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SEPTEMBER 1988

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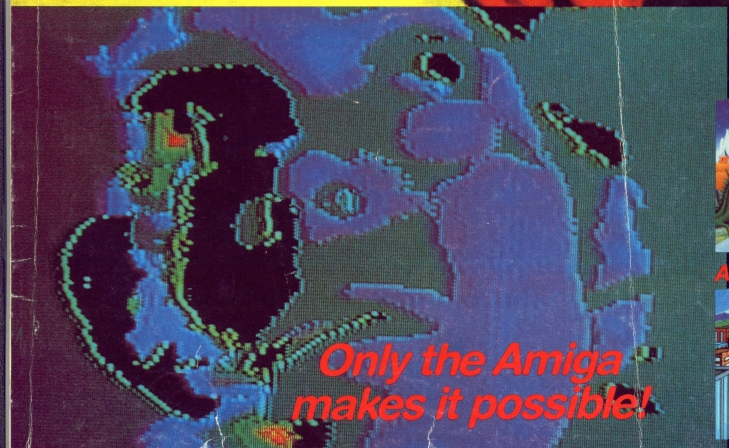

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THE AMIGA DIMENSION

AMIEXPO IN CHICAGO

At the AmiEXPO in Chicago, there was a fairly restrained party at which everyone present at the Show was invited to celebrate the third birthday of the Amiga. All that was provided was a large cake – even soft drinks had to be paid for by the guests. The low profile nature of the event was hardly justified. Many apparently acute observers of the computing world have not believed the Amiga would survive at all, much less be gathering strength at this stage.

While there is general agreement with the view expressed by Jay Miner, the man most responsible for the creation of the Amiga, that Commodore wasted a year; the successful effort they have made recently with the A500 has brought about a possible divide in the Amiga's development.

From what was demonstrated at the AmiEXPO, it is clear that the major software and peripherals continue to be created in the U.S.A. But the mass of games emerging seems to be coming from Europe.

Will the fourth year of the Amiga's public life see that divide widened? Well, according to the many Amiga dealers at the Show, in the U.S. the 2000 is selling in greater proportions than in Europe to the now lower-priced and more games-orientated A500. With the Transatlantic variations in computer buying habits, we may see, over the next twelve months, this international divergence between "serious" applications and games growing to rather disturbing proportions.

Antony Jacobson, Managing Editor and Publisher

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By Bus: 266, 714, 716, 290, 30, 72, 73, 74.

Car parking facilities available at the Novotel.

DATABASE EXHIBITIONS

NEWSFILE

New Amiga group

A group of Amiga users has been formed in Dublin, Ireland. The secretary of the Northside Amiga Group told us, "We are interested in informing our members of developments in computing for the Amiga. Our aims are foster friendship and contact among Amiga users in the Dublin area. We provide a public domain software library for use by club members. We welcome contact from interested parties and other user groups in Ireland and abroad.

We meet on the 1st and 3rd Mondays of each month. Discussions and demonstrations on topics of interest to Amiga users usually take place at the meetings.

We extend a cordial invitation to all Amiga users in Dublin to attend our meetings at the Donaghmede House Social Centre, Dublin 13."

Contact: Joseph Kiernan, Northside Amiga Group, 20 Broadmeadow, Swords, Co. Dublin, Ireland.

Virus Penalties

In the US six software trade groups have got together to urge the Government to introduce harsh penalties for the creators of computer viruses, including a ten year prison sentence. The campaign is being co-ordinated by the Software Development Council of North America. The SDC take the issue of viruses very seriously. They are fully aware that if a virus were to effect a hospital system, lives would be at risk. Such is the concern of many legal experts, that they are donating their services freely to the cause. They have been working to draw up some suggestions as to the penalties they feel should be imposed. These would include a $1,000 fine or three months inprisonment for the creation of a data destructive virus, a $10,000 fine plus one year in prison if it is shown that public health and safety is endangered by the creation of a virus. They want a maximum ten year prison sentence for a virus creator who endangers lives. However, even before the introduction of any new laws, a Texan named David Burleson faces the possibility of ten years in jail for infecting a brokerage company with a virus which destroyed 168,000 files. He was charged under a law in that state which punishes those who cause "harmful access to a computer."

SunRize Releases

Two new products from SunRize Industries are their Adventure Workshop and their low-cost colour splitter. Adventure Workshop is an adventure development language allows the user to create his own stand alone adventures populated by spies, monsters and a Martian or two. You can integrate IFF sound and graphics, use the ready made clipart and clipsounds included, or make your own. The program comes complete with two ready made adventures to get you started.

The Perfect Vision Color Splitter is an electronic colour splitter for use with SunRize's Perfect Vision and other digitisers that require RGB separation. It has a video in, video out switch and a DB9F connector. You supply an NTSC colour video signal to the video in and the colour separator will pass the filtered component with sync to the video out. The user simply selects whether he wants the red, green or blue component with the switch on the front panel. Perfect Vision owners can connect the DB9F connector to the one on the back of their Perfect Vision for automatic colour control.

Prices: Adventure workshop $59.95. Perfect Vision Colour splitter $99.95.

Contact: SunRize Industries, 3801 Old College Road, Bryan, Texas 77801. Tel: (409) 846-1311.

Commodore lose Hart

After ten years with Commodore UK, Tom Hart has left his job as operations director for a similar role with Unisys. He will be covering Europe and Africa. Hart's departure has meant a reshuffle of Commodore's sales and operations divisions, with Jim Housego in charge of operations and Steve Franklin, Managing Director, taking responsibility for sales. Franklin expressed his sorrow at Tom Hart's leaving but stressed that he was more than confident of being able to cope with the situation. Tom Hart said that he was sorry to be leaving Commodore but he was looking forward to the challenge of his position with Unisys.

Sound FX

The Sound FX sound creation program has been developed by Linel with the inexperienced programmer in mind. Once a sound effect or a tune has been created it can be saved as a final soundtrack (to startup with the boot block) or as a file to use in any program. Also included is a program for making a slide-show with music and IFF pictures. The user can either use his own digitised instruments or those in the library provided. Up to fifteen instruments may be used in one song, each with a seperate volume control. Print and memory alarm functions are also provided. Editing functional include: Cut track, Copy track, Insert track, Fill track, Special sound effects, Pause to edit, Transpose (song, track, block) and user definable function keys.
PRICE: £29.95.

Digi-View 3.0

NewTek have released Digi-View 3.0, a software upgrade for the Digi-View HAM colour digitiser. It will be available for the Amiga 500, 1000 and 2000 machines.

NewTek's president, Tim Jenison said, "Digi-View 3.0 adds all the features that users have been asking for, including new algorithms that push the graphics chips on the Amiga harder than ever."

We were also informed of a new feature that enabled overscan images to be used with a maximum of 768×480 resolution. This new mode allows for borderless screen images, perfect for desktop video applications. A new half-brite mode will allow highly detailed images with 64 colours. The most advanced new feature, line art mode, will allow you to digitise any black and white line art, logo, or other detailed two colour image, without any extraneous picture elements. This, AUI was told, is accomplished with the use of advanced image processing techniques, previously found only in systems selling for over $20,000.

Price: Including Digi-View hardware $199.95.

Contact: NewTek Inc., 115 West Crane Street, Topeka, Kanses 666 03, U.S.A. Tel: (913) 3541146.

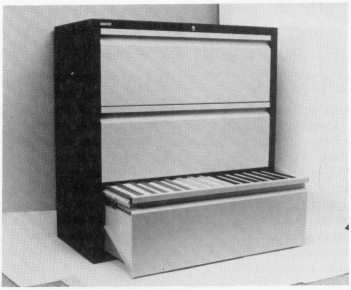
Printout storage

Secure storage for up to 60 printout binders of most sizes is offered by Accodata's three drawer cabinet, available from Action Computer Supplies. The cabinet has a central locking system and safety device, so that only one drawer may be opened at a time. It is normally used for 'across the width' filling but two short suspension rails are supplied with each drawer to facilitate front-to-back filing of either printout files or standard A4/Foolscap files.

This steel unit, designed to support the weight of 60 fully-laden printout binders, has a brown/beige scratch resistant finish and rounded corners. It measures 43.25in height × 40in wide and 19.5in deep.

Price: £310.00.

Contact: Action Computer Supplies, Abercorn Commercial Centre, Manor Farm Road, Wembley, Middlesex HA0 1WL. Tel: 0800 333 333.



SHOOT'EM-UP CONSTRUCTION KIT

The ability to produce computer games to a professional standard is soon to be within the capabilities of every Amiga owner with the release of Shoot-Em-Up Construction Kit, from Outlaw productions. No longer will it be necessary to have even the slightest knowledge of programming to be able to produce complex and creative action games, for your own amusement or even for commercial publication. A number of top games programmers – who between them have produced many hits, such as Wizbal and Barbarian – have brought their skills and experience together in the design of S.E.U.C.K. The package combines a number of powerful editing tools within one program, allowing the user to produce and edit graphics, sound and game-play and save the results to disk. It allows the user to employ the games designing methods used by the professionals but within one, integrated package. Shoot-Em-Up Construction Kit has already been a major seller for the Commodore 64.

Contact: Outlaw Productions, The Old Forge, 7 Caledonian Road, LondonN1 9DX. Tel: 01-271 0751.

In-Car Technology

Questions have been raised in the UK House of Commons concerning the use of portable computers and office equipment in cars. A Conservative MP, Douglas French, is leading the campaign to limit the use of Fax machines, Photocopiers, computers and telephones by motorists. Although present legislation already places the onus on drivers to ensure that they are in proper control of their vehicles, Mr. French does not accept that this is enough. He is not suggesting that passengers or drivers whose cars are stationary should not be allowed to use High Tech facilities but he is concerned at the safety risks involved when they are used by the driver of a moving car. Mr French explained, "The number of car telephones is projected to increase to 1.5 million by the early 1990s. I see this as a major threat to road safety." Commenting on the statement by the Minister for Roads, that the Government has no plans to limit the use of in-car office equipment, Mr French added that he was "not at all satisfied".

Software Sentinel

Rainbow Technologies have received their first major order for their Software Sentinel from Microsoft, said to be worth millions of dollars. The Software Sentinel is a hardware key device which fits into the printer port of your computer. Two years ago California Software Products, who distribute the key, challenged the computer world to hack a program which was protected by the key. The prize was never won. Microsoft will supply the Software Sentinel with all their software sold overseas, as they believe that this is the main area in which the hacking problem exists.

Real-Time Sound Processor

The Adept Real-Time Sound Processor, due for release soon, is claimed to be the first sound software package to feature real-time processing of digital sound. It will be capable of producing effects like AM – modulation (Tremolo), FM – modulation (Vibrato), Chorus – flanger modulation, echoes and reverberation, as well as stereo simulation from a monophonic sound. All of these effects operate directly on the incoming digitised sound.

Mindscape Shares

Mindscape Inc., based in Northbrook, Illinois, publish, develop and market entertainment, personal productivity and educational software products for the home and education market. They now make an initial public offering of 1,100,000 shares of common stock at $9.00 per share. All shares were sold by the company. The net proceeds of the sale will be used to repay bank debts.

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K-Gadget

Kuma Computers Ltd., have announced the availability of the latest addition to their Amiga product range; K-Gadget. According to Kuma, "This is a comprehensive Gadget and requester Editor which generates C source code, combining an impressive specification with the ease of use of an Intuition based Amiga program.

With the implementation of K-Gadget, the design and coding of complex gadgets and requesters they say, becomes a quick and easy process, reducing programming time. The visual display of gadgets and requesters enables the programmer to witness changes made during the design and editing stages. The drop down menus have been utilised to the full to make the comprehensive list of built-in functions easily accessible.

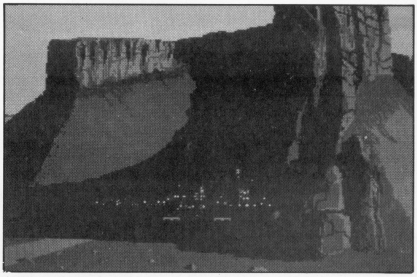
The specification includes a visual display of gadgets during editing and the generation of Boolan, proportional and string gadgets, which may have text and borders.

Price: £29.95.

Contact: Kuma Computers Ltd., 12 Horseshoe Park, Pangbourne, Berks, RG8 7JW. Tel: (07357).

Mars Cops

Due for launch at the end of August is Arcana Software's Mars Cops for the Amiga. In this action shoot-em-up you play a crack member of the United Interplanetary Police Force who are dedicated to ridding the galaxy of those nasty old aliens who have been giving your Mars based colony more than a little trouble of late. They are getting more daring every day, shooting up civilian ships and sabotaging colony installations. They also seem to be amassing some kind of an invasion fleet out by Jupiter. The problem is that this is the next century, when Earth has little in the way of its own defences. You have to stop the aliens now, before they decide to turn their attentions on the rest of the solar system. Another day might be too late . . . Whether you are zooming through asteroid belts around Mars or trying to land your craft back at base in a tricky tail wind, there is "enough skill, strategy and bloodletting in this game to keep any they tell us, crazed psychopath amused for hours!"



Mannesmann Tally Printer

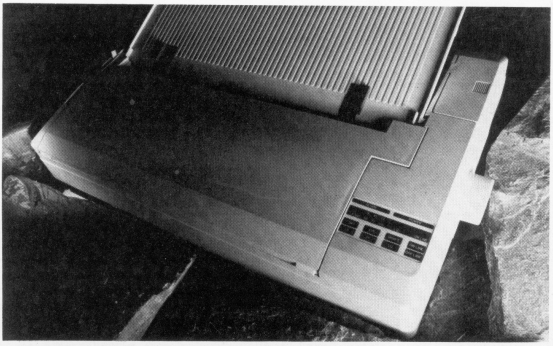
Europe's largest printer manufacturer, Mannesmann Tally, have ptiched a direct challenge at NEC with the launch of their high performance 24 pin dot matrix printer priced at £695. The company claims the new printer's 220 cps draft and 72 cps letter quality speeds will offer PC users unprecedented price and performance benefits.

"Designated the MT222 and designed for word processing applications, the 136 column printer lets users interrupt continuous stationery printing to load automatically or manually single sheets. Returning to continuous stationery requires a single keystroke on the front panel. The continuous stationery remains in the tractor mechanism throughout the paper change", say Mannesmann Tally. Other facilities accessible from the front panel include print quality and character density.

A colour option for the MT222 is available for an additional £100. "Other extras include an automatic single or twin bin sheet feeder, resulting in a fully featured model that is more advanced than comparable printers in the marketplace", claimed the company.

Price: Black and white: £695.00. Colour: £795.00.

Contact: Mannesmann Tally, Molly Millars Lane, Wokingham, Berkshire, RG11 2QT. Tel: (0734) 788711.



Flash Chip is the TOPS

Rumours has it that Commodore plan to use the Sun Microsystems' TOPS Flash chip in their machines, in a bid to boost their share of the business market. This would allow users to interface directly from a Commodore machine to TOPS and share files between PC, Macintosh and Unix computers.

Switch on to Black Lamp

Graham (Kenny) Everett and Steve Cain have teamed up with Fred Grey to bring out Black Lamp, an arcade game with over 100 levels. Gameplay takes place in the kingdom of Allegoria, where the reward for success is the hand of a princess and the price of failure is death. As Jolly Jack the Jester you must fight a host of animated animals and characters, including skul dropping Buzzards, Evil Eagles and Spitting Witches in your quest to find the enchanted lamps and ultimately the Black Lamp guarded by a dangerous dragon.

Price: £19.95

GRANDSLAM

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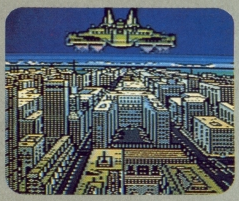

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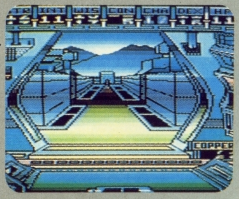

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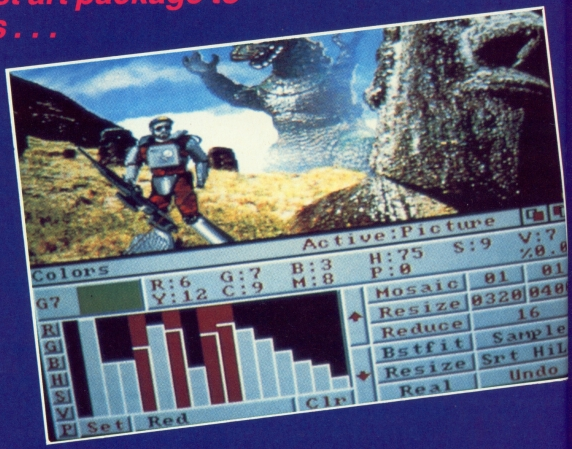
Three into one WILL go. Peter Lee snaps up this latest art package to see what develops . . .



DELUXE

Having made their reputation – and probably a small fortune – with Deluxe Paint, Electronic Arts could be forgiven for resting on their laurels. After all, it was the best art program around for years and is still the first choice of most Amiga artists. However, as more software houses and programmers invest time and money in a growing machine, rivals use DPaint as a benchmark and strive to improve on its excellent features. Some even succeed, but it has taken Electronic Arts themselves to create what must be considered the definitive graphics package; the sleeping giant has awoken. It has taken time, with the opposition fielding some stunning competition, but Deluxe PhotoLab once again re-establishes EA as number 1.

The program is a combination art, image enhancement and souped-up printing package. These three sections are packed onto one unprotected disk and are accompanied by a demo disk full of the kind of artwork guaranteed to take your breath away. Deluxe PhotoLab requires a minimum 1 meg of memory and is supplied with Commodore's Workbench 1.3 preferences. At the time of writing, these are still in the pre-release stage but can be upgraded once the official version is readily available. While the program's three modules – Paint, Color and Poster – form an integrated and extremely powerful combination, we shall look at each individually; as stand-alone utilities they are superb in their own right.

PAINT

This art program lies at the core of PhotoLab and while Electronic Arts may have resisted the temptation to call it DeluxePaint III, it carries on the established tradition of artistic excellence. At the same time, it adds more powerful features to the familiar catalogue of graphic utilities. To start with, PhotoLab works in any of the Amiga's screen resolutions – and that means everything from 32 colour low-res, to interlace Hold and Modify (HAM) with the ability to have on screen any of 4096 colours. All are full-screen PAL displays and as if this isn't sufficient, halfbright mode is also available; this is the enigmatic screen display which supports 32 main colours and 32 subsidiaries which are half as bright as their source. So you can choose from 64 colours in a low resolution screen instead of the normal 32. There is the usual warning that very early Amiga 1000s will not support this feature.

Screen mode and number of bit planes (which control memory needs and the number of colours) are selected once you have started the program from Workbench and whichever resolution you choose, all the graphic special effects are at your fingertips. You can just as easily lasso-cut a brush in HAM as you can in medium resolution.

There are fourteen painting tools, displayed in a menu at the top of the screen; some hide dual uses, depending upon which mouse button you use to highlight them. As in DPaint, this menu together with the screen menu bar can be removed by pressing function keys 9 and 10. The tools include dotted and continuous freehand draw, straight line, curve, variable airbrush, fill (with some excellent effects), circle, cut and magnify. Anyone with a hint of experience in Dpaint will be very much at home here. Keyboard shortcuts are also extensive and use the familiar Deluxe conventions and the file requesters are of a new de-

sign, with the volume labels added to the list of current files for switching drives more easily.

The drawing area is not confined by the limits of the display screen but by the amount of memory you have. By some stroke of genius the software team have overcome the chip memory

constraint to enable large-scale pictures to be held in memory and worked on, with scrolling controlled by the cursor keys.

"The magnification feature is the finest I have seen on any art program"

It is possible to have two screens of different resolutions open at once – not the normal DPaint 'spare screen' system but nevertheless a useful addition. Brushes can be carried over from one screen to the other. Brushes themselves can be either the standard drawing tool – pixels, blobs or lines – or, more usefully, clips from artwork. These work in exactly the same way as in DPaint, with a neater and very fast re-size option. Brushes can be rotated and flipped and form the source of a stunning array of effects which, though not as comprehensive as those offered by the HAM art utility Photon Paint, still carry immense flexibility and control; for instance, a brush can be quickly wrapped around a circle to give the realistic effect of an image either reflected in a chrome sphere, or trapped in a crystal ball.

Brushes can be used as fill patterns and, in a novel feature, the last thing you did – perhaps design a curfve or paint a flower – can be called back and made into a brush without you having to define any screen area; the program remembers where you worked and can even recall a brush from underneath something which has just been added (for instance, if you paint a coloured circle onto part of a picture, you can specify the area under the circle as your brush; the same applies to irregular shapes too).

The number of colours in your palette depends on the resolution you are working in but hidden behind the work screen is a beautiful surprise – a colour control menu from which you can mix any of the Amiga's 4096 colours and place them into your work palette. Ranges of colours can be designed simply, with control over both HSV and RGB values for precision tuning. Colour need not be painted as a solid either, because thanks to a wide range of options it can be blended into the existing screen display. The ability to colourise – laying a transparent colour over another object, as if you were seeing it through a sheet of tinted acetate – allows the creation of superb and subtle effects; from turning

PHOTO LAB

monochrome digitised pictures into coloured ones to adding illumination highlights to objects. A shade feature works on both solid colours, giving a good feeling of perspective with the adjustable light source and also brushes, which can be given a true feeling of depth.

There is a superb feature which allows you to repeat your last action; for instance if you want to build up a series of light shades over an object, simply do it once and keep repeating the effect at the press of the 'r' key. You can change things like your chosen colour and still repeat the last action.

Text can be entered on screen at any time, though the font assortment which accompanies PhotoLab is the standard lack-lustre Workbench set. If you need to use other fonts you have to add your own to the program disk, or boot up with another workbench

cont. on next page

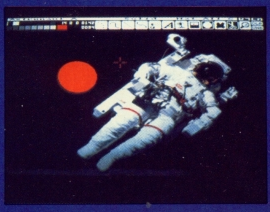
DELUXE PHOTOLAB

disk containing your selection, because there is no CLI on the system disk with which to assign fonts to another drive. I had to copy the assign command to the program's C directory and add a line to the start-up sequence assigning fonts: to df1 to get anything halfway attractive onto the screen.

As a final touch, the magnification feature is the finest I have seen on any art program. There is full control over the zoom factor and the display is split in half as in DPaint. But to help in precise editing, each pixel can be boxed in either a grid or on a line for line basis, which makes alterations so much quicker and easier.

COLOR

After completing an art screen, or maybe before transferring a digitised image into the Paint program, you may want to enhance it, to tweak the colour balance or simply experiment. This is where the Color module comes into its own. Maybe not as powerful as dedicated image enhancers such as Pixmate or Butcher but a sophisticated and useful addition to the PhotoLab suite. The command screen menu controls all the program's actions and carries statistical information about the current screen's attributes – from the percentage of pixels of any colour to the RGB/HSV values of the screen's palette.



In use, the two main items will probably be mosaic and re-size; with mosaic it is possible to get a number of interesting effects by composing your picture as a series of blocks. You lose definition but there is the opportunity to build on the results. For instance, I defined four identical digitised screens with larger and larger mosaic blocks, then played them back through an animation program to get the effect of the gradual sharpening of a jumbled-up picture. The re-size function earned its keep for me through its ability to effectively turn NTSC screens into PAL depth, simply by modestly increasing the size of an image without losing the picture's integrity. You can work the other way too and shrink pictures in a more ordered way than an art program's brush re-sizing feature. Simply give the program the height and width in pixels and watch it do a wonderful job! You can make colour separations of the screen, change it to black and white and match palettes with other picture files (useful if you intend importing brushes into other screens). You can also change display modes, to convert a screen into another resolution.

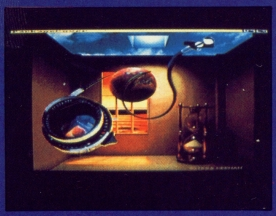
"The re-size function earned its keep for me through its ability to effectively turn NTSC screens into PAL"

POSTER

If the thought of your artwork reproduced as a 10 feet by 10 feet billboard has ever appealed to you, then your fantasies can become reality with this module. Selected from Workbench, Poster allows you to load in a saved screen – irrespective of resolution – and have it printed out in any size and ratio you require. Like some giant jigsaw, the screen is printed a sheet or column at a time, leaving you to paste it together once it is complete. The poster size is defined either to specific measurements, or by controlling a grey sizing shape which can be controlled either proportionately or to suit your needs.

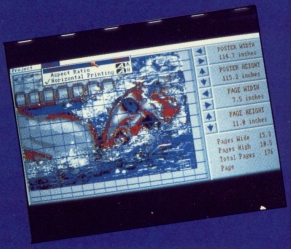
Printing takes some time for large posters and even longer if you specify an anti-aliasing technique – which is worth the extra time because of the superbly smoothed output. Close up, the printed sheets look pretty meaningless but from three feet away they look marvellous. Even complex digitised pictures are rendered well, though colour-printer users may wince to think one picture can take 18 full pages. I, however, found that black and white was adequate for most purposes. If the paper or ribbon runs out, you can start printing again from a specified page so the whole job is not wasted. Also a nice touch is the pause option to allow you to re-align your paper from time to time.

The Poster program is purpose designed to help you reproduce the large-screen formats available in the Paint module and happily obliged with printer dumps of my 2 × 2 screens. The other side of the coin is that you can also shrink screens, so that if you had a multiple screen drawing, you could print it out on a single sheet by reducing it. To save wear on the ribbon, you may switch off the background colour while printing.



MANUAL

The high standard of Electronic Arts manuals is again evident in a thorough and helpful book which accompanies PhotoLab. There are tutorials for each of the three programs alongside highly detailed explanations of each separate function. The intricacies of the Amiga's screen modes are explained and the reference sections are an excellent addition.



CONCLUSION

A quality product at a fair price shows Electronic Arts are in tune with their loyal public. PhotoLab is a superb triple-package, with the art program alone a real dazzler. If I have failed to be my usual carping self(!) it is because the program has captivated me, both in terms of features and price. If there is a better all-round art program for the Amiga, I have yet to see it.

P.L.

Price: £69.95
Contact: Electronic Arts, Langley Business Centre, 11-49 Station Road, Langley, Berkshire SL3 8YN. Tel: (0753) 49442.

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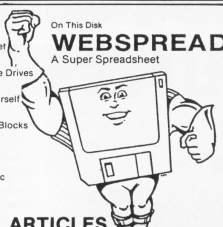

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DO NOT submit any program or routine that you do not either own or have property authority to do so.

ALWAYS include your name, address and the date on all material and any enclosures.

Do not forget to make it clear exactly which computer/s your program or article is applicable to.

Include ROM or DOS versions wherever they are pertinent.

If you have to submit work which is hand-written then you must make sure it is printed clearly.

Number all pages.

Never use staples. Use paperclips if necessary.
If you are saving your program to tape then save it AT LEAST twice on each side.
When you save a program on disk save it twice and call the second file "BACKUP".

Remember to label all tapes and disks with your name and the title of the program. Label tape or disk with your name and the name or title of the program.

Always ensure that disks are well packaged. They should ideally be sent in a commercial disk mailer or at least packed between two pieces of hardboard or rigid plastic.

Please allow at least 8 weeks for acknowledgement as all programs have to be thoroughly tested and made into a suitable format.

Enclose a self-addressed stamped envelope or package if you would like your program to be returned.

★ Programming tips ★

If you can, use CHR$(x) type commands instead of those hard to read graphic symbols.
If necessary renumber your program on completion a many readers use auto number utilities to ease typing in.

Try to keep instructions within the program itself at a sensible level. You can expand on them within the accompany text if necessary.

TEST your programs before submitting them or even better get a friend to test them for you.

If a program contains machine code data please use decimal and not hex as there are fewer digits to be confused. Try and keep the same number of data statements in each line. Please add some form of error checking if your program contains more than five lines of data.

ROMANTIC ENCOUNTERS AT THE DOME

A steamy adventure, likely to get you hot under the collar? Bob Chappell volunteered to put it through its paces ... and volunteered ... and volunteered ...

Do not make the mistake of thinking that this program has been adapted from the colleced works of Barbara Cartland or that it is in the style of Plundered Hearts, Infocom's first adventure for women. Such an assumption could turn out to be quite embarrassing for anyone buying the program.

Oh dear me, no – this one is far stronger stuff than the type of bodice-ripper its title might have led you to expect. A more accurate title would have been "Sexual Encounters At The Dome" for this game comes as close to soft porn as I have seen from a home computer program.

The Dome is a sophisticated Los Angeles club for swinging singles wherein you can play out roles, as a man or a woman, that in real life might never come your way or, if they did, could get you into a whole lot of trouble. The game is almost entirely text driven, your responses at the keyboard helping to determine what happens next. In this respect it is very much like a typical text adventure. The idea of Romantic Encounters is to test your skills with the opposite sex.

At the beginning of this two disk game, you opt for a male or female role (there are over 115 completely different interactive scenarios for each) and must enter the appropriate password that comes with the documentation. These passwords are supposed to protect against access by minors but I fail to see how – if the minor can get hold of the program and can read (and there is no point in playing the program if illiterate) then presumably he or she can also read the password which is clearly highlighted and signposted in the booklet.

Once past the password check, you then have the choice of starting your night out from the beginning of the game or going direct to anyone of the one hundred or so individual scenarios.

If you opt to start from the beginning, a random generator (based on how long yu took to make up your mind on the above options) comes into play to determine what sort of experiences you will have that evening. You are always placed just outside the reception area and may proceed to visit (via the lift) any of the several floors of the Dome.

Some disk swapping is necessary if you only have a single drive and not all of the floors are accessible – a couple are by invitation only. The third floor offers a "love-capacity" testing service (question and answer sessions) at the end of which you are given a score and a psychological profile. Since the same questions alays come up every time you take one of the tests, you are unlikely to want to visit it more than a couple of times – and maybe never again if you achieve an ego-bruising low mark in the session!

Characters come and go as you make your way around the Dome, everything being described in detailed text displayed in a decorous frame. There are often several screens of text (pausing at each screenful to allow you as much time as you want to digest it) before the program halts and requires a decision from you. What your typed response is at these points effects the following sequence of events. For example, you may be asked whether you want to walk away from the present situation or hang in there.

All fine and dandy except that the parser analysing your typed input is fairly naff. If you have been used to playing Magnetic Scrolls or Infocom adventures, your expectations of how well a program will understand your responses will be high but I am afraid that playing this game will bring those expectations crashing to earth in flames. The game seems to be programmed to accept a fairly limited or even a single fixed response in many of the situations. This is particularly frustrating when a character is waiting for you to make a move but no matter how you expressed your decision, the response is clearly not understood by the system.

The option to dive in at any of the scenarios does at leasg give you some chance of seeing what you might otherwise have missed because of flawed input analysis but, as the program fairly points out, because you have disrupted the time sequence, progress through and beyond a chosen scenario may not always be possible.

Many of the encounters themselves ultimately lead to casual sex – morality is not this game's strongest point. You invariably end up in a private room (a closet in one instance!) with a member of the opposite sex and the ensuing described activities could cause a few raised eyebrows, to say the least (oral sex is featured, for example). The game stops short of being too explicit but does not leave much to the imagination – the sexual descriptions and incidents are probably on a par with what you could expect to find in current steamy best selling novel.

There are some graphics – a map feature brings up a picture of the current floor – and one or two neat touches, like being able to get the barman to mix you drinks to your own specification. There is no sound – perhaps it is just as well.

This is an adult program dealing for the most part in sexual fantasy. If it is the sort of game that appeals to you, keep it away from your kids. And be warned – the gameplay frustrations could prove more vexations than any unsuccessful vicarious romantic encounters.

B.C.

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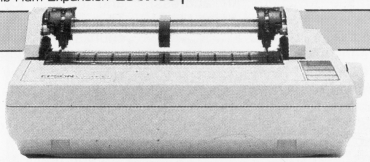

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MEMORIES ARE MADE OF THIS

Bill Bremner, editor of the ICPUG Newsletter, looks at some of the memory problems people encounter on the Amiga and suggest a useful modification to the A501 half Megabyte RAM expansion.

Although at one time, 512k of RAM seemed a great deal of memory, with the Amiga it is very much equivalent to the 64k of the C64 – there is enough of it for most applications but it is all too easy to run out with large application programs or complex screen displays.

The Amiga has its own personality and will happily eat up memory when you are not expecting it. It is therefore useful to know how to cut down on the operating system's voracious appetite.

First of all, and probably the most obvious advice, is to keep the number of applications running under the multi-tasking system down to a minimum. If you have popped into another application program to check something out (perhaps you were word processing and called up Superbase to check an address) then close this as soon as you have finished.

Screens and windows all take up a large amount of RAM and the problems are increased as the number of available colours or resolution is increased. If you have the choice, use two or four colour, low-resolution screens.

Close all unused windows (including those generated after clicking on a disk icon). However, you may want to preserve a couple of program icons, in which case drag these out of the window onto the Workbench screen and then close the window, the icon will stay put.

If you find you cannot afford to do without a window then keep it as small as possible. Also, avoid windows overlapping since the operating system will stash away the "damaged" portion of the windows ready to restore it when the window is uncovered.

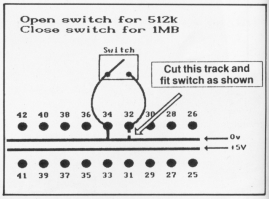
The same principle applies when using applications like Superbase which open windows of their own – keep these as small as possible. If you find the system will not allow you to re-size a window or to drag it, then there is not enough memory to hold the new version – perhaps try small changes at first (to the smallest windows that you have) to free up memory progressively. This does not always work but it may be worth a try.

Finally, some applications programs may remove the Workbench screen completely, generating their own screen – when you slide the screen down, the Workbench screen and the disk icons will have gone. This is another device for saving chunks of memory – however, you may want to keep the Workbench screen to allow access to other packages. In this case, keep a window open on the Workbench screen since the screen cannot be removed whilst there is a window present.

If you really are desperately short of memory, you could unplug the external disk drive before switching on. The operating system will then not allocate any buffer or work area for this device. Of course, it would be a much better plan to save up for some expansion RAM.

Switching out the 501 memory card using hardware methods

The question was raised: can the A501 memory card be switched in and out by hardware, cancelling the need to continually unplug it? Well, the answer is yes and quite simpy. Looking at the Introduction Manual that comes with the computer, page F-11 shows a block diagram of the A501 card. Page F-4 shows the connections to the A501 card on the computer side. Upon examining this diagram, it can be seen that next to pin 32 is the label EXRAM with a bar before it, meaning active low. This line is normally kept high by the computer. When it goes low, the computer expects to find the A501 card attached. Not surprisingly, the A501 card does drag this line low, making the extra memory accessible to the computer. That is the theory. In practice, the track between pin 32 and the 0v line has to be cut and a switch inserted between these two points.



A nice feature is that even when the memory is switched out, the clock is still usable as normal. A couple of things that should be pointed out:

1. When switching the memory in or out, you should turn the computer OFF and then ON again. This is not because it can damage the computer but because the computer only checks the logic level on this line on a power-up condition and not on a reset.
2. Although this is a convenient way of switching the memory in and out, it must be remembered that it WILL make the guarantee void. It works very well but if you have trouble with the card within the guaranteed year, well . . .

B.B.

COMPETITION

W_N A S_ _Y W_LKM_N! W_T_ SCRA_BLE

Magia Ruse Tinortenialan ?

Virgin Publishing are releasing their highly successful SCRABBLE on the Amiga (see page 36 for the AUI review).

As an internationally popular board game and already a top seller on a number of computer formats, SCRABBLE is sure to find a welcome from a wide range of Amiga owners.

Virgin Games are giving AUI a special prize for the winner of a competition. The prize is the one named in the title at the top of this page. You have to complete that headline as the first question of the SCRABBLE Competition. The winner will receive that prize plus a copy of Amiga SCRABBLE. Ten runners-up will each get a copy of Amiga SCRABBLE.

The other questions are:

2. Who is the Chairman of the Virgin Company?
3. Name a transport activity in which Virgin is involved.

Unscrabble – sorry unscramble these anagrammed words

4. Magia Ruse Tinortenialan
5. Rinvig Barbiesc

The winner will be the first name pulled out of the AUI Competition Hat on November 1st 1988.

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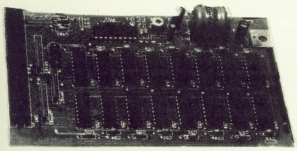

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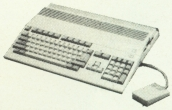

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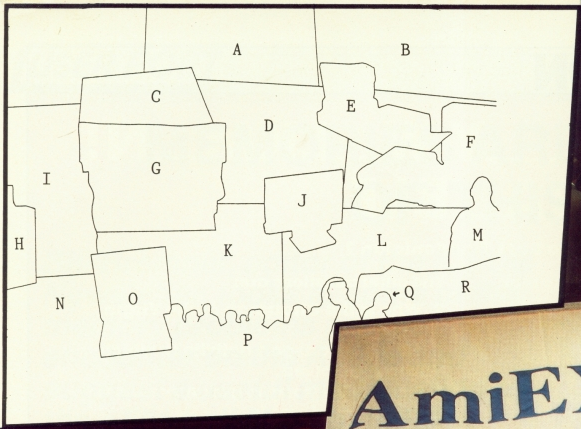

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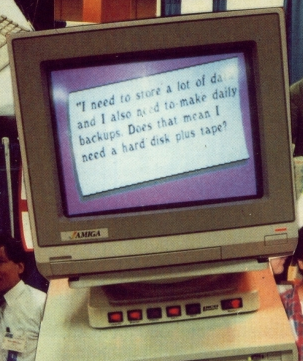

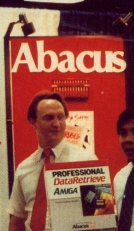

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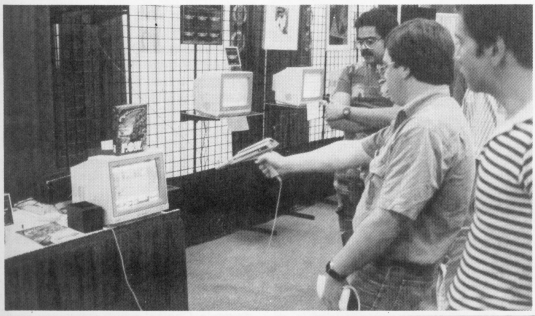
'Reach for the Best'

There is a strong feeling that this is going to be the year of the Amiga. At the Ami-Expo in Chicago there was a very positive air and some obviously very large investments have been made. One area in which the Amiga was strongly represented was that of Video. There were no less than eight companies demonstrating professional quality Video set ups. These ranged in price from $200 software packages to $30,000 special effects studios. Video Toaster from NewTek must be one of the most talked about packages for the Amiga. It does not, however, look as though it will be released until late this year and a PAL version may still be a very long way off. LIVE from A-Squared, however, is now shipping in quantity and a couple of other companies are now producing special effect software for it.

Professional Page, ProWrite, Shakespeare excellence! and Publishing Partner (desk top publishing packages) were all on show. The finished version of Publishing Partner, however, is still some months from completion and/or release, although from what we could see from the version demonstrated, it looks like a product well worth waiting for. From the same stable as Professional Page, came Professional Draw and Comic Setter. The latter has been promised for some time now but is still not quite finished although an example 'comic' presumably created using Comic Setter was being handed out. Professional Draw is a new package designed to complement Professional Page. It enables the creation of high quality, high resolution images, for inclusion into Professional Page documents.



Chicago – An Amiga Kind of Town

Chicago's AmiEXPO was not quite like its predecessors in New York and Los Angeles. In New York, the sharp, East Coasters seemed to regard the whole Amiga thing with a touch of guarded sceptism natural to the self-consciously streetwise. In LA, not so many came but they belied the Californian reputation for being laid back and took a carefully informed interest in everything. Both those Shows seem to have drawn most of their public from close 'around them.

Chicago, capital of the Midwest – the approximate centre of the USA drew its attendees from wide across the country. Perhaps they should have called it the Coast-to-Coast AmiExpo, for there were both Amiga owners from the drought-hit plains of the area around Chicago and also from further away, even from out there on the coasts.

For anyone visiting Chicago for the first time, its gangster-ridden, sleazy, stockyard image was immediately seen to be far from exact. With stunning architecture, elegant shopping, sunny beaches on a beautiful lake, clean streets and healthy-looking, well-dressed people, Chicago presented itself convincingly as one of the most

continued on page 22

Burocare Beseiged

A very useful tool for anyone looking at DTP is a page scanner. There were three variants at the show. The most impressive in terms of results was the Sharp Colour scanner being demonstrated by ASDG. This was able to scan colour images and faithfully reproduce them on screen. Up to 21 bit planes of colour information could be stored. Unfortunately its $6,500 price tag may do more than just frighten a few people off. C Ltd, were turning out some very pleasing black and white images with their new LaserX-Press, high speed SCSI laser printer in combination with publishing partner and XpresSCan, a high-resolution 300 DPI black and white page scanner. From this side of the Atlantic were Burocare who were beseiged with questions about their new desk top scanner. Priced at $1300, this 200 DPI scanner would have been popular enough but the ability to also operate as a photo copier and printer added to its appeal.

Several interesting 'gimmicks' made an appearance: a cordless optical mouse from Meridian, who were also exhibiting Zing Spell, a check-while-you-type spelling checker. All the way from Australia were Memory & Storage Technology (MAST) who were keen to show us their latest HARDWARE virus detector? along with a cheap 2MB memory expansion for the Amiga A500 and a range of slimline disk drives for the Amiga range of machines. ASDG were controlling a bank of lights, switched on and off, by selecting icons on the Amiga's screen. They also had a card for the A2000 which added an extra serial port and a new advanced text editor – CynusEd Professional.

Actionware added a little arcade style action with Capone, P.O.W. and Creature. All of which use light 'phaser' guns. The guns are similar in style to those used with the Sega games console, although I was assured that they are not the same and, are therefore, not interchangeable. Whilst on the subject of games, Free Spirit seemed to be almost embarrassed at the prospect of their imminent release, Sex Vixens from Space, a slightly raunchy (adult) game. Readysoft, authors of the 64 Emulator, have now taken to games. They started off their series with Ganymed and Bomb Busters, with the promise of many more 'reasonably priced' games to follow including: Cosmic Bouncer, Rock Challenge, Dragon's Lair and, believe it or not, Scary Mutant Space Aliens from Mars. Digitek Software also talked of several new games, soon to be released: Miniature Golf, PowerStyx, Western

continued on page 22

continued from page 21

Chicago – An Amiga Kind of Town

civilized cities in the world and a worthy AmiExpo site . As the Amiga visitors poured into the city to find the spectacular Hyatt Regency Hotel where the AmiExpo was held, they were presented across the rooftops with hoardings that proclaimed boldly 'Reach for the Best!' This instruction, in true aspirational American tone, did not really intend to support the Amiga as the outstanding 16 Bit computer, nor even laud Chicago, proud of itself though it might rightly be. It was more mundanely an advertisement for a local beer. Nevertheless, it seemed appropriate to many of the attendees at this third AmiExpo, for it is clear from the growth in the number of exhibiting companies, from the increase in the range of products available, from the broadening of the catchment area from which the Amiga Community came, that after struggling for three years the Amiga is finally being admitted to the ranks of the acknowledged leaders, the best computer of its generation.

The actual format of the AmiEXPO was very similar to those of last January and October 87. There were Keynote speeches, seminars, and lots of meetings. There was even a third birthday party for the Amiga, complete with outsize cake.

R.J. Mical was the last remaining of previous Keynote speakers, giving as usual his highly entertaining routine replete with humour and original slides of gradually disappearing Los Gatos Amiga staff.

One other Keynote speaker slated to appear was sadly absent. Gail Wellington, CBM's highly popular software chief, was taken ill shortly before the show and hospitalised. She was replaced by another Commodore representative who talked on new technology. Everybody at the show wished Gail, possibly the most knowledgeable Amiga watcher in the world, a speedy recovery. She is regarded both inside and outside CBM as a vital figure in the whole of the development of the Amiga dimension.

AmiEXPO, like the Amiga itself, is becoming more international. There were in addition to visitors from the UK like Burocare, HB Marketing, Amiga Centre Scotland and first time attendee Lee Ginty of Microdealer – who was so impressed that he may take a Stand at the next Show – Amiga enthusiasts from Germany, France, Italy, Canada, Greece, Scandinavia, Australia and Mexico – with the very attractive Margarita and Alana from CBM's SIGMA distributor turning heads even from absorbed Amiga owners.

AUI itself was the only non-US magazine to be on show and proved outstandingly popular, though we had underestimated demand for the magazine and were forced to stop selling copies from the Stand on Saturday just to save some for visitors next day. It was obvious that Americans as well as other nationalities find the publication to their taste and, as a result, US circulation of AUI is to be considerably increased.

A Serious Affair

As usual at AmiEXPOs, there was very little razzamattazz. These were interested, informed Amiga owners. They did not come for cheap software. They came to see what was available and what was arriving on the Amiga scene. There were few games, though Discovery's provisionally named Sion, seen as an earlier preview at the UK Commodore show on the AUI Stand, caused a sensation. The sheer size and excellent animation of the figures – one attacker was literally three quarters the height of the screen! – brought gasps of amazement and will be eagerly awaited.

The Chicago AmiEXPO, was however, generally a serious affair. This was a show for the machine with a high-tech image, making its mark in professional quality sound and video, moving this privately accessible micro into new and exciting high level developments. There is no doubt that Chicago's AmiEXPO was more evidence that worldwide the Amiga is now seen as a machine to take very seriously indeed. Next stop – New York in October.

'Reach for the Best'

Games, Cyber-Complex, Extensor and SpinWorld. The UK was represented in the games arena by Anco Software, a popular, budget software house based in England, and US releases of European games through the popular Juan Holz's Constellation.

Starvision

Throughout the show, the sounds of earth shattering explosions, and the ear splitting roar of jet engines startled many of those present. The majority of the involuntary audience were amazed at the realism of the sounds although several exhibitors found it a little tiresome after the 10th fly past. Most of the sounds emenated from Starvision International who were there to promote their new Omega Stereo Sound sampler, video genlock and World Atlas, an educational program.

Business users were not forgotten. WordPerfect Corporation, developers of WordPerfect, the world's best-selling word processor, were givng details of soon to be released: PlanPerfect, a WordPerfect compatible spreadsheet, DataPerfect, a relational database and WordPerfect Library, a Notebook, Calendar, Calculator, scheduler, mail handler and editor all rolled into one. The Disk Company, joined forces with Oxxi and Software Visions to produce 'The Critics's Choice' which combines KindWords Maxiplan 500, and Microfiche Filer, all in one package. The Disk Company also talked of a bundled DTP package entitled 'Publisher's Choice' due for release later this year.

Brown Wagh, everpresent at Ami-Expos had Esther Lee Appleman, the attractive boss of MSS, on their stand showing Excellence! and also demonstrated their range of products including the popular Tutext.

While many products were, of course, on sale, the major thrust of the show was to put before a new public the growing range of very specifically directed Amiga developments, in sound, in video, in DTP in business and education.

The success of this Ami-Expo, as in previous shows, was obvious. It now seems likely to be repeated in other forms. There were strong rumours of a major Amiga presence at a new show 'The World of Commodore' in Philadelphia in November – and there are further Ami-Expos now planned for 1989.

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SHAKE

(V1.1 Update)

As the competition hots up for the prime Desk Top Publishing slot, software houses bringing out new versions of earlier products. John Walker took this opportunity to examine Infinity's latest upgrade.

RE-ENTER Shakespeare, to start the second act of the colourful Amiga desktop publishing drama. Will it live up to its illustrious name and become one of the immortals?

The answer, unfortunately, is not quite yet. Shakespeare 1.1 is an upgrade to the colour desktop publishing program issued earlier this year (Amiga User International June). It is a notable improvement on the original but it has still got some way to go. Not all the features that its publisher, Infinity Software, promised on Shakespeare's original packaging, in advance of its actual release, are yet in place.

Although Infinity's marketing director Matthew Leeds told us that the first revise would include the ability to provide four colour separations, it is missing here. So is the "snap to" grid, which is essential for the perfect alignment of text and graphics on the page. Also still to come are a variety of fill patterns to put behind the text and a graphics toolbox to draw dashed lines, circles and ovals on the page.

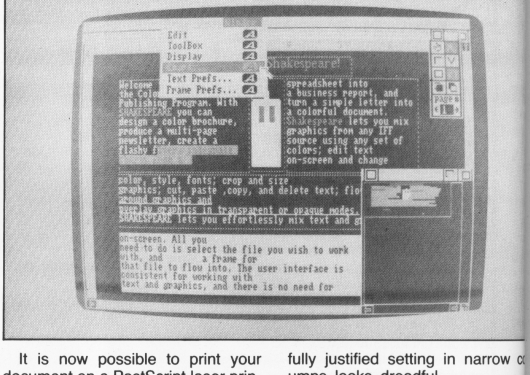
"However the most welcome enhancement is a requester that allows you to specify the number of columns and margins on a page"

It does now include some templates, showing possible layouts for newsletters, letterheads and business cards. However, the most welcome enhancement is a requester that allows you to specify the number of columns and margins on a page and the size of a space between the columns. You can also specify whether or not there should be a rule between the columns.

New alignment guide-lines which extend into the rulers at the top and bottom of the page make it simpler than before to place text and graphics. This task is aided by the additional one-eighth and a quarter inch markings on the rulers. What would be even more useful would be a readout of the actual co-ordinates of the page.

Shakespeare now recognises the Amiga's SetMap command so that you can use any of the computer's foreign keymaps, including, of course, the British one which gives you the sign. It also recognises the alternatve character set which is accessed by holding down the ALT key.

It will accept files created in most word processors and now provides an option to strip extra carriage returns but it still will not preserve the different type-styles or formatting of the original file.



It is now possible to print your document on a PostScript laser printer from within Shakespeare but its PostScript driver remains very basic. You can not rotate a page before printing it, or print it as a negative or as a mirror image – all of which are simple to do within PostScript. Installing PostScript fonts, too, is something which Shakespeare does not make easy.

I am doubtful, though, that anyo would want to use a PostScript pr ter with Shakespeare. It provides typesetting control whatsoeve which makes it difficult to achie high quality print. It lacks the esse tials of kerning (adjusting the spaci between pairs of letters) a hyphenation (breaking words c rectly at the end of lines). As a resu fully justified setting in narrow c umns looks dreadful.

Infinity claims that Shakespea "takes full advantage of the Amiga spectacular colour and graphi capability".

It can however only reproduc graphics that contain a maximum 32 of the Amiga's 4096 colours, number which is reduced to 16 if y use the high resolution mode.

ESPEARE

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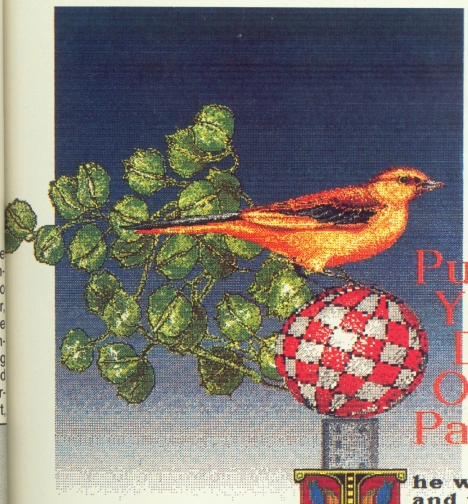

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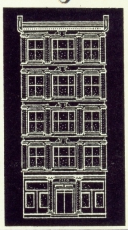

cannot handle HAM graphics in colour, or in black and white.

It is also clumsy in dealing with digitised photographs. When I loaded a monochrome image captured with Perfect Vision, which digitises using 16 shades of grey, the entire screen went black, which made it impossible to continue work on the page.

Its reproduction of the monochrome photograph was unsophisticated, since it converted the continuous tones of the original into somewhat crude dithering. For good quality reproduction it needs to turn such images into the half-tones familiar from magazines and newspapers.

What this means is that you cannot successfully use large-scale photographic images, either in black or white or colour, which is a serious limitation in a desktop publishing program.

Shakespeare is supplied with the latest 1.3 Preferences printer drivers which now cover a wider range of printers, including most popular colour printers and 24 pin Epson compatible dot-matrix printers. They produce good, fast hard-copy.

The 1.1 upgrade will be sent automatically free of charge to all owners of Shakespeare 1.0 who returned their registration cards, which is good news.

Regretably, Shakespeare still lags a long way behind the rival colour DTP program, Gold Disk's Professional Page 1.1 as a means of producing high quality colour or black and white results.

Shakespeare lacks Professional Page's superb typgraphical control, its ability to reproduce graphics using all of the Amiga's 4096 colours and its half-toning of monochrome images. Its PostScript driver is also far inferior but it is also far cheaper – about half the price. So I suppose you pay for what you get.

It is good to see the program being refined and its weaknesses lessened. Shakespeare 1.1 is a definite improvement to the previous version in what looks to be turning out to be a very useful progam. ***J.W.***

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GREAT GIANA SISTERS

Rainbow Arts

Giana and Maria are two little sisters. One night, Giana entered a strange dream-world of monsters, giant mushrooms and castles with hundreds of jewels suspended in mid-air. The only way she could wake up was to find the crystal at the end of the 32nd stage of the dream-world with a little help from her sister Maria.

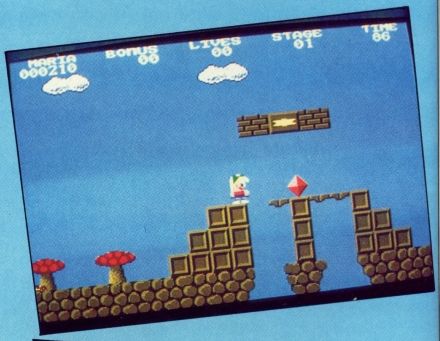
The sisters' dream-world consists of 32 levels of scrolling platforms inhabited by stumpy little monsters. Avoiding these is pretty easy to begin with, and they can be squashed by jumping on them. Unlike most little girls, Maria and Giana have rock-hard skulls that allow them to headbutt stone slabs, some of which give special powers. The first of these is the glowing ball, giving the sisters a punky hair-do that smashes through otherwise indestructible blocks. Others let you shoot or freeze the baddies and give extra lives.

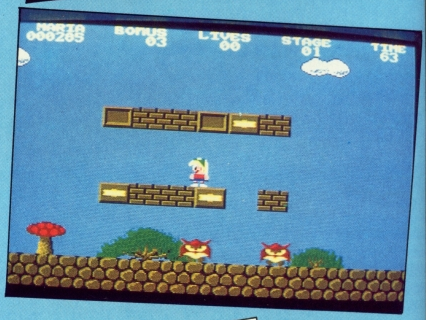
Further into the game you have to negotiate pits, fire, nails and dissolving bridges. By experimenting you can find blocks that contain extra jewels and secret bonus rooms at the bottom of certain pits. Invisible jewel blocks are also dotted around the levels.

Graphics are not Giana's hot point, in fact they are almost identical to those of the 64 version. It scrolls smoothly but the sprites are very basic, as are the backgrounds. Fortunately graphics are not that important as you start to play. The simple platform action has just about the right amount of levels and difficulty to make it worth trying to get that one level further. During the game a bouncy piece of music plays along, changing every now and then with the later levels.

I would have liked to have seen some more variety in the levels, most of which are just new arrangements of platforms and pits. This is understandable on the single-load 64 game but I am sure the Amiga could handle a few more features. Even so, Giana Sisters is a game that scores on gameplay rather than flashy graphics or sound and will have a lot more staying power for it. At £24.99 it is not cheap but will be worth it for anyone in need of a quality platform romp.

T.H.





Graphics: 5
Sound: 7
Playability: 8
Value: 7
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MAXIPLAN PLUS

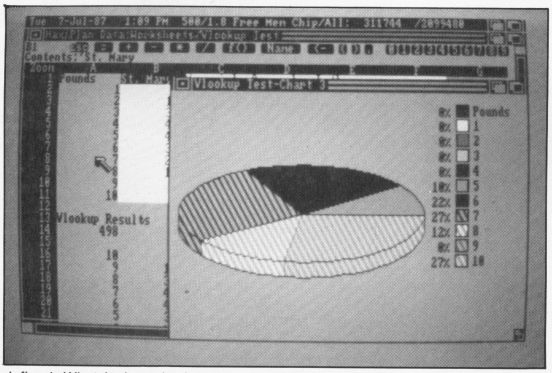
The big brother of the Oxxi spreadsheet family — Maxiplan Plus — came under the scrutiny of Paul Andreas Overaa. He now reports...

If ever a machine was capable of providing a vehicle for the production of user friendly 'integrated' software at a realistic price is is the Amiga. What is holding it back at present is lack of the right quality robust business software! This situation is slowly changing and this product is an example of the way things are moving.

Maxiplan originally won A.U.I's Oskar for the best business package on the Amiga. Maxiplan Plus is an integrated software package that contains a sophisticated spreadsheet coupled with graphics capabilities that enable you to easily display spreadsheet data pictorially. Despite the 'database management' claims the package does not provide a data-base environment as generally defined. What it does do, however, is provide some interesting and powerful data-base type facilities which enable spreadsheet data to be interrogated and extracted. Last but not least, MaxiPlan Plus provides a most useful macro command capability. All these facilities come neatly packaged in the Amiga's multi-tasking, multi-windowing environment.

By virtue of its price and facilities MaxiPlan Plus is going to be compared with Lotus 123 and similar products available to pc users etc. Fairly or not it will be compared, not in terms of its more novel features but in terms of the qualities most important to the business user...ease of use, robustness and potential power for the experienced user.

FIRST IMPRESSIONS: Like Lotus 123, MaxiPlan Plus is spreadsheet orientated. It is supplied as a well presented package containing two master disks, an instruction manual, carry case/folder and keyboard overlay cards. The disks are unprotected and can be copied with all standard copiers. The manual in fact advises you to copy the master disks, then place them safely away and work with copies only. The manual provided is very good, with the first couple of chapters providing short accounts of the overall facilities and the conventions used by MaxiPlan. Most of the conventions, such as the use of the mouse buttons for menu option selection etc., are typical 'Amiga style' and will therefore already be familiar to most potential users.



"A wide range of useful 'built in' functions are provided"

A few minutes spent reading the first two chapters is sufficient to become acquainted with the main characteristics of the package. Chapter three's aim is to get you, the potential user, 'up and running within ten minutes' — IT MEANS IT. Insert your copy of the master disk, enter MaxiPlan via a couple of icons, use the pull down menu option to select 'open new worksheet' and you are presented with a typical spreadsheet display using lettered columns and numbered rows. To select a 'cell' you simply point to it and click the left mouse button. Once a cell is selected, numeric, text or formula data can be entered.

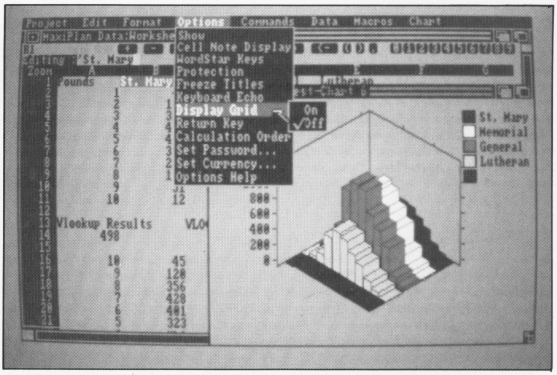
MaxiPlan Plus's spreadsheet facilities are very comprehensive. In terms of standard spreadsheet functions it has everything you would expect — plus many Amiga style bonus features. There really are too many to mention although here is a glimpse of what is available. You can have multiple spreadsheets open at the same time. Since each spreadsheet appears in a different window you can either back them back to front as required or re-size the windows so that they are available for viewing simultaneously. This latter arrangement is ideal when you are performing, as you can, cutting and pasting

operations between different worksheets. MaxiPlan Plus has a good selection of formatting commands and lots of additional facilities such as password protection on cell contents, written or spoken cell notes and a special 'zoom' mode which enables you to display a spreadsheet as a 'big picture'. One area where mouse operations have been particularly well implemented is in the creation of cell functions. A wide range of useful 'built in' functions are provided (the cells used in the function definition) with both the functions themselves and the arguments all selected via the usual 'mouse/left button click' operations.

I think it is significant that within one hour of using MaxiPlan Plus I was the data-base and macro facilities and it does so mainly in a 'tutorial' fashion. Again this is very well presented and the tutorials are easy to follow. In general then, the manual is excellent. It would score full marks as an introduction were it not for some rather unfortunate 'weirdo' typesetting/spelling errors.

DATABASE FACILITIES: I must admit I get rather irritated when I see 'Data-Base Management' claims on software 'glossies'. Neither MaxiPlan Plus, nor any of the other spreadsheet based packages come to that, come remotely close to real database software either in terms of facilities or overall environment. They probably never will — and it can be argued that even if they did most users would not be able to use such an environment effectively anyway. But I should emphasize that MaxiPlan's facilities compete well with all current alternatives and in practice are actually very useful. My complaint is essentially that the phrase 'has Database Management capabilities' has become so over-used that we are getting to the point where it is almost meaningless.

MaxiPlan Plus has the ability to treat any set of rows and columns within a spreadsheet as a defined 'database'. It does this by regarding the rows of the spreadsheet as records with the corresponding column entries being equivalent to record fields. You do have to set the first row of such a data to identify the various field names, i.e. create a sort of 'header record', but in practice this arrangement is no real hardship. Such records, once defined, can be sorted, interrogated and data extracted and manipulated according to your chosen criteria. You can have up to 64 combinations of named ranges, named criteria and separate 'defined databases' in any one spreadsheet — which should be more than sufficient for most users. The search, find and extract facilities are well explained and quite useful. I created some reasonably large (400 records with 6 fields) test spreadsheets and experimented with the sort/search commands. No significant delays were found even with test files where I had



specified long multi-key sorting and had deliberately arranged the data in the opposite order to that required etc.

"Database records can be saved (exported) as 'tab delineated text files'"

What I did like very much was the ease with which database records can be saved (exported) as 'tab delineated text files' — so that the data can be used by other programs. I did find a minor error in the manual here — it states that the fields are separated by tab (ASCII 08hex) characters and that records are separated by returns. I assume that carriage returns (ASCII 0Dhex) were meant but when I created some files and looked at them the record separators are line feeds (ASCII 0Ahex), not carriage returns. MaxiPlan can, provided data is offered in the above format, also read in such text files and this gives the more advanced users a direct link with other packages or to self written software satisfying their own special requirements.

GRAPHICS: Certain types of data analysis lend themselves well to graphic representation and MaxiPlan Plus has included some excellent facilities. For most potential users it is more likely to be the printer that restricts your presentation rather than MaxiPlan itself.

All common Bar/Pie/x-y type presentations are offered including several three dimensional display formats. Most of the parameters can be set by the user but, if it needs to, MaxiPlan Plus will make an 'educated guess' about your intentions based on the characteristics of the data you wish to display. You have control over chart type, colour, labelling, orientation, scaling and many other parameters. You can have up to eight charts associated with any one spreadsheet and the display is interactive . . . i.e. you can ask for a range of data to be displayed pictorially and whilst it is still on display you can edit the spreadsheet with the chart display 'mirroring' your edit actions. As with previous topics the explanations and tutorials given in the manual are both clear and easily read. Such charts can be captured and saved as IFF files which means they can be read into the many programs such as DeluxePaint, VizaWrite etc., for additional editing.

MACRO'S: MaxiPlan Plus's Macro language enables you to automate sequences of MaxiPlan operations. This includes decision making and performing alternative sets of operations based on the outcomes of such decisions. It is in effect a high level language tailored to MaxiPlan's specific facilities. Most users will find the general ideas of writing and using short macro programs quite straightforward. If, however, you have some form of programming experience, even with say BASIC, you will quickly realize that the ability to automate various data-base type search operations etc., is exceedingly useful and powerful. The language supports such things as cutting and pasting between spreadsheets, the concept of 'sub-routine macros', of 'automatic macros (macros which are performed automatically when a given macro-sheet is opened). Assignment operations are powerful . . . here is just one example: the function SET.MVALUE (£A7 = AVERAGE (D1: D10)) will set the value of cell A7 on the macrosheet equal to the average of the cell range D1 to D10 on the selected spreadsheet.

What can I say . . . this is perhaps one area where you will have to do some work to make the most of the facilities. If the idea of 'programming' frightens you

cont. on next page

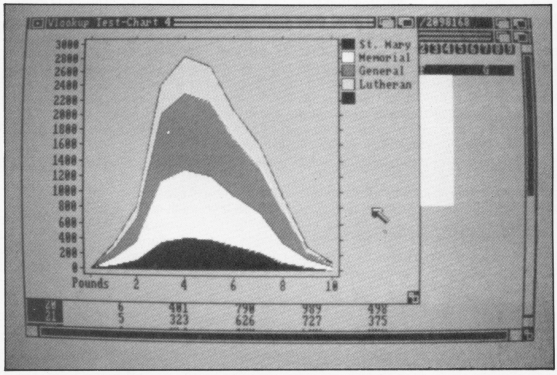
MAXIPLAN PLUS

continued from page 31

then you will probably just use a few simple macros to simplify certain operations. If you are not afraid of a bit of hard work, not incidently in understanding MaxiPlan's Macro language but in logically and accurately defining your requirements, then you have the means at your disposal to do truly great things.

OTHER FEATURES: MaxiPlan Plus has many other good features including such things as on-line help for the less experienced user. In many cases you can choose from mouse orientated, keyboard or function key selection of commonly used facilities. MaxiPlan Plus also has various 'auditing' facilities such as the ability to recite back data. This is a potential help if, for example, you wish to check entered data against the source documents etc. The utility disk has all sorts of 'goodies', including programs to help you output MaxiPlan data files to word processing programs, to import data from Lotus 123, to customize the voice characteristics and to 'spool' printer output.

CAUSES FOR CONCERN: I actually like MaxiPlan Plus very much. I think the overall concept, the facilities, the very



readable documentation and the 'user friendliness' of the package provides an example which many other software developers would do well to copy (perhaps copy is not quite the right word!). It is obvious that a lot of effort has gone into the package (it is already very popular in the States). Knowing this, it breaks my heart to see a package come so close to getting the 'rave review' treatment — and then fall short by perhaps the most important feature of all for the business user. My worry, I am afraid, is that despite its attractiveness, its ease of use and its obvious potential power MaxiPlan Plus in its present state is still not sufficiently robust to be a serious contender for use in an everyday business environment.

People should in theory be kind to their software — in practice they are not and subsequently a program's ability to cope with 'user abuse' is very important. Perhaps I have been a bit hard on the software, playing the keyboard like a piano, pulling disks in and out, inserting unformatted disks etc. but here are the results: Most of the time MaxiPlan Plus behaved very well BUT . . . in the short time I have used the package I have

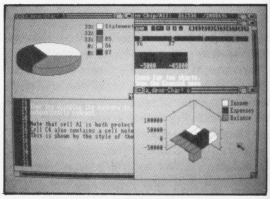
"You have the means at your disposal to do truly great things"

been able several times to cause MaxiPlan to 'freeze', i.e. to seize both the display and mouse control making it impossible to do anything other than perform a re-boot. In a business environment this effect could be catastrophic.

Another particularly dangerous problem concerns the 'calculator' facility which is available as a menu selectable item. Most people who got past high-school maths are aware that if you take a large number and divided it by a small one the result is very large. The test sum I used was this 999999999999 /.0000000001 and most five pound calculators catch such 'oddities' in a calculation by giving some form of 'overflow' error. MaxiPlan, or at least the version I was given for review, shows such errors in an alternative way. First part of the calculator display box gets overwritten, then the Amiga power light flashes, then a rather pretty red display appears saying SOFTWARE FAILURE — press left mouse button to continue.

Bear in mind that I was deliberately attempting to look for trouble. Nevertheless I just cannot imagine why the package was released with such an obvious shortcoming in the 'silly sums' area. The effect does not appear to show itself in the spreadsheet arithmetic functions so I can only assume it is a problem specific to the calculator itself but . . . I cannot be absolutely sure.

As a programmer I know that the Amiga is not an easy machine to work with (the first year or so is absolute but enjoyable, hell). C (and I suspect that MaxiPlan was written in C) is not a particularly tolerant language for writing large applications programs. I suspect that the 'freeze' problem is related to areas of the code handling Intuition's 'message' facilities. I have heard of such problems with quite a few Amiga packages and whilst such 'peculiarities' exist it will, I am afraid, be difficult for Amiga packages to make headway into the business applications area.



Would I buy it? After my last comments you may be surprised but YES . . . I believe that even with its current 'teething troubles' MaxiPlan Plus can be put to very good use in many areas. I would, however, treat the software with a little more respect than I did for review purposes and hopefully this would keep any problems to a minimum. If, you were to ensure that the package is 'treated gently' then I would say look closely at MaxiPlan Plus — potentially it is an excellent tool and it just might be exactly what you need!

P.A.O.

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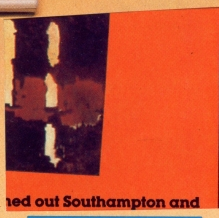

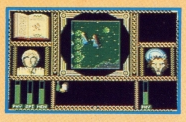

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Screen shots from various 16 Bit machines.

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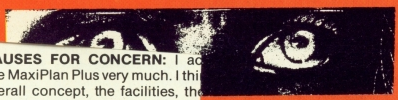
Andy Moss thinks about Mindfighter, Fergus McNeill's first "serious" adventure that has conjured up a swan.

When you have titles like Bored Of The Rings, The Boggitt and The Big Sleaze in your portfolio it may come as no shock to most people that you specialise in "comedy" spoof adventures. Fergus definitely comes under the banner of offbeat, if that is a fair way to describe a chap who started producing Quilled adventures which took the mickey out of just about anyone and everything from Tolkein to Talstoy. Delta 4 was and always will be THE adventure house for making us laugh, but Fergus felt that there was a serious side of him, that given the right context could show out strongly. Meeting Anna Popkiss was just that opportunity. She was a former saleslady who wrote a manuscript based around the adventures of a boy in post-nuclear war Southampton, and called it Mindfighter. Not only did Fergus love the story, he also found love in Anna and they plan to marry, ahhhh! Before such mundane things like marriage could be undertaken, there was the issue of the adventure that needed to be written, and the company that was to be formed for releasing it. Abstract Concepts was born as the "serious" side of Fergus, and Mindfighter is his first adventure.



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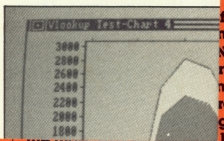

features, the most
new writing system called
Name), as The Quill had
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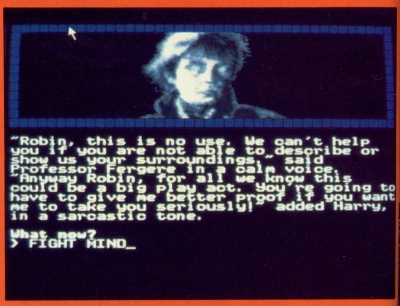
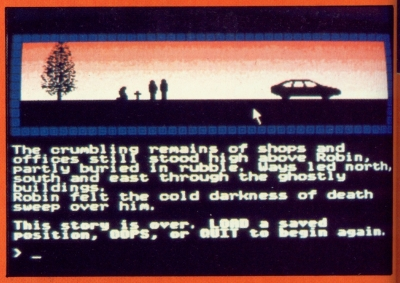
ngs you would want to see
racter emotion, real time,
g (an area that really gets
have to find which of the
six keys you are holding will fit into the door in front of you? If you have the right key you should just go in). Well done, Fergus, for getting that one out of the way. All the characters have emotion programmed in, not just artificial intelligence, but real emotion that will respond to a given situation. Daryll is a good example. He is retarded but will be your lifelong friend if you give him something he likes, which is crucial in your succeeding in the game. He could get killed by another character, which can be a major setback, so find him and protect him at all costs.



Mindfighter is all about an 11-year old boy called Robin who has exceptional psychic powers. One day he awakes to find himself in a post-nuclear holocaust England. His mind has transported him into the future, where he realises that evil forces are at work forcing the survivors into a fascist regime called The System. Robin realises



MINDFI

that the only way to stop them is to return to the present and prevent the Third World War from ever taking place. The screen layout is digitised pics at the top third of the screen, followed by the text area. Using the mouse button brings up an icon menu giving you instant access to save, load, music, ramsave, text only, oops (for going over a mistaken input) exit, etc. It is all in there making the game very user friendly, whilst being extremely tough to finish. The graphics are excellently digitised photos of a burned out Southampton and are indeed very atmospheric. The whole book is included in the package, (worth reading as there are many clues in the story) there is no humour, no jokes, no spoofing, just good clean serious adventuring on a grand scale. I applaud them for doing it. Buy it, load up, and enjoy. ***A.M.***

Price: £24.99

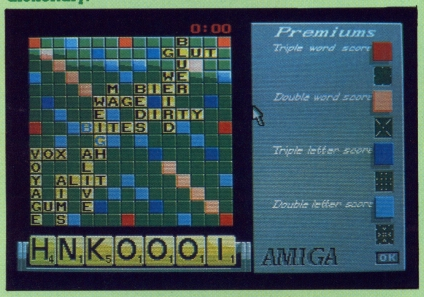
IGHTER

SCRABBLE

Peter Lee unveils eight letters which are sure to spell success for software house Leisure Genius – Scrabble

This is Leisure Genius's first Amiga game and one a lot of people have been waiting for. The board game has been in several computer formats for a few years but this version has got to be the best in terms of graphics and overall the implementation has been well handled.

The computer makes a worthy opponent and can be restrained from wiping the floor with you by selection of eight difficulty levels; the first and easiest, allows the Amiga to attain an average score of 150 points per game. You effectively blinker the computer at the lower levels, preventing it from looking up the whole of its 24,000 word dictionary.



The game screen shows the familiar board, with coloured squares representing the point bonuses. Your tiles are nicely displayed at the bottom of the screen in their frame and you have the option of seeing the opposition's letters (very unsporting!). While the tiles in your frames show the letter scores, these numbers are not shown on letters already placed on the board itself – annoying when planning your best-scoring strategy. As a poor concession, a full list of letters and their scores is available from a pull-down menu.

Actually placing a word on the grid is cumbersome and needlessly involved: players enter their word at the keyboard, then place the mouse pointer on the square where they intend the word to start. Next you must move the pointer off the board to a requester specifying either across or down, then answer a requester asking you if you want to change your mind. The game will develope upper-arm muscles through excessive mouse exercise! This feature slows the game down, leads to frustration and could so easily have been remedied.

For what it is worth, I would have liked to have seen word selection possible by clicking on the player's tiles in the frame to spell the word, then have the pointer change to the actual word ready for you to place on the board, flipping between down and across by button press. Or at the least had keyboard shortcuts for responding to the requesters.

The computer can be made to show its search for the best words, though this is of limited interest. More helpful is a hint feature which tries its best to find a good spot for your letters when you are stuck with a vowel and 6 consonants (including the obligatory A!).

People who enjoy a challenge also have the chance to set a time limit per move; this is pretty unfair when you consider the Amiga is being driven by a 68000 processor and all you have is your tired old brain. No contest really and you miss your turn if the time limit is up. Also guaranteed to deflate the largest ego is the computer's habit of challenging words it does not recognise; its dictionary is pretty extensive but it can still flounder on a word like 'toxin'. Luckily you can reassue it that it is indeed a word and being the trusting beast it is, it takes it without further argument.

It is possible for up to 4 to play, in any computer/human combination, though it is easier simply to get a real board out if you have someone to play with. Where the computer version does score is for lone players wanting to while away an hour, or sharpen up their Scrabbling skills.

All the usual game features are incorporated – juggling your tiles for inspiration, inserting blanks (achieved by hitting the spacebar before typing the chosen letter) and changing any of your letters. Finally if you need to mull over the course of the game, you can save it to disk for later completion.

CONCLUSION

Amiga Scrabble is graphically very polished – shame about the gameplay. More thought should have been devoted to the human element but otherwise it is a competent implementation. At 5p under twenty pounds it offers good value for money when compared with some of the poorer quality games still screaming unrealistically for £24.95 and will certainly be a success. *P.L.*

Price: £24.95

AMIGA ON THE AIR

In our modern Hi-Tech world, communications are playing an ever-increasing role, much of this moves through the telephone system... not always at a palatable price! Stuart Williams comes up with an alternative.

When most micro users think of computer communications, they think of modems, mainframes and telephones. What many do not realise is that there is a huge amount of invisible communications buzzing about the globe, day and night, unseen but not undetectable! Much modern day communications relies on digital links via radio waves, whether by satellite, direct, or bounced around the earth via the ionosphere. The equipment used by the professionals is highly sophisticated and extremely expensive but a large group of home users, the Radio Amateurs (or Hams, as people like to think of us!), have been engaging in digitial communications in one form or another for several years now.

The equipment required at this level is relatively affordable and quite comparable to getting online with a typical high-speed dialup modem system. The great advantage is, of course, that once you are set up, it costs you nothing to run, as there are no telephone bills!

The current system which is becoming increasingly popular in the UK, and which enjoys worldwide popularity, particularly in the USA is AX-25 'Packet Radio'. The packet system is very similar in principle to an error-checked telephone modem, as the text you type in at your terminal is sent and received in burst of data, and the system retries until it gets through. In fact, a 'Packet Modem' looks very similar to a normal telephone modem. Dependent on what facilities you require, a packet modem will have an RS232 communications port to link to the D25 socket on your Amiga as normal, either one or two ports to connect to your radio transceiver (one port will work at 1200 baud for VHF use, the other at 300 baud for HF use), an input for power and a series of LEDS to show you what is going on!

What do your need to get online with packet radio? Well, first and foremost, you need to obtain an Amateur Radio Licence, to enable you to transmit legally! This entails taking an exam, covering basic electronics, principles and practices of radio and the licensing conditions. You do not have to be an electronics expert to pass this test – anyone of average intelligence who is prepared to dedicate some time and effort should be able to get through without any undue problems! The exam in the U.K. is set by the City & Guilds and you are almost certain to find a school or college in your area where you can attend an inexpensive evening class for the Radio Amateurs Examination.

"I would not advise you to buy from a private vendor until you know what you are doing, as there are some very bad 'bargains' to be had."

Once you have passed, the sky is literally the limit, as the license gives many privileges to the responsible operator. The current license fee (UK) is £12 per year. Incidentally, for those of you who are thinking that you can use your CB radio for packet, forget it! Not only is it antisocial, it is illegal! No data transmissions are allowed on the Citizens Band systems.

continued on page 38

continued from page 37

AMIGA ON THE AIR

So, now you have your license, what next? Well, the first step is to decide how much you want to spend on your equipment. Unless you are rich, the best bet is to visit a reliable specialist dealer in amateur radio equipment and see what he has in the way of guaranteed used equipment. There are considerable savings to be made here and if you only require very basic gear, you may only be able to obtain it second-hand anyway! I would not advise you to buy from a private vendor until you know what you are doing, as there are some very bad 'bargains' to be had; although the average radio amateur is not likely to sell you a pup (he would soon gain a bad reputation!), there are always those who will.

"It is even possible to have your messages forwarded around the world, at no cost to you!"

Choice of transceiver? Well, if you are only interested in packet radio initially, the cheapest way to get going is to purchase one of the older crystal controlled transceivers, or possibly the early synthesised sets. Most likely, you will use 2 metre equipment (144-146Mhz), as packet radio is very popular on this and and you should ensure that the transceiver has Frequency Modulation (FM) and is capable of transmitting and receiving on 144.65Mhz, which is the current popular frequency for packet. If it will not do this, do not buy it! You should be able to pick up a transceiver to do this again in the U.K. at around £80–£150. It should have microphone socket and an extension speaker/earphone socket and preferably a manual, showing the pinouts of the microphone socet, as this is where you input your packet signal on FM. More facilities and modes of operation, as well as higher transmitting power, will cost more money. They are worth having but not essential for basic packet operation. There are such a wide variety of transceivers (or 'rigs') available, with such a diversity of features, that it is beyond the scope of this article to cover them but by the time you have passed your exam you should have a good idea of what is available and what you want to do with it, especially if you take advice from your dealer and preferably join a radio club to find out what other people are using.

If the rig you buy is a mobile or portable set, you will also need a mains power supply unit, which the dealer should be able to supply you with, plus the necessary coaxial connecting cable and plugs to link your rig to your aerial.

Speaking of aerials (or antennae), the choice will depend largely on your pocket and the distance you want to reach, as well as your home situation. If you live in a small flat, then you will have to make do with a small and inconspicious aerial. The "Slim Jim" type of omnidirectional aerial is very effective and very cheap, you can even make one yourself if you know what you are doing, or purchase one commerically for £6–£15, depending on quality. This type of aerial can be mounted on a balcony, on a chimney, or even in a large loft. For those with more space and more money, more sophisticated units include the 'beam' or directional aerial (sikilar to a larger version of your TV aerial), or the 'colinear' omnidirectional aerial (which is several vertical aerials stacked on top of one another and linked).

There is vast scope for aerial experimentation once you have a little experience.

Once you have your transmitting gear set up, then, you can choose your packet modem. Most units have the same basic facilities, including a huge array of commands, which make the Hayes intelligent modems look positively dumb! Some packet units even include a mini Bulletin Board in ROM for you to use as a personal mailbox, so that others can leave you messages while you are out! The cheapest units currently sell for around the £110 mark new and are powered cfrom the same unit which you purchased for your transceiver, or a separate power supply if your wish. The prices go up to around £160 for those with the personal mailbox and they are also available in IBM PC card form so you can plug one into your Amiga 2000 if you have one. Top of the line units also include FAX, weather map, RTTY, Amtor and ASCII capabilities, costing around £270 but these are beyond the scope of this article.

The final purchase is the software and here you are spoilt for choice, as you can use any RS232 compatible terminal program, whether Public Domain, commercial, or even written in BASIC by yourself! Obviously, a dedicated Packet terminal will be more automatic in operation but the chances are you will already have the means to link your Amiga with your packet system, if you have used a modem of any kind before. If in doubt, ask the dealer who sold you the packet modem (or TNC as they are known). If he has anything suitable in PD or as a listing, he will probably supply it free!

Once you are all set up, make of listening for while before doing any transmitting. Courtesy and consideration go a long way in Amateur Radio and you should always observe the current procedures. Obtain a good book on packet and make a point oif reading the manual before going on the air – there are a lot of people out there who can hear what you are up to!

Once you have absorbed the basics of operating, you can go hunting for the packet equivalent of the Bulletin Board, which is similar in many respects to its dialup cousin and practice links via as many as 8 stations in line, which take your signal and pass it on! It is even possible to have your messages forwarded around the world, at no cost to you! You will not find any equivalent of the commercial services such as Prestel, Compunet or Microlink on packet radio but if you are keen on Bulletin Boards and communication, particularly international and want to cut out all those phone bills, as well as expanding your horizons, Amateur Radio and packet may well be the hobby for you.

Your Amiga is ideally suited to radio use, being well-shielded (it will not interfere significantly with your radio, unlike cheaper alternatives!) and well-provided with ports. Who knows, once you have been on the air and had a taste of national and international linkups on packet radio, you may find your telephone modem gathering dust!

S.W.

Useful Addresses:

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Siskin Electronics,
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SO4 6WQ

British Amateur Radio Teleprinter Group,
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PRO SOUND DESIGNER

Looking every bit the professional, a new 'designer' digitiser is sounded out by Peter Lee . . .

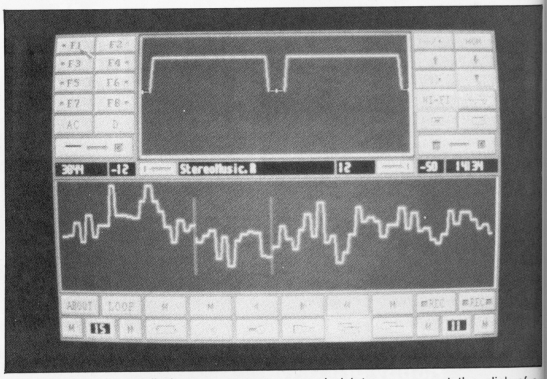
Hardware add-ons for the Amiga are booming thanks to the combination of a growing user base and the fact that more companies are beginning to recognise the machine's potential. So this month it comes as no surprise to find two sound digitisers shouting for your attention – Pro Sound and Perfect Sound (which is reviewed elsewhere in this issue).

Pro Sound is the more professional sound editing tool; slick and highly polished, the user interface looks and feels like the Rolls Royce of Amiga digitisers. The actual digitising facilities, however, are not quite as sleek.

"Once the sample is in memory Pro Sound comes into its own with a set of editing effects whose simplicity of use masks powerful and rewarding manipulation"

In use the program generally has the feel of a well-researched, thoroughly tested product which pays as much attention to the human interface as it does to the parallel one! Despite its gloss, Pro Sound is not just good to look at – it is an excellent work tool with a feature-packed front-panel menu which is easy to use and simple to master to allow you to grab and manipulate stereo sound samples.

The digitiser itself is an uninspiring looking mid-brown plastic unit, about the size of a deck of cards, which plugs directly into the A1000 parallel port. A500 and A2000 users are given a small converter plug to allow them to use the digitiser. The company call it a gender bender but in fact the plug has male to male connectors. There is an input on the unit for a stereo 3.5 jack plug for connection to a compatible sound source. This would typically be a headphone socket of a portable cassette player or similar hi-fi unit – most definitely not a line-out and certainly not a speaker output. It is unfortunate that Pro Sound does not come supplied with a lead, as stereo-jack to stereo-jack is not the kind of cable a typical user might have lying around; in fact I had to make up my own from components bought from a Tandy store – who did not stock the cable as standard. Still, the plugs and wire cost just over £2, so no big outlay there and only five minutes soldering.



The program is supplied on an unprotected disk, although the software is protected by a request for a random word from the manual. This booklet serves as an introduction to the Amiga version, so it is slightly more involved than if it were machine specific. In a wise marketing move, the software is compatible with the Perfect Sound digitiser and can be bought separately from the hardware; both digitisers do exactly what they set out to but while Pro Sound looks more sophisticated, I found Perfect Sound's line input gave a more rounded, less hissy grab than Pro Sound. Pro Sound's features also come with a price – in terms of memory. Lengthy samples I recorded easily in Perfect Sound were just too big for Pro Sound to load – it failed even to try to get as much in memory as it could, which shows a bit of a defeatist attitude from the programmers. However, where Pro scores over Perfect is the waveform display of incoming signal, allowing precise volume adjustments. Once set to the best input, the source sound is easily recorded into memory at the click of a mouse button.

Sampling rates, in both mono and stereo, range from 1000 to 28000 samples per second (1 to 28kHz), with the higher rates obviously yielding better results while filling memory faster. When active, the sample grab freezes screen activity to allow the processor to concentrate on the digitising job. A big problem

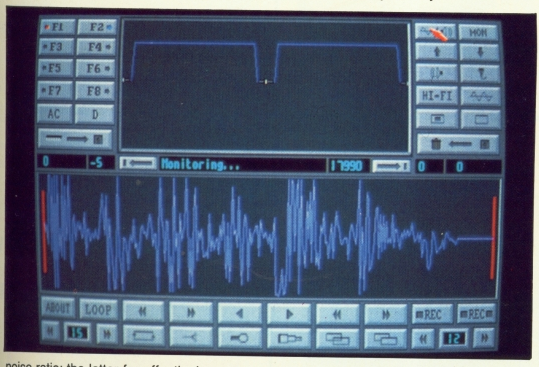
here – the actual monitor sound is also turned off when taking a sample. The fault is made worse because the headphone socket is being utilised as the source of the sound. Clearly, if you actually want to hear it as it is being recorded, you will have to buy a twin socket jack plug so that both the phones and digitiser lead can be plugged into the hi-fi. Definitely the most unfriendly aspect of the program. This aside, once the sample is in memory Pro Sound comes into its own with a set of editing effects whose simplicity of use masks powerful and rewarding manipulation.

"The user interface looks and feels like the Rolls Royce of Amiga digitisers"

The entire sample in memory is represented on screen as a waveform and selected areas can be marked for editing by two sliders. A magnification tool zooms into the selected portion giving precise control. In this way an individual instrument or spoken word can be focused on, cut, copied or deleted. Chunks of a sample can be edited – flipped and so on – and saved to a buffer for pasting back in another sample – the manual gives as an example the quack of a duck being spliced into the sound of someone talking but there are better crash-bang-wallops waiting to be appended by budding special effects wizards I'm sure!

The program's advanced editing functions are on an impressive slip-down panel which slides into place; these allow access to volume control of the sample, doubling or halving the sample – the former is useful for improving signal to noise ratio; the latter for effectively compacting samples and making them more useful for games designers needing all the spare memory they can get. A500 and A2000 users have the option of turning off their in-built aliasing filter to give more pleasing recordings, depending on their tastes. Pro Sound also has an automated record and play facility which is activated when the sound level reaches a user-defined level – a kind of automatic trigger which is useful for cueing a recording on tape with a patch of silence before the sound you want to record. As well as total mouse control, the program also has a number of key equivalents and will perform its editing tasks and file management even while a sample plays thanks to the multi-tasking nature of the Amiga.

Some excellent effects are possible by playing different stereo samples simultaneously; eight samples may be held in memory in any combination of stereo or mono data. Finally, once you have edited your sound to perfection you will need to pay an extra £34.95 to get a utilities disk to enable you, among other things, to do anything useful with it – such as play it from BASIC or from within your C program. This is because there is no player module on the disk – a cynical omission shared by Perfect Sound.



CONCLUSION

Pro Sound's software is both finely tuned and wide ranging, allowing good control of digitised sounds through one of the most elegant menu structures you could hope for. The choice of 3.5mm jack-plug connections may at first glance seem puzzling but the most likely potential sound sources in the home – stereo cassettes or radios – have headphone sockets waiting for Pro Sound to tap into. The opposition's line-out input is more specialist but in my tests with identical recordings gives cleaner sound of a higher quality. As someone who has used both Pro and Perfect Sound, I would go for the Pro Sound software, which is available separately and the Perfect Sound digitiser. The best I can advise anyone is to test both for themselves, or at least try and listen to some sample disks. All digitisers are NOT the same.

P.L.

Price: Pro Sound Software & Digitiser £79.95 Contact: HB Marketing Ltd Pro Sound Software only £34.95

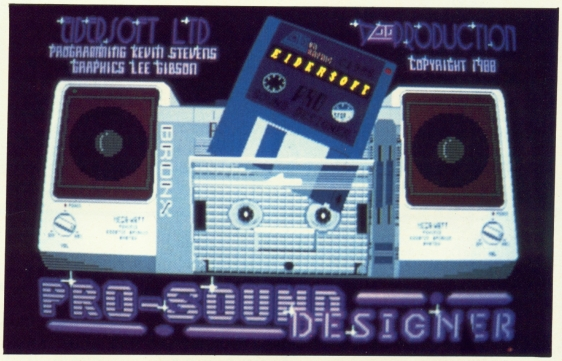


Table showing the length of recording against sampling rate on an Amiga 1000 with 512K RAM (these are mono samples, for stereo you must halve the time).

Sample Frequency (kHz)	*Seconds of Sample*
1	176
3	64
8	24
12	17
16	13
18	12
20	11
24	10
30	8

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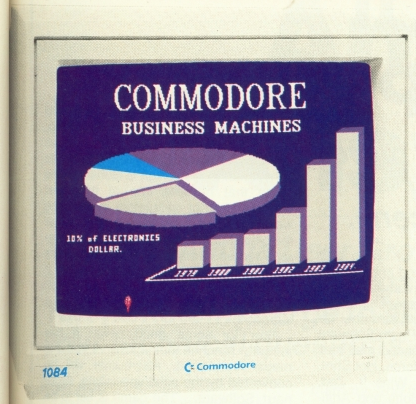

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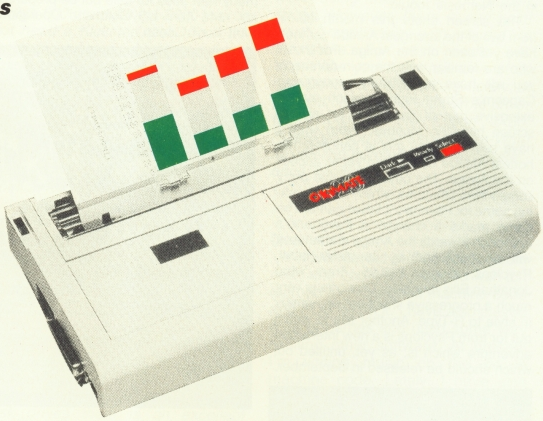

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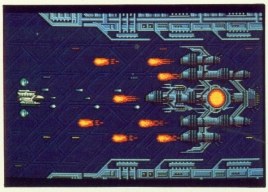
Heard it On the Grapevine . . .

Chris Holmes feasts on some more tasty morsels from the rapidly expanding Amiga software scene.

Exocet, not being a company to rest on its laurels will soon be releasing Phantasm, Bizarre 3, Star Burner, Hyperdrome, Bizarre 3 promises to be an interesting twist on the platform theme, featuring over 790 screens of slapstick action and more than its share of strategic elements. The only other game which Terry Jeffries, Marketing Director of Exocet could give me information on was Hyperdrome which, I am informed, will be a horizontal scrolling shoot-em-up in the Nemesis mould.

The screen shots this month come from two of the strongest Arcade games I have yet seen on the Amiga. For those who are familiar with the coin-op scene you will have no difficulty recognizing Capcom's Street Fighter which makes extensive use of the Blitter for all the screen handling routines. From what I have seen already, this is definitely the hottest Arcade conversion yet to appear on the Amiga. The other exclusive piccy comes from Draconia, which is the working name for Psynosis's latest game. The game marks a change in Psygnosis's approach towards the Amiga market as it will be published by its sister label, Psyclops, at only £19.95. From what Jonathan Ellis revealed, Draconia is very much a progressive shoot em-up, similar in style to R-Type. Another title to watch out for from Psyclops is a new interactive adventure which is, as yet, untitled but which should be released in September.



September is the month in which many of us make our annual pilgrimage to the Personal Computer Show at Earls Court in London. This year's Personal Computer Show should be something really special for Amiga owners. What with the buzz following the new UK price and more companies willing and able to take the Amiga challenge, there should be no shortage of new entertainment software.

One company who will definitely be present this year will be Prism Software and a spokesman announced that they would be releasing Terraforce, Hot Shot, Addictaball, Who Dares Wins II, Zed, Rocket Roger, Battlestations and Artificial Dreams. Not all the companies present at this year's show will have quite as many new titles for sale but be prepared for 1943 from US Gold and Operation Wolf from Ocean.

Unfortunately two games that will not be appearing at the show will be Out Run and Gauntlet II. At the time of going to press Tim Chaney of US Gold was still looking for an Amiga programmer to handle the No 1 Arcade hit, so programmers take note if you feel that you are up to converting Out Run for the Amiga then get in touch with U.S. Gold and then I will not have to keep spending so much money on my favourite Arcade game. Fans of Gauntlet II will probably not have to wait quite as long for it to be converted to the Amiga as Rainbow Arts are currently putting the finishing touches to the original Amiga version of Gauntlet and providing that it is a success, they will immediately start work on the follow up.

Another game that seems to have been lost in the mists of time during its conversion to the Amiga is Gunship. The game that became one of the most successful flight simulators of all time was scheduled to be released in June of this year but following some major program hiccups, mainly the programmers source disk being attacked by a Virus, it will now not be appearing until March 1989. Well, that's life – Gunship style – I suppose!

Now for some good news; It has recently reached our attention that the mega Arcade hit, Afterburner will be converted by the solid specialists, Argonaut Software. The game is set to be released around Christmas providing everything goes smoothly. Though we have heard that at least one format of Afterburner has so failed to please that it has gone to four versions from four different programming groups. There are those who doubt whether Afterburner can be properly converted from the amazing coin-op original. On the subject of Solid games watch out for Amiga Carrier Command which is even faster and smoother than its ST counterpart due to the use of the Blitter's Vertical line draw feature.

The Amiga games scene is extremely exciting at the moment. In the UK there is a whole new atmosphere surrounding Commodore's wonder machine following the recent price drop and my guess is that Commodore will be right in claiming that this will indeed be the year of the Amiga.

continued on page 56

Amiga Answers

The UK's Amiga User Group once again lend us their Amiga Mentor Yuri (Einstein) Large to answer all your technical questions.

Dear AUI,

I have recently purchased an Amiga 500, and I am very pleased with it so far. However, I have some queries regarding my use of it. What is Kickstart and should I have a separate disk containing it, as when I use Workbench it tells me that Kickstart version 1.2 is installed? – the only other disk I have is the Amiga Extras disk. I am considering buying an external disk drive and I have 3 in mind:– Evesham Micro's, Datel Electronic's and Cumana. What is the difference between these, apart from price and which would you recommend? Also is there any way to speed up disk operation, as when I use some programs the built in drive is surprisingly sluggish! I am considering purchasing a Star LC10 colour printer. Does the printer represent good value for money, will it work with commercial software such as Viza-Write? Will I have to buy special drivers and cables for it? Hoping you can help me with these queries?

Your sincerely,
Sean Hindle.

Dear Sean,

For those of you that have bought an Amiga 500 or an Amiga 2000, I will explain what a Kickstart disk is used for. On the 500 and 2000 the Amiga's operating system or Kickstart is stored on a ROM chip. That is, when you turn your Amiga on the Kickstart routines are already present in memory. However, when you turn on an Amiga 1000 these routines are not in memory, and have to be loaded from a Kickstart disk into a special area of the 1000's memory. This is called the Kickstart RAM. Thus with an Amiga 500 or an Amiga 2000 you do not need a Kickstart disk. So if the instructions for any program tell you to insert a Kickstart disk before proceeding, ignore the instruction if you are using an Amiga 500 or an Amiga 2000.

There are now many different types of external drives available for the Amiga family, all of which in my opinion offer very good value for money. The one that I rate most highly is the Cumana CA354, because it has its own power supply and also a disabling switch. Although neither of these features are essential, they are in my opinion well worth spending a little extra money for. In fact in the long run they will probably save you money as they will reduce wear and tear on both your Amiga's PSU and its disk drive port. To increase the performance of your disk drives there is an excellent program available entitled "Facc II" (reviewed in February's issue of AUI). This program produces a "dynamically managed intelligent buffer cache", which holds things such as the most recently produced directory, thus reducing disk access time. The only draw-back is that it uses quite substantial chunks of memory to do this. However, if you find that you spend a lot of time waiting for directories or listings of files to appear, this program may well be a very worthwhile investment.

As I think I have mentioned before, the Star LC10 colour printer is an Epson JX80 compatible and will thus work using that driver on preferences. However, there is one point worth mentioning with regard to Viza-Write. For best results with Viza-Write you must use one of its own printer drivers. Unfortunately, at present, there is no Viza-Write driver (in V1.08) for the Epson JX80. However, you can set up Viza-Write to use the currently selected preference driver.

Dear AUI,

I have owned a C64 for 3 years now, and I am very satisfied with it. I learned to program in machine code and FORTH on it. I have also played a lot of games and used some very exciting other software. At present I'm writing music on the 64 in machine code. Lately, I have also been using a sound digitizer. With thoughts of upgrading, I need some information about the Amiga: Does an IBM emulator exist in AT version too or only in XT version? What does the emulator card contain, and can it be connected to all types of Amiga? I hope that I shall get a better User Guide to the Amiga than with the C64. I want to buy the Amiga 500 in West Germany. I should like to know whether I can get a User Guide in English as I do not know the German language.

Yours faithfully,
Zoltan Nagy.

AMIGA ANSWERS

Dear Zoltan,

There are two IBM emulators/add-ons for the Amiga on sale at the moment. One is, of course, the Transformer, which runs at sub-XT speed and allows use of text utilities only. The other is the A2088 XT Bridgeboard, which runs as a standard XT and is available only for the Amiga 2000. On the AT compatibility front the fabled A2286 AT Bridgeboard, which was schedule for release at the end of last year, was shown fully working at the Hannover show earlier this year. However, contrary to some advertisers' claims, it has still not been put on sale in this or any other country. During a recent visit to Commodore HQ in Maidenhead, I found out that they are predicting a release date sometime this year!

With the Amiga 500, Commodore are at present supplying two manuals. One is "The Introduction to the Amiga" and the other is The Amiga BASIC Manual. I have often heard this criticised. However, on this point I would like to stick up for Commodore. The Amiga is an amazingly complicated machine. To provide complete documentation with it would be impossible. There is a multitude of information available. What is needed is a system that makes it accessible to the end-user, so that he can select the bits that are useful to him/her and discard the rest. I am sure Commodore UK would be happy to supply you with English manuals. Write to them at CBM (UK) Ltd., Commodore House, The Switchback, Gardner Rd., Maidenhead, Berks. SL6 7XA.

Dear AUI,

After reading about and comparing the Amiga and rival machines for months before taking the plunge, a number of petty niggles took the edge off my excitement at owning an A500. It started with the freebie, DPaint which could only be run from the CLI and then only in lo-res. My dealer provided another disk because I said the first one must be faulty, but no! the second one was just the same. Onto BASIC, where the output screen uses only 200 lines of the 256 line PAL display, i.e. a miserable 78% of what us Brits should be able to see. There is a similar restriction when you want to guarantee your own screens in BASIC. Dual-purpose software for PAL/NTSC displays seems to be gaining ground but a mention of this, and/or availability in PAL, in software reviews and lists of available goodies might help to accelerate this trend. One last snipe – the Addison-Wesley manuals – constantly referred to in AUI and the latest text books as being indispensable even for BASIC programmers who want to use library routines. They are so out of date that the back covers still refer to the 192K ROM rather than the latest (how many months old?) 256K ROM. This problem was mentioned in a review in the CCI issue of April 1987. Is there ever going to be a second edition of these manuals? I guess there are at least two reasons for not seeing similar comments to mine in print before; the euphoria of getting one's hands onto such an exciting machine and the ever-present doubt of the programmer reaching an impasse, "am I doing something wrong?" Am I?

Yours faithfully,
C J Tildesley

Dear Mr Tiildesley,

Your problem with DPaint is in fact quite a common one. To start DPaint in medium-resolution, type in "DPAINT MED-RES" at the CLI prompt. For high-resolution, type in "DPAINT HI-RES". Using the SCREEN and WINDOW commands from AmigaBASIC you can in fact open a PAL output window. Try this example program by Andy Jenkinson, from a recent UKAUG Newsletter:

```
SCREEN 1,640,256,2,2
WINDOW 2,,(0,0)–(631,240), 20,1
PRINT "Press Return to Finish."
INPUT a$
WINDOW CLOSE 2
SCREEN CLOSE1
```

The Addison-Wesley manuals will not be updated until the release of version 1.4 of the operating system software, which believe it or not is already in the pipeline. The reason for this is that these manuals take, as you can image, a lot of time, money and effort to produce. Commodore decided that the changes in 1.2 were not big enough to merit re-writing the present manuals. Therefore the next editions of these manuals will probably not be available until the middle of next year, after the release of 1.4 (don't hold your breath).

Dear AUI,

I am writing to ask you two questions. Ready?

1. In Amiga's CLI mode is there any way that you can copy ED the Screen Editor onto another disk which has a CLI but not an ED file?
2. If I buy Digiview do I get the software and the camera or just the Digiview software? In other words I have to buy a camera separately?

Yours faithfully,
M Cardwell

Dear Mr Cardwell,

1. Ed, like any other CLI command, is just a program file that is found in the C directory of a Workbench disk. It can be copied from there onto any other disks you may want to use it on. For instance, if the disk you want to copy it onto is in your second drive, type in "COPY C: ED TO DF1:" from the CLI prompt.

2. The Digiview V2.0 package consists of a disk with the digitising software on and an interface to take the composite video output of a camera into your Amiga's parallel port. To use this you will need a camera. The one NewTek recommend is the Panasonic WV–1410, which is a black and white camera designed for closed circuit TV systems. This costs approximately £260 with a lens. If using this system with an A500 or A2000 you will need a special adaptor, which is also produced by NewTek. You will also need a BNC to Phono lead to attach the camera to the Digiview interface. This may sound expensive but when you consider that it produces results that are unparalleled by some systems costing ten times as much, it becomes a bargain. NewTek have recently released Digiview V3.0 in the States, which now supports both extra half-brite and overscan. The PAL version is expected any day now.

Dear AUI,

Your magazine, being of independent status and to which I subscribe, appears to be the next logical avenue down which I can proceed to air my complaint relative to the complete and utter lack of business acumen on the display of extremely bad manners on the part of Commodore. On 6th March, 1988 I wrote to Commodore at their UK address with regard to their national publicity

continued on page 48

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campaign promoting "The New Amiga System 500". I received no reply, not even a card of acknowledgement. On 11th April, 1988 I wrote a second letter to the Company, this time addressed to the Public Relations Manager, complaining of their inaction and bad manners. I received no reply, not even a card of acknowledgement. On 20th May, 1988 I wrote a third letter to the Company, this time addressed to the Managing Director. I received no reply, not even a card of acknowledgement. Each of the three letters was sent by first class post consequently any suggestion that none of the three was received would be difficult to digest. Whilst the object of my initial letter is no longer of importance to me I feel strongly that the Company's conduct ought to be brought to the attention of those who might be interested including the parent American Company whose public relations policy, I feel sure, would not countenance such behaviour. It really does seem odd that they spend so much money on publicity then ignore the resulting potential customer! Any comments would be appreciated.
Yours faithfully,
Mr J S Shillaw.

Dear Mr Shillaw,
Your complaint happens all too often at the moment. Recently, as I have already mentioned, I paid a visit to Commodore UK. While I was there, I put your complaint to them. They apologised unreservedly but also made a few interesting points. They told me that all sales leads for the Amiga 500 Business Packs were passed on to your nearest Commodore appointed dealer. So, it would seem that the initial blame is not with Commodore themselves. Also, they have just had a large shake-up, with the appointment of many new staff, so in the future they hope that misadventures like yours will not take place. I think this is something that anyone who deals with Commodore looks forward to!

Dear AUI,
As a new Amiga A500 owner, I have a query or two, which hopefully you will be able to answer.
1. Is it possible to save disks which come up with a "bad sector" when trying to format? The computer then tells me to try another disk.
2. In the introduction to the Amiga book that came with the computer it has a screen shot which shows DPaint II and Workbench in memory at the same time. As I cannot get both in on my standard Amiga is it fair to assume the micro in the book has an A501 memory expansion? I am mostly impressed with your magazine, having obtained all issues since it became solely AMIGA USER, but would like to see a greater emphasis on articles on getting to know the machine. Keep up the standards.
Your sincerely,
M L Emery.

Dear Mr Emery,
1. Usually when trying to format a disk and it comes up with a "bad sector" it is due to the fact that there is, what is called, a "hard error". A "hard error" is something such as a scratch or a defect that occurred during manufacture, which the computer cannot even attempt to repair. In most cases it is not possible to recover such a disk. However, in my experience, if you try to format the disk again you will sometimes succeed. If this fails, there is little else that can be done. If the disk is new, return it to the shop you bought it from for replacement.
2. To get DPaint II and the Workbench running on any Amiga with 512k or more, just select "Workbench" from Dpaint II's Preference menu. The Workbench will then appear. To return to DPaint II, either click the Workbench to the back, use Amiga–M to flip back or just drag the Workbench screen down out of the way.

Dear AUI,
Is it true that the new Byte Bandit virus can damage the Amiga? I had to change my Amiga at Dixons 4 times until I got one that actually worked . . . ALL the machines I had worked for a day or two then corrupted. The screen went green and the power LED flashed on and off even if I turned the Amiga on and off it was still damaged . . . (I left one machine for TWO days before turning it back on!) Well, what do you think? Is this a virus?
Yours faithfully,
Jerry Cheung.

Dear Jerry,
The "green screen and power light flashing" syndrome is in fact nothing to do with a virus. It is down to a design fault in the A500. These symtoms occur when the Fat Agnes chip, otherwise known as the blitter, comes loose from its socket. This chip is a square chip and thus the socket encases it completely. This problem is usually remedied by installing a clip to hold the chip in place. However, on the A500 it was decided that, in order to cut costs, they would not bother to fit one. This, as you can see, was not a wise move. Commodore are apparently addressing this problem at present time. There are many such rumours flying around at the moment. Here are two I have heard: A virus that installs itself in the battery-backed clock, a virus that makes the Amiga think it has 15 drives plugged into it and blows the power supply up. All of these stories are, I am pleased to say, completely untrue.

Dear AUI,
I have just purchased the Amiga 500 Business Package, and would like to transfer text generated on an Amstrad 1512 and 1640 to the Amiga for use in the DTP package Publisher Plus. Would it also be possible to transfer text from the Amiga created by the Scribble word processor to the Amstrads?
Yours sincerely,
P Nichols.

Dear Mr Nichols,
There are basically two ways to transfer text files between the Amiga and an IBM compatible. The first way is to do it using the RS232 port on each computer with appropriate comms software running on them. However, this can be tricky, as you need the correct lead to link the two and also the correct software to get each to talk to the other. A far easier method, in my opinion, is to use a program called Dos–2–Dos. This allows you to read and write IBM-format text files using the Amiga. It even allows you to format a disk in IBM-format. The only limitation of this is the fact that you either have to have a 3.5" drive in your IBM or a 5.25" drive connected to your Amiga. If you can afford to do it this way, I think you will find that it is far more convenient.

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Elite are really getting into the Amiga games market in a big way recently. Ikari Warriors, converted from the arcade machine is one of their best so far.

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If that sounds suicidal, why not take a comrade to help out? The two player mode allows both to play simultaneously which can be a great help in tight spots. To set the scene, a short animated sequence shows your plane crash-landing before the view switches to an overhead angle. Leaving the wreckage of the plane you have a limited supply of ammo, just enough grenades and machine gun rounds to keep you going for a while. As soon as you set off you are assaulted by small gangs of guerillas which are easy enough to pick off. Soon they get more aggressive, using grenades in addition to their guns.

Abandoned tanks are a welcome sight when things hot up. Jump into one of these, plough through the enemy soldiers and blow up gun installations. Bullets are nothing to worry about now, but grenades or shrapnel from exploding

RRIORS

buildings and tanks give only a couple of seconds' warning before blowing up the tank. Rivers occasionally cross your path, spanned by wooden bridges strong enough to take your tank. Alternatively they can be waded through on foot.

I first played Ikari Warriors on the ST where its only fault is its slow pace. I was pleasantly surprised to find its Amiga formal had all the best points of the ST but with much more speed, making a big difference to the gameplay. Compared to the coin-op the graphics are very similar. All the sprites and animation are smooth and speedy, not far off the coin-op's standard.

The music and sound effects are respectable but can become rather muffled at times. Microdeal's Leatherneck, reviewed in the July issue, was a very good Ikari Warriors-inspired bit of fun, but the real thing just gets my vote for a couple of reasons.

Firstly, it is easier (but still hard), and secondly the controls are more manageable. I think £24.99 is a lot to pay for the game when you think you could have at least 125 games on the coin-op for the same price. Elite could do with dropping the price a fiver or so to give better value. Despite that, fans of the original will definitely find this a very satisfying substitute that should be enjoyed equally by newcomers to the game.

T.H.

Graphics: 8
Sound: 7
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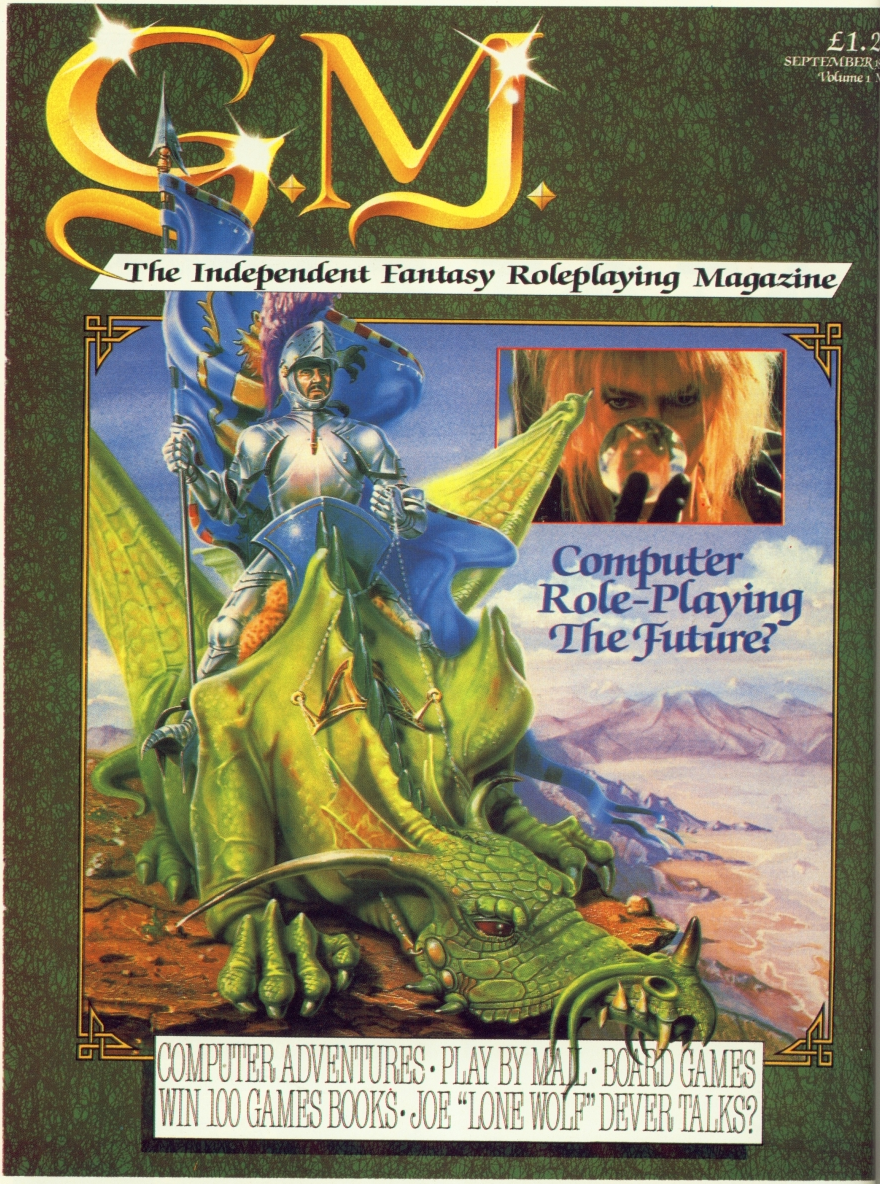

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AMIGA PROGRAMMING

The Amiga's line drawing routines are very fast and powerful due, in large part, to their use of the blitter chip. Paul Andreas Overaa examines the programming techniques that make them accessible to the C programmer.

The Amiga was designed originally as 'the' games machine hence the brilliant graphics capabilities. Considering the complexity of the machine itself, it may perhaps come as a surprise to find out that the C programmer can access many of the graphics routines with surprisingly little effort. This month we are going to have a brief look at some of the line drawing routines available from the graphic library. These routines will expect you to provide details about how and where the drawing is to take place by providing a pointer to the associated RastPort structure. If, for instance, you are writing directly into a screen display you can collect the necessary pointer information at the time you open the screen . . .

```
if ((global screen p = (struct Screen
*)OpenScreen (&NewScreen)) = = NULL
    error flag = TRUE;
    else global rastport p=&global screen p - >RastPort;
```

It is worth mentioning in passing that a lot of programmers regard it as 'safe practice to name both global variables and pointers by using some type of prefix/postfix scheme. It is not always practical to keep referring back to the original variable declarations and a scheme like this will remind you of the nature of the variable.

Graphics Drawing Pens

The Amiga has three different drawing pens associated with the graphics routines. The foreground or 'A' pen (the primary drawing pen), the background 'B' pen and the area outline pen. The current names for these pens are FgPen, BgPen and AOlPen respectively but, for historical reasons, they are also known as the A–Pen, the B–Pen and the O–Pen. You establish the colours of these using the following routines . . .

```
SetAPen (global rastport p, Acolour);
SetBPen (global rastport p, Bcolour);
SetOPen (global rastport p, Ocolour);
```

Drawing Modes

The are four different drawing modes available . . .

JAM1 uses ONLY the foreground pen.

JAM2 enables you to jam two colours into the large area. It tells the system that a pattern variable is being used to write a combination of background and foreground colours automatically.

COMPLEMENT uses the RastPort's pattern variable to decide whether or not to complement a particular pixel.

INVERSVID: in this mode the roles of the foreground and background pens are effectively reversed.

You set the drawing mode using the library function SetDrMd () It uses two parameters – a pointer to the RastPort structures and a flag representing the required mode. It is best to use the definitions JAM1, JAM2, COMPLEMENT and INVERSVID since they are defined in the relevant header include file. If, in fact, you look at the 'graphics rastpot. h' header you will see the following numerical definitions . . .

```
/★ drawing modes ★/
#define JAM1 0 /★ Jam 1 colour into raster ★/
#define JAM2 1 /★ Jam2 colours into raster ★/
#define COMPLEMENT 2 / ★XOR bits into raster ★/
#define inversvid 4 /★ inverse video for drawing modes ★/
```

Pattern definitions are fairly straightforward to understand. The RastPort structure provides two different pattern fill patterns . . .

Line Patterns: A 16 bit mask is used to select between foreground and background pens. Bits set high identify the foreground pen colour, those set low identify the background pen colour. You set up the mask by a straightforward library call . . .

```
SetDrPt (global rastport p, mask);
```

If, for instance, you use a mask of 1100 1100 1100 1100 you will get dotted lines. When a rasport is first initialized this mask will have been set to 1111 1111 1111 1111 so line drawing commands initially give you unbroken lines.

Whilst we are talking of patterns we perhaps ought to mention that a RastPort also contains an 'Area Fill' pattern variable. Area fill is slightly more complicated and is based on a restricted two dimensional masks. The pattern still has to be 16 bits wide but it can be 2, 4, 8, 16, ..., (i.e., any height which is a power of two) bytes high. To create such a mask you have to do two things: Firstly you must set up a pattern block which

continued on page 56

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Heard it On the Grapevine . . .

Al Meric, ever watchful, discovered an Amiga developer using a NON AMIGA machine. Has this developer lost his marbles?

On the hardware front an interesting development was seen at the recent PC User Exhibition. Interfaced to an IBM clone was a high performance video digitiser. The manufacturer was JCL, better known to many of us for their Amiga DIGIPIC digitiser. When asked if JCL had moved away from supporting the CBM product line, business manager Carolyn Holton said "We believe that the Amiga is the best machine in its price range for graphics, video digitisers and related products and we are targetting Autumn as the release date for our colour digitiser on the Amiga. We have chosen to 'go public' now because we must widen our market area to include a number of machines and there are quite a few IBM clones around, including Commodore's! The prototype digitiser we are showing may be plugged into an Amiga or an IBM clone with an I/O board and we aim to carry this philosophy through to the dealer's shelf – all users will buy the same digitiser – with an installation kit for their machine."

Richard Leman, JCL's managing director filled in some of the technical details:

"First off, it is a real time colour digitiser which will accept European PAL video input or American standard NTSC, without modification. By using our own custom chip we have squeezed a lot of features into one box. It took over 100 normal chips to make the first working PAL only version. Next it is a framestore, in other words a picture may be captured and shown 'frozen' on a monitor. When a picture has been captured it may be stored on a floppy in raw form and later sent back to the digitiser for display. This means that as well as providing HAM and 32 colour IFF formats for the Amiga even a Commodore 64 could be used to save and show 320 by 255 colour pictures in over 32 thousand colours. If the demand is sufficient we could write control software for almost any machine. It will be the Amiga first, PC second and then we will see what the market needs. Lastly we are considering introducing the product in a low cost basic monochrome form with minimum RAM to which the customer may add the colour board and extra RAM to suit his needs. DTP users may not need full colour performance until the printers catch up."

continued from page 44

The prototype on show certainly had some interesting features. The sampling rate which controls the picture quality is variable, to more than 1000 samples per line. With the programmable picture width and height features the user may experiment with high resolution and interlace modes. If the results are acceptable then more RAM may be fitted to fill the whole screen. JCL are going to publish the interface specification so that anyone can take control of the digitiser.

The Amiga version price is not yet fixed and, with the volatility of RAM pricing, this is not too surprising but Carolyn Holton has set JCL's sights firmly on becoming a quantity supplier over the next year. To give the last word to the lady (as always!) "High quality, good spec and a sensible price is what it is all about, we aim to make digitisers for a long time . . ."

Good luck JCL; but remember, AMIGA FIRST PLEASE! *A.M.*

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AMIGA PROGRAMMING

has the appropriate characteristics, e.g....

```
UWORD Pattern[]=
        {
        0xff00,
        0xff00'
        0x00ff,
        0x00ff
        }
```

Once the pattern is available you set up the RastPort's area fill pattern variable pointer by using the following library call ....

```
SetAfPt (global rastport p, &Pattern[0], 2);
```

The last parameter is the number of words as a power of two (2 in the case of this example).

The Line Drawing Routines

Now let us have a look at the routines which allow you to make things happen ...

```
WritePixel (global rasport p,x,y)
```

This sets the colour of the pixel at the position x, y to the primary drawing pen colour and if all goes well the routine will return a value of zero. If the x,y co-ordinates are outside of the drawing area, i.e. outside of the RastPort boundaries, the routine will return a value of –1, so if you need to check (i.e. if you do not know whether the selected pixel is within the RastPort) you could collect the result like this ....

```
result=WritePixel (global rastport p,x,y,);
    if (result) {.......;}
```

although for a transient test you do not need the additional variable, you can test the returned value directly ....

```
if(WritePixel (global rastport p,x,y)) {.....;}
```

```
ReadPixel (global rastport p,x,y)
```

This performs the opposite effect .... it tells you what colour a pixel is by returning an integer between 0 and 255. Again if the point (x,y) is outside of the RastPort you will get a –1 value returned.

```
Move (global rastport p,x,y)
```

This moves the drawing pen to a given (x,y) position.

```
Draw (global rastport p,x,y)
```

This draws a line from the current pen position to the position (x,y) specified leaving the drawing pen in this new position.

To draw a line from the point whose co-ordinates are (10,10) to the point (70,120) you would therefore write statements similar to ....

```
Move (global rastport p, 10, 10)
Draw (global rastport p, 70, 120)
PolyDraw (global rastport p, vertices, array pointer)
```

This provides a nice easy way to join a set of random points. You have to tell this routine the number of vertices involved and pass it to a pointer to an array containing the actual vertex co-ordinates. If, for instance, you wished to produce a 10 pixel size square box you would set up an array like this ....

```
WORD vertex array [] =
{ 0,0
10,0
10,10
0,10
0,0
};
```

then use the PolyDraw() function in this manner ....

```
PolyDraw (global rastport p, 5, &vertex array [0]);
```

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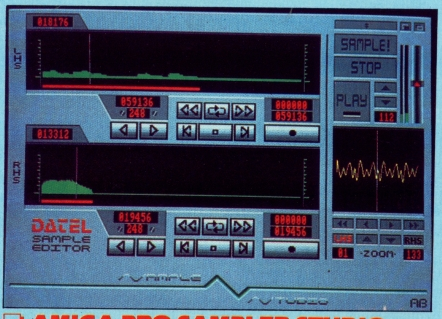

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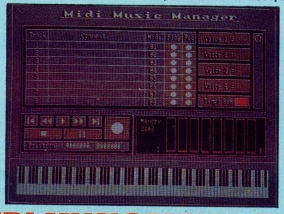

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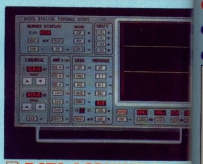

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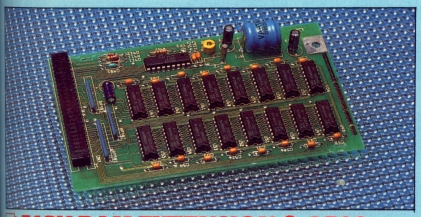

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QUAD

One of the Amiga's greatest assets is the BLITTER. This all powerful device is capable of some amazing feats. Giulio Zicchi reveals some of its secrets.

In this month's article we are going to take a look at one of the most interesting aspects of the Amiga, the blitter. For those of you who do not know, the blitter is described by the Amiga Hardware reference manual as a 'high performance graphics engine' which is capable of moving blocks of memory around at lightning speed. Indeed, once set up, the blitter, which resides within one of the Amiga's custom chips, is capable of transferring nearly a million pixels a second! In order to achieve this amazing speed, it is sometimes necessary for the blitter to 'lock out' the 68000 processor while it completes its duties. Linear and rectangular areas of memory may be moved from anywhere within the lower 512k of memory using the modulo registers and hardware line drawing is also supported, making this a truly impressive piece of hardware.

Four channels may be used to transfer the data; A, B, C, and D – where A, B and C are the source channels and D the destination. In addition, the blitter contains a barrel shifter for shifting images on pixels boundaries, necessary as the blitter is a word blitter and not a pixel blitter. As if this were not enough, the A, B and C sources may have any one of 26 different logic operations performed on them as they are moved. In order to achieve the movement of rectangular blocks of memory, the blitter has a word length modulo register for each channel. Take the following example:–

WORD	WORD	WORD	WORD	WORD	WORD	WORD	WORD
01	02	03	04	05	06	07	08
09	10	11	12	13	14	15	16
17	18	19	20	21	22	23	24
25	26	27	28	29	30	31	31

To extract words 11–14 and 19–22 we must skip words, 15, 16, 17 and 18. Since four words equals eight bytes, we would write a value of eight to the relevant channel's modulo and set the address pointer of the same channel to point to word eleven. After setting the address and modulo registrars of the channels we wish to use, we must set the shift, channel enable and minterm values and then tell the blitter the size of the bilt to be performed by writing to a register called BLTSIZE. The writing of a value to BLTSIZE actually triggers the blitter.

A breakdown of these registers should clarify things further:– ⟶

BIT	BLTCON0	BLTCON1
15	A shift 3	B shift 3
14	A shift 2	B shift 2
13	A shift 1	B shift 1
12	A shift 0	B shift 0
11	A enable	/
10	B enable	/
09	C enable	/
08	D enable	/
07	minterm 7	/
06	minterm 6	/
05	minterm 5	/
04	minterm 4	Exclusive fill enable
03	minterm 3	Inclusive fill enable
02	minterm 2	Fill carry input
01	minterm 1	Decrease address
00	minterm 0	Line mode

When the line mode bit is set in BLTCON1 the registers have different meaning which we will not concern ourselves with here. The BLTSIZE register is a little tricky since only six bits are devoted to width (6 bits = 64 words = 1024 pixels) while the uppermost ten control the height (10 bits = 1024 lines).

BLTSIZE BIT															
15	14	13	12	11	10	09	08	07	06	05	04	03	02	01	00
h9	h8	h7	h6	h5	h4	h3	h2	h1	h0	w5	w4	w3	w2	w1	w0

Turning to the example, you will notice that I have set up a subroutine called STUFF BLITTER which moves the pre-initialised data registers into the blitter control registers. Although this example only uses channels A and D, it is quite convenient to use this type of subroutine after correctly setting any or all of the appropriate registers. A word of warning here – the blitter is not at all a friendly piece of hardware. If you do not ENSURE that the values inserted are within the correct limits then the blitter will happily trample all over memory. Obviously, the main danger lies with the destination register and the BLTSIZE register. Before calling any routine which uses the blitter, make sure you have a copy of the source on disk and triple sight check your listing. You have been warned!

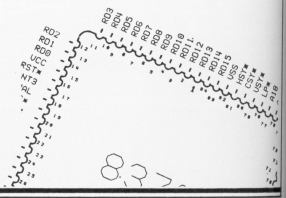
This example uses a minterm value of $FO which means D = A.

Consult the hardware reference manual for further information regarding minterms. One other point to note is that the A channel also supports first and last word masking. Each leftmost word of a blit and each rightmost word of blit will have a mask applied to it as determined by the contents of BLTAFMW and BLTALWM. Where any bit of the mask is a 1 then the A source data will show through but any 0 bit in the mask causes a zero result. The example sets both these word registers to all 1s.

Try changing minterm values to alter the destination image. There is also no reason why this particular example may not be easily expanded to include the movement of more planes, in a 32 colour screen, for instance.

That's all for this month. Happy Blitting.

G.Z.



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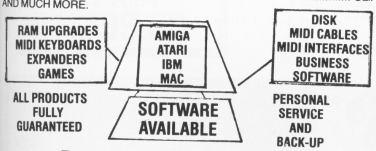

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```
OPT       C-,D+
INCDIR    "SYS:INCLUDE/"
INCLUDE GRAPHICS/GRAPHICS_LIB.I
INCLUDE INTUITION/INTUITION.I
INCLUDE INTUITION/INTUITION_LIB.I
INCLUDE EXEC/EXEC_LIB.I
INCLUDE HARDWARE/CUSTOM.I
INCLUDE HARDWARE/DMABITS.I

BPR       EQU     40        ; Bytes Per Row of screen
YSIZE     EQU     120       ; Y size of blit
XSIZE     EQU     8         ; X size of blit ( in words )
YDEST     EQU     20        ; Y destination of blit
XDEST     EQU     20        ; X destination of blit
NULL      EQU     0

LEA       INTLIB,A1                   ; library name
MOVEQ     #$00,D0                     ;
CALLEXEC          OPENLIBRARY         ; open
TST       D0                          ; 0 = fail
BEQ       ERROR                       ; so exit
MOVE.L    D0,_INTUITIONBASE           ; else store pointer
LEA       GFXLIB,A1                   ; same for
MOVEQ     #$00,D0                     ; graphics library
CALLEXEC          OPENLIBRARY
TST       D0
BEQ       ERROR
MOVE.L    D0,_GFXBASE
LEA       NEWSCREEN,A0                ; pointer to our screen
CALLINT           OPENSCREEN
TST       D0                          ; 0 = fail
BEQ       ERROR
MOVE.L    D0,SCREEN_PTR               ; store screen pointer
MOVE.L    D0,A0                       ; copy to address reg.
ADD.L     #SC_RASTPORT,A0             ; obtain Rport address
MOVE.L    A0,MY_RPORT                 ; store
MOVE.L    D0,A0
ADD.L     #SC_VIEWPORT,A0             ; to obtain Viewport addr.
LEA       PALETTE,A1                  ; address of our colours
MOVE.L    #$04,D0                     ; no. of colours

        CALLGRAF        LOADRGB4        ; load palette
        BSR     DRAW_RECTANGLES         ; place rectangles
        BSR     BLIT_RECTANGLES         ; do the blit
WAIT    BTST.B  #6,$BFE001              ; wait for left mouse...naughty!
        BNE     WAIT
KILL SCREEN
        MOVE.L  SCREEN PTR,A0           ; then close screen
        CALLINT         CLOSESCREEN     ;
ERROR   RTS                             ; exit

DRAW RECTANGLES
        MOVE.L  MY RPORT,A1
        MOVE.W  #$01,D0
        CALLGRAF        SETAPEN         ; lib call to set colour
        MOVE.L  MY RPORT,A1
        MOVE.W  #$20,D0                 ; x1
        MOVE.W  #$20,D1                 ; y1
        MOVE.W  #$50,D2                 ; width
        MOVE.W  #$80,D3                 ; height
        CALLGRAF        RECTFILL        ; draw filled rectangle
        MOVE.L  MY RPORT,A1
        MOVE.W  #$03,D0
        CALLGRAF        SETAPEN         ; next colour
        MOVE.L  MY RPORT,A1
        MOVE.W  #$30,D0                 ; x1
        MOVE.W  #$30,D1                 ; y1
        MOVE.W  #$60,D2                 ; width
        MOVE.W  #$70,D3                 ; height
        CALLGRAF        RECTFILL        ; draw filled rectangle

        RTS

BLIT RECTANGLES

        MOVEQ   #$00,D7                 ; zero for count
BLIT LOOP
        MOVE.L  MY RPORT,A0             ; rastport pointer
        MOVE.L  RP BITMAP(A0),A0        ; obtain bitmap structure
        MOVE.W  D7,D0                   ; plane1
        ASL.W   #$02,D0                 ; * 4 for long word access
        MOVE.L  BM PLANES(A0,D0),D0     ; get long word plane address
        MOVE.L  D0,D1                   ; copy for B (not used here)
        MOVE.L  D1,D2                   ; copy for C (not used here)
        MOVE.L  D2,D3                   ; copy for D
        ADD.L   #(YDEST*BPR)+XDEST,D3   ; dest. + Y * row + X
        MOVE.W  #BPR-(XSIZE*2),D4       ; for modulo
        MOVE.W  D4,D5                   ; same modulo in
        SWAP    D5                      ; all blitter mod regs.
        MOVE.W  D4,D5
        SWAP    D4
        MOVE.W  D5,D4
        MOVE.W  #$09F0,D6               ; minterm = $F0 : USEA : USED
        SWAP    D6                      ; to hi word for stuff routine
        MOVE.W  #$00,D6                 ; bitcon1
        MOVE.L  D7,-(SP)                ; save count
        MOVE.L  #YSIZE,D7               ; rowsize
        ASL.L   #6,D7                   ; shifted for bitsize
        ADD.L   #XSIZE,D7               ; plus X wordsize
        BSR     STUFF_BLITTER           ; set up blitter
        MOVE.L  (SP)+,D7                ; retrieve count
        ADDQ.B  #$01,D7                 ; increment
        CMP.B   #$02,D7                 ; both planes done ?
        BLT     BLIT_LOOP               ; no - then loop
        RTS                             ; blit complete

STUFF_BLITTER

        MOVE.L  #$DFF000,A6             ; custom chip base address
WFBLIT  BTST    #DMAB_BLTDONE-8,DMACONR(A6)     ; wait for blitter
        BNE     WFBLIT                  ; 0 = blitter done
        MOVE.L  #$00,BLTCDAT(A6)        ; clear data regs.
        MOVE.W  #$00,BLTADAT(A6)
        MOVE.W  #$00,BLTDDAT(A6)
        MOVE.L  D0,BLTAPT(a6)           ; store adress pointers
        MOVE.L  D1,BLTBPT(a6)
        MOVE.L  D2,BLTCPT(a6)
        MOVE.L  D3,BLTDPT(a6)
        MOVE.W  D4,BLTBMOD(a6)          ; modulos in hi-lo words
        SWAP    D4
        MOVE.W  D4,BLTAMOD(a6)
        MOVE.W  D5,BLTDMOD(a6)
        SWAP    D5
        MOVE.W  D5,BLTCMOD(a6)
        MOVE.L  D6,BLTCON0(a6)          ; longword  bitcon0,bitcon1
        MOVE.L  #-1,BLTAFWM(a6)         ; mask to show all
        MOVE.W  D7,BLTSIZE(a6)          ; this actually triggers blitter
        RTS

NEWSCREEN:
        DC.W    0,0     ;screen XY origin
        DC.W    320,200 ;screen width, height
        DC.W    2       ;screen depth (number of bitplanes)
        DC.B    0,1     ;detail and block pens
        DC.W    NULL    ;display modes
        DC.W    CUSTOMSCREEN    ;screen type
        DC.L    NULL    ;pointer to default screen font
        DC.L    TITLE   ;screen title
        DC.L    NULL    ;list of custom screen gadgets
        DC.L    NULL    ;pointer to custom BitMap structure
        EVEN

TITLE   DC.B    "Blitter Demo !",0
        EVEN
PALETTE:
        DC.W    $0000   ;color #0
        DC.W    $056F   ;color #1
        DC.W    $02CF   ;color #2
        DC.W    $0F4F   ;color #3

INTLIB          DC.B    "intuition.library",0
                EVEN
GFXLIB          DC.B    "graphics.library",0
                EVEN

 INTUITIONBASE  DC.L    0

 GFXBASE        DC.L    0

 SCREEN_PTR     DC.L    0

 MY_RPORT       DC.L    0
```

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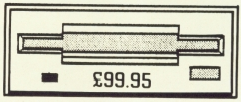

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RETURN TO GENESIS

Firebird

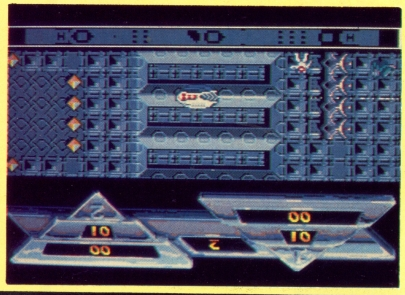
When Steve Bak and Pete Lyon team up they are capable of creating some very impressive games. The only thing they lack is original game designs. Take Return to Genesis for example, neat coding and graphics but put together in an out-dated game structure.

A group of scientists have been kidnapped and are being held across ten levels of an artificial world. These levels scroll along the bottom half of the screen and range from metallic cities to shiny slime bubbles. Your ship in which you carry out the rescue mission is a small craft with a single laser at the front. It can fly at a number of speeds, some slow and some uncontrollably fast. The high speeds can be handy for escaping the little aliens that pop up here and there without warning, though keeping that speed for long will send you flying right into the next alien.

"The high speeds can be handy for escaping the little aliens that pop up here and there without warning."

To clear a level, all the scientists must be rescued by flying over them. Once you pick up a scientist he will add his latest invention to the ship, that is assuming he has an invention to the ship,

Instead of just telling the player the effects of each scientists, a meaningless profile of each is included in the instructions, coming out with lines such as ". . . they have been highly successful in transferring elementary particles to paralled dimensions" and . . . causing controlled physical changes of atomic particles through chemical means". How does that relate to the game? In effect what that means is that you get a slightly more powerful laser or suchlike.



In case you have not yet guessed, Return to Genesis is very little more than a Uridium clone. The super-speedy smooth scrolling, the ship's backflip, the little irritating aliens, in fact almost every feature has been borrowed from Andrew Braybrook's highly popular 64 blast.

Leaving the game for a short while takes it into demo mode, showing off the graphics of some of the higher levels. It also introduces the scientists with superb portraits of them all. Some sampled speech reminds you of the game's title and congratulates you as a level is cleared. A tinkly tune plays throughout the game, interupted by some effects straight out of Obliterator.

Impact is what Return to Genesis lacks. For one thing the Uridium-style gameplay is hardly striking. Scientists, aliens, lasers and explosions are all very small and unsatisfying. There is nothing here that has not been done before and soon becomes tiresome because of its lack of innovation.

T.H.

Graphics: 7
Sound: 7
Playability: 5
Value: 5
Price: £19.95

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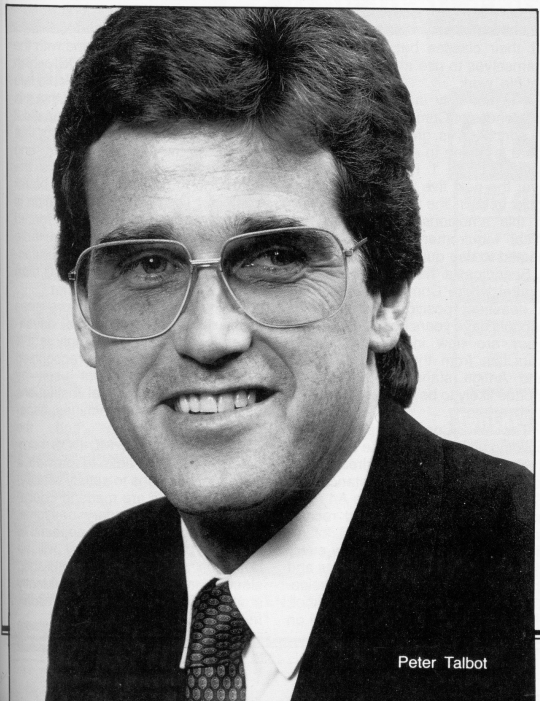
COMMODORE IN EDUCATION

Well before the BBC micro became almost *de rigeur* for schools in the U.K., Commodore computers were teaching pupils and students in educational establishments all over the country the addictive fascinations of electronic learning. PETs, Vic 20s and C64s found their way into classrooms in large numbers. The subscribers' list of Commodore Computing International Magazine, the publication from which AUI emerged as an independent magazine, still contains a large percentage of educational institutions. They may, in many cases, have since purchased a greater number of BBC's but if they retain only a few of their original Commodores they generally want to keep in touch with recent developments.

So when Commodore appointed Peter Talbot as the National Sales Manager with responsibility for education, his task in challenging the hegemony of the BBC/Acorn in the schools and competition of other companies with, for example, IBM compatible PCs in Higher Education is not so outstandingly difficult as some might think. For he is able to build upon a reserve of long-established goodwill not only on the part of educators but also from the pupils and students who might well have used Commodore machines for their home computing for years.



Peter Talbot

Talbot has some personal advantages too. He trained as teacher, taking an honours degree at Loughborough College. He then taught for four years. So he knows the field well. He also has a son aged 2½ – who naturally already has his own Commodore 64.

Talbot arrived at CBM after being a Branch Manager for Granada Business, brought over by Jim Housego, CBM's Operations Director who was recruited by Steve Franklin, CBM's MD who also came from Canada ... Quite an invasion....

Talbot admits that for him coming to Commodore was something of a culture shock. He had been used to an IBM dealership, arriving at a manufacturer meant "You, not somebody else, are responsible . . And the capability of the machine compared to MS-DOS . . . My brief was simply to set an Education Division because we believe that the machines we have, especially the 500 are ideal for a whole range of educational purposes.

SUCCESSES

Commodore is making a stong effort in the education field Europe wide. It has just held a conference at which all the European CBM companies were able to exchange ideas from their Education Divisions. Talbot was able to report, in addition to some interesting applications in Education to which Commodore computers are being put but also some successes in convincing the once BBC-dominated educational establishment that Commodore machines had more to offer. In Somerset, for example, he told the Conference, every art college is now using Amigas, which, of course, with that computer's extraordinary graphic capability, is not altogether surprising . . .

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COMMODORE IN EDUCATION

It appears that not just the educational authorities are beginning to take notice but the educational press too. The Times Educational Supplement has just devoted a whole page to Commodore and the academic applications of its computers, especially where as in graphics for example, the Amiga is the logical, indeed perhaps the only choice. Talbot has no complaint about the Press attention and says that the article in the TES "was very fair".

PRICE COMPETITIVE

Commodore has appointed a network of specialised Education Dealers. But it will support them with direct contact between CBM and local authorities. It will enable LEA's to benefit from a direct ordering system but still receive the close support of a local specialised dealer.

Commodore are also encouraging the deveiopment of software for the education market. This may be world, Europe or nationwide, or even highly specialised applications such as aids for disabled children or adults in schools. There are also a number, a large number of already established products that CBM believes have strong educational applications. These obviously include graphic products such Byte by Byte's Sculpt 3D Animate, NewTek's Digiview and Digipaint, the Genlock – which has alreay claimed considerable success in video areas of education.

There are many other products too, Talbot points out, that while they may not have been created with education as their primary purpose certainly have educational, in a wider sense, applications. Programs like Galileo, from Infinity Software, was created in the United States, as a general interest astronomy program and it could certainly be used for instruction in schools.

There are, of course, many programming instructional products and also some more specialised offerings such as Ex-Cad, a very well received Computer Aided design program on the Amiga.

Commodore UK is taking part in helping to form an official European list of educational software. "We'll be looking for all sorts of titles and looking to give the end user better prices . . . There will be much wider emphasis throughout Europe on Education. Each country in Europe will have a new Education Department or Division." says Talbot. "We already know that the Amiga and especially the UNIX devleopments will prove very interesting to universities. We are encouraging the Euro-initiative to write multi-language software by creating a shell scheme in some sujbects just enalbing the language to be inserted. We believe there is an immense market for Commodore machines. We already know of whole states in Germany that have gone over the Amiga as the standard educational machine . . 60 per cent of Sates in Germany are already C64 based. 4 States have so far taken 8,000 machines . . . When the A2000E was promoted, including the IBM compatible bridgeboard, to colleges direct, more than 2500 were purchased. In fact we would have been able to sell still more if we had had the machines but at that time there was a shortage of supply . . . It seems that in Germany College teachers not only recommend them for their classes but buy them for themselves to use at home for compatible work."

It is not only in Europe that the awareness of Commodore machines in education is growing. In Turkey, there is a plan to equip schools and colleges with 1 million computers over the next five years. The Amiga looks to be in line to play a major role in this ambitious programme. The initial requirement of 5000 is expected to rise quickly to 20 to 3000.

Scandinavia has always been a market where Commodore has had a dominant position. Many of the schools have years been C64 based. They are now in the process of transition from the 64 to MS-DOS and Amiga standards, with Commodoe likely to be a natural choice in both areas.

The U.K. Commodore has been building up its status in the Education field in the U.K. and already has found increasing acceptance. In Somerset, for example, the Art Advisor to the county saw and recommended the Amiga as ideal for art departments in colleges. Now every college in Somerset has Amigas and they are very happy with their choice. The HMI ix "delighted" says Talbot.

The Amiga has been accepted on the ofificial advisors course for CDT – Craft, Design and Technology. Art teachers and design and music teachers too will be seeing the Amiga on the courses organised by the Micro-Electronics Education Support Unit – which reports directly to the DES. These courses are attended by eighty or more advisors whose task is to go to schools and advise them on suitable equipment. CBM is providing special training and information to those who require it.

Peter Talbot's responsibilities cover more than Education alone. He is also in charge of CBM's development in other areas for example Local Government, Central Government, Ministry of Defence and the Health and Medical field. There will, he says, be "Rolling campaigns moving into each area, addressing marketplace by marketplace . . . starting with education."

There is, he insists, no possibility of conflict between the Amiga and MS–Dos. "Gone are the days when you made a machine fit the customer, now it is horses for courses – an A500 will be right for many educational uses but if they need MS–DOS too then the A2000 perhaps with the UNIX board or even the OSI which we believe will become available late in the year. The OS2? . . . All thta it is going to offer is what the Amiga did 2 years ago . . . There is no doubt that if schools need DTP, or art and design, the 68000 solution is the right one . . . it has much better graphics. The feeling in Education is that they should no longer be forced to buy overpriced machines suitable for such tasks. In the past, manufacturers tried to be all things to all men and no machine can do that."

It is clear that Commodore sees itself with some exceptional advantages in Education. Not only is it a worldwide respected and recognised name by the individual user, by business and by official institutions but that its range of machines, especially the Amiga and the competitively-priced MD-DOS computers, makes it able to provide a variety of solutions to satisfy whatever requirements are made in Education, primary, secondary or higher. No other manufacturer appears to possess possibilities. They will no doubt be adapting their established slogan for the Amiga in confidently stating for education "Only Commodore makes it possible!"

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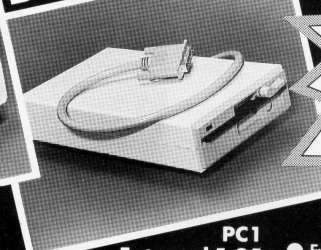

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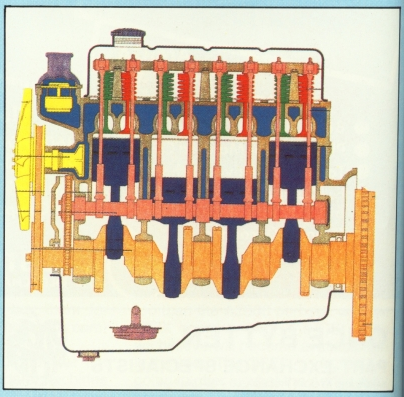
The Amiga in Action

The education scene in the UK is changing fast. Already the Amiga is making an impact especially in Higher Education.



Somerset County Council

Finding its way into the art departments of comprehensive schools in the West Country, Somerset County Council has recently installed the Amiga in every school and Further Education College in the county. Pupils at one of the schools, the Kings of Wessex school in Cheddar are using the Amiga as a kind of sketch pad.

Using software packages like Digi-paint they can draw onto the screen, experiment with the colours until they are happy with the finished result and can then start to actually paint the picture originally created on the Amiga.

Teaching staff at the school see the Amiga as bridging the gap between art and technology, Students who perhaps feel they have no talent with a paintbrush can use the Amiga's graphics to produce stunning results, while students who are more artistically inclined and have no confidence with computer technology are amazed at how user friendly the Amiga is.

The Somerset project is backed by weekly in-service training sessions for the teaching staff.

Video productions at the Polytechnic of North London

Transforming video production work at the polytechnic of North London the Commodore Amiga has in the words of John Carter, head of Media Services "brought the long awaited video revolution to our doorstep."

Unlike most other micros the Amiga has an add-on 'genlock' which synchronises its output with that produced by video recorder, enabling the Amiga's excellent graphics to be super-imposed onto a video picture and then recorded on to videotape.

Up until acquiring the Amiga they had made videos at the college either by shooting in a studio using two-cameras linked by a vision mixer, or by using the 'shoot it once in a long shot and then again in close-up' approach. Both methods result in U-Matic original tapes, which needed varying degrees of editing on the college 2-machine edit suite.

Providing the college with a very cost-effective alternative using the Amiga with an edit suite is a simple matter of connecting the Amiga between the source and master machines. The background colour on the Amiga monitor becomes transparent and the original recordings are played back through it.

Many other applications for the Amiga are developing. They include clothes design at Newcastle Polytechnic, teaching Geology at the Royal Holloway College, architectural prospectives at the Architectural Association and home designing at the Royal College of Art.

For further information on Amiga educational projects contact Anton Gray at Commodore UK, Tel: 0628 770088.

Pest Control at Wye College

Wye College has been using the Amiga to develop a project for controlling biological pests in greenhouses. Funding from the Agricultural Food and Research Department has enabled postgraduate students at the college to develop a computer program to modify the heating and lighting, and monitor pest control.

These pests, like the white fly and the mealy bug which usually are brought in by growers, can be controlled through the summer months by introducing predators. In the winter, however, when pests are more resilient as the predators use more energy, the balance is upset as the pests gain control.

The Amiga is being used to plan the environmental conditions; in effect to make the summer last longer by devising a program which allows the growers to decide on the number of hours of heat and light.

The program can be further developed to include all kinds of data; the rate at which plants are growing, eggs are laid, the interaction between plants and so on.

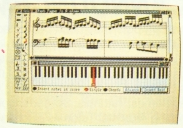
The research is likely to prove very useful for growers enabling them to devise a program to provide optimum growing conditions.

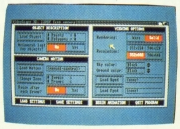
Geology Department at Reading University

The Amiga is being used at Reading University with a software package designed to teach geological statistics.

Set to music, the William Tell Overture, the programme begins with a video showing a truck collecting some rock samples from a quarry. As the program is self-explanatory, students are using it on a kind of tutorial level, working their way through the program and having constant interaction with the Amiga as they learn an in-put results.

The program has been developed from a specification based on a series of lectures given within the geology department by Dr C McMcann and the Amigas graphic capabilities are utilised to present histograms and statistical information on rock formation and rock sampling.





Camberwell School of Art and Craft

Since September 1987 Camberwell School of Art and Crafts has been developing a computer facility within its Fine Art Department.

By far the greatest amount of work carried out in the college has been produced using the Amiga.

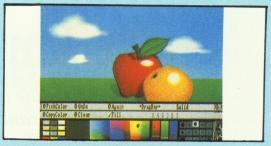
The college has chosen the Amiga firstly because they feel it is a system which is sufficiently flexible to meet their computer needs within a limited budget. Another reason for choosing the Amiga is its accessibility which means that students will be able to continue using the Amiga after they have finished their course and left college.

The availability and wide range of software specifically for the Amiga has also provided the college with user friendly programs such as Deluxe Paint which are sufficiently broad in the scope of their applications.

More complex programs such as Sculpt 3D and Videoscope 3D have helped introduce students to more advanced areas of computer art such as ray tracing and 3D animation.

As far as the Amiga's educational uses go the college has found that students have not only utilised the computer as a practical tool in the production of artwork but many have found it an aid to the development of a greater understanding of the creative process.

The computer faculty at Camberwell has been running for only six months and has already attracted interest from six major galleries from around the country in mounting a touring show of their work in early 1989.



Circuit Design at Swansea

Swansea University has 45 Amiga 500 Computers, 30 of which are used in the classroom by the students. The Amigas are connected to the campus network and have two main uses within the university. They are used as stand alone work stations for colour graphics, for student uses and for programming in Modula 2. Modula 2, developed by the writer of Pascal is described as being able to do everything that Pascal could not. For any kind of document preparation the students use Prowrite.

The second use of the Amiga is as an emulator for the VAX and pyramid mainframes which the colleges uses, for this they are using a VT100 emulation package. Within the Computer Science Department at Swansea University, lecturer Neil Harman, is using his Amiga as a graphics terminal for Very Large Sale Integration (VLSI). By connecting it to a mainframe computer, the Amiga is used to give graphic representations of program involving for example chip design.

Art at West Surrey

A monotechnic for the study of art and design, West Surrey College of Art has four Amiga 2000s, used for animation, graphics, and fine art.

Some art lovers might be surprised at the thought of a computer in the fine art department of a college but Peter Sayers, a senior lecturer at the College, describes the function of the Amiga as that of a kind of technical sketch pad.

In a landscape drawing, for example, the artist starts off with a basic idea and can draw the idea straight onto the screen. Using the Amiga, the idea can progress in an experimental fashion as the artist decides to add a tree, or say, move a tree from the left to the right.

With the appropriate software, like Dig-Paint, colours can also be lightened or darkened or else changed completely. When the artist is pleased with the screen representation of his idea, he can then transfer it onto canvas.

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The Amiga to Come . . .

Dr Rahman Haleem, Technical Support Manager for Commodore UK, gives us some insight into Commodore's plans for the Amiga and some of their new products due to be launched later this year.

The Unix operating system is gaining in popularity as a sophisticated operating system for micro computers. It scores over other popular operating systems such as MS-DOS for 16–bit micros and the 8 bit CPM system in that it is a multi-tasking and multi-user system. Thus a number of tasks could be performed simultaneously and more than one user could access the computer at the same time. Every user on the system gets the feeling that the system is giving him/her its undivided attention when in fact all users are "sharing" the computing time. Through this technique of "time sharing" the Unix system creates this feeling. In addition, Unix provides a system with the capability of executing more than one task simultaneously, much like AmigaDos does. Another distinguishing feature of Unix is that it is largely machine-independent. This means that it can run on mainframe computers as well as the more powerful microcomputers like the Amiga.

Since the Amiga was designed with open architecture in mind, incorporating advanced systems as Unix in it was relatively easy.

In order to run Unix on the Amiga 2000, the optional A2620 board is required. This board contains the 68020 processor running at 14 MHz' the 68881 math co-processor (optional (68882) running at 14 MHz (optional 20 or 256 MHz) and the 68851 memory management unit (MMU) (virtual paging). This board can be populated with up to 4 megabytes of fast memory which is accessed by the 68020 using a 32 bit data bus. With this board, the Amiga 2000 can run Unix system V, release 3, version 1, the latest release from AT&T. It uses a paged memory management model which allows for a virtual address space of one gigabyte. Streams are included along with the remote networked filesystem (RFS). Full advantage can be taken of the special 68020 instruction set and the 68881 floating point instructions, using an optimizing C compiler.

A responsive windowing system that fully utilizes the special purpose Amiga hardware has also been implemented.

This 68020 board gives the Amiga an estimated performance increase of up to 400% in addition to allowing the Unix operating system to run on the Amiga.

The Amiga 2500UX

This system is an upgraded Amiga 2000 system which incorporates the Unix operating system. It consists of:

- A2000 computer
- A2020 (4MB) 68020 cpu board
- A2090A Amiga hard disk/SCSI controller with hard disk autobooting.
- 100 MB 28MS hard disk drive.
- Unix 5.3 operating system.
- Tape streamer.
- Monitor.

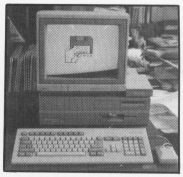
This system was demostrated at the Hannover Fair last March and will be available in Europe shortly.

More Amiga Enhancements

In line with Commodore's committment to enhancing the power and capabilities of the Amiga, a number of products have been destined for launch during 1988.

These include:

- A Hi-Res Monochrome Monitor giving non-interlaced resolutions of up to 1008 × 1024.
- An internal Genlock for the Amiga 2000 which allows you to combine the Amiga's display with the video output from a VCR, video camera, laser disk etc.
- The 68020 cpu board mentioned above.



- An autobooting high speed hard disk controller allowing two ST506 hard disk drives and/or up to seven SCSI devices to be connected.
- A memory expansion card which can be populated with up to 8 megabytes of RAM.
- An AT-Bridgeboard with 80286 cpu and one megabyte of RAM. This allows IBM PC–AT™ compatibility in hardware and software on the Amiga, in addition to the various Amiga tasks that could run at the same time.
- A new Enhanced Chip Set (ECS) which supports all current video modes, colour and resolutions in addition to a new hi res non-interlaced mode of 640 × 512.
- New operating system upgrades to the Workbench ™ and kickstart which further increase the power of the Amiga.

Please note that all specifications in this article are subject to change.

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THE Commodore RANGE

Many of those interested in computers are not aware of CBM's long history in the computer field or of the very wide choice that today it an offer. Malcolm Sargent of Cavendish Computers takes a look at the past and present Commodore range.

The name Commodore is synonymous with computers. Indeed the very first personal computer in the world was created by Commodore in 1977. It was called the PET (Personal Electronic Transactor) and the first of a long line of PET's was the 2001. Commodore Business Machines Ltd. had already been in existence nearly 20 years, it was started in 1958 by Jack Tramiel (now head of Atari), and was formed to sell and maintain typewriters. From small beginnings the company quickly grew and in 1969 the first hand-held calculator was made, the C108. As with the computer range there was a long line of different models offering more features than the first four function C108.

It is interesting to note that the first IBM PC was not launched until 1981, four years after the first PET. At that time the PET 4032 offered 32K RAM for around a quarter of the price of a 64K IBM-PC. The IBM machine had an established sales and support network and soon became the standard business computer, where power was more important than price. Vast amounts of software were produced to the MS-DOS standard for any and every application. Databases, Word Processors, Spreadsheets, Languages, utilities, simulators, games – whatever you want to do with a computer you can do with a PC – and Commodore today is one of the world's leading suppliers of the MS-DOS machines.

Commodore, however, is well-known for its 8–bit range. Starting with the VIC–20, a 5K computer with colour graphics and sound launched at the beginning of the decade, the C64 followed a few years later and sold initially in the U.K. at £399. The 64 had a sophisticated sound chip and sprite graphics and as is the caase with the IBM PC it spawned a whole industry of add-ons and software. The 64 became the top selling computer in the world and was, in fact still is, very popular with schools and colleges throughout the world. In the autumn of 1985 the Commodore 128 was launched. This machine offered the features that the customers would have like to have been made available on the C64. It was really three machines in one. In one mode it imitated a 64, in another a CP/M machine and in its native mode it came into its own, with many enhancements including 128K RAM, seperate numeric keypad, powerful basic interpreter, 40 and 80 column screen output and the function keys already predefined mainly for disk drive use.

The current Commodore range comprises of the C64, the 128, the 128D (the 128 with an inbuilt 340K disk drive), the Amiga A500, the Amiga 2000, the low cost PC1, PC10–III, PC20–111, PC40–20 AT, PC4040 AT, and the PC60–40

"The Amiga series of computers was launched in the USA in the summer of 1985, European PAL versions followed in May 1986."

continued on page 78

THE Commodore RANGE

continued from page 77

and 60–80. Twelve machines which cover all requirements from £130 (ex vat) to £4,995. (U.K. prices)

The Amiga series of computers was launched in the USA in the summer of 1985, European PAL versions followed in May 1986. These original machines were called the Amiga 1000's. From the time the first machines were released there was already speculation about the next models in the range. The two following models were previewed for the first time in January 1987 at the Consumer Electronics Show in Las Vegas and released in the April and May that year.

The Amiga 500 is a low production cost equivalent of the Amiga 1000 with a few minor chip changes including the kick-start disk now supplied on ROM. It comes complete with 512K RAM (upgradable at low cost to 1MB) 880K–formatted disk drive, mouse, separate power supply unit, standard PC type serial and parallel ports, mono composite video port, external disk drive connector, RGB video output and two nine pin D connectors for mice or joysticks. This unit now retails in the U.K. at £347.82 ex VAT and is the volume selling Amiga.

The top of the range Amiga, the A2000, is Commodore's flagship machine. It has a similar chip design to the Amiga 500 but comes complete with 1MB of RAM as standard and gives an abundance of internal expansion options. These expansion options include complete MS–DOS compatibility with the XT Bridgeboard which will be greatly enhanced with the soon to be released AT version. It also has provision internally for the fixing of the readily available hard disk systems, 3.5'' or 5.25'' disk drives, extra RAM boards to give up to an additional 8MB. The PC side of the system can mount standard PC expansion boards, including hard disks, which can be split between Amiga and MS–DOS use. Expansion devices in the pipe-line include internal genlocks for synchronising external video and computer signals, a professional quality video adaptor, a high speed 68020 board running at 14Mhz and Unix programming environment. This machine currently retails in the U.K at £1,499 (ex VAT) including colour monitor.

Commodore's comprehensive PC range start at the incredibly low cost PC–1 retailing at £321.73 including monochrome monitor. It contains 512k RAM and 360K 5.25'' internal disk drive. It is a standard IBM XT clone running at 4.77Mhz, with standard serial and parallel ports, TTL and composite video output, external disk drive expansion port (which using the A1010 Commodore drive gives you 720K 3.5'' disk drive), and mouse port.

The rest of the XT compatible range are the PC–10 and 20 series III turbos. These come with single, twin floppy or single floppy and 20MB hard disk as standard, they run at 4.77, 7.16, or 9.77Mhz switchable and comes readily installed with 640K of RAM. As with the PC–1 it includes monochrome monitor and can be upgraded to colour by flicking a switch on the board and installing the appropriate monitor. The PC series III's also have three internal expansion slots for IBM expansion boards.

"All machines are supplied as standard with monochrome monitors and DOS 3.2, carry a twelve month warranty which can be extended to on-site for a small extra charge."

The top of the range AT models are based around the Intel 80286 and 80386 processor chips. The PC–40 series runs the 80386 at 6 or 10Mhz. It comes with 1MB of RAM, 1.2MB 5.25'' floppy disk drive and 20 or 40MB hard disk. It also has five free internal expansion slots.

The PC–60 comes in two basic configurations. It utilises the full 32 bit 80386 chip and runs at 8 or 16Mhz. It comes with 2.5MB of RAM which is of course expandable, has two serial and two parallel ports and both models have Hercules, CGA, and EGA included on the video card. The 60–40 has as you would have guessed a 40MB hard disk and one 1.2MB floppy disk drive. In contrast a 60–80 has 80MB hard disk and two floppy disk drives one 1.2MB 5.25'' and one 1.4MB 3.5''. Both machines have

eight free expansion slots, two are 32 bit, two are standard XT and four are PC AT. All machines are supplied as standard with monochrome monitors and DOS 3.2, carry a twelve month warranty which can be extended to on-site for a small extra charge.

Commodore also produces a large range of peripherals for its computer range.

For the Amiga range:–
A520 RF modulator, A501 512K RAM expansion for the A500, A1010 External 3.5'' disk drive, A2024 high res mono monitor for A2000, A2032 comp. video card for A2000, A2010 extra internal 3.5'' floppy disk drive for A2000, A2052 2MB RAM expansion board for A2000, A2058 2MB RAM board expandable to 4 or 8MB for A2000, A2088, PC XT bridgeboard with 360K 5.25'' floppy disk drive, A2286 PC AT bridgeboard with 1.2MB 5.25'' floppy disk drive, A2300 Genlock for A2000, A2090 20MB hard disk with controlle card for A2000, A2092 IBM Amiga shareable hard disk for A2000.

For the PC range:–
A1010 720K 3.5'' floppy disk drive for PC–1, 1200P parallel dot matrix printer, 1500C parallel colour dot matrix printer.

Commodore has the most comprehensive range of user friendly computer hardware from any manufacture in the world. It covers an extensive choice of machines to suit all budgets and requirements both personal and for educational, scientific, experimental and even business institutions and organisations. It has the history and support of a multi-national company for which the outstanding quality and versatility of its computers makes the future look extremely bright.

Commodore

FUTURE TRENDS IN CBT

DTP? CBT? IAV? David Parkinson flourishes some interesting acronyms as he looks at trends in training.

Future trend one in Computer Based Training is pretty obvious – we will see much improved sound and video at very much lower prices.

An Amiga 500 with one floppy and a half a megabyte of RAM costs under £400 in the high street, with replay of digitised sound, speech and ALL graphics capabilities built in. A near-broadcast quality composite video genlock costs an additional £300 – thus it is possible to get an entire Amiga sound and graphics workstation for less than the cost of a video board for the IBM PC!

Future trend two is a move away from the keyboard towards cost-effective WIMPS (Windows, Icons, Mice, and Pointers).

The move away from CLI (Command Line Interpreter) environments, in which men in white coats get things done by typing in commands like 'LSIGREP' (a real example from UNIX), and towards a more intuitive, object-oriented point and click system was pioneered by Xerox. This work was taken to the commercial marketplace by Apple, first with the Lisa then the Macintosh.

However, the Mac has not made a big impact on CBT – the reason for this has a lot to do with the economics of software development.

The Mac makes things very straightforward for the end user, but this is achieved at the expense of a lot of sweat by the application programmer, who has to worry not only about the application but also about all the nuts and bolts of maintaining a very complex user interface. For this reason Mac software has been expensive to develop and hence expensive to buy: Apple have therefore very sensibly kept the machine itself expensive. This has worked well in markets like Desktop Publishing; for CBT and IAV, however, development cost has been a major disincentive.

The single most important thing about the Amiga is that it solves this problem. Put very simply, the significance of multitasking on the Amiga – and the significance of the Amiga to the world in general – is that it solves the problem of WIMPS by the intelligent application of multi-tasking.

This means that the application does not have to worry about all the details of mice and windows; instead it can get on with what it is supposed to be doing while ANOTHER TASK (appropriately called Intuition) worries about the user interface. The impact of this on the economics of development of WIMPS-based software is enormous.

Very closely linked with this is my third 'future trend', we will see a much more sophisticated approach to information flow in computers in future.

In most current machines the whole question of information flow from the user into the system and back out again is handled in a very crude way, normally at little more than the level of 'keyboad interrupts'. On the Amiga things are a great deal more sophisticated. Each physical device – standard devices like mouse and keyboard, or devices you might add like touch screen and tracker ball – have their own associated device handlers. These handlers, together with the timer, feed information about input events to a central input co-ordinator called the 'input device'. This applies some pre-processing to the 'raw' input data then passes it on as a series of 'input events' to a chain of 'input handler' – and an ANSI standard virtual terminal known as the 'console device'.

This makes handling a whole variety of possible input sources in a consistent way easier than ever before. It is also possible to intercept the information flow at any point: to insert new input events, to take ones out, or to apply pre-processing like intuition. For example, you can intercept a mouse-click event and re-interpret it to mean 'the user just hit this button'.

Fourth and final trend (for now) is that we shall a see a move away from 'authoring systems', at least as we know them at present.

Present authoring systems fall into two categories. Microtext, which is cheap and cheerful and does not do quite what you want, and all the others, which are expensive, have lots of facilities, and also do not do quite what you want.

Instead of these big and complex systems we will see a different sort of 'environment', in which multi-tasking is used to spread out the processing. In this sort of system an input task that knows about devices and maps talks to a co-ordinator task which knows about the language you are using; this in turn talks to a screen output task and/or to an intelligent video controller which knows about genlock and external video. This means that it will not be necessary to use a complex sequence of commands to invoke an external video sequence; instead you just send a message to the video task telling to show a sequence you defined earlier, while AT THE SAME TIME you get on with something else.

The 'multiple tool' approach, in which one great big authoring package is replaced by a number of intercommunicating small versatile authoring tools, can also be applied to sound and graphics. This is facilitated by the Amiga's 'IFF' format which allows full portability of graphics etc, between packages (at last!) meaning that you can 'grab' a picture (or a sound) using one package, edit it with another, and finally use it in a CBT application using a third.

In the short term we are creating a system of this nature using Microtext as the 'co-ordinator task'. In the longer term we are looking to provide an alternative icon-driven co-ordinator which removes explicit 'authoring' altogether.

But that is another story.

David Parkinson is technical director of Ariadne Software, and author of 'The Kickstart Guide to Amiga'.

Ariadne Software are the original implementors of Microtext on the BBC micro, the Commodore 64 and the Apple. They are currently working on an 'authoring environment' on the Amiga which, is capable of supporting Microtext which will be launched in December.

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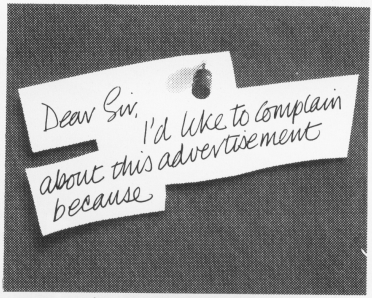

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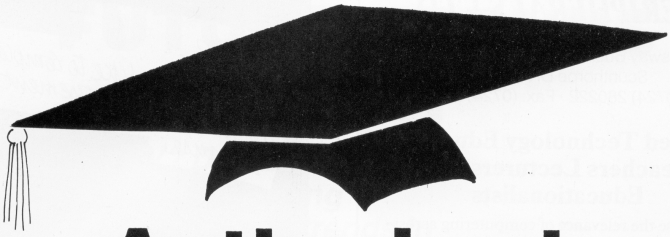

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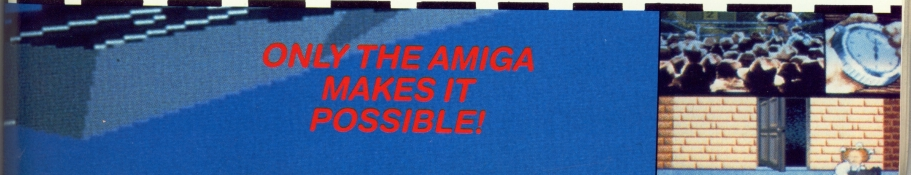
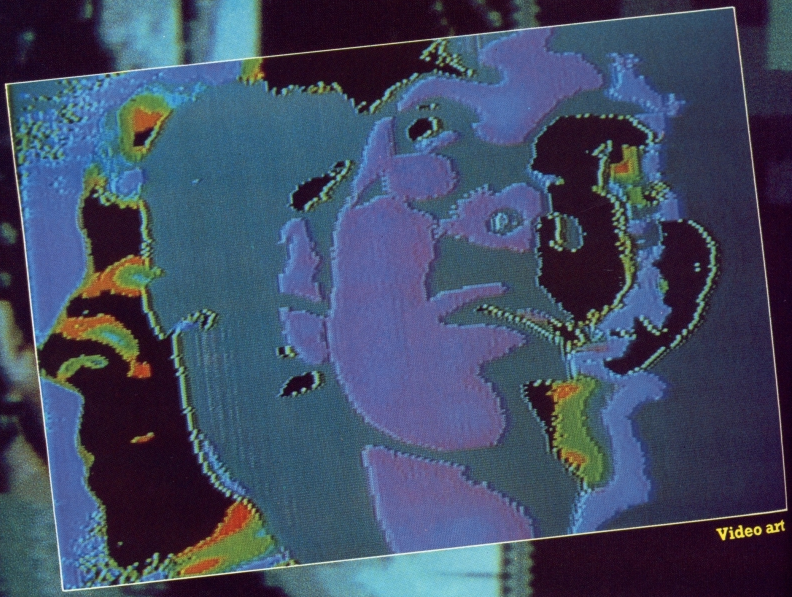


'Art isn't easy, even when you're hot.



Video art

Take an artist, a video camera and an Amiga and watch Art grab a whole meaning. Video art is beginning to feature in films, on television and now in art galleries. Julius Vitali, an American artist of growing international repute, has combined photographic, video and computer techniques to create some fascinating and sometimes bizarre images to produce some oustanding examples of this synthetic art. Many universities, colleges and art schools are now using Amigas with programs such as Deluxe Paint II and Photon Paint as an aid to creativity. A picture can be 'painted' and various techniques applied to it. If the result is not quite what the student had in mind, then by using the programs manipulation facilities, the picture can be 'corrected' or restored to an earlier state and a new effect can be tried.

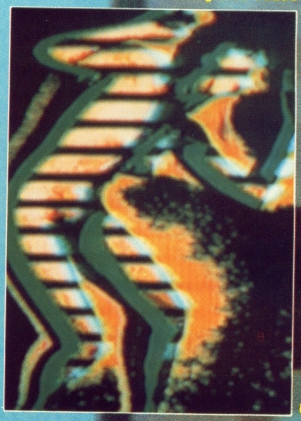
Here is a selecton of Video art images created by Julius Vitali.

Julius Vitali at the Experimental TV Center

Advancing art is easy, financing is not.'

Self portrait

Computer Video



Computer enhanced

**"Bit by bit putting it together.
Piece by piece, working out the vision
night and day
All it takes is time and perseverance with a little
luck along the way...
Having just the vision's no solution everything
depends on execution.
The art of making art is putting it together..."**

Lyrics from 'Putting it Together' by Stephen Sondheim

MATHAMATION

Stuck for some polynomials? In need of a few geometric calculations? Andy Eskelson checks out the program for you.

One of the most common notions that people have about computers is that they are used to solve complex mathematical problems and by and large this is what most of the very big computers are used for. The home micro-computer, however, has changed things completely, for with a micro such as the Amiga you have at your fingertips computing power that matches the power of the mainframes of ten years ago. Surprisingly, aside from specialist programs very little has appeared on the market in the field of mathematics, that is until now, with the appearance of Math-Amation.

Probably the biggest problem that most people have with maths is that there are very few real uses for maths in everyday life and when maths could be employed to good effect, then there are a couple of things that normally happen. The first is that people tend to forget things if they do not use them and the second is a comment to the effect of 'I can't be bothered to write a program for that!'

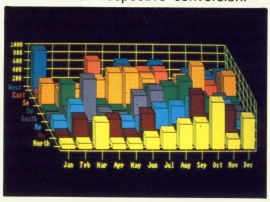
Math-Amation takes 99% of the hard work out of programming general maths problems and presents the user with a nice easy interface to many of the more common maths functions. Math-Amation is by Progressive Peripherals & Software Inc. and is distributed by Precision Software. It offers many functions such as geometry, algebra and statistics. It is very easy to use, all the functions are menu selected and the data is also very easy. The whole concept is based on the humble calculator and almost all of the functions are entered via this method. Even when you have not got the calculators on the screen its functions are still available to you.

In addition to geometery, algebra and stats there are two other functions that are slightly more complex and thus are of less use (unless you know how to use them!) for normal work, they are Matrix manipulation and Calculus.

The program supports Degrees, Rads and Grads, as do most scientific calculators. The precision and rounding can be set by the user and facilities exist for the saving and loading of the results, snapshots and memories. The program keeps a record of the last 50 operations (results) and has 36 global memories. The snapshot is a complete copy of any particular set up.

There are two calculators available, scientific and matrix. The scientific calculator has all the normal functions that you would expect and can evaluate an expression of up to 600 keystrokes. I did find a couple of slight problems with the calculator; one was the lack of a percentage (%) function and the other, more serious, was that if you entered 3 * 5 = and got the result 15 you could go no further. So if you wanted to divide that answer by 3.6 then you would have to enter 15 / 3.6. You could also enter 3 *5 / 3.6 = and you would get the correct result but I did find it slightly awkward. I feel that if a calculator is going to be presented then it should behave like a calculator.

Built into the program is a mass of conversion factors. All you have to do is to select the conversion subject i.e. area and then a window will appear with several boxes in it. The boxes represent the various conversions available i.e. sq inches, sq miles etc. all you have to do is fill in the value of one of the boxes and the others will automatically display the result of their respective conversion.



The Geometry section of the program can perform most of the normal functions such as lenght, area and angles of triangles, rectangles and circles and also operations on 3D co-ordinates. Like all of the functions of Math-Amation it is just a matter of selecting the requisite icon and entering the data. The results are automtically displayed.

The next function is that of Algebra. There are two functions available and they are polynomials and function plotting. The first is fairly simple, you just enter the calculation for each of the powers and the program will evaluate the expression for you. Function plotting is just that. Enter a function and the program will draw a graph of that function.

The statistics functions are integrated with the business graphics functions and they basically operate on an x or x-y array. Data entry is simple and quick and once all the data has been entered, you just click onto the evaluate box and the statistical information is calculated, i.e. average, peak, standard deviation etc. The graphics functions are impressive: 3d bar, 2d bar pie, line and cumulative graphs are all available. The graphics can be plotted on screen or to the printer and also to an IFF format fie, so that any IFF compatible paint program can make use of it.

One of the most interesting items on the main menu is 'modules'. This dose nothing at the moment but it does indicate some of the future enhancements that will become available for this program in the future. I must admit that I would like to have a look at the electronics module! There are nine other modulesd promised: Civil Eng, Applied Physics and Chem, Eng, etc.

As with many programs, the manual is all important and for once the manual is not too bad. It is hard to understand in places but that is mainly a reflection of the users knowledge of maths rather than a fault of the manual. I only found one small error in the examples and that was obviously a printing error. The manual is spiral bound and can be folded back on itself with no ill effects and it is printed on good quality paper with plenty of screen shots to illustrate the text. The index is good and it is easy to find your way around the manual.

Math-Amation is a VERY impressive program although at first glance it seems not to do too much. However, it will find many uses especially in the statistics and engineering fields. Undoubtedly there will be better versions of this program in the future but this is very much one of the first of its kind and feedback from the users is encouraged to help make the next versions better. If I had to sum this program up in one sentence, it would be 'A solution looking for a problem' – but that is what they say about computers themselves isn't it?

A.E.

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THE AMIGA EDUCATIONAL PRODUCT GUIDE

The Amiga is already being used as an educational tool, in a number of countries notably the USA. There it is beginning to challenge for the imaginations of pupils and students, moving them into a new dimension of microcomputing in education. Of course, not all the packages available in any country are applicable to other countries but many, especially those of a basic kind are easily understood and user friendly enough, in an educational sense, to find a substantial welcome.

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BARD'S TALE I & II

Bards Tales I and II have become classics of the genre and at last the Amiga versions are available. Andy Moss takes up his sword yet again and visits Scara Brae . . .

E Scara Brae. Oh how I have missed you, since last we met. It seems yet again you are in the grips of something evil, and help is needed. Fear not, for I am back to help you battle Mangar and Tarjan the Mad Dog, and all the loathsome beasts that their evil has borne.

The Bard series was a runaway success on 8 bit, with its combination approach to role playing, mixing text descriptions with animated pictagrams of the many characters and monsters and giving the player a lifelike 3D view effect. This was something of a radical change from the traditional overhead stick character view that classics such as the Ultima and Phantasie games used.

Its transition onto our Amiga has transformed both games, giving them much greater depth and bringing a real sinister atmosphere into your living room. The Bards tunes ring out clear and bright, and although the gameplay is the same, the outstanding graphics really give us what we seek in a role player – lifelike characters and totally fearsome monsters to complement the tricks, traps and puzzles.

Let us take a look first into Bards I and go for a wander down Main Street in Scara Brae.

When you first load up the game you get the choice of creating your own party, or taking the helm of the A TEAM, a purpose built party ready and waiting on disk. This motlly group comprises of all the classes you would need in order to complete the game, Brian the Fist is a Paladin, El Cid is a Bard, Markus (I remember Markus, what a brave chap) is a Rogue, Merlin is a well, a Wizard and so on. The game proper opens outside the Adventurers Guild, the place to go for saving your game and spending the night resting, or treating to your wounds. The main plot is to find the evil mage Mangar, who is ensconsed somewhere in the City, and has taken the place under his control. Chaos reigns and by putting an end to Mangars evil doings you will free Skara Brae. Until the moment when you come face to face with the Evil One you must try to develop your characters into as powerful a group as you can, otherwise surviving the layers of obstacles, mazes and monsters who protect Mangar will be impossible. To reach higher class levels you need battle experience, and this can only be gotten by doing lots of hacking and slaying and slaying and hacking. Staying out of the many dungeons and passages is recommended initially, just stay on the streets, you'll find enough opponens for the time being. Winning battles or melees gives you Gold which of course lets you buy more spells or weapons or armour. If any of you have followed my serialisation of the solution to Bards I in CCI our sister magazine, you will know that there are many places to visit before you reach Mangar.

Just walking around town you will encounter various monsters, but also you will visit important landmarks like Roscoes Energy Emporium. The Review Board, Taverns, Temples and Dungeons. In the packaging, you wil find a map of Scara Brae, but only by exploring the town will you find the secret of Mangars demise. On the spell front, there are over 85 to learn and 16 mazes to explore, more than enough for any hearty adventurer!

With the ultimate passing of Mangar we move onto the next chapter of the Bards Tale, The Destiny Knight, Bards II.

This is an altogether bigger project than its predecessor with six entire cities to explore, which in turn gives you six different Guilds to save the game in. Between each city lies a massive wilderness that contains its fair share of monsters, as well as castle, and forests which contain a variety of huts and interesting buildings, and crypts, one of which, the Grey Crypt dungeon is a particular one for not missing. And

although Bards II has slightly less spells to learn, the spells themselves are more powerful with a new magic user called Archmage which is quite a powerful lad himself, believe me. This time round, the plot is about recovering the seven pieces of the Destiny Wand which Archmage Lagoth has unfortunately spread across the realm. With the Destiny Wand back intact, the job of destroying Lagoth is a piece of cake.

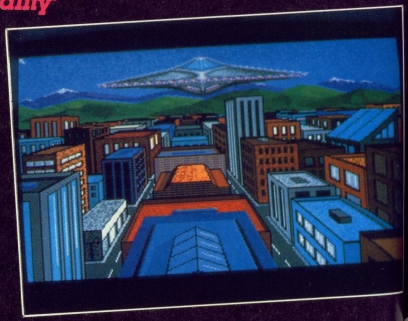
You can bring over your Bards I characters, but rest assured the good old A TEAM is waiting again on disk. In Destiny Knight there are some differences in play, for instance,certain monsters can now be recruited to join your party, the melee strategy also has distance incorporated into it now, and in an old hut in the sw region there lives a Sage, who gives you advice and info on what to do next (he doesn't come cheap though!)

The graphics are top notch as we have come to expect from Interplay, and there is even a starter dungeon to get you battle ready.

Bards III is already well on the way to completion, so if I were you, go out and get this collection as soon as possible, you won't regret a minute of it.

Rating: 10/10

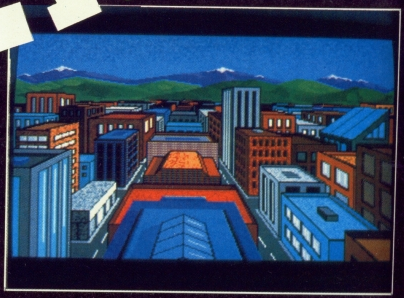
Alternate Reality is Grandslam's intro into the world of role playing, courtesy of their new tie in with Datasoft. Andy Moss, our hack and slay champ, finds that 'reality' means you are either quick or dead.



Alternate Reality has attained something akin to cult status in the States, a run away hit on 8–bit which transformed the then fairly simple graphics style of role-playing ames into much more arty concoctions. It is now the benchmark that all other fantasy hack and slay programs are compared with and, I think I can say with certainty, that it has all the hallmarks of having as long a life as the famous Ultima series from Origin.

adventure, you are presented with a title sequence of a space ship coming down and scooping you away to fly you to The City of Xebecs Demise,

ALTERNAT



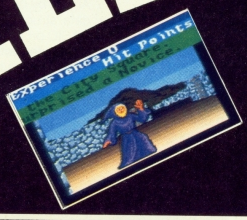
How Alternate Reality has crossed over into 16–bit is another matter however, as it bears almost an exact resemblance to the 64 version. This begs the question, was the 64 game so state of the art that nothing could really be improved on for the Amiga, or simply that the game did not really warrant completely recoding for 16–bit and a straight conversion would do? Sadly for me, having seen the original the second option was agreed upon, so although Amiga owners can play a very good role playing game, they would not benefit from using a much more powerful machine than the dear old 64.

That said, Alternate Reality as a game works very well, it is a complex mapping exercise, but is tremendously easy to get into. On starting the where you ultimate aim is to find a way to return home. There is no music to accompany this opening sequence, which would have been nice, but where it puts you is into a unique chamber where your characteristics are determined. It is a

room with only one exit. Overhead is a panel displaying constantly changing numbers, when you pass through the door (hitting the space bar) the numbers freeze and there you have your levels of stamina, charm, intelligence, wisdom, skill and wealth.

You are then presented with a 3D view of the City, where you can move around visiting the taverns and shops, battle n'er do wells, and discover treasure, everything a worthy adventurer would do. If returning home does not appeal to you, then seeking revenge (like The Dungeon and The Arena) there will be ample opportunity to wreak as much havoc as possible. There are plenty of traps and tricks to keep even the most hardened adventurer on his or her toes, what with one way doors, and night and day changes (get caught out at night and you will come up against some very strong opposition, who are not entirely out to preserve your health).

TE REALITY



As I mentioned, it is not difficult to get going in Alternate Reality, the hardest part is staying alive long enough to enjoy it. If you like a good role-player, buy this one. Just don't expect the graphics and sound to be any better than a 64, but imagine the best you can get on a 64 and there you have it.

Personal Rating 7
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Amiga Tricks & Tips

To program the Amiga in anything but C is thought by some a heinous crime. However, Les Cooke, an experienced C programmer, took time out to look at AmigaBasic and was pleasantly surprised.

When you first bought your Amiga, you probably sat there googly-eyed and clicked on everything in sight. As time went by your sense of wonderment increased as more and more amazing abilities were uncovered and you realised that the Amiga really was a fantastic machine with seemingly no limits.

Unless you are a passive user only, you soon wondered how it was done and how you could make it do it yourself. It is then that you run up against the first snag – a certain lack of information. The books provided with the Amiga do not exactly unlock its secrets. In fact, they are often downright inadequate! What is more, most discussions of programming the Amiga seem to revolve around 'C' and you may not care to spend huge sums of money so that you can get the most from your Amiga that way.

'Amiga Tricks and Tips' published by ABACUS Software and costing £16.95 can help you out. This 340 page book covers a wide range of topics, from the CLI, fonts, Intuition Interfaces and Workbench, to AmigaDOS. Further, the programming examples are given in AmigaBASIC, so you can start playing straight away without having to buy an expensive compiler.

The book contains twelve Chapters – the first being an introduction, two Appendices, a Table of Contents and an Index.

Chapter 2 covers the CLI and it is laid out in three parts: the first part is a question and answer session. It covers a fair amount of ground, ranging from 'How do I get into the CLI?' (three ways given) to 'How can I make the invisible files on Workbench visible?'. There are twenty questions in all and they are answered clearly and with examples. The second part describes some new CLI commands not described in the Amiga manual. I assume 'new' here to mean new to 1.2. I hope this part will be updated to reflect 1.3 additions. The third part is titled 'New Startup Sequences' but it covers more than that as it goes on to discuss how to use CLI as a programming language to create and manipulate files.

Chapter 3 is entitled 'AmigaBASIC'. It is seventy pages long and dives straight in at the deep end by describing how BASIC programs can use sophisticated Amiga functions with the LIBRARY command. The ground covered by this chapter is large. There are twenty six topics, each illustrated by a sample program and some explanatory text. The programs range from simple to complex. They are not well commented, perhaps to keep the amount of space they take up small but the explanatory text does, usually, make up for this. The topics covered are interesting, changing fonts, IFF brushes as objects, gadgets, HAM and Half-brite, fade-in and fade-out, 3D graphics for 3D glasses and multitasking input. Phew! Plenty to get your teeth into here.

Chapter 4, 'User Friendliness', continues the theme set by Chapter 3. Here are moe BASIC programs to illustrate how to use sliders, set up scrolling tables and create shapes.

Chapter 5. 'DOS Routines, changes tack. It describes how to use functions from the AmigaDOS library so that you can expand on the functions offered by BASIC. Programs are given that show how to rename files, how to protect them be setting the appropriate flags in the DOS file header and how to read the disk directory from within BASIC. The last program in this chapter shows how to write a BASIC program that can executie CLI commands.

Chapter 6. 'AmigaBASIC Internals', is another wide-ranging chapter. It provides a number of utilities. One of them, a cross-reference lister for BASIC programs, is quite a large beast. A large piece of this chapter is devoted to explaining the internal representation of BASIC programs in their binary form. This information is used in some of the utilities in this chapter. Other programs show how to remove blank lines, how to remove REM commands and how to write self-modifying BASIC.

Chapter 7. 'Using the Workbench'. Only one part of this chapter centres around a BASIC program and that is one to update 'preferences' directly without clicking on the 'preferences' icon. The interesting part about this is not the program itself but that it describes the layout of the data block used by 'preferences'. Another useful topic is the 'info' screen and what each part of it means and how it is used.

Chapter 8. 'Icons', gets deeper into the Amiga by discussing icon types and their data structures. This is followed by two BASIC programs: one to analyze the icon associated with a file, the other is an icon editor. The authors acknowledge that it is not a very user-friendly editor but the point is it illustrates what can be done and how to do it.

Chapter 9 discusses error handling, how to prevent them, how to trap them. Again, examples in BASIC are given.

Chapter 10. 'Effective Programming', gives some advice on how to lay out a program although it acknowledges that everyone has their own ideas of good layout. More interestingly, this chapter provides some information on what can affect the speed of your program. A sample is given showing how the use of short integer variables can speed up execution when used in preference to long integers and, in turn how these are 'faster' than floating point variables. Another example shows how a program that defines variables with DEF will execute faster than the same program that uses a suffix at the end of the variable name. Another topic shown in this chapter is how to conserve memory when using LIBRARY files.

Calling Machine Language programs from within AmigaBASIC is covered in Chapter 11, although writing Machine Language is not, of course, described.

Finally, Chapter 12 discusses direct disk access (without using the BASIC commands) and memory management.

This book covers a lot of ground. It is not intended for beginners but for BASIV programmers who want to expand their knowledge of the Amiga and enhance their programs by using features not available directly via AmigaBASIC. It succeeds in this and is well worth acquiring.

L.C.

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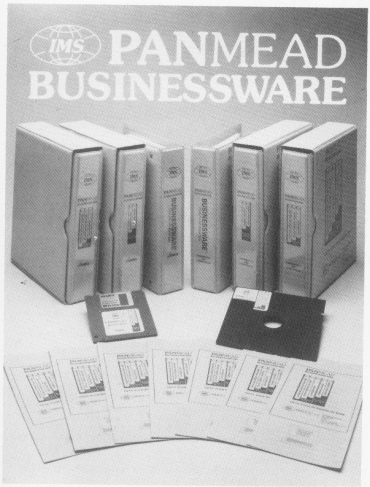

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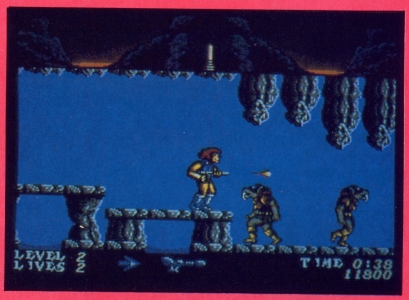
On the odd occasion that I happen to be watching a He-Man, Centurions, Transformers or Thundercats cartoon I begin to feel quite old. I can still get into a good Disney or Tom and Jerry cartoon, but his new generation of animations just are not the same. However, a gang of do-gooders that say the magic word and transform into a future SAS squad is something that appeals to today's kids; a market Thundercats the computer game is obviously aimed at.

Mumm-ra, arch enemy of the Thundercats has kidnapped a number of their team and stolen the eye of Thundera. Lion–o decides to do the business, venturing into the Castle Plun–dar (no doubt to beat up the Bad-ees and become a Her-o), rescuing his friends and retrieving the eye.

Lion–o sets out across the horizontally scrolling levels armed only with a sword. Our hero is large and smoothly animated as he runs, only spoilt by the feeble animation as he swings his sword. Beaked blue monsters and tiny gnomes scurry about the first level, mostly in small numbers that cause little trouble. Later you are assaulted by birds and molemen.

A gun can be found on the second level, compensating for the increasing difficulty. Level three gives you a small hovercraft to speed you on your way. Playing Thundercats, I cannot say I was impressed by its originality. Gameplay consists of running across the screen, jumping from platform to platform and swiping at the enemies, though the inclusion of the laser and hovercraft add a little variety to the basic gameplay.

The programmers have been unadventurous with the sound effects, some of which are extremely simple. A few sampled sounds from the cartoon series would have been appreciated. Some of the sprites however are well up to the standard you would expect from the Amiga.



In general Thundercats has been neatly programmed and presented. The characters are excellent representations of their TV counterparts, which is probably the game's most important

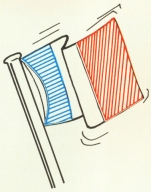
"Some of the sprites however are well up to the standard you would expect from the Amiga."

point. It is not a game that will have you playing for months on end, and £24.99 is a bit over the top for what it offers. I found it rather uninteresting to play, but I am sure Thundercats fans will get a lot more out of it.

T.H.

Graphics: 8
Sound: 4
Playability: 6
Value: 6
Price: £24.99

L'AMI FRA



Voyaging to France, Chris Holmes discovered the French Amiga scene was at last beginning to blossom.

On a recent visit to France I was delighted to see that most computer shops were stocking the Amiga and Amiga software. Although the Amiga lags behind the ST in the 16 bit race in France, there has certainly been something of a turn-around in the way that many French companies now perceive the Amiga. In the past Amiga was looked upon scornfully by the French Software Publishers, worried by Commodore's reputation in France and for the most part were unprepared to commit themselves to Amiga products. That attitude certainly seems to be gone as more and more French companies begin to join the Amiga ranks. An Amiga 500 can be purchased for about 4,200 Francs in France which is a similar price to the U.K.

Look out for Captain Blood and Stir Crazy from Infogrammes. Of the two games mentioned the former has been developed due to the programmers attempting to make the best use of the Amiga's hardware. Stir Crazy has already been released. The game is a wonderful mix of cartoon animated graphics and innovative game design and is likely to have you roaring with laughter. Do not miss it.

Passengers on the Wind I and II have, of course, already been released. Congratulations Imfogrammes on producing some of the most atmospheric music yet for the Amiga. It is just a shame that the gameplay in Passengers is so drab. Perhaps this is not all that surprising considering the game was designed on the ST.

One game that has been released and is riding high in the French Market is Manhattan Dealers which is similar in style to Renegade from the Arcade. Having played the game briefly I cannot understand why it is doing so well in France because it really is very poor and suffers most appreciably in the sonic department from the porting syndrome.

Nevertheless, it just goes to show that different countries have different tastes and one taste in particular that French gamesters are big on is Adventures. Lankhor who released the most successful French adventure of 1987 titled Mortiville Manor

GA EN
NCE

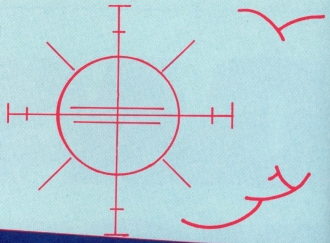
have rewritten and I stress the word rewritten, the game for the Amiga. Aurally this game surpasses any other adventure yet. The Adventure is played in real time and relies on true interaction. To my knowledge this is the first game where the player can actually hold lengthy conversions with other characters in the game. The French accents are truly stunning and, what is more, all the speech is produced by the Amiga's internal speech chip, rather than being digitised which would have taken up large amounts of memory. Lankhor will also be releasing some arcade experiences for Amiga owners later in the year. Amongst the titles promised to the French consumers will be Killdozers, Vroom, Elemental, Maupiti Island and Mortiville Manor II.

A French Company that is slightly more familiar is Loriciels. Following their recent joint venture with Elite, you are now able to buy Loriciels games in the U.K. Loriciels have been relatively quiet in the French market since they released Mach III way back in February. With their latest game Space Racer expect to be thrilled by the sheer speed of the game as you hurtle round star corners on your Jet bike. Space Racer suffers from the same fate that Mach III did. It looks great but plays awful. At least they are trying!

Ubisoft possibly now France's leading software house is, as was reported in last month's AUI, working hard at seven games for the Amiga. Watch out especially for Iron Lord and Bats. Both look like being smashes later in the year. The five Guillemot Brothers all of them involved in the running of Ubisoft make a formidable team.

C.H.

SKY CHASE



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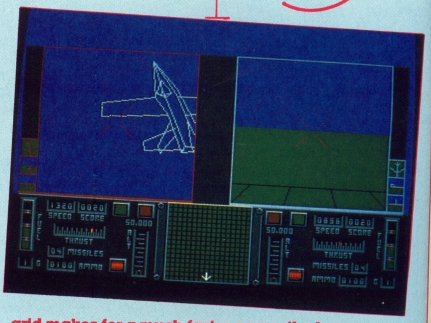
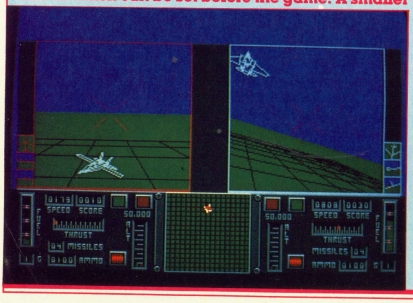


With an approach very different to that of most flight simulations, Mirrorsoft's new label makes its debut by bringing us a contrasting interpretation of air combat. Sky Chase simulates a Navy and Air Force trainer, developing skills needed for real life air combat.

A wide range of options are presented to the players before they begin. Whether to play against the computer or a friend is the first decision. Others let you choose between a number of fighter planes which can be viewed rotating in Sky Chase's outstandingly smooth vector graphics. Fuel and ammunition quantities, G-force tolerance, control modes and just about everything else you can think of can be arranged to suit your commands. This variety of choice, of course, gives the game an extraordinary breadth of possibility for the player.

"When you run out of ammunition the only thing to do is avoid the enemy until you have no fuel left in the hope you can score more points overall"

Once you are happy with the settings the game can begin. Both players get a view from their cockpits, one on either side of the screen. A grid on the ground gives you an idea of where you are, the size of which can be set before the game. A smaller grid makes for a much faster game, the larger ones are really too slow to bother with. The jets fly past each other before control passes to the players. Using the joystick and a thrust control your aim is to shoot down your opponent before he does the same to you. A radar at the bottom of the screen shows the position and direction of the two planes.



There are two ways of shooting down the enemy; a machine gun that can be tricky to use and has a short supply of ammo, and also a few missiles which provide a slightly easier method. When you run out of ammunition the only thing to do is avoid the enemy until you have no fuel left in the hope you can score more points overall.

Simply chasing and shooting down a single plane may just not be enough to hold the interest for as long as perhaps a game costing £24.99 should do. The combat sequences are the core of Interceptor's appeal but there is so much more as well, the solid graphics, detailed scenery and varied mission all make Interceptor the game that it is. Take away all that and Sky Chase is what you are left with. Yes, the graphics are smooth and the whole thing is extremely neatly put together, but there needs to be more for it to avoid losing its appeal after the first few games. Sky Chase's advantage lies in the tremendous original choice you can make so that, in effect, you are playing a different game each time, which is why no doubt Image Works believe it will hit high in the charts. Sky Chase certainly is a big leap forward from the rather staid image that Mirrorsoft used to have.

T.H.

Graphics: 6
Sound: 6
Playability: 5
Value: 6
Price: £24.99

LEARN TO FLY WITH SKYCHASE!!

Skychase – Mirrorsoft's new label's first release – is one of the most spectacular new games on the Amiga, just the sort of excitement that really will turn on budding pilots. To celebrate the launch of Skychase into the Amiga skies, Mirrorsoft are giving *AUI* a course of flying lessons for the lucky winner of an exclusive Skychase Competition.

We will try and arrange for the winner of the Skychase Competition to have the flying lessons as close to home as possible – and if the Skychase Competition Winner is from outside the U.K., he or she can have the alternative of a cheque for £500 winging its way to the bank account.

For the five runners up, Mirrorsoft are giving us books of 'The Right Stuff'. This was the great Tom Wolfe book and movie that told the real story behind the first American cosmonauts, generally considered to be a classic of its kind. Of course, it's the right kind of prize because any *AUI* competion winner has to be mde of the Right Stuff indeed. All you have to do win, (well, enter) the competition, is answer the following questions.

1. What is the name of Mirrorsoft's new label?
2. Name two options open to you in Skychase.
3. Name one other successful game that Mirrorsoft released for the Amiga.
4. What is the speed of sound – at ground level?
5. Who was the first person to fly an aeroplane.
6. Name three World War fighter planes, one from WW1 and two from WW2.
7. Which year did man first set foot on the moon?
8. What does 'Per Ardua Ad Astra' mean and those whose moto it is?

Send your answers on a postcard please to
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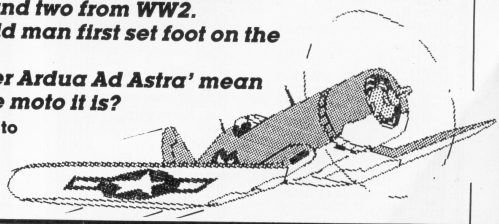

SOFTWARE AND PERIPHERALS
LATEST AVAILABILITY LIST

This latest availability list shows the growing quantity of software and peripherals for the AMIGA. It has been compiled by AMIGA User with the valuable collaboration of leading distributors. We are very grateful for the special help we have received from Hobbyte Ltd. Prices include VAT, where necessary and may, of course, be subject to change. Consult your dealer for price confirmation.

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HELTER SKELTER

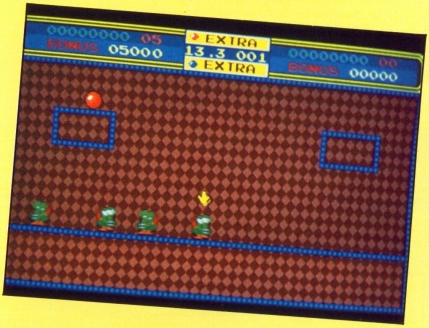
ASL

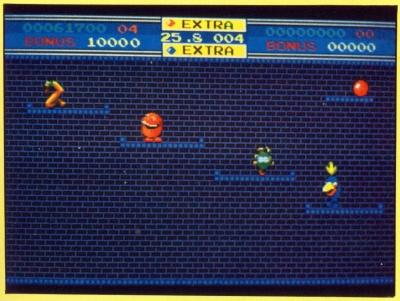
ASL are not a software house that go in for games in a big way.

Impact was their last on the Amiga which did well getting out before the rush of Arkanoid clones. Helter Skelter is not such a direct copy, more of an amalgamation of some of the most popular games to appear recently.

Helter Skelter is a strange choice of name; the game has nothing at all to do with a helter skelter. Under you control is a ball, bouncing around screens of platforms, along which small birds and monsters walk. The idea is to eliminate all the monsters on each screen in a certain order, indicated by an arrow over the current monster. Touching it gets rid of it, but touching any others will split them in two. Due to the time limit, splitting up the other monsters is not a good idea; although it gives more points potential it also gives you a lot more to do in a short space of time.

Moving the ball left and right is done in the usual way, but bouncing is achieved by a press of the button as you decend. This gives the ball a downward force, so pressing the button on the way up will start you falling again. The letters EXTRA pop up from time to time which can be collected to spell out the word. Accomplishing this awards you with an extra life. This is all accompanied by suitable sampled effects and jingles.





Most of the sprites are colourful and neatly drawn, moving very smoothly most of the time. Unfortunately when the screen gets busy there is some unpleasant flicker.

A mouse-driven construction set has been included for those who want to do it themselves. The control method is at first confusing but easily mastered. Once you get the hang of it, it is easy to progress through the screens. In fact I found it a little too easy and so lacking in excitement. This is another of those neat, simple games that appeal a lot more to some than others. I have to say that I found it a pleasant but unexciting game. Even so I can see others getting more out of it, so bear it in mind if you like the sound of it.

T.H.

Graphics: 6
Sound: 8
Playability: 6
Value: 7
Price: £14.95

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