempt, it looks and sounds brillant, it even plays quite well, but at the end of the day there; very little substance to the game. It does promise bigger and better things from the Disney licence though. One to show off with,



















BOROBODUR

THALAMUS = £25.99 = 1/2 meg = Joystick = Out now

here do they get these silly names for games from? Borobodur. It kind of rolls off your tongue right onto the floor, doesn't it? Anyhow, regardless of the silv name. Borobodur is very similar to Turrican and has a certain Shadow of the Beast feel to it too.

At the start of the game you run everything that moves, but you also have little puzzle elements where you have to activate levers and other

For instance, there is a wheel with a rope threaded through it that that is attached to a door below. You have to activate this wheel to open the door allowing you to pass through. There are also numerous levers to pull, and you have to work out what they all do.

With the many nasties intent on smashing your face in, there are also power-up type objects to collect that restore your energy and increase your

weapon power. The objective is to solve the level whereby you get the message "The exit is open" or something along those lines. You must then make your way to this exit which takes you on to the next

Level two is, to all intents and purposes, a driving game. It has all the feel of games like Lotus Turbo, with undulat-

ing tracks and twisting corners The graphics in this part of the game are quite fast and smooth, and you can even blast opponents with your cannon should they get in your way

You are apparently not in a car, but on what looks like a floating chair which hovers above the track. You must collect





get off this level please?



old you mind taking a step back, please? Your breath stink

fuel and other objects dotted along the on. There is also a boost function available which, on pressing the spacebar, sends you hurtling around the track at

breakneck speed. Later levels take place in some kind of underground area where you must solve puzzles to progress further. There is an obscure piece of rock that you can move, but I couldn't figure out what to

do with at all. Maybe that's because I'm crap at this sort of game The sound is quite good with a constant background theme tune playing

The theme music changes in mood as you go from level to level which adds a certain amount of atmosphere.

The graphics are nothing to write home about, but they are OK and the animation and scrolling are quite smooth too. The game comes on three





think I'll pick it up then beat the crap out of that wimpy looking robot down below

disks and there's an optional intro.

There is also a rather cool Terminatortype opening sequence, with the letters of the title smalling across the screen to a snazzy tune. I quite enjoyed playing Borobodur,

even though it's nothing new or innovative, so I think those of you who like Turrican should take a look at it.















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Over



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4

Never being ones to shy away from a gratuitous Wonder Stuff reference, Gamer and proud to present the first in an occasional series of budget round-ups. To kee things fair we stuck a selection of the latest re-releases in a bag and each took for at random to peruse. Also, please note the rather dismal self-portraits which ea tome way to express our reactions to each game. And try not to laugh.

Dan's selections

To be honest I was never a big fan of this Oppo Wolf sequel when it first came out. There always seemed

Operation Thunderbolt THE HIT SQUAD . £7.99

to be too much going on, and the fact that you had to pick up the gun-sight to see where to fire didn't help matters

Thankfully, time has mellowed me a bit and I actually found myself getting quite into this old chestnut. It's still almost frighteningly difficult to progress any further than level three, but the thunderous sound effects and the polished graphics go together to create a slick exercise in

Perhaps too hard for its own good, but at under a tenne it's perfect for relieving those violent outb





Mystical ACTION SIXTEEN = £9.99

What is it about YTS trainee magicians, eh? They always cock up in a major league

What all this boils down to is a vertically scrolling shoot-'em-up, albeit one with brilliant cartoon graphics. Each time you pick up a scroll or potion you can either stick it in your pouch or use as a Golem and can leap around squashing enemies while you get on

The main problem is that once you've got over the novelty of all the weird effects of your spells, it's just another shoot-'em-up. At a

A crumbly old driving sim from 1990, this one. And it's a bit of an embarrassment as well, seeing as it's from Gremlin. You'd think that Toyota Celica GT Rally GRH = £7.99

of all people Gremlin could produce a stonking rally game. Unfortunately, not in this case.
In my humble opinion, GT Rally is terminally crap. There's no illu-

sion of speed at all and trying to keep the car going in a straight line is like trying to get hold of the soap in the bath. Even though there are realistic features like windscreen wipers, they put you off more than anything and tend to obscure your vision

Poor controls and a complete lack of any sense of competition make this one of the worst driving games I've seen. It may be cheap but it's also fairly nasty. Avoid.





Bubble Bobble

This is more like it. This is what budget games for pocket money prices. And

THE HIT SQUAD . £7.99 From this one game came every single cute platform game ever. It's excellent. Even though it's since been overshadowed by its more famous sequel, Rainbow Islands (also due out on budget soon), it's still one of the finest platform games in the uni-

Best with two players, this is a simple and effective game that no self-respecting games player should be without. At this price it's the bargain of the century. Snap it up. Nuff said.



Daz's selections

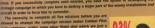
This game won the best flight sim award back in 1990, but it is more of a shoot-em-up than an attempt at a realistic representation of a fighter

F-16 Combat Pilot ACTION SIXTEEN # £9.99

aircraft. The game features five missions. If you successfully complete each mission, you have the option of attempting the

aircraft in order to force him to surrender The necessity to complete all five missions before you are allowed to attempt the campaign mission makes Combat Pilot quite addictive, unlike some other flight sims which are just a series of unconnected battles. The graphics are quite good and

the speed at which they move is good too. There is also the option of playing against a friend in a head-tohead confrontation, using a null modem cable. I can't remember why I didn't buy this when it first came out - it's rather spiffing.







It's time to strap on the leather (oooer) and step into an odd-looking motorbike that requires

GRH # £7.99 Now I'm not really keen on driving games, but I have to admit I rather liked Combo Racer, the sidecar racing game from Gremlin. The and effects are better than average - for instance, as you enter a tunnel the engine noise

echoes around as you pass through. The graphics are OK, but the motion of the track could have been a little smoother. There is a two-player option which involves a friend acting as the guy on the back making sure you don't flip as you slam the bike round those tight corners.

There are eight tracks for you to race around and if that isn't enough, there's a built-in track editor so you can design



Combo Racer

in an attempt to restore the ecological balance insects. Only they kind of buggered up the

swarm of psychopathic killers, intent on destroying all life. Humanity's only hope is to create the bane of all swarms of psychopathic killers. Venus the Fly

trap - a robot designed to seek out and destroy the rogue insects

weapons to collect to help you on your merry way. These weapons There are lots of bonuses to collect, such as extra time and

Yet another good value for money game from GBH

Venus the Flytrap GBH = £7.99







Renegade THE HIT SQUAD . £7.99



This game seemed to take longer than average

The graphics are not even well drawn. They look not too dissimilar to those you find on a Spectrum The gameplay is, er, missing completely and I personally don't think it's worth £7.99.

The plot centres around the fact that you are on you way to meet

your girlfriend, but the route to her is not exactly free of trouble. You step off the train and set off on your way only to find every thug and villain in the entire universe has decided to congregate on the very There had to be one bad apple in the bunch, and they don't come

much worse than this. You could find better games written in Basic,





AMIGA BUDGET

ATARI ST BUDGET



good look.

Biffa's selections

This golf game first teed off in 1989 - you'll probably remember that it was called Greg Norman's

Timate Golf way back then. It was meant to be the most accurate golf sim-

slation yet, a golf game to seriously challenge the superlative Leaderboard, Features included practice, matchplay and strokeplay, and cou-

alled with the various ball effect variables such as weather and wind. It really was the golf same of that time. Unfortunately, Ultimate Golf hasn't matured with age - in fact it looks quite sad when compared to modern day golf

sames such as Microprose Golf, Graphically it's not bad, but it's not that playable. If you fancy a trip down Memory Lane and you're a bit short of the old wonga, then Ultimate Golf might be worth a

Ultimate Golf

GRH GOLD . 50 99



The world's greatest underwater agent is back, and this time he'll cost you a mere £7.99. What a bargain! You are a little fishy, the underwater kingdom's answer to

GBH = £7.99 You have twelve missions to complete. The first is to free the lobsters using keys that are dotted around the playing area. The game has wonderful graphics, stunning animation and great sound, and more importantly the playability is

There aren't really enough words to describe how good James Pond actually is - well there are, it's just that I haven't got enough space to write them all down. One of the greatest ames released in 1990 and it still hasn't lost any of its charac-

If you've got Robocod (the sequel to James Pond) and haven't got James Pond then I order you to go out and buy this immediately without any delay. A great game.



James Pond

You take on the role of Boots Barker in his perilous attempt to escape the

Voodoo Nightmare jungles of darkest Africa GRH # F7 99

The game is set in the 3D isomet-

ric mould. I have now read the instructions five times and I still can't work out what to do. All I know is that you have to find some magic pins that have pierced a voodoo doll.

How you get these pins I haven't a clue - I ran around for ages, couldn't find anything of interest and then turned the computer off. The only thing I did notice was that the jungle had some very dangerous as

The graphics aren't that bad, but the game itself is quite frustrating and involves a lot of aimless wandering are Overall, Voodoo Nightmare should only be bought if you're suf fering from budgetitis and simply have to have every single budget game out.





Sir Fred

ACTION SIXTEEN = £9.99



damsel (the lucky bugger). In doing so he

spite turned Fred into a vulnerable dwarf. In his quest to break the evil curse, Sir Fred must

The graphics in Sir Fred are quite amazing. There are wonderful backdrops, great anim tion and it all left me quite speechless. I can't seem to rememintro and some of the enemies are really quite cute, esp

the tiny gnome with a swinging mace. Sir Fred is an enjoyable little romp around and is well worth a look at. I liked it, and so will you unless you don't like







This highly desirable property located in the Chengdu mountains comes with a handy tank parked to the rear...

Excitement and adventure to take away

EART OF

DYNAMIX = £34.99 = 1 meg = Mouse = Out now

I's been a long time since my buck was swashed I can tell you. Yes indeed missus. In fact, I think it's safe to say that the last game that even made my swash feel remotely bucked ages and ages ago. So as you can imagine, my swash

and buckle were both feeling a little bit. them up. Yknow, get them swashing and bucking again. I watched all the Indiana Jones films. I even watched loads of those stupid black-and-white cliff-hanger Republic serials, but to no avail. My swash was all bucked out and my buck was swashless.

So it was a great boost to my alling adrenalin glands to receive Heart of China My swash and buckle perked right up. You see, Heart of China is set in the 1930s. And it's all about rescuing a damsel in distress from a ruthless warlord. And it's got ninias. And tanks, planes and trains. And all the characters are digitised from real life actors.

And for once, it's a game that's as good as it sounds. Swashbuckling and buckleswashing all over the place, I

It all starts when the ever-lovely

doing lots of great work for charidee, by fiendish and thoroughly booworthy warlord Li Deng, Kate's dad and allround beastly property baron, one Mr. Eugene Adolphous Lomax III, gets a bit narked by this and so decides to force "Lucky" Jake Masters to rescue her.

Jake's our hero, a down-on-his-luck fly boy, and he also owes Eugene loads of dosh. And just to make sure that Jake doesn't refuse this mission, Fair enough.

Thus, Jake finds himself scouring the streets and bars of Hong Kong for the last remaining ninja master, Zhao Chi. Only Chi can guide Jake to Li Deng's fortress, and besides, it's always handy to have a ninja close to hand in a

scrap. And here we must jump into Jake's shoes and find the ninia, rescue the dame, kill the bad guys and survive till the end credits.

The action is controlled in true graphic adventure-style, by using the mouse pointer to explore your surroundings and select various actions. And the interface used in Heart of China is excellent. Although at first glance it seems a bit daunting, and unfortunately the manual doesn't make it sound any

easier, you soon get the hang of it. The good thing about this all-new control system is that it allows you to check out each location just by moving interesting, and so you can immediately get an idea of what options are open to you. This is because as the pointer moves over something of note, the pointer changes to show you what you can do with it. So over a person it becomes a speech icon, over a door it becomes an exit sign and so on. It around wondering which things you

scenery. Which is rather nice isn't it? And for all the complete thickies out there in Complete Thickieland the manual rather helpfully contains a step by step guide to the first few. puzzles and tasks, including how to

This should help even the most clueless player get the hang of things and set off on their own, and of course for the clever-dicks, you can just try it without any help. And you deserve everything you get. Smarty

So, this Heart of China lark, what's it like, eh? Well, unless you're blind -





How has Chi managed to conceal a grappling hook in his ninja pyjamas? Trust me, you don't want to know...





Millio barman, give me several large flagons of your finest booze, please

CHIN

mouble reading this anyway - you'll already have noticed that there's a somewhere around here. And that think of this game. I like it, in case you

colourful backgrounds are populated with digitised actors, who have been retouched to they blend in with the backgrounds - even if Jake still bears an uncanny resemblance to Kurt Rus-

This inspired blending of real people

peeping tom...

no end to the all-important atmosphere. To add to the sheer glossiness of it all, a lot of the scenes are animated with people walking about and so on. which takes this from being your standard "clicking on a pretty picture" adventure to being an "interactive movie-type experience sort of thing". A

big thumbs up for the way the game Soundwise, you get plenty of oriental mood music, although sound effects are fairly thin on the ground. Ultimately, the music is just there to give

your ears something to do, and it helps to cement the atmosphere already created by the graphics. And let's face it, if

you did have loads of FX the game crawl, and nobody wants that, now do In the end though, it's the variety

that keeps you alwed. Even once vou've game. You'll have to go on to adventures in Istanbul, Katmandu and even on the Orient Express before your quest At least if the manual's to be

sequences including a tank simulation and a fist fight on top of a speeding train. Blimey. Thank God for the Save Game feature, eh?

Now, put on your serious hats while we try and find something to moan about (Quick head scratching session). OK the biggest grumble I can come up with is that the whole caboodle comes on a mammoth nine disks. Nine disks!

You can play it from floppy, but be prepared to swap until you're blue in the wrist. Hard drive installation is best as it speeds things right up, but then not everybody has a hard drive do they?

So, the price for such a huge game is that the box weighs a ton due to the



looks and plays like a rather wonderful dream. A definite 'must buy' for hard drive owners, and a worthwhile purchase for the more patient floppy drive users. Get out there and swash with your buckle until it drops off.

Daniel





know games know - W



Microprose

£34.99

GAMER

ELSPA Chart

month, five climbers, ten games fall and there is one Prix and it remains in pole

position.

A big shock this month was
Populous 2 falling an enor mous 18 places from number six to number 24. The reason plethora of new budget game: feed them after midnight, and It's disgraceful! Come on you

some decent games.

This even caused my excel-lent tip for the top, Another World, to not even enter the top 30. I believe it's hanging ound at the 40 mark, but it's still my tip for the number one

Good news for all you flight sim fans – A320 Airbus has landed the number six spot and our stewardess-loving news editor John Butters firmly predicts that it'll be num-ber one next month. Hmm, we According to several chart sources, Harlequin and Aban-

doned Places are doing well in and are almost certain to be in the top 30 next month.

That's all we have time for, but next month we'll be showing you how to make an egg rack out of a couple of yoghurt pots and a banana skin, and talking about what's going up and down in the world of

Amiga games Bye. See ya

1 == 1	Formula One Grand Prix
2 ** N	F16 Combat Pilot
3 ** NE	James Pond
4 == 11	First Division Manager
5 ** 9	Scooby Doo and Scrappy Doo
6 ** NE	A320 Airbus
7 ** 10	Jimmy White's Whirlwind Snooker
8 mm NE	Toyota Celica Rally
9 # 3	Birds of Prey
10 # 4	Robocop 3
11 # 2	WWF Wrestlemania
12 # 5	James Pond 2 - Robocod
13 ** N	Italia '90
14 ** 19	Wacky Races
15 # 12	New Zealand Story
16 ** NE	Operation Thunderbolt
17 ** N	Paperboy
18 ** NE	Giants of Europe
19 = 17	International Ninja Rabbits
20 ** 21	World Cricket
21 ** NE	Ghouls and Ghosts
22 ** NE	Ultimate Golf
23 = 23	Fantasy World Dizzy

Populous 2 24 # 6 25 ** NE Shadow of the Beast 26 ** NE Rainbow Islands

27 # 25 Batman - The Movie

28 ** NE Untouchables 29 # 24 Dizzy Collection

30 ** NE Populous

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t can't be easy being a vam-pire. Bad breath, pasty com-plexion, and you keep biting your tongue. And just think of how hard it must be to get a date. Have you ever tried chatting up a still when your ever keep a fowling.

Gormless bimbette [reading questions off cue card]: Number two, if you invited me round for lunch, what would we eat and

why?

Yampire: Er, well I'd probably
bite you on the neck and suck all
the blood out of your body, actually. [Audience laugh until their
tonsits bleed, Cilla grins sickeningly, LWT commission yet another
series, mass suicides ensue].

It just won't work will it? So
what can a lonely yamp do on a

It just won't work will in? 50 what can a londy vamp do on a weekend, eh? Welt, el? Drzeula seems to have got he right lota. The seems to have got he right lota pour lota pour

night, chomps the babes on the neck and turns them into the Brides of Dracula (dan dan diddly

marked by this spate of babe thiev-ery, and along comes Van Helsing. Van, or Transit to his friends, is

tunately, he's managed to scatter his vampire killing kit all across the village (pretty careless, I thought) and so he must find all his bits and pieces before he can assil fore:

So the race is on – Dracula try-ing to capture all the luscious young ladies in the village, and

young ladies in the 'uilage, and Transit' Van Helsing trying to remember where he's loft all his tools of the trade. Arcade adven-ture time, I guess. It's a two-player affair, where you each control one of the pro-tagonists. Now in principle this is a great idea, especially if you get to play Dracula, 'cos you get to chare buxom maidens and stuff.

chase buxom maidens and stuff. Even so, it's basically a run around and collect things game. And it's not a very good one either. This game first appeared on the,





cough, ST way back in 1991. And rather unfortunately for us, there's a quote from a certain sister maga-zine of ours, Atari ST User, on the box. A whopping 92 per cent it claims. Oh dear. claims. Oh dear.

Maybe it was radically different
on the ST, but if it was anything
at all like this then the reviewer
was either blind, or very, very

So, Brides of Oracula, prepare yourself for a lagging off of Olympic magnitude. First up, the ment is stitled, to trying to Jump over a moving enemy is pretty damn imposities. This desert help the gameplay any, and that's a pity to it in each off the trying to the trying the trying and that's a pity to it in each off the trying the trying

rorth you go, until one or you runs out of energy. Wowee. Unimaginative sound and fairly lame graphics are just the final nails in this game's coffin. Cute idea, but it's neither scary or idea, but it's neither scary or funny. They might have got away with it if the game had consisted of more than just going through the same screens over and over again, but as it is I don't think that this game's likely to rise from the dead too often. Ho ho ho, i'm a right joker me...

PLAYABILITY A great idea, but badly

implemented.



Get your baps out for the lads...

FLAIR = £25.99 = 1 meg = Joystick = Out now





aki Hubba hubbai Ocoga hanna well-proportioned beauty around three

levels of arcade fun. You may well remember Elvira's first computer game

appearance a couple of years ago and

you may also remember it was an

adventure role-playing game that

What did help the game to become

immensely popular was, errr, ummm, Elvira's large chest (I'm not a man to

beat around the bush). This important

factor, which sold the first game, is also

For all the hearty full-blooded males

out there it's good news, but for all you

feminists it's decidedly bad news. You

have to admit that if it wasn't for Elvira,

the first game would've more than likely

Larry for example - even way back in

the depths of time when Barbarian first

came out, Maria Whittaker's ample

Anyway, enough of this tittle tattle

chittle chattle, on with the review. Elvira

was asleep in her home when an

almighty storm blew up, rain lashed

down upon her house and lightning lit

bosoms made the game a top seller.

Sex sells games. Take Leisure Suit

played rather like Dungeon Master.

ahey, Elvira's back (and

front, open and this time

you get to control the

awaken even the dead and that is exactly what it did. Elvira woke with a start and at the

bottom of her bed was a ghostly figure dressed in a highly regal robe. To cut a long story short, this ghostly dude was apparently the King of Transylvania and he said that Elvira could have his castle. There is only one snag - our busty

buxom beauty has to conquer two hostile environments, Arctic Earth and Underworld of Fire and then conquer the castle itself Elvira - The Arcade Game is, you've

guessed it, a platform game. Elvira has to walk around collecting spells, runes and weapons to help her conquer the worlds. Also there are all manner of beasties trying to stop our heroine from completing her tasks. Despite having. erm, an ample chest, Elvira is really quite nimble - she can jump from platform to platform with the greatest of

Elvira can also use some spells to good effect. Some give her energy back, while others allow her to walk over hot molten lava and other such improbables

You encounter an ancient trader in each of the three worlds. The trader has the ability to trade a spell that you have collected for one that he has in his col-



lection. You can also ask him for information to help you solve the quest. The trader can be visited as many times as you like.

Time to wrap up the review, methinks. The first, well OK, the second thing you notice about Elvira is the graphics. They're amazing! One of the most impressive bits is the ice world - it actually snows. I know it doesn't sound good on paper, but you really have to see it to believe it. There is also a nice little intro featuring some digitised pics of the lady herself.

Soundwise, there is an average little tune and the sound effects are nothing to write home to mother about. The game plays alright, but sometimes you get beasties leaping out at you from nowhere and it can be a little frustrating. It's quite difficult, but you get nine lives to play around with. There is a puzzle aspect to the game, but most of these can be worked out easily.

If you are into large-chested, heavy metal-loving women then this game is definitely for you. For the rest of us lesser mortals, you're better off finding something else.

PLAYABILITY





Z h

hadowlands - a completely new and unique role playing experience. The story is based upon ancient

legend. A warrior prince, slaughtered on the battlefield of the Shadovlands, awakes to find that his spirit lives on and that he can control the minds and actions of his subjects. Seeking retribution, he chooses four loyal adventurers and guidest them back into the Shadowlands on a journey of discovery and

 The revolutionary new Photoscape TM lighting system casts atmospheric light and shadow over the gameworld.

shadow over the gameworld.

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grotesque and intelligent adversaries.

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RESENTS N'S FOOTBA

by getting a touchdown or cking a field goal. To score a down you have to get the

erback - the guy who bungs e ball and generally controls ay – can hand the ball to one of ing backs, who will try to o it as far as he can.

Now this sounds all fun and nes, but there is the small mat-of the defensive m. Their job is

ball. They can intercept the or claim it if it is fumbled. ut they can't steal it out of

After you have scored a touch-swn and gained six points, there an opportunity to kick a field-pal for an extra point. This stalls booting the ball over the

nce past the copy protection, time to select what type of

your favourite teams or you can start a playoff series where you choose your team and you play until you get knocked out or until you win the Superbowl.

can play on joystick or key-

During the game, you have to select plays. These determine

While you are playing there are some good sound effects like the 'Hup hup Hup' before the ball is in play and loads of bone-crunch-

ing tackle noises.

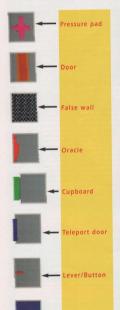
There are a couple of slight problems. The first one is that it's

and always seems as though the other team is much faster than

appointed about is the distinct lack of beautiful cheer-leaders. Oh well, you can't have it all. If you are a fan of American Football (at 1 am) then this probabll at 1 am) then this probable is 1 am) then this probable is 1 beautiful definitely be at the top of your shooping list. Don't forget - once you've bought the game, go round to your Meadiful expenses of human the probable of the probabl







Getting started and staying alive in Knightmare

For all you peeps who are struggling to get started in this DM clone here are some tips that I employ when playing the game. Being the thoroughly thoughtful person that I am, I've even included a partial map I did during the quest for the shield

If you haven't found the quest entrance yet (are you sure this is the game for you?) just find the stick and throw it at the tree who says I've lost my child

Hand to hand combat

Set up your party appropriately. I've seen some players with their Wizard at the front of the party while in combat, which is a sure way to send him to obvious. Make sure your stronger innembers are at the found, fight it—lead it to a room where you can run around it while hadding and fight it—lead it to a room where you can run around it while hadding you.

I set up my computer so that I have one hand on the numeric keypad for movement and the other hand on the mouse, which is positioned over the

on the spot without having to glance at the keypad, but once you have mas

Forget about the movement icons - they will slow you down in combat Most of the monsters are very slow, so you can easily outmanoeuvre them to you could always lead the monster back to a room which you can then lock

Environmental damage

Use your environment to your advantage. Lead monsters to doorways and then close the door on the suckers while hitting them. Also, some of the traps ou encounter can become quite devastating weapons for you to use.

Take the short hallway with a hole and a lever at either end. The oracle says don't play with fire, and when you pull the lever, a fireball is shot from the hole - perfect for luring monsters to and letting them follow you down the hal while you pull the lever to unleash the fireball onto them. Be careful not to get hit yourself by pulling the lever once they are dead, though

If you look at the map near this hallway, you will see a section of the wall is marked as false. Later on, when you are on the other side, you will find a button on a wall (see Figure I) which, when pressed, will remove that section and provide you with a shortcut to the fireball hall.

You will find this extremely useful later on because when you enter the sewer area, you will encounter quite a few monsters in groups of four. They can take a fair time to kill normally, so just entice them to follow you and show them your new-found fireball trick

Water

area you have to map and will lead to



character food of the charac-ter you wish to cast the heal spell on. To be able to heal the cleric, you must have a bottle in the other hand of the cleric, then cast one of the healing spells. The bottle will fill with the appropriate spell and the cleric can then drink from its

May 1992 GAMER 29

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omebody in this game hasn't quite got the right idea. Your average law breaker tends to steer clear of prisons in general. Criminals and prison cells. It's a bad combina-

But our Mr Big Baddle in this game has seen fit to break into a prison. Not out of prison like any normal, balanced public enemy, but into one. Alcatraz, strangely enough.

Lucky for him that Alcatraz was deserted or he would've looked a proper charlie. So now he's running his drug cartel from within the fortified walls. Obviously, this sort of disregard for common sense can't go unquestioned.

This being the case, some blokes in suits decide that some blokes in combat trousers should sneak into the prison and shoot the bad guy. Democracy, eh? The blokes in combat trousers, who are also lumbered with the rather crap

names of Fist and Bird, are then dumped in a dinghy and given a hearty shove in the general direction of Alca-

And when they finally drift ashore on Alcatraz Island, they find themselves armed only with nine throwing knives each. This is so they can infiltrate the prison without making too much noise. Unfortunately, as soon as any of the guards spot them, they let rip with guns, grenades and flame throwers, thus spoiling the surprise somewhat. Ho hum. Anyway, with all hell breaking loose,

our two heroes must battle their way to various buildings in the Alcatraz complex and either nick evidence or blow them up. These sections are played in 3D, rather than the horizontal scrolling of the rest of the game, presumably to add to the atmosphere. Alcatraz, it must be said, bears an almost uncanny resemblance to Hostages. This isn't surprising





insisted on showing

when you realise that Alcatraz is, to all intents and purposes, Hostages 2.

While this is undoubtedly a bit of a plus, seeing as how Hostages was and still is a stonking little game, it also brings to light the bad points in Alca

You see, Alcatraz looks a hell of a lot like all the different sections in Hostages, but played in a different order. You've got the left to right bit, the 3D walk-around-and-shoot-baddies bit, and the 'too bloody hard for its own good" abseiling bit

But whereas in Hostages the left to right bit was a pain in the rear end, in Alcatraz it's excellent. You can pick up a variety of weapons from downed quards and use them yourself. This, coupled with the screams and gunshots, makes this section quite a tasty little shoot-'em-up.

Its only real let downs are that the two player sprites are identical and you can only change weapons when you're hiding in the background, so you end up having to dodge behind doors while being shot to pieces, which is a bit of a chore in the middle of a fight. At the



The drug dealers turned Alcatraz into an all night discotheque

end of each scrolly bit there's one of those "important" buildings where you switch to 3D. And true to Sod's law, whereas this was the best bit of Hostages, in Alcatraz it's a bit of a let

All the meaty weapons you collected outside are useless indoors, and well, let's be honest, RoboCop 3 did this tons better. What should have been the best section just feels a bit flat I'm afraid.

I can't comment on the abselling bit as I've yet to find anybody who can actually do it. But it's probably like it was in Hostages - a tricky bit that you have to do to get to the next shooting match. As a whole, Akatraz is an improvement on Hostages. The simultaneous two-player option means that you can run around and shoot people with your mate and teamwork is absolutely essential to success

brilliant, and the 3D bits are not quite as good, but still fun. All in all, a reet groovy little blaster and one that should keep you happy on a wet weekend. Well worth a look



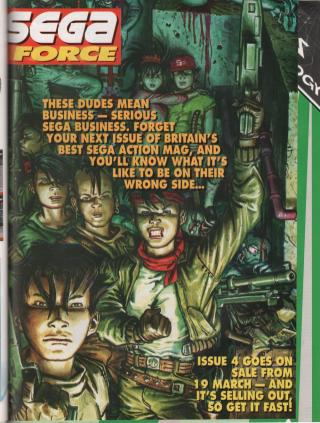
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The scrolly shooty bits are absolutely



Fred wished he'd booked into a better hotel...









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ACS oftware

rom the simplest public domain effort to the most sophisticated, semi-DTP high-end package. wordprocessors start with the assumption that you want type in documents, process them with the computer and then output them in an acceptable finished form.

The features you will require to help you do this vary according to how you wish to use the package - writing letters and constructing a novel are two very different tasks, and you should choose a program which reflects what you require and what you can afford.

This article consists of reviews of all the main packages, followed by a comprehensive table detailing the various features and capabilities of the programs reviewed. It will give you an overview of a very crowded market, and help you to decide exactly which program matches your needs, at your budget level.

Wordworth

If William Wordsworth was alive today. would he use an Amiga and a copy of Wordworth to pen his particular brand of prose? No, not if he had any sense. Or to quantify that, no, not unless he had a 2Mb Amiga, a hard drive, and as an optional extra, an accelerator card.

Wordworth is supplied on four disks and comes with a large and detailed manual. The program has to be installed to floppy or hard drive, so in the case of floppies, with the addition of a documents disk, that's five blank disks you need to start - unless you have a hard drive, which is recommended.

There's a hard drive install program supplied that quickly sets the system up for use. Wordworth works in a similar manner to most Workbench 2-compliant applications, so the scroll bars on its windows have gadgets on the bottom rather than at the top and bottom.

The display can either be medium or high resolution, if you have a flicker fixer for the latter option, and presents a central writing area with pull-down menus along the top and the most commonly accessed items such as justification, line spacing, typeface and colour control as icons down the side.

This is wysiwyg, which is useful considering the different types of font that Wordworth can use. There are Workbench fonts, four enhanced Wordworth fonts, plus standard fonts, Colourfonts and Compugraphics outline fonts - if you have Workbench 2. That's a hell of a lot of different types.

The impressive thing is you can mix and match them onscreen, however you choose. Add a picture import facility, where you can resize the image, and have text flow around either the whole block, or an object, and you have an almost DTP approach to wordprocessing. There is a drawback to this wanton use

of style, and that's memory. You need



one meg to start with, but that's only good for about 1,000 words, especially if you use more than one typeface. You can have 120k of Chip RAM left, but there's little free Fast RAM, and it runs out fairly quickly. To include graphics you'll need at least 1.5 to 2Mb of RAM. Workbench is closed automatically to save memory, but if you have some to spare there's an option to open it again. One annoying

aspect of the program is the flickery screen and slow updating. Surprisingly there's a quick screen option

which eliminates virtually all of this, and the text scrolling speed remains quick, making editing a pleasure. Besides the excellent font and printer

support, Wordworth has a couple of other strong points. There's a 110,000 word English dictionary and a 30,000 word thesaurus courtesy of Collins, very good file support for other WPs and applications (you can save or read ProText or WordPerfect files for example). and up to 100 files can be open - if you

have the memory - at once. Wordworth is a very strong, flexible and powerful graphical wordprocessor. It excels in a number of areas, and is weak in none, making it a leading contender in the WP market.

Protext

Version 5.5 of Protext has gradually evolved from a PC, blank edit screen and command line text editor that was very fast, to today's all-new version, which is far more user friendly, vet retains the hnute force text-crunching aspects

To say the old Protext was not easy to use is an understatement. The latest ver-



| Spell Check As You Tope I undered losely as a cloud, searching for the perfect have that had alongs choled as before, and found it, in choosite. I andered linely at a clost, surching for the perfect layers that had alongs closed so before, and found it, in choosing. Colore Special hast in fine and women, in the post of heing varieties of lanes. The is the new mobile from let fit all be equivalent by TEN

Software

Scribble

Is there anyone in Amiga land who has never seen Scribble. with its flowery icon and - let's be honest - rather uninspiring interface? Scribble was one of the very first WPs for the Amiga, and even in its latest incarnation, that age shows.

Still, you can open and edit four files at once and it does contain enough minimum features to satisfy the infrequent prose merchant. No obvious clues as to what's going on distract the eye around the bland Scribble editing screen - all functions have to be pulled down from the menu-

So it's cheapish, but Scribble does boast spell checking, a word count, cut/copy and paste for shuffling blocks of text around in an easy manner, and user-defined line spacing.

Formatting text options are fairly rudimentary, mind you. It's either right, justified or nothing, and there are no headers or footers. It isn't wysiwyg, but there is a preview mode which shows the file with the formatting, line spacing and text effect



Scribble's rother uninspiring interface

options included, so there's little chance of being surprised by

Scribble isn't complex, but it does contain just enough of everything to make life easy for the casual letter writer. If that's all you need then why bother paying over a £100 for features you'll never use?

sion, supplied on four disks and with one large manual and three small ones, has done much to soften its image, yet certain aspects still require a trip to the help file or

For a start, the editing window is resizeable and the program runs under Workbench. There are a host of features accessible from the pull-down menus, so many in fact that they almost reach the bottom of the screen. Colours are not. however, changeable, which means you are stuck with any combination of the standard four WB colours.

When you first install Protext on either floppies or hard drive, a configuration program is run offering the choice to assign icons to files (generally a good idea). change the colours, and install a printer from a large range of common models. At last a driver for the Citizen Swift 24 is included as well. The config program can be run again on its own to change these defaults

Back on the editing front Protext is fast, and made quicker by the ability to jump the cursor around the page and the document. A rather strange feature is the ability to automatically put line numbers in your text, presumably so that you can save Ascii as a listing for use in a programming lanquage.

While editing is now much friendlier, and at last the word count and the option to select new printer drivers are on menus. there's still one noticeable omission. If you want a spell of double line spacing you

excellencet v2.88 @ Copyright 1987-98 Micro-Systems Software, In Macro Language Changes

You may now insert the current time or date into a document as text, which excellence! does not update. Insert the Time or Date marker into the document window and highlight it with the mouse. Now insert it into the Glossary and assign the glossary entry as a macro key. From now on, each time you press the key to insert the glossary entry into the document excellencel inserts the time or date as text. This means the time or date is now fixed in the document and will not change.

The excellence! macro language has been extended

Clear and aleasing font with excellence!

need to access the command line and enter the correct code. This is less painful. than before for the simple reason that everything that isn't on the menus has its command explained on the help menu. Still, even with improved disk access

you can only load and save Protext or Ascii files, unlike Wordworth, and there is no support for incorporating graphics, except rudimentary lines. At least you don't get memory warnings half-way through an article though.

Protext also supports a few typefaces

(Prestige, Helvetica, Courier and Times) and a range of styles to choose from. including double height text, but otherwise it's paltry compared to Wordworth Only the basic styles show up onscreen as well since this is not wyshwog.

Where Protext does outstrip Wordworth is in its comprehensive mail merge facilities and generally more advanced versions of the same features that both WPs share. I was especially impressed by the table of contents generation, data tables and ability to calculate

expressions in the text. It was also nice to see widow control, which stops the odd word being left at the top of a page or column. Pretty sophisticated stuff. Even the word count can analyse the text, and you can count words in a marked block on The main dictionary is markedly smaller

than that supplied with Wordworth - only 70 000 words compared to 110 000 - but its legal and medical supplement wins with 40 000 words to 26 000. There are also quick dictionaries of 5,000 and 500 words for when memory is at a premium. Protext was a naked brute text cruncher. Now it's almost fully clothed, but underneath the trappings there still beats a mean text word pro'. The presentation still looks crude in places - that's the PC heritage for you - so you can't really recommend it to people as their first WP. Neither is it suited for any type of graphi-

cal work. On the other hand, if you need a

fast and efficient WP, mail merge or advanced processing features, then this latest version of Protext is way out in front. excellence!

The first of the American power user WPs got off to a flying start with a self assembly manual, no less than 57 pages of manual corrections (f) and a hard drive installation program that tries to copy the program to the wrong place. Then when running from HD it asks for the one of the original disks

Oh well, once underway excellence! looks, if anything, like a cut-down Wordworth or a tarted up KindWords. It onens its own screen, though Workhench is still accessible, and the editing screen has icons for the most commonly used commands (line spacing and so on) and ruler and paper markers should they be required. Everything else drops down from menus. A nice feature is that you can customise the colour scheme of your 8-colour environment better than any of the other packages.

Once I'd set it up to look nice, the second pleasant surprise was the WPs own fonts. Naturally I had access to all the other fonts from these packages, because they are all installed in your Fonts library, but excellencel's own fonts were lovely. Ordinary 12-point text was nice and large, rounded, and a delight to read, as opposed to Wordworth's spidery fonts and the infernal engine approach of Protext. These fonts are PostScript, too, so inevitably you can print to a PostScript printer, or - and how handy this is - write a PostScript file to a disk. The vertical scrolling through the text

wasn't very good, though. It's so bad, in fact, that I always went for the mouse and used the scroll bars instead. However, the screen is updated quicker than Wordworth, and there's less of a flickery effect. The window resizing option is very

scribblings





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Pen Pai's helpful and friendly interface

sluggish. You can open more than one file at a time, but memory starts to become scarce when you do. And when it runs out you suddenly find that without warning you can't do things like resize windows, or even save one of those files.

If you close one and free up enough memory you can then save the other one, but obviously this unheralded problem – the program doesn't tell you there is a problem – means you need at least 2Mb of RAM if you're going to edited a couple of files at once, especially if you use graphics.

While the features of excellence! put

it firmly in the mid to upper performance category, it does have a couple of advanced features such as Table of Contents entries and a mathematical expression calculator – and some features which are less than useful. The spell checking, which does boast

continuous checking, lacks sophistication, and the ability to import. IFF pictures is marred by the ability to only display up to eight colours in a document. How many eight-colour DPaint pictures do you draw? In fairness, the idea is to provide illustrations rather than to be a DTP package, which it is far from.

The spell checker has a 140,000 dic-

tionary, including all manner of supplements for words you or I will never use, but it is American. A handy feature for the semi-literate is a grammar checking, which is both mildly useful and mildly amusing at times.

A very strange feature of excellencel is that while it can write a form of text to disk, it does not read Acit properly, but it reads Protext files perfectly! It can read .IFF text though, because that's the format an ordinary Save command stores an excellence! file in.

Despite some grey areas, especially in setting the thing up, and a few faults, there is much to commend excellencel, especially to the more adventurous scribe who wishes to have both a decent writing environment and be able to drop illustrations into not only the main text, but the header/footers as well.

Pen Pal

There are some pieces of software that you loathe the moment you encounter them, and then there are some, such as Pen Pal, that you cannot help but like. I was endeared to the product when I

saw the box and then the manual.

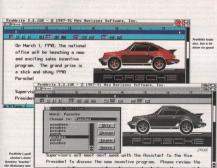
Worse still, the program was even
nice when the two-disk set rapidly and
efficiently installed and we were off and
scribing.

Advanced picture handling abilities, such as setting colour zero to transparent so that you can flow text around it, and specifying just how the text flows around your picture, make for very attractive documents, sepscially when you can draw colour-filled or empty boxes, and use lines, to highlight or to simply dress up documents.

However, why is it that the two programs that can make the best use of pictures - this and Wordworth - are the same two that have the least free memory? You can incorporate any kind of .IFF image in Pen Pal (and resize the things) – even a HAM pic - but even a lo-res 32-colour picture. requires an astonishing 100k to load into the document.

Thankfully, Pen Pal tells you both how much memory you need to load a pic, and how much you have left. On a one meg Amiga there's only 59k available. It even tells you what the various icons down the side of the screen do, by attaching an explanation tag to the cursor when it mowes over them.

This helpful attitude pervades the product, right from the very attractive writing window, with rules, icons and menus, down to its spell checker, for-





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Special features chart

Wordworth

Protext 5.5 Scribble excellence! Pen Pal

matting ontions and database Yes, here's why the damn thing gobbles so much memory there's a database built in.

Ruying a wordnessessor just because it has a database built in is rather dim. but when the WP is as good as Pen Pal it's certainly an attractive extra. Though the package may give a flighty impression, it still packs some powerful punches, such as mail merge.

This is a medium range wordprocessor, that's a dab hand at graphics, and falls over itself to be helpful. If you ever needed a WP to use in an educational environment, this one would be the winner by a mile.

ProWrite

Ah. I do love a box stuffed full with disks, nine in this particular case. Before you scratch ProWrite from your considerations due to bloatedness, there aren't supposed to that many they've been showed in for the henefit of reviewers - as if having four separate copies of the program disk makes life any eas-

It has a look and feel similar to Wordworth, as both follow the new Workbench 2 conventions of oun-metal blue colour schemes and gadgets on the scroll hars at the end of the har rather than both ends.

Now you expect some dubious boasts from software houses, but for ProWrite to be badged as fast verges on the ridiculous. You can type very quickly, but if you want to edit somewhere else in the text, which is after all why you use a WP rather than a type-

writer, it's slow. If there's a picture in your document then it stops while it works out what the image looks like, every time you scroll past it.

The trouble with WPs these days is that a lot of them have similar features. Yeah, we've got macros, .IFF imports, word counts, complete justification, icons for functions, mail merge. Sure, ProWrite has all of these, except it doesn't do anything any better than any other wordprocessor, and half the time it is a lot worse.

In its favour, the text display is nice and clear, there are up to ten macros for your favourite command combinations. There is also a speech option. However, the advantages stop there, so now you can discard ProWrite from your considerations, because it simply doesn't live up to its high performance hype.

Memory required	1Mb	1Mb	512k	1Mb	1Mb	1Mb
Hard drive install?	Yes	Yes	Yes	Yes	Yes	Difficult
Max open files	100	1	4	2	4	10
wysiwyg	Yes	No	No	Yes	Yes	Yes
Ease of use	Very good	Good	Very good	Good	Excellent	Good
Text scroll speed	Quick	Fast	Medium	Slow	Slaw	Slow
Read Ascii?	Yes	Yes	No	No	Yes	Yes
Read IFF text?	Yes	No	No	No	No	No
Read other WPs text?	Protext. Kindwords.	No	No	Protext	No	No
NEGO OOKI WY SKALI	WordPerfect, ProWrite	100	110	710000	100	
lustification	All	All	Full only	All	All	All
Case Conversion	Yes	Yes	No	No	No	Yes
Widow control	No	Yes	No	No	No	No
Page Preview	Yes	Yes	Yes	No	Yes	No
Graphics	Yes	Lines	No	Yes	Yes	Yes
Flow around outlines	Yes	n/a	n/a	No	Yes	No
Word Count	Yes	Yes	Yes	Yes	Yes	Yes
Thesaurus:	Yes	Yes	No	Yes	No	Yes
Headers & footnotes	Yes	Yes	No	Yes	Yes	Yes
PostScript driver	Yes	No	No	Yes	No	No
Printer drivers:	400	49	System	System	System	System
Calculations	No.	Yes	No	Yes	No	Yes
Sorting	No	No	No	No	No	Yes
Data tables	No	Yes	No	No	No	No
Automated contents	No	Yes	No	Yes	No	No
Columns	User-defined	User	1	1 to 4	1	1
Go to Page	Yes	Yes	No	Yes	Yes	Yes
Online help	Yes	Yes	No	No	Yes	Yes
Free memory check	Yes	Yes	No	Yes	Yes	Yes
Undo Delete	Yes	Yes	No	Yes	Yes	Yes
ONDO Delete	SHIP OF THE PARTY OF	103	140	10		
Text save:						
– Ascii	Yes	Yes	No	No	Yes	Yes
- IFF Text	Yes	No	No	Yes (see text)	No	No
- ProText, Kindwords	No	No	No	No	No	ProWrite, WordPerfect
Spelling checker:						
- Language	English	English	English	American	English	English
- Vocabulary (wds)	110,000	70,000	?	140,000	105,000	100,000
- Supplements:	26,000 words	40,000 words	None	incl	User	User

Summing up Is there one clear winner from this pile

of processors? As ever, it largely depends on what you want from your WP. Protext v5.5 is the most advanced and powerful, and in its latest version, not too painful to get to grips with. Wordworth isn't far behind, but for

those heavy duty jobs - especially if you need mail merge - Protext rivals top range PC and Mac product. As I said, Wordworth isn't far behind, has a much friendlier interface, and lets you incorporate pictures

The undemanding letter writer seeking a cheap and cheerful package should either consider the old stages Scribble or the more expensive Pen Pal. If you're intending to produce documents that contain artwork, and you

worth a stab. For pure pleasure, the Pen Pal writing

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Wordworth	£129.99	Digita International	0395 270273
Protext v5.5	£152.75	Arnor Ltd	0733 68909
Scribble	£44.95	HB Marketing	0753 686000
Excellence	£99.95	Silica Sysems	081-309 1111
Pen Pal	£79.95	Silica Systems	081-309 1111
ProWrite	£89	Silica Systems	081-309 1111

need to print PostScript files to disk, or if you want a writing environment which offers excellent fonts and don't mind adventure, then excellencel is

environment is the best. It's just so nice! It also has an integrated database should you require one. If you don't need advanced features, and you do need to be shown the ropes, or simply want a moderate range WP, Pen Pal comes highly recommended. Bear in mind that to use Wordworth, Pen Pal and excellence! you need at least 1.5Mb of RAM - 1Mb simply doesn't stretch far enough when you use artwork.

ProWrite

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APD137. Tile Trial Good tile game APD132. Pair Critis. Very good APTIME Proit Machine-For the addis-AMERICA, Carbon / Prestone, Both cond APD178 Mestermind / Paintp-Good APD182/3- Pixic Kingdom, Very good APD/14 Blackjack Trainer Superb APDUS Silver Barr & The Enemy

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programme and full documentation, 512k LPD69- Magical Mix-up by Daisy Software, Very addictive jigsaw type game, you choose how many pieces you wish to cut the picture into, from 6 to 100. 512k

All Deja Vu products listed are fully A500 plus compatible !



110

ectour

Power LOGO

Edi ib Software

Go into any school's information technolony department and you're bound to trip over a turtle. No, not the kind that should be kept in the biology department, but the type that's mentioned in the same breath as the word LOGO. Yes, the little mechanical buggies that

use a pen to scurry around and draw pictures with - either on the floor or on the

LOGO is the programming language that is used almost exclusively in schools as

a first step to teaching the principles of good programming in other languages. Some critics say that that's all it's good for and that it should stay firmly in the classroom Others say that LOGO has a lot to offer outside the classroom. One of guy named Gars Teachout - it's not a made-up name, hon-



windows to be controlled from the menus.

There is a wealth of inexpensive software out there, but where do you begin to find it? Steve Williams sticks up a few signposts

for you to

follow Power LOGO in action I was

that LOGO wasn't particularly

I have to admit that I have changed my point of view now - Power LOCO is indeed a step up from the original implementation.

one of those cynics who thought

there's no need to retrace your steps to reread certain information. If you get lost there's always a button present that will take you back to the main

on the guide refers mainly to the Amiga 500 and specifically to the 1.3 release of Workbench and Kickstart Since this is what the vast major ity of users currently have. Edilib has give

Most of the material

little attention to earlier or later versions The pleasing news is that now Workbench 2 has arrived on our shores. Edilib plans to make it the subject of the next release of the AmigaGuide.



Most commercial software can be used from it.

Workbench or CLI? The pros and com discussed

Gary has been enhancing LOGO on the Amiga and has turned it into a version known as Power LOGO, an experimental programming language based on Lisp and LOGO. It is versatile, highly interactive, organises programs as collections of procedures, and includes lists as first-class data objects. With only a few exceptions. Power

LOGO is highly compatible with

The interface has been provided to

as well as the screen resolution and num-

The disk includes an interface providing

a custom screen and menu controls to

make its use easier for beginners. There are

also some examples and a demo, which

will show how to use Power LOGO's multiple facilities, including fonts, palette, win-

dows and speech facilities. Up until I saw

make Power

LOGO easy for the

novice to use. It

produces a custom

eight-colour screen.

already set up with

a turtle, where the

beginner can have

a swipe at the basic

turtle graphic com-

mands. It also

allows the size of

the text/graphic

traditional LOGO.

ber of colours.

Hard Disks The CLI The Shell

AnigaBOS	Graphics	VIDEO	Sound	Comms
Operating System	Languages	Emulation	D.T.P.	PD
Quick	Index		Tutorial	

Amiga Guide

EdLib Software

The AmigaGuide is a splendid tutorial for new and intermediate users. Written using Gold Disk's HyperBook, it provides pages and pages of colourfully presented, useful information on all the aspects of the Amiga that the new, and the not so new, user will find invaluable

The HyperBook presentation makes swapping between information screens fun, because you are never sure what special effect is going to be used to make the transition. The pages are cross-indexed so

Screamin' Miggy

Them!

Screamin Miggy 001 is the first of a series of Amiga sound samples disks by Them! Productions, for use with the range of Protracker, Noisetracker and Soundtracker music editors (Protracker v1.18 recommended). Them! are going to try to produce sample disks for the growing Protracker user base, as well as promoting the Amina as the ultimate home-based music creation device. Screamin' Miggy

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Ami-Check does everything possible to keep track of your cash except fill in your cheque stubs

Ami-Check 2.0

Amiganuts United

In the current recession, most of us are finding money tight. Anything that can help you monitor the movement of your finances has got to be classed as useful. Amiganuts have dug up such a program.

Ami-Check 2.0 is a simple to use, intuitive, chequebook program for the

niga which only runs under Workbench 2.0x. It allows you to note information out your cheques in a very straightforward manner, displaying a running bal-

The program also lets you clear and reconcile your chequebook, begin new The program also lets you clear and reconcile your chequebook, begin new registers with outstanding or selected entries from your cheque-book to your printer, or save them to a disk file as a standard Audi code for use in all wordprocessing or deaktop publishing ni-Check has a unique feature called Flow-Tracker which summarises you

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out setting up accounts.
sere is a calculator with memory functions built in that can transfer figures
to the Anni-Check register. It's essentially a 13 position basic calculator,
tioning the same way almost all other calculators. The program will run dly, simple to use, and intuitive way

001 contains more than 150 percussion sounds, mostly sampled direct from CD. Other disks are currently in production, nacked with speech, instruments, chords and effects, and complete modules can be obtained from Them! for as little as £1.25 - that's including the post and packaging.

I wish Them! luck. The quality and quantity of the samples makes this first disk a valuable addition to my sequencing programs. I hope, they put together the other disks pretty quickly - I'm looking forward to adding them to my personal collection.

PDO 14

George Thompson Services PDO14 contains an interesting cocktail of programs that range from some slick games through to some deeply useful utili-

There's Defender, a version of the original arcade game; Textra, a neat little text editor; Degrader, which tries to "degrade"

ties.

your system so incompatible programs will work on your upgraded machine. You can also use it to boot off floopy drives other than DFO: or force your machine to PAL or

The highlight for me was the discovery of a program called MultiDos. This one really does rate a serious mention.

For a long time now Amiga to PC file transfer has been dominated by a program known as MessyDos, as far as shareware is concerned at least.

The utility proved so fashionable that the shareware version ceased development so that a bigger and better (and less buggy) commercial product could be put together and launched as competition to rival commercial packages CrossDos and Dos-2-Dos.

Casual users found MessyDos guite adequate for their needs. More demanding users, however, had difficulties. Some had trouble reading MessyDos-formatted disks on their PCs, others discovered that MessyDos-formatted disks would unexpectedly corrupt while transferring files on

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even a calculator to help you figure it out has another trick up its sleeve - the ability

to format dirke

The MultiDos PCFormat command is as simple to use as the AmigaDOS Format

command - in fact its syntax is almost exactly the same except for the addition of a few more options. PCFormat knows how to format a PC disk by reading the "PCFormat.Spc" con-

figuration file from the S: directory. As supplied, this is set up to format standard 80 track, 720k, 3.5in PC floppies, but if you are the adventurous sort there is nothing to stop you changing the values in the configuration file to create a format of your own invention.

I need to be able to transfer Amiga files onto a PC disk and from there on to an Amstrad CPC6128 3in disk using another file transfer program called MFU. If I used a 3. Sin disk that had been formatted in a nucker PC everything was fine - MFU would clunk along quite happily and do the job. If I tried the same thing using a MessyDos-formatted disk, MFU would not recognise it as a PC disk.

My MFU file transfer program recognises MultiDos-formatted 3.5in disks as true IBM PC-formatted disks. So it gave me great satisfaction after testing MultiDos and finding it 100 per cent dependable (so far), to drop my copy of MessyDos in the waste-basket.

The problems arise when only certain members of the phosphor dot community & cited. This means that their neighbours set much more excited about being hi It was sreat fun and it literally kept the kids amused for hour at a time. B The same thing happens with nonitors if they are left with the same image bu So what can be done to prevent wearing out your screen too quickly? Well you back on again would shorten its life even more. What would be useful would be to have a program running in the background thile, without turning the rest of the menitor off.

TextPlus is a budget wordprocessor that boasts many features seen in packages a hundred times more expensive

to them. I don't doubt that all these prob-

lems were part of what encouraged Norwegian Kjell Didriksen to create

MultiDos is easy to use and easy to

install. Unlike MessyDos, MultiDos doesn't

require you to add an entry to the

"DFVS:mountlist" file, and thus doesn't

need mounting by issuing a Mount com-

PCMountAll - which when issued from a command line turns all your Amiga 3.5in

drives into PC drives, named MD0:, MD1:.

and so on, determined by how many

floorsy drives you have fitted. After issuing

the PCMountAll command, you can't read

Amiga disks in any of your floppy drives -

they are "stolen" by MultiDos for reading

You still have the DFx: devices, so DF0:

can be used instead of MD0:. An opposite

command. PCKillAll. reverses the drives

back into Amiga ones. Apart from being

able to read and write PC disks, MultiDos

and writing PC disks only

A new command is provided -

MultiDos 1.12

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- LATE DISK

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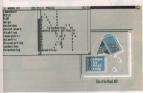
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PD and Shareware



ne words in the left-hand window are hidden in among the letters in the right-hand window...

TBag Disk 60 **Amiganuts United**

The 60th Tampa Bay Amiga Group's Disk of the Month has arrived on my desk and as always there's an interesting mixture of programs, three of which caught my eve Shadowmaker is a specialised utility for those of you who are heavily into desktop video. If you produce video titles or any type

of video text generation then Shadowmaker could be just what you are looking for The program will save you having to use Deluxe Paint in order to create shadows for your letters. It can produce professional

anti-aliased font generation across all the packages you use for your production work Its Canadian author, Stephen Lebans, originally wrote the program as a commercial venture. Shadowmaker is a slightly handi

capped version of the original, in that the font save size is restricted to 39 points and under and you can load any font up to 99 points for preview mode. Otherwise, all of Shadowmaker's functions are enabled, making this almost a ' ampa

complete and fully working program. It has four gadgets that are used to select the type of shadow you want, eight gadgets for selection of the direction and displacement of the light

source and two gadgets to select the depth of the shadow. Having adjusted the shadows to your satisfaction, it's a simple click on the Save button and the font is ready to load into your video production package It doesn't stop there - Stephen Lebans is currently working on a new version for release into the public domain. This version will boast an impressive list of

dow so it fills the whole of the Workbench screen

special effects including perspective, mirroring and rotation, the ability to load any font into your paint program for retouching and enhancing, professional video font sets, hand-crafted bitmaps for video production, text animation, and the ability to alter the inter-character/kern spacing from within your favourite Paint program.

The next program on T-BAG 60 that made me smile was OneKey, an input handler written by Commodore's Carolyn

Scheppner for users who can only press one keyboard key at a time. OneKey gathers separately typed qualifier keys - Shift, Alt, Ctrl, L-Amiga, and R-Amiga - and applies them to the next non-qualifier key that is typed. This means that once OneKey is running. Shift followed by a lower case t will produce an upper case T. A very handy utility

The best fun on T-BAG 60 is probably Wordsearch Generator, a computerised, erm, wordsearch generator that can produce puzzle grid sizes of anything up to 1,000 by 1,000 characters, using up to 50 words. Word orientation can be set in any of the eight primary directions and the puzzle can be rotated or flipped. Wordsearch Generator has a Spartan but functional user interface and can send the word list, key and puzzle to disk or printer. The Workbench 2.0 system default font is supported by the puzzle win-

It works by generating a first placement and then moving through the puzzle successively until it finds a place where the word will fit. Once a place is found it goes on to the next word. If a fit cannot be made, the preceding word is moved to another place and if it can't find a place to fit itself the program goes back to the word before it.

So if you set it up with a really complex puzzle, the program seems to take forever, but eventually it does complete the puzzle Because forever is a long time the author, Craig Lever, has thoughtfully added a requester to abort the function. Setting up the wordsearch generator is simplicity itself. Type a list of words for encryption into the wordlist window - hitting

Return pushes the cursor down to the next line ready to enter another word. The scroll bar at the side of the window lets you change the view of the word list. If you need to edit an entry, just click where you want to change and use the delete or backspace. The Puzzle Window is where the last generated puzzle is displayed. If the puzzle is larger than the window the scroll bars at the bottom and right side can be used to scroll about. If you want to be really silly just for the hell of it, you can resize the puzzle win-

isabling centric

Disk of the Month \$50

and there they are when the

Text Plus v3.0

Crazy Joe's

What's the difference between a Citröen 2CV and a Merc? Well, in terms of func-

tionality not a lot. Both will do the job of getting you from A to 8 that they are primarily designed to do. The difference arises in their price tags and

their performance The same logic applies to wordprocessors. At the top of the range you have WPs like Protext, Wordworth, ProWrite and excellence! All are very fine, but they cost a lot. At the other end of the scale you have WPs that are in the public domain. While they might not have the finesse of some of the top of the range WPs they have the advantage of being able to do the same basic job without

costing the earth

TextPlus is one such program. It boasts multiple windows, footnotes, serial letters, an ARexx port with 120 commands, ANSI compatibility, the ability to load files counched by PowerPacker, mapping of function keys, a menu for external applications or macros, powerful block operations and automatic saving in time

intervals. The block operations Mark, Copy, Delete, and Delete Mark can be directly executed using the mouse. There's a backup-mode to prevent files being overwritten, multitasking, and the cursor can be positioned onscreen by clicking the

That's a pretty damned impressive list of features considering the price. OK, so it doesn't have a spelling checker, but you can get one of those from the public domain as well and still have change left from a fiver. What more could you ask?

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Please don't enclose saes as Ezra just hasn't got enough paper to reply personally. He might also have to orten your letters, so don't be offended if you get the chop

Desperate plea

I've been meaning to write this letter for over a year, so (as they say in Lemmingsville) "let's go!" I'll start with the obligatory congratulations on the

best Amiga magazine going, I'm proud to say I own every copy and I've just renewed my subscription. There! That's the creepy bit over, on with the letter. First of all could you run an article on sprites in C particularly Vsprites? Are there any good books on the

subject? Secondly, why hasn't anyone reviewed Mech Force/Battle Mech/Mech Battle by Ralph Reed? I have two different versions of the PD game and, after sending my \$25 (that was fun - have you ever tried getting a five dollar note from NatWest?) a full copy top. It's

I'm a bit concerned that Mech Force, which is the full version, seems to be available as PD, is it the full game

where I can get a hold of Little Computer People? It was released on the Mastertronic label for £5 and I've been trying to find a copy for four years or so. It's beginning to turn into an obsession! If anyone is willing to sell their copy. I'll happily buy it.

Ion Hodgetts, Wigan

If you keep an eye on our Programming Almanac column, Margaret may be covering sprites at some time in the future, but I can't quarantee it. For books on C programming, you could contact Computer Manuals (021-706 6000) who stock a wide range of books, or try Bruce Smith Books (0727 41243) with an eye to purchasing their Masterina Amiga C

As for your PD concerns, I really haven't a clue whether or not some unscrupulous PD libraries are distributing the full shareware version. You could always phone the PD company concerned and ask them for details. Perhaps the Mech Force they do isn't the full game, or maybe the author has released it to them.

We haven't had the program in our PD section recently because Mech Force has been around for a long time now. and we try to stick to the latest releases. Sorry! Your last desperate plea for a copy of Little Computer People sounds like one of two things. It's either an admission of a total lack of taste in software (I mean have you ever actually played the game?) or it's a toilor-made Amiga Computing Classifieds ad. Send an ad for our new Classifieds column and I'm sure one of our readers will be overloved to sell you their conv

CDTV delights

I'm writing to say how much I enjoy using my CDTV, and think other readers should know how pleasurable the machine can be.

For instance when you're working on DPaint IV, making music with OctaMed, or producing a multimedia presentation - in fact anything other than playing a game - you can do some neat extra things, Just slot a CD into the caddy, put it in the CDTV and press play to

listen to Public Enemy while working on your creation. Plus if you have MediaShow, you can have music playing straight from CD when recording to video instead of having to compose a tune in Sonix, which is a

rubbish program in any case. Just thought you'd like to

Mr Angry versus Beginners



excellent.

letter in issue 46. I would it I didn't realise that the Prize Letter award is now being given to prize prats! If anyone who has owned

an Amiga since 1988 and hasn't bothered to learn how to make a disk bootable and alter the startup-sequence can then go on to say he'd like our magazine to run a "how to do it" article on the subject for the umpteenth time, then it's high time he swapped his machine for a

I have owned three Amigas since 1987 and have been a reader/subscriber to Amigo Computing since day one. I realise that more new Amiga owners are reading the mag, especially after the Christmas period, but it seems to me that every year, starting with the February issue, we are repeating another boring year of how to do this, that, and a bit of the other

New users have to start somewhere, and I don't knock them or the excellent articles you produce for them, but to award a prize letter to someone who has never bothered to read a beginners' series because it's too technical, well that's the pits. I have never had reason or inclination to voice my opinion through the letters pages of a magazine before, but Mr Kostryke's letter really astounded me. Graham Woodcock, Barnsley

Phew! That was a proper bit of solven-venting and no mistake. I take the point about the repetitive nature of advice

on AmigaDOS, but there's not a lot we can do about it. It's the job of a magazine like Amiga Computing to cater for all of it's readers, especially the new ones who may be feeling a bit lost and who could either give up the more serious side of the Amiga if we don't support them or, even worse, stop reading the mag altogether.

We go back over the same around every year because. as you point out, we gain a lot more readers every year. Our circulation increased by a massive 41% last year, making Amiga Computing officially Europe's fastest growing

In order to support and retain these new readers, we are running a new beginners' series, and we'll continue to run it as long as we receive letters by the sack-load from people like the much berated Mr Kostryke.

As a consolation. I've decided to award you this month's prize as your letter could have come from Mr Angry himself. Now could you write to us with your full address?

Ian Harper, Northampton Hmm - not boasting to all our non-CDTV owning readers,

CDTV is for video and multimedia projects, but only if you can afford the £449 price tag. Perhaps the Amiga external CDTV-compatible ROM drive will be the introduction many of our readers have

been waiting for to the world of CDTV. **Driven to piracy?**

are you lan? You seem to have realised what an ideal tool

I'm jealous of all you people in Great Britain! You can buy all the software you like over there, but for me in Holland this is almost impossible.

A computer store over here offers a minimum of software titles, many of which are outdated, overpriced, and inferior. The only method of obtaining decent software is by using your connections, and this means getting hacked (don't you mean stolen? - Ezra) software which often doesn't work properly. The hackers import the titles from all over Europe, so you get the latest titles for free as soon as they arrive in the shops.

Let me make one thing clear - I know that copying is stealing, but if the software houses would distribute their titles to more stores in overseas locations I would buy

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ULTIMATE COMPUTER CONCEPTS 19, Woodside Crescent, Sidcup, Kent, DA15 7JJ. them instead of doing something illegal! I realise software can be bought through mail order, but I tried this once and all I not was lousy service and a hadly-working program I could have copied from a friend.

Having said this in defence of hackers, I still like the stance taken by Amiga Computing and the position it takes against pirates and their accomplices. At least your magazine is available all over the Netherlands.

Ian de Vries, Holland While I sympathise with your problems in finding decent

software in Holland, I can't accept this as an argument in favour of theft, which is what "hacking" and "piracy" really are. I might as well say that there are very few Pontiac dealerships in my home town, so it's OK to go out and nick one from a visiting American tourist. You say you have tried mail order and received lousy ser-

vice. Well. I sympathise with that, too, but you really should try to order software from one of the larger reputable British or German mail order houses.

It's no use reverting to piracy because you've had one had experience with a mail order cowboy firm, so persevere and you should have no excuse for hacking, or whatever other name you like to give to software theft.

Is PD quality software?

I will be receiving an Amiga 500 for my birthday in April, so I decided to subscribe to Amiga Computing to see if I could learn anything about the machine beforehand. One day while I was looking through the magazine I came across a PD advertisement and I noticed that everything was very cheap.

For example, there was a business pack with words processor, spreadsheet, database and so on, all for £6 usually that would cost £600.

What I'd like to know is what public domain is and why it is so cheap?

Tom Advani. Swindon

Public domain (PD) software is usually written by an enthysiast, who may or may not be a talented programmer, and then released as free software to anyone who cares to use it. PD libraries will charge you for the disk, the cost of duplication, and a naminal amount to cover running costs such as postage and packaging. That's why it's so cheap.

The problem with some PD software is that it can be poorly programmed and badly structured so that it causes crashes when used with other software. On the other hand, you will find a few jewels among the dross, and there are several extremely well written and near-professional quality programs ground

Many of the better programs will be shareware, which means you're allowed to try them, but you are expected to send money to the author if you like them and mean to use them. The business pack-type of PD disk collections usually come on two or three disks and are a good introduction to the PD scene, so if you think it's worth the risk, send your £6 and hope you like the disks.

Repair? What repair?

A warning to all readers who need computer repairs! Beware of adverts asking you to send your machine and a fixed amount of money to the company concerned. I sent a Commodore 64 (a what? - Ed) to a company

called W.T.S. along with the required amount of money. This company seems to use a substitute form of repair. If the fault should be, say, on the PCB (like a dry joint) and more difficult to find, they return your machine unrenaired and say it's their choice to keep your money

This means you lose your cash. You should always take the machine to a computer repair company where you nay the money after the inh is done and according to the repair carried out.

R & Hollett Tintern

If you feel you've been unfairly treated by a company of any kind, you should contact your Trading Standards Officer. This is the only way to ensure that companies who offer services and don't deliver can be kept in check.

In addition, before parting with any money, you should always find out exactly what you are paying for. If the comnarry quarantees a repair, then they're legally bound to carry one out or reland your money. On the other hand, if they are chaming for labour and time and don't specifically say they'll repair your machine, you'll find it a lot more difficult to aet your cash back.

There's a certain amount of leeway in these situations for the Advertising Standards Authority to act. If an advertisement states that repairs cost such-and-such, the ASA might conclude that to charge for the consultation rather than the renair itself is unfair and order the company to withdraw its advertisement

Without seeing your bill, service agreement, or the company's advertisement. I can't judge whether W.T.S. has actually done anything wrong, but if you are convinced they have, you should certainly take the matter further yourself.

Ezra online Ezra Surf can be contacted on a whole host of bulletin

boards and conferencing systems. If you have anything to say, get it off your chest online!

Amiga Computing also has its own Fidonet echo which is being carried by BBS systems throughout Europe. Any Fido sysops interested in hooking up should collect AMIGA_COMP off the backbone. If you are experiencing difficulty, please contact

Tony Miller, sysop of our home board - 01 for Amiga. Additionally our mailman with the most, Ezra Surf, hangs out on the following services:

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The direct connection

Stevie Kennedy previews HotLinks, Amiga's first true Dynamic Data Exchange system

fast becoming one of those tiresome acronyms in which the PC world seems to revel. In fact, since the recent surge in the Windows 3 user base you can hardly open a PC mag without tripning over reams of references to DDE and the programs scurrying to support it. Now it's arrived on the Amiga in the shape of the more evocatively named HotLinks. So what is DDE? It is the ability to create

a file in a program such as a wordprocessor then, instead of saving it to disk, "publishing" it as an "edition" to a disk area controlled by the exchange program. A second program, such as a DTP package, should then be able to "subscribe" to the edition, which effectively means loading it in off disk

Dynamic

What makes this operation rather different from a simple shuttling system is the word "dynamic" resting snugly between the "data" and the "exchange". Data passed around several subscribers by a DDE system is tracked all the time, and when changes are made to it in one program, the edition is updated in every other program presently subscribing to it. It sounds complicated, but it's really very simple in practice. In the DTP sector in particular, DDE is an

exciting development we can hope to see take off this year, though with manufacturers notoriously uncooperative in the Amiga market it is unlikely that they'll all settle for a single system. For now, console yourself

vnamic Data Exchange (DDE) is with the fact that competition will lead to more rapid development in this area.

With DDE, you need never edit your text on a DTP page, as it is far quicker to flip to the text editor, make a few changes. update the file, then flip back to the DTP package where the changes should have been executed. The same goes for a graphic you need to retouch, as long as the relevant DDE-compatible graphics program is available

HotLinks is the first DDE system for the Amiga, and as it is a product of SoftLogik. it's hardly surprising that the only program to support it at the moment is PageStream 2.2. The HotLinks Editions package will be sold as an introductory package containing the Hotlinks library and editions management programs, the Hotlinked text editor PageLiner, and the similarly equipped Bit Map Editor (BME). Installing HotLinks to hard drive is very

easy, and takes only a couple of minutes. A directory is created on the hard drive of your choice, the HotLinks library is copied to your L: directory, and the HotLinks management programs are copied across to the HotLinks drawer.

PageLiner and BME are not included in the installation, but neither requires complex installation and both can be dragged across to their new home on the The first job with a newly-installed

HotLinks is to double click on the HotLinks program icon to fire up the system which will make the appropriate library resident. Right from the start, the user will find that The competition

security is well taken care of. and will have to enter his or Gold Disk, makers of Professional Page, aren't sit ting on their laurels as far as DDE is concerned the professional professional professional professional form of DDE with the direct link between ProPage and the article editor, and the release of ProPage 33. bits month should see this oreath examined upon her name and password.

To begin with, the "root" password, supplied with your copy of HotLinks, is needed so that you can add your own and other users' passwords - a task accomplished with the rather unfortunately named Hump. This program

enables the adding of as many users and passwords as you like, any or all of



Set your style tog: aublish the text to

which may be collected together as a group. These at first seem a little unimportant, but if you use HotLinks over a networked system or have a machine used by more than two or three people, the group becomes a useful second assurance of data Restricted

When an edition is published, be it a text file or bitmap, the publisher can decide whether the edition is for personal use only, or whether its use is restricted to the publisher's group. The file can be made available to everyone, of course, but unless a machine is being used by just one person, this could lead to problems when the office idiot decides to experiment with next month's contents page. There are spell checker and word

search options, and even a thesaurus which belies the program's simple Workbench-style screen. BME, as its name suggests, is restricted

to work on bitmapped graphics, and can edit IFF and GIF files. All files were represented in grevscale on the pre-release version we tried, but the program does have cut, paste, and a crop function which DTP users will find invaluable. Using RMF an IFF or GIF bitmap picture can be cropped and edited outside PageStream and the results seen instantly on the page. The program has the ability to edit RGB

and CMYK colour values, and basic drawing tools for retouching, but it isn't really

intended as a colour graphics processing program. It is more of a tool for use in coniunction with PageStream, and as such is extremely useful to anyone using bitmap

According to SoftLogik, there should soon be a Hottinks-capable graphics editor for the sort of structured drawings more commonly used in decent DTP productions, and if the standard takes off we might even see established high-end packages such as Art Department Professional taking HotLinks on board.

As it stands. HotLinks is a superb tool for PageStream 2.2 users, and I can't recommend it in terms too strong for those people. For the rest of the Amiga world, and the DTP area in particular, it is the first move in what could be a whole new area of user friendly inter-program communica-

Depending on the level of support from other software houses. HotLinks could become a very important tool in application areas such as CAD, databases, wordprocessing, and DTP, If support isn't forthcoming, it will at least be an essential add-on for all PageStream users. Rest assured we'll be keeping you informed.

HotLinks is a product of SoftLogic Price: TBA Available: Soor



pect darkness wearing sunglasses and using a matt er target, but I riccison you'd eat your own toe nail pings for the ability to edit text and graphics outsi environment then automatically update your page



from PageStre and edit it in

this month should see this greatly expanded upon. The article editor will be retained and will be augmented by a direct hot link to Professional Draw 3.0, due for release later in the year. There's no word yet on whether or not there will be a bitmap editor like BME, but I'd be surprised if 5oftlogik's lead wasn't followed in this case.

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Keyboard fix

I was interested in the letter from Y H Ali of Stratford as I too had a similar problem with my keyboard. I'm happy to say I've now fixed it, and that the problem was a

All I did was open the Amiga, turn the keyboard over, and examine the underside. There's a plastic strip protection the solder joints, under which were a few joints bent-over and contacting with the solder tracks below. I bent these out until they were straight and my keyboard then

Is there any chance of a free subscription?

Martin O'Donnell County Donegal Fire

No. but thanks for the tip.

Amibase copy Lam a newcomer to the Amina and have

ing bought your magazine I am trying to use CoverDisk 29, most especially the Amibase Pro II program. I seem to be having difficulty copying this to a new disk of its own

I am using an ASOO Plus, and I'm completely haffled. I managed to copy Super Duper to another disk and that works

Something else puzzles me. In the Absolute Beginners article, you describe Workhench as 2.04. I have only had my machine for three months and mine is Workbench 2.0. Is it out of date already? Nm Lawson, Loughborough

Many CoverDisk programs require a bit of extra messing around when it comes to copying them to other disks, and Amibase Pro II is no exception. Usually, there'll be a font that's needed, or a prefs file from the S: directory, or something of that nature. With Amibase, however, things are a little more complicated.

To save taking three pages to explain it, and a lot of hassle on your side, probably the best solution to your problem is to make a copy of your CoverDisk and get rid of everything you don't need

Just boot with the copy, click on the directories you won't be needing, such as Game of the Month and Programming, then select Delete from the Icons menu. This should clear enough space for you to keep plenty of data on the rayaged CoverDisk.

ARexx editor?

After reading your article on ARexx. I decided to try it on my Amiga A500 Plus, but as I have had my computer for only six weeks. I soon ran into problems. You mentioned that "ARexx scripts are written using a text editor".

Could you please tell me if the text

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editor is part of the Workbench, and if so where I can find it, or is it on a separate disk, in which case can you give me the

name of the supplier? P.M. Taylor, Preston

The term "text editor" is given to any program which is capable of loading and saving text files, editing (changing) them, or enabling you to write them. Your Workbench 2.04 disk has a text editor called "Ed", which isn't the best available, but which will serve for the purposes of typing in short ARexx

You can use Ed by using the Execute Command option (or Shell) to issue

ED REIN.SCRIPT

rexx.script can be any name you like. as Ed won't kick up until it has a file name. If rexx.script doesn't exist, Ed will create it as a blank file, and you can then type in your script. When you save it, use the Save As option from Ed's menu system and save the script in the "rexxc" directory on your Workbench 2.04 disk There are friendlier and more pow-

erful text editors available - one of the best is the shareware program QED. This is available through many PD libraries or on Amiga Computing's GraphicStation disk.

Helpful soul

With reference to a letter by G Glynn of Reading in the lanuary issue. I have an A2000 with A2088 bridgeboard, and would be willing to help him out with the required installer software Secondly, with reference to M I

Alden's letter in the March issue, I also have a GVP Impact series II hard card with the ability to add 8Mb of RAM. Recently I purchased 4Mb of Goldstar SIMMs, which contain nine chips per meg, and I had similar problems to Mr(s) I solved the problem by putting a

jumper in the position [15 (which was not mentioned in my instruction manual) on the hard card as well as setting the jumpers as specified in the manual to configure the RAM. Now, is there any way I can configure my Amiga memory to be used as memory on my A2088 PC bridgeboard?

Paul Hooner Floin

Thanks for the answers on the GVP problem. I'd still recommend you buy the official GVP SIMMs, but for those with access to other types, a bit of experimenting with the jumper set. tings can't do any harm

As for using extra memory with your bridgeboard, the only way of adding RAM to your A2088 would be to buy a PC RAM card and insert it in the PC slot available beside your A2088. You can't use normal Amiga memory. On a brighter note PC RAM cards

are quite cheap, so you should be able to upgrade your bridgeboard without breaking the bank. Try our sister magazine PC Today for third-party peripheral manufacturers' advertisements

Drive problems

I currently own an Amiga A500 with a Datel 512k expansion. Power 8808, and the usual stuff. I bought the machine second-hand about four months ago, but am now finding that it's not all I imagined it to be. Games which used to work no longer do. I'm getting read/write errors on disks, and games keep crashing with a guru alert. It's not a virus as I left the machine

unplugged overnight, removed all peripherals, booted up Blitz for the 880B, and now it won't load, simply giving the "Insert in drive df0:" requester. I'm considering three courses of

action:

1. Kill myself.

Not an easy choice

2. Kill the *&?>! who sold me this lemon 3. Replace the internal drive with a Power internal hard drive

Which of these would you recommend? Domian Ramow, Charles

Hmm... If I recommended the first. I'd have trouble sleeping at nights, the second would probably be illegal, and the third would cost lots of money.

Seriously, though, your best bet is to replace the internal drive with a new floppy from - to take a name completely unprompted and out of the blue - Power Computing. Before you do, however, try a couple of checks first

If your machine is second-hand, there's no warranty to worry about, so open it up and check to make sure that the keyboard connector and internal drive ribbon connectors are both in place properly and that neither have been damaged or worn down through There's an electronic Aladdin's Cave of shareware and PD programs ... just waiting to be explored! Due to the tremendously high demand, the price of the acclaimed EuroLink modem has been reduced to £149 - a reduction of £80 on the previously advertised price of £229.

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Technical Help A

age. If these check out OK, you'd be best to go for the replacement drive or have the machine looked at by a reputable repair company.

Not again!

Normally I hav Amiga Computing every month, but when I bought issue 42 last week. I realised it was going to be the

The reason is that the CoverDisk was infected with the Saddam virus, which ruined a good half of my software collection before I found out. Now I can't even use my Amiga because I don't have enough money to go out and buy a decent virus killer.

Maybe you should put a warning on the magazine telling people to check the disk for viruses if you can't be bothered to check it for yourselves. Dale Bates, Victoria, Australia

The November 1991 issue did not have

a virus on the CoverDisk, and that's Judging from the number of letters

we've received concerning the issue. it's clear that many readers find it difficult to tell the difference between a virus and a virus killer. You say you cannot afford to buy a virus killer, yet the issue 42 disk contained Virus Checker 5.32 which at the time was the most advanced Saddam killer available

Every time we put a killer on the disk, we get people contacting us who've used the killer for the first time. realised they've got a virus, and assumed it was on our disk. Not true! You probably had it for ages and didn't realise until we saved the other half of your software collection by giving you Virus Checker.

CD ROM latest I've heard that the release of the CD-

ROM drive for the Amiga is imminent, and I wonder if you could answer some questions on it

1. Does it really make the AS00 work just like a CDTV, and do you need a special control rtad like the CDTV bas?

2. Is it compatible with Kickstart 1.2? 3. If not, will a compatible version be released, and will it cost more?

4. Does it need an ECS chip set? 5. Does it have a through-port into which I could plug my Action Replay Mk II cartridge?

I've been reading your mag since issue one, and it's easily the best, so I'm expecting an answer! Ian Heywood, Holyhead

As the A690/A570 (Commodore still haven't confirmed what it's going to



be called) is not available for test as I write this. I can only give you the information we have, augmented by a quick telephonic visit to Commodore's engi-

The CD-ROM drive will, in effect, turn your A500 into a CDTV, because CDTV is just a 1Mb A500 with a CD drive in a black box. You won't need a special control pad, as the Amiga's mouse and keyboard will do the job just as well Compatibility with Kickstart 1.2

could be a problem. You can't autoboot from anything under 1.2, and the CD-ROM drive may need to auto-boot for certain software, such as commercial games stuff. This isn't a definitive answer, but I wouldn't be surprised to find it will only function properly with 1.3 and above. Check with your dealer before buying one. As for a Kickstart 1.2-specific version making an appearance, forget it. Why not just buy a new ROM chip and Kickstart sharer? The Power Computing sharer can hold three ROMs, so you could switch from 1.2 to 1.3, then 2.04 if you really wanted to

The CD-ROM drive should work with a half meg Agnus chip, but as its software will be so graphics intensive. you're best to upgrade to an FCS Agnus and 2Mh total memory by fitting one of the memory cards which allow the 1Mb chip RAM conversion.

So far as I can tell, there's no through-port on the CD-ROM drive as vet. The latest pre-production models supplied to developers and photographed for press releases have no through-port, but that's not to say Commodore won't include one at the last minute. Remember that the A590 hard drive didn't have one either

Look out for final details on the CD-ROM drive as we receive them.

PC software For the last 19 months I have been doing

a computer course with Pitmans, and I've been having trouble getting the software we use to work on my 1Mb Amiga 500. What I need to know is how to run these programs, and where I can get information to help me use them on the A500. All the programs in the course are IBMcompatible and don't run on the Amina The main ones are WordStar 6 and Sage Accounting, both of which come on two 3.5in disks. I have one or two others, but these are the main two for

Having retired as a welder due to back problems and claiming invalidity benefit, I don't have much money, so bear this in

S W Candy Bletchley

Normally, I'd suggest a PC emulator as this piece of equipment would enable your A500 to pretend it's an IRM. However, the hardware route will cost anything up to £200 and over, so the only option on terms of cost is to try a software emulator. There's a relatively new and quite

good emulator called IRemulator which is available in demo form from the better PD libraries.

Once you've tried it out, you can ont to pay the shareware fee to the author. which shouldn't be more than about £30. Try Softville PD or NBS, both of which are fairly supportive PD libraries, and both of which should have this program on a Fred Fish disk. You may find that the speed of your

IBM programs is fairly awful, and there'll be very limited support for graphics, but as long as your main uses are wordprocessing and spreadsheets, you won't need the whistles and hells

New hard drive needed

I have a fairly old Amiga 500 (Kickstart 1.2), with half meg memory upgrade, external floopy, and Star LC10 colour printer. Luse this mostly for games and a rapidly increasing amount of wordprocessing and spreadsheet applications (Kindwords and Superplan) due to the acquisition of a new business. I would now like to upgrade my system, possibly adding a hard drive

1. Which hard drive would be best? I haven't got a fortune and want it to take a lot of hard use with as much speed as I

2. In order to effectively use a hard drive, exactly what modifications should I make to the A500? I understand that a solder track has to be drilled to enable me to upgrade to the latest specifications. I notice that Kick 1.3 ROMs are available, but what about the

Workbench disks? What about upgrading to A500 Plus spec? 3. Which wordprocessor would you recommend? I need one with the ability to draw boxes around text to create forms for use in my business, as well as the usual

mailmerge, spell checker, and thesaurus facilities. Hugh Edwards, Auchnacroish, Isle of Mull The best value hard drive for your purposes is probably the

A590 variant supplied by Hobbyte (0727 56005). This has a 52Mb Quantum mechanism and space for 2Mb fast RAM. If you need a faster drive or greater RAM expandability, go for the GVP Impact Series II from Silica (081 309 1111), but expect to pay a bit extra-

You won't need to make any alterations to your motherboard to run a hard drive, but if your want it to auto-boot. you'll have to buy a Kickstart 1.3 upgrade kit. These can be purchased from CPC Ltd (0772 555034), but possibly your best bet is to go for a ROM sharer.

Power Computing's (0234 834488) ROM sharer can be purchased with 1.3 or 2.04 ROMs and if you buy the threeway switch version, you can have your 1.2 ROM sitting alongside these two for total compatibility. Workbench disks can be bought from CPC, and the ECS

chip set should be available soon from Commodore, though certain third-party retailers are offering the Super Denise and Super Agnus chips already. See the small ads for these. The track drilling you refer to is probably that needed to

upgrade to 1Mb chip RAM. Don't bother with this unless you're going to use graphics-intensive software, as you'd need to buy a 1.5Mb RAM board and Fatter Agnus chip as

If your wordprocessing needs will centre around business-orientated labels, invoices, and so on, then you should go for Protext 5.5. Protext has a fairly easy to use line drawing mode, which is well covered in the tutorial video we

reviewed last month. Arnor can be reached on 0733 68909 and will be happy to supply both products.

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Graphics AC

he explosion in Amiga 24-bit technology over the past year has as we predicted in early 1991, caused a revolution in the Amiga world. Anyone who says any different has been reading the wrong magazine since then as even the most casual Amiga Computing reader will have noticed that the amount of coverage in this area has increased exponentially.

For a marhine which was once a good amateur video platform to suddenly start making appearances at the heart of the most sophisticated broadcast setups, and to produce award-winning animations and sequences for television in the space of less than 18 months, is what even the most reticent among us have to acknowledge as a revolution

The problem with revolutions is that more often than not they run out of steam because the initial feverish enthusiasm dies, leaving no more than a bare shell of rhetoric and idealism which can't sustain much for long. In the case of the ageing Amiga revolution - and let's face it, we're well past the "June Days" there are now as many standards as there are 24-bit cards.

We've seen the various 24-bit paint packages migrating from one card to another, which is a start, and software houses such as ASDG (Art Department Professional) attempting to support as many cards as possible within one piece of software. Now there's a first move towards a proper standard.

Standard interface Two respected US companies Digital

Micronics and Progressive Peripherals. got together at the Denver developers' conference last year with one aim in mind - to produce a standard software interface for the Texas Instruments 340x0 family of graphics processors. We've seen little of these newish chins in the UK as yet, but you can rest assured that they will soon become as common a technophrase as 68030.

The TMS34020 chin is a dedicated high-performance graphics processor designed to make graphics operations as fast as possible. It runs at 40MHz and its 32-bit architecture allows a stunning 40 MFLOPS (millions of floating point operations per second).

Digital Micronics' Resolver board was the first Amiga peripheral to utilise the TMS chips, in the shape of a 60MHz 34010. The second is Progressive Peripherals and Software's Rembrandt board, unleashing the 34020/34082 combination on us. So where's the software? Enter Sage, stage right. Sage (Standard Amiga Graphic

Extension) has been jointly developed by DMI and PPS to provide a platform on which software houses can build applications for the 340x0 boards as easily and quickly as possible. It consists of a central Sage library plus a range of supporting libraries, and is based on Texas Instruments' own TIGA interface, which is widely used in the PC world.

The core library consists of over 120 functions which programmers can use in their Sage-compatible software to take some of the hard work out of a great many standard functions, such as init_cursor, set_cursor_xy, point, seed, and so on

All 120-odd functions have been optimised to make them as fast as possible in use, with the result that Sage software, considering it will be running on 340x0s. should achieve blistering speeds.

Direct access

Many functions allow direct access to the built-in 340x0 hardware calls. enabling hardware clipping, animation. and a host of other advanced operations The user can also develop his or her own libraries and executable functions utilising the 34082's rendering engine so that as much of the time-intensive 3D process as possible is taken care of by the hard-

Libraries written specifically for the Rembrandt board will include support for multiple monitor setups, for those

huge video displays you see at rock concerts, parallel processing routines and alpha channel control of video effects.

A new DMI Resolver board offering spaces for up to four 340x0s which incldentally, will happily work in parallel, is claimed to be 15,000 times faster at rendering a 3D object than a standard Amica. This sort of performance opens the way for real time 24-bit animation and the most impressive virtual reality systems you could ask for. And there's

Industries which require high level 3D modelling, such as the pharmaceutical. medical, and defence sectors to name but a few, form one market-place which the Amiga has hitherto failed to penetrate and on which PPS and DMI have their sights firmly set. With the sort of raw power available

through Sage-type graphics boards, the Amiga becomes the ideal low-cost platform for some of the most advanced

applications in the world. With the cheapest pseudo-24-bit cards costing more than a good hard drive, most home users will be unaffected by the 24bit revolution. However, as more and more people buy DCTVs or AVideo cards, and as the high-end manufacturers get their acts in order, the Amiga

could snatch an ever-increasing share of the TV and video professional market. Standards like Sage might not be the panacea the manufacturers would have us believe, but they should help avert a situation where we can't see the graphics for the graphics cards.

For more information on Sage, and fetails on the soon-to-be-released developers' pack, contact Prop

board offers illeled graphic power of the welv fow price of



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What is Sage, and will it develop into the Amiga's high-end graphics standard?

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s the Absolute Reginners series progresses, I'll be stopping now and then to take a quick look at the ground we've covered so far in case anyone is feeling a bit lost or has just joined our AmigaDOS tour bus. This is as good a time as any to review what we've learned over the past two months.

Our first instalment introduced the Workbench environment, double clicking on icons, opening drawers, and getting to know the menu ontions available. From this lesson, readers should have grasped the basics of creating new drawers renaming them, dragging icons around the screen, and most of the usual "click-andpoint" Workbench operations.

Part two of the series concentrated on the essential directories most AmigaDOS disks contain and, briefly, the way these are used by the Amiga when it boots a disk. We also looked at how to UST the contents of an entire disk, how to find information on the size of files and how much space there is left on a disk

Over the next few months we'll look at groups of AmigaDOS commands one after the other and examine how they work in relation to some practical project. Before we begin such a detailed examination, however, we'll find out how to put together the most basic auto-booting disk.

Starting with a fresh floopy, or one whose contents you can safely trash, our disk will have to be formatted and equipped with the directories and files AmigaDOS needs to load a minimal Workbench. The first job, then, is to format

Most of what we'll do from now on will

This month's jargon

Script file

Ascii

happen in the Shell, so double click on the Shell icon and wait for your input window to appear. Once it has, drag the window out to full screen size using either the drag gadget in the bottom right-hand corner (WB1.3) or the shrink/expand gadget in the top right (WB2.04).

Now type the command:

FORMAT DRIVE DED: NAME MYDISH

and insert your fresh floppy when the Amina asks for it. Try not to format your Workbench disk! Once the format is complete, eject MyDisk and re-insert your Workhench disk ready to start the construction job. If you have an external drive, now is the time to put MvDisk in it to save you a lot of disk swaps later on.

I'm afraid that single drive owners will be forced into quite a bit of faffing around with disk swaps. This is unavoidable when you copy files from one disk to another on such a system. The only remedy is to purchase a second floppy drive.

Generally, as long as you tell the Amiga the name of the disk you are trying to copy something to, it will ask for that disk by name and wait until you insert it. If you study the commands we'll be using, you'll notice that we always refer to "MyDisk:" instead of just "DF1:" or "DF2:", which should make life a bit easier for single drive

Automatic

Don't forget that a disk's name contains both its identifier (MvDisk) and its device symbol (the colon ":"). When you name a floppy, you don't have to add the colon - Workbeach automatically refers to "MvDisk" as "MvDisk:" when reading data from it or writing to it.

Similarly, all system directories are treated in the same way. The DEVS directory is called "DEVS:" by AmigaDOS, because it is one of those essential directories on an AmigaDOS disk. If any of this still causes you to wake up at night in a cold sweat, take another look at last month's column where we covered the subject of such "logical devices" in more depth.

For now, double drive owners can ignore many of the references I'll make to disk swaps, as the rest of the column will be angled at those stuck with only one flexible friend. With MyDisk in your second drive. Workbench will always have "MvDisk:" available and will never ask for

To make a start, now that Workbench is safely back in the internal drive, we'll copy the commands we are going to use to the RAM disk. The reason for this is that it will cut down on disk swaps and hassle, so type the following commands one at a

ABSOLUTE

Stevie Kennedy creates an autobooting disk from the ground up

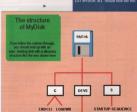
Users of older Workbench 1.3 Amigas will also have to type:

because the CD command is not built in to the older machines as it is in the new ASON Phis

Now type CD RAM: to make the RAM disk our current directory. If you've followed things so far, the commands CD. COPY. MAKEDIR and INSTALL will be available direct from RAM:, which will have the secondary effect of speeding things up, as they won't have to be read in off your Workbench disk every time

they're used. For a basic disk, you'll need three system drawers. These are "C", where





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Tutorial

AmigaDOS commands are kept, "DEVS", which contains your system-preferences file, and "S", which holds the startup-sequence,

You should be familiar with these files if you followed last month's column, but to recap, the system-configuration file contains preferences settings such as your screen colours, and the startup-sequence is a file of commands executed one at a time

when the Amiga boots up. Whoa! What's all this about startup this and system that? If you're feeling confused. think of the startup-sequence as just a series of commands you would type in at the Shell, because that's all it really is, It is a text file you could edit or create in a wordprocessor or text editor.

Files of this kind are called "hatch files" in the typically romantic PC world, because the commands in the file are dealt with as a batch. In Amiga circles, they're usually referred to as "script files". It doesn't matter what you call them as long as you don't confuse vourself.

Back to the construction site! Create the system directories I mentioned earlier by inserting MvDisk in the internal drive and typing:

MECFOIR MYDISCO

If you cast your mind back to last month's column, you'll remember that the first thing the Amiga does when you put a new floppy in the drive is check the boot block. Our formatted disk will have a hoot block full of garbage, but it will need a proper AmigaDOS boot block.

The command to create such a boot block is INSTALL. To use it, type:

INSTALL DRIVE DEG:

If MyDisk is still in the internal drive, the

ABSOLUTE beginners

Military Congress	(),21 (c) FetSood In:	Cliphoneds	Directors
Convert: None Type: Elle	#1 \$12#: 5	Blocks:	
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CS Created: [0]:22	Transport		900
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boot block will be installed in a second or

Right, we've got a formatted disk with

the correct boot block and three empty

COPY DENS: SYSTEM-CONFIGURATION TO RAM:

Workbench 1.3 owners will also have to

as unlike WR2 04 users, they don't have

the ENDCU command built in to their

Notice that we don't have a startup-

your current directory. Now type:

COPY C:LOADUB TO RAM:

machine's Kickstart ROM.

two-

This month's commands

OADWB - A very small command which tells Kickstart to load a Workbench screen.

make life easier sequence yet? This is easily accomplished with the command:

system directories. Our next job is to fill those directories with just enough files for

the disk to boot. Replace your Workbench disk in DEO: and type CD SYS: to make it you to add some text.

We'll only need two lines for this file. They are:

Type these in at the top of the ED screen. then save the file to RAM. To do this on an old Amiga, press the Esc key, then X, then Return. On WB2.04 Amigas you can select

called RAM:startup-sequence in the first place, the new two-line text file will be saved automatically with the correct name.

startup-sequence, but before you start congratulating yourself, you'll have to copy it to where it's needed, which is the MyDisks directory, Type CD RAM: to go back to the RAM disk, then type

CORY SYSTEM-COMPTENDATION TO MEDISK-DEVS COPY LOADUB TO MIDESK: C

After all this, you should have the bare bones of an auto-booting disk. To test it, just reboot with it and you'll see how quickly it boots up.

which on some disks can be of mammoth proportions, is very short. We'll be filling up the disk and the startup-sequence throughout the series, so don't lose MyDisk if you want to make the most of

You can use TDM from the Graphic Station to

ED RAN:startup-sequence

The Workbench text editor will attempt to find a file in the RAM disk called "startupsequence", and when it doesn't find one. will create it as a blank file and open it for

Save from ED's Project menu. As we forced ED to open a blank file

You have just created your first custom

This is because the startup-sequence.

future columns. Let's take a look at what we've just put

on MyDisk. The FNDCII command is a simple device for closing Shell or CU windows, and is built into Kickstart 2.04. Only those of you with Kickstart 1.3 should have the command in MyDisk's C: directory.

LOADWB is the aptly-named command to load Workbench. If this sounds strange, considering it is such a small command -1k or so - remember that what you see on your screen is largely thanks to the built-in libraries and system resources to be found in your Kickstart chip.

The menus at the top of the Workbench screen, for example, are generated from hardware when the LOADWB command tells Kickstart to do so. LOADWB is just a trigger for the Kickstart ROM to load system resources into memory

Activated

What happens when your newly constructed startup-sequence executes is that the basic Workhench resources are activated, then the Shell window in which startup-sequence was executed is closed down so you can see the Workbench screen that's just been activated.

If you wanted to keep the Shell window open once Workbench is loaded up, you'd simply remove the FNDCI I command from your startup-sequence. Alternatively, you can put a semicolon in front of it, which tells AmigaDOS to ignore everything else on that line. This is a handy way of quickly altering your AmigaDOS scripts, as you can restore the startup-sequence to its original form by just removing the semicolon.

I've waffled on just about as much as I dare on the subject of auto-booting disks. It will all seem a bit complicated at first. but then so did setting up your VCR to record Dallas. Try it a couple of times, and you soon get the hang of it. Next month we'll take the first steps

towards filling MvDisk with our favourite commands and utilities, and in the process examine the Workbench devices and libraries from closer range.

Handy tips Use the semicolon, Luke!

When you alter a startup-sequence to take out a line, just put a semicolon at the start of the line. When an Amiga sees a semicolon it skins to the next line, so you can keep the old command and reactivate it at any time by deleting

Your own script file If you're feeling adventurous, you can

assemble all the commands we used to create MyDisk in a single script file, which you can then EXECUTE to automatically produce a blank, auto-booting disk any time you need one. We'll be looking at the EXECUTE command later

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Catching the

n the last two articles we saw an outline of the elements of ARexx and how to use functions and macros to make programming easier and more "modular". Now we will look at the strongest feature of ARexx, its handling of strings. A string is simply any sequence of characters (bytes). Whereas many languages handle different data types - integers, floating point numbers, characters and so on - in different ways. ARexx has only one kind of internal structure to store data the simple string. Now, treating all data as strings does slow down computation a little bit, but it has the advantage of making data handling very easy!

Every single data unit, whether you mean it to be a number, a word, a sentence, a 4-byte markine address or the contents of a whole file, is stored by ARexx as a string. The operations that can be done on ARexx strings are very basic, and easily understood.

Much like their more worldly counterparts. strings can be strung together to form longer ones (concatenated), cut up into smaller bits, or have themselves (or a part of themselves) measured.

Operations that perform arithmetic or specific system jobs on data must first convert them to a suitable format. However strings are very well suited to doing any kind of text operation, and here ARexx really comes into its own.

The instructions and functions provided by ARexx will let you perform just about any operation you care to name on a string except, perhaps, tie it in knots. These operations make string processing extremely easy, whether you are preparing command strings for AmigaDOS, reformatting a data file, or preparing text data for display.

The only thing you have to bear in mind is that ARexx strings are limited to a maximum length of 65,536 bytes. Longer strings must be stored in more than one variable.

Here we will deal with two extremely useful aspects of Aftexx string handling - built-in functions and parsing. They are easy enough for beginners to grasp their elements in a very short

Function operations on strings are numerous functions that act directly on strings. They measure them, compare them, search them for elements, transpose them, reverse them, and join them up. Length(string), Compare(str1,str2), Delstr(str,ele-

mentno [,length]), Index(str,pattern [,fromposition]), Lastpos(pattern,str[,fromposition] and Trim(string) are some of them.([] denote optional

Rasic programmers will also recognise Left(str,len) and Right(s,l), which return the left and rightmost elements of a string. Experiment with them and use your imagination

In addition there are functions that treat a string as a sentence, and perform operation on the individual words, rather than the characters. Examples are Subword(str,pos,len), Word(str,nth) and Wordlength(str.nth) etc.

Here we will use the function Words(str), which returns the number of words in a string, to write a very simple word-count macro, it is not a very sophisticated program, eg it does not check that

Alex Gian hots up the pace with a look at ARexx's handling of strings

the file is incleed a document, and is limited to files under 64k, but considering that the core program is just over one line long, who's complaining You could enhance this program and perhaps add a file-requester like the one described below,

/* wordcount.rexx */
arg path
open(apfile,path,'read') /* apen file for
read */ string = readch(myfile,65535)../* read in 64k or

That's all there is to it

to make it really useful:

Parsing is the process by which data - in this case, strings - is read meaningfully and placed in some sensible order. In ARexx there are various sources for a parsed string, and also a number of different ways of parsing.

The most general form of reading a string meaningfully into variables is the PARSE instruction. It is very flexible and powerful, and we will look at it in some detail. It is used as follows:

PARSE input-source-keyword target-template This is a lot simpler than it may appear. First, the

instruction needs a keyword that specifies where the input string is coming from. Without this keyword it is invalid. The acceptable input source keywords are PULL, EXTERNAL, ARG, VAR, VALUE, SOURCE, NUMERIC and VERSION.

PULL indicates that the input string is read from the console, EXTERNAL has practically the same meaning. By the way, you can specify a console prompt when a string is PULLed by using the OPTIONS instruction with the keyword PROMPT remember we used OPTIONS RESULTS last time to pass the value returned by a command to the variable RESULT. Try this:

rx "options prompt 'fes, o master! " ; parse

ARG means the string is the argument supplied to the command or function. VAR followed by a variable's name indicates that the input is the string of the variable itself, ie if a = "hi" then:

PARSE VAR a b

makes b = "hi" instance:

VALUE is used to indicate that the parsing string involves an evaluation. WITH is used to separate the expression being parsed from the template, for

PARSE VALUE & WITH b

string fever



Interprocess communication



Let's look at an example of using a program with an ARexx interface. The program is ClockDJ, a freely distributable utility whose main job is to accelerate the mouse, provide a clock and manage screens, windows and so on.

However it also has a number of interesting features, including the provision of two file requesters, a "Yes/No" requester and a key mapping function, all controllable from ARexx.

We have found the keymap function extremely useful, as we maintain

We have found the keymap function extremely useful, as we maintain two separate keymaps, one with utility material, address strings and so on, and one with a customised keyboard to save typing when we are programming.

Using the custom command LOADKEYS we can switch at will. Of course we could have created proper Amiga keynaps, like those used in the startup-sequence by SetMaps. That would have been theoretically faster, but like this we can change the keynap at any instant, simply by editing the ClockQN keynaps file, and reloading to

ClockDJ is a quite a large program, and takes up a bit more memory than it should, but its excellent features make it worthwhile. In any case it will be very useful even if only from an experimental point of view. Read its documentation for full details of what it can do, and have fun experi-

Finally, we will look at a little macro that adds the CED requester supplied by ClockDJ to our wordcount program above: A minimum of the first of the desired of the control of the contro

OK, in what language can you do the above operation quicker? If you do not want to have to set up an ADDRSS, and send all the commands every time you want to use the file requester, you can even write a function – myCEDI – which could accept as arguments any value you wanted to change upon a set the time, current dirand so the set in the property of the property o

It will do this automatically, and store it in your REXX: directory. You could then call the file requester from any ARexx program, simply by

calling, eg:

is a trivial example that has the same effect as the example in VAR above. VALUE can be used to great effect when the parsed string itself contains

great effect when the passed saling loses contains information as to how it should be passed – we will not look at it in too much detail now. Finally, SOURCE, NUMERIC and VERSION are

used to parse specific information about the system.

PARSE SOURCE comORfun resORnot places info on whether the program was called as a function or as a command in the first variable, and whether

It returns a value or not in the second.

PARSE NUMERIC digits fuzz form yields information on the numeric status settings, and PARSE VERSION Alexa version cpu mpu video frequency gives information on the current version and the

The instruction may also take the optional keyword UPPER. This converts the input string to uppercase. If used it must be the flirst keyword specified. In fact, the PULL and ARG instructions, which we have already seen in previous articles, are just shorthand for PARSE UPPER ARG and PARSE UPPER PULI

The last part of this instruction, the "target-template", will specify what is to happen to the input string, it may be as simple as a single variable into which the whole input string gets copied, or quite a complex structure with many variables, each receiving some specified part of the

There are three ways to parse a string. They have jargon names, but don't let this put you off. We will illustrate them here with examples that should make their use very clear. When Parsing by tokenisation, the string is parsed into the supplied

Let us assume that the argument to a macro is the string "Hello there, everybody":

Parse ang a /* a is now "hello there, everybody" *! Parse ang a b /* a is "hello", b is "there, everybody" *! Parse ang a b c /* a is "hello", b is "there," c is "everybody" *!

Any blanks in the source string are lost when we parse by tokenisation.

Parsing by pattern matching is when specific characters that are known to occur in the source.

characters that are known to occur in the source string are used to separate the elements. For instance in our previous example:

Parse ang a "," b "bo" c /* a is "hello there", b

Parsing by position is probably the easiest of all to understand in theory, although the notation may be a bit tricky at first. Basically all you are doing is specifying the string positions to use. Here are some examples. Assume str = "abcdefghi-

Parse var str 1 a 4 b 7 c 15 d /* a is "abc" b is "def" c is "ghijklam" d is "op" */

Here the numbers act as absolute position markers between which the numbers are read. Another example:

Parse var str 5 a 9 12 b 14 /* a is "efgh" b is

The above examples are with absolute numeric values, but we could also have relative values – the notation for this is a + or - prefix: Parse var str 2 = 5 = 5 c - 2 /* a is "bc6" b 1 **regard() = 1s **full answers**

An = prefix indicates absolute position, and can be used in evaluated positions.

Here is a useful illustration of a combination of the above methods. Suppose you have a variable called path which contains a string that is a full AmigaDOS file specification, such as:

You can easily get the device name if you pattern

rou can easily get the device name is you pattern match the ":", and you could then do an iterative loop to pattern match every "/", until you got the name of every subdirectory and of the file.

This method is acceptable, but if you only want the name of the file you are doing a lot of extra work for nothing. Since the purpose of ARexx is to make things easy, there is a quicker way. Use the Lastpoot/ function to get the position of the last "/" in the string and then read the value from that position on man, there's what it looks like:

mark = lastpos("/",path)
Parse value path with dev ":" subdirs "mark
filename
/" oow dev is "df0", subdirs is
"subdirs/ss...bddirs/" and "/
/" filename is "marfile" "/

Next time, we will look at the control structures and also use ARexx to create some graphics Free registered carrier pickup and return despatch for ultimate peace of mind, anywhere on the UK mainland!

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Videophile's guide

t's about time we held out the olive branch to the newcomers and presented the definitive quide to the art of Amiga-based desktop

For regulars this may sound like a case of teaching old dogs old tricks. Nevertheless, the old guard could still be in for the odd surprise as we run down the essentials and desirables which the would-be videophile needs, or should be looking to aspire to in the future. The good news for the average beginner with

no more than a basic Amiga and the associated free software is that they already have the necessary kit to produce impressive video graphics. To get your foot in the door, all you require is

a modulator, DPaint, a video and a suitable length of phono cable - assuming your video supports phono - with which to connect the Amiga, modulator combination and the aforementioned VCR

The Amiga is the machine for video applications, used by amateurs and broadcast-quality professionals the world over. The only difference between you and them is the amount of cash spent on enhancing the output of the machine, whether that be through expensive hardware or additional software.

Premier machine A glimpse at any video magazine instantly

confirms the Amiga's status as the premier DTV machine. Pages of related hardware and software fill both advertising and editorial alike in a desperate attempt to caiole the punters onto the one true path. A case of the blind leading the blind if ever there was one

After you've stretched both your Amiga, DPaint, and modulator combination to their logical extreme, the next job is to start on the sometimes rocky road of the upgrade path. This is where the beginner can soon become lost in a wilderness of marketing claims and counter claims, unfathomable techno-jargon and the

Paul Austin's hints and tips, dos and don'ts and essential info - a dab hand guide to DTV...



confusing array of available formats, which make video one of the most haffling areas of interest in the repertoire of the Amiga.

The most sensible step isn't to jump headlong into the world of S-VHS. Hi-8. U-Matic. Hi-Band and the like, the reason being that you're likely to find yourself marooned. Admittedly you can still copy your creations onto standard VHS but that defeats the object just a tad, as you're certain to lose a lot of what you've paid for in the process.

The key to success is to build up your system and software collection first. By the time you've mastered both you'll be in a position to really exploit the increased clarity that the more expensive formats can offer

The first purchase for the majority is likely to be a titler. For the budget buyer either Home Titler from HB Marketing or The Big Alternative Scroller from Alternative Image are perfect, with TBAS perhaps tipping the balance in the quality

If you're a bit better off you could try ScalaS00 - an impressive if slightly light-hearted titling sys-

Memory question

Once armed with the basics and a suitable titler, it's tempting to delve straight into the basic account and invest in high end soft-wave applications. Although very tempting, it strongly suggest you consider investing in some exits BAM force. If the suitable properties of the suitable property but if you do suitable as but being property but if you do suitable property but if you do sui

space you not only won't be above to apply bigger programs properly but if you di make an attempt, it's likely you'll need to employ crash editing to complete your pro duction – not recommended. The only potential investment that rival the essential extra RAM is a genlock. With the essential extra know is a granuce, this particular beastle your work will really start to shine, but to find out more I'm afraid you'll have to wait until next month for the next thrilling instalment of this two

tem. It's Ideal for home use, but perhaps a little flippant for serious documentary style productions. Having said that, it boasts a bucketful of special effects and is worth a closer look if you want more than just a bog standard scrolling

If you fall into the very well off bracket there's a choice of two packages, either Scala or Broadcast Titler 2. Scala is a more advanced version of its little brother Scala500. To be honest Scala isn't a true titler, it's a multimedia presentation system which does a good job of doubling as a titler

Broadcast Titler 2, however, has no such preten-

production. Upprades includes extra fonts and font conversion software, which allows you to convert standard Amina fonts to BT2's antialiased counterparts. The only real fault is its inability to multitask - a real

problem when the soft-

ware collection starts to

tions. It concentrates solely on titling and employs its own fonts and optional effects to add a considerable amount of style to any

It's second nature to the Amiga An obvious question is "what, if anything, makes the Amiga

gle to emulate.

make the machine ideal for the job.

This alone sets it apart from the rest, as the PCs and Macs of achieve what to the Amiga comes as second nature.

To clear the air a little, a quick paragraph on Interlace is in order. Interlace equals video and TV - it's literally that simple. Both systems rely on the interlace effect which doubles the

If you're unlucky enough to freeze a video at an inopportune moment, this effect becomes all to apparent as the two

Because of this priceless asset there's no initial need for an for DTV on other machines and an expensive addition in the socialist architecture and its ability to multitask - two more

Generated internally, this is then output as part of the video

nate a myriad of tasks with incredible speed to produce stunmanner of art, animation, music, and titling packages simulta-



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All in array

Margaret Stanger looks at handling Ascii text for C programmers

his programming page is mainly for C programmers, who have been a little peolected lately. The support disk contains a program to read data from an Ascii input file, process it, and produce an Ascii output file with the data tastefully arranged for printing or

The input data is a file with a number of records. Each record has at least three lines of data - a name, possibly a phone number, and several lines of address. The lines vary in length, and are separated from each other by a comma, but any chosen delimiter will do. There is a newline character at the end of each record, and there can be any number of records in the file. An example of a record in the input file is:

A large array space is made available for the data from each record. The array starts at the address buffer, and allows for up to 30 lines of up to 30 characters. The name goes into the first line, the phone number into the second, and so on.

The record in the input example would be stored in the array as:

Danien	Nane
666	Phone
USA	Address 1
	etc

This program assumes that all the records obey the rules, and do not have too many lines or too many characters in a line. Some care has to be taken to make sure that the program is stable if the data is faulty.

Unpredictable

An extra long record must not be allowed to read in forever, as it would start overwriting code and data when it got to the end of the array - the result would be unpredictable. The extra code in the readfile() routine is to trap roque data with an extra long line, or with too many lines.

The output routine sends data to the output file several bytes at a time. A print buffer the same size as a line of print is set up and filled with spaces. A character string to be output to this buffer can be placed exactly in the print position, and data can be lined up with the corresponding heading.

Data strings, literals and punctuation can be placed in this way and the whole line sent to the output file when it has been completed. Newline and form feed characters are sent straight to the file when required. Page, data and time information are also sent to the output file. The example record would appear on the output file as:

There is a way to pass command line parameters or arguments to a program when it begins executing. When main() is called to begin executing, it is called with two arguments. The first (argc) is the number of command line arguments the program was invoked with, the second (argv) is a pointer to an array of character strings that contain the arguments - one per string.

By convention, argy[0] is a pointer to the program name. For a program with no other arquments after the program name on the command line, argc would be 1. The program on the support disk has two arguments, so argc should be 3 if the command line has been entered correctly. Argy[0] is a pointer to the program name, argc[1] a pointer to the input file name, and argy[2] a pointer to the output file name.

The time, date and page number are written to the output file, to reduce confusion between versions and pages once the file has been printed. There are several time and date routines available from the C library, I used time() to put

the system time into a long integer. This information is in the form of elansed seconds since the start of 1970, which is not particularly user

The routine ctime() will translate the long integer containing these elapsed seconds into

I have assumed that each line has a maximum of 30 characters, and that there are a maximum of 30 lines for each record. Most lines will be less than this and most records will have I have assumed that each line will be sepa

rated from the next one with a comma, and that there will be a newline character at the end of each record. I have given the output file an arbitrary line length of 75 characters, and page length of 20 lines. All these constants (MAXCOLS MAXLEN.

DELIM etc) are defined at the beginning of the program so that they can be changed easily when required without disturbing any of the

Those of us without real database facilities could use this software as a basis to produce Christmas card lists, address labels for envelopes, junk mail, chain letters and so on. The more serious among us could input a file full of numbers for mathematical processing, and print out the result of the calculations.



not forgetting to put in pathnames where necessary.

File1 is the name of the input file to be read, and file2 is the name of the output file to b

created. If there are the wrong number of arguments, a suitable message will be displayed.

I the program will exit.

There is a demonstration input file, imaginatively named "infile", on the support disk. When

the program opens the DOS library, the input file and the output file. If the library or file

the program opens the DOS library, the input file and the output file. If the library or file

the program will exit. fail to open, the program exits via a deanup routine which displays an appropriate message.

The header, consisting of a title, page number, date and time, is written to the output file
followed by two blank lines. The sub header, with column headings and one blank line is written
to the nutual file.

ten to the output file.

The program reads the first input file record with its name, phone number, and an indefinite number of address lines. These items are separated by commas on the input file. The program shows it has finished reading a record when it reaches a newline character.

and address lines are written to the output file in the

, heading and subheading are written to the output file.

Please note that any previous files with the same name as the output file will be overwritten

Processing the data from the input file continues until all the data has been read. The pro

am finishes with the cleanup routine displaying the message "ok".

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vicare on CD+Mid

A new medium

s the long-awaited CD-ROM drive finally makes its way into production, the first CD+Midi products are about to hit the Amiga. The first release has already arrived in the office - Rhapsody in Blue, the classic Gershwin creation. Unfortunately, although the disk is here, the CD-ROM drive isn't!

Nevertheless I'm assured by Commodore that this CD and indeed the entire range of CD releases are equally at home on the new drive as they are with CDTV itself.

digitally recorded music. Midi information and onscreen support graphics. With the new drive as with CDTV, all three are available to enhance the performance.

For the musos among us it's the music that matters, and more precisely the available Midi output. In the case of Rhapsody in Blue the disk contains four separate compositions of the original piece, each offering a slightly different combination of digitally recorded audio and suitable Midi accompaniment.

Piano arrangement

The first track offers the original four-part Midi recorded piano arrangement plus a separate Midi channel that contains a composite of the solo melody with a few other solo lines designed to complement the existing prerecorded elements

The second variant employs the same Midi data as the first but produces a different overall sound by assigning new voices. The Midi output is also vastly different to the first, as the entire piece is output as Midi information.

The Midi output is supplied in the General Midi format which several synths such as the Roland SoundCanvas already support. This particular track takes far more advantage of its potential Midi output by changing channels during the sequence.

In the third track, the audio element is once again an orchestrated variation. The

CD+Midi - a ground-breaking innovation or another gimmick in the making? Paul Austin looks at the first Midi application to make the journey from CDTV

right channel contains the complete piece. including the solo melody, while the left contains only the accompaniment. The missing solo

melody is then provided in a Midi format, If you're listening to the audio channel separately, tuning the balance from left to right simulates the addition of a Midi instrument playing the miss-

Midi channel one contain the composite melody. while channel 11 consolo

for the Roland particular track is offset by about half a second in order to com pensate for the delay on the Disklavier.

This allows the Disklavier to keep in perfect sync with the rest of the track. If you don't happen to be the proud owner of a Disklavier, its specific Midi data is automatically muted when you're employing other synths or modules.

On the final track, audio plays the entire four-track piano arrangement in the right-hand channel while the accompaniment appears only in the left. This variation also contains the entire performance in Midi. If you employ several Midi channels, the complete piece can then be played solely via Midi. Channel one contains the enhanced solo

piano while channels two, three and four play the accompanying piano makes another appearance - a duplicate of the data in channels one to four is copied and delayed on channels 11 through to 14, again to enable the Disklavier to sync to the existing tracks. As before, if the Disklavier isn't present its associated tracks are muted.

Each track has its own intro during which a very American voice details the ins and outs of the forthcoming track, making a total of eight tracks in all.

As far as the pre-recorded tracks are concerned, I must admit to being a little disappointed. Although I can't fault the accuracy and adhesion to the original manuscript, the actual feel of the piece does leave a lot to be desired.

Admittedly a Midi replica of a human performance will never match up as far as warmth and feel are concerned. Nevertheless I am sure that with the recent advancements in the art of aftertouch emulation a lot more could have been made of what is widely considered to be one of the great works of the twentieth century.

New releases? Well, strange as it may seem, this bit of the

article is largely up to you... After a transatlantic call to an ever-so-friendly spokesperson for Warner New Media, it transpires that future releases in the CD+Midi range are largely down to its punter appeal. Warner will commit themselves to more releases - if not, this first release may indeed be the last.















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Chain mail

ost people get their first taste of comms when two friends link their computers with a serial cable to play games such as Populous against each other. When it comes down to it, all the fancy modems, builetin boards and assorted jargon of the comms world do no more than this – they just cost more.

The principle of comms is swapping information between computers without having to physically take a disk out of one machine and put it in another. By wiring the machines directly or remotely, otherwise incompatible computers can exchange data easily and quickly.

For instance, passing text files from your Amiga to a friend's Mac is a bind if doing it on disk. However, link the two machines either directly by cable or remotely by modern and files can be squirted backwards and forwards in a jiffy rather than a jiffy bag.

The first thing you need is some sort of communications software which will enable the machines to talk to each other and undestand what's being said. In games such as Populous this oftware is built in to the program already and specifically set up for that game.

and specifically set up for that game.

For more flexibility you need a separate program such as Ncomm. This allows all sorts of adjustments to enable you to match your computer exactly with the one at the other end of the line.

Bewildere

Everyone is bewildered when they start with all the jargon such as baud, bits, parity and so on, but there's no need to understand what the terms mean in order to set the correct values.

All you need in order to dial up a bulletin board is the phone number. When you connect you will be given any extra information you need to optimise your own settings.

Modems too are often talked about in terms of mystique. What with jargon such as V22bis, HST, MNP correction and so on bandled about, it's easy to lose sight of the fact that a modem is simply a box which connects your Arniga to the telephone line.

As a beginner you don't need to spend much



Plenty of numbers to call here, depending on your modem. Even so, certain times are pretty busy with around 6,000 subscribers trying to get a look in. Charges are around £2 to £3 per hour plus BT costs desending on the time of day.

Pat Winstanley shows you how to transfer files around the country in a jiffy – not in a Jiffy bag!

on a modem. If all you are likely to do is potter around on your local bulletin board for an hour a week then speed is relatively unimportant

It only really comes into play when you start down-loading and uploading games and other programs. Even then you need to work out whether the capital cost of a high-speed modem is likely to be recouped over a reasonable period by correspondingly tower phone bills.

Right then, you've bought a cheap second-hand modem for under a hundred quid, found some comms software to go with it and connected everything up to the telephone line. Where do you go from here?

A good introduction to comms is your local bulletin board system (885). These are usually run from somebody's home with some sort of personal computer, a hard drive to store information, and special software to allow the system to run as a host. The person running things is the system operator (systep) and his or her word is law while you are a guest on the system.

Etiquette is all important here as most boards are run at the sysop's expense. If you start abusing that generosity you are likely to find yourself barred from the system altogether.

So what's the etiquette? Basically it involves putting as much into the system as you take out of it, obeying any local rules for loggling off and generally not making a nuisance of yourself to either the system or other board users.

Most boards have a good selection of PD and shareware available for download but it's poor practice to simply copy everything off the board and put nothing back. If you don't have any new files to send up to

the board you can contribute by becoming active in the message areas which are like glant letters puges. These are either local to a particular board, or part of a large network covering the whole country where sytops of different boards pass their daily messages on to the next board in the chain, and receive a similar batch from another board.

For instance, this morning I read a message on my local board – Aspects in Manchester – which had been routed to me from Scotland. At this moment there is a reply from me waiting to head back where it will probably be read toemorrow. Although it usually costs nothing except tele-

phone time to log on to a BBS, you will often be granted extra privileges if you donate a small amount to the sysop. It's a good idea to do this



The logon screen gives all the details you need to get started. Don't worry about the jargen – it's much easies than it looks. Most bounds also give a list of numbers for other local 885s.

anyway since he has to pay his phone bill too! For about £5 to £10 you are likely to have an extended time limit on the board, more download facilities and the glow of knowing you are an active part of the community. It's rather like the concept of shareware – try it for free, then if you like and continue to use it make a contribu-

tion to the originator. While bulletin boards are run on an amateur enthuolast basis – albeit in a very professional manner – there are also more businessifike boards available all over the world. These conferencing systems unfortunately cost money. In addition to telephone charges you also have to pay a charge to the system for the amount of time you speed on the profession of the amount of time you speed on the profession.

Uneconomic

However, many facilities are available which are simply uneconomic for smaller boards. For instance, when I've finished this column, it and the illustrations will be sent via a private mail system direct to AC.

Because of the privacy, business users can be sure of confidentiality – something lacking on BBSs. Messages can be sent all over the world, although this incurs an additional small charge.

Within the system itself are many conference areas covering everything from model rockets to Cray simulators on the Amiga (I kid you not!). Amiga Computing has an Ezra conference and competitor magazines also have their own areas.

These are open conferences – anyone can join of the state of the conference are closed. To join a closed conference you must contact the moderator (like a sysop) and ask to be allowed in. But bewarel Comms can be an addictive hobby, and very expensive if you don't take care.

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Progressive Pacman

Peter Hickman shows how our Pacman game can be rewritten in AMAI

elcome to another in-depth look into the world of AMOS programming. According to my hard disk this is article number 20, so it's a hit of an anniver-

sary for me If you can cast your mind back a couple of months, we were playing around with simple Bob movements using AMOS. Our goal was to create a small Pacman game, which we did. Now we will look at a different method of creating such a game, using the AMOS sub-language AMAL.

We took a look at the major AMAL functions in the last issue so I won't be going into too much fine detail concerning the basic functions. Instead we will concentrate on the structure of an AMAI

The first thing to do is load in the Bobs for the game and set up our default screen stuff. If you are unsure how to get these Bobs loaded in - trust me when I say it's not quite as straightforward as it sounds - look at the box on this page which contains strict instructions on how to make maximum use of your Amiga Computing CoverDisk.

Now comes the time to define our AMAL string As you can see, I have built the program up into the string A\$. AMAL ignores spaces so I have taken advantage of this to produce a clear piece of code which is easy to look at and - hopefully - to understand

This first line sets up a label "Start:" and after a brief pause stores the current joystick value in the register RO:

By using comparisons we can then jump to routines depending on the current joystick action. As I have said before, the numbers returned by the joystick are 1=up, 2=down, 4=left, 5=right and in turn 9=up plus right (8+1=9), 6=down plus left (2+4=6)

The next four routines perform the actual movement of the Bob - for more details of how



OK, so you don't want to structure your AMAL programs, you could shorten them by just using the UPPERCASE characters, Just look at the following AMAL string. If you value your sanity, don't try to

Having fun? I hope so! The final part of this exciting instalment gives us an AMAL-controlled player and

The string A\$ is exactly the same as in the first prooram except that the horizontal and vertical positions of the player are fed into the external

registers RA and RR These are then read inside the baddie control rengram stored in RS to make that the evil heastie tracks us down!



That brings us to the end of a very practical column - hopefully in the next issue I should have some exciting news about the future of AMOS.

Save your typing fingers!

Amiga Computing May 1992 14



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Fancy a change?

ou get two Compugraphic fonts in the PageSetter II package - although just recently I've heard that has shrunk to only one - so for headings and fancy titles you need to use every trick up your sleeve if you want to avoid paying out for

Probably the most striking instant change you can make is to fill characters with a pattern instead of using solid black. This can be achieved with just a few mouse clicks.

Highlight the text you want to fill with a pattern by dragging the text cursor over it. and then select the Bold style from the Type menu - this will thicken the letters so the pattern stands out more. Leave the text highlighted and choose Pattern from the Type menu. A requester appears with a range of "dotty" natterns along the top and 16 fancy fill patterns below.

Shades of grey

Select the fill pattern you like best and click on OK Now click the Null Pointer gadget to see the results. The "dotty" natterns along the top simulate levels of grey, from solid white to almost solid black.

It's a bit like the shades of grey in a 16 colour greyscale image - the solid white pattern is the same as the white colour 15,15,15 on the RGB scale, the next pattern to the right is like 14.14.14 on the RGB scale, and so on

Ben Pointer looks at some of the ways you can tart up your text in PageSetter II

like 1 1 1 on the RGR scale. To get solid black (0,0,0) you should select the None but-

The patterns that get printed to your dot matrix printer are similar to those produced by PostScript laser printers for shades of grey, though laser resolution is a bit better, of course,

Sometimes filled text looks a bit silly, especially if the pattern is a sparse one, but you can liven it up by adding an outline to the text - a thin solid black line around the edges of the characters

Again, this is just a few mouse clicks away. Highlight your text again and select the Outline style from the Type menu. That style gets "added" to the Bold style we selected previously. Select the Null Pointer to see the new

If the text still looks a bit wishy-washy, one further trick we can use is to add a shadow behind it. Yet again, all we need to do is highlight the text and select the Shadow style from the Type menu. It gets added to Bold and Outline, and if you click on

Getting white-on-black

It's actually quite simple once you've been let in on the secret. First drag out a fairly large rectangle using the Draw Rectangle tool in the lower half of the tool box, then select Fill

the requester we use to fill text. To get a solid black box, click

.The rectangle should turn black. If it doesn't it means you are in wireframe mode – select Wireframe Graphics from the es menu to switch wireframes off. Now drag out a tex

ox on top of the black rectangle, using the Text Box tool in the top half of the tool box. Select the Text tool, click in the text box and select a large point size and the Bold style. Now type

from the Type menu, click on the solid white colour in the grey levels strip, and click OK. Hit the Null Pointer gadget to see yo All you have to do now is adjust the black box to fit neatly

> the Null Pointer gadget you'll see that we have a great 3D look

The shadow is added slightly to the right of and below the text, and there's no way of changing that style. If you want a shadow that is to the left and above, you'll have to do it by

Simply Clone the box that contains the text that is to be shadowed, highlight the text in this new box, change its style to just Bold and the Fill Pattern (from the Type menu) to None.

Now that it's solid black again, use the mouse to position it on top of the patterned text slightly to the left and above it. To stamp the shadow in place behind the patterned text. click the Send to Back gadget (top right of the lower set of gadgets in the tool box).

That's it - see you next month











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"A favourite with ST and Amiga gamers, tough sturdy and responsive" ST Action, February 1991.

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Schizophrenic add-on

s reported last month, Commodore have decided that the add-on drive for the ASOD, previously the A690, will now be renamed the A570. This has annoved some in the business who feel the new name will just confuse the public

Developers have already started taking delivery of A690 drives for the A500, and with A690 labels and manuals these could become collectors' items in years to come!

The AS70 is now in production and will ship at the beginning of April. Commodore are waiting until they have several tens of thousands in European distribution centres before they launch, as they do not want to repeat past mistakes where they have launched a product that was

then not available for weeks. One of the best selling CDTV titles so far has been Music Maker, so it is high time that I reviewed it especially as some of the graphics code in it was written by mel Despite doing the initial work for this way back in November 1990, when there were only six CDTVs in the country and all of them NTSC models. I have only recently got a copy of this disc.

Music Maker is a sort of karaoke-with-instruments affair. Rather than singing along to the worst songs in the world, you can play along to them with your choice of instruments using your infra rad controller

It is not nearly as complicated as it seems. The keypad is set up so it is easy to jump from one note to the next, and the keys are illuminated onscreen so you can see what you should be playing.

There are 16 music tracks on the disk, all of them superb rerecordings of classic tracks like Let it Be, Money for Nothing, Crockett's Theme and Yesterday. These tracks are played as CD-Audio from the disk in exactly the same way that a stanCommodore's CD-ROM drive gets a rename. Jolyon Ralph reports its re-christening...



Using all four Amiga channels to play one instrument in stereo with proper reverb and decay, it makes the CDTV sound as good as a professional keyboard.

Nothing on the violin for the fiftieth time, you can settle down with some friends (if you have any left at this point) and play the music quiz. While it seems very simple, almost to the point of being tacky, it is quite fun, and certainly adds to the disc.

Warning

A word of warning - don't buy it yet if you are getting the AS70 CD-ROM, as the keypad on the A500 and on the CDTV remote are the opposite way around (the 1 is on the top of the CDTV remote control numeric pad). A version that has an alternate keypad layout for A500 users

is currently being written and will be in the shops very soon

> ing CDXL quarter-screen video has just been released - The Heroic Age of Space Flight: NASA - the 25th Year by Troika

Multimedia, Inc. CDXL (which stands for the incredibly uninter-

esting Compact Disc Transfer List) is a method CDTV developers can use to get video clips into products. This allows sequences of quarter screen HAM pictures digitised from video, along with a sampled soundtrack, to be played back directly

This title contains over 50 minutes of video taken from a 1983 NASA documentary. The whole documentary can be viewed, or clips can be viewed in conjunction with a database of information on NASA's aeronautical and space achievements.

It is listed as an educational title. As a History of the US National Aeronautical and Space Administration, its educational uses in Europe may

be limited, but the video is quite interesting. The quality is not bad, but suffers from the limitations of the Amiga Hold and Modify mode. A tiny quarter screen moving picture surrounded with a large black border, although it is the best current technology can offer, doesn't really work that well. It's like watching a video on a tiny Casio LCD televi-

Despite this, the product is fun, and it's quite cheap too, listed at \$24.95, or around £16. The technology may not improve to the point where you can get Full Motion Video from a CD in the near future, but I expect more titles will start using CDXL quarter-screen video in more interesting



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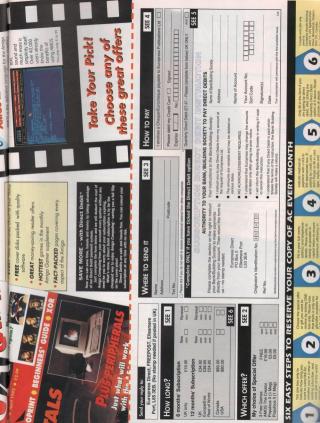




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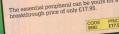
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HE COMPLETE GUIDE TO AMIGA TRIVIA

TOP JOURNALIST JOINS AC

After months of head hunting and weeks of interviews, Amiga Computing are pleased to announce the arrival of our new "Quite Important Writer", Darren Evans. The former editor of his school magazine rose to the top in 26 short years. We are absolutely delighted to have Darren on board and are sure he will be an instant hit with our readers. Darren has been an Amiga user for almost eight weeks and fondly remembers the days when he was quite content to program his tumble drier and construct

hardware projects from bits and pieces he found round the back of his local Tandy store every night.

"I don't know anything about the Amiga - but then neither does anyone else when you get down to the nitty gritty of how the thing works" offers Darren. "I have even heard stories of people hacksawing their Amiga 2000 casings

to try and get flicker fixers to fit in a normal slot!" Darren is clearly an Amiga demigod in the making and as such Amiga Computing is absolutely over the moon to have him on the team. Amiga Computing editor, Stevie Kennedy, summed up the genuine feeling of the entire magazine team, offering the following insight: "I fully expect AC's circulation to triple overnight now that we have an established name like Darren on board."

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Five commonly used computer magazine headlines that have been hammered to death so much, they should be banned by law

Hard and fast (hard drives) Cracking the shell (CLI etc)

All the world's a page (DTP) • The joy of sticks (joysticks) A blit on the side (graphics)

the next issue of AC, featuring the most up-to-date Amiga news + views, will be on the shelves of all good newsagents on

CROSSWORD SOLUTION

due to the incredibly complicated (oh yes) world of magazine deadlines we can't tell you who won but here is the answer to last month's crossword

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