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LOADING GUARANTEED!
see page 39 for details



▲ Cosmo – Amiga



▲ Flying Shark demo – ST



▲ 800 – ST



ST AMIGA FORMAT

▲ READ – Amiga

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58000 and 68K machines from Commodore and Atari, the Amiga BBC computer, coming, going and all the other that's fit to print.

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DISK EXTRA

Snap up the edition that lives at Flying Shark (11), and it contains: *AmigaWorld* (Amiga). Plus art packages, group buying deals, game cheats and more... it all adds up to 6000 you can't afford to miss!

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A Santa's sackful of winking specials, sorted out and selected just for you to snap up.

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Is it a bird? Is it a plane? No, it's only Super South Seas Gold with the latest from the US.

**LETTERS****93**

What a storm - with so many fan-fueled letters we just don't have room for all your Christmas cards, as well. Never mind, perhaps next year.

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Get those multi-coloured prints into paper - we pick the best of the colour printers out there.

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**CLUB****CLUB****CLUB****CLUB**



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FLAIR PAINT

Amiga's long-delayed ST art package can't look sooooooily artists - not if worth the wait!

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ST BUSINESS PACK

The New Deal 1040ST comes with a word processor, database and spreadsheet - how good are they for really running a business?



AMIGA GRAPHICS

75

Frame-a-Rite 2 meets Pattavision PAL - discover the right animation package for you.

NICHE WORK

In 1989. At the end of every year since the machines were launched, it has become traditional for ST and Amiga magazines to run editorials saying how next year will see the final final breakthrough. So what does Format see in the twelve months ahead?

On the entertainment side, even though very few of the major chain stores are still selling 8-bitners, the price of the ST and Amiga still makes them machines you upgrade to rather than go for as a first-time buy. We predict that by Christmas '89 volume sales will allow the 500ST to sell at £199 and the Amiga 4000 £299, or even £249.

In business, what has happened in the computer market in the last, ten years is the growth of a application-oriented culture. Rather than saying, "I need a computer", people are saying, "I need to do some desktop publishing". The ST and Amiga will dominate what are becoming known as the 'niche markets'. Consider the facts: the ST's mouse monitor offers higher resolution than an Apple Macintosh; the Amiga's video chips offer better quality than almost any other

graphics hardware under £10,000. And that's where the future lies - quite simply, no other computer on the market offers the value for money in desktop publishing, MIDI music making, video editing and similar specialist areas than the ST and Amiga do. You've only got to look at the number of DTP packages lined up for the ST (Page Designer and Calamus to name but two potential contenders) and the range of video packages for the Amiga (Mac Script! 40 and ASP's sub-£100 Genlock) to see that the future is brighter than ever.

We're looking forward to 1989 - and don't forget, whatever your computing interests are, ST Amiga Format will be there with the first news and the first reviews. Happy new year!

Ben Taylor

Simon White

TECHNOPHILE



LEARN BASIC

72

Self, self - the last in our DTP tutorial series ingratiate yourself with music, and graphics.



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77

A cross assembler to convert Z80 machine code to 68k, plus an Amiga booster board.



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4 Turbocharged Amiga... gTT

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68

A YEAR'S SOFTWARE FROM...

Pick up the cream of 1989's software for your machine! You could win all of month's 67 programs, or an electronic Arts Amiga system.



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GAMES

NEW RELEASES

Table listing new game releases with titles and prices.

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GAMES

Large table listing various games with their prices.

BUSINESS SOFTWARE

Table listing business software titles categorized by ACCOUNTING, SALES, LABORATORY, MISCELLANEOUS, and WORD PROCESSING.

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- **Commodore Laptop ST** - full details
- **110,000 swamp Commodore**
- **Commodore 68020 & Navigator machines revealed**
- **UK Atari and Commodore shows boom**
- **Amiga 800 emulator**
- **Atari to sell Amiga software**
- **Workbench 1.3 on sale in USA**

AMIGA 68020 LAUNCHED

After all Atari's and Commodore's talk of 68020 and 68030 plans, Commodore are the first to deliver the goods with a cascade product: the Amiga 2000.

The 42500 is an unshamed workstation for the power user, aimed at the growing niche market of video professionals, it is based on the standard Amiga 2000, but includes extra hardware to satisfy the demands of processor-intensive graphics and animation programs.

The heart of the 2000 is a card with a 14 MHz Motorola 68020 microprocessor, a 68881 maths coprocessor comes as standard, with 286k of fast 52-bit RAM and a 4286k hard disk. Workbench 1.3 is all in the deal.

Commodore estimate that for graphics rendering work and other heavy number-crunching applications, the 2000 will run 40% faster than an 42000.

A further option is the Amiga 2500SD. Announced but not yet available even in the states, the 25 will run a complete version of the popular Lisa System 7, with a promised 500Mb hard disk and 680k of RAM, there aren't going to be too many of those in 1984 Smith's January sales.

Commodore UK are not quoting availability dates over here.

■ The Amiga (2500 - 68020, 286 RAM, 68881 maths co-processor, 4 power user's machine at £4995

THE WRAPS COME OFF

TONY DENNIS joined the 1700 companies and 110,000 visitors in Las Vegas, where Atari's and Commodore's plans for 1989 were revealed at Comdex.

LAPTOP ST - ALMOST

Quicker, when is a launch not a launch? Answer: when it's a laptop ST.

Atari were due to formally unveil their Laptop ST - code-named Stacy - to the world.



"NOW NEXT YEAR WE'LL
SOL THE 57000 AND 62
IF ANYONE CAN FIND US."

press of the Commodore computer trade show in Las Vegas. However, in a tactical change of heart it wasn't actually displayed on the Atari stand.

After Les Fayer, Atari UK's technical director, had personally courted the British-made portable ST over to Comdex, the

US management decided against showing it. However, details leaked out, and the unit itself was kept in a back room where persistent journalists could catch a glimpse if they asked nicely.

Details of the ST Laptop are as follows: 1 Mbit/byte of memory; a battery (CDI) option with 640 by 400 resolution (which is compatible with Atari's 38634 monochrome ST monitor), and an internal double-sided (320K) disk drive with a second drive/bay disk option. The keyboard will be a full ST layout, but slightly re-arranged with a function tracker (but for use in place of the ST's mouse). Physically, it is similar to the Toshiba T3400 portable PC.

It's essentially a 1040 built with custom chips, and a fully software compatible with current STs. The 6801 port is there, and you can hook up an external monitor for disk use.

Ronald Lapatin, vice president operations at Atari 800 Corporation, said that he had felt unhappy about putting the prototype on the exhibition floor. He expected the machine to ship in the first half of '89.

The Laptop is apparently aimed at the business and music markets. The price will be somewhere between the \$1,000 to \$2,000 mark. UK sources believe that Atari top brass here have already set the price at £995.



An eye-catching display at Comdex was the Motorola megascreen. Models are available for both ST and Amiga at £1995 each.

On the Amiga, resolution is 1,024-dot pixels, in max-integer mode, although standard 500k line, medium and low are also supported. The ST screen will also give STP package in display low being 44 pages of text - a complete magazine double page spread. If you're into serious GAG or STP or other media, these screens could be a lifesaver.



Transputer power

is one of a string of technological pioneers). Commodore demonstrated a transputer co-processor board for the Amiga 2000. Layman's guide to 16-bit technological power means, "We've designed this thing on paper but we've no idea how we're going to manufacture it."

Developed in West Germany, this is pitched directly against Atari's A166 (formerly the Road), and at the moment the specification reads almost identically. One Amiga 1414 transputer (or option) or a 19000 comes as standard, with the option to have up to 17 transputers delivering 170 million instructions per second. Watch out for the version of Stingray 3 on the way!

The surprise is that Commodore's transputer will be running Helix, the transputer operating system developed for Atari by Perforce in the UK. No price has yet been announced.

And speaking of the Atari Transputer Workstation, a spokesperson claimed that its costing had been finished, with an end user price of between £3,800

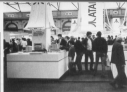
and £8,000 - would depend on DRAM prices. It boasts 4 MB of main RAM plus 1 Mb of video memory as well as the 512K in the adapted ST model as the controller.

Video age authoring

If Amiga users are into desktop video, what better than a word processor for the video age? Five from Microsoft is described as a "Threemedia authoring environment". It claims to let you build up a presentation using the Amiga to control a range of devices such as VCRs and laser video players. The cost is \$99.95.

There's a cut-down version, *Video Presentor* at £49.95 for quick stand-by, or there is the full *Video Professional* at £99.95 which adds database and expert system functions to the basic product. Very impressive indeed in fact at Comdex as a whole, new laser disk technology provided the most excitement.

■ MultiView UK agents, and Microdisk, PO Box 68, St Austell, Cornwall PL25 4TB 0026 480070. Or call the States direct on 810 J 313 324 8706.



Atari Show

The recent Atari Show at Alexandra Palace proved to be a mixed bag of news. Disappointing because Atari's new baby - the laptop ST - didn't make an appearance. And thrilling because of the outstanding number of new products from third party manufacturers.

It was supposed to be the great games show - with major software houses (Ocean and US Gold) testing a software competition. Originally Database, who organised the show, gave US Gold and Ocean free slots to attend the show. Not surprisingly many other exhibitors who had paid for space complained, and Database were forced to withdraw free offers to Gold and Ocean. Consequently most of the amusement arcade was filled with Microdisk Database's software (and) and Atari games.

Now from Microdisk Database are Personal Finance Manager £29.95 - designed to help you look after your spending and housing data interest entries, auto banking and graphic analysis - Supply 4 sound sampler £29.95 and European adventure creator £44.95. According to Microdisk game programmer Steve Goldhammer, *Justice Probe*, *Leatherstocks*, etc. etc' *Red, Right Night* isn't coming out on the ST. The problem is that the game requires several huge sprites to be animated. The ST can't cope with this, so the game will only be released on the Amiga.

Wolff announced several new packages. The two most likely to be seen on an ST screen in the near future are *Crash 2* \$99.95 and *Temple 2* \$39.95. *Crash* is a development system based round

a three-part shell and *Temple 2* is a super fast text editor which allows you to create programming tools without leaving the editing environment. Next year expect to see *Worm C*, *FORN* and *Knobd*.

Spain's third store distributor Frontier displayed a new look - Everything You Need to Know Before Buying a Hard Disk Drive for Your Atari ST System. *Volume 2* will be Everything You Need to Know Before Buying a Storage Book. This is packed with information on why you should buy a floppy drive and no other of course.

Now for MIDI enthusiasts is *Midibox 2* £134.95 £99.12. This allows you to customise musical instruments on screen and play the results by clicking the mouse. The package fits you re-configures all or any of the notes on your keyboard to play a note, chord or an entire composition.

So ST show wouldn't it be an ST show without the best of good mechanics, Anix. The latest offering is *Mania's Christmas* disk. And guess what the objective is? That's right, you've got to challenge *Mania's* *Whisker* to a game of not-so-challenging strip poker. It's game is a steamy white Christmas.

BBC EMULATOR AT COMMODORE SHOW

Commodore UK have taken their attack on the education market over the transputer with the Amiga BBC Emulator.

In the name suggests, the BBC Emulator (rebranded the 'Beebulator') is a program to let the Amiga run BBC basic software. Developed by Analogue Systems, Commodore hope that this will eliminate any lead schools may have for not buying Amiga.

Talking about the emulator of the recent Nanted Commodore show, Commodore's Education expert Peter Talbot said, "The Department of Education and Science has made it clear that any computer seriously aimed at the education market must be able to run BBC programs." He reckons that any 'legally written' BBC BASIC or m/c code program will run on the emulator - all the BBC's operating system 'XC cabs and graphics modes are catered for and only if in the emulator is that it transfer the program files you need a serial cable link at the moment - Commodore are working on interfacing BBC disk drives to Amiga for true file

sharing.

The demonstration of the show was impressive - using the Amiga's full matrix monitor and *Wilder* chip, the emulator will run software up to several times faster than a BBC in some cases. No games were demonstrated - presumably files on the BBC isn't written legally!

Price will be £49.95, or £79.95 in educational establishments.

■ James Associates, Haults

Blues, London E14 3JF 020-2523 3318.



■ Peter Talbot, Commodore's Education expert, showing off the BBC Emulator.

CONTACTS

DESKTOP MICRODISK, PO Box 68, St Austell, Cornwall, PL25 4TB (0206) 480070
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Starfighter II	24.95	16.95	Starfighter II	24.95	16.95
Chrono Quest	29.95	19.95	Ballistics	24.95	16.95
Daley Thomson's Olympic Challenge	19.95	13.95	Fusion	24.95	16.95
Barbarian II	19.95	13.95	Chrono Quest	29.95	19.95
Drifter	19.95	13.95	Rocket Ranger	29.95	19.95
Powerdome	16.95	13.95	Captain Blood	24.95	16.95
STOS	29.95	19.95	Menace	19.95	13.95
Lancelot	19.95	13.95	World Tournament Golf	24.95	16.95
Lombard RAC Rally	24.95	16.95	Capone	24.95	16.95
Operation Wolf	19.95	13.95	P.O.W.	29.95	19.95
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P.O.P.T	24.95	16.95	Daley Thomson's Olympic Challenge	19.95	13.95
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ATARI TO PUBLISH AMIGA SOFTWARE

Atari UK are planning a massive assault on the UK home software market in 1989 - not only for the ST, but titles for the Amiga are also included in the plans.

With a wealth of successful arcade games behind them, Atari



■ Atari's Paul Walsh - commercial sales.

expect to launch 24 ST titles over the next twelve months. I bet you think that a completely separate company will be set up - away from the usual centre of operations in Shrew - to 'put Atari up there with US Galt'.

FIRST COLOUR DIGITISER

First use, colour digitising on the Amiga has started using a multi video camera and using three tubes - red, green and blue. It's called SuperPic, from Precision Software, lets you directly grab frames from a colour camera.

SuperPic grabs images in a staggering 32,768 colours, and then performs a sophisticated optimisation process to convert down to the 6096 colour RAM mode. The files about 15 seconds, so it certainly isn't real time.

All Amiga display formats are supported - and SuperPic comes with a high quality Genlock for interactive video work too. All this for £495.95 inclusive of VAT.

■ Precision Distribution, 6 Park Terrace, Worcester Park, Surrey GU14 7JZ 04-330 7160

but the range won't just be games. The 'Hyper' label will be used to cover CAD, business and graphics applications seen reviewed HyperFast last issue. The games sector has been split into three areas: arcade games, videogames and 'intellectual' games (each's one of them!) - Ed!

The real surprise is that Atari are including the ST's archrival, the Amiga in their plans. At least nine Amiga titles are planned. Does this mean that Atari consider the Amiga a better games machine? 'Of course we do!', said marketing director Paul Walsh. 'We can port games across fairly easily, so it just makes commercial sense to maximise the return from each product'.

So far planned are *Morlock* (vargames), *Go and Back* (puzzle) under the intellectual category) and *Star Raiders* for the arcade label.

On the business side, Atari have scooped the rights to the German desktop publishing package Contape STP. The two-volume package looks set to be the most powerful DTP on any main - until recently it was to be marketed by Sigma, but Atari managed to convince the Germans they would give it a better price.

Workbench 1.3 shipping in US

The much-delayed new version of the Amiga's operating system, Workbench 1.3, is finally on sale in the USA, and will be in the UK from mid-December.

No we're not going to repeat the list of new features here (issues 1, 2, 3, etc. of Format), but the final price for the new Workbench disk is \$29.99 in the States so UK users should expect to pay £29.95 or even less.

MONITORING TV

Bored with watching that old Amiga screen working its way through a BASIC program? Monitored here comes up with a cunning adapter to let your monitor sit on a fully-fledged TV. Priced at £49.00, at the flick of a button you can switch from Deluxe Home mode. Terry Wogan - hard to know



A SCANNER IN THE WORKS

Keith Romer's impressive stand at the Commodore show, showing off the most complete Amiga hardware ZIP solution yet.

In the foreground is the fantastic 200 dpi pan-and-tilt scanner priced around £750 from January, listed in an Amiga 2000, going off to a laser printer in an enclosure. Inevitably, others will want to make their own from the Amiga's screen for colour output - that'll set you back £1495 plus VAT though.

which to choose, isn't it. The bad news? A colour TV laser costs more than the conversion.

Also available is a Serial adapter at £129.95.

■ *Morlock*, 7 Sheldy Close, Hoveville, Merks PO2 9PW 0275 264444

K-SPREAD ATTACK

Some are out for blood - the blood of WP Professional to be exact. Having set let their power ST spreadsheet K-Spread 3 loose on the market, Kema are offering owners of their archrival package

makes you wonder whether Atari want to see any independent software developers, at all' - for comment.

■ *Kema Computers*, 12 Haverdale Park, Pangbourne, Bucks RG8 2BN 029257 4120

QUICKIES

■ *SPD86* have decided they want to take the £5 floppy disk drive market by storm. They say they intend to increase production to 200,000 drives a month, and launch a 1080 and next year.

■ *RAM 2000* users will soon be able to take this month. For the Amiga, Superdisk from The One Computing Company will be available in the Amiga Centre. Localised provides you with a hard drive interface for £50.99. And on the ST, *MacDraw* £9.95-£80.00 are offering *TextIt* to boost your text when access time by compacting the disk library.

■ *FileT* which is £15 is now out from Precision Software. It's a 3 month support contract, professional looking support, user-friendly user interface and better document support. Price £79.95 from Precision Distribution 0294 812951.

■ The *SPRINGER* range has had a retail upgrade of Precision software - £60-£68 7195. *SuperDisk* returned to new out in version 2 for ST and Amiga at £99.95, featuring a text editor for easier multi-page applications. *SuperDisk Professional* is out in version 3 at £299.95, including a fully programmable communications facility.



the chance to convert to K-Spread 3 and K-Graph 3 by sending off £50 and the WP master disks.

WP Professional is currently being given away free with all sales of the SPD865 from Atari's main distributors. See last our review on page 64. Together with Microsoft's white word processor and Superbase Personal database, Jim Gray, Kema's MD, is not entirely happy with the deal. 'It

MENACE



MENACE

There's never been a game... a fast action-packed journey through six very different worlds where lightning fast reflexes and furious fire button action are your only hope of survival.

Your mission orders are simple, you must destroy the alien *Ordnance* in many positions, in space.

The game *Ordnance*, an advanced space has been formed over many months by one of the most feared races that have ever existed. These rules, called from their home planet, have rendered and plundered space, using the worlds they have discovered and the life-forms they have created to build the planet of fear and death. Now we introduce you to this world of terror in large scale attack and ground too quickly to put your feet. *Ordnance* has made striking distance systems, the altitude may be in thousands of feet, it's a single fighter with sophisticated weaponry, may have a chance to escape those who have pursued, by following tracks, the last that remain.

Screen Shots are from the Amiga version
AVAILABLE NOW ON THE PHYSICAL LABEL



CHRONO QUEST

This is the first of a new generation of adventure games from Psygnosis. A 3D environment in the classic genre.

Your quest begins in your father's (strange) attic (1980) from this time on through time your father's quest, mission, a fantastic time machine, your father is dead, murdered, you are the prime suspect, it's been left by your father, leads you to find the real culprit and destroy the evil, the father's presence. But he has changed in the future using the same machine... and who believes your father's story... do you believe it? This will be presented with many objectives, objectives you will have to travel through time to collect the fragments of a machine built to create the Time Machine into the future. There you will discover... Meanwhile the immediate objectives is to find the time machine. Sure, it's more immediate objectives is to find the past with the time machine in a 3D world... Meanwhile an even more immediate objectives is to find the time machine which you are going... 30 weeks and 260 minutes and each time complete objectives (see your computer's manual for more information).

Screen Shots from the Amiga CD version
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B A A L



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As leader of the ultimate B A A L fighters, you need to be ready B A A L is deadly. Fighting off the monstrous *Ordnance* is to invade the B A A L Machine. But you must get B A A L in the process.

Can you succeed? There is no option... the alternative is simply "kill or learn".

Screen Shots from the Amiga CD version
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MENACE

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084/C128 Disk	— £12.99
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FUTURE PUBLISHING

Throw out the drawing boards, galleys and glue — the age of the electronic journal has arrived. Periodicals and books are increasingly produced on computer screens. SIMON WILLIAMS drools over the machines that make it possible.

GRAPHIC TEXT, NOT TEXT GRAPHICS

When you type an 'X' character at the keyboard, a graphics-based editor (like an RT or Amiga) links up the code the keyboard sends off to an internal table. It then displays the arrangement of data representing an 'X' on the screen.

SOX software likes to do the reverse, by checking each arrangement of data on a scanned screen and comparing it with simple characters in a table, to try and arrive at the corresponding character code. The recognised characters can then be saved in a text file for editing.

Edly Shah scoured the net for the start of the electronic publishing revolution when he first launched *The Warrington Messenger*. Since then, daily after daily has gone the same way. Computer systems now handle pages, from the majority of national newspapers, saving time and costs, and allowing greater flexibility in layout. Things don't stop with page layout, though, as more and more colour processing and graphic design takes place at the PC.

Desktop Publishing (DTP) is its brand's multi-started life soon after the launch of machines like the Apple Macintosh, with its own, graphics-based environment where all codes to know and love. Once it was realised that text could be displayed on screen with an approximation of how it would appear when printed (what you see is what you get, or WYSIWYG) at least of packages spring up to take advantage of the fact.

This technology was running in parallel with dedicated electronic

publishing systems, such as Flex, which had sprung up some time earlier and been used on 'tabloid' papers like *The New York Times*.

Stages of the page

There are three basic stages in the design and make up of an electronic page: the input of the text and graphics into the machine, the manipulation and lay out of the material once it has been entered, and the output of the completed page to paper or film. The technology of each of these aspects is advancing fast, going more and more opportunely for existing page design.

The obvious way of entering text into a computer is via the keyboard, but there is now a lot of interest in Optical Character Recognition (OCR) which can scan a page of type or print graphically and interpret the graphic shapes as characters. The text can then be treated in exactly the same way as keyboard-entered copy.

Scanners have been used for

some time to enter graphics into computers. The most common type is the 'flatbed' scanner, which scans much like a very small photocopier. The scanner's software can scan all or a section of an original and trans-



■ A typical professional DTP system, less scanner, but including an A4 monitor.

fer the image, at 300 dpi or more, into a micro, higher resolution, which are really necessary for reproducing photographs, are now coming onto the market, as is software which can support grey scales. Different

FORMAT OF THE FUTURE

If Amiga Format is produced, as all magazines from Future Publishing, using DTP tools, will be, the company will have based around this idea from the start and as new magazine titles have been launched, so the amount and complexity of electronic page make-up has increased. Black and white pages are only reproduced on paper when the masters are created on a photo-lithographer (a very high resolution laser printer which prints on photographic film). These masters are then used directly by the printers to produce the pages of the magazine. Colour pages go through six extra steps in the production process: to copy with transparencies such as screen stone, included in the page.

Taking the whole process from the start, the text (known as the 'copy') of the magazine is written by staff writers in the office or freelance authors around the country. The copy is usually supplied on disk and loaded straight into an Amiga or RT to be sub-edited. This is where the copy is checked for accuracy and spelling, and where the 'formatting codes' are added. These codes represent print style and size of text

used in the magazine, including headlines, sub-heads, cross-heads, panel lines and margin lines.

Once the copy has been formatted, it is run through a conversion program which translates the embedded codes into a form which can be understood by a professional DTP program. (Amiga XPress on the Apple Macintosh. It is transferred to the Mac via a serial link, using the Serial Communications Protocol. Further software needs are made to the copy when XPress is complete the process of setting and adjusting it.

Format uses a system of pre-defined 'page grids' which contain all the elements of a page and into which the various labelled sections of the copy are fitted. Headlines are dropped into headline boxes, product information into an information box and panel text, margin notes and body copy (the main text of an article, such as film into their respective boxes in the grid. The next stage, still electronic, and with the copy still not having seen paper, is to lay out the page. This is done by an art team, again using XPress on more powerful, Workbench 3 screens. Text can be shifted around, the graphics added

and black boxes positioned where transparencies or photo prints will eventually appear. These pages are laser printed at 300 dpi, as proof for the editorial team to check. They are then sent to a Linotronic 300 photocomposer and printed at 1200 dpi.

Colour pages have to be 'registered'. This means constructing four colour films which can be combined together to produce a full colour printed page. In the process any colour (cyan, magenta or print) have to be scanned to separate out their component colours (cyan, yellow, magenta and black). The finished films are then used to print the magazine pages.

The registration process, and particularly the scanning of colour images, is the next stage that the computerisation has now provided. Though expensive, to scan a colour picture straight into a computer allows the image to be manipulated in the same way that text and black and white images can. The four colours can be separated electronically and the four films can be printed out on transparent film using the photolithographer using one stage in the production process.



■ Any colour picture in Postscript is made up from four films, supplying the cyan, magenta, yellow and black components of the image.

shades of gray are very important in picture reproduction as they can simulate the variable size of dot screen used in conventional printing of photographs.

Colour scanners are also entering the market, so colour images can now be imported directly into DTP systems, but it comes very expensive. Colour scanners can be flatbed or camera-based units, which offer

The assembly line

Once the text and images have been collected together as disk files, they can be assembled on the page within the DTP program. Top flight DTPs can perform sophisticated on-line, automatically approximate assets between graphics and handle links for boxes and graphics. They will also handle colour separations for spot colour (ones of one or more colour on a page, but

play screen. These are designed to display a full A4 page on a double A4 (800) spread in one go. They are usually monochrome or grey scale monitors, but if you have £5000 to spare you can go for colour.

Getting it out

As things are at the moment, there's only one real option for high quality print in commercial quantities. You have to prepare a master on paper or film and have a plate or plates made for photolithographic printing. For black and white reproduction a laser based photo-lithographer can burn a high-resolution image (up to 2400 dpi) of the finished page onto photographic film.

For colour reproduction, you need to produce the four separate colour films on transparent material. The image is still in black on each film, but the laser represents the parts of the final composite picture which will appear in one of the four colours. This can also be done on a photo-lithographer.

Logical manipulations

Hardware and software continue to improve in the DTP arena. It's not possible to say when full colour documents, including photographs and all

TIPPING THE GREY SCALES

The cheapest form of screen display is the simple on/off one bit per pixel monochrome monitor. On this type of screen you can display black or white, nothing else. Next up the expense ladder is the grey scale monitor, which as the name suggests can display various intensities of grey. Top of the league is the colour monitor, though even these vary in cost with the number of shades they can show.



■ This photographic quality image can be manipulated directly within a DTP package.



■ This page from the Adobe InDesign 2 was put together on our own DTP system.

they photograph the image in colour and digitise the result.

Other methods of importing graphics include digitising them from live scenes with a video-camera, loading them into the page as clip art and drawing them in a graphics package and transferring them as image files,

not including full colour pictures.

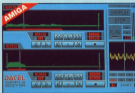
To display pages in the desktop process, normal display screens can be very limiting. Not only is their resolution too low, but the area of page they can display is insufficient to get a good feel for the overall layout. The solution, again an expensive one (£2000 plus), is to add a larger dis-

play screen. These are designed to display a full A4 page on a double A4 (800) spread in one go. They are usually monochrome or grey scale monitors, but if you have £5000 to spare you can go for colour.



■ A 30-megapixel flatbed scanner, in scanning can and cream, can scan up to 256 grey shades at 800 dpi.

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COLOUR EXPLOSION

Why have the ST and Amiga taken the honour (market by market) in a word, colour? OK, so you've bought a paint package to squeeze every last pixel out of your screen - but once you've created your labour of love, what do you do with it? It's nice while it's on screen, but turn the power off and it's gone.

The answer got a pintout, the covered black-and-white printers in some detail last month, but who wants more pictures? A colour printer is what you want, but the prices and performance of the models available varies wildly.

INTEGREX COLOURJET 132

Intrex ■ Church Gresley, Burton-on-Trent, Staffs. DE11 9PT (0283 219430) ext 6677.35; buy direct

The Intrex is one of the cheapest vinyl printers on the market, and seems to have been adapted by Acorn's Antimonster as the preferred workhorse. It's a compact and light printer, which although looking a bit doll-like, wouldn't over-claim its title.

Colours are made up from magenta, cyan and yellow jets, which means that it can produce those plus red, green and blue by mixing the jets, and black from a separate jet. Seven in total. Other colours are im-

Would Michaelangelo have painted the Sistine Chapel in black and white? Would Leonardo da Vinci have created a monochrome Mona Lisa? No! BEN TAYLOR looks at four colour printers to do justice to your paint package.



■ The Intrex 132

lated by the standard 'bitting' process outlined in a few elsewhere.

The Intrex acts like a Canon 100C printer, and that is the driver you should look for in your software. The Amiga has a Canon driver in the Workbench 1.0 set, installed with almost all new paint packages, and so the ST Degas Elite has a suitable driver.

Setting up is remarkably easy. The interface is a standard Cartotronics, and there are no fiddly DIP switches. A flap at ground level on the front of the unit flips down to reveal two sealed ink cartridges, one for black, and one combined for the red, green and blue jets. Filling new ones is simply a matter of putting the spent cartridge out and slotting a new one in. The colour cartridges are claimed to last for four million characters each.

The carriage is eight inches wide, and the built-in roller can cope with single sheets or a roll of paper. No special paper is required, although it's difficult to get thick sheets thinner than standard 80 gram A4 through.

So to action. With a claimed 1280 dots per line on a 2" carriage, the best resolution should be 120 dots per inch. In practice, the print-

er's performance is limited by the quality of the software drivers on ST and Amiga. Neither will drive the printer at greater than 80 dots per inch, half resolution, which is a pity. Intrex say there is some work being done on better drivers, but these are some way off yet.

Colour print quality is generally quick and clear. Solid colours come out evenly, and printing a full screen picture took 3½ minutes on an Amiga and 5½ on an ST. The Amiga driver produced good quality results, but the Degas one disappointed. Shadow areas looked very blackish.

The big disappointment on the Intrex is text handling. There is no RPL mode, and the characters are built on a 5 by 8 dot matrix, which look very primitive. Not only do the characters of j, g, q etc. do not come down far enough, and look angular, you can get false, underlined, condensed and double-width text, but even for occasional letters you would need another printer.

Overall, a nice cheap unit, but let down by the present quality of printer drivers. Don't know how your black-and-white printer for letters fits.

INTEGREX 132

features	3.0
ease of use	4.0
speed	3.5
colour	4.0
format value	4.0

HP PAINTJET

Hewlett Packard ■ King Street Lane, Wincorsh, Wokingham, Berks RG11 5AR (0734 784774)

ST COLOURS

So are the ST's Colour Paint menu (you'll see it under the Desk menu) if you start up with your TurboGrafx-1600. You can experiment through colour or black and white (copy for 30 seconds). (That's right, 30 seconds. Don't be fooled - that doesn't mean you can't work with many other of Atari's products, but you can't use any other than its for the TurboGrafx-1600. See back for more on Atari's TurboGrafx-1600. It's worth mentioning a coloured program is easy about, it is, make whatever your favourite printer or will work with your paint package, check with the manufacturer.



■ The test image in 4096 colours - printed results are on the right

rip at \$144.25; best buy price £350

Hewlett-Packard are rapidly becoming the right printer specialists, both in colour and mono. Their design can offer laser printer quality at half the price, and the Pantor is its polychromatic sibling.

A suitable driver for the Amiga is only available with Workbench 1.3, but all the latest port packages (such as Photon Paint) come with these drivers already. Unfortunately the ST in the shape of Digas Elite doesn't directly cater for the Pantor - although Electronic Arts say you can obtain a suitable driver by logging on to the American Computers bulletin board (3).

Physically, it's a the lightest and most compact inkjet reviewed, explained by the fact that the power supply is a separate unit. The roller is unusually narrow, and will only just take 84 pages. Both friction and friction feed are provided.

As with the Intrepid, there are two ink cartridges - one for black, and another for the magenta, cyan and yellow inks combined. Refilling these is quick and clean. The On/Off switch is a front panel touch-switch, not the traditional rocker, and there is no online/offline option. You just plug in and go. An annoying design niggles is the lack of a paper tear-off bar, useful for continuous stationery.

The Pantor can print graphics at either 90 or 180 dots per inch, and the Amiga supports the higher resolution. Our test picture was the classic 40% colour IBM mode greenwood.



▲ Intrepid Colourjet 132



▲ Hewlett-Packard Pantor



▲ Epson 6050



▲ Star LC19-Colour



DITHERING ABOUT

Computer screens can display many different colours (247 on the ST, 4096 on the Amiga), but printers usually only have a few colours. So how can they reproduce the full range of screen shades?

The answer lies in primary school physics. Look at the two squares in this box. One is printed in green, the other is made up of blue and yellow circles. Place the magazine up and look at it from the other side of the room, and both will appear to be the same solid colour.

This technique, of creating a new colour by mixing lots of two others, is called 'dithering'. If the printer driver is a good one, then a wide variety of colours can be simulated this way - even with a three-colour ribbon, you can mix a blue and a yellow dot for mid-green, two blues and

a yellow for dark green or a blue and two yellows for light green. You get the idea. Dithering usually takes a much higher resolution than the screen (usually twice as many dots per inch), so you can dither several printer dots together in the space of one screen dot.

How effective the dithering is varies with the printing mechanism used. Coloured daisy-wheel printers are bad at dithering because the dots don't mix very well on paper. Thermal wax transfer printers are better, because the heat from the print head tends to physically merge the wax dots together and improves the colour mixing. Best of all are inkjet printers, where the dithered coloured inks flow together before they hit the page, creating a true coloured ink.





DOUBLE SPEED

The Amiga's printer is a head-turner. You can print a page in under 10 seconds with the built-in 1.5 Mbit personal graphics screen, yet print out text at 30 dots per inch and 300 lines per page with the same device. For example, using the Xerox 4020, under 1.2 seconds take 1100 x 300 dots (1.1 x 300) - that's only 330" - The final quality was excellent.

See (can't you just fear for much say. "New step up nearly before you're digital, slow") the printer was very quiet - 3 minutes for a full screen - and whisper-quiet, resulting in a superbly smooth image close up. However, the colour rendition was disappointingly dark, turning light blue red into autumn scarlet, slightly losing the sparkle of the original.

For text, the Pantjet would print a more than adequate 600 pixels. Indeed, there isn't any dark shade at all. It comes with two well-designed fonts, Courier and Letter Gothic, which can be fit any of the some main colours from 30 to 18 pixels. Speed was an impressive 50 characters per second in a very crisp black,

HP PANTJET	
Features	4.5
ease of use	4.0
speed	4.0
colour	4.0
format value	4.0

XEROX 4020
Rent Xerox ■ Bridge
House, Oxford Road,
Gloucester, Middle USS 1HS
(0895 51133)
rrp £1437.50; buy direct:
 The Xerox 4020 is the old monarch

HP Pantjet, 31 users are left out in the cold and will have to resort to a transatlantic modem call to Compuserve to get hold of a Super-Dots driver.

In contrast to the Integris and the Pantjet, the 4020 is big and bulky - it weighs around 30 lbs and would take up most of your desk space, rather than using nested cartridges, the 4020 has 4 separate ink wells which need to be swapped out and topped up. This can be a messy operation, although it does have the advantage that you don't waste ink - with the nested cartridge system, if the magenta runs out before the yellow and cyan, you have to choose but to throw the lot away and install a whole new set. When you turn off, the printer goes through elaborate power-down algorithms for about 30 seconds to clear the jets out.

The wide carriage lets you install most kinds of paper, although the ink seems to lock best on the specially coated paper supplied by Xerox. The absorbent surface spreads the ink just the right amount to give an impressively solid colour.

Graphics resolution is 120 dots per inch, less than the HP Pantjet, although there is a 240 dpi mode. This is a feat though, being 120 dpi with every dot printed twice, the two used diagonally to the right and below the first. The idea is that this gives a more solid image, and indeed the practice bears the theory out. The print line is the same at both modes, at around 310". The quality is very paper dependent, but after some trial and error produced the best results of any of the printers, significantly brighter than the HP Pantjet.

The 4020 really pumps the ink out of the jets, leaving the paper pretty badly soaked. It's essential to make sure the full bar rollers don't touch the printed area or they'll smudge it. However, this means that areas of solid colour are a very solid-looking indeed. As to Xerox's claim that you can print onto transparency sheets, that's best forgotten. Even after overnight drying the ink rubbed off immediately.

In text, the Xerox is competent - although none of the fonts quite look right as body text for a document - (Courier, sans, bold and condensed text are all available, in 60, 90 and 120) but in the pure colours (magenta, cyan, yellow) printed well, but the compound ones (red, green, wood) were very blotchy, and the fonts can be expanded to quadruple size. Speed was good (see the table for details), with black text being twice the speed of colour text.

The Xerox is an ugly beast and messy to use, but despite having a lower resolution than the HP Pantjet, its ink colours definitely produced the best results of the printers tested.



■ The Xerox 4020

PRICES

As prices, remember that the Xerox jet is priced at 160. Pantjet's are usually well above all large discounts, as they spread the real value over 3000 for a good price rather than ordering direct.

but only a quarter of that printing in colour. One nasty omission is that you can't get italics.

It's a most pleasant printer to use, and styled with it. Text quality is excellent, and the Pantjet is tolerant of most kinds of paper. The 180 dpi resolution gives very smooth results. If only the ink colours were bright and slightly, it would be perfect.

of colour inlets, and is being replaced by the HP Pantjet as the king of real color desktop printers. It has been reported ever since the Amiga was launched, under the guise of the Datab C150 printer driver (Xerox and Datab seem to be the same company), it was Amiga driver in the 1.3 set specifically for the 4020 is much improved. As with the

COLOUR PRINTING METHODS

Black and white printers are pretty simple - a dot matrix is a matrix of dots. However, there are several methods of printing in colour, some better than others, and of course the price goes up as the quality does.

CLUTCH METHOD (eg. Star 6150/Colour) these are the same as conventional dot matrix printers, except the ribbon is usually four parallel strips of differently-coded cloth, rather than a single black ribbon. A mechanism moves the ribbon up or down to position the right part of the ribbon over the right pin as the dot matrix fires.

THERMAL TRANSFER (eg. Okidata 20) the same principle as a cloth ribbon dot matrix, except rather than the pins in the print head hammering ink onto the paper, each pin is a tiny heating element. In fact, a pin is heated up every cycle, the ribbon has a coating of coloured wax, which is then melted onto the

paper. The resulting image looks smoother than cloth ribbon printers, but the waxed ribbon runs out very fast.

INK-JET (HP Pantjet, Xerox 4020) again, characters are made up as a matrix of dots, but each pin is a miniature nozzle which sprays ink onto the paper. Search as ribbon to reset out, just reservoirs of ink. **COLOUR PHOTOGRAPHER** single colour photo copiers deposit laser into a charged drum and pass the sheet of paper over it. To get colour, the paper passes over three separate drums in blue, magenta, yellow and cyan.

Most of the real machines such as colour laser printers in fact tend to use wax transfer rather than inkjet technology.

If you thought laser printers were expensive, PostScript-compatible colour laser printers start at around £70,000 - plus 600



VEROX 4000

features	4.0
ease of use	3.5
speed	4.0
colour	4.0
format value	4.0

STAR LC10 COLOUR

Star Electronics ■ Crown House, 40 Unbridge Road, Ealing, London W5 2BS
(01-840 1880)
rpp £343.85; best buy price £250

This is the budget end of colour printing, and therefore likely to sell many more units than the three major contenders put together.

If you've ever used a conventional laser printer, you'll know what to



■ The Star LC10 Colour.

expect. The LC10 Colour is simply the Star LC10 dot matrix with a coloured ribbon. It's got the same range of fonts and the same resolution as the LC10 (moved last month, though now the dots can be in four colours).

The printer is a compact modern unit, ergonomically streamlined in case you happen to print at supersonic speeds. It is light enough to fit on any shelf conveniently. Installation is simple, of course. Just slot the colour cassette into place, plug in the Commodore lead, and off you go. The

Star conforms to the Epson 81 standard of codes, which means that there are drivers under Amiga Workbench 1.2 and 1.3, and also in Degas 3.16.

The colour output is obviously not up to inkjet quality, and the dot structure is very noticeable on close inspection. However, if you were going to pin the results to a wall and view them a few feet away you would probably be happy enough. Being a ribbon rather than a stream of ink, the colours you get from combining the primaries are less than convincing - brown shades taste a bit nasty, for instance. Print is agonisingly slow for a graphics dump, and you're waiting up to 30 minutes for a full screen. However, the results are not at all bad given the price. At the default 120x12 dpi resolution there is little of the horizontal banding that often happens in dot matrix dumps, although the support 'fast slowly' 240 dpi output is clipped and compressed.

One potential advantage of rib-

bons over inks is 'graceful degradation'. Inks just run dry in mid-print, but at least you are warned your ribbon is going as you see the colour fading slowly.

For best use, the LC10 is wired flat. It's simple and unfussy, and you can get 800 x black ribbon cassettes in place to effectively have a conventional Star LC10 at your command. HLD mode is condenser at 30 cps compared to the 80 cps HP P-format, but you get a wider variety of text styles. We reviewed the LC10

SUMMING UP

BEST GRAPHICS QUALITY
4.0/5.0/5.0

BEST GENERAL PURPOSE PRINTER
STAR LC10-COLOUR

last month, so you know what you get.

The Star LC10 Colour is an excellent general purpose printer. If you really need top-notch colour printing it's not good enough, but it's worth paying the extra money over the standard LC10 price to be able to get a simple colour copy of your artwork.

And in the end

Software on the 511 doesn't yet support colour printers well enough to be useful. Degas 3.16 is the only one which provides a good range of drivers, so you'll need to start your own list for printing on Degas screens, then load and print them from the art package. The 'Colour' option on the Preferences menu is useless for high quality inkjet printing.

The Amiga does support colour printers properly, and makes them a sensible tool - it's great to be able to preserve your artwork for posterity, if you can afford it.

If it's sheer graphics quality you're after, the Xerox produces the best results with current 511 and Amiga software. If your main use of a printer is going to be word processing, but colour would be a useful file, then go for the Star LC10 Colour. You've got an excellent conventional 9-pin printer there, even if the colour functions are a bit primitive.

STAR LC10-COLOUR

features	4.0
ease of use	4.0
speed	3.0
colour	3.5
format value	4.0

THE FACT FILE

	VEROX 4000	HP P-format	VEROX 4000	STAR LC10-COLOUR
Weight (kg)	5.7	5.0	5.8	5.7
Dimensions (mm)	400x300x110	444x300x110	444x300x117	390x300x110
No. of pins colours	7	7	7	7
Min. dot resolution	180*	180*	120*	120*
Amiga image print (secs)*	22†	17†	18†	47†
ST image print (secs)*	340	untested	untested	701
ST speed (cps draft)	20 (ink & dot)	4/4	83 (ink), 33 (dot)	83 (ink & dot)
fast speed (cps HLD)	4/4	80 (ink), 17 (dot)	83 (ink), 17 (dot)	18 (ink & dot)

- * In graphics, the Amiga drivers on the ST and Amiga can only work at 80 dpi
- † The Xerox has a precision 240 dpi mode, which prints at 2 printed lines.
- ‡ Figures from 80 to 240 dpi. P-format (not checked mode) is 120 dpi horizontally, 90 dpi vertically.
- Using Workbench 1.3 drivers
- Using drivers from Amiga 512

BUREAUX

In a good colour printer is expensive - how many of you are going to rush out and throw it against a wall? Even if the answer is to make use of a printing service, the cost there your own, they print your file on their printer, and you get their finished copy. Try Graphix, 144 London Street, Driffield, York YO19 1PT (0430 25490).

BYE BYE, KIMMATT!

One of the most popular cheap colour printers on the shelf was the Okimate 25. The UK distributor, Technoserve Direct, tell us that they have now dropped that particular model. However, you might still be able to pick up remainder stock around £120.

The Okimate was a thermal transfer printer, and ate up ribbons at a phenomenal rate - each one lasting for only a few prints! However, because we're into looks rather than dry, the results looked quite good. Although useless for conventional black text printing, the Okimate produced better colour than the Star LC10 Colour.

SOFT MACHINE

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PLEASE CHECK THE INSTRUCTIONS CAREFULLY FOR ANY WARRANTY INFORMATION APPLICABLE TO THE ITEM TO BE PURCHASED.

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Printer 1050/1050F	\$299.00	Printer 1050/1050F	\$299.00
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WHAT YOU CAN NOT SEE - ASK FOR

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PD UPDATE



Jason Holborn and Elliott Stein search through the Amiga and ST Public Domain libraries in search of the latest and greatest freebies to revolutionise your computing.

AMIGA

All the programs listed within this month's Amiga PD update were taken from the Fred Fish collection of public domain disks. Most can also be found in other libraries but the disk numbers quoted refer to the Fish library.



TeXF Fonts

Disk 135

The Amiga public domain libraries have always been a fine source of fonts for use within other packages. The main problem with PD fonts up to now has been that they have been on the whole spread thinly through the library, one font here, two fonts there but never more than three different fonts on one disk. Those of you who have been searching the PD libraries for some decent fonts will therefore be delighted that such a disk does indeed exist.

The TeXF fonts disk is in actual fact a collection of fonts for use in a commercial package called AmigaTeX. The disk includes over 22 different fonts of various point sizes ranging from 12 points high right up to a massive 158 points.

The fonts as they arrive are not in standard Amiga format so they cannot be used 'as-is'. Luckily included on the disk is a conversion program to convert them from TeXF format to the standard format. An added advantage of the conversion program is that if you use AmigaTeX, it can be used to convert the fonts bundled



MrBackUp being to start

with the package as well.

The overall quality of the fonts are very good indeed make a welcome change from the rather tired Workbench fonts. A worthy PD Platinum winner.



Boing Throws

Disk 134

The Amiga's beloved graphics and sound have inspired Amiga owners to produce a wide range of demo programs, showing off one or more aspects of the Amiga. The classic demo, and probably the demo that did most to promote the Amiga in the early days was the now famous Jaggle by Eric Graham.

Jaggle was one of the first 'ray traced' demos to appear and has since spawned many similar programs of which one of the best is Boing Throws. Boing Throws is a neat little animation produced using Boulder Demos 3D that depicts a ballistical plane crashing its stick. The animation is smooth and a real 'must see' for any Amiga owner.

MrBackUp Disk 120

So you just bought a 280 megabyte hard disk for your Amiga and intend taking regular backups onto floppy disk? Not a minute, 200Mb of files are going to fill an awful lot of floppies, come 228 in fact! What you really need is a hard disk backup utility that includes file compression. Enter MrBackUp, fittings the bill perfectly.

MrBackUp is a nicely polished Hard Disk backup utility that works by



Amiga Monitor allows you to see the state of your monitor at any time. More of our libraries are exposed to your gaze.



carrying out a floppy-to-disk copy from a hard disk to standard Amiga floppies.

BEST OF THE REST

Here's a quick run-down of the programs that didn't quite make these pages - but are still worth a look.
ALPHASOFT - DSK 121 - A video title program that plays a digitized 'video' as a disk is inserted or removed from a drive.
INTERCAL - 3004 121 - An impressive demonstration of the Amiga's 'Basis Mail Server' mode. Depicts a First Nations type character dancing to the tune 'Ball of the Mountain King'.
CD32 - 3004 121 - A very useful C language cross-reference line program. Useful for program debugging.

The program includes an option to compress files therefore cutting down considerably the number of floppies needed. We unfortunately haven't got a 200Mb hard disk on our office Amiga, so we don't know quite how many disks under the calculated 220 you could be save.

AmigaMonitor Disk 70

"I never knew there was so much in it!" That's usually the first reaction of

someone on their first journey into the intricacies of the Amiga multi-tasking system. Hidden away in the dark depths of the operating system, a large is all work that needs your Amiga on its feet, interrupts are prioritizing, resources are being re-allocated and a whole host of mind boggling things are happening before your very eyes. AmigaMonitor is a program that lets you 'peek into the world of Trac' and see at a glance the goings-on of a state of the art machine such as the Amiga.

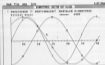
ST

This month's ST selection deals with a miscellany of titles - bits and pieces, interesting novelties and unique oddities. Many are helpful little programs which contribute to your productivity but don't quite fit in to any one particular category. Others are slick novelties to brighten up the Desktop.

GEM-Lock

GEM-LOCK definitely falls into the 'no real use' category. So why feature it in PD Update? Quite simply because it makes your Desktop look cool! Why must a program be 'useful' anyway? When GEM-LOCK is put into the AUTO folder of your boot disk, it will replace the drab, one-colour Desktop screen with any DRGAS picture of your choice. You can hook-up to the Desktop by having a favourite drawing or digitized image in place of the green or grey text background. It stays there for the entire session, regardless of how many programs you enter and exit.

Unfortunately, this program only seems to work in low resolution, but no doubt some clever PD programmer will modify it to put a DRGAS picture onto the Desktop at any resolution. We had a program like this on the issue 5 cover disk - Call.



Check your Desktop before you get up in the morning to see whether you'd be better off just staying in bed.

GRAVITY and COS COS are two other programs designed to give you complete analysis control over your Desktop, both at you redesign your desktop screen. There is also MOUSE EDIT which allows you to redesign the mouse's pointer and POINT-ACC which allows you to replace the screen font with another.

The next oddity is I AM STEER, an excellent 'biofeedback' program. Having supplied your name and the date of birth the program creates a biofeedback chart of any month in any year. You can take a hard copy of the result and of the documentation file which contains interesting back-ground information on biofeedback.

For the specialist

ST PD is check full of specialist programs such as CARPET DECOMBER for stripping comments and footers from text, a PLAN - a CDD package for electronic circuits, DCCNET - for calculating circuit averages, and PWRD - a set of interactive periodic tables for chemists. There are also several databases designed for a Doctor's surgery, cinema goers and store keepers.

It must be said that some of the specialist programs have very limited appeal indeed. How about MASON - Computer Aided Mending, which tells you how long you should wash your clothing and in what temperature water. How could you do your laundry without it?

There are specialist programs to aid you in whatever unique hobby or interest you may have. WARD is a games program for designing ball speakers!

For astronomers there is SKYMAP which shows you the night sky from any angle, names individual stars, lists constellations and locates many other celestial bodies. The complete program contains over 1000 stars and is fully SCROLL driven. There is also DDBAT, which allows you to track any object orbiting the Earth, a Database of 15,000 stars and many other programs for astronomy enthusiasts.



ACCENT

One of the coolest oddities must be ACCENT - a program which gives you SCROLL the various accents such as German, French, Chinese, Cockney, German, Italian, Japanese, Lisp, Hindi, Pig Latin and a clutter! It is actually quite a good GEM driven program and is useful either for its novelty or for the translation of text to suit a particular dialect for a play or script. After ACCENT converts the file, you can use MBOARD to actually speak it. MBOARD uses a built-in software speech synthesizer to read back to you any ASCII file.

There are also programs designed to train you in specific skills - a memory code tutor, an excellent touch typing tutor called TYPING TUTOR and programs to test your vocabulary skills and geographical knowledge.

Next month we will feature what many feel is the backbone of PD software - the many helpful utilities and disk accessories... the type which help you get the most from your machine.

THE SUPPLIERS

In the UK, the following companies that are known to supply ST and Amiga PD software. To find their full addresses, give them a ring or visit our web addresses:

Amiga PD Unlimited
 Georgia Phoenix
 Associates - 077 082 234
 Subsite - 0705 266508
 ST

Procytopid ST - 6124
 881124
 Page 4
 Software - 0705 266508
 The South West Software
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TELLING YOU WHERE TO GO

The ST CLUB distributes an excellent German magazine on disk. Check out all very advanced and highly original programs & info available there and a German-English dictionary can provide access to dozens of original games and utilities.

The best of these are the Universal Disk construction set to make your own user icons for any applications, an excellent 3D laboratory, a portable game, a flexible data management program and many more! PD programs of commercial quality. A full range of these excellent German imports are available from ST CLUB on 0800 410241.

T'R I A 'D



V O L U M E • 1



A COMPILATION OF THE THREE CLASSIC
16 BIT HITS FOR THE ATARI ST & AMIGA

£29.99

SEUCK

Now that Palace have released their descriptively titled Shoot-Em-Up Construction Kit, you can create your own arcade games. RICHARD MONTEIRO SEUCKS it and sees.



GRAPHICS

SELLING YOUR WARES

Palace aren't pretending that SEUCK can be used to create anything original shoot-upping games, and they don't intend to market anything remotely SEUCK-like. While any of the SEUCK games might be downloaded through a local software house, there's little chance of creating a successful title unless either without it being instantly re-creatable as SEUCK-up job.

A DAY IN THE LIFE OF A SEUCK GAME

You've got a basic idea for a game, but how often or paper type of game, setting, objective and so on. Just because it's called the Shoot-Em-Up Construction Kit, there's no need to stick to Science-fiction games. How about that old '80s style, a Road Runner clone or a Pac-Man-like game. Take time out to think about your game. Don't get stuck in a rut.

Decide on sprite size - not only your craft and the aliens, but bullets and explosions too. Everything that moves on screen is a sprite or object. After designing a whole load of frames for an sprite, you'll find out you need not only the object sprite like when animated. That's tricky, and the final tweaking will probably only be done when the game has been completed.

Background graphics next. You have to be very careful as it may be create patterns or use colours that will completely obscure the sprites. Spend more time getting the pattern right; the colours can be changed easily.

Putting blocks of background together to form maps is boring, but it does properly set the mood, can be very rewarding. Giving some high points and starting positions is also useful. But make sure you work it in because the whole game centres around how well aliens creep down at you or shoot at you. You have to ensure the game isn't too difficult or too easy.

Final tweaking now takes weeks, but creating a basic game that starts to float can take less than a morning. We managed it.

£24.99 ■ All Amigas; ST version due later

■ Outlaw/Palace Software, The Old Forge, 7 Caledonian Rd, London, N1 9DX (01-278 0781)

Of you Amiga will stop looking around at ST SEUCK users, the first Amiga game creator is here. Palace - best known for going deep for Mario Whittaker (owners with Starline) - have released SEUCK, Shoot-Em-Up Construction Kit. SEUCK by name... built for you to decide after reading the notes.

Most game creators rely on some form of keyboard input. STOS, for instance, is simply a version of BASIC with many useful sound and graphics utilities, and as such requires the user to have programming skills. Even homebrew BASIC adventure creator needs command input. If you're a non-programmer and you don't want to learn a language then SEUCK is the breakthrough you've been waiting for. Not a keypress needed - just point and click.



Create your game

The biggest problem - deciding what sort of game to write - doesn't exist. That's because there's only one type of program you can write: a vertical scrolling shooter. In fact, it's not entirely. You can choose the type of scroll, the manner in which aliens attack, how the background interacts with your craft, in-game sound effects and so on.

From the main menu, which is accessed using the mouse, your first stop will probably be the sprite designer. That's because there's only one type of program you can write: a vertical scrolling shooter. In fact, it's not entirely. You can choose the type of scroll, the manner in which aliens attack, how the background interacts with your craft, in-game sound effects and so on.

From the main menu, which is accessed using the mouse, your first stop will probably be the sprite designer. That's because there's only one type of program you can write: a vertical scrolling shooter. In fact, it's not entirely. You can choose the type of scroll, the manner in which aliens attack, how the background interacts with your craft, in-game sound effects and so on.



Once you've designed a sprite for a particular object, you can decide which frame you want to use. Each object can have 18 frames which can be flipped between at various speeds.

appear on screen (16 different types are allowed, 16 of which can be aliased - in practice you would never have that many floating around as the action would be very dense).

Background graphics are designed in a similar fashion to sprites, in blocks (of 32 by 32 pixels). The background editor allows you to create 140 blocks per game, each block can use eight colours (these can be different to the colours used for sprites). At a later stage in the game development these blocks can be joined together to form maps or levels. An individual game can consist of 32,000 blocks split into 22 maps or sections. That means you can have over 15 Mbytes of background by filling that on a disk.

Shoot to kill

The next step, after designing sprites and background, is to determine the characteristics of these objects. Sprites can be categorised in friend, foe, bullet or explosion. You can decide on the speed, number of hits it takes to kill, number of points gained for killing, fire direction, fire rate, bullet speed, bullet sound effect, explosion sound effect and explosion graphic of an enemy sprite.

Alien objects can be given starting positions and flight patterns relative to the map. You simply issue a packet around the screen and SEUCK takes that as the flight path.



■ Make these aliens fly. Only memory limits the complexity of an alien flight path.



■ Flung the blocks together to make a map a dot, and can take a long time, if you're designing a game using 80,000 blocks!

flight patterns eat up memory, so it's wise to have a smattering of stationery aliens.

Your craft (and a second player's craft) can be assigned similar attributes: speed, number of hits required to destroy it, whether the ship explodes if it makes contact with an alien and so on.

Options are plentiful which is why the friendly point and click environment is so welcome.

Round 2D sound effects are bundled with SEUCK, these can be tagged to appropriate bullet and explosion sprites. Although there aren't as overwhelming number of noises, each can be reloaded at any

rate between 0.50 and 2.000, hence it is possible to change an engine knock into an explosion. It's a pity you can't import your own 87 sound effects.

The final countdown

Having constructed your sprites and background, decided which objects are good and which are bad, added sound effects to explosions and made maps from background blocks, you're ready to play your masterpiece. The game can be played early or with infinite lives. The infinite lives option means you can see exactly how aliens and background interact, whether alien fly in acceptable patterns and -

■ The Formal Golf game files just four hours after completion. 30 sprites, 30 background blocks, 0 lives, 4 levels. Bonus, take a walk!



SPINNING A YARN

There are no other game creators available for Amiga owners... yet. Inevitably, ETRAC (ET Interactive Creator) might feature the Amiga sometime next year. The 01 version lets you mix Macintosh screens with text, then choose the font style, align objects at various locations and determine what happens when objects are encountered. Also worth to for from the 0101, from Banders, is another 01 ready game creator. It's a glorified version of SEUCK (and not compiled at that). And unless you're a programmer you'll find it hard going. Banders are still deciding whether to release it on the Amiga, it went down a storm on the 01 so it's very likely you'll see SEUCK soon.

Another game creator, Telepath, is on the way from Microval Soft for 01 and Amiga. Price and release date haven't been confirmed yet so Microval are still using the system to create their own games (Serial Quest is rumored to be the first). Telepath is one of a handful of adventure creators, and promises to let you include compressed pictures and digitized sounds within the game.

most importantly - test out playable the game is.

Sprites, background, sound, object and map data can all be saved separately in case you wish to create sections on their own. The option for using a slide-show game appeared on the review version, but this is dropped for the release version. If it wasn't, there wouldn't be much point to SEUCK.

Of all the game creators that have appeared on various machines, SEUCK is without doubt the easiest to use and the one which will produce results fastest. Anyone can use it as no programming knowledge is needed. SEUCK is indeed in the kind of game it can produce, but what it does, it does well.

for

- Enjoyable to use
- No programming knowledge required
- Up to 600 objects allowed on screen at once
- Fast, smooth scrolling possible

against

- Impossible to add to the sound library
- Only one type of game can be created

PRE-RELEASE

The SEUCK we can see for the time being. There was no intention to spend the money. The complete library is a complete format and in way of adding a new screen to the game. All the 01 games in the release version, available for the time also read this, the time also read this, the time also read this, the time also read this.



EXPLODING A MYTH

Stories appeared in several magazines, including Impact, stating that SEUCK was being used to create 'Warcraft II'. But quite true. A further version of SEUCK was used to design the background graphics, and use the majority of the (time is right).

Performance

1 2 3 4

Performance

1 2 3 4

Name of user

1 2 3 4

Manuals

1 2 3 4

Full name

1 2 3 4

format value

1 2 3 4

NEW FROM

ROMANTIC ROBOT

MULTIFACE ONE, the MULTipurpose InterFACE, was a sensation when originally released for the ZX Spectrum four years ago. MULTIFACE TWO, for the Amstrad CPC range, followed 2 years later — same pattern, same success. Now the time has come for the MULTIFACE ST — the BIG brother to the MULTIFACE family. Same pattern? Yes, and with even more facilities! So, what can MULTIFACE ST do to make an ATARI ST owner's life so much easier?

MULTIFACE ST is the ultimate PERSONAL COPIER. It copies programs, screens, disks — all at a touch of a button. Its most powerful MULTI TOOL lets you study, modify any program any time — just touch the same magic button. How is it done?

MULTIFACE is a small box that plugs into the cartridge port. It has all its tricks in a massive 512Kbyte RAM so you do NOT need to load any other software. MULTIFACE is always there and ready. It is menu-driven with easy touch commands and an on-screen interface, so easy to use. Pressing its magic buttons will interrupt any program and give you on-screen control over it. You can save the entire program or just the screen. MULTIFACE compresses before saving and it formats disks with up to 25% gain, to make the contents of the computer fit onto a disk. The saved program will continue from where it was saved — save half-way through a game and avoid playing from the start again!

The MULTI TOOLKIT lets you inspect and change (in hex, decimal and ASCII) absolutely everything — including the protected RAM and 68000 registers! You can POKE infinite lives, customize programs, fill RAM, find/replace strings, even modify instructions, etc.

Being a hardware device, it might seem MULTIFACE can back-up whatever you wish, as many times as you wish. HOWEVER, to prevent any piracy, which is legal, the MULTIFACE MUST be attached to run programs it saved! MULTIFACE will be available from November 1988, making it an ideal Christmas present for one Atari ST owner!



multiface st THE ULTIMATE PERSONAL COPIER

Please send me a MULTIFACE ST at £49.95 plus p&hp — UK £1.00, Europe £3.00, Overseas £3.00

I enclose a cheque/PO/cash for £ _____ or debit my No. _____ Card exp. _____

Name & address: _____



MEGABYTES FOR MEGABUCKS

'Tired of waiting for your disk drives to copy files and folders? Always running out of disk space for documents or pictures? You need a hard disk, my friend. Slip me five hundred smackers and you're away'. SIMON WILLIAMS takes on the big disk touts.

No, hard disk suppliers aren't really like the risto suggests, but hard disks on the ST and Amiga are very expensive compared to those for some other machines. Are they worth the outlay and what do you get for your money? Here are three of the leading contenders stropped down and ready to run. Compare and contrast...

Supra Drive

30 Mb

\$899.95 ■ Amiga 500 and 1000 (internal model avail-

able for A2000) ■ Frontier Software, PO Box 113, Harrogate, N. Yorks HG2 0BE (0423 67140)

This is pretty much the one and only hard drive for the Amiga. There continue to be rumours that Commodore are working on one of their own, but for the moment, Frontier have a virtual monopoly with their range of Supra drives. The range consists of 30 Mb, 30 Mb, and 60 Mb drives, though the 30 Mb is hard to come by at the moment and the 30 Mb is not 30%

more expensive.

The drive consists of two distinct pieces of hardware: the 3.5" drive itself, which comes complete with its own switchmode power supply, and the SCSI interface which translates the DMA signals from the Amiga's bus port into signals suitable for the drive.

The interface is metal-cased and is fitted to a high standard. Its extended edge connector plugs into the DMA port on the side of the Amiga 500, once the plastic cover has been removed from the Amiga's case — a similar connector on the interface allows the DMA to be taken through for other peripherals. Once





AMIGA DISKS AND DOS DISKS

If you are lucky enough to have an Amiga 2000 with a Bridge board (the card which gives IBM PC compatibility to an Amiga), you may be tempted to buy a PC hard disk card rather than an Amiga hard disk for your Amiga. This may be OK, if your main use for the hard disk will be running PC programs. If you want it for Amiga use, though, bear in mind that all serious users have to go via the Bridge board, which could slow it down considerably.

So four months now since we tested Commodore for a Bridge board to realize, if they were managed to cut-out their idiosyncratic bureaucracy, we think we able to tell you about it.

First, the interface sits neatly alongside the mouse, though it would have fitted better if it had been aligned with the front and back of the keyboard unit. The interface case can take 1 Mb or 2 Mb expansion cards (2 Mb currently \$600 in the States) as a single plug-in module, and these will work in conjunction with a full megabyte expansion within the A500. A500 users can buy the Supra drive with a different interface and A2000 users can buy an internal drive and interface card, both at the same price as the A500 unit.

Installation is straightforward. After connecting the interface to the Amiga and the drive to the interface, all that remains is to copy the full-sized boot disk and use it to start the system. This loads the hard disk drivers and you routinely acquire all extra file space on the Hardboard. Each user represents a partition on the hard disk, and each partition takes around 20% of system RAM to cover its directory information. This takes a total of 154M which is quite a chunk on a half meg machine. Some software won't have room in the restricted environment, so it's probably best to think of upgrading to 1 Mb before adding a Supra drive.

Alternatively, you could reformat the drive with three partitions, using the formatting software provided. Don't forget to back up the software that is installed on the hard disk though, or you'll lose it. The software

includes the Clamav program which acts as a boot and for the OS. A good program as it, seen right, the software would normally set you back \$35 or so.

The manual is well written, and includes details of all the ways you can seriously damage your Amiga by using a hard drive. This document is actually quite daunting and includes the advice never switch off your Amiga (before switching off the Supra drive or it could cause damage to the IBM bus) if this is, true, is rather worrying, as close down procedures are very difficult to maintain in a home environment. We suspect it's fears covering themselves against the stringent US consumer legislation.

In use the drive performed well, making an enhanced single-drive machine into a much more usable one. Files are automatically installed so that the operating system can find all the everyday utilities you normally have to reinsert your Hardboard disk for disk access is about three times as quick under the current 1.2 drivers, and Supra report a further increase of between five and eight times under the new 1.3 drivers.

The only remaining point is the price, which is high by hard drive standards. Even allowing for the extra software required for the Amiga and the high build-quality of the Supra unit, \$750 is a lot to pay for a hard drive. Still, when you're in a field of one, Hobson's product must look good.

Wigan WMS 000 (02957 426464)

The big advantage of the Third Coast Technologies drive is its price. For roughly £150 less than equivalent drives from other suppliers, this one comes complete with IBM interface cable, DMA to hard disk interface, switch mode power supply, loading fan, and the legend hard drive case you ever did see! The case measures 10mm x 71.5mm x 12mm and the drive fascia itself is cut at the bottom of the front panel. Third Coast have tried to make an advantage of this by showing how easy it is to add a second drive within the same case. The review unit had no DMA cut so that it is for adding other internal devices like a laser printer, but Third Coast assured us that the production versions now supplied do have one fit.

The manual consists of an A4 single-page-extended index. This covers setup of the drive, installing the sub-load option which dispenses with the need for a boot disk, and other useful bits and pieces, including brief instructions on adding a second drive to the one you've just bought - perhaps a bit of amateur thinking. What it doesn't include is any details of the Public Domain software supplied in the 0.4 partition of the disk.

The drive comes preformatted with three 10 Mb partitions, and are already loaded with a lot of useful PD software. Also supplied is a hard disk which automatically reloads the hard drives on extra boots and gives you access to the disk immediately. The PD software includes formatting, partitioning and very basic backup software, as well as a compressor, the Kermit communications program, MouseTrap (as per Format cover disk 4) and a hard parking utility which also hangs the system. The early PD version of 1st Word is also included.

In use the drive was fast and efficient and applied without problems on the ST. The subload utility also worked, but necessitated a reformat of the drive. It would have been nice to have seen some documentation for the PD programs, other than the CCC file, supplied on the disk, which were

A DRIVE WITHIN A DRIVE

With a large capacity hard drive (20 Mb or more) it becomes awfully handy to have hundreds of files and folders on the same physical drive, however expensive you are in arranging the hierarchy of folders. To overcome this difficulty, most formatting programs let you subdivide the drive by creating two or more partitions on it. A partition is a logical division which gives you two, three or more logical drives all on the same physical drive surface.

What's a logical drive? It's what DOS can refer to as drive C, D, E, etc., or what Windows sees as disk, disk or above. Although they're all on the same drive, you can consider each one as a separate device and can copy between them or perform any of the other functions which make life on a multi-drive system so much easier.

You might, for instance, like to reserve the C: or D: drive for word processing, E: or disk for utilities and F: or disk for graphics. Assuming you have the software to create as many partitions as you want, you can assign many drives to the Amiga and probably up to 26 to the ST.

Supra Drive 30 Mb	
features-a	3.0
speed	4.0
ease of use	3.5
software	4.0
format value	3.0

Third Coast

3495 ■ any Atari ST ■

Third Coast Technologies,
Unit 8, Bradley Hall
Trading Estate, Standish.



in a number of different text formats. While appreciating that the software bundled is subject to change, it's a pain to have to reformat the text files for printing, and to get a paper copy of the documentation.

The drive was also a good deal noisier than the Atari unit, partly due to the voluminous case which acts as a resonator, and partly due to the drive motor and cooling fan, which generates the resonations in the first place.

Overall, an excellent product, a shame the case couldn't be a bit more in keeping with the rest of an Atari system. But as a budget product it has to come recommended.

Third Coast 30	
features	3.5
speed	4.0
ease of use	3.0
software	4.0
format value	4.0

ACCESS

Inside the case the first thing you notice is that the whole kit and caboodle is crammed with a thin sheet metal screen. A hinged metal cage connected to earth covers the main circuit board, drive, interface and power supply. This is to comply with BS radio emission regulations and because the case of the drive is plastic, rather than metal. Removing the screen reveals a 5.25" drive sitting in the front left corner of the box. The Third Coast uses a 3.5" drive, with interface circuitry behind it and a switch inside power needs trouble seems to use transformers any more! Shouted above the drive board is the rear. The whole assembly is neat and professional, though there's still quite a bit of rattle-free inside the case.

When run up, the drive is fast and quiet. Although a cooling fan is provided within the case, it's a good deal less noisy than the Third Coast unit. The drive itself is only about half as fast as the Third Coast drive, though

TABLE OF DISK SPEEDS

ATARI	440
510 to 520	110
600 to 620	114
Super Drive to Super Drive	32
ST	
8 to 8	120
8 to 8	113
8 to Third Coast	41
Third Coast to 8	50
Third Coast to Third Coast	12
8 to Megaflo 30	56
Megaflo 30 to 8	90
Megaflo 30 to Megaflo 30	28

These speeds were measured by copying a typical set of 21 files, totaling 368k, from one sub-directory to another on the various drives listed.

ALL FORMAT

The Third Coast and Atari drives are ALL formatted 800, which stands for Record Length Control in a special formatting technique which provides 800, means more than a drive format with the other Modified Frequency Modulation (MFM) format. Because you off write in and set where you can get an ALL formatter in reformatted your own drive, you need a high quality drive and special hard disk controller to support this format. For the technically minded, ALL increases the number of sectors per track from 17 to 26.



Megaflo 30
£209 ■ Atari UK ■ Atari House, Railway Terrace, Slough, Berkshire SL2 9BE (0753 33144)

This is Atari's latest drive for the ST. Although styled to match the Mega ST series, it's completely compatible with the 520s and 540s as well. The drive comes with an interface cable, a disk of formatting and installation software and a printed manual. The disk comes pre-formatted with three 10 MB partitions and can be installed to boot from floppy disk or to auto-boot from the hard drive itself. There is no software on the disk for backing up the hard drive, though the formatter comes with re-partitioning the drive and will also check the drive for bad

and a dramatic improvement on floppies. The partitions are labelled C, D and E on the Desktop and can be treated as three separate drives for all purposes.

The Megaflo 30 works well, but it's noisy and slower than the Third Coast unit. It could also do with some basic utility software, such as a back-up routine. You have to weigh the disadvantages against saving considerable time and the like name.

Megaflo 30	
features	3.0
speed	3.5
ease of use	4.0
software	3.0
format value	3.0

HARD TIMES

A hard disk is, in fact, several disks off spinning on a common shaft. They spin much more quickly than a disk in a floppy drive and each disk has a separate head (sometimes two, if they are used on both sides). The whole mechanism is contained in a journal vacuum to stop any particles of dust getting between the heads and the disk.

This extra protection is needed because the heads don't actually touch the disks once the unit is up to speed, but ride over its surface on a very thin layer of air. This is why hard disks are generally more fragile than floppy disks, and why it's important to 'park' the heads (move them off away from the disk surfaces) when the drive is transported.

If you form floppy and hard disks using the same operation, as we have in this review, you'll find that the hard disk can generally read and write data between 0 and 10 times quicker than a floppy. The smaller hard disks have a capacity of around 10 MB (about 32 double-sided floppy disks) and rise to several hundred megabytes, though these giants are normally only used in business, where their costs can be justified.

FLAIR PAINT



REVIEW

Tablets, cuckoos, pot and shearing! No, it's got nothing to do with a veterinary surgery or illegal hallucinatory substances. These are just some of the phrases and features found in the long-awaited paint package from AMS. RICHARD MONTEIRO checks the plot.

£24.99 ■ All STs (1MB recommended), Amiga version possible ■
AMS/Logitech 166-170
Widenspool Causeway,
Warrington, WA4 6QA
(0925-415501)

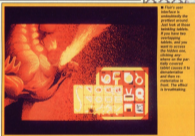
Like most AMI products, Flair Paint has had a tough job making it into the real world. First there was the amalgamation with Logitech which resulted in the original name: Franco Paint being dropped. Then there was the possibility that the product might not be released, and of course bugs, manual changes and packing all played their part. After more than six months of edge-of-the-seat suspense, Flair Paint has finally made it. Best assured, the wait was worth it.

Flair Paint continues AMS's passion for creating graphic/GTP based: it is a typical art package with low and high resolution editing facilities. But it also provides GEM 386 file editing (Flair HighPaint), true WYSIWYG, real-time resolution of most functions, easy-to-use, better-advanced operators of the clip is fixed. And that's just for starters!

If you start Flair Paint without altering the defaults, the Epson FX printer driver and corresponding canvas (Mac and so on). The drawing area is initially set according to the preset.

Unflair advantage

The instant you start the program you see the Flair tablet for windows containing 32 icons. Clicking on a icon generally results in another tablet appearing. Like normal GEM windows, tablets can be dragged anywhere on the screen and overlapped without loss of data. Unlike GEM windows, tablets move in real-time. This means



Flair's user interface is undoubtedly the prettiest around. Just look at those beautiful tablets. If you have two overlapping tablets, and you want to access the tablet on, clicking anywhere on the partially covered tablet causes it to de-activate and then re-activate in front. The effect is breathtaking.

the whole window moves with the mouse pointer, not just to outline. It is possible to set up the tablets to pop or zoom onto the screen. The tabs,

materialize and vanish effects are truly wonderful, but are purely cosmetic.

The first icon is the main tablet.

BRUSHES AND PATTERNS

A number of different brush shapes are selectable from the Paint tablet. Flair comes with many different colours and patterns that can be used by the brushes. If you want to design your own brushes or create new patterns, select the paint tablet and click on the brush display. A Brush Editing tablet appears.

A grid measuring 16 by 24 pixels pops up, showing the brush in current use. You can flick through the various brush styles until you see one you want to have. In addition to plotting and updating points, you can slide, flip, rotate and stretch the whole brush.

Clicking on the pattern colour in the Paints tablet gets you into the Pattern Creating tablet. Flair Paint has 26 patterns with provision for making another 24 more. Patterns can consist of 18 colours, 5000, flip and rotate effects are possible. An area of the screen can also be grabbed and used as a pattern.





(sequence of four shots to go/ten)

SMART KEYS

Pressing certain keys will allow you to toggle between different types of characters.

Display character pointer
Shift keys, magnifying
glass and so on
Display current pointer
to attributes.

Change pointer
to be able
to move
to other
characters.
Under
the
arrow
key
is a
key
for
the
arrow
key.

REMOVABLE ACCESSORY

The IBM Diskette Accessory is a removable accessory that allows you to use the Diskette Accessory with the IBM Diskette Accessory. The Diskette Accessory is a removable accessory that allows you to use the Diskette Accessory with the IBM Diskette Accessory.

provides you with numerous utilities including a disk formatter with facilities for full and extended formats, customised control panels, calendar, real to GMT, analogue and digital clock display, notepad and print. An alarm feature can be set from the control panel to produce an animated cuckoo clock complete with sound effects. It's brilliant. The cartoon only appears on machines with one megabyte or more.

The Disk Label lets you load or save a canvas, a screen output (position of a command, patterns, brushes and so on). The formats supported include Flair illustrations of which can be up to 20 characters long, may include spaces, and may be a mixture of upper and lower case, BG, Ggags, Picochrome and Art Director. One omission is the ability to read Amiga DTP graphics.

Artistic Flair

IBM files are supported in the IBM picture format - especially now Flair have launched the MIPromoting HyperPaint. The IBM format allows you to have objects larger or smaller than the standard screen, but has only been half-heartedly accepted by DTP packages on the ST (Free Street and Timesworks, for instance). HyperPaint and Flair combined might carry enough weight to make other software houses use IBM. That isn't a bad thing - the formats most standardising. Look how well the RT standard works on the Amiga.

Flair Paint can load and use GDDO fonts, but can't edit or save them. Its interesting feature is the ability to tag a short note to saved data files, for extra information.

The Text tabler lets you manipu-



■ A tap is the life of a Mouse curve: straight line first.

■ Adding the first tick...

■ Near the second.

■ A bit more twisting and it's done.

late text on screen. All you need do is select the style - thick, light, italic, underline, outline or any combination thereof - size from 6 to 20 pixels high and type whatever you want.

You can move text anywhere you like on the canvas - it's only fixed when you click the left mouse button; similarly you can alter the spacing between lines and rotate the text in either direction, through 360 degrees.

The Cut, Edit and Paste items let you move and delete bits of canvas. There's nothing innovative in this department except for the amazing speed at which you can shift great chunks of graphics data, and the fact that you can edit colours before they are posted elsewhere. Only rectangular areas can be cut, which is limiting.

The Palette tabler is arguably the most important of the lot. Here you can select and mix colours, pick out



■ You can magnify any part of the canvas. 12 levels of magnification are possible, the grid is optional.

FLAIR PAINT AS AN ACCESSORY

The implications of buying Flair as a Desktop accessory may not occur at first. Consider this: you have to purchase complete systems with a DTP package. The DTP is a line and you need to do anything long - a paragraph, for short, polygon or any intricate design. You simply can't do it. Or, worse, you could ask those your DTP software, load up an art package that can save with IBM format and draw your picture. Then back you go to the DTP package to import the graphics.

Buying Flair Paint boots - even in Flair Paint waiting to purchase accessory format - is a good idea whether you want a RAM disk or printer speaker. If you've got the memory, it's wise to go for a RAM disk of 200K or so. Once Flair is sitting comfortably in the Desk menu, you can load your DTP software (Free Street Publisher or Timesworks DTP) say.

Create your page as normal and simply select Flair when you need graphics images. As Flair can work in high resolution and save files in IBM format, you're laughing. IBM disk operation speed things even more.



■ Designing a logo in Flair for use in Free Street Publisher.



bars and adjust line thickness and style, although there is a palette of 512 colours, only 16 can be displayed at once in line resolution – a limitation of GEM. One very useful function allows you to select two colours and have the computer fill in a range of tones between them on the palette, ideal for atmospheric shading. A Pick option lets you choose a colour from the screen. This can be useful if you're not sure which shade you used previously.

With Plan Plan, you're not restricted to a canvas the size of your monitor screen. You can have one any size, from 32 to 1999 pixels square. You need a lot of memory for very large canvases: around 12 Mb for the largest possible canvas. The 37 can only address 48Kb.

Flair map

The newpoint tablet lets you define the position and size of the window on the canvas. You can elect to work on the whole canvas or just a small part of it. To display the whole canvas on screen, it has to be considerably reduced – by around a third of its size. Reducing it by the amount shown, but one pixel on the screen represents three dots on the canvas in each direction. To every pixel modified on the screen would alter one dot on the canvas (2 by 2 when 10).

A Grid Lock tablet lets you create grids of vertical and horizontal lines over the screen or canvas. It's used for ensuring accurate drawing and plotting.

Excellent effects can be produced using items from the Flaire tablet. Images can be made bigger, smaller, bigger, taller, bigger back to front, flipped top to bottom and skewed. The effects take place non-destructively – faster than on any other 37 art package. If you've got a better filter than the effects are being given.

Show some Flair

The Magnify tablet allows virtually the control over creating and editing of drawings. The upper part of the tablet shows an enlarged display of the screen contents centred around the mouse pointer. Over the display is a grid in which each square represents one pixel. The grid may be removed. Twelve levels of magnifica-

tion are possible. Unfortunately, it isn't possible to use any editing features other than changing colours and simple pixel plotting.

Though lines, with or without arrowheads, standard lines, connected lines, arcs, flower curves, rectangles, rounded rectangles, circles, ellipses and polygons are just a few of the things possible from the Shapes and Lines tablet.

Really beautiful Bezier curves can be created easily and quickly. Bezier curves are created mathematically – you don't do any of the work, that's left to Plan. All you have to do is move any of four points along the line to change its shape.

The Fill tablet lets you fill areas of the screen with new colours and patterns. Flood fills with a continuous area of colour while Edge fills an area

potential, particularly when used with DTP packages. Having powerful features for copying, clearing, magnifying and so on makes Flair the ideal choice for DTP users wishing to dress up their pages and artists who may I would painting families, responsive control and a easy find tool.

It will take time to learn to use Plan to the full as, along with mouse movements and mouse clicks, a plethora of key presses are required to get at extra features. Most are logical or use Function-key presses. Don't worry, it would have been nice to have a Function-key strip included in the package. Still, the packaging and manual are first class, and do justice to the software. It's a shame. Fly about the price but though it was going to be £279.95 when we first heard of it.



with a boundary selected by you is reached. Flood works in two ways: either by filling pixels directly touching each other or by filling all pixels, including diagonally touching pixels. One lets you select various colours on the screen and change them all with one click. Under users some parts of your design and recolors the rest.

Flair comment

What a package! The canvas about the long used when the end result is the specialist. The speed at which some functions work is astonishing, far faster than any other 37 art package.

Plan can be used as a desk accessory. This has tremendous

for

- Attractive front-end
- Runs as a desk accessory too
- Very fast on complex operations like rotate
- B&B, GEMs, Macintosh and Art Director formats supported

against

- Only rectangular areas can be cut and pasted
- Memory is tight on a 386



GORDON COUPLE

After years of reviewing Plan, the Gordon Couple (John and Jennifer) were asked to give their final verdict. Gordon says: "I've used Plan for a long time and I'm a big fan of it. It's a great package and I'd recommend it to anyone who's looking for a good DTP package." Jennifer says: "I've used Plan for a long time and I'm a big fan of it. It's a great package and I'd recommend it to anyone who's looking for a good DTP package."

Plan is available from Plan Systems, 10000 Wilshire Blvd, Los Angeles, CA 90024. Tel: 011 818 750 1000.

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COMPOSE YOURSELF

CHRIS JENKINS leaves his synthesizers and drum machines to gather dust, and tries his hand at creating music on the sound chips of the ST and Amiga.

Not though it is to have a stack of MIDI equipment which makes your bedroom into an Houston Music Control, it's not necessary to use any external devices to make music on your computer. There are plenty of music software packages which require nothing but an ear for a tune, and a lot of patience.

You're limited, of course, to the sounds which your computer can make on-board. In the case of the ST, where the designers included the sound chip largely for its useful I/O functions rather than for its sonic

wonderfulness, you're a bit limited. The ST's procession to non-MIDI musicians is a standard (and pretty dreadful) Texas Instruments sound chip similar to that found in the 1.25Mhz Sinclair Spectrum and Amstrad CPC, which is inferior to that of the Commodore 64. Still, it's possible to teach out a decent tune on it, given the right software.

The Amiga, though, is a different matter of note altogether. The Amiga features Paula, a custom sound chip which can be used both to synthesise electronic sounds and to replay digital samples of real sounds.

play. You can deactivate this feature if you prefer, but it's very useful if you are trying to learn to follow a score.

Creating music couldn't be simpler: either click on a note length or read from the note palette, select a voice number from the scan box, and place the note on the staff. Alternatively click on the note you want on the graphical keyboard. You'll hear your note playing, and its pitch will appear elsewhere.

Notes can be deleted or modified (bowed sharp or flat, tied, made into triplets and so on), and a clever magnifying glass feature lets you display all the data relevant to a single note—pitch, length, voice and so on.

The NoteFlow Editor allows you to make up your own instrument sounds. Here you can select the voice you want to edit, give it a new name, choose whether to have tone or noise in the sound, add vibrato, and alter the eight-stage volume envelope. You can save the resulting sounds as part of your composition.

MCS compositions can be played back separately as a free-standing program, by using the disk accessibly using player, or with a Musical Instruments accessory program.

Although MCS requires some musical knowledge and has limited sound editing facilities, it is easy to use, flexible and good fun.

features	4.5
performance	4.5
ease of use	4.5
manuals	3.5
format value	4.5



ENTRY LEVEL

Let's assume that all you want to do is to use your computer's internal sound chip to create simple pieces of music; you might want to learn to read and write music, you might be developing jingles for a game you're writing, or you may simply get some kind of pleasure back from making your Amiga play 1 1/2 Grand for 50 Calky.

What software should you look for? Entry-level packages for both machines are offered by Electronic Arts: Music Construction Set for the ST and Instant Music for the Amiga.

MUSIC CONSTRUCTION SET

£24.95 ■ All STs ■
Electronic Arts, Langley
Business Centre, 11,409
Station Rd, Langley, Nr
Slough, Berks (0753
46442)

Although pitched as an entry-level package, MCS has some sophisticated features often not found in packages costing three times more — for instance, it uses conventional music notation and can print out scores.

The staff scrolls and notes become highlighted as the music



■ Music Construction Set on the ST. Compositions play over the built-in SP voices, and can consist of 16 instruments of your choice. A range of instruments are provided — from piano to sax — but you can easily create others.



INSTANT MUSIC

£24.95 ■ All Amigas ■
Electronic Arts, Langley
Business Centre, 11/49
Station Rd, Langley, Nr
Slough, Berks (0753
49442)

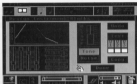
EA's embryonic package for the Amiga is more advanced than MIDI, but still easy to use.

Instant Music uses a graphical display to represent notes - easy to pick up, but doesn't have the flexibility of conventional musical notation. Rather than a stave display, there are a series of coloured blocks representing the notes for each instrument. Each instrument box has its own fade and display, volume, and transpose buttons.

Tempo is set by a scroll bar at the top left of the screen, while tuning, for some odd reasons, is set from the Draw menu (more of that later). Composition is achieved by selecting an instrument and placing a block on the grid. Pitch is determined by the block's vertical placement and stretching by the size of the block. A chord of up to three notes can be placed on the grid in one operation.

Instant Music's graphic notation system is certainly great if you can't cope with traditional musical notation, but it's hopeless if you're a music student.

One clever function is the ability to play music in real time. You simply click on the appropriate button and



■ **IT Music Studio** lets you place coloured graphic notes on three notes on staves. The idea being that both novice and old hand can join in the fun.

the computer plays as you move the mouse around the screen. By selecting one of the preset 'pitch guides', you can make sure that what you play is always in tune with the other tracks - making you sound like a brilliant musician.

There's a full selection of cut, copy and paste facilities hidden away in the Edit menu, and QuickDraw allows you to instantly fill whole blocks with notes - determined by the current Pitch Guide.

Instant Music falls between two stools. On the one hand it's easy to use, capable of reproducing starting sounds and **BE** file compatible, but sadly it has a non-standard composition format and no editing facilities.

features	4.0
performance	4.0
ease of use	4.5
manuals	3.0
format value	4.0

MID-RANGE

■
If you want a package which features both conventional notation and graphical composition with sound editing and score printing, take a look at Activision's **Music Studio**. Available for both the ST and Amiga, the composition features are almost identical for the two versions, though of course the sound editing aspects are entirely different.

ST MUSIC STUDIO

£24.99 ■ All STs ■
Activision, Blake House,
Manor Farm Rd, Reading,
Berks, RG2 0JN (0734
311666)

Composing takes place in a similar environment to **EA's MIDI**, a conventional musical stave, and option cards located at the top and bottom. They can page up to 8800 notes - in 15

different-coloured batches of notes on the stave, each representing a different instrument. You'll only be able to actually hear the sounds represented by the last three colours (that is the **Amiga** unless you get into MIDI).

You can scroll through the music a note or a bar at a time, and create your own notes by placing notes, rests, slurs, flats, fermatas and other symbols on the stave. You can change key or time signature from the menu, in which case the notes will retranslate themselves. Up to three versions of layers may be added to your song.

If you prefer, you can use the **Music Painter** which allows you to compose in coloured blocks. There are five note lengths available, and you can translate the Painter compositions into conventional notation.

The Instrument Design page allows you to define the envelope, octave and waveform components of sounds. The results can be saved either individually, or as part of a complete composition.

There's nothing glaringly wrong with the **Music Studio**. It offers virtually everything you could want: conventional or graphic composition, definable sounds and live printing.

features	5.0
performance	4.0
ease of use	3.0
manuals	4.0
format value	4.0

TOP OF THE RANGE

■
Probably the best top-of-the-range non-MIDI music packages for the Amiga is **EA's Deluxe Music Composer** (not EA's much more sophisticated program than MIDI) for the ST, despite sharing some of the more obvious features. It's an obvious move up from **Instant Music**, because it can load **BE** files and print them out as complete scores.

GIFT FOR KICKS

Electric Software (094 64744) distribute **GST** for the ST. Based on a sound development program, it lets you create sound effects by manipulating envelope and volume waves directly on screen. Composing isn't possible. Sound effects can be incorporated into your own programs - and work under interrupt - but don't stick to the **ST 500MB** standard format. **GST** runs in one proprietary interrupt which are claimed to be faster and more powerful than the **OS 2.0** interrupt. Price is £24.95.

AMIGA MUSIC STUDIO

£24.99 ■ All Amigas ■ Activision, Blake House,
Manor Farm Rd, Reading, Berks, RG2 0JN (0734
311666)

The Amiga version is almost the same as the ST version, except in the instrument design page. After selecting one of the fifteen preset instruments, you use a mouse one of 33 preset envelope shapes for each of the seven harmonics making up the sound. You can balance the volume of the harmonics to determine the overall sound, and adjust the overall envelope time up to three seconds. You can switch sustain on or off, and attack or release in the desired depth, and assign each sound to the left or right stereo output. Unfortunately the sound file isn't compatible with other programs that is, it doesn't support **BE**, so you're stuck with whatever you can create with **Music Studio**.

Screen 1 of 4



■ **Instant Music (Amiga)** uses graphics to represent notes on screen. Easy for the beginner, but not so easy for the competent musician. So is built 'artificial intelligence' lets you compose music that's always in the right rhythm.



Some of the things possible with Deluxe Music Construction for songs created with Deluxe Music can be loaded and then printed out. Compositions can be exported for use with Deluxe Video, instruments and songs from Deluxe Library can be played.

DELUXE MCS

\$69.95 ■ All Amigas ■
Electronic Arts, Langley
Business Centre, 11/49
Station Rd, Langley, Bc
Slough, Barks (0775)
49442

The main display shows the fly-over familiar music clips. To the left is the Piano palette including standard note lengths plus dotted, triplet and quarter-note notes, and at the bottom a piano keyboard which you can play with the mouse.

DMC's "user editor" menu allows you to configure the music store in any way you want, showing sliders and buttons you can choose the

number of bars per line, beats per minute, notes width, overall volume, and number and type of sliders, treble, bass, reverb, or also. You can have up to eight staves, though you'll still be limited to the length for simultaneous voices unless you start MIDIing. The digital instrument sounds are very convincing and flexible, and the file format used means that you can add new sounds from many Mac-compatible programs.

Time signatures are variable from conventional 4/4 or 12/16 to unorthodox signatures such as 5/4.

The key responder box lets you set an overall key for the piece, or force a change of key for specific measures. The editing functions

include useful flexible and Half Time options which change the length of notes you have already placed. Of course there's a whole range of editing functions - if you need more time in a measure, you can even click and drag the bar lines.

The groups menu contains options which let you raise or lower the volume of any measure. A hot position tool in the Auto Piano menu lets you enter lyrics. When printing out your scores and lyrics, you can even select different fonts. It's also possible to insert text-loaded notation into your staves if you intend to play it on guitar.

DMC's scores are saved with a 99-08025 extension. This contains all the scoring and sound information, so when you reload, all the instruments required for the score are loaded at the same time. If you want to alter things later, you can load a single instrument from disk and place it in the required voice position.

DMC suffers in that it has no sound synthesis capabilities. You may find yourself having to use another software package for hardware sampling systems to supplement its sound library. However, it has excellent compositional tools and musical facilities.

features	5.0
performance	8.0
ease of use	4.0
manuals	4.0
format value	4.0

COMING SOON

Sound FX for the Amiga from the Future Force (05-095-0300). An easy to use sequencing package that follows on from the public domain version of Sound Structure. Basic sequences, of which there are four jobs for each Amiga model, can have 60 steps. The interval between sounds can be used, only standard 99 samples. How complex format might be supported (as that's what Structure uses), but as the package is still under development anything could happen. No price or launch date yet, but keep watching Future.

THE SINUS CONNECTION

Back in 1989 Electronic Arts and Chromatics changed heads to divide up a workload the format for virtually all types of data. EA, being left to do the development, eventually came up with 99 (Interchangeable File format). Although there is an EA 99 format, it didn't occur then, it hasn't widely accepted. Instead Apple (MacOS) 99 (Simple Music Store), is recognized as the standard.

FAMILY VIEWING

For one reason or another all the other music-composing packages detailed in these pages have been categorized into groups, ranging from beginner to advanced user, but product which fits into all these categories is Aegis Books for the Amiga (distributed in this country by HBI, but only in it itself for the English, but it also comes packed with features to satisfy the most advanced musician. Here's what it offers...

AEGIS SONIX

\$57.50 ■ All Amigas ■ Aegis/HB Marketing,
Brooklyn House, 22 The Green, West Drayton,
Middle, UB7 7PQ (0895 444433)

Originally called Musicsoft before its overhaul, Sonix contains an on-screen waveform editor, a built-in envelope generator, low frequency oscillators and filters, composing facilities, MIDI-device handling and more.

Sonix lets you create, modify and edit any type of synthetic sound that is, machine made or digitally sampled sound. The edits can be played back using the Amiga keyboard, external MIDI-keyboard this is available only in the States and plugs into the parallel port or an external MIDI instrument.

With the waveform editor, you can create custom synthesized sounds and save the results to disk. The sound can be used as an instrument in a composition, or first any sampled sound saved in 99 format can be used. Visually, depth and vibrato delay of a sample can be altered. Because Sonix uses the 99-08025 format, it is completely compatible with Deluxe Music Construction Inc. (Soundstage and Music Studio). You can create any type of score using the built-in note editor and save it as an 99 file. The file can then be loaded into, via, Deluxe Music to have lyrics added.

Sonix allows both the skilled musician and the beginner to create any type of music. There are plenty of features to help the pretty casual hobby, while the excellent book - which covers music, structure and theory as well as program operation - will get the amateur on the road to creating complex compositions.



Aegis Books for the Amiga. The manual has many chapters devoted to music theory, yet the software comes through simple to learn our any non-pianist musician.

features	4.0
performance	4.0
ease of use	4.0
manuals	5.0
format value	4.0

DISK EXTRA

ST Amiga Format's unique dual format disk gives you the best of both ST and Amiga worlds! **JASON HOLBORN** guides you through the month's finest.



DISK



ST

40 FLYING SHARK

Search at 12 a'clock. Bigger, faster, blasting, better. CD-ROM conversion makes it into the ST, and we're proud to present nothing less than the entire first level for your collection. Now go out and look them back!



41 H2TEL

Over hills, those words! And for you, a full featured high resolution path package that knocks pants off similar commercial offerings. Who needs hundreds of colours when H2Tel makes creating stunning black and white pictures so easy?

44 PDEL

A brilliant little utility to change

the standard GEM file requester to give you more power. Now you can get disk directories, file sizes and loads more info than within any program.

45 ELITE CHEAT

Never again will you get sand kicked in your face by some coltish space pirate. This hack lets you customize your Cobra space fighter into the steadiest craft this side of StarSpace II!

AMIGA

40 COSMORIDE

It's blast from the past time once again, back to the early days of computer entertainment as you dodge and shoot space rocks and aliens in this faithful Asteroids clone.



41 MCAD

Release your Amiga's potential in a powerful CAD toolcomputer-aided design workstation. Design anything from a capstan to a copier and view your creation at any angle.



42 AMIGA SPELL

Remove those embarrassing spelling mistakes with the excellent spell checker. Any file that conforms to the ASCII standard can be given a good check up.

43 ICORNER

Most disks are full of files that can't be run or even seen from Workbench. Unless you venture into the depths of the OS, you might never know that these files exist. ICorner will automatically tag them to all folders' files.

45 ZONING

Format loves fun and frolic. And this program is more frolic than most. No stars as to what it is, but you can bet it's not a C compiler. Zoooooing!



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Turn to the end of this section for more details on how to get your software onto the Format cover disk.

THE FULL VERSION

Flying Shark for the ST costs £24.95, and is published by AmigaSoft and available to buy in the shops on the Riverbank. It is not for the Amiga should follow in due course.

SHAREWARE

The Amiga program Shareware is the first shareware product we have seen on our native disk. Shareware is simple (Shareware is a misnomer - you can share any and all software programs but it, after your asking to buy, you feel it is worth their way and credit to the author). It will often send you back a form to be filled in, and printed distribution.

Please send the Shareware documentation for details of the author's address. The files on the Disk are not for the whole price you do the desired thing and send the money to the author. If you find the program useful through



ST

First, copy and load the disk as described at the end of the Disk Extra section.

FLYING SHARK

The complete first level of Firebird's newest winner

All Colour STs - joystick needed
Features: AUTO
Files: SHD.0, SHC.1, HSC.2, HSC.3, LEVEL1.MAP, MOB, MULE.BAN, SPRITES.CRG, WHEEL.STRIPES

Drop-A-Apple-Agg-Agg... Bonfire coming out of the sun, Red Leader! Go back to those good old terrac



AMIGA

First, copy and load the disk as described at the end of the Disk Extra section. These programs run on all three Amiga models. We have been unable

to test them on the early version of the Amiga 1000.

COSMO

Shareware - see margin note
All Amigas. Joystick or key-board control.
Files: COSMO, COSMO-DEC

It's classic games time again on the cover disk this month. We've already had versions of both Space Invaders and Pac-Man on past cover disks, so you can add to your list with a ver-

sion of the all time classic Asteroids. Several versions of Asteroids can be found within the Public Domain libraries but we at Format, voting to bring you nothing but the best, have found what must be one of the most impressive versions available.

The god behind the game has been laid over the years in the depths of space but the aim is clear. Your task is to clear a path through an asteroid field while avoiding the splatters of rock that erupt from exploding boulders. A more hefty of a task for most the most experienced of space pilots, but on this occasion your actions do not go unnoticed. Hidden within the countless rocks for a hour is also a race that does not take too kindly to anyone obstructing their funnies. The aliens then everything they have at you (batches sink and all) in an attempt to stop the destruction of the horrible asteroid field they call home.

If you have a joystick, Ok! It is and get going. Otherwise you'll find that [L] rotates you left, [R] rotates you right and the full stop key lets an asteroid blast it right between the eyes. If destruction is inevitable at



noisy days of battles and tracer bullets, burning ammo dumps, tanks and rotary depots in kingdom come.

Fireball has taken up the challenge of converting Tait's colorful smash for the ST, and it looks pretty exciting. You're the pilot of the hot rotary flying Shark, and it's your mission to dispatch squadrons of enemy fighters as you battle through behind the lines to reach hanoi.

You don't need much briefing before your mission starts - if it moves, shoot it. You've got the extra fuel level to go through, complete with three bars to protect you. Your flight path will take in lakes, jungles, deserts and all manner of hostile terrain.

Using your joystick you can move around the screen blasting away. Squads of man-eating enemy fighters will descend, and the fire button will do for them with a single hit. Exterminate a whole formation and you'll qualify for a bonus or extra weapon.

Below you are ground attack emplacements, like tanks and anti-aircraft batteries, or ships if you're over water. One hit on these will disable them, two hits will set you the points for a kill. When you get near the end of the level you'll see the main enemy base. Tanks pour out to repel you - blow them to the great hereafter in the sky, then keep pumping hot lead into the base and it'll eventually crack open.

As for the anti-airfield guard... well, you'd better find out for yourself. Don't say we didn't warn you though.

Getting going

Things just couldn't be simpler - just reset your ST and put your copy of the cover disk in the drive, and Flying Shark starts automatically. Don't be alarmed by the psychedelic colours that flash on the screen, they're only a side effect of our file compression system.

You can also run Flying Shark from the GEM desktop - click on the PRIME_DISKING file in the AUTO load or, if you want to copy the demo to another disk, make sure you copy all the files named at the start of the description.

HISTORY

By M. Langley
Author: ST's Only
Publisher: HOBBIEST
**Files: HISTART.PRG, ICCH-
 BAR.DAT, HISTART.DOC**

While the ST's high resolution screen may not be the ideal medium for a building fan game, displaying only mono images, it does have the advantage of being of a much higher resolution than all ST colour print packages. And as anyone involved in computer graphics will tell you, a higher screen resolution means a higher level of detail.

HISTART (HISTART.PRG) is a feature packed print package for mono STs that includes many of the features you would only expect to find in top-notch art packages. Even if you don't own a mono monitor, HISTART will work fine

COMPRESSION RATIOS

Because of the staggering amount of data crammed on to the ST side of this month's disk, there are a few points worth mentioning.

All PRG files - which are the ones you double-click on to actually do something - have been run through a data compression program to save space. What this means is that when you run any program, the first thing it does is decompress itself so it loads into memory and you will be treated to five seconds or so of hard disk whirring before it starts - just off and well and the program will run normally.

Unfortunately there has been no room for our usual menu program. We thought you'd rather have the space spent on more programs than unproductive menus. Please read the 'How to use this disk' last page of this Disk Drive section carefully, particularly if you aren't used to using GEM.

with the Mono Emulator featured on issue 7's cover disk.

The full list of features offered by HISTART are too numerous to list but among the most notable are drawing lines by raster building, cutting and pasting of blocks, variable font-sizes and a multitude of different fill patterns. In name but in law, a further advantage of HISTART is that all pictures created within the program can be loaded for further work in any high res print package that supports the Degas file format.

To load HISTART, double-click on the HISTART16 file to open it, then double click on the HISTART.PRG file on the Desktop. Further information on the ins-and-outs of HISTART is available in the HISTART folder. To see the documentation, double-click on HISTART.DOC.

MONO EMULATOR

Do you wish to see some more of the Mono Emulator program? To allow ST owners who cannot afford to buy the top high resolution software - if you're only modestly interested in the designs of Hobbiest, you'll be interested to know that you can still buy back issues of your cover price, which means that it is a bargain at £2.95. Write to: ITI Limited, Phoenix House, Milton, Milton Park, Oxford, The Old Man, Oxonshire, Oxonshire MK2 8EP.

with head for you on all sides, the square bar hypergoes you to a random position on the screen, but you die with ease - the hypergoe fields sometimes delay your death.

There is 'Y' or 'N', the (Tab) key gives on the game, and (Esc) quits. You get a bonus file every 15000 points.

When methods of loading Commodore is concerned, you are split for choice if you load your Amiga with the format cover disk, Commodore will automatically start. Commodore can also be executed from the GEM/MSI menu program or by clicking on its own intended shaped icon on the Workbench. Further instructions are available within the Commodore drawer.

MCAD

Public Domain
All Amigas
Files: MCAD, MCAD.DOC, DEMO.CSD

Only just within the last decade or so for the personal computer made a serious impact on industry. But now, with the advent of powerful graphic

based workstations, designers in every aspect of industry are using Computer Aided Design systems for anything from a simple plastic jet fighter to they multi-million pound heli-copter battles. Clearly, a slight computer error there - O.K.

Most computer graphic packages regard what is displayed on the screen as a flat, 2 dimension image made up of pixels. The package only knows what pixels are on and off and what colour they are displayed in. A CAD package is an Object-Oriented program. This means that the image displayed on screen is stored by the computer as a series of objects - eg. rectangle with top left and bottom right points (x1, and y1). When a particular point is changed in some way, any lines joining it to other points are automatically adjusted accordingly. Phew!

MCAD is an excellent example of a Computer Aided Design package that puts at your disposal some very powerful features indeed. The program works on a system of graphic 'primitives' such as lines, boxes, circles, etc., and these primitives are used to build your final image. As with

most things CAD, experimentation is the key.

You can use MCAD by either loading it directly from the Workbench by clicking on its icon, or alternatively it can be loaded from our cover disk menu. MCAD tends to use a rather large amount of memory therefore on an AM500 you would be best advised to run it from the Workbench once rather than the menu program. To give you an idea of what MCAD is capable of, we've included a demo file on the disk cunningly titled DEMO.CSD. You can load this demo file by selecting 'Load' from the Project menu and then entering DEMO.CSD for the filename. Full instructions (15K of them) are available within the MCAD drawer.

MCAD always uses an inverted





screen for its display. The words look like they're floating in front of you, but can flicker annoyingly on monitors without long-persistence phosphors. You might like to experiment with the 'Moddy Colours' option in the 'Colours' menu to find a combination of foreground and background that suits your eyes.

Unsurprisingly, the words 'though' and 'Thought' will serve as an example. Both have the same last four letters but they are both spoken entirely differently! Surely 'Thaif' and 'Thow' makes a lot more sense! With a language that is riddled with such glaring inconsistencies it's

Although AmigaSpell works fine from an icon file it is advisable to copy the AmigaSpell drawer into a separate blank disk. This is because the dictionary file—which starts off at around 8000 words—will soon grow to a size where it can no longer be held on the cover disk. To copy AmigaSpell, drag the AmigaSpell drawer icon onto the Workbench RAM disk icon. Once all disk access has finished, remove the cover disk and insert your blank, formatted disk. Then open both the RAM disk and your blank disk, then drag the AmigaSpell folder from the RAM disk over into the blank disk window.

Full instructions on the use of AmigaSpell are available within the AmigaSpell drawer.



AMIGA SPELL

Public Domain
All Amigas
Files: AMIGASPELL, AMIGASPELL.DOC

The English language is a funny 'game' whoever originally devised it must have had a warped sense of

humour. Let's examine the evidence: the words 'though' and 'Thought' will serve as an example. Both have the same last four letters but they are both spoken entirely differently! Surely 'Thaif' and 'Thow' makes a lot more sense! With a language that is riddled with such glaring inconsistencies it's

hardly surprising that people make spelling mistakes. If you think that 'Thaif' looks a lot more correct than 'though' as spelled by the rest of the universe then AmigaSpell is for you. As you may have already guessed, let's see how clever! AmigaSpell is a spelling checker program. The program takes a standard ASCII text file and checks the spelling of all words within the file against those contained within its own dictionary (called a 'glossary' within the program, for some strange reason). If it finds a word that it does not recognise it suggests a possible spelling as well as allowing you to correct the word manually. If the word is correctly spelled but AmigaSpell doesn't know about it then you can choose to have the word added to the dictionary for future reference.

ZOING!

Public Domain
All Amigas
Files: ZOING, ZOING.DOC

When was the last time we had a truly silly program on the cover disk? We at Format feel that it's about time we brought a little bit of light-heartedness and pointers for to the cover disk again. Zoing! is a fun little program that is best left for you to discover; it's best not to tell you!

You can find Zoing! either from the cover disk menu program, CLEP.ME, or by clicking on the ZOIING icon on the Workbench. Once the program has loaded, being clicking on the Zoing! window bar and see what happens! For the noshove-minded, full details are available within the Zoing! drawer.

ICONISER

By M. Beasley
All Amigas
Files: ICONISER, DEICONISER, ICONISER.DOC

One of the things that Amiga users soon learned to dread on QDOS-type machines, such as the ST and Plus, after first being annoying is the way icons are handled by the system. On an ST, all files are automatically assigned a standard icon which means that no files are hidden from the user. With the Amiga however, a file only appears on the Workbench if it has an associated icon file.

Creating icons for hidden files is an art that only a privileged few have mastered, but with Iconiser you too can create icons automatically for those mysterious hidden files. Iconiser searches through a disk locating all files that do not already have an icon file. Once a hidden file is found, the program examines the file to find out whether it is a directory, program or a data file and it then proceeds to create an icon of the appropriate type.

To use Iconiser, first copy it to your RAM disk by dragging its icon from the cover disk to the RAM disk icon. Now close the cover disk



window and open it from the drive icon; your system's hidden files disk. To set the effects of Iconiser running, open the RAM disk, click on the Iconiser icon and while holding the Shift key depressed, double click on your hidden

files disk. Iconiser will then start doing its stuff. If you're baffled by that last paragraph then full instructions are available within the Iconiser drawer.



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Any game not released will be sent on the day of release.
These are mail order prices only.
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ST

FSEL

Public Domain
All STs

Files: FSEL.PRG, FSEL.DSK
FSEL is a neat file utility which reads most file systems. File Selector requires less than all OS/2 programs, etc.

Whenever you ask to Open or Save a file, normally a box pops up listing all the filenames on the current

folder. You can change folders or disks, but that's about it.

When FSEL has modified things, you get a new all-singing, all-dancing box. As well as the humble directory listing display, you'll see many new items. You can switch to a new drive just by clicking on the drive letter box — no more clicking on the pathnames line and typing /+/-+/. You can ask for your directory display to be sorted by name, by size or by creation date. You can display a file size of

creation date, and finally you can print the directory out for future reference.

The only compiler with FSEL is getting it to run. You must have it in the AUTO folder of the disk you start your ST up with. This is because it makes a modification to OS/2 at boot time which can't be made later on. Once you've dragged the FSEL.PRG file to your AUTO folder and rebooted, all OS/2 programs will give the new menu. Simplicity itself!

ELITE CHEAT

By M. Hall
All STs
Files: ELTCHEAT.PRG,
DEM0.GEN

Fighting your way through the hierarchy of space traders can be a tough job. There comes a time when no matter how persistent you are and how powerful your beams, those space pirates just keep on coming, and a honest trader will eventually feel the need to resort to more devious means. Elite Cheat is a program written for anyone who has ever had one of those days.

Elite Cheat, as the name suggests, is a cheat program for those of you who are struggling with Frontier's conversion of the 8-bit classic, Elite. The cheat works by modifying a saved game, so you can keep those master disk under-projects freely open. The list of features includes altering your to change your rating, add or remove equipment and reward yourself with over 30 million credits. Surely more than enough for any self-respecting Codes MIB commander.

To use ELTCHEAT.PRG

- Your ST must be set in Medium or High resolution. Then double-click on the ELTCHEAT.PRG icon.
- The first thing to do will be to select the "Load Commander" option from the "File" menu. When the selected commander has been loaded, the other menu options will become active.
- Now select the equipment that you desire from any of the item menus. You will also notice a couple of items that are not commercially available. It is also possible to grant yourself an artificial rank, increase your status, change your status back to class, boost your rating to 4.444, or any other level for that matter.

Once all the desired changes have been made, select the "Save Commander" option from the "File" menu. When you have saved your modified commander file, just load it into Elite in the usual manner, and enjoy the luxury lifestyle of a well-heeled commander.

LAUNCH	QUANTITY	ITEMS	RATION	CREDITS
✓	1	ARMED TURRET BUY		
✓	1	ARM SYSTEM		
✓	1	FUEL SENSOR		
✓	1	ESCAPE POD		
✓	1	ENERGY POD		
✓	1	ENERGY SHIELD		
✓	1	UNARMED TURRET BUY		
✓	1	TACTICAL SUPPORTANCE		
✓	1	RATION RESERVE		
✓	1	ARM JUMPER		
✓	1	ELIMINATION DEVICE		



■ Before running FSEL.



■ The ST's file register after FSEL has done its work.

HAVING TROUBLE WITH THE DISK?

We have done our best to check that the programs supplied on this month's disk are simple to use, error free and have no known viruses. However, our format checker files, please check on using the software, and we do not accept liability for any consequences of using the programs.

If your ST Amiga Format January Disk is faulty — and out of 42,000 duplicated copies are unfortunately found to be — you should send it back for a free replacement to:

ST Amiga Format January Disk,
DisCasy Ltd, 30 Oyleth Close,
Brentford, Northampton NN16 9DT
Return completed if your Amiga
copies to Amiga the disk by using
the DISCASY utility of your
Commander BlackArch disk to ensure
it before sending off for a replacement.
We covered DISCASY
FOR fully on page 84 of Issue 1.
Don't worry if every disk gives you a
"hard error", this is the Amiga
being unable to read the ST software
on the disk.

HOW TO USE THIS DISK

The ST Amiga Format cover disk is a special format disk which both the ST and the Amiga can read. Even if you are a seasoned computer user, please read these instructions carefully or you could permanently damage your copy of it.

The first thing you must do is make a backup copy of the disk. Because of the special format, the normal double-disk copying methods, as recommended in the Amiga and ST manuals, won't work. Instead you will need to format a blank disk and copy the files individually. Don't panic, this isn't at all difficult.

ON THE ST

Inserting a single drive machine

1. Take a blank disk and format it in the usual way.
2. With the blank disk still in the drive, double-click on the A: drive icon to open-up the (blank) contents window.
3. Now drag the icon for drive D: into the open window of disk A. This will copy all the files one by one off the master disk to your new disk. Make sure that the master ST Amiga Format disk is write-protected the whole time should be back so the hole is open and put it in the disk drive when asked for disk B.
4. You will now be prompted at various times to insert disk A and click it while copying takes place. There will be a bit of tapping to do on a single drive ST. Disk B should be the master disk, disk A your newly formatted copy.

If you want to cut down on disk usage, you can use the Format RAM disk program provided on the contents disk as an intermediate step.

ON THE AMIGA

Inserting a single drive AD001

1. Start your Amiga up with your normal/Workbench boot disk.
2. Take a blank disk and initialize it in the usual way.
3. Make sure that the master ST Amiga Format disk is write-protected and put it in the disk drive. Double-click on the disk icon that appears. Drag any icons you see in the contents window onto the RAM disk icon.
4. When the disk activity light has gone out, put your newly formatted copy disk in the drive instead. Double-click on the RAM drive icon to open its window, and drag program icons from that onto the new disk icon. This copies the files and by one.

The programs may not all fit in the RAM drive at once so an AD001 - do whatever you'd like after step 3 - delete them from the RAM disk by

clicking once on each one, holding the right mouse button down, selecting 'delete' from the Workbench menu. Repeat steps 2 and 3 for the rest of the icons.

USING THE PROGRAMS ON THE ST

When you turn the ST on and put your working copy of the disk in the drive, you will see a window opened with the contents of the disk displayed.

This month we haven't had room for our usual friendly menu programs - we've packed the space with scaling software instead. However, using GEM's standard Desktop you should be able to navigate your way around. Every program that you can run has a name ending with .PRG - everything else is a data file or something that programs use indirectly but you don't need to worry about.

To run the Flying Object demo, just press your ST and it will automatically start.

To run any other program, look at the list of the names at the top of its description in this text. Find the .PRG program on the screen and double-click on it. If the title is in a folder (you can tell because a folder name is given in the list as well) then first you should double-click on the folder icon to open it, then find the .PRG file and click from there. If a program doesn't appear on screen, make sure you have checked all the windows, particularly if you have a low resolution display - click on the scroll bars to move around the whole area. If all this GEM talk confuses you, have a quick read of your ST's manual.

Most of the .PRG files have correspondingly named files ending in .DOC. These are the documentation files which give you information about how the program works and what to do with it. Before you run a program, double-click on its .DOC file and click on 'Show' in the requester box that appears - the text will then be displayed on screen.

Please note the special instructions for running TMSL, given in the main body copy.

ON THE AMIGA

Most of the programs on the cover disk are run from the Workbench, which will be loaded first from your normal start-up disk, as described in the Amiga manual. Once at the Workbench, put the ST Amiga Format disk in the drive and double-click on its icon to open it.

You should find on the disk an icon for a program called CLICK_ME. It's exactly what it says, and after a

few seconds our cover disk menu program will have loaded. If you own a single drive Amiga then your machine will prompt you to swap disks a couple of times before the menu is loaded. Just follow the on-screen requests, and everything should load fine.

Most of the programs on the disk can be executed from CLICK_ME by selecting them from the menu and choosing either to view the program's documentation or load the program. If a program fails to load from the menu, this sometimes happens through shortage of memory on some packed systems; you can test it from the Workbench instead, by clicking on its icon.

To load a program from the Workbench, you must first Click open the drawer which contains it. For detailed comments, from the program's either click on the .DOC file icon in the same folder, to run the program click on the main icon.

When you click on a document icon file, a new window is opened and the text is displayed in a scrollable at a time. Press any key to move from one scrollable to the next, or click on the close gadget in the top left-hand corner of the window to cancel the display. The READ ME icon gives you a brief summary of the disk's contents and how to use it.

DISK DOCUMENTATION

Many of the programs on ST Amiga Format disks are Public Domain. In such cases we've simply passed on their standard documentation (has unchanged, as it is required by the PD code of practice). Some of the software is Telemarketing, and we say so please don't blame us for misquoting!

WE WANT TO GIVE YOU MONEY!

If you've got any programs for either ST or Amiga which you think other readers would find useful, interesting or amusing, we'd like to know. We're here to go about securing international fame for you!

1. Only send in programs on ST disks, we cannot accept printed manuals.
2. Make sure your disk is clearly labelled with your name and address and the program name(s), and is marked 'ST' or 'Amiga'.
3. Make sure there's a documentation file on the disk called README.
4. Include a clear (writing) note explaining what the program does, and if you possibly can show who sent in a printout of any on disk documentation files. Remember your address and telephone number. Include a stamped return envelope for the disk if you need a back.
5. This IS IMPORTANT: there must be a signed statement that the program is yours and that you are prepared to assign publication rights to ST Amiga Format, with the following wording:
"The program(s) I write the title listed is/are submitted for publication by ST Amiga Format magazine. It is my own work and has not been submitted for publication elsewhere."
Signed: _____

If we accept your program, we will get in touch with you before publication to agree terms and payment rates. We will estimate an advertisement in a batch once a month, so please allow up to 60 days for return of your disks. We will only send back disks with adequate return postage and packing.

6. If you send us a disk with a virus on it, we reserve the right to send round the heavy metal in the small hours and do compensation things to your pet Copses. Accordingly, please never submit requested files unless programs (or files), do check your disks very carefully.



SCREENPLAY

What a cracking month it's been - after all the hype, both Thunderblade and R-Type burst onto your screen as the Christmas Format Golds. MARK HIGHAM provides the acid-free guide to New Year ST and Amiga entertainment, starting with a preview of the months ahead.

PREVIEWS

PURPLE SATURN DAY

PROGRAMS ■ ST & Amiga
£24.95 ■ Out by January

Once a year, when the stars of Saturn turn purple, the inhabitants of the neighbouring planets come together for the Galactic Symposium, and you are chosen to represent your purple-skinned brethren. Purple Saturn Day incorporates four different games from the RingParadise to a time-jump. In the Brain Blower you must rescue an exploded team by connecting the different colours and revealing the puzzle. Lots of great graphics and sound effects look certain to make this a worthy successor to the infamous Captain Blood.

INCREDIBLE SHRINKING SPHERE

ACTIVISION ■ ST and Amiga
£19.95 ■ Late January

You're played right in the middle of Sargolashades, amidst the notorious sphere-busting spheres where the dead 'ly Sargolashades' fair winds. You haven't heard of it? You haven't lived. Rolly the station to Nicholas has become trapped somewhere in the depths of the Run and you have to rescue him. And what are you armed with to defend yourself - a fool very-

ing in mass and size according to the size that you run over. With a decaying path and enemies appearing all over the place you're guaranteed a hectic game.



▲ JUG

JUG

MICROMEGA ■ ST & Amiga
£19.95 ■ Late January

You are an interactive humanoid composed of Titanium Fluorometal and other organic materials. First built in 2642 AD and nicknamed 'Jug' because of your barrel-headed profile, you can transform into many different shapes, and reform instantly - handy for avoiding unwanted critics.

Within the living core of the Planet Pheos is a deadly virus causing it's brain to malfunction and all the inner sanctums to die as the life force diminishes. You must find and destroy the deadly fungus within the deepest parts of the planet, before it becomes an empty shell drifting in the depths of space and time. At your command is a strange intergalactic language creature, which you pilot through a Minocystic horizontally scrolling planet filled with lots of odd creatures.

SPHERICAL

RANBOW ARTS ■ ST & Amiga
£29.95 ■ February

In the latest alloy/strategy from Rainbow Arts you find yourself endowed with mystical powers as a super-warrior. The aim is to guide your sphere 600 km, not more balls! through more than 100 different levels, overcoming the usual nasties. Some symbols allow you to increase your ability to cast spells.

In no time at all you'll be able to

ALMOST - BUT NOT QUITE

With ST ST and 20 Amiga games, we've spent most of the month looking them all out (who said that life as a games reviewer isn't tough?). We have a hard task giving the few to receive the ultimate accolade, Format Gold.

Lots of very hard work and fast talking assured the first 120 titles review of December, and we thought it fair to look on to titles that we were all the way down the month. Application to visit the offices of British Telecom.

Reporting on us more than a Children's Magazine was US Gold's (ZDF). We reviewed four titles of this month, none of which did anything at all apart from thinking a good title screen and creating. US Gold blamed it on the old Atari ROM's but we still haven't seen a working copy yet. Another US Gold, Jean de Ives was a nice adventure game, but in the end was just squeezed out by the other nice nature this month.

ST Minors appeared too but it's not hard to write about about. With game scrolling, fine colours and reduced playability, it was more worth the wait compared to the superb Amiga version. And it's for the ST might have also a graphics and sound effects likely to have you clapping your hands, but at the end of the day it was one handling and lots of Karate foot kicks.

In the Amiga side, Gold's Conflict was good, but we're waiting for the next Conflict game, it seems to be before reaching a definite opinion. Golden was probably almost as bad as the ST version. Also, this month we saw the arrival of Captain Blood for the Amiga. With great sound effects and lots of sampled speech it was certainly an improvement on the ST version, but was it worth the wait? Probably not. The graphics have changed little and the gameplay remains confused. Turbo Pursuit offered an unusual scenario with the world in ruins because of the Greenhouse effect for Conservatory effect if you live in Germany, but it was still far better as a board game.

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and spells, control teleports and create stepping stones to the next level. Its different sound tracks, lots of hidden rooms and an enormous dragon by the name of Evil all combine to make it a pretty nice piece of magic.

THUNDERBIRDS

GIANT (SIAM ■ ST & Amiga)
\$29.95 ■ February

Thunderbirds are go! Giant Siam has acquired the license to the big entry Gerry Anderson TV series, which is being designed as a four-way scrolling, non-playing graphic adventure. While on a mission to rescue two trapped miners from the bottom of a lit shaft, their craft is flamed by fire—no, not Robin but the infamous arch-enemy of noble causes, Mr. Cannon. He's generated the Thunderbirds' film protection shield and made a mess of the vehicles. To maintain their assignment the Tracy family must retrieve and destroy the shield.

Lots of juicy emergencies ensue, such as rescuing a nuclear sub before it threatens public health. Giant Siam stand to follow this February release with other Thunderbirds movies.



■ They're big and heavy in MINERAL.

WEIRD DREAMS

TELECOMSOFT ■ ST & Amiga
\$24.95 ■ Late January

This startlingly original game promises to be one of Telecomsoft's major releases for the New Year. Lying comatose in a hospital bed you drift helplessly into the shifting landscape of the subconscious. Surges and tides, the real and unreal are all mixed together in a world from which you try to escape. Everyday objects assume grotesque proportions—topi come to life, most teachers become carnivores, hobnob creatures mutate in front of your eyes. Sounds like an episode of Howard's Wap doesn't it? Your mission is to pick your head back on and light your way back to the world of reality.

TIGER ROAD

3D GOLD ■ ST & Amiga
\$19.95 ■ Early January

You play the role of Lee Wong and it's your task to rid the land of the evil

Eye Man. Oh what was that name again? who has taken to robbing your village and generally causing lots of mayhem. With almost hundreds of levels of karate action and a bunch of utterly looking enemies the game looks set to satisfy your average karate fiend. It's supposedly based on an arcade game but the game was one of those which didn't get around too much. Still, the graphics look better.

FUSION

ELECTRONIC ARTS ■ ST
\$19.95 ■ Late January

The long awaited Fusion for the ST is due out. Already released for the Amiga, Fusion is one of the classic arcade conversions featuring two directional panicles scrolling, a multi-level of different levels, and impressive digitized music. The ST version of Fusion promises to be faster than on the Amiga, with more enemies and harder levels.

The objective of Fusion has changed very little from its Amigan days. You have to dash around 13 levels collecting nine pieces of a bomb and return them to the first level. It's great fun if you're into bomb disposal.

THE PARANOIA COMPLEX

IMAGE BYTES ■ ST & Amiga
\$29.95 ■ Early February



■ Can you bear the guilt of PINK, NON COMPLEX?

Do you trust your computer? Really trust it? Paranoia might surprise in this game from Image Bytes. Your job is to eliminate those citizens who have become powerful enough to be dangerous to the computer. Along the way you have to perform all sorts of essential bodily functions such as eating, going to the great white telephone, and engaging in personality tests. Realism enters a new phase. And remember... just because you're paranoid doesn't mean they aren't out to get you.



■ TIGER ROAD



■ Catch the INCREDIBLE DRINKING SPHERE before it vanishes



■ PURPLE JOURNEY

GARFIELD - A WINTER'S TAIL

SOFTX ■ ST & Amiga
\$19.95 ■ January

The original Garfield game was a great success and version II looks set to be even more so. It makes a change from your average kill-every-thing-that-moves-and-eat-the-expired-meatman's diet-plan.

A Winter's Tail is in the same vein as its forerunner but incorporates lots of separate games. With your ranging from chasing a mouse pudding, lots of Laser Blasters and a Valentine game, Garfield looks to be with you all through the month of '85. What a fantastic thought - 'It's Jer' kidding, Garfield fans!



■ GARFIELD the original



THUNDERBLADE



US GOLD

Amiga - Reviewed, Joystick, £24.99

ST - Imported, £19.99

Westland - home of the attack helicopter and home base for covert headlines operations - is the sort of place which regularly turns out the likes of the Thunderblade helicopter. Given that this advanced machine boasts all the latest weaponry, it's a pretty daunting task to be told that you're the one who's got to fly it - especially when your girlfriend is complaining about your eyes going a strange square shape and your fingers have taken to jumping up and down even when they're not clutching a joystick. Well, you'll take up the gauntlet, won't you?



▲ Where did all these giant statues come from? Taking the Thunderblade out on a sunny day is great, but keep your fingers poised over the old joystick. This game is all about finding out what's really going on and you're the one who's got to do all the finding.

AIM

The last green fields of America IOR, so they're grey pavements really are under threat) from the menacing evil forces of a mercenary and unimpaired dictator, General Sanderals. Put more simply, he is a Gadsill clone with a billion missiles and a dars and stripes pair of underpants.

With bits of battle weary brains rapidly according to the superior powers of the robot's sophisticated weaponry it is only a matter of time before the government is overthrown. The top brass from U.S.G.A.R.S. have summoned you to their office and told you to vanquish the enemy. Easy right? You're let loose on the world with the ultimate flying machine - the Thunderblade. This advanced attack helicopter is at your disposal but can you take the world by storm and live to reap the benefits of mega-bucks?



▲ Where come the big boys. I know I should've parked an atom bomb. Somehow things don't just altogether fair here...



▲ Missions isn't all it's made out to be. With four lives still remaining it's better not to die.

STRATEGY

The mission is split into four strategic stages which become progressively harder. From the daunting walls of skyscraper cities through mountains and deserts, then a river delta and into a refinery. Each of these stages is subdivided into three different levels. These consist of an overhead view of your punny 'raptor' as you fly through cities, viewed from the exhaust jets of your machine. The third phase charts your progress as you fly over a tanker. Being a religiously accurate arcade conversion, this phase runs at a pretty slow speed, making it harder than ever to survive attack from the enemy forces.

Assaults on your physical well-being range from conventional forward-firing planes to cannons with a nifty knack of firing flame balls up on you to blast you into oblivion with barely a quiver of their results. A range of years of your Thunderblade from different

angles bring the game surprisingly sedation. At the end of each of the three stages your score is tallied up and bonuses are awarded depending on your performance - not an altogether brilliant ego boost.

As for self defence, Thunderblade is equipped with two types of advanced weapon systems. A quadfire Chain Cannon used for aerial targets such as enemy helicopters and aeroplanes sounds like something out of Kumbi part 54, with much the same effect. It's only really effective when used against flying submarines but hey, does it have a lasting impact. You can only shoot two missiles at a time but they are about as efficacious as the explosion of two tons of gelignite on an oil refinery. Straight line air-to-ground missiles take care of your land and sea targets - they are quadfired like high-velocity conflicts all the time your finger is held down on the fire-but-

ton. It takes a rapid blast on the old fire-button to eject the lethal Chain Cannon.

The game begins with five reserve helicopters and comes to an end when all of your helicopters have been destroyed or the last stronghold has been taken by the evil Sanderals. Scores shoot up every time you destroy anything vaguely resembling an enemy, which isn't too difficult since there's nothing out there which is your friend - even the external developers are quick to turn your amiable little Thunderblade into a jigsaw puzzle if you get too close. An extra helicopter is awarded with every 20,000 points. Since 20,000 points isn't any more intricate than the basic helicopter, spare helicopters often come in extremely handy when your weapon locks to hit about as long as a few cattle canisters within a four-mile radius of Christy.



▲ This heavy-duty art effort made out to be

GRAPHICS AND SOUND

When you're soaring above the landscape scattering missiles left, right and centre it's easy to forget that there are lots of skyscrapers and innocent people hanging around down there. This has got to be a good sign. The graphics look brilliant with good explosions where only fast is that they occur too often.

Descending into the top of skyscrapers as a method of seeking sanctuary from the flame-throwing tanks is possible but make a miscalculation and you soon explode into bits of flames and smoke. If you approach the skyscrapers when you're below roof height, each stone becomes alternately black or grey as it disappears at the top of the screen. So much for realism.

But there are few other faults. SegaSoft takes good things overhead with your Thunderblade gradually increasing in size as it flies like a battle-stained Phoenix into the air - tentative, and not entirely sure that it finds war such a great pastime. With tanks, snuff and lots of generally offensive triggers being flung around everywhere, the whole game becomes a rip-off of fast production and lots of good graphics.

In the rush to the prizes, Forman had to make do with a version lacking any sound effects, however, having listened to the digital music which will go onto the final game as well as all the spot effects, the sound will keep Thunderblade alive with vibrant activity.



▲ Following your intuition during an airborne mission



▲ Life's tough



▲ Level four - skyscraper city. The real size of your Thunderblade comes in pretty handy when you've got to attack a legion of money tanks



▲ An shock! That wasn't supposed to happen



▲ Not exactly the object of your desire



▲ But it looks like a worthy target



▲ Help yourself



▲ Taking a tour around the crazy city

CONCLUSION

Thunderblade is more than just another shoot-'em-up. The twelve different levels are filled with enough graphical variation to keep you struggling to get further and further through the game. All the great arcade action has been left intact. Occasionally it becomes slow at times, but this is no way detracts from the graphics, trips over the appalling softship are designed to go especially slow. This might slow the arcade version but it causes little trouble when you're only got one life left and you're about to kiss the controls of an incoming formation of the latest fighter jets as they perform their rendition of some ballet. It wouldn't matter but they've decided that we should play the ball.

with graphics



moving graphics



sound/track



loading interest



overall 92%



R-TYPE



ACTIVISION-MEDIAGENIC

ST - Joystick, 2 disks, \$39.99. Reviewed.

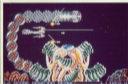
Assign - Don late January, \$24.99

Once upon a time in the deepest and darkest depths of outer-space - about where you turn left just after passing Pluto - you come across an ugly little place proudly named the Bydo Empire. It might sound like one of those run-down seaside cinemas, but despite being filled with hundreds of gyrating creatures they're actually about as friendly as Freddy from Nightmare on Elm Street. Who gives a damn? would be most people's opinion, but you're the one who's got to go out there and show them that Bruce Springsteen isn't the only person who likes to be known as The Boss. Can you summon up the courage to wander into the Bydo Empire? Are you as hearty as Bruce soul armed with a fighting spirit? Or would you rather curl up with a database?



• Shooting the Bydos with multi-directional firepower can be great fun...

...but it's the formula that you really need to get up to.



• Hold down on the fire button and you can release one ball of a comet.



• The horizontal-scrolling shoot-em-up. At its best is R-Type.

AIM

Being in control of a powerful R-R craft charged full of awesome firepower sounds like a pretty responsible job, but you can handle it. However, get to conquer the Earth in the evil Bydo Empire with all its weird looking inhabitants whose very appearance inspires fear - if you thought Cila Black was ugly then forget it, these guys are worse!

Your R-R must be used to crush the enemy forces and keep the world away from the sticky tentacles of Bydo. This simple task is accomplished by wandering through the horizontally-oriented Bydo Empire and firing at everything that moves. The main weapon with which your plane comes equipped is a beam cannon. Holding down the fire button increases the output energy of this destructive blast but a whole arsenal of firepower can be built up by shooting one of the enemy craft, affectionately known as a POW RRR. Firing at these will reveal jewels which give you up to six different weapons granting everything from protection onto multi-directional firepower.

The first jewel you collect will release a special weapon entitled The Force - presumably of Star Wars fame. This can be attached to the front or rear of your R-R fighter and sent ahead to clear a path for you, or sent behind and used as a rear-guard. By repeatedly acquiring new laser units the Force will grow, granting you greater firing power. With two units the Force will shoot distant beams in two directions. Three units will cause the Force to shoot distant beams in the same two directions as well as up and down giving a total of four rays. Watching this bit as they rebound around the screen almost gives you eye-strain when things begin to get hectic.

STRATEGY

The R-R fighter has a magnetic attraction for collecting jewels. The different jewels obtained are collectible of these jewels make the whole game worthwhile. Dispensing a myriad of colorful and shapely laser beams which have a tendency to destroy the enemy forces keeps your eyeballs glowing as one explosion follows another but get hold of a few of the beams and you'll find you're in the middle of frequent orbits soon.

In each level there is one incredibly impressive and daunting monster. And guess what... yes, you're the one who has to defeat it before you can complete the level and proceed onto the next stage. These being little monsters include the Insano - a creature similar resembling one of those ugly beasts from Alien. Instead of making a neat little wormhole's stomach he's gone inside the formula - as an evil brain-shaped creature with a single eye which looks like it needs a massive dose of Oxytocin. You can only destroy him by firing a laser directly into his eye (and it's open, but since he's protected by the formula this is no easy task).

There are eight levels to complete, each one filled with hundreds of different monsters all after your blood. If they don't head directly for you then that's sure to branch modes found for your R-R. Life in the Bydo Empire looks pretty tedious and with just three hours at your disposal the future can seem seemeerily gloomy - especially when you come up against a giant Giffing determined to turn you into a candidate for the blood-wrecked firing of The Blue Box.



▲ The big green ship that could never be scrolled.



▲ ... stay on the right place.



▲ and it disappears behind enough orange flames to send your symbols rolling.

GRAPHICS AND SOUND

To say that this is a good arcade conversion would be a mistake — it's a brilliant arcade conversion — probably even better than its forefather, certainly with far more action, all the way and it doesn't get up other strange during play.

Everything moves smoothly, and the enemies actually look like enemies instead of the usual kind of glowing jelly blobs. Given a few hours play you'll be making up in the middle of the night with nightmares. Where the game really takes off from all the other horizontal scrolling shooters-up is in the size of the spaces which are manipulated. The obstacles (basically the end of each level) aren't just the size of a misreading eye — they take up most of the screen and they move pretty fast. The Dekkadrop has a tail which makes round the screen ferociously struggling to destroy you. It's an impressive beast which takes a hell of a lot of fire.

power if you're going to make any sort of impression on it.

But by far the best graphical effect is the massive green ship in level three. Programmers Electric Dreams have done a superb job on the scrolling routine. Surviving this level is made even more difficult because you must maneuver yourself around the ship, in order to avoid being crushed by its oppressive weight. If you succeed in destroying it, the whole thing vanishes behind so many orange flames that you think you're in the middle of the Manhattan riots.

Sound effects have not been forgotten either. Hearing it in mind that the game is using the 2D's sound chip then the different levels are impressive. They soon get pretty commonplace after a while but there's the option to switch to sound effects instead.



▲ This has got to be the ugliest-looking creature in the entire Dekkadrop. What on earth could it be?



▲ The Dekkadrop may look like a very strong conversion to your much-loved party 2600ed...



▲ but if you're going to get anywhere in this game then you'll have to show her that you're the one who's in control of the reflection laser.



▲ That's more like it. This is what she gets when she gives you a pair of orange socks as a Christmas present. Revenge is sweet!



▲ Exploring the benefits of anti-aircraft lasers. Is who's that guy in the forest museum?



▲ The force is with you.

CONCLUSION

Anyway, you're returned to the beginning of a level every time you die. This doesn't do much good to your progress through the different levels even if it is helpful to the arcade game. Response movement and addition concepts are what keeps the shoot'em-up on our popular game — it's the graphics which get it aside from the rest. They look absolutely amazing.

It's later hours of play learning all the strange moves essential for surviving the different problem areas, which is why the game is so damned addictive. You'll need the old mathematics to keep your eyes open through the fourteen hours of night if you're going to get anywhere near level eight.

★★★★ graphics



★★★★ moving graphics



★★★★ soundtracks



★★★★ loading interval



overall 96%



LIVE AND LET DIE

COMARK

57 - Reviewed, joystick or mouse, \$39.95

Amiga - Reviewed, \$39.95

Your name is Bond - James Bond. MI has given you the top secret mission: "Find Dr. Big and don't come back until you have." It's time for you to take the world by storm and wreak chaos across the waterways.

GAMEPLAY

Dr. Kananga - or Dr. Big as he is known to his few friends - is the world Prime Minister of San Monaca, a poky little island in that den of Bond motifs, the Caribbean. Dr. Kananga is entraining the people on the island to produce massive amounts of poppers - not out of a sense of loyalty or Rastafarianism sky religion but so that he can be really generous and fund the US drug wars with loads of free heroin.

Armed with Dr. Kananga's gadget - the fastest speedboat ever made - you take to the waterways to find and kill Dr. Big. It's your duty to get an end to his depraved deeds, making the world a safer place.

What with incredible speed and four different waterways in areas ranging from the frozen barfields of Norwegian Fjords to the baking deserts of the middle-east, you can soon end up questioning your sanity. When it's up to you to risk life and your best pair of electric-blue boots starts then you prefer to let the Americans get on with it.

Along the route you must pick up fuel barrels to make sure that you have enough to traverse your mission, and occasionally a CH helicopter will fly over you and drop packages containing fuel and missiles, to enhance dodging giant mines and avoiding attack by tanked-up gun emplacements you must pick up the packages. This is no easy operation when you're travelling at top speed with your finger pressed down on the fire button scattering all your enemies to the four corners of hell.



▲ The CH get everywhere these days



▲ Winter has, Bond style - not exactly up to the standard of Eddie Edwards but given a few more miles it's not far off (best) On the way to Dr. Big's for handy loot.

GRAPHICS AND SOUND

This is one hell of a game for counting how many times you can clock the old speedometer - push the joystick forward in its limit and watch the world start whipping by at supersonic speeds. Undergoing around by a boat of impressive backdrops becomes a lot of fun until you realize that those funny little black specks in the distance are really mines waiting to blast you into oblivion. It wouldn't matter but at full throttle they descend upon you faster than Roger Moore can wave an eyelash.

Racing through the water is accompanied by lots of white foam which does actually look like wash instead of the usual

outbreak of snow. Even the epidemic of helicopters and enemy aircraft which regularly appear on the screen don't just look like flying whales. With lots of barriers and gates spreading across the waterways everything soon starts to get pretty difficult.

Sound effects aren't exactly brilliant. The classic Bond theme tune is sadly lacking, although the superb film score courtesy of Wings does decorate various menu screens. Unfortunately it isn't Paul McCartney in the background singing his lungs out, but instead you're reminded to a pretty dire computer imitation of the original, plus lots explosion sounds during play.

CONCLUSION

This is an impressive action game. With lightning speeds and minis rocks, mines and other obstacles the game soon becomes an addiction you'll not want to give up. The only real criticism is the scarcity of the fuel barrels. Miss a couple in a row and then you're unlikely to get much further.

At the end of the day, although Live and Let Die doesn't bear any resemblance to the film just apart from a waterway setting, it's full of fast-action and blistering graphics. You might never manage to meet Dr. Big but you'll have lots of fun along the way.

still graphics



moving graphics



sound/track



looking interesting



overall 83%



GAME BUSTERS

HUNT FOR RED OCTOBER

Amiga

When your nuclear drive starts down, around day seven, you'll have to keep surfacing to recharge the batteries. It is very easy to run them dry while underwater, in which case you're stuck.

THE HUNT FOR RED OCTOBER



Well, if you do this, you can become emboldened: save the game immediately when the drive goes up, load the saved game and switch to nuclear drive. You should be able to complete your journey using nuclear drive.

Simon Robbins
Spalding, Leics

DALEY THOMPSON'S OLYMPIC CHALLENGE

Amiga

Better results are obtained if you use specific shoes for certain events:

Day 3 Training - training shoes; 300m - running spikes; Long jump - long spikes; Shot put - long spikes; High jump - flat shoes; 400m - running shoes.

Day 2 hurdles - short spikes; Discus - flat spikes; Pole vault - track shoes; 1500m - track shoes.

The Lucozade for 400 metres and 1500 metres (assuming you can only get two cans during training). To get lots of points in the 200m event, run like mad until

If you've no more fight and you're beat for sure; if you can't see the light and only feel go? Gamebusters! Where ya gonna go? Gamebusters! More weight than Cyril Smith.

you're just about to cross the finishing line, wait for about three minutes and then cross.

Bobby Simpson
Edinburgh

BETTER DEAD THAN ALIEN

ST & Amiga

If it looks as though you are going



to get hit by bombs or aliens, press **ESC** (to pause) and move your ship to a safe zone on the screen. Press **ESC** to continue with the action.
John McKie
Stoke-on-Trent, Staffordshire

LEISURE SUIT LARRY IN THE LAND OF THE LOUNGE LIZARDS

Amiga

One of the many possible save files:

Call a cab and go to chemists to buy a condom. Get outside for a smoke and give him what he wants (save it for his wife). Call cab and go into bar. Buy whisky. Go and visit bank through door near juke box. Take note and get him whisky to get contest. Go to toilet and take ring. Go to peddled door in bar, knock and say "See me me." Then rely on

FLIGHT SIMULATOR II

ST

And you thought there couldn't possibly be anything more to say about this game. Think again. Do the following:

- Make sure all controls aren't altered from the defaults.
- Drop to the Lowest.
- Turn slow-on.
- Press key **Q** and keep it down until you see the altimeter needles rotate in opposite directions. The large needle will rotate clockwise and the small needle will move anticlockwise.
- Keep **Q** down for another 20 seconds and then slow down, using **A**, until the needles are stationary.
- Turn slow-off and let the plane free fall straight down.
- Put the power on with the mouse or key **R**.

Now all that's needed is to always save you in mid-air! If you're interested in seeing famous places around France, then set your sights on these locations:

LOCATION	NORTH	EAST	ALT
Adrianople	17518.980	5124.7527	200
Apple	17184.432	5124.3059	200
Mar	17008.624	5137.8736	200
Electronic Arts	17523.709	5065.5148	200
Egypt	17377.261	5104.2925	200
Isral	17198.471	5140.9392	200
Leipzig/Gem	17130.620	5124.6008	200
Speichern/Reichste	17083.337	5158.9709	200

Finally, do you know the proper name for an armadillo? Well, actually it's *Dasypus flavescens*. And did you know that it belongs to the Edentata family, which means, the toothless ones? Would you believe that some modern tribes purposely wear armadillos so that they can play catch - armadillos roll into a ball when frightened.

Andrew Jackson
Liverpool, Merseyside

with control and change channel seven times. Go up and do your stuff! Remember safe sex is the best! Take choos. Go out window and down the escape. Take hammer from bin. Go to casino. Look out for a man selling apples; get one. Go in and gamble here game when you win and get when you lose. Get loadhammer. Go to subway near lift. Get pass from it. Go to disco. Dance with girl. Give her choos, ring, and

rose. Mary her (best to Leland). Go to suite. Listen to radio. Call people (phone near chemist) and order champagne. Do your stuff! Go back. Get tea with knife. Take rope. Go to fire escape and tie rope to rail and wait. Climb over rail. Smash window with hammer. Get pills. Go to floor right in card no. Give girl pills. Get in lift. Give girl in bed-apple.

Benedict Frank
London



ELITE

BT

Type in SAMA when asked for the code. Enter the correct code from manual when asked for the code a second time. Press a key to go to the Load new commander? prompt. Hit N. Press the asterisk (*) on the keypad to get into the back stream. This allows you to alter any details regarding you and your craft's status. Simply enter any number between 0 and 99 (it's in hexadecimal, but don't worry about this as you don't need to understand from the counting system) when asked "what number?" Simply enter a number between 0 and 99 to point into that location. After finishing your edits press (Esc) to continue with the game. Try the following alterations:

Byte Value Effect

- 18 00 Fuel scroop
- 20-00 Escape capsule
- 23 00 Energy bomb
- 24 00 Energy suit
- 26 00 Docking computer

- 26 00 Select: Power drive
- 31 00 PCM jammer
- 32 00 Docking device
- 34 00 Cargo hold
- 37 00 Weapons magazines
- 50 00 Document
- 54 00 Fuelline
- 55 00 Oxygen
- 56 00 08 Sticky Harriers to Elite

R Drog Parabolic Eases



Use this technique to buy whatever you want, in whatever quantities, from a planet: Say you want to buy narcotics and find that the traders only have 10 tons to sell; top the 10 tons, use the game to disk and then load the saved game. You will discover that you have 10 tons of narcotics in your hold, and the traders will have another 10 tons for sale.

Raymond Ball
Hillingdon

the crates. Get fast, fire slow-ly, fill crates. Get lighter. Fly back to base.

Use the lighter on Scorpio. Get key. Fill jeep with fuel, use the key to start it and drive North-East. Smash the gates with the jeep. Drop it, and then press through the gates.

Take both dolls back outside gates. Detach the wonder from the way get and attach it to the Reaction dot.

Take north, then east. Take the empty pistol from the ship. Point the pistol at the pilot to make him leave.

Stephen Henry
Ditton, London

ST DISK HACKS

Here's had more, many wonderful disk cheats for files. Much work is by the author. By double clicking on the EDITOR.FMS file on the month cover disc, you will be presented with a typical EDIT application - everything being accessed via the drop down menu.

From the File menu select LEAD COMMANDER. Once the file has loaded, you can alter a multitude of options: Launch (initially false), Mining, Ship (initially 000), name, radio, starting computer and so on, Spaces (false), offshore or hidden, Mining (initially to allow) and Credits (as much disk as you want).

Simply point and click on the features you want. Save the file and run Elite. Load the hacked file when prompted for a new command file. For the really easy there's a TESTOR file which gives all major items.

BERMUDA PROJECT

Amiga

Follow footprints straight away to go to jeep. Get in the jeep, take the bucket, shovel and tinfo. Go straight back to the crash site. Pass the plane. Fill the bucket with sea water and close the flaps. Dig sand away from the hatch with the shovel. Get the crowbar. Go to pilot and get the radio.

Walk west to the cave man village. Get the glider. Fly east. Use the radio when flying over near. Find plane. Use the crowbar on



DUNGEON MASTER

BT

The deeper dungeons

In dungeon 10, there's a corridor which goes round in a circle. To get past it, walk around throwing things at the wall. When an object disappears, turn around and walk back the way you came and you will find yourself in a different location. Keep doing this until you find your way out. Near the steps, which lead down from the dungeon, there's a door. Enter it. On the wall there's an eye. Take an object and click it on the eye to open a secret passageway. Enter and you're transported to the Ruby-Key. The key must be used in the Turbo of the Firestaff.

In dungeon 11, there's a Ruby key and the master key fused to open the Firestaff door. Go downstairs with both keys. Go to the

is a magical item. Use the Ruby key - found in the altar room - to open the door with the star-shaped keyhole. Explore behind the door to find the Firestaff (it's behind the back door which is opened with the master key).

Go back to the level with the wizard to find yourself in the Dragon room. Under a pile of ash is a key. Pick it up, but be careful of the dragon. Behind the door in the dragon room is a power gate. To free it from the spell use `CD:RAM:RST=0000000000000000`. This produces a crystal with which you can touch the gate. Go to the stairs to the room with the wizard. Surround the wizard with a fire cube. When you are absolutely sure he is completely surrounded, make a fire. The wizard dies, and the quest is over.

Robert Stanley
Stalybridge, Cheshire

FOOTBALL DIRECTOR II

BT

Save a game and make a note of the money in your bank account. Quit the game. Load an ASCII text processor - ST, Magician, Protext or something similar - and load in the saved game file.

Go to the end of the document and move to the right line from the bottom. If you look around, you will spot figures coinciding with your bank balance. Simply change this to what you want. The line below, which also contains your old bank balance, should also be suitably modified. Save the updated file and exit the word processor.

Go back to Football Director and load the hacked file. You will discover that you have a very healthy bank account, with the money you can use for better players and make ground improvements that, coupled with the above price of the club,

Paul Blomley
Riverside, Leeds

FOOTBALL DIRECTOR



WINNERS AND THINGS

Game Masters needs you if you have tips, tricks or maps for any BT or Amiga game then email them in. Share your knowledge with other enthusiastic gamers. Come and it'll work the reward - a selection of the latest Amiga games. Each with award. Send your designs to: Game Masters, 25, Nanga Forum, 4 Queen St, Bath, BA1 1LL.

Winners this month are: MARK HILL, who creates a special price for his terrific 3D data access program, 8-1000, for his incredible Elite game editor discovery - BT games thing his way. 100% BT 000000 for his feelings to find for Red Director - Amiga games will be selling in the 800-000.

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CHUCKIE EGG

PICK & CHOOSE

Amiga - \$39.99, Reviewed, Joystick / keyboard.

ST - \$19.99. Due any day.

Fresh eggs get every where. In the good old days when they were confined to the fresh, thousands of games players were pained in front of monitors with fingers arched over their keyboards, eagerly guiding their mouse flary to be run around collecting eggs. Now the 350,000+ can indulge themselves and grin as their high-scores go through the roof and their brains become increasingly scrambled.

With 37 levels and 32 eggs per level, the game leads a whole new meaning to egg-crazing. The object is to pick up all eggs without getting pecked to death by the stackings of their mother. Cook it up and you explode into a yellow mass and end up as a froggie. The Amiga version has been lovingly adapted from the 386 days with lots of impressive backdrops



4. Egghead

added and a musical accompaniment which sounds brilliant to start with but will soon have you turning down the volume.

So which is the Pete guy anyway? What gives him the right to fill the top-on position in the high-score table? One of the biggest annoyances is that you can't save the high-scores from His House Harry's delicious exploits to disk. After you've spent until tea in the



4. Take the chicken-flop by the stern and show these bird-brains who's boss.

morning gathering eggs and turning your petrick ready with oceans of sweat, you wake up to find that Pete has obliterated all your scores! It wouldn't matter but he can do it while the computer is switched off.

The game may never rival *Diapaper* if its graphics or concepts with the sounds of *Morbale Manor*, but it's probably suited both of them. It has the addictive qualities which keep you coming

back again and again. In no time at all you'll be voting for battery less - gathering eggs can get easy.

still graphics 3.5
moving graphics 3.0
soundtrack 3.0
loading interest 4.0
overall 75%

RETURN OF THE JEDI

DOMARK

ST - Reviewed, Joystick, \$39.99

Amiga - Out soon.

Return of the Jedi is one of the few computer games that actually looks like the original film. The action begins at the point where the rebel forces attack the Imperial Deathstar, and is divided into different levels which you must complete if you're going to overcome the forces of evil. Throughout the game you control several different members of the Jedi crew, beginning with Luke you must be sure toward the Force village. Guided by the way the Stormtroopers chase after it's a certainty she's wearing imputes. You can either blow them up or lead these ugly biles through a trap. The first person past one of these escapes unharmed but anyone

else perishes.

Other levels include taking command of Chewbacca who is having great fun massacring a scout-walker. Along the way you must avoid all manner of objects from rolling logs to catapulted stones. Once Chewbacca gets to the bunker, Han Solo blows it up, deactivating the protective shield surrounding the Death Star and providing a lead into the next level.

The game must be one of the fastest scrolling shoot-em-ups around. Unlike the majority, scrolling takes place in a diagonal direction on all the screens giving an unusual view of the graphics. But for all its speed and addictive

qualities the game doesn't have the graphical imagination to make it a winner. Lots may well be steering the speeder bike but who can tell? She looks like little more than a speck of blue fluff against a patterned background - realistic enough to have you yanking the

quality of the sound effects varies - an opening sequence of sampled sound and speech gets you into the mood for tackling an onslaught of Stormtroopers but the traditional Star Wars theme and explosion effects after the point definitely won't be your computer to reach.

still graphics 3.0
moving graphics 3.5
soundtrack 3.0
loading interest 4.0
overall 72%



4. With level after level of super-fast scrolling you're soon going to be wishing for a guiding hand. May the Force be with you.

GALACTIC CONQUEROR

TITUS

Amiga - Reviewed: Joystick, £24.99

ST - Don't say they're new, Joystick, £29.99

At the end of the day, when President Bush leans back in his leather-bound chair and sighs as if he's got the entire world nesting in his lapels, you know it's time for you to take command. We might

claim to be striving for world peace but who really gives a damn when Gallio is under attack and it's the foremost duty of the Stellar League to engage in galactic fights just to preserve peace!



▲ Defeat someone to go



▲ Get here! Well, either me, thanks, this isn't the sort of place to bring a Sunday picnic.

GRAPHICS AND SOUND

This isn't just another virtual shooting shoot-em-up. With everything coming at you in sterling 3D you'll soon be wondering whether enemy spacecraft really do look like giant Tarantulas. Fortunately speed isn't sacrificed to accomplish this perspective phenomenon.

An option to double the size of your spaceship is available, if you make the most of this then you don't get to see much of the incoming space debris until it hits with full force - a bit like Government policies - and the game plays down quite a bit, but considering the size of the sprites hurtled around the screen it's a pretty impressive option.

The sound effects won't have you connecting your Amiga to a hi-fi, with an Arctic wind gusting around the starting galaxy you soon begin to question the health of your Solar System. Missing offending spacecraft might sound fun but it's accompanied by what sounds like a little man in the computer cabin shouting out 'Wow!' - not an altogether realistic sound-effect!

GAMEPLAY

The Stellar League was created in order to protect the planet Gallio. You, with your Galactic Fighter Thunder Cloud II, must annihilate the armies of peace who abound throughout the galaxy. If you accept this mission then you will receive ten million dollars - not that it'll be a lot if you're to face your destruction in perpetuity.

The game opens with a map of the galaxy which charts the progress of enemy invasion as the title Cagarrs near Gallio. The intention is to prevent invasion by selecting enemy planets and, um, invading them. Once you've decided on a planet, you're abruptly deposited into the midst of battle. Sounds fun! Having to cope with stars, asteroids, missiles and meteors as well as the usual prescribed dose of enemy ships is no small task.

You encounter three different phases of battle - ground, aerial and space fights. The ground fight is the only one not to include enemy ships but to each fact with the other levels. Spacefighting can have you encountering the Imperial Enemy Ship as it gears from planet to planet, delivering the deathblow. Destroying this awesome creature is almost as difficult as locating a braincell somewhere between the editor's cathodes (You've tried - Oh, but if you manage to survive you are awarded an extra bonus).

Your ship can be destroyed as often as you like because the game runs until the enemy descends upon Gallio.



CONCLUSION

If you really want to experience total annihilation then this is the one. It's the bombing done a halfway and waiting an idiot in a screaming yellow Lucart come tearing round the corner at over a 100mph going the wrong way in your lane - you know you'll be obliterated in the end, it's just a case of how long it'll take and whether it's going to hurt.

If you can survive the psychological strain of becoming a pilot for the Stellar League, and your bank account can handle a reaction of 500m then by all means proceed.

▲ Spaceflight can be a pretty electrifying experience

still graphics



moving graphics



soundtrack



lasting interest



overall 78%



BREAKING THE TAPE

944 TURBO CUP v's LOMBARD/RAC RALLY SIMULATION

TURBO CUP - LORICEL

RALLY SIMULATION - MANDARIN

Amiga - \$29.99. Reviewed. 1 or 2 Joysticks.

ST - \$24.95. Reviewed. Joystick.

ST version \$19.99.

Amiga version \$24.95.

Barbarised by treacherous arms of gray tarmac might not be everyone's Sunday fun, but it sure beats the hell out of being attacked by the local Klingens chapters. In the fight for race supremacy we tested two of the best racing games to vroom into the Forum office.



a. The menu roads of the Rally Simulator.



a. The trials and tribulations of Turbo Cup.



a. You call this a crash? - Well, more like a *Real* is real!



a. The Rally Simulator in action - mountain driving was just like this in the *Real* world.

GAMEPLAY

A choice of tracks at your ready fingertips and more races than Cyril Smith ensures you're guaranteed the race of your life in other games.

In Turbo Cup you start by selecting a track and then hit the tarmac for a qualifying session. One lap, round the course determines your start position on the grid.

Rallying is rather different, and Lombard/RAC Rally features a variety of weather conditions, from fog to night-driving, together with three stage types, including an impressive mountain track. The object of the rally's 11 stages is to win enough to pay for repairs and keep your car in prime condition. Beating lap-times earns rewards but wealth can be further increased by entering a quiz game. If you want to race, you must first complete all 11 stages against the clock. You can then compete them all again, but in competition.

GRAPHICS AND SOUND

Unless you're used to watching 1990 Hollywood movies, you're unlikely to gaze in wonder at the colour on screen. Roadside graphics in the Rally Simulator could have been designed on a 4-bit machine - they lack all the imagination of Jean Collins' new novel.

The graphics in Turbo Cup are marginally more inspired, though your opponents all drive cars which are an odd shade of orange. Should you hit anyone at speed you go tumbling round and round and end up in a penny-pinching (small) of blue (unless the identical shade as your car). This is a spectacular event when consumed in the crash-maternal of the Rally Simulator. Bump into a tree and up shoots, while subtle (supposedly) reflecting damage to the bonnet.

CONCLUSION

Racing games aren't the great and innovative when Amiga'dic happen, but they're always popular. Both drive for realism but in the end it's the Rally Simulator which gets closest. The roadside bushes which look like dead trees won't have you spellbound, but at least you're looking through the windscreen instead of the usual backside view of a Turbo Cup. Unfortunately, you only have to veer near the road edge to crash into a tree. This becomes painful when faced with a set of corners punctuated by so many crashes, you soon wonder if it's your brain whizzing along the roadside.

Rally Sim.

still graphics 3.5
moving graphics 3.5
soundtrack 3.5
testing interest 4.0
overall 80%

Turbo cup

still graphics 4.0
moving graphics 3.5
soundtrack 3.5
testing interest 3.5
overall 70%

INTERNATIONAL SOCCER

MICRODEAL

Amiga - Reviewed. Joystick, £19.95

ST - Already available, £19.95

Here we go, here we go, here we go... Where? Hundreds of soccer games have sailed off to that great football pitch in the sky but is Amiga Soccer here to stay? When the seaks are down what makes it any better than the rest?

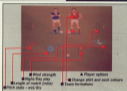
GAMEPLAY

With just 12 arcade levers and options to decide everything from wet or dry pitch states to wind strength and right play, the game soon becomes a great challenge. In addition to the usual player-computer play, you can attach a 4-player adapter which allows control over several team members at once. This permits competition against either the computer in a multi-handed octopus who doubles as a friend - the 4-player set gets costs £5.95 extra.

To change the player under your control you press the fire-button with the joystick leaved on the left person. An arrow above the directional pad points to the directional pad player that will be moved to other team members currently on screen.

Pressing the fire-button with the ball in your control allows you to kick. The longer you hold down the button, the further and harder your kick will be. Hold it down for a full second and you'll throw you have a longer ball on the end of your foot. To tackle, you press the joystick button without having a player signified under the cursor. If there's a thrower in a corner, the actor will wait until you press the space bar to giving you time to move your team into the right positions.

There are nine levels of difficulty when you're playing against the computer - these make the difference between crushing or being crushed. The former is far more fun.



4 Strategising for a slice of the action



4 Give me the advantage any day - there's more violence here than in an entire series of the Rocky films

GRAPHICS AND SOUND

Running with the ball might look realistic but it's about as super-fast as a classic sprint by a snail. However, given that the task of controlling twelve players on a sprawling pitch is a fairly mammoth one, Microdeal have handled the problem fairly smoothly. Looking back inspiration but turning around the pitch is well done - at least the players actually look as if they're running. With the 'wet pitch'

option a quick change in direction results in slugs to rival even some of Neil Kinnocks.

The three different tunes included in the game are inspiringly uninspired, but with the option to replace music by sound-effects the game improves vastly. Cheering crowds can then just comment on your action - not an altogether wise opportunity if you value your pride.

CONCLUSION

Excellent game, enhanced by a few amusing facts - players have the most anatomical structure which lets others walk straight through them! The computer opponent option is great when your friends are too busy picking their noses to play round. Sending the computer into the ball is easy on lower levels where the goalie has a head the size of a foot ball.

Amiga Soccer might lack the different tactics of Football Manager if but the adapter for four players almost erases the problem of representing a team game on computer. Effective graphics sequences make it realistic although you can't help feeling that things might have been improved by having the spectators regularly invade the pitch and start making the grass. Who said that football was just a game?

ST v AMIGA

The goalkeeper feat in the ST version has been resolved with the Amiga - players can't wander up to the goal and kindly kick the ball at the cheap keeper. The graphics are identical but it is the four-player adapter which really separates the two games - no such option is available in ST Soccer.

still graphics

1 2 3 4 5

moving graphics

1 2 3 4 5

overall match

1 2 3 4 5

looking interested

1 2 3 4 5

overall 70%

PIONEER PLAGUE

MANDARIN

Amiga - Reviewed. Joytech. £24.95

85 - No version planned

When you can see more colours on the top of a Streetsol Wheat packet than in a computer game then you know there must be something amiss. Guess that it took Hollywood thirty years to make use of the magic of colour then it's hardly surprising that your average game is still confined to blue skies or black space. Pioneer Plague is making a pilgrimage to the colour palette, proudly claiming to be the first ever 4096-colour game.

GAMEPLAY

The Pioneer Probe Mk IV was created to solve Earth's over-population problems. It roams around finding uninhabited planets and terraforming them so that they're ready to be colonised. Sounds like a great idea? It might have been. A genetic defect in the Mk IV meant that it no longer creates environmental variety - which is a way of explaining the fact that all the game's planet surfaces look identical - turning everything into a large paving slab. Nicholas Ridley would certainly approve.

With the Mk IV now out of control, it just matters all planet life without trying to see if it's inhabited. This causes real problems for the poor time slugs who're just living a Ple Pice Like Island picnic over the earth.

It's up to you to prevent the spread of the Probes. The Liberator will take you around the

Universe but the ship is your attack vehicle. By selecting a planet with Pioneer Probes in the vicinity, the Liberator will whisk you away to a sub-Earthian space zone. The quicker you cruise through both the fewer probes you'll need to total when you get to your colonised planet.

Once through, you're into Legendland where you run around blasting away four types of robotic aberrations. These include 'blasters' - ready little creatures who treat you if a box with over-boosting rates will not if you get destroyed. At any time you can dispatch a programmable drone to go out and destroy the dratted robots. Once a planet has been cleared it's back to the map to select somewhere else to take your handy probe, when all the planets have become infected your mission is over and it's off to bed for a long time.



▲ In the control room where the whole world awaits your decision.



▲ Based by a bomb - but's more effective than the one which hit Frank Bruns.



▲ Sub-Earthian level - it's so under the place is prohibited - everyone would fall through the hole!

GRAPHICS AND SOUND

Pioneer Plague uses the Amiga's barely named HAM (high and multi) graphics facility to exploit the entire spectrum of 4096 colour's available. HAM graphics are nothing new - they've appeared in lots of painting and drawing packages, but their use in games is a revolution. HAM graphics require a great deal of processor time because of the range of colours used. This is bad news for games which are notorious for demanding a great deal of speed from the computer.

Although 4096 colours might sound like a great idea, they only appear on the top of the screens - the action screens are forced to use more conventional graphics. Apart from that, there is the great sounding 'Sub-Earthian' level, which really gives an effective impression of speed, with lots of true stereo sound effects crapping up all over the place as well as digitised speech. Pioneer Plague is a pretty impressive game.

CONCLUSION

The Amiga's assets have definitely been pushed to the limits here. 4096 colours and fast drums sound doesn't crop up on too many games such as these these days, and an SF version would seem very unlikely. The gameplay doesn't really resemble the second plot too well but lots of good effects keep it interesting. Whether it will stand the test of time is debatable - for all its flashy graphics it lacks the addictive qualities of its less colourful ancestors.

video graphics	5	4	3	2	1	0
moving graphics	5	4	3	2	1	0
soundtrack	5	4	3	2	1	0
loading interest	5	4	3	2	1	0
overall	78%					



BUSINESS PARTNERS

Atari have just begun offering 1040STs bundled with a complete set of business software — Microsoft Write, Superbase Personal and VIP Professional, to be exact. Too good to be true? PAT WINSTANLEY sees whether the trio really does offer you the ideal start.



THE DATABASE: SUPERBASE PERSONAL

Precision Software ■ usual price: £59.95

The most important feature of any program intended for the home (and probably inexperienced owner) is that it should be easy to use with plenty of on-screen help available. Superbase Personal certainly satisfies these criteria, despite its acknowledged power and sophistication. At the simplest level of name and address storage, the program could be more comfortable.

Using a combination of menu

and video-recorder look-alike control buttons, all mouse selectable, files can be customised and searched in a heartbeat. And if you find that your chosen format is not quite suitable in practice it can easily be modified without losing the data you have so laboriously entered.

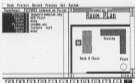
Data is stored in the usual way, each file consisting of individual

records allowing fast look-up of individual records like the index of a book.

The whole file can also be displayed on screen in three forms — Form, Table or Record view — and will show as many or few records as you wish. Records can also be selected according to preset queries, such as all addresses with a London post code.

That is the simple side of things. But Superbase is a full relational database and as such allows you to have more than one file open at once, and store sort data on different levels (eg first by name, then by age if there were any conflicts on names). Above all, the system is always fast and easy to use.

A very useful feature is the ability of the program to handle graphic records, allowing you to set up a picture database through its external file



■ Superbase Personal can store picture files in its database — a novel and handy feature

records which in turn consist of a variety of fields. Chosen fields are

management system. The names of external files can be stored in a

WHAT USE IS A DATABASE?

As a personal tool for getting yourself organised, the scope for a database is enormous, from Christmas card lists to cataloguing your collection of Customer tele records. Think of the system as a giant notebook in which you jot down all these scraps of information which normally end up floating around on different bits of paper. The beauty of a database is that you can let the system do all the sorting and sifting needed to find that one bit of information you pulled down somewhere last year.

For business use, a database not only acts as a full-featured filing system, but most programs also allow data to be imported to other applications such as word processors. Data handled in this way can then be incorporated in stock requisitions, mailshots, batch invoicing etc. With a little thought a database file could even be the basis of your annual accounting procedures.

features

1 2 3 4 5

performance

1 2 3 4 5

ease of use

1 2 3 4 5

reliability

1 2 3 4 5

SUPERBASE

for

- Can include pictures in data
- Record format can be modified
- Simple, self-explanatory controls
- Relational database facility

against

- For the serious business user, lacks programmability



Superbase file and the external files themselves (which may even be on a different disk) may be displayed using the system's indexing and searching facilities.

The program comes with a variety of demonstration files including pictures and addresses, and the menu contains several steps-by-step tutorials suitable for both newcomers to the database concept and old hands too.

Although Superbase promises for more power than the average home user would normally need, it's always nice to have extra power available, especially when the first level of the system is a double for the novice.

THE SPREAD-SHEET: VIP PROFESSIONAL

VIP Technologies ■ Usual price: £149.95

VIP Professional is an integrated spreadsheet program which can work purely as a database and graphing program as well as following the Lotus 1-2-3 industry standard.

The program offers a giant 8192 row by 256 column spreadsheet; it also allows PC-format Lotus 1-2-3 files to be imported and exported. Control of the program is by a combination of keyboard and mouse with menu commands available from either the menu or the function keys. An extensive help file is available on screen and the manual is clean, simple to use and very informative - just the thing for the novice.

The screen display normally shows seven columns by fifteen rows, but column width can be adjusted to screen more if, individual cells are selected either by clicking on it from or using the GOTO command. You can use multiple windows to allow two sections of the spreadsheet to be viewed simultaneously.

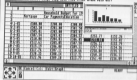
Cell contents can be absolute values, simple variables or complex calculations and the program allows a formula to be copied to another cell while automatically adjusting variable names in the process.

Calculations can be performed on single, or whole ranges of cells, usually by specifying the area involved and it is easy to set the equations so that changing one absolute value results in the recalculation of the entire sheet.

Results of calculations can be displayed in a variety of graphical forms such as columns or line graphs and pie charts. Files can be added to graphs to provide necessary explanation to express the task manager.

Editing is quick and simple with insert and delete options offering

Lotus 1-2-3 Worksheet View from VIP Professional into lot



■ VIP Professional selling you how it is, both conventionally and (just) as a graph.

both individual cell facilities as well as cell ranges and also entire columns and rows.

The program offers some unusual and powerful built-in formulas such as @IF@ (If-Then-Else) which puts you the hassle of working out very

"Why don't you write this routine using @IF@..." interjected the editor. So here we go.

The first thing noticeable about the program is its speed - or lack of it. Because you have to use the GEM/GDOS system to access the different

BALANCING THE BOOKS

In days of old when knights were bold and the only money we possess possessed was a pig and a couple of furs, personal financial management was simple. Nowadays it is all a little more complex to say the least.

If you're ever tired of wading out a budget covering several months, attempting to optimize interest on credit cards, loans, bank overdrafts and at the same time still have any hair left, you'll appreciate the merits of a spreadsheet.

Essentially a spreadsheet is a giant sheet of paper on which is "typed" up lots of little boxes arranged in columns and rows. Depending upon the total set up the columns may each represent a single month while each row could correspond to an item of income and expenditure. You can add up the rows and columns, or do other more complex analysis, then total the figures to get the results you want.

The job of a spreadsheet is to calculate the results of such questions as "What if I mortgage at a lower rate of interest but have to pay an average rent for it to do so?" or "Should I leave money in the building society or pay off my credit card?"

complicated expressions. Also available are the usual mathematical and statistical functions.

Keyboard macros allow sequences of keystrokes to be allocated to a letter that saving time and errors when repeating regularly used complex commands.

In addition to normal spreadsheet facilities, VIP Professional also offers rudimentary database operation with search sort and statistical analysis readily available.

In short, the program packs little if anything required by the casual user yet at the same time allows newcomers to plunge straight in and produce results.

THE WORD PROCESSOR: MICROSOFT WRITE

Atari UK ■ Usual price: £149.95 ■ Needs two drives

builds the system a painfully slow.

The editing system is clumsy and awkward. For instance with a choice of both Backspace and Delete buttons on the keyboard you would expect to be able to use both. Not so this program. Press Delete and nothing happens at all. Cursor control is also less than satisfactory. When you press an option key you expect the cursor to move straight up, not

VIP PROF.

for

- Industry standard Lotus 1-2-3 controls
- Acts as simple database
- Graphical output
- Good range of specialist arithmetic

against

- Poor enough in-depth coverage in manual
- Slow on large sheets

features

1 2 3 4 5

performance

1 2 3 4 5

ease of use

1 2 3 4 5

manuals

1 2 3 4 5



deluxe to the end of the previous line. However, Write's range of Mark editing features make life easy when adjusting the overall arrangement of a document. Immediately worthy of note is the Glossary. This almost regularly used glossary to be saved under a keyword, using typing marks. When the glossary is required the keyword is typed followed by Control and Backspace to bring the glossary, and there it is sitting in the document. You can also cut and paste between several different documents.

Menu commands are available for a variety of page setups, including gutter margins, which allow extra side margins to the left side of odd pages and the right side of even pages in preparation for binding. Line spacing within paragraphs and even spacing between paragraphs can be altered, and text run (ie centered, right or left justified and justified). It is even possible to fill a tabbed area with a heading line of data.

The document itself can be laid out as a single column of text on the page or may be split into up to six equal columns. The columns only appear when printed as the screen simply shows one long column of the correct width.

Page numbering is available in numeric, Roman or alpha style. This could be very useful in an instruction book or manual which benefits from different styles of numbering between the main body and the appendices. Footnotes can also be inserted.

When it comes to producing different styles of text, Microsoft Write is very simple to use. Assuming GOS is in memory, a single menu option allows plain, bold, italic, underline, outline, superscript and subscript. Also available are four different fonts: System, Times, Dutch, and Helvetica, the default. Each font is available in a range of sizes to give variety to the document.

Overall, Microsoft Write is a good tool for producing short documents such as personal mail but for more serious applications to speed lets it down.

CHARIOTS OF THE GDS

GDS is a program which is added to the OS system to enable the ST to use graphics printing devices like printers, and also to display custom fonts on screen. It is installed in memory before the main program is run, and like a disk inventory is transparent to the user.

Microsoft

WRITE

for

- Variety of fonts available
- Choice of WYSIWYS & "standard" display
- Mail merger included

against

- Very slow WYSIWYS mode
- Awkward editing system
- No spelling checker or word counter

Get It! Get It! Break Through Another Barrier



Microsoft Write displaying its selection of GDS fonts for your selection

GETTING IT ALL TOGETHER

With these three packages beside your 1985, all compliments of Atari, it would be hardy to be able to take data from one program to use in another. An obvious place to begin is mailmaking, so we'll use a name and address list from Superbase to personalize a form letter composed in Write.

This proves to be very simple although some approximations are needed

thoroughly number-based, and databases tend to be text-based, these probably aren't too many occasions when you'd want to exchange data anyway.

Triple cleaner

As a better pack, the combination of Superbase, WP and Write makes the 1985 superb value for money and you'll get along very nicely. Superbase and WP are excellent programs even if you started out hand-coded for them, but Write is a bit abused as a serious WP.

Although the three aren't

HIDDEN FROM SIGHT

Most processors can be divided into two main categories - those which show the text as it will appear on paper (What You See is What You Get) and those which don't.

Now WYSIWYG systems like Preview generally hide formatting commands within the text as symbols which can give on-screen justification but don't alter the program data. When WYSIWYS is in operation the computer has to spend a good deal of time simply updating the screen when scrolling takes place and in extreme cases this can slow down program operation to a snail's pace.

For straightforward typing of letter text a non-WYSIWYS system is the best for speed and accuracy. Files prepared in this way can then be loaded into a WYSIWYS system - typically a desktop publishing program - for final proofing and page layout.

Microsoft Write offers both options. The simple system without GDS and WYSIWYS facilities with GDS installed

ed to progress past the first address.

First, in Superbase you open the address file and type on your name and address data. Using the Export option, save the file data in ASCII form. Now you need to load it into Write for any final editing and additions.

Speeding it up

You may want to import data from the WP spreadsheet to Write as well, for example to include a table of figures in a report. This too is relatively easy and you simply save your output as an ASCII file and merge it with your Write document.

Swapping data between Superbase and WP, although theoretically possible, is rather more tricky due to the specialised formats involved. Once spreadsheets are

designed as an integrated package, overall the three packages work well together and for the average ST owner will prove more than adequate for any likely application. Good marketing by MaryDB.

Meanwhile you need to add a line at the start of the ex-Superbase data file saying what the names of the different fields are (eg, "Name", "Address1", "Address2", "WorkDate" and so on). This tells Write what order to import the data in. Now save the new address file and then saved out to disk in ASCII format and reload it ready to go.

Selecting Post Merge sets things moving, and letter number one should be printed out beautifully, unless you've got some field names wrong or other silly like misplaced commas. Easy as pie!



WIN A YEAR'S SOFTWARE!

It could be Christmas for you every single day of 1989. Two giants of the industry - Atari and Electronic Arts - have combined forces to offer ST Amiga Format readers the chance to win all their software releases in the next twelve months. And all you have to do is apply your grey matter.

So the ST and Amiga have got some incredible software, but what's so special - it isn't all that cheap. How do you celebrate the top programs? Hard earned cash, presents, Christmas and Birthdays, personal savings? Two lucky readers can forget all these techniques for the whole of 1989. The merry elves at Atari and Electronic Arts have come up with a real cracker of a prize in our silly festive competition. The first two correct entries (pulled out of hundreds) each will receive EVERY

PRICE OF SOFTWARE for the ST which Atari releases in the next year, or EVERY PACKAGE for the Amiga from Electronic Arts, the leading software house for the Amiga, plus loads of lovely raffle prizes too.

Both companies are expecting a bumper year for new software. Atari are launching four new software labels from this month's issue pages for the full story and releasing everything from a rework of its own classic Star Raiders arcade game, through magazines and puzzles to high-end

ered business software such as the continuing Hyper business series and Calamus Desktop Publisher from Germany.

Electronic Arts will be building on the strong position they have built for themselves with the superb Deluxe range of creative software, and top-selling games like Interceptor. They already have Snake in the end Christmas Number lined up, plus a game from Bullfrog, authors of Fusion, and there are sure to be further developments in the future

THE QUESTIONS

1. Which of the following songs games was released by Electronic Arts in 1985?

- a. Yma
- b. Interceptor
- c. Demolition II
- d. Menace

2. Which of the following animals is definitely related to the elephant?

- a. The armadillo
- b. The Capybara
- c. The hyrax
- d. The skap

3. Which input/output port is found as standard on only one of our favourite two micros?

- a. SCSI
- b. DMA
- c. MDI
- d. POSTC

4. Which of the following is NOT a standard size of computer floppy

disk?

- a. 3"
- b. 3.5"
- c. 5.25"
- d. 5.5"

5. Which of these Future Publishing magazines comes out most frequently?

- a. New Computer Express
- b. ACE
- c. MICRO Plus
- d. ST Amiga Format

6. Which city is the home of Electronic Arts in the USA?

- a. New York
- b. San Francisco
- c. New Orleans
- d. San Diego

7. Which CD show uses Amigas in its video recording?

- a. Top of the Pops
- b. The Chart Show

8. Tomorrow's World
a. Spelling Image

9. What is the name of Atari's UK HQ?

- a. Steve Franken
- b. Sam Tramer
- c. Jack Tramer
- d. Bob Gardner

10. Who wrote the short story 'The Making of the Armadillo'?

- a. Ted Hughes
- b. Rudyard Kipling
- c. Ronald Dahl
- d. Fay Weldon

11. Why is the Atari ST 'Mega' range so called?

- a. Because they're really fast
- b. Because they're a lot bigger than other STs

12. Why do they all have at least 2Mbyte of RAM?

- a. Because they were designed by Bill A. Bellenhaver



THE METHOD

Study questions 1 to 10 and using your skill and judgement - or by taking wild uninformed guesses - decide on your answers. Any back copies of *Format* you have lying around may prove useful. Write down the letters corresponding to your answers, and you should have ten letters. These letters can be rearranged to make a phrase of two words, relevant to both ST and Amiga mice.

Write the phrase (not all the individual answers) on a postcard or the back of a sealed envelope, together with your full name and address. Don't forget to say whether you would like to win ST or Amiga software as your prize.

Send your entry to: **Feature Profiles, ST Amiga Format, 4 Queen Street, Bath BA1 1EL.**

series.

The ST cover and one Amiga cover will win all these issues absolutely free, provided they can answer all the questions in our Christmas quiz and come up with the answer we're

looking for. And there's a bonus of numbers as prizes for the near-winners.

By the way for fun or for gain - you'll need your wits about you, but then what are Christmas holidays for?

THE SMALL PRINT

1. All entries must be received by Thursday 20th January 1989. Entries will be processed in the March issue of ST Amiga Format.

2. The judges decision is final and no correspondence will be entered into.

3. Only one entry is allowed per person. Multiple entries will be

immediately voided out and discarded, then there'll be a midnight knock on your door and you'll never be back again.

4. The competition is not open to employees of Electronic Arts, Man of Future Publishing, or licensed associates.

THE PRIZES

On the ST!

■ **First prize** - One copy of every ST software package released by Man UK in 1989. Although plans haven't been finalised, you're likely to get over £500-worth of top quality business and games programs from the best who have joined the ST. HyperDraw, HyperChart and Database DTP lead the way in business, plus some outstanding games from Man's arcade list.

■ **Five runners up** will each have the choice of a mystery game courtesy of Man UK. Hardware software! Only you can find out... send the postcard off today!

On the Amiga

■ **First prize** - One copy of every Amiga software package released under the Electronic Arts label in the calendar year 1989. EA say there'll be around 12,000, worth hundreds of pounds in shop prices. Cash to you via postage stamp.

■ **Second prize** - Your choice of any four EA games from their exciting Amiga range.

■ **Third prize** - Your choice of any two current EA Amiga games.

And as if that wasn't enough, all the first 1000TV entries will all receive a classy Electronic Arts t-shirt - ideal for showcasing all your friends that you're an incredibly highly paid programmer.

■ Just some of the exciting Amiga releases from EA - you could win the next year's batch.

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PROGRAMMING

LEARN BASIC

Wiping the tears from his eyes, **RICHARD MONTEIRO** concludes our instant programming course with a look at graphics and sound.



LISTINGS ON DISK

To load listings into AmigaBASIC, visit your Amiga and insert a Workbench disk. When the WIMP environment appears, replace the Workbench disk with your Extras disk. Double click on the AmigaBASIC icon after clicking on the Extras disk icon. AmigaBASIC will load. Go to the Program menu and select Open. Click on the driver or requester and enter LEARNBASIC. Click on the Release response, insert the format cover disk containing the BASIC files, reinsert the AmigaBASIC disk and press Release. The file will load. You may not be clicking inside the BASIC window yet typing this:

Loading listings into PowerBASIC (Windows version) is accomplished by using a copy, visit your ST and place the issue 2 disk in the drive. Double click on the CLICK.ME.PRG file icon when it appears. Choose PowerBASIC (P) from the menu. PowerBASIC will load. The BASIC listings are loaded into PowerBASIC by inserting the current issue disk and selecting Load from the File menu. Double click on the CLICK.ME when it appears in the selector box. The chosen file will load ready for viewing. Unscrambled versions of these programs, with BASIC extensions, are also on the disk. These are for use with the full version of PowerBASIC.

CUE FOR A NOTE

AmigaBASIC supports SOUND INY and SOUND INFM statements, the SOUND INY statement controls all addressed SOUND statements to be sound until a SOUND RETURN is issued. This can be used to synchronize the sounds coming from the four audio channels. I use many SOUND statements are issued without using a SOUND RETURN.

AmigaBASIC generates an out-of-memory error,

which handles keyboard entries, while a program is running, were explained in detail, formulas were explained.

Part 2 — loops and branches were the topic of the month. Forward and backward counting FOR NEXT loops, GOTOs, GOSUBs and GOTOs were of these.

Part 3 — conditional loops and branches, IF THEN ELSE and WHILE AGAIN conditions were covered in depth. Relational operators, which are used to compare two values, were explained in full. So too were logical operators (NOT, AND, OR, XOR and so on).

Part 4 — data structures and the different types of BASIC variables were detailed. Dimensioning arrays and

reading values from them was also outlined, but Marged Ferts stole the show.

Part 5 — the joy of the handling, sequential and random-access files. Which a text for you? Explainers of how to store, retrieve and append files. Generalized data I/O too.

Part 6 — continues...

Making music

The simplest sound that can be made is the sine, or ASCII T, beep. There are two ways of producing this noise: either by PRINT character codes to the screen — PRINT CHR\$(3) — or by using the command BEEP.

More complex noises are achieved using SOUND and BEEP. Unfortunately the parameters following the commands have different meanings on the Amiga and ST, which is fairly surprising as both micros have different sound chips. The Amiga's sound generator is a pseudo-4-channel after allowing amplitude and frequency modulation. While the ST's chip offers 3-channels for voice and square-wave envelopes.

Forget the technical waffle, here's how to make noises on your machine. ST first.

ST **SOUND** voice, volume
L (note) L (octave) L (duration)
Anything enclosed in square brackets is optional. The first parameter, voice, determines which sound channel should be used, and ranges from 1 to 3. Volume controls the output for the particular channel, and ranges from 0 (off) to 25 (very loud). Note and octave determine the pitch of the note. The octave ranges from 1 to 6 and the note from 1 to 12. Duration is simply the time the note plays before starting the next note. It is measured in 50ths of a second.

Pressing a key will normally kill any sound being made due to the ST's keyboard click. The click can be killed by disabling it through the Control Panel or by an OSROM call (more on these shortly).

By this screeching computer:
FOR i=1 TO 4
SOUND voice,i,1,1000,100,100

GEM FROM POWER BASIC

The demonstration version of Power BASIC has been modified to prevent you from manipulating ROM (only on the full version); a copy of £29.95 from Future Special offers — 06.

Power BASIC is supplied with several libraries (libraries or callable sub-programs). The file PRASIC.LIB, or HBASIC.LIB if you've got the developer's version, contains the additional libraries together with the corresponding run-time libraries.

- BIOS Basic input and output
- CLIB Extended I/O
- CMEMOS The operating system
- CONIO Virtual device interface
- GENLIB Application environment services

If you want to use any particular library you have been to specify its name along with the LIBRARY statement. For instance,

```
LIBRARY "bios"
*BIOSinput;0;
PRINT "Enter parameter loop:";1;
PRINT "Enter loop counter:";1;0000;1;
PRINT "Enter loop duration:";1;0000;1;1;
PRINT "Enter loop duration in seconds:";1;0000;1;1;1;
PRINT "Enter number of seconds:";1;1;0000;1;1;1;
PRINT "Enter number of days:";1;0000;1;1;1;
PRINT "Enter number of days in seconds:";1;0000;1;1;1;
PRINT "Enter loop flag:";1;0000;1;1;1;1;
```

When using the supplied libraries you will often need to pass an address as a parameter. This can be done using \$MPTR or \$ADR (for strings). Many functions and subroutines are straightforward, but others can cause problems based with the system if (especially) the Control Panel OSROM Programmer's Reference published by GEMsys is a very useful reference if you're going to use libraries seriously.

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AMIGA ANIMATION



With its unrivalled range of quality animation packages, the Amiga is undoubtedly the choice for most Animators on a tight budget. JASON 'WALT DISNEY' HOLBORN tries out two of the latest low-cost offerings.

In the days of Donald Duck and Mickey Mouse, animation of even the simplest of images was a time-consuming task. Each frame of animation had to be painted by hand and then overlaid onto acrylic backdrops. Even just a few seconds of simple animation could take days to produce. Today's animators have at their disposal animation techniques that would have made old Walt green with envy.

FANTAVISION
£20 ■ All Amigas ■
Broderbund/Amiga Centre
Scotland, 4 Hart Street
Leam, Edinburgh EH2 3RN
(031-557 4242)

Strictly speaking, Fantavision is not a new arrival on the animation scene. A few copies of the American HITSC version have been floating around the various software importers for a number of months now, but with the recent release of the new PAL version, European Amiga animators should find Fantavision of great inter-

est. Fantavision has simple aims - to let you animate two-dimensional shapes on screen, with a background of any picture you've drawn in a paint package. It makes no pretensions to being a full 3D modelling package.

To create an animation is surprisingly simple. The first step in the production of any animation is to create an object to animate. The simplest item used by Fantavision is the polygon, which can be of any number points in any shape, from a 3-point triangle to a 100-point decuss shape.

The next step is to breathe life into your creation. You can manually drag points of a polygon around, or alternatively, Fantavision provides a well-thought-out set of standard object manipulation tools. You could for example have your object flying about the screen while seeming to rotate in three dimensions and changing from a 100 into a superionic jet. Sounds adventurous, but you'll be surprised how quickly and easily this kind of animation can be achieved.

As well as polygons, Fantavision also allows you to use EP brush files

(small files of a picture saved from a paint package) as animation objects. While using bitmap objects is nice - they contain a reassignable image rather than being a blank polygon - they also have their drawbacks. Many of the useful object manipulation tools for writing things are restricted to working on polygons only. It is possible to animate bitmap objects, but this requires each frame to be drawn by hand in a paint package and then brought in independently. Barely losing the advantages gained using drawing.

Fantavision can be used in all the Amiga's display modes, including 4800 colour field and 8-bit/16-bit mode. The only disadvantage of producing animation in Hi-Res mode is that by the very nature of Hi-Res, speed is sacrificed, but generally, Fantavision's rendering is speed in

TWEENY BOPPERS

The workings of both Fantavision and Forces in Flight 2 are based firmly around the theory of image freezing. This is a technique whereby only the first and last frames of an animation need be drawn by the user; the computer is left to automatically calculate the frames in between, hence the name freezing. Using this system considerably speeds up the development of an animation sequence when you consider there are usually just a dozen frames a second, because only the major frames are drawn.

Fantavision's freezing, surprisingly, is more sophisticated than Forces in Flight's. With F-in-F, all you can do is move and rotate a fixed shape around the screen, but with Fantavision you can transform one shape into another as you go. For instance, if you wanted Mickey Mouse to raise his arm you would just outline a Mickey with one arm down and one raised, and the program would do the rest. F-in-F could only move Mickey around the screen clockwise.

FANTAVISION

For

- Very easy to use
- Excellent Manual
- Works in all graphics modes
- Can import EP sounds

against

- Slows down when using higher resolutions
- Doesn't cover true 3D animations

features

1 2 3 4 5

performance

1 2 3 4 5

ease of use

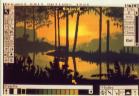
1 2 3 4 5

manuals

1 2 3 4 5

format value

1 2 3 4 5



■ Fantavision uses a reflection system similar to that of Deluxe Paint.



■ An object can easily be animated in Form in Flight by moving particular points. Here, the dinosaur is first selected, then the points that make up its neck are moved to their new location. The dinosaur will follow its head smoothly.

general. Particularly in the higher resolution modes, it does slow down considerably to the point where editing for the program to catch up with you becomes annoying.

The manual is well written and includes numerous screen shots which helps considerably when first looking through the program. For first time animators, the manual includes a tutorial which guides you gently through the basics of the program.

So now for the six million dollar question: is the program actually any good? If you're a new arrival to the world of animation then there is no better introduction than Fantasticon. The program is both easy to use and powerful and with a price tag of under £40 you've got a bargain.

FORMS IN FLIGHT 2
EP9 ■ All Amigas, 1MB required ■ Micro Magic/Amiga Centre
Scotland, 4 Hart Street
Lane, Edinburgh, Scotland
EH3 1RN (031-557 4242)

The next step for most animators

used to the flat world of 2D is to move into a new dimension, that of 3D graphics. But for the first thing, that will often be you during the transition is that working in 3D is a completely different ball game.

Forms in Flight 2 is actually two programs rolled into one. The first module is a solid modelling program which is used to design your 3D



■ The very impressive dinosaur scene that is included on the disk.

objects and the second is used to actually animate what you produce in the first.

All objects within Forms in Flight are made up of two basic graphic primitives, the POLY and the QUAD. Nothing to do with the Beach Boys though; an POLY is a 2 dimensional flat surface which is used to construct a QUAD, 3 dimensional 'quad surface' which in simple terms is your 3D shape.

Any one time during editing, you can view your creation from any angle in either wire frame or as a solid object. One nice feature offered by Forms in Flight is the ability to map

any PP picture onto any surface. This could be useful as the texture of your object can be drawn in a program such as Deluxe Paint and then loaded in and mapped onto the object.

Once your object is complete, the next step is to animate it. This is achieved by defining a path of movement for the object. Forms in Flight then calculates each frame and then saves them to disk. Once the complete animation is finished, the resulting can only be displayed from a separate player program.

One last criticism is ray tracing - the ability to put a light source at some point around your object and make the surface appear to have shadows and reflections. Ray traced 3D objects look much more realistic, but the process is very complex. You'll have to move somewhere to another animation package such as Sculpt 3D for that.

The manual is comprehensive but perhaps repeats too much prior animation knowledge from the user. It includes several rather fancy diagrams but not a single screen shot appears.

If you make a mistake, the entire animation has to be re-rendered from scratch. Time is really the key with Forms in Flight, if you have plenty of it and are prepared by primitives, the resulting animations are superb, but don't expect instant results.

ADDING ATMOSPHERE

Unlike most other programs of this genre, Fantasticon's trump card is undoubtedly its ability to import sound into any animation. Any sound sample in the 8000 Hz (human ear, heard by the sound card only) can be used which can really make a substantial difference to the quality of any animation. Adding sound can save a million mediocre animations into a really impressive one (02020). For proof, try turning the volume down to zero when watching a game; the game becomes rather dull doesn't it?

HEAD TO HEAD

Briefly speaking, Forms in Flight 2 and Fantasticon are two completely different types of program, although both are categorised as animation packages, the systems used by each package are completely different. For the ambitious animator who is after true 3D animation, Forms in Flight 2 is good value, but it's quick and simple construction of your pictures drawn in 2D isn't what you're after, then Fantasticon is your best bet.

Features

0 0 0 0 0 0

Performance

0 0 0 0 0 0

Ease of use

0 0 0 0 0 0

Manuals

0 0 0 0 0 0

format value

0 0 0 0 0 0

FORMS IN FLIGHT

for

- Powerful true 3D perspective modelling
- Can map several PP images onto faces of the same object
- Shading functions smooth face edges out

against

- Comparatively complex to use
- Can't transform objects while viewing
- Lacks ray tracing & advanced 3D features



■ Forms in Flight modelling a new look in objects.

CMI AMIGA ACCELERATOR

From £179 (optional 68881 from £299.95 extra) ■ All Amigas ■ Amiga Centre Scotland, 4 Hart Street Lane, Edinburgh, EH1 3RH (031-557 4242)

MORE ON MATHS

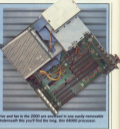
The optional 68881 maths co-processor that can be fitted to the accelerator board can be ordered at either 1.2.5MHz or 14.3MHz, in addition to the chip you'll need a crystal oscillator. The crystal speed must match the chip speed. Co-processor only worth cheap: £109.95 for a 1.2.5MHz version and £143.75 for a 14.3MHz version. The Amiga Centre Scotland will be able to help you choose the correct chip and prices.

You pay for performance. £800 for a Intel 386, £200,000 for a Porsche 959, £400 to £1,000 for a standard Amiga, and £3000-plus for a 60386 superfast PC. If you're into power computing and need loads of processing power, then start off paying £1000 for a 68000 upgrade board, the very reasonable CMI Processable Accelerator might 500x your fancy.

Your Amiga comes equipped with Motorola's 68000 microprocessor operating at a clock frequency of 7.16 MHz. The CMI board is built around a faster version of the 68000. During operation the chip runs at exactly twice the standard clock frequency, at 14.3MHz, continuously making your Amiga run faster. The board also provides the necessary hardware to support a 68881 maths coprocessor chip. This device, if plugged in, can speed floating point maths functions by an incredible 10 times.

A first step to fitting the board is a 2000, check back in to remove the screws securing the top cover. 500s and 1000s have an awful metal shield- ing that also needs to be removed. Finding the screwdriver in the smaller machines is a real headache, so it's best to get your driver to match the board.

Both the drive and fan in the 2000 are enclosed in one easily removable metal casing. Underneath this you'll find the long, thin 68000 processor.



ACCELERATED FACTS

	CALCULATING PI*	FLOATING POINT†	SAVAGE‡	WORD REVERSE§
Standard Amiga running at 7.16MHz	4.83Mops/sec	10,000/45.4s	475.4s	248Mops/s
CMI enhanced Amiga running at 14.32MHz	5.83Mops/sec	10,000/35.8s	400.8s	288Mops/s
68881 loaded Amiga running at 7.16MHz	8.33Mops/sec	10,000/18.3s	18.7s	588Mops/s
68881 loaded Amiga running at 14.32MHz	8.78Mops/sec	10,000/17.5s	17.9s	588Mops/s

*Calculates Pi using floating point add, subtract, multiply and divide instructions. The results are in hexa/8 floating point operations per second.

† Measures the time taken to perform 10,000 floating point calculations.

‡ A benchmark testing both speed and accuracy. Listing values in 10 decimal places is space consuming so we have stuck to the exact side of things.

§ The WordReverse test includes integer arithmetic, array indexing, procedure calls, conditional jumps and elementary function evaluations.

other custom chips in the Amiga — like the letter — still work at their usual rate. Depending on the application, you can expect to get anything from a 5% to 80% improvement.

Floating point maths routines will be significantly improved with the 68881 chip installed. However, only software using the WordReverse 1.5 IEEE maths libraries can access it. At present very few commercial products truly exploit 3D that we know of (link to IEEE libraries, because in general they are much slower (although a lot more accurate than the IEEE fast floating point libraries. At present, the 68881 is only ready to use if you are writing your own programs) to use it.

Overall, it's a remarkable board for the price compatible with everything we tested, very simple to use and tucked out of the way leaving expansion slots free.

Richard Mordant



for

- Very compatible with standard software
- Maths co-processor speeds up e.g. operations dramatically
- Leaves expansion sockets free

against

- Fitting the board is tricky
- Speed insurance not sharing with double-speed CPU alone
- 68881 only works with V1.3 IEEE maths libraries.

In operation

On initial power-up, or after a soft reset, the Processor Accelerator always starts to the standard 7.16MHz clock speed. This means auto-booting software like games will always run at the normal speed.

To enable double speed operation you have to run a short routine. This simply toggles between 7.16MHz and 14.32MHz — you could incorporate this in your startup-routine quite easily to make your default the faster speed.

With the processor speed clocked at 14.32MHz, you'll speed up the improvements in the speed of WordReverse operations. Software speed isn't doubled because of the



- The last stage is simply inserting the CMI board into the processor socket. The options box is for information of the go-faster board by means of a software patch. If you don't get your Amiga that the faster processor is plugged in, it will run at normal speed.



DESKTOP

Wander down to the ol' Format coral for all the very latest tricks, tips and naughty-bits that nobody wanted you to know. This month's winner is Adam Hill from Birmingham for his stereo ST tip. Now you can have sound in both ears. You too could win loadsamoney by sending in your hints.

DEGAS Dodges

If you want to avoid all the hassle of spending hours going over the Dragon colour palette trying to create all the different shades between two colours, then this one's for you. First of all, select COLOURS from the SET menu and then position the white fork on the first colour and move the mouse over the second colour where these two colours represent the shades which you wish to create. Then by clicking on the right mouse button whilst holding down the (Alternate) key all the colours between these two points will fill with the different shades.

R. Barnes
Clacton-On-Sea, Essex.

Jack-knifing NEOCHROME

Did you know that the Jackknife icon in Neochrome can be used for more than just cutting and pasting sections of irregular pictures? By choosing the Jackknife icon from the menu and selecting a section of the screen you can create your own brush in any size and shape. Move it around by holding down on the left mouse button and draw by holding down the right mouse button and dragging your brush around the screen. Different speeds and pat-

terns create all kinds of different effects.
G. Arrowsmith
Leamington Spa, Warwickshire.

Programming Accessories

In the last few issues of your magazine I've noticed that there seems to be some problems creating desktop accessories. I have enclosed a few pointers which might be of help in creating accessories.

1) Call `applet.open`, which is a standard ACS call.

2) Call the 'application ID' from the `INFOCUS` array. This value is one word in length.

3) Put the 'application ID' into the `INFOCUS` array.

4) Put the address of a string which you wish to appear under the Desk menu into the `ROCKWELL` array. The string should end with a zero byte.

5) Call `menu.yesno`, an ACS call - this actually puts the name in the desk menu.

6) Get the menu ID from the `INFOCUS` array and save it for later use.

7) Put 16 (decimal) in the

BEGINNER'S CORNER

Copying files on the ST is one of those operations which is almost as easy to understand as setting the timer on your video recorder to catch an episode of Neighbours - there's always something that can go wrong. This month we look at the various solutions.

DISK TO DISK COPYING

This is by far the simplest method of copying your data. By pointing the mouse over the `FLOPPY DISK` icon and clicking on the left mouse button, the icon will become highlighted. Holding the button down and moving the mouse lets you drag the icon around the screen.

If you move it over the top of the `FLOPPY DISK` icon so that both of them are highlighted, you will be able to copy all the files on drive A to those on drive B, even if you haven't got a second drive connected. This dialog box will appear:



The dialog will ask you to insert your 'source disk' - the disk everything is copied from. Insert the disk with the programs you

wish to copy into the drive and click on OK. Your ST will then load in all data on this disk. When the process is completed you will be asked to insert disk B (if you have a second drive connected then everything on the disk in drive A will be copied automatically to the disk in B). Only good on empty disk into the drive because the disk will be cleared and filled up with the exact contents of the source disk.

USING THE FILE COPIER

By double clicking on the `FLOPPY DISK` icon you can bring up a window showing all the programs on your disk. You can select the programs that you wish to copy by clicking on them (hold down shift and click with the left mouse button on other programs in the same window if you wish to copy more than one file) then, holding down on the left mouse button, drag the file to the `FLOPPY DISK` icon and release the button.

The following dialog box will appear:



Click A, the Source disk, is the one which holds your files and disk B, the Destination disk, is the one onto which you'll copy everything that you've selected. If you have two drives then this process will take place automatically but otherwise you'll need to swap between the two disks.

Using this method of copying extends the list of programs on a disk so if you run out of room then an error message will appear. If you try to copy onto the same disk which hasn't

another file of the same name then you'll get this error message:



Clicking on `CANCEL` will abort the copying. Alternatively, you can change the name of the file and then click on OK. If you just click on OK without changing the name then the original file on disk B will be erased and the new file will be saved.

OTHER WAYS OF COPYING FILES

There may be times when you'll want to copy something into a folder on the same disk. We can do this very simply by selecting the required programs (as outlined above) and dragging them over to a folder icon. You'll know when to release the mouse button because the folder name will become highlighted. The copying then starts.

If you wish to copy a file out of one folder and into another then you'll need to have several windows up on screen. You can do this by double-clicking on the `FLOPPY DISK` icon to bring up the windows and then opening the required folders. Select your file in one window and then drag them into another to your copy your data.

There is no quick way to move files, so apart from copying them. First you need to copy them, as described, then drag the originals to the Trash Can to delete them.



TIPS

Protect and Survive

Have you ever accidentally erased an important file? To avoid such a disaster, AmigaDOS offers a powerful facility that allows you to protect any file from a whole host of various mishaps that can befall any unprotecting file, hidden with the 'C' directory of your Workbench disk is a mysterious file in CLI command called approximately PROTECT.

Each file on an Amiga disk has four flags that determine whether the file can be read, written to, executed or deleted. By changing the setting of these flags it is possible to stop any file from being accidentally deleted. The options for the command are:

```
R - Read
W - Write
E - Execute
D - Delete
```

To protect a particular file, you enter the filename of the file to be protected followed by any combination of these codes. For example, if you had a text file called

WORKBENCH

Enter Amiga owner and discover within the next two pages a treasure trove of handy tips just for you and your Amiga. Every month you could win £30 for your genius! This month's winner is Darren Griffiths for his amazing AmigaBASIC program.

LETTER.DOC that you wished to protect against accidental erasure, you would enter

```
PROTECT LETTER.DOC WR
```

Because the D-code is missing from the WR-flag, the file, LET-TER.DOC, will now be set so that it can't be deleted. The other three flags, RW, are currently not implemented under the current release of WorkStart and are therefore ignored by the Amiga. This means you can't reprotect your files yet.

Kevin Gurney
Widnes, Cheshire

LISTen HERE

One of the major failings of the CLI command 'DIR' is that it doesn't give you much information about files - their size, creation date and so on. Fortunately, AmigaDOS does offer a more powerful alternative, the LIST command.

LIST is used to display all sorts of useful information about files, such as creation date and the protection. The useful thing about LIST is that it also includes extensive wildcard support. The options offered by LIST are: LFPS, SNCS, S, P, NODATE S and QDATE. Here's a few examples to show you the general gist of using LIST.

```
LIST *O *P* - Shows what would normally be displayed on screens to your printer.
```

```
LIST *DIR* - Displays a listing of all files without showing any dates.
```

```
LIST *DATE* - Any generated file, displays all files with their dates. This is actually the default setting so if you just enter 'LIST', you'll get the same results.
```

```
LIST *DIR* *NEW* - If another obvious one, this displays all files created since the 16th May 1988.
```

```
LIST *DIR* *NEW* - If
```

Complicated stuff that for sure I don't really need to tell you that all files created before the 16th May 1988 are displayed.

```
LIST *DIR* *L* - Lists all files without displaying any information. The output is rather reminiscent of the DIR command.
```

```
LIST *DIR* *L* - Lists all files whose filenames contain the string 'DIR'. This is perhaps the most useful option offered by LIST. Multiple things can also be searched for by separating each thing with a vertical bar. For example, to list all files containing either 'DIR' or 'DIR' you would enter LIST *DIR* | *DIR*.
```

Kevin Gurney
Widnes

Full Screen DPaint

One nice feature offered by all packages such as Proton Paint is

A FONTASTIC TIP

The Amiga's standard 'basic' font is of very nice, but wouldn't it be nice to use all those other fonts that are on your Workbench disk from BASIC? With this little snippet of source code you can!

Technically speaking, it's not possible to change fonts from the current release of BASIC. The program below works by bypassing BASIC and calling the Amiga's ROM kernel routines directly. For this to work, the two libraries FILE, @kernel.device and graphics.device must be present in the same directory as the program itself.

You'll find graphics.device on your Extra disk hidden somewhere in the BasicDisk drawer. However, the library @kernel.device has to be constructed using the program CONVERTLIB in the BasicDisk drawer. The actual library in its converted form is in the drawer 'F00.2' on your extra disk under the filename of @kernel.lib.16.

To launch the library, firstly load the program CONVERTLIB by clicking on its icon. Once loaded, it will ask for an input filename, enter filename 'F00.2\@kernel.lib.16' and press RETURN. When prompted for the output filename, enter filename @kernel.lib.16\@kernel.lib.16 and press RETURN.

```
DEFEND 0-0
MODES "font font font font font"

DECLARE FUNCTION openDiskFont LIBRARY
DECLARED FUNCTION openFont LIBRARY
LIBRARY "graphics.device"
LIBRARY "@kernel.lib.16"

PROC main = "basic"
```

```
FontColor = 0
FontAttr = 0 - JAGG (*FontColor) + *Color + CHR(0)
FontAlign = 0 - FontColor + FontAttr
```

```
FontColor = GraphicsFont (*MPTR FontAlign)
IF FontColor = 0 THEN
PRINT "Unable to open font."
END PROC
END IF
```

```
CALL DEF:Font | WINDOW #0, FontColor
PRINT "Back to Home Away! Now on Diamond Font"
ClassFont | FontColor
```

```
FontAlign = 0 - JAGG (*Input-Font) *CHR(0)
FontAttr = 0 - 0 - 0
FontColor = GraphicsFont | MPTR FontAlign
CALL DEF:Font | WINDOW #0, FontColor
PRINT "Back to Super 8 Home!"
```

Main:
LIBRARY CLOSE

If you're feeling in a lousy mood and can't be bothered to type the listing in, we've included the above program and the 'font font font' on this month's cover disk. The program can be found in the LearnBASIC drawer along with a short note on how to install the files and run the program.
Darren Griffiths
Trowbridge, Wilt

the ability to work in screen mode. Under normal circumstances, the Amiga display is restricted to a rectangle in the center of the screen but with certain modes enabled, the entire screen can be used.

The first thing you must do to access screen is to increase your working page size. This is achieved by selecting the PAGE SIZE option from the Protect menu and a responder will pop up. Next select 'FULL VIDEO' and click on OK. Not a great deal has happened has it?

What you have now done is to increase the page to screen size. Unfortunately, D'Edit does not allow you to actually work in screen mode; you can only display what you have produced.

To display your work of art in screen, select 'SHOW PAGE' from the project or press <Shift><Ctrl>. To return to the normal mode, just click the left mouse button.

A Bug-Busting Tip

One of the most common errors that crop up is AmigaBASIC programs in the use of reserved words as variable names. One way of trapping this kind of error is to enter all your programs in

lower case. When you get to the end of a line and press return, AmigaBASIC automatically converts all reserved words to capitals. If any of your variables change to upper case then you know that you have used a reserved word.

This is also handy for trapping typing errors. If the command you enter doesn't get converted to upper case then you know that it either isn't an AmigaBASIC command or you have made a typing error. Simple but useful eh? Patrick Saunders Coventry

Printed results

If you get very frustrated trying to use the CLI to examine the contents of your disks on screen either because the whole lot won't fit on the screen or you just want a quick look at a file you had on screen but mislaid again, then the obvious answer is to get a hard copy of the info you want. But, sadly, the Commodore manuals aren't very helpful - the information there but only just. In fact it's quite simple to print the results of a DB command, you only need to add the desired symbol - and state which to send it to.

For example, if you wish to have a printout of your current



Redirecting the output from a CLI command to its own independent window. Pressing the SPACE bar will halt the output while the BACKSPACE key will continue it.

directory simply enter the following from the CLI:

```
DIR > PRINT
```

You don't have to send the results to your printer right away. Sometimes it's useful to have a copy on disk. To store a disk's directory in a file called DIRECTORY.DIR, use

```
DIR > DIRECTORY
```

This opens for possibilities if it already existed a file called DIRECTORY which contained the results of the DB command. At a later date you can

```
TYPE DIRECTORY
```

to display it on screen or COPY DIRECTORY TO UNIT to print it.

David Martin
Leeds

Console Time

One of the most neglected features available to CLI users is the Amiga console window. The console device allows you to redirect the output from most commands into a separate window, thus freeing cluttering up your main CLI window. This is achieved using the same technique as used to redirect output to any other Amiga device such as the printer.

For example, what would you do if you wanted a directory listing of a disk that was checked/checked with files without removing what is already on the screen? Simple, you use the console device.

```
DIR > "CONSOLE:DIR:DIR"
```

Click 'Directory' (DB)

The above command will redirect the output from the DB command to a window of dimensions 640 by 200 pixels. The text string in the window will be:

Once the command has finished, the console window will be automatically closed and control returned to your main CLI window. To halt the display of text in a console window, just press the space bar and to continue, the back space key.

One thing to note about using redirection under AmigaDOS is that the actual redirection has to be at the start of all parameters for a command. Entering DIR DIR: > PRINT will not work, it should in fact be DIR > PRINT: DIR:.

More Shortcuts

Have you ever been busy typing away within your Word Processor when all of a sudden a responder pops up adding you to 'beast' position...? Having to dig deep under the masses of printer paper to locate your mouse can be annoying to say the least.

Lucky, Workbench features a keyboard shortcut which allows you to 'click' on either RETURN or CMDCL without ever having to disturb your mouse.

When a Responder pops up, while pressing the left Amiga key (press V for RETURN or B for CMDCL).

BEATING THE GURU

Here's a handy little tip for those of you who program the Amiga in languages such as C and assembler.

Picture the scene, there you are writing a program to access the RAM banked, the compile it, everything seems ok. Then you run it and before you only eyes your Amiga gets an attack of the Gurus. You can say goodbye to the contents of your RAM disk!

One of the most common causes of a crash is a stray pointer it is all too easy to forget to initialise pointers and pointers but the results can be disastrous.

However there is a way of maintaining control of your Amiga even after the dreaded SOFTWARE ERROR squawks upon you. Contrary to what most non-Amiga owners would have you believe, the Amiga does manage to keep most crashed tasks under control long enough for you to user everything off to disk.

The solution is to keep at least two CLI windows open. When the Guru man's off your head, to only lose possession of the CLI window that launched the program that crashed then. All you now have to do is to select the CLI window that is still alive and save the contents of your RAM disk onto a floppy disk.



Don't let the Guru finally get his way! By merely opening a second CLI window, you can still salvage the contents of your RAM disk.

FANCY A WEDGE OF DOSH?

Has your daily grind for making sound in your PC just ending on a costly little fee, you could use a wedge of DOSH (Dosh) software. On then, get these tips leading in. We want you at all time, because CLI commands, saving Amiga tracks, getting the most from your Word Processor, the most efficient way of creating your Amiga... we will perhaps not that last one but anything else. We want you on DASH! Today!

What are you waiting for? Load your Word Processors or change your Amiga and get better! Send your requests to: DOSH, ATTACK BY DOSH FORUM, a Quality Product, 66666th St, New York, NY 10001, and you'll be getting what you're going to need at that lovely currency. This month's lucky winner is Steven Griffin from, Tewksbury in Middlesex.

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MPS 1500C



MPS 1200P

MPS 1200P

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A TECHNICAL CHAIRTYRE'S

PRINTING TECHNIQUE

DRIFT (MM) 1mm (vertical line) 2" (horizontal line) - principal. 0.1mm x 0.1mm

TRANSFER SPEED

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GOLD DUST

Well, I got it wrong. Apple didn't show the 486-based ST as I anticipated last month. Instead, they didn't exhibit at Comdex proper, but rented out a few rooms in a nearby hotel. Most of the computer wizzes have already reported on the prototype ST laptop — code-named Stacy by Atari — but I can exclusively reveal that two laptops are in the pipeline.

To prevent confusion, let's code-name them Stacy 1 and 2. They're a bit confusing, isn't it? — I'll. Stacy 1 is the laptop that most other publications have reported on. Stacy 2 is an as-yet-unannounced true laptop, plans for which were leaked previously to a very few Comdex attendees.



Stacy laptop-PC — Stacy 1 will look like this, with a trackball too.

Stacy 1 is the baby laptop which almost all the Comdex Las Vegas journalists reported on as looking similar to the Toshiba 11130. Europe will get its first peek at Stacy 1 next March, at the Hannover CeBIT Fair in West Germany. By then, plans should have crystallized on Stacy 2, the second-generation ST laptop from Atari.

Son of Stacy

Stacy 2 has a nice backlit LCD screen that, unlike the bulkier Stacy 1, will have no hard disk. The machine should be close in size to the tiny Toshiba 11130S.

Pricing? That's anyone's guess, although the machine now makes it to market, what is becoming clear is that Atari was

After the ST laptop, another ST laptop! Industry-watcher Steve Gold looks at Stacy-2 and Comdex's repercussions on the rest of the U.S. scene.

lying a few lines by promising a mockup and some hand-drawn alphabet laptop prototypes at Comdex.

Which brings us on to the 60000-based ST. Jack Tramm announced at a developer's conference, held at Comdex, that the first loss will ship some time during the second quarter of 1989.

ing it, shipping 68K products from its catalogues in the US, in place of ISA-based. For the ST, the company has signed a major deal with AGS of Manchester based in the UK. The first result of the new deal is that Motorola are now distributing HSO's Basic for the ST in the US.

The deal is good news for HSO's ST Basic fans in the US, since it means the company of a machine started for its products in the US.

Sharp Corporation is reported to be chomped off with the lack of



support that Atari is giving developers. As a result, the company announced at Comdex that it is

now concentrating new product development on the Amiga, leaving the ST to receive modified versions of products designed for other machines.

The good news is that the company is developing an internal 2400 based model for the ST, based upon the design of the 68M and the company wanted at Comdex. At \$14995 for the 68M version, the model sounds like it will be a good buy for ST users.

Finally, just room to repeat the comment that Sam Tramm made to Steve Gold's wife, Cindy, at Comdex. "It looks we'll be bringing a Mac laptop out before Apple does," he said, looking at the "Smack" SuperMac 128 colour Mac emulator for the ST.

Commodore-dea

Commodore had a fine time of it at Comdex as well. The company showed off two new Amiga's: the A500HD and the A2900. The A500HD is really an updated version of the existing A500 machine, with a 68080 fast disk filled with ready-made business software. The A2900, meanwhile, is a totally new machine aimed at the film and graphics workstation market — see the news pages for full details.

There was still no sign of the 1M-equipped 4000 at Comdex. Sources close to Commodore suggest that plans for an expanded 68M A500 have now been shelved, owing to the cost of the 68M chips. Commodore's lack of enthusiasm for an increased memory 4000 could have something to do with maintaining the differences between the baby Amiga and the A2900 — or are I just being cynical?

■ Gold Dust is compiled from the 65 online services by Steve Gold, a freelance journalist specialising in computer communications. Email, industry tips and comments are welcomed on Telecom Gold 72-8862066 or via the 65 E-mail network: Compuserve 760111155, 30003 895 & 001, and The Source on F3035.

The machine will not, however, be 100% compatible — in it won't run ST software — and is priced firmly at the Unix workstation market.

However, Tramm and others also revealed the existence of a 60000-based ST Plus, a machine which many ST users expect will at last equal the performance of the Amiga in terms of graphics and sound. The machine is reported to be somewhat 60000-based ST compatible, but the question is — are we addressing a market of the Sinclair Spectrum 128K machine? Getting go-faster chips into old products rarely works.

HiSoft deal

On the software scene, Motorola took the crucial step of announc-

GO FLY A KITE

I want it to be the few readers of ST Amiga Forum magazine who have probably emailed me to tell me that I've been wrong with my reports of forthcoming new hardware from Atari.

The reason for this is quite simple. After starting by showing products in the press and industry papers, clearly aware that the product will be heavily reported, and can gauge reaction to a new product before it actually starts production.

This attitude contrasts sharply with Commodore, whose new products are carefully publicized and advertised, before being announced in the press. Despite the fact that the Atari ST products of the range to the 68, the public's attitude towards new products of Atari can only cause trouble.

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FORMAT LETTERS

ST to Amiga

I wonder if you could help me on a couple of problems, I have.

1. Do you know of any commercial or public domain COBOL or similar programs available for the ST or Amiga.
2. Is it possible to port software over from an ST to an Amiga? And if so, how?

Frank Faber
Erith, Kent

■ Nevada COBOL for the ST is available from HESoft (0525 715051) at £49.95. And yes, porting software from ST to Amiga is simple (as long as you are talking about data files only - you can't run ST programs on an Amiga). One way is to connect the two machines' serial ports up with an RS232 lead and use a communications program on each to send and receive data files given at

The heady whiff of material reward has certainly boosted the mailbox this month - stake your claim to a luxurious ST Amiga Format Organiser prize by sending us your opinions on life, the universe and everything. Write to Format Letters, ST Amiga Format, 4 Queen Street, Bath BA1 1EJ.

Amiga communications program, VT100, away on your 45 disk. If you are going to do much transferring, and you have a second Amiga drive, the program Dou2-Dos from H8 Marketing (0895 444110) fits the Amiga directly read ST disks.

Light of dawn

I have just started buying your magazine and I am currently very impressed with it, keep up the good work.

I have recently upgraded my ST from a Format PC260 to the

Amiga 4000 and am just beginning to find out what a very complex machine it is - compared to my previous one.

Having initially been impressed with the software bundled with the Amiga I am now doing a bit deeper. The small wordprocessor 'notepad' supplied with Workbench is okay for small letters etc., but, for larger projects, something that can hold more than six pages of text is essential. On looking through the various magazines I gleaned the knowledge that there is a text program in the 'C' directory called ED, so I tried to use it as a W/P. The text I entered is only half way to some one hundred pages so I need as much free space as possible on the disk.

I therefore formatted a disk and 'loaded' it. I then copied ED onto the disk, so far so good, having educated and started it with

PRIZE LETTER

Piracy: the case in favour?

You have meticulously calculated Mr Frank Goddy's letter on software piracy from £5, this is, but do not lose a point.

The attitude of those software companies is not, "We can not supply the public with quality software at an affordable price" but how can we get the greatest possible amount of money? I do not expect them to work for charity, but they are being exceedingly greedy.

I want to give a few examples.

1. Atari are offering £500 worth of software in their 'tiger pack'. This costs £399. A £20000 game costs £299. Hence the real worth of that software has to be less than £1000.

2. I recently obtained two excellent Public Domain programs for my Amiga. One is configurable to give me a workstation RAM chip, a printer emulator, and a memory linker. The other allows me to select my accessories and set the time and date. Both programs cost about £50 each. Of course the PD library charges around £3 but that includes a floppy and many other programs on that floppy. Now, my Sierra Shop catalogue tells me that Kuno are selling a RAM

disk for £79.99 it is not even reasonable.

3. A commercial C computer costs £100. I am not rich, so I got my C computer from a PD library together with a world C library that would permit me to use some IBM facilities. The commercial one is much better of course, but can it be 100 times better?

I think that ethics are irrelevant. If a software company is making £20 for a program that it produces of £3, then it is no less than that per year or so. No amount of wringing is going to change that fact.

If I had the skill to steal a commercial C computer, I would have done so. If I had the skill to write one, I would have done that, too. Then I would have put it in PD just to present the commercial pirates from making money. Unfortunately, I have neither skill yet.

A. Tebbelings London

■ Of course we all know piracy is the most totally not prime in the industry - worse even than selling Neighbours, but there is something in what you say.

The Atari pack is old software that has reached the end of its shelf life. It's a treat

to see an advertiser's back to say it is "worth £450" - nobody would pay full price for them now, good though they are.

The case of PD versus commercial software is simple: if you are technically clever enough to battle through often abstruse documentation, and are prepared to risk using untested software, then good luck to you. If you are running a business where you have to insure that software you use is robust, and that should there be a problem there is somebody you can ring up to get help from, then it's worth paying the extra for peace of mind.

Your breakdown of a game's costs is a bit odd, I think. The material costs may be £3 for a disk and a case, but the software house may well have paid the programmer many thousands pounds if he's a big name, and don't forget that the shop gets half the money. Some games take a year or more to write - if you want to give away a year of your time for free then live - well take forward to putting your C Computer on a future cover disk.

Even though some companies are trying to do, well, go to change things by working with the law, not by breaking it. As sales of ST and Amiga slow, prices will come down because the economies of mass production will allow budget titles to be marketed. Until then, well, all we can do is to use software however good it is.



Mouse problems solved

With reference to Amiga Format issue 8 (page 113), the letter from Terry on address, 'log out Mouse work'.

As Terry doesn't say it, he fails whether his mouse was for an ST or an Amiga we have included both protocols together with the correct colour/number he needs to know. Diagrams show the end of 8 pin plug as you would look at it.

This should help him and others - it's a question we are often asked.

1256 Software Holdings, E. Sussex



ST (520,1040)

- 1=Green
- 2=Orange
- 3=Green
- 4=Blue
- 5=(blank)
- 6=Yellow
- 7=Red
- 8=Black
- 9=White

Amiga (500)

- 1=Brown
- 2=Red
- 3=Orange
- 4=Yellow
- 5=(blank)
- 6=Blue
- 7=Purple
- 8=White
- 9=Black

The command `CD PROJECT` is presented with my wordprocessor and using all the available CD commands I have constructed a very large file - great.

How do I know I need help, how do I print it out?

I have tried going back to GU and typing `CD PROJECT` to print, but the response I get is "Can't open PRT: - Error code 209".

OK, so we all know the error code means that PRT is not on my disk, but, on running `DIR CFF` A on my Workbench disk I can't find a file called PRT, so could you tell me how to get my text to print out without requiring disks around, i.e. want PRT on my CD disk.

Secondly I want to get hard copies of DR from my Workbench disk, and have had some trouble and various other alternatives. Can you help me on this one?

Thirdly, as my Format PC it was able to obtain a Screen Copy to my printer by pressing `Shift` and `Print Screen` keys together. On the Amiga I see that there is a `PRINT` key on the numeric keypad's F7 key - can you tell me how to get this to work.

Finally, how about putting a 'For Sale' and 'Wanted' area into my magazine, either in the front or

the back could be loaded by other machines in ASCII format?

Personally I run the suite through a spare Amiga monitor and speaker, intermediate is great at 40 Watts per channel (what... Oh... Party!). By the way, does the memory expansion for the Am500 significantly improve the sound effects of *Interceptor* enough to justify purchase of extra memory?

Roger Rowland Glyn, Co. Antrim

■ There's a driver than that of creating a 120 page document with DR V2 hourly reconstructed by a decent word processor. Anyway, the reason you can't print is that your hard disk needs to have a directory called `DEV5` with a file called `PRINT.DIRECT` in it. You might as well copy the whole `DEV5` directory over.

To get a printed directory listing, by `DIR` option. And there's no easy way to get a screen dump on the Amiga. You need either to scan the PD boxes, or buy Turbo Print from George Thompson Associates 0177 082 734.

The extra half magazine of *Amiga* on the 500 gives you a much livelier engine sound on *Interceptor* - and it's worth upgrading to get access to more powerful software which needs

the extra memory anyway.

Silent majority

For most both one for writing to magazines month after month, usually because I can't find anything worth writing about, but now I have abandoned some years. So, as I thought I might help myself into dipping you in line for hundred after digging deep for the price of a stamp. (Not easy when you've just paid a fortune, is it?), for the three months, which frankly wasn't worth half of it.)

Firstly my questions.

1. In the *Amiga Demos* drive on the Extras disk, there is a program called `ConvertD`, what exactly is this used for, as I often write programs that use libraries and I have never needed this as all I do is copy existing libraries?

2. I recently saw an advert for the *Entertaining Face of the Amiga* by US Gold. It included a sub-advert for *Amiga Games* - is it really available? Or are they just using the same technique in marketing as the very long awaited *ST Games*? If it is available, how come I've seen nothing about it in any magazine. The last I heard they hadn't got anybody to write it yet?

3. Why don't you start a disk store where devoted ST or Amiga owners could show off their own demos - a *BMSC* game?

4. What's happened to *Workbench 1.3*? *WB 1.2* users be able to use just the *1.3* disk software, or will we have to buy the *1.0/1.1* as well?

There you are that's the lot. How magazine scores top marks with me, it looks good, it will write and I packed with good, interesting material. And you all that hard accounts for the price! I know disks are expensive, but you could almost buy a chair for that with a little exaggeration.

Simon Roberts Spalding, Lincs

■ I. As you may know, the *AmigaDOS* driver already contains three library files (`graphics.lib` and `new.library`) which for small programs are adequate. These three library files will not give you full access to all the *ROM* based routines which is where `ConvertD` comes in. `ConvertD` is a program that converts the library files within the `DEV5` folder on your Extras disk to a form usable by *AmigaOS*. For example, if you wanted to access any routines within the *Initiation* library, you would have to convert the associated `...` file using `ConvertD`.

2. *Database* is available for the

Amiga now, but we think it's just a matter of time why we haven't reviewed it. Check out *Turbo Cup* and *MAC* by *Italy* Sin reviewed the month instead.

3. We haven't got enough disk space for demos if we're going to pack loads of games on each month too.

4. Back in March, *WB 1.3* was 'due in early Summer'. In June it was 'due very soon', in September it was 'almost ready', in November it was 'imminent'. Your guess is as good as ours. You will only need the *ROMs* if you want to be able to subload from a hard disk, otherwise the new *Workbench* boot disk is all you need.

Are you there?

I'm following your Learn *68000* course at the moment, and after loading in your *Power 68000* demo version from issue 2 went to load the tutorial files from cover disk 4. When I selected 'Load' nothing came up in the disk directory. Is my demo version of *Power 68000* faulty? Could you please tell me how to load it in.

Basil McQuinn Baldmoyne, Co. Antrim

■ The 'Load' menu of the special *Power 68000* demo on our cover disk will only list the directory `DR`. To check whether the demos are on your disk, just go to the ordinary *CDM* desktop and click upon the `LEARN68` folder. You should see one DR file there - if not, your disk is damaged.

Pooch-pooch it

I am having problems in getting to know the *AmigaDOS*. Your articles have been helpful a little, but I think I need a better manual. Can you recommend one?

With your October issue you printed a very good picture about *FF2PCS*, and in addition you suggested that any low resolution *FF* picture could be incorporated. I followed your instructions thinking I would be able to see the pictures supplied with an earlier disk *MEMO*, September issue. Can it be done? It is a very simple thing, by the way, set of instructions would not only gain my gratitude but also that of my daughter (5) who loves the *Pooch* collage and has selected the *FF2PCS* screen game as her favourite.

P C Reed London

■ The definitive guide to



AmigaDOS is. The AmigaDOS Manual from Hamlyn Books. It costs about £23, but a new book which looks a better bet is AmigaDOS Inside & Out, published by Abacus and available from Computer Manuals (021 706 6060). This covers the new commands in Workbench 2.3 as well. UK price will be £35.45.

The reason that you can't get 387PC2 to work with the Foot Collage is that you must only use low resolution (320x200 pixel) pictures, and Foot is high resolution (640x480 pixels). There are utilities to convert images from one format to another - by Batch 2 from the Amiga Centre Scotland.

Colour bar

I own an Atari 520ST, recently upgraded to 2040 status with a 640k kit. I have borrowed a NEC CP85 colour printer from a friend, and was hoping to get some good pictures printed. However, I seem



"COLOUR DO NOT... I WANT SEND COLOUR IMAGES. CARGO WITH BLACK, GREEN, RED AND GRAY. COLOUR TONES!"

to have a problem, although I am using a colour printer I can only get it to print in black and white. I am chasing with Regis CBE and

have tried all the drivers on the disk, the closest I get to colour results is with the 2080C driver if I have enclosed a printout made with it, but it is not perfect. I have been told that I need a proper NEC CP85 driver but cannot find a stocked. I have tried the shop where I bought the computer and many more in my area, to no avail. Please can you help?

Mark Mouthford
Stoke-on-Trent

■ We've never heard of the CP85, sorry. The first thing you ought to do is ring NEC and find out if the CP85 can emulate any of the printers on Regis's list. There is often a tiny panel of switches ('DP' switches) somewhere on a printer to do something like switching Epson-compatibility on or off.

Falling this, Electronic Arts have wrote Regis say that there are a selection of other printer drivers on an American bulletin board called CompuShare in the disk 2624 (Special Interest Group). Maybe a friend with a modem could get one for you. Lastly, the Regis manual explains how to write your own printer driver, on pages 76-80 - find a friendly machine code programmer!

and I wondered if you could me with Compton.

Please could you tell me where to find the casino chips so I can get past the bounce before the wooden door in the back part behind the mirrors. I have been trying for months, you are my only lead.

David Butterworth
Worcester

■ Well now, we wouldn't want this to become a habit, but as it's you... try looking in the safe in David's office.

24-pin question

Regarding the compatibility of the ST 2080 with 24 Pin Printers, I have an Atari 520E ST508 computer and an Amstrad GMP 3180 printer (8 pins). My question is simply this: would a 24 pin printer, such as the Star LC24-10 or the Amstrad LQ 2500, be compatible with my Atari computer and would the 24 pin function still produce a better quality of print?

JP News
Peters, Maryland

■ I have many clues. You is the answer to both questions.

Seeing the light

I recently decided to purchase an Atari ST for Christmas, and so I bought the November issue of ST Amiga Format, to find it an excellent magazine. However, there are a number of things I am confused on, especially the Virus filter program mentioned on page 12. I would therefore be grateful if you could print the prices of back issues, numbers 1-4.

As I won't have my ST until Christmas, and I would like to use it my TV monitor, I would be most grateful if you could tell me the RGB pin numbers for the ST, as I can have a monitor lead made up. Also, with regards to printer leads, does the ST have serial or parallel connectors?

If I may make a suggestion, in your games review section, sometimes, the addition of a ST/Amiga software chart would prove useful, or perhaps a readers' chart showing the games that are being played, and just bought.

In the advertisements in your magazine, many companies offer both 50 and 100 disk. Are these two types compatible with the ST? Is having one kind an advantage over having another?

Stephen Douglas
Dumfries

■ You'll find the back issues listed in the special offers pages this month - 88-89.

The monitor connections are in the ST manual - in a case you're not sure, an the diagram below is shown as you face at the back of on the back of the ST, the important pins to you are 1-Red to red, 6-Green, 7-Blue, 8-Vertical sync, 10-Video sync, 13-Ground.



Your readers' chart is a good idea - we'll think about it. We don't publish Gallup charts because in a monthly magazine the info is mostly out of date by the time we're on sale.

Stick to buying 50 disks - 50 means 'single sided', 100 means 'double sided'. 50 disks are fine on old 520STs, which only have single sided drives, but they won't work reliably on new STs with double sided drives.

Dungeon slave

I am the owner of a 5205TRM (old style) and have a query. After months and months of fitting, debugging and connecting my Dungeon Slave, I have come to a complete stop on level 8. How do I get out of the start that just go up and down and get to level 9? Can someone please help please! Also Ed Perron's wonderful 28 Area Under the Stone disk 5 only works on levels 1 and 2. Is this intentional, as on the info it says 2080 COPY 8 it is can I get hold of the full routine for all levels?

A Duff
Beverly

■ Yes, the DM cheat is only a demo of a later version. That's being marketed by SDFSD and is available from Software Express (021 378 2665).

Corrupt practices

After reading the letters page in issue 3 of your amazing magazine I saw that you helped Karen Smith when she couldn't do something in HitMakers Guide to the Galaxy,

Sampled delights

Finally, I'd like to say how much I enjoy Format. I find the balance of articles between the two machines about right, although I do get a little depressed about the Amiga's 4000000 colour palette, and the art packages that support it, whereas my more humble ST 5205TRM double sided disk appears less well served. What lesson? Maybe FS are as frugal in one of the many companies that go around (where is that passed entry form...)

A question, I'm sorry but I find I keep getting lost between separators and samples etc. Could I just say what it is I think I want to do, and ask your advice for hardware and software that is compatible to do what I want and at times, I don't have to re-arrange the house.

I can read music, I want on a wind instrument, and so my proficiency with a keyboard is limited to say the least, although I do know where the notes are. What I think I want is a software package, which will enable me to enter notes onto the slave directly (perhaps?) and then play them out simultaneously through the hardware. Music keyboard (poly-



plotted) while I would love to achieve an orchestral sound, an eight-piece band sound would be acceptable, assuming that the keyboard has the necessary voices.

In terms of keyboards I wonder if you would suggest a full size keyboard (e.g. eight octaves) or a cut down keyboard (e.g. piano sized keys but only 4.5 octaves) and a small board literature keys and 4.5 octave range.

If you could also give an indication of what I would have to do to make a recording of said out put in one go rather than using an eight-track recorder, which I don't have access to, I would be most grateful. I don't ask for much, do I?

Graham Nash
Barnold

■ You're looking for a fairly standard setup. For a budget 57 system we'd recommend the following: Music Studio 57 from Admissions, coupled with any MIDI keyboard of your choice. Casio make good cheap models like the CT1111 or alternatively the Yamaha DX series is proving increasingly popular. As to recording it, as long as your MIDI keyboard has a stereo recording jack, you can just send the bit straight to a tape deck. The only

wire of an 8-track recorder is that you can adjust the relative levels of each channel after you've recorded it... but if it's on disc anyway, your 57 should be able to do that. That's the beauty of MIDI.

Too clever by half

Scenario 1: In Africa, with an Amiga, two small boys and a delightful and necessarily very patient wife. Later: classroom environment in England, with an Amiga, dog, cat and 1,000,000.

Sequence 1: Grandfather uses Amiga's TED to devise a code vocabulary of word shapes and printed primitives, and sends data with coding 25 spy mirrors, an Amiga to grand-son, hoping to fix and see much needed respect from the computer generation.

Sequence 2: Grandfather receives replies in totally intelligible gibberish, and seriously doubts the literacy of the next generation, leaving the reversible effects of computer culture.

Sequence 3: Grandfather is seen secretly writing a short note to himself, before following it.

Sequence 4: As the post-mortem examination the note is discovered. Eye witness reports



"I WISH HE'D GET A NEW PRINTER... I CAN'T UNDERSTAND ANY OF THIS!"

confirm that the working on the note was, "Good another test, damn!"

R.C.S.
Barnold, E. Sussex

■ **HELP! For game dev**
Eye-JE-BOLUPP!!

were incompatible. We'd be very interested to hear your final conclusions when you do get your Turbo 57 going - I suspect that a 20% speed increase is adequate: give the links or memory access times.



"THE TURBO-COMBINED, FITTED, WASTY BOY 'O' FACED! STYRING, WASTY! YOURS! MERRY...?"

A hard life

I am 14 and I have 115 a month. Buying I spend a few on things like magazines, CDs etc., I have also one game per two months spending allowed. That is also assuming that I'm not trying to save for a computer (which I am) and I'm not trying to buy a calculator or a watch.

If you give a game an excellent review for the Amiga, I do not wish to buy it 'cos when I look out my electronic bank balance I discover an absence of cash. That am I left to do? End over screen (that is I search the sheets for that extra token printing or if the little 'y's' that have been printed on 'no sleep'?

If however, I owned a copy, I won't have to do that all of '90, and so I could not have bought the game anyway I haven't stolen any money from the software house.

I agree that people with a lot of money shouldn't give software as they are stealing, but too many people who do games have little and a month to spend on them!

David Taylor
Leamington Spa

■ Well, yes. It's also easier to go round a supermarket and just ask staff rather than paying for it, isn't it? And when you do have 200 a month to spend, you'll still be saying that games cost too much because you want for a month not just one. No one ever has enough money in life - but that's no reason to cheat.

Bandits high!

Just some quick advice. If your monitor turns off suddenly, check your dials for the video because there is a stop that appears to turn off your machine. In fact it just stops all display signals going to the monitor.

Ben
Newcastle Upon Tyne

■ I presume you've got an Amiga, in which case you're describing the effects of the Flyte Bandit virus. Cute, isn't it? Virus killers are available on back numbers of our issue 1, in case any of you missed it. Alternatively, there is a way of escaping the dreaded black-out. When your screen does go blank, press the keys -Left Alt- -Left Amiga- -Space Bar- -Right Amiga- -Right Alt- and the screen will reappear. Full details are in issue 5's Benchmark section.

PRIZE LETTER

68010 thumbs down

Concerning the 57 68010 upgrade letter in issue 5, I put one in a 52051, but although it worked perfectly with one arcade game, Amibuf, it would not work with programs that use the Amiga's OS.

The problem lies in the way the Amiga OS is written and the difference between the way the 68000 and the 68010 and speech process (especially those as TRAPS). The 68000 only puts the PC and OS on the 520, whereas the 68010, 68012, 68013 and 68010 put a lot more information on the 520 which means it should work if you only call TRAPS from within USER MODE. The bad news is that when the 57 is installing itself during a reset it crashes as it accesses a TRAP when it happens mode.

I actually spend a week trying to patch the OS by loading a boot sector on reset which

emulated the TRAPS to 680, and although I consider myself quite a competent programmer, I'm afraid it was too time consuming to get it working properly. As a result, we have decided to opt for a 16 MHz 6800000 which should give between 15% improvement and 70% improvement speed gain over the 68010. Now the really bad news is that the 35 MHz 6800000 whereas there would only be a 10% gain with a 68010. Now the really bad news is that the 35 MHz 6800000 costs over 2100 if you buy them one-off but under 250 if you buy them 25 off. If anybody is interested in this upgrade then send me an SAE or ring 01-529 1872.

Mark Taylor
Flat D, 301 Bristol Road,
Lanford SP9 7BB

■ Fitting a faster 68000 sounds a much better bet than using a 68010 and fixing soft-



ESCAPE SEQUENCE

For Fax sake

Favourite press release of the month has to be the one for Microsoft's new Fax service. Subscribers to the on-line content network can now send text files to any Fax station around the country, and to prove the point the press release was sent to us at last Ball machine. Now we're told that 99% of all users get through perfectly alright, but for some reason the first few paragraphs seem to have been - how shall we say?

Enter Sage Fox Coaststar of Microsoft

In the wake of complaints about a new Fax service on Telecom Gold, experts at Microsoft have come up with an instant answer for their own use.

The problem with Telefax, which Telecom Gold introduced in November 4 - allowing people with a home or business computer to communicate with

as a result, some 20% per cent of all messages during the first few days were aborted because they'd been sent to invalid numbers.

- rather obscurely edited on note.

For all enquiries about subscribing to Microsoft's service, please contact: Microsoft, EUCM@192Net, 02049494900.

Unbelievable graphics?

Could the advertising standards standards authority be interested in Commodore's latest ads for the Amiga? Now no-one doubts that the machine's graphics capabilities are amazing, but Amigaowners would tend towards the word 'unbelievable' for the TV spectacles



on. As the camera zooms in to the screen, the quality and speed of movement of the graphics shown would need a lot of pretty costly animation kit to produce. Well, maybe there was an Amiga

in the studio at the time...

Taxi!

If any London taxi drivers are stuck by the GET LOOSE! by the Forum team made the long trip up from Bath to the Alan show, we got to Paddington station and waited a rub to get to Microsoft's Palace with all alacrity. First driver: "My Pally... Sorry, don't know the way, mate." Second driver: "Have heard of it." Third driver: "We out of the way isn't it?" We asked the drivers, and none would go near it. How

NEXT MONTH

Didn't you get a subscription to ST ACTION FORGOTTEN by Commodore? Well, better late than none. In the meantime, here's a sneak peek.

THURSDAY 19th JANUARY

Make sure you aren't missing out on these fantastic features:

- BUILD AN ST SPEECH DRIVER - Another superb ST feature. Personal hardware project gives your ST an Amiga-sounding speech synthesiser. Now your mouse talk to you.
- BAK THE - Master games programmer Steve Page (Right) BAK talks about his work on ST and Amiga, which does he prefer?

■ STAFFING VIEW - What's the truth about the ST and Amiga in the States? Which is really winning? Find out what's really what.

■ ROMAN SHORTS - A programmer's guide to handling the ST and Amiga screen displays. Learn to make these pixels count!

■ BUILDING SOFTWARE - reviews of Personal version 4 on Amiga and ST, Super 40, Deluxe Print II and Super ST Touch Screen read the way. On the games scene, People (Right) try to give the pleasure of the Commodore Board - how you want! We start, Commodore subject to the terms of special offers, music, video, entertainment (Right) or software (Bottom) look ahead.



■ A quick lesson in all the latest shows - you'll find Alexandra Palace on page 26 of the 4-1.

Commodore talked them all to spite the Alan show? Couldn't we be last?

Superheroes, Inc.

by Sarkar



**ROBBERY**

Banks, an eagle and clever bear try to outguess a thieving 2D bank store for his loot and more during ROBBERY. With its secrets of hidden goods and treasure, get a free team account for the design by the central authority. Better even discover why?

**GRAND PRIX**

Grand Prix driving onto a scenario to regulate the crowded highway of speed. Develop the excellent turn and the one that get it your time too, but keep the tiger in your lane too, the engine, oil and the tyres and steering wheel. Acquisition of faster cars and other accessories depends on your driving and racing into.

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A part whole adventure which has revealed new secrets. Each level has its own unique solution and requires ingenuity and dexterity to complete. One player or two players. MAIL order for added enjoyment.

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A exciting evening with Sam & Sam.

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SPANISH (14-95) (5) (14.95)

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