

STAMIGA

FORMAT

FLAMING YOUTHS

How software
pirates are getting
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**ANIMATION
TECHNIQUES**.....31



**HARD DRIVE
GUIDE**.....50



**PAGESTREAM
BTP**.....54



**TAGLIANI
INTERVIEW**.....32



**FORGOTTEN
WORLDS**.....72



WEIRD DREAMS.....66

GAMES

Screen Play..... 67
 Total Eclipse..... 68
 3D Pool..... 76
 Pirates..... 80
 Demon's Winter... 88
 Wicked..... 90
 Game Busters..... 99

REGULARS

NEWS.....7
 GOLD DUST.....12
 PG UPDATE.....37
 DESKTOP.....105
 WORKBENCH.....108
 LETTERS.....122
 GOODBYE.....130



**YOUR CHANCE TO WIN A
POOL TABLE**.....65

SPECIALS

PIRACY.....25
 ANIMATION.....31
 HARD DRIVE.....50
 PAGESTREAM.....54
 ASSEMBLER
 TUTORIAL.....61
 ARGASM.....113



ST

General - Rainbow Arts strategy action game in a playable automatic steel reactor, **TCDS** - powerful software that handles AMO graphics, **Fluents** - how you can repair damaged disks and corrupted files, **Expedite** - a truly brain-busting game of wit and strategy

AMIGA

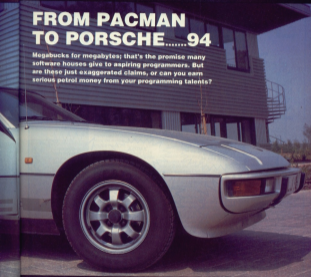
Wanted - playable demo of Activision's historically addictive game **Manhattan** - even instantly complex pictures with the **Manhattan** generator, **YComments** - add powerful story handling to **AmigaPOP**, **Uds** - a calendar and number disk converter to add to **Workbench**



It's time your **Wanted** way with Activision's **Wanted**.

FROM PACMAN TO PORSCHE 94

Megabucks for megabytes; that's the promise many software houses give to aspiring programmers. But are these just exaggerated claims, or can you earn serious petrol money from your programming talents?



28
31
50
54
61
63

COMPETITIONS

YEAR'S SUPPLY OF SOFTWARE 18
AMIGA HARD DRIVE 68
POOL TABLE 65
ADVENTURE HOLIDAY 71
DAY OUT AT BRANDS
RATCH 79

ST AMIGA FORMAT AMIGA 1.2/1.3/2.0/2.88

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MONTEIRO'S MONTH

These guidelines they've got out of their heads, please - I'm not 13! (Really?) I think not. It's our biggest and brightest star, and after this one we're replacing 4 magazines for each machine - both titles will sport a disk and come packed with information for your own pleasure.



This month's cover gets a big makeover, thanks to our new and better-looking design from the original designer, the late, unfortunately, Mr. Green. It's been so fast and furious, it's been the last time the design got as close as before of AMIGA. The new guy appeared for a while, but ultimately it's our old friend, Orka's return.

The second look concerning the magazine prices, also was all of the books were through my agency, which means that I'm not sure what prices will be. I'm sure you'll agree that I'm not sure what prices will be. I'm sure you'll agree that I'm not sure what prices will be. I'm sure you'll agree that I'm not sure what prices will be.

Thanks to Ashton James for producing such a stunning cover shot - and thanks to the operations assistant who found the wonderful photos. The ST monitor you can see in the picture was also making some of the pictures for the cover. I'm sure you'll agree that I'm not sure what prices will be.

The issue was covered by my wife and a whole lot of good and smart and looking to make sure the computer. The second look concerning the magazine prices, also was all of the books were through my agency, which means that I'm not sure what prices will be.

Enough tips for the last time, and see you in ST Format.

FORMAT IS TWICE AS NICE AS MAGAZINE SPLITS

AND THEN THERE WERE TWO...

From next month ST Amiga Format will be no more. In its place will be two magazines, ST Format and Amiga Format. Each title will come with a 3.5-inch disk packed with over 800K of programs for the relevant machines. The price for each remains at £2.95.

Readers will now get twice the amount of programs on disk, twice the number of relevant articles inside the magazine and consequently twice the value for their pennies when the doubling takes place," enthused ST Amiga Format's publisher Greg Ingman.

The decision marks the confidence ST Amiga Format has in the ST and Amiga markets. Both are now strong enough to warrant a magazine with a disk on the cover every month - this certainly wasn't the case early last year.

Most of the current ST Amiga Format team will be moving on to produce ST Format while the team which until last month produced the award-winning ACE magazine will be handling Amiga Format. ACE is no longer published by Future Publishing, having been taken over by the London-based EMAP.

The first issue of Amiga Format hits the streets on Thursday July 13. Said Amiga Format's editor Bob Hilde, "It's looking off with a bang. Features planned include video clips, review of the AMOS, an interview with Commodore's technical support manager Dr Philman Halverson, Amiga Format's top ten favourite games, and music and graphics

sections compiled by contributing editors."

ST Format's issue one is due out a week later - July 20 - and promises a look at Atari past, present and future; a disk brash as QTY hardware project; how American techies rock group Casanova Complex use STs and MIDI on tour; a special feature on machines that go bump in the night; and megabucks-worth of competition prizes.

A special disk format has been created for the ST magazine which will single-sided drive users read from the top side and double-sided drive owners read data from both sides of the disk, so a full 800K will be available to those with double-sided drives.

If a flyer is being sent to Format subscribers requesting them to transfer their subscriptions to either ST Format or Amiga Format magazine, if you don't receive anything within the next few weeks, get in touch with Future Publishing's subscriptions department at the Old Barn, Brunel Road, Sonerton, B320 1BU, Somerset (0458 78211).



ST Format (above), Format and Amiga Format.



Amiga Format (top left) for the game and the new Amiga.

SOMETHING FOR NOTHING

With the demise of ST Amiga Format we have one or two of the most highly priced objects, the Format Personal Organizer left on the shelf and in a fit of corporate generosity we've decided to give them away.

Anyone wanting an ST Amiga Format Disk Organizer can get one for the amazing sum of 99p in stamps. Just send the stamps together with your name and address to ST Amiga Format Organizer Giveaway, 4 Green Street Bath BA1 1LJ. There's only a limited supply - so hurry. Your stamps will be returned if we run out by the time your order is processed.



LICENCED TO DROWN

They're back - the dynamic Bomark duo, **Domde** Wheatley and Mark Stochan, demonstrating how not to emulate **DOZ**. And all in the name of Bomark's forthcoming **Bard** game, **Licensed to Die**, whose plot will closely follow the film of the same name. Let's hope it's a bit better than the last one, **Living Daylights**.

Hil Marketing (0895 444433) are now distributing **Adapt's Real-Time Sound Processor**. The £99 package lets you sample, edit and output sounds in real-time. It's not like standard sampling software because the emphasis is on editing the incoming wave for immediate playback rather than playback at a later date. In fact, you can't store samples - they come in one and go out the other. **Real-Time** is the sort of hardware/software combination you might use to live off samples via a MIDI keyboard. **Real-Time** consists of the

SOUND SENSE



sampling hardware which plugs into the parallel port, protection Midge which slots into the joystick port and processing software. The processing software has a fixed sampling rate of 500Hz and has provision for amplitude

DESIGNER PAGES

Two new packages to look out for from **Good Disk** are **Structured Clip Art** and **Professional Page Templates**.

Templates contains over 50 classic layouts for use in **Professional Page**. There are designs for adverts, newsletters, business cards, envelopes, flyers, brochures, reports and layout grids. The accompanying booklet is very well put together and provides valuable suggestions on how to improve your desktop designs. **Templates** is so good that it is bound to cost a small fortune.

Structured Clip Art offers a collection of professionally drawn clip art for use in **Professional Draw** and **Professional Page**. Because the graphics are structured, it is possible to resize the images without any loss of resolution. There's also a utility for converting the clip

art into bitmap graphics. The converted images can then be used in any programs that handle standard BMP file formats. Like **Templates**, **Clip Art** has a professional feel to it. The number of images is vast and of high quality.

Hi Marketing (0895 444433) and the **Amiga Centre** (Scotland) (011 887420) will be handling the distribution in the UK, and will be setting prices for the products soon.



and frequency modulation.

Although the manual looks good, it's full of errors: two spelling mistakes and 12 grammatical errors on the second page is going some!

The preliminary impression of **Real-Time** is of a

device that fails to reach its target audience of professional users. There's no way you would use **Real-Time** in a music studio as the hardware only samples to 8-bit resolution. It's competent, but really should do more for less.



BASICALLY DIFFERENT

Users of GFA BASIC on the ST will be pleased to hear that version 3.00B is shipping. The latest revision follows on from 3.0A (there was no version 3.0B) and contains the following updates: a Patchable area in GFA BASIC.PRG and GFA.BASIC.PRG have been documented, a File reading and writing is greatly speeded up due to an increased cache in Uniplex connections to the manual.

Registered users of ST GFA BASIC can upgrade for the price of a blank disk and postage. GFA Users at 188 Roland Street, Cowes, Cheriton CV1 3BJ are handling the updates.

The compiler for ST GFA BASIC V3 is expected in late June. Price hasn't been finalized, but is expected to be less than £30. A 180-page manual is to be supplied with the compiler; this is an enormous leap from the 30-odd page offering bundled with the earlier version.

An upgrade for Amiga GFA BASIC is just round the corner, while the BASIC compiler will be launched late in the summer.

Both ST and Amiga versions of GFA BASIC V3 have been dropped to £10.95. GFA BASIC is available from GFA Data Media, Box 121, Washington GQ11 9LP (0734 74944).



THE BEER'S ON BRANSON

Revealing the parts other games can't reach - Virgin's general manager, Bryan Gilmore, boasts (several times) the re-emergence of the recently dormant Virgin Games label.

Releases scheduled for later in the year are *Golden Wing*, *Double Dragon II*, *Shinobi*, *Continental Circus* and *Wipe Wrecks*.

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A *retrouvez* Demo - the continuing saga. Still having problems? Try changing to medium resolution before running. Thanks to Marcus Marnochant for that one.

X-GMS - it's not being distributed by Taurus as mentioned last month, but by GAD Vision on 01-600 33113. Also distributed by Vision is Amiga 9-CAD Professional, a £299.95 package requiring 2MB minimum.

Instrumental Changes - Chivalry's telephone number is in fact 0200 569529 and not 0200 22780.

QUICKIES

Three Great manufacturers of various food stores for the ST are to launch a series of memory upgrade boards for the ST and Amiga. 2MB and 4MB boards for the ST and 1MB and 2MB boards for the Amiga (there's talk of a 3MB board while the £2000 will use 2MB and 4MB boards. Also coming soon for the ST are several game faster boards - a 16MHz rated 68000 replacement for the standard 68000, a 68010 board with optional 68881 maths co-processor and a 68010 board with optional 68811 or 68800 maths co-processor. You can get further information on all of these from: Third Coast on 0257 42444.

DTV Systems, a subsidiary of Eighteenth Mile Video, are supplying ready-to-run desktop office systems comprising DTG and Amiga. Eighty-two files include a computer, video still software and a graphics device. DTV's Starter Pack for Amiga for instance - which consists of an Amiga 4000, 4001 expansion PCB, 68000 graphics, TV monitor and TV text software - costs £629.95. You can sample what's possible with DTV's kits by sending £5 to: 18th Mile Video, 81/83, Scotland, Way 1984 (near Weybridge) and saving for the VHS demonstration video. The video includes examples of graphics and video software for both machines and shows clips from promotional videos, adverts, logos and stills produced using DTV's software. The kit is available on orders of five video titles only.

The Amiga version of *Planet* Publisher's *Dungeon Master* Editor is now ready. It's selling for £19.95 plus £3 postage and packing from Software Express, 713-875 St Paul Street, Birmingham, B15 1AT (0121 648000). The ST version has been set for some time, and is available for the same price. The Editor lets you combine the many levels that constitute *Dungeon Master* - in this way you can make it as easy or as difficult to complete the game.

Something to watch out for in the public domain is *rebirth*'s ST BTP package *Easy Text*. Easy Text can import all types of final form documents. Imported text may be left and right justified - and can be displayed in columns. Pages format into pages for imported articles into the page. Numerous graphic files are available enabling many different effects to be created. Screen updating is remarkably fast - even when clip art is being displayed. Printed output is most interesting but main printer is possible. Details from 2 Fiveways House, Salford, Chesh. Heaton Bridge, West Yorkshire, M27 9BP (0432 848336).



MORE ON SOUNDS

Innovated Software have completed work on a backup software package, *i5 Spectroscope*, for their *i57* sound sampler. *Spectroscope* makes it possible to create, modify and analyse samples and use the results in your own software or other digitising packages.

Small sounds can be captured and stored. An FFT (fast Fourier transform) analysis of the sound is possible. Unfortunately the first *F* in FFT should be changed to *C*, for *fast slow* because producing such a graph is painful. Included in the package is the ability to create new mathematically pure sounds by hacking existing waveforms or creating your own from scratch.

While there is a need for a tool such as *Spectroscope*, the manual assumes too much of the reader and is consequently unusable. It's hard to justify £28.95 on a package that doesn't look or feel like part. It might be an excellent package - but you wouldn't believe it from reading the manual.

Spectroscope is best used alongside Innovated's *i5-Sound Sampler* which offers digitising speeds from 1 to 48kHz, filtering, oversampling, levels, real-

time mixing and comprehensive stored alone routines for including sounds into your own programs. It costs £89.95. Both *i5 Spectroscope* and *i5-Sound Sampler* are distributed by *Edges of Data Direct*, 53 Houghton Rd, Worthing, West Sussex, BN11 5HD (0905 760084).

WRITE RIGHT

Convivial of Tottenham Court Road, London, have introduced yet another word processor to the *i57* scene. *Mail's Write* boasts automatic indexing, automatic text formatting and multi-column page layouts.

Among the numerous features there is a full editor, international editable keyboard layout, integrated spell checker, dictionary (available in several languages), four font and style buffers, *Fast Word Plus* file-conversion utility, automatic document backup after pre-determined time, paragraph and page systems, graphics support and numerous text styles.

There's *Write* and *Work* with all machines and is available from *Cambridge* (01-253 4791) for £100.

LOOK AT IT GO!

Bored waiting for your Amiga to process your precious data? Speed up your mine with a processor accelerator board from *Third Coast Technologies* (0267 426264). The *C149* accelerator cranks up the 68000's speed to 14.32MHz (as opposed to its usual mere leisurely 7.16MHz) and a 20-30% increase in speed is claimed. You can also add a 68001 maths processor to further turbocharge your machine.



RUNNING OUT OF TIME

Little wonder the entire *Red Hat* programming team have smiles on their faces; they've just completed the very *Flow Runner* game featuring *Captain Crockett*. Zoom into the time gate and blast your way through meteorite-strewn interspace on a desperate search across unknown worlds, meet malevolent monsters, sliver at the horrible inhabitants, tangle with the mutant creatures, swim through the lost jungles, outwit aliens... Yes, it's sheer madness. And it's available in a computer store near you for £19.95.

THE WORDS WORKS

With *i57* Keyword you need never be stuck for a word again - at least, that's what *Swift Software*, creators of the word finder *thesaurus*, *reclot*. Keyword lets you search through a database of words by meaning, thus enabling to find exactly the best way to express yourself.

Keywordable itself as a *CEM* disk accessory, so it's accessible from within most other *CEM* compatible software. Keyword's dictionary can be located on floppy, hard-disk or *RAM* disk. Around 12,000 synonyms and antonyms are contained in the dictionary.

All you have to do is enter a word - or the first few letters of the word if you're unsure how to spell it - and Keyword searches through its dictionary for all words starting with the letters you entered. The results are displayed. After that you can click on the spelling of the word you wish to use. Keyword gives a second search to find all words with the same meaning as the

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calendar, engagement
question paper, question
cal list, alphabet 60 on
etry, repertoire.
word list, vocabulary.
thesaurus, gradus 359
dictionary, gazetteer, atlas
dar, timetable

word you selected. You can continue selecting words and finding alternative meanings for them until you're satisfied with what you've got.

Keyword is much like *Korn's R-Rigger* - it's just less polished and less priced.

Swift are offering a calculator watch worth a notional £4.95 for a limited period to purchasers of their £28.95 word finder.

■ *Swift Software*, 547 London Rd, Hazel Grove, Stockport, Cheshire, SK7 5AA (061 4560028).

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GOLD DUST



Electronic mole extraordinaire **STEVE GOLD** tunes in to what's happening to the *ST* and *Amiga* on the other side of the Atlantic.

D despite all the books last year when the *ST* laptop—Stacey—was first announced, there's still no sign of the machine hitting the shops. This could be, say, because, due to the decision to modify the LCD with the addition of a backlight.

The trouble with this idea, excellent though it is, is that it adds considerably to the \$3 pounds that Stacey already weighs. Because of this, don't be too surprised if Alan begins shipping the machine as a "trans-variant" later this year. It's even possible that the battery/monitor system may be scrapped.

The good news regarding Stacey is, however, that TOS 1.4 will be fitted on the machine, although sources in the US say there are still problems with some of the code in this, the latest *ST* operating system.

HAND MASHO

Steve Small of Gadgetry isn't the only person who seems to have cracked Mac emulation on the *ST*. A small firm called CDRA Enterprises in the US (800-414-4154/800-414) is reading at almost frantic speed for the Mega-*ST* series, with versions planned for the rest of the *ST* series including the Storage which emulates the Apple Mac in file style.

CDRA's board for the Mega *ST* series will be out sometime during the third quarter of this year, but in the meantime there's no harm in going there a call.

Few pricing on the Mac emulation boards has yet to be heard as *ST* Rings Format goes to press, but the great thing about CDRA's board is that no Mac ROM chips are required. According to James Borough of CDRA, the new board will do everything that the Mac ROMs do without using Apple's program code.

Finally this month, and soon to appear in a number that plans to wrap 1040057 in favour of a 1080 Mega *ST* machine has been delayed. The reason? Atari is planning a new stable of *ST*s for shipment later this year. Don't ask me what these new machines are—only the Germans and a few other people know!

NO MORE PERFECT WORDS

Many Amigans will be become aware to see that Wonderperfect Corporation in the US has ceased product development on the Amiga, despite continuing with its word processor on the Atari *ST*. In a recent conference on Amiga, the line network, Peter Peterson of Wonderperfect defended its company's stance on this.

It appears that WP's problems stem from the success of the AS80, which Wonderperfect doesn't run as well without modco disk-swapping. Coupled with this, the package doesn't appear to sell well on the West German market. Wonderperfect decided it was time to call a halt.

The story doesn't end there, however, as Wonderperfect Corporation is still keeping on top of its four Amiga programmers to iron out any bugs in Wonderperfect on the Amiga, and has committed itself to minor upgrades to cope with improvements to the Amiga's design.

Furthermore, Peterson does not rule out the possibility of Wonderperfect 6.0 being ported from the Mac version to the Amiga. There were plans to do just v5.0 from the Mac to the Amiga, but the printer driver code was wholly incompatible. Wonderperfect 6.0 will be based on a modular construction, so it shouldn't pose the coding problems that v5.0 did. Here's hoping, anyway!

MAKE IT MODULAR

MOS, the Dallas-based software house, has just released a major upgrade to its Modula-2 development system. The new package, which costs a merely \$385 (are you listening program-developers?) has a compiler capable of handling 45,000 lines of code a minute, and is accessible from within the editor or Workbench, as well as from the command line itself.

The package also includes a single-pass Modula-2 compiler and program linker, program profiler, symbolic debugger, and several other advanced compiler features as standard. As if this wasn't enough, the program runs in just 512K of RAM, making it ideal for the AS50 provided expansion 1.2 and Workbench 1.2 or later are fitted. Interested? Call 0211 214 3405/214 for further details.

One of the earliest uses for the Amiga when it was first launched was that of video pro-

cessing. Time has marched on, and the price of the Amiga has fallen in real terms. A Topica, Kansas, firm called Novatek has spotted this fact and released the Video Transfer, which it claims is the first broadcast quality video computer system for the Amiga 2860.

BREAD

The capabilities of the Video Transfer include digital video effects as seen on programs such as Top of the Pops. Novatek claims that hundreds of effects are possible, including panes, pulls, flares, fades, zooms, freezes, freezes, zooms, and many others. Furthermore, because all these effects are programmed within software, upgrades to the library are easily added.

The Video Transfer is an add-on card coupled with software for the Amiga 2860. Novatek says that they developed their own operating system specifically for creating and controlling video effects, as well as 3D digital effects package.

Also available for the Video Transfer is a time-based correction unit, allowing the system to be used with any video source, such as video cameras and recorders, which do not have an external time-based correction system.

The bad news is that the Video Transfer costs a hefty \$1,595, plus another \$1,400 for the time base correction system. But when you consider that for a PAL/NTSC full digital manipulation package for the AT2000, its nearest rival for money figure Amiga on its branch! Novatek is on 0200 10 3 0543/148.

SPECTRE UPDATE FROM THE STATES

US *ST* users will now be familiar with the Spectre 128 (the Mac emulator for the Atari machines), now that itself and several other UK dealers are stocking the cartridge.

It's quite likely that UK dealers will begin shipping a much-improved version of the Spectre 128 operating system—version 1.0F—by the time you read this. The main reason for the upgrade is that v1.0 now includes Mac sound as a standard option.

Three improvements from US users of the Spectre 128 are that when Steve Small's sound option is enabled the execution of Mac programs slows down a lot. The good news for owners Spectre 128 users is that the sound option is optional, if only for slowing down the execution of the higher levels of Mac games.

The reason for the problem with v1.0F of the Spectre software is that, on the Apple Mac, dedicated hardware other than the 68000 microprocessor handles the sound effects. On the Spectre 128, the bulk of the sound processing is handled by the *ST*'s microprocessor.



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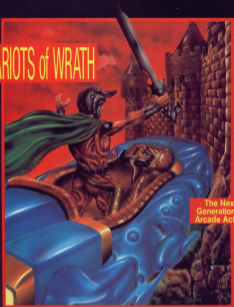
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The year is 2050. The day of paper has come to an end, but not never for the same reason. Fantasy or for prediction?

With the computer taking over everything from your local newspaper to your local stock market, so for the paper industry has disappeared largely unnoted. In fact instead of reducing paper consumption, the computer is now responsible for more newspapers than its cousin of the Sun. Remember all the wireless junk that that drops through your letter box because of a key entry in a database.

Had the day when you can finally put down your Parker Supreme might not be as far away as you think. Computers are

increasingly encroaching on the paper industry and the ripple are only just beginning.

LIBRARY ROUTINES

Libraries have already begun to absorb computers into their costly facilities with many countries removing their old-style library cards altogether. Microsoft's made achievements in this direction some years back but the British Library is now actively encouraging the small libraries to venture into computer systems. The computer does, after all, offer an instantly-updatable picture of a range of subheadings.

This may well replace paper in a less

and looser but the real achievements came when an entire book or reference book can be digitally stored in the memory of a micro-sized machine. Sometimes in smaller libraries could then offer the same kind of service as the larger ones. An entire book could be viewed at a terminal allowing instant access to a vast amount of information. As new kinds of printers and techniques like electrostatics to transform printing speeds, there may even come a day when the need may be printed out to order and taken home.

ON-LINE KNOWLEDGE

This might all seem far off into the future but it's certainly not an impossible dream. Movements in this direction are already happening. Several years ago a commercial system springing up on a US bulletin board offering information taken from reference books. The system was called Knowledge and gave access to thousands of pages of information taken from books bound in libraries across the States. The idea was that registered users could go into the system and offer key words which are then searched for in the material and correlating articles are displayed. Alternatively a heading such as 'type hunting' could be supplied and suddenly everything under this title could be available with further sub-systems to specify particular areas of interest. All information on the screen



WASTE PAPER

Will there ever come a day when paper is obsolete and the computer screen takes over completely?
MARK HIGHAM investigates.



disks, another disk stores the postcode and local circulation for every house in England.

PAPER CHASED

So what about getting rid of paper altogether? The most essential change is to reduce our dependence on paper. Instead of turning to a sheet in front of you, why not pick up your laptop computer instead? Laptops are capable of storing massive amounts of data. It's quite possible to wander down to the nearest branch of W. H. Smith armed with a blank disk and pick up the complete range of daily newspapers, which could be read straight from a monitor screen. But our rate of relaxation is fast to a printed sheet must be overcome first.

To really take over from paper laptops will have to be light, extremely the

can all remain for a moment in a buffer, unprinted or displayed later.

This type of system is gradually finding its audience in Britain, although on a much smaller scale. Doctor's orders and case histories are already supplied online to members of the medical profession to just how far away is the same format for an office diary?

It's impossible to tell at the moment because the amount of space available to hold such information is limited. Developments aimed at Microsoft and Substrates are at any well led problems with memory versus CD-ROMs and optical disks do, however, offer an answer.

The CD-ROM is capable of holding a massive 500Mb on a standard 125 disk shell opens up some really big opportunities. It's already possible to hold the complete Oxford Dictionary, Roger's Techniques and the Bible all on one disk. The BBC's Domesday project three years ago stored information about every street in the country and 600,000 individual names on Britain on just two



COMIC CHARACTERS

The comic industry has been leaping from the computer a few tentative steps into the field. Originally all comics were hand-drawn and then coloured, sent off to a typesetter and turned



into books. The Japanese are currently facing a revolution in this field with a whole range of "modern" comic adventures appearing on the scene. These tackle such serious subjects as nuclear war and politics, aiming to appeal to a wider age range of readers. With increased reader-ship, more serious techniques are being applied to the development side and there are increasingly involving computers.

A new comic adventure, *The Light Brigade*, is published in the UK by Trident and makes limited

use of computers in its design.

The story features a computer-aided setting and many of the back-caps are designed in colour. An integral film is used in the process with lead-frame images being scanned into the machine using a MasterScan scanner which fits onto the pin-head of the Amaloid printer. The pictures are then blown up to enormous proportions and then struck back down again with the result that a black effect is achieved. These designs are then positioned down the side of the strip.

For more achievements have been made by a company called Grafcom based in Dublin. They use computers in the colour reproduction of their comics. *Star of France* and *Star of England* are said to have been able to show a great number of improvements in a wider variety of colour. Using the computer in this area means that precisely the right colour can be used and although effects, colour gradients and repeat design opportunities are easily done.

Nigel Klasing, the artist on *The Light Brigade*, concedes that

computers could give *Star of France* as a massive defence to build frames and a library stack of character models and then these could be downloaded into a strip with a printer or plotter (providing a four-page output of the comic strip). "The animations would become very efficient - it's a step I would never like to see implemented," says Nigel.



He are going away 12 *Star of France* to write in and ask for them - the easiest competition in Great Britain to transfer computers, 27 *Amiga Format*, 2 *Queen Street*, Bath, BA1 1SU.



"WAS THE DEGREE OF HIS PAIN, (SMILING) EXACTLY AS HIGH AS THE OF THE ONE WHO WOULD PRODUCE"

"IN THE MIDDLE OF HIS DEGREE (SMILING) TO CARE OF THE GRADIENT OF HIS MENTAL PAIN?"

"UNDEVELOPED, CARROLL WOULD NOT UNDER THE PAIN AND (SMILING) INTO THE FUTURE, AS NOT FOR HIS HAPPIER LIFE?"

"RESEARCHERS COULD NOT WITHOUT PAIN."



and have very high quality displays. Five companies have explored the possibilities of a paperless computer despite the increasingly sophisticated technology in computing and lead-crest screens.

It would also need to be able to read handwriting in order to compare rate with a host computer and could hold contracts, notes or other hard-to-get material. The *Print Office* can be used to study intended or to be used to read handwriting. Computers are already employed to read the post code on letters. In time, a machine capable of reading handwriting will be with us soon.

People will need to feed the computer to be prepared to pay for the security of paper. However, until then the computer looks likely to continue slowly stepping into paper's territory. It is already possible to purchase simple



■ The *Printed* system shown is the first step away from books. Over 25,000 words are scanned into *Printed* Scatter's circuitry - even the entire works of *Marlowe* could be placed in an object no larger than a watch.

computers which hold the entire data base featuring a small keyboard and LCD display.

Once computers onto their own personal computer and can stop playing tennis for 10 minutes, then progress can really begin. Already some mail-order companies allow orders to be made on computer without any need at all for any written work to surface, and the *Book Exchange* is almost entirely electronic - except for the booklets, the books, the home equipment.

Increased portability and reliability are just the start. Imagine a world where paper is almost as expensive as the one attached to it. It will make for an increasingly efficient and tidy world and that can't be a bad thing.

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02/AM 87

EQUINOX

Without doubt, Deluxe Title is the most exclusive art package ever released and is constantly used by programmers. The extensive Deluxe range of software including Deluxe Paint and Deluxe Movie has taken the design trade by storm and Deluxe Paint is highly regarded as the definitive art package for the Amiga.

On the less serious side, *Enterbreath*, the *Archie* Collection, the exciting paths of *Powerzone* and the wacky arena of *Jany Goff* were all created by Electronic Arts. To top it all, their current number one hit is *Populous*, destined to be one of the biggest selling games of the year.

The prize list of all of this and loads more is the competition.

Electronic Arts are generously giving away their entire range of software for winners to make use of. To enter, simply fill in the questions below and send your answers on a postcard to EA SOFTWARE, COMPANY, 27 WILSON ROAD, RUSSELL, PUNJAB, 4 QUEEN STREET, BARNES, TW20 0EX, ENGLAND. But you remember to include the name of your computer software you wish to win. Your winning entry will be published below a list of July 13 to make sure you have something well worth playing!

QUESTIONS

1) *Populous* featured several sophisticated things that, who were they?

- a) Mrs Thatcher and Nigel Lawson
- b) Joan Collins and her wardrobe
- c) God and the Devil

2) *Enterbreath* was a game involving which type of world?

- a) Arcanoid
- b) Powerball
- c) Soccer Club

3) What is the name of Electronic Arts' most recent art package on the ST and Amiga range?

- a) Soft Henry Art Studio
- b) Deluxe Paint II
- c) Picasso Paint

RULES

1. Competition entries must be received by July 13 if you want to participate. Anything received after this date will be discarded in our incinerator.
2. Employees of Future Publishing and Electronic Arts may not enter unless they want to be packaged and dispatched to Iran.
3. The editor's decision is absolutely final and no correspondence will be entered into - do do not pining if you don't win.

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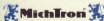
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PROTECT AND SURVIVE



Are software pirates above the law? What can be done to stop them? STEPHEN COGAN discovers what hackers and pirates get up to behind closed doors.

Hacking; there are two reasons for doing it, for fun and for profit. Those who do it for pleasure are called 'hackers' while 'pirates' earn a living from their criminal activities.

Crackers do what they do for enjoyment - to them it's about playing the games, it's one more against another software protector versus cracker. For pirates it's no game - their income depends on their breaking into games and selling the

hacked versions to the general public.

At the moment game copiers give high prices as their main motive. This is a vicious circle; the less software sold the less revenue companies receive so the higher prices need to be.

Some crackers hack games and then distribute them to their mates. Because of the hard software houses don't make a distinction between crackers and pirates,

but pirates definitely lose the software industry money, the case against crackers isn't proven.

Rampant piracy can kill the software industry. Take the Dragon for example; in the early days games sold in huge numbers - high, if not higher, than a good night for game today. Widespread pirating decimated sales and many programmers in the Dragon market left to go 1500 because pirates were reaping the rewards of their hard work.

Bob Hay of the anti-hacking organisation IAGI (Federation Against Software Theft) sees crackers as irresponsible since they are meddling with peoples' livelihoods: "If a programmer loses sales through piracy they may well think twice before starting on another game. The status of programmers from the leisure industry could get much worse unless peoples' attitudes towards copying games change."

SINKING THE JOLLY ROGER

Fighting always an uphill struggle due to outdated laws — this should change with the introduction of the Copyright, Design and Patents Bill which is presently going through Parliament.

As the market continues eating illegally copied software or selling without a license is liable for a fine of up to £4,000 on a prison sentence of two months, it seems more than time to update. How will be affected by one month and £1,000 and in exceptional cases up to 18 years will be possible.

It will be illegal under the new law for anyone to either possess or use a device which can copy a program. The music industry welcomed EMI's help in lobbying Parliament to get this provision inserted with the advent of digital audio recording technology they are frightened of people being able to make perfect copies of albums.

But will the Copyright, Design and Patents Bill deter pirates? Probably not. The case against the Glasgow pirates sent to Newcastle CD last August has been dropped by the Office of the Scottish Procurator. And you know why? Because the case was deemed too complicated.

It's a complex issue. That sort of thing means that pirates will continue to thrive and need laws on top of the law.

There have been successful actions brought against pirates such as the case in 1988 when Microsoft obtained a court order that stopped them to enter premises and seize tapes and duplicating equipment. The copying operation was run through adverts in major press and had a catalogue of over 50 games and utilities. But these sort of suits are too few and far between, and the pirates that we need to be more efficient to catch the crooks.

Cracked games are freely distributed through a network of informal contacts, often via mail or computer clubs. One month's waiters club must hold the record for the most simultaneous copies made in one place; over 30 Atari STs were linked together for copying. Having said that not all clubs are hotbeds of copying and cracking, but it's hard for club organisers to make sure that people are not breaking the law.

Some hackers could become gifted programmers. The skills of the elite game crackers are extraordinary, and often they are overlooked by their less talented brethren. If directed properly they could produce wonders for software companies. There is a story doing the rounds of a lad who hacked into Ocean's Operation Duet, which is 51 for most games on three disks, removed a bug or level file which causes the game to crash when a particular object is shot and compressed all the code to fit on one disk. Dicks aren't cheap — Ocean would have been extremely happy to have left his disks out.

Some hackers are beginning to put their programming talents to better use. A couple of development houses recently announced that they are training ex-crackers in the art of games programming, and the Royal General's cracking group TEX say they are working on a game.

CONFERENCE TICKETS

Occasionally crackers get together to discuss new methods and new ideas. Some travel thousands of miles to join cracking parties. These hackers must be making a mint from what they do or have jobs that reward them with substantial incomes.

The Chaos computer club regularly holds events like these and was fined by a BBC crew who were compiling a programme on the computer virus. The footage showed crackers hunched over computer screens comparing ideas during their 'virus workshop'. Hackers from Chaos have broken the protection on games, written viruses and even broken into supposedly secure American defence computers and passed on information to the KGB.

SPREADING IT AROUND

Crackers certainly don't like the fruits of their labour to be spread around the country — but when a cracker gives a game to a friend and asks if not to be given to anyone else, the friend may give it to another friend with the same plea. In this way it is very easy for a game to disperse very quickly.

The indications of programmers can allow pre-production tapes of games to fall into the hands of hackers before the finished version gets into the shops. Software house Line suffered uninvited versions of their adventure *Dr and Mr* being distributed through



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■ The criminal wants a desperate price for a stolen hacker.



■ But the proceeds can make it worth while.

■ The lure of large amounts of cash as often can introduce young hackers to the shady side of the criminal underworld. In one case we are aware of (you cannot tell where the hacker was) he made a connection with a messenger from one source. "He flew to a deserted factory lot like something out of a crime TV series. Payments to cracked games are made strictly in cash.

He returns many months before it was finished. This kind of exposure of a half-finished version of a game can be disastrous.

Another game being hacked around the network months ago was *Magnum's* spectacular *Operation Neptune*. Many programmers believe that the damage is not done by the hackers themselves, but by the external networks that spread the cracked

games throughout the UK and the rest of Europe.

BROWNING OFF

Cracking has been going on for years. At first, when the protection was removed the person responsible would leave a message in a prominent position in the game. Gradually hackers started to use pseudonyms and then to acknowledge each other with scrolling

messages in the title screens. After this came the hackers who would take sections of commercial games to produce music or graphic demonstrations. The most notable of these being the 'CGI' group who are responsible for demos such as *The BIG Demo* and *The Amiga Demo*. On the Amiga the *Northstar* group are responsible for a collection of demos on one disk which is well worth seeing.

THE UNTOUCHABLES

It's not just that many young computer users look to see at games and consoles, they see them as heroes — above the law, better than the best programmers and they make games easy for everyone to get hold of. David Coakley is a typical teenager who's been both an IT and an Amiga user since the hacking fraternity.

How many games do you buy a month?

None! My Dad sometimes buys me some — but very rarely. He's tight. Usually I get games from my mate Mike. Mike's fantastic — he knows a hacker, but this hacker gets all the latest games which he passes on to us. Some of the games aren't even available in the shops. Mike mentions the guy knows people at software houses.

Why do you worship hackers when you don't probably well what they do is wrong?

Well they are great, aren't they? I mean, look what they can do to games. Put messages in the title screens, add little bits here and remove protection so everyone can have copies of games. They aren't doing anything wrong... everyone tapes from the radio and TV and that's supposed to be wrong. If everyone does it then it can't be wrong. Even me! But tapes stuff from Radio 1 and the game is crushed every Sunday. It's the one that does the whonking.

But don't you realize software houses and programmers are losing money because of hackers' activities?

Not off! Software houses have got

loads of money, everyone knows that. Anyway, most of the games that I get are such rubbish I wouldn't buy them even if I had as much money as the software companies. They're really boring.

So why do you continue to accept cracked games if you think they are rubbish?

Have you seen the scrolling messages and digitized music most hackers put in the screens? They are brilliant. Better than the games even. And what they say in them is excellent too.

Some of the stuff that they put in them is dead funny. They use words which would make that go mental in the ear (them). Mind you, he probably wouldn't know what they meant even if he did.





It's still a few months ago a game that had been cracked would either have just been stuck on a straight-to-video disk or on a disk with some kind of menu. This was very costly in terms of disks, so cracking groups have started comparing the games so that they take up less room on disk. One particular group - see top left - manages to get five or six CD games on one double-sided disk. This same group had, at the latest count, brought out in excess of 100 of these disks.

Hackers are becoming more and more confident they are going to get off without causing chaos and get their names and addresses into something meaningful (middle left).

Other hackers just remember particular sequences and sampled sounds at the beginning of games (bottom left) that allow them to return to the game themselves.

Software is distributed around the globe already long before it reaches the shops. An (left) shows cables and hardware showing from US (bottom right) and are two such examples.



In order to crack programs most hackers must have a reasonable knowledge of assembly language, though with the aid of a certain utility even leaders of New Computer Express could crack most games. This utility is a CD Destroyer (found) tool for people who want to remove the protection from games or applications. There are cer-

tain types of protection that this utility can't handle, but since it is normal for a company to use someone who specializes in protection to test their games, trends do develop.

One such software protection artist is Rob Marlowe who handles the code disk for ST Araya Format - the CD utility mentioned for protection as one type

that can be cracked.

WHAT CAN BE DONE?

The software industry is in no doubt about the harm piracy does, but what can be done to counter it? Better software protection will help to deter casual hackers, but will only encourage the sites who buy day and night with their disseminators. Public awareness of the damage piracy does could help, but there is as little sympathy for software houses as there is for retail companies bleating about home copying. People pay as if not regard copying games as being immoral, and see it as being only technically illegal. The provisions of the new Copyright Bill are ridiculous impractical - all the ban on copying equipment include a ten day time for instance! The managing director of a leading software company probably had it right when he said recently that the only cure for hacking is a better-bought willful.

Commercial foggy is a different matter, and must be tackled head on with stiff prison sentences. Forgive getting an axe level by proving there's always the master of a three-inch disk of broken plastic should not be confused with shady dealers in stolen software. ■

MAFIASOFT: THE ITALIAN CONNECTION

Pirating has become an international industry with hackers reaching all over Europe and the Americas.

One of the hotspots is Italy. Piracy is particularly prolific there because so few British and American companies bother to sell their software outside their traditional markets.

An idea of the widespread and semi-legitimate nature of Italian piracy was given by businessman Marko Geringer at a recent trade show in London. Geringer displayed national TV available via magazines containing cracked copies of software from other countries. When questioned, the owners of such magazines indicated that individual people had sent in the pro-

grams claiming that they had written them.

Italian printers duplicate the packaging and photos and pass the tapes on to distributors. Surprisingly, the software houses are often unwilling to take action - Geringer quoted the example of East-English International Soccer.

It seems that despite being shown the tapes and told where it had come from, the copyright holder

Audiogem's only reaction was to say that the Mediterranean states wouldn't sell the copy because the packaging wasn't as good as the genuine article. The printers clearly don't have the same opinion.



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HANDY MAN

Using your character's hands and face is the key to realistic animation. MARK PICKAVANCE goes through the emotions.

For serious character animation the elements you animate must portray emotion - the best way to do that is through gesture. You need to manufacture love, rage, surprise, worry and so on. The overall design of the character has a bearing on what sort of emotions are possible and likely. The walk cycle can show mood, age and agility - but for the more subtle emotions we must look to the hands and head. Without expression the character is a robot, devoid of emotion and thus life. If you can get emotion into your animation then you are getting to the essential objective of character animation: the illusion of life.

TURNING UP

There are a few ways about it: hands are a problem, they are either too small, too large, in the wrong place or just completely the wrong shape. The trick is to size them as generally as possible and then add detail when the rest of the animator is working well. Early concentration on the hands can distract you from the purpose of your endeavour.

So that you can have some designs to copy, there is a screen composed entirely of hands. They have been drawn in the style of Mickey Mouse, white gloves with three scars on the back of the hand. The technique of drawing them is the same as for the entire mouse. The palm is drawn as a circle or an ellipse. For the fingers project from this on an arc and the thumb at right angles to the fingers. By copying these hands to you get the hang of it. Hands are an awkward art and not easily mastered.

The use of gesture and animated hands can enhance a scene by making the character more 'readable'. The eye is often drawn to the hands as a source of expression and reinforcement. Even if they don't move they can portray the feelings of the character by their position. Hands at hips show confidence and bravado, while folded arms show resistance. Placing the hands on the head can mean surprise, madness or disgust. If you are not sure where the arms and hands should go, set out the scene

yourself and see where you place your arms and hands.

HEAD TURNER

Remember everything that moves in life, travels in arcs. If you don't want to animate a robot, which by its very mechanical nature travels in straight lines, you must make all the movement describe 1 arcs. The example about to appear will demonstrate this; it will also explain why computer 'in-betweening' does not do what real in-betweening does.

Consider the five drawings in the diagram on the right marked 'Strong'. Drawings 1 and 5 are the 'key' positions in turning the head. All five frames that make up this movement haven't been included, but you can easily create the missing frames. The obvious course of action in in-betweening is at the top: the head simply rotates as if on a spindle.

This would be fine if people's heads were connected to their bodies by a simple mechanism. However, the neck is a very complicated structure, enabling all sorts of fine movement in many different planes. Turn your own head and see what happens; you should be aware of a slight dip in the middle of the rotation. This is the arc of motion which we must recreate in our animation.

In the 'Right' drawings the curved sequence is displayed - for you to create the 'full' animation you will have to in-between frames 2, 4, 5, and 8. This will produce a good animation over nine frames, which is a reasonable time for a head turn.

The scale of the 'dip' is very much dependent on how cartoon-like you wish your animation to be. The more you exaggerate, the less flexible and more expressive it will become. Copy the example and include the missing frames.

One additional feature in the correct version is that the eyes never fail to look in the direction the head is turning, but ahead into your intended field of rotation. The general reason for turning the head is to enable us to look in that direction so the eyes should not just look forwardwards as in the 'Wrong' example.



WHITE GLOVES?



The 'hand' graphic shows what are clearly Mickey Mouse's hands, this is obvious because of the white gloves. But why should a mouse be wearing white gloves? Unfortunately, that's tricky to answer. Nobody seems to have any sensible answers to this question. In early Mickey

cartoons they were not present, but sometime in 1929 they magically appeared. From a pure design point of view they are very helpful as they make a clear distinction between the hand and the arm. This may have been the reason that they remained a feature after the initial reason for their inclusion was long forgotten.

Historically most animation studios carry a large stock of white gloves. They are used by the artist and many others to stop fingerprints and other marks damaging the cells while they are being spaced. If you look at the back of some old gloves you will undoubtedly find that one person has marked the back of his pair with three black lines.





EYE STRAIN

Having moved the head, it is only one fact that you should not include the eyes. Turn your head from side to side and look again at what happens when you do so. You may notice that the tendency is for the eyes to either blink fully or half close. The eyes should close on frame 5. This is yet another subtlety which enhances the overall effect. This is shown in the third version of the head turn, entitled 'better still'.

Eye movement is very similar to head motion - it must be performed in arcs. If the pupil travels across the eye it should not do so in a straight line. In the

graphic of eyes you can see what should be done to produce the effect of the eyes following an object from left to right. The 'normal' version shows this.

Again the pupil does not touch the side of the eyelid. If it does it becomes more effective if the eyelid starts slightly, so if the pupil had some weight, this is the 'extended' example below. There is no topic to this, it just looks good.

At the bottom of this graphic you'll see four eyes marked 'A' to 'D'. Each demonstrates a different 'look'. 'Eyelet A' shows a large pupil which indicates attention, curiosity or wonder. This is the opposite to 'D' which portrays a slanted, staring look. This sort of eye would be associated with weak, perhaps hypnotised characters. If the pupil touches the eyelid as in 'C', this shows a torpid attitude, or determination. If it floats around never touching the edge this gives a somewhat vague appearance, as in 'B'.

BLINKING GOOD FUN

You might think that blinking is quite straightforward. It is in fact one of the more difficult things to master. If you are drawing a blinking eye, use the arc



drawing function of the art package you are using. If a hand's got an arc facility you will have to do this by hand using 'zoom'.

The eyelid should never be drawn as a straight line, always as an arc. There are three main types of blink, fast, slow and squint. A test blink is used to show that the character is awake and alert. The faster the blink the more awake the character is. Slow blinks are associated with sleepy characters.

The drawn example only shows frames 1, 3, 5, 7 and 9 again. You can draw the inbetweens, and try removing frames as well. An eye blink at least once every 10 seconds, for cartoon characters to appear normal they should also make regular, fast blinks.

CHARACTER SHEETS

In any big production several people will animate each character. This means that all the animators must create a common style, and be able to control their own working frames to ensure that style. To help them do this a 'character sheet' or 'style' are established by the designing animator. These show a single character from numerous angles, involved in a wide variety of activities. The other animators will use it as a reference so that they can maintain the pose, shape and details of the character as if it was being animated by the originalist. If you are serious about animating then you should make some model sheets on your computer. You have the standard advice: 'give your a conventional animation - he can't eat and paste portions of his model sheet into his current drawing.'

PHOBIA



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and if you want something more taxing, try taking the 'head tilt' animation and add a squint or blink at the end of it. Good luck!

NEXT MONTH

The going gets tough. The subject of next month's tutorial is making your

character's talk. Yes, mouth movement. Something most of us are very good at.

'La oye!' is one of the most difficult animation tasks to attempt. Look out for it in the next issue, it's going to be hard to keep awake. If you can manage to do this you can do anything - well almost.

MIRROR MIRROR

As with all character animation, the best technique for looking out exactly what happens when other actors start something is to do it yourself and observe. If you enter a commercial animation studio you will discover that most animators have no, or near their desks a mirror. Some studios have an entire wall of mirrors, like a ballroom. You will also discover that animators spend many hours a day looking the most famous expression and poses, while observing themselves in the mirror. This has led many people to question their sanity.

ROTSOSCOPE

If you find animating a character too difficult, you could try a different approach.

The Rotoscope technique is one borrowed (in a conventional animation. The Rotoscope machine is usually a converted camera through which film can be projected onto paper. The process involves filming people performing the action you want to animate. This projected image onto paper and sketching around the projected picture. This can either be used as the animation, or just as a guide. The snag is that all the images you create are too accurate, and more too realistic. Any animator can immediately spot 'Rotoscoped' work because of its very nature and style.

When Disney animators had problems animating Snow White they turned to Rotoscope as a solution to the film's heavy workload. Snow White was in production for five years; in that time over five million sketches were made, using around 800 miles of paper. In the end they only used some Rotoscoping to start animating the Snow White character - after a little practice they discovered that they could animate her without Rotoscope. They never used this technique again. The feature film *The Lion of The Kings* used the process extensively, in fact for all the characters. The end result was attractive, but lacked the pure style of 'real animation'. A successful case of its use is the original *It's a Wonderful Life*, for their single 'Take us out'. This used live action combined with Rotoscope. The video was a crucial factor in the ultimate success of the single and group.



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ADVENTURE 4	16.00	14.00	PIZZA PIR 4	10.00	10.00	WILDFIRE 4	11.00	14.00
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ADVENTURE 6	16.00	14.00	PIZZA PIR 6	10.00	10.00	WILDFIRE 6	11.00	14.00
ADVENTURE 7	16.00	14.00	PIZZA PIR 7	10.00	10.00	WILDFIRE 7	11.00	14.00
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ADVENTURE 12	16.00	14.00	PIZZA PIR 12	10.00	10.00	WILDFIRE 12	11.00	14.00
ADVENTURE 13	16.00	14.00	PIZZA PIR 13	10.00	10.00	WILDFIRE 13	11.00	14.00
ADVENTURE 14	16.00	14.00	PIZZA PIR 14	10.00	10.00	WILDFIRE 14	11.00	14.00
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PD UPDATE

Whether you're a hardened programmer or a joystick junkie, the PD libraries here something for you, finds JASON HOLBORN.

ST

All the programs featured in this month's ST PD Update were taken from the FlippyShop range of PD disks although most can also be found in other collections.

UNIFORM DESK CONTROL

Computer communications is one of those aspects of computing that you either love or just can't get enough of. The format team is exactly the same - half of the team are real communications buffs while the others stream at the tops of their voices every time words like 'band' and 'parity' are heard. Comm is unfortunately surrounded by a wealth of seemingly meaningless jargon which can make the task of choosing the right modem and software a very confusing business.

Suppose you've already chosen your modem of your choice, check out our simple modem feature in issue 9 of Format, what software package are you going to use? It will come as no surprise to you to learn that UniTerm is a communications package which could be just what you've been looking for.

The program offers extensive emulation of several of the most popular terminal types such as VT102, VT300, etc as well as allowing emulation of the entire mode of the electronic graphics terminal. As well as standard terminal emulation, UniTerm also includes extensive file transfer facilities. Probably supported include XModem, YModem and Zmodem.

If you're not starting out in computer communications and you cannot afford any of the commercial offerings, UniTerm is well worth investigating.

SUPER NES SHOW DESK DEMO 210

Producing endless graphical wonders in real time is not a simple task package is all very well, but what happens when you want to stretch your masterworks on the art world? You need a storyboard program. Using SuperStoryboard a storyboard wouldn't be doing it justice - it is a canvas



The configuration menu within UniTerm are easily accessed by just pressing the 'HELP' key.

orably more interesting than your average run-of-the-mill storyboard. For starters, the program will automatically load and display any low-resolution framebuffer format pictures that are in the same directory as the program itself. So what? I hear you say. Displaying pictures is only half the story with Super NES Show as it also allows you to add a commentary to your artwork in the form of a multi-color scrolling message that scrolls smoothly along the bottom of the screen. For that extra impact, Super NES Show will seamlessly perform a whole range of wonderfully colourful effects in the border.

MINOR DESK UTIL08

One of the most useful features offered by the ST's DEM desktop is its desktop accessories. Desktop accessories come in many shapes and sizes - ranging from the simplest ideoblog clocks to complete panel packages. Luckily, Desktop accessories don't stand alone within the PD libraries. There is a nice little game being under the guise of a desktop accessory. The object of the game is to guide Thomas (player of Microsoft) around a huge 3D maze and to help him escape to freedom.

SPEED DESK UTIL16

Do you need a spreadsheet but can't afford the high price? Well, look no fur-

ther than the PD libraries and you can pick up some very acceptable spreadsheet for the price of a disk. One of the easiest to use is the imaginatively named Spread. Spread is a very simple spreadsheet that works and feels similar to the spreadsheets such as Lotus 1-2-3

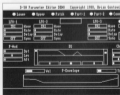


Spread in action.

AMIGA SUPPLIERS

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- ST Bit Software - 054 46681
- Rise Real Time - 0790 76646
- Amiga PD Unlimited
- Indivision - 0790 26000
- Purple PD - 0275 70792



Developing events on your DEM has never been so cheap - DEM overhead.



and WP Professional. Obviously the program lacks their sophistication but it will still easily handle most simple spreadsheet applications.



AMIGA

The programs featured in this month's Amiga PD Update were taken from either the Fish or FLAG range of PD disks.

OSD EDITOR FLAG 75

PD MIDI software for the Amiga has never existed in any great abundance but if you look hard there are powerful utilities to assist. The OSD Editor is a patch editor for the Roland 590 linear synthesizer that seems to be used by

nearly every group these days. The program is unfortunately only a demo but apart from the absence of a save function, it is fully operational. Although the package does not include any method of saving your creations, it will still allow you to create sounds quickly and easily. Although you cannot save your patch to an Amiga disk, you can of course still store it in the OS's onboard memory.

The full program will allow you to build up a library of all your favourite OSD patches and save them stored on Amiga disks but this demo will provide you with an ideal taster of this power package before you decide to look at the necessary readers for the complete program.

HOONER

FLAG 154

If you take a look through any PD catalogue, you'll soon come to the conclu-

sion that PD programmers seem to be through regular faulds. During these last few months, programmers seem to pick up on a idea and then try to use it for as many different applications as they can think up. The current fad with PD programmers seems to be based around the topic of 'foolery': anything that you can get their code on. We've seen foal counters, where a tick is frozen at a reduced to a little size at the bottom of the screen, and also window counter which work on the same principle as are very useful for keeping track of windowed applications. However it allows you to instantly size the mouse pointer to any shape, size or colour and double clicking on an identified window of the mouse pointer of require. As anyone who has click around with the mouse pointer editor Preferences will tell you, this can't quite hit.

DEMOS CORNER

After last month's premiere of Demos in come, Demos Corner steps up into full gear with demos for both the ST and the Amiga.

It seems hard to believe the level both among the multitude of demos I receive - but, after several long sessions of sifting and sifting, I eventually came to a decision. Both demos featured in this month's Demos Corner were supplied to TFC Software who can be contacted on 021 309981.



Being along in the Linear song with Fun Demo 2

ST

Most of the demos I received contained mainly of either registered Rob Hubbard tunes (remember that), sample music or digitised pictures. One particular disk that did go down well with the forum set team was a rather classy rendition of Gary Anderson's classic, 'Let's Get Outta Here' and the Mysteron's theme music. However, after everyone had settled down and stopped guffing on about the requests where Captain Britain gained his mysterious powers, I finally decided on a winner. This month's mega demo was programmed by 'Liner' and is not a single demo, but a whole collection of various demos that really do show off the parts of your ST that other demos cannot reach.

Each of the included demos is equally impressive and show off particular aspects of the ST including some that many still maintain are not possible such as text, multiplane, 3D or 4D or 5D or 6D or 7D or 8D or 9D or 10D or 11D or 12D or 13D or 14D or 15D or 16D or 17D or 18D or 19D or 20D or 21D or 22D or 23D or 24D or 25D or 26D or 27D or 28D or 29D or 30D or 31D or 32D or 33D or 34D or 35D or 36D or 37D or 38D or 39D or 40D or 41D or 42D or 43D or 44D or 45D or 46D or 47D or 48D or 49D or 50D or 51D or 52D or 53D or 54D or 55D or 56D or 57D or 58D or 59D or 60D or 61D or 62D or 63D or 64D or 65D or 66D or 67D or 68D or 69D or 70D or 71D or 72D or 73D or 74D or 75D or 76D or 77D or 78D or 79D or 80D or 81D or 82D or 83D or 84D or 85D or 86D or 87D or 88D or 89D or 90D or 91D or 92D or 93D or 94D or 95D or 96D or 97D or 98D or 99D or 100D or 101D or 102D or 103D or 104D or 105D or 106D or 107D or 108D or 109D or 110D or 111D or 112D or 113D or 114D or 115D or 116D or 117D or 118D or 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G.T.S GEORGE THOMPSON SERVICES

SOFTWARE EXCELLENCE

"The Commodore Show Selection"

In early June we demonstrated for the first time a selection of our new Software Products for the Amiga. One of the main attractions at our stand was, as always, JUMPDISK. In the June issue we featured another JUMPDISK Title - "PeopleTree" a Genealogy program that puts your family on record. In the Public Domain department, "Star Trek" proved to be a sell-out and the success of the "Mega Games Pack" and the "Home Business Pack" showed just how many Amiga owners appreciate the quality of Amiga PD.

* JUMPDISK + GENEALOGY + JUMPDISK + GENEALOGY + JUMPDISK *

"JUMPDISK PEOPLETREE" in this special show issue of JUMPDISK are: PeopleTree: Make a special poster and then use it in a program. ESP: Do you possess it? Enjoy the experiment plus 3.2: New it identifies all 18 known viruses. Coderzook: Only you have the key to snooze and decide your test file. SigPic: Scroll Multiple Arts Screens endlessly just read in the Articles section we feature the latest Amiga news from the USA, Taiwan, Norway, of Spain, Italy and Switzerland. Plus, the latest PD releases and much much more. All for only \$5.99 inc.

E14.99 + NEW...NEW...NEW..."DOSLAB" + E14.99

Yes it's all available! The new interactive way of learning how to use the DU and BMQADDS. This program takes into account the many hundreds of questions our customers have asked us over the years about the Amiga Operating Systems. We are sure that this new disk set will help you understand and master the Amiga the easy way. A JUMPDISK publication.

E19.99 + NEW...NEW...NEW..."THE MEGA GAMES PACK VOL II" + E19.99

The new Mega Games Pack Vol II is out now! Seven disks packed with the latest Public Domain Games. We searched through over 800 PD disks in Europe and the USA to put this collection together. Programs include: AntWarrior: An Incredible Multi User Flight Simulator with many features and options. Avoid infinite bombers and many fighter planes that fought in WW1 and I was a jeep! Willard: Mine. This must be the finest role-playing game yet released on PD. Flasher: Humour and challenging game play makes this unique. Brilliant. The latest Wheel of Fortune type game with speed and an attractive football. Wheelz: Very good simulation. Clue: Story based on board game. Chess: Includes many options plus graphics. Daily's Castle: Graphic adventure game for beginners. World War adventure similar to Infocore adventures of Planetfall and Nemesis. Top-Think, Dead, Terri, Snake: Humorous puzzle game. Incentive, Diplomacy, Cat & Mouse. The card games of King and Hearts and more. All for the E19.99 inc.

MEGA GAMES PACK VOL I is still available. Features: Performance: Fight with Great Pelicans, Sultan. Rescue the battles of the American Civil War with this simulation. Super-Heroes: SuperBlock, G2K: Wheel of Fortune, 3D: Object, StoneAge: Save the Builders and collect the Diamonds. Queen: Crystal Vases: Hairs: The famous Chess game. Monopoly: Nice inspiration to the board game with sound effects. Deluxburger: Amoski, Memory simulator. Play the part of a Memory in different battlegrounds. WB Puzzle, Amoski: Invader: The best Space Invaders style game on the Amiga! Missile Command, ITTPCS, Remember: Includes Stereo Sounds. Descenter: Pacman '87 and Heavens of Doom: New and original Space Invade type game. Seven disks for just E19.99 inc.

Buy both game packs (Mail Order Only) and we will include "3D Extravaganza" with glasses FREE! (Available separately @ E4.99 inc)

E19.99 + HOME BUSINESS PACK + E19.99

On test selling 7 disk pack will include a "Systems Extension" disk FREE! Other programs include a Word Processor, Spell Checker, Database, Accounting Scheduler, Home and Business Accounts and much much more.

E19.99 + NEW...NEW...NEW..."INTRODUCING PUBLIC DOMAIN PART II" + E19.99

This special 3 disk game set is the perfect volume to Amiga PD. We have carefully selected one of the most popular disks from the Fish, Amoski, SACT, TALK, TALK, ALIEN, and TWY 11 and added the latest releases of our first disk PD Library Pack, complete with a pair of 3D glasses. There are many hundreds of quality PD disks in our collection and this new pack will give you the opportunity to see why everyone is taking their PD on the Amiga. If you already own the Library Pack we will substitute two other disks.

E29.99 + NEW...NEW...NEW..."MY PAINT" FROM CENTAUR SOFTWARE + E29.99

The first in a long line Educational Programs "My Paint" is a Paint program just for kids. It features stamped Sounds for each colour, animated sun drawing tools, special effects and much, much more. No reading skills are required. 28 pictures to colour are included so children can draw and learn. Suitable for all ages from 3 years old. Highly recommended for parents who would like even the youngest members of their family to use and enjoy their Amiga.

*** NEW...NEW...NEW...THE "MEDIA LINE" SERIES FROM FREE SPIRIT SOFTWARE ***

The first three releases feature:
"VIDEO AND ANIMATION BACKGROUND 1" (PAL) - Two disks packed with full scenes, Textbooks, Structures and high Tex backgrounds for Animation packages such as Amiga, Home Top, Lights Camera Action, Turbo, Stone, Soulful 3D and many more. Only E29.99.
"CLIPPING DRINK 1" - A small selection of high quality clip art for use with Desktop Publishing programs such as Professional Page, Publisher Plus and Word Processors that are able to import IFF Graphics. Only E29.99.
"AMIGA FONT MEDIA 1" - A collection of 4 different Bitmap Fonts for Video, Graphics, Animation and Desktop Publishing Only. E29.99

E29.99 + NEW...NEW...NEW..."AMI-ALIGNMENT SYSTEM" + E29.99

A precision floppy disk alignment and performance monitoring system for the Amiga 500/500/5000. Easy to operate it will let test give Amiga users the opportunity of checking the performance and it need be correct the alignment of their disk drives. Includes 2 disk and a comprehensive manual. This would prove to be your most useful purchase for the Amiga.

+ STILL AVAILABLE - THE PD BEST SELLERS +

"STAR TREK" - The 1 meg Starboulder that has put PD games on the map! 3 Disks packed full of arcade and adventure action for just \$9.99.
"YOU TOO CAN BE A DEMONSTRATOR"
"DOD SOLACE SHREWDOME EXTRAVAGANZA" - 36 programs on a single disk! A marvelous selection of PD material downloaded from the US Subnet Source. Compressed and beautifully presented with music, files and fancy icons. Only \$4.99

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see NEW 60

TRACK-IT

see NEW 61

TRACK-IT is a hardware device and software needed for digital information transfer of data 1 on a personal computer through 100 digital binary conversion using standard ASCII via direct plug and socket. For other manufacturers a complete replacement.

Simple drive 1 on 1 with category 1 paper tapes. Load up any software on TRACK-IT will transfer the tape numbers that the software contains as it reads or writes to the disk drive. With one click of the disk a starting position tape will allow files to be written, erased.

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JASON HOLBORN describes the contents of this month's final fantastic dual-format floppy disk.



ON THIS MONTH'S DISK

ST

AMIGA

SPHERICAL**WICKED**

By your hand at the first four levels of Rainbow Art's latest arcade blockbuster. Guide your character around through some of the featured screens of arcade action and dodge some decidedly nasty monsters that are set to ruin your day!

Supernatural goings on are the order of the day with Activision's delectable original game. Will you try to creep over evil or will the darker side of the land win the battle for the cosmos?

TCDS**MANDELSHOW**

Business need not be boring and TCDS is most definitely proof of that. Create and maintain databases on any subject with the kind of ease of 8000 packages. TCDS allows you to manage not only text, but graphs too as well.

Maths was never this much fun when at school. Explore the colourful, fascinating, chaotic, and infinitely complex world of fractal graphics with your trusty Amiga as your companion.

FIDONA**VOODAMMAGE**

Fields is for all of you who have ever lost valuable files at the hands (heads?) of some malicious disk evil. Stop missing documents at your disk drive and start enjoying the peace of this life-saving utility.

Give your AmigaDOS batch files the kind of sting-buzzing power that you have dreamt about. With MCommands, your batch files will be faster, more powerful and more efficient.

EXPLODE**MS UTILS**

Blow your brain before it gives up on you and rids it of its own excess. Exploder is a game with a very rare extra ingredient - originality.

Add a number base converter and a very handy calculator to your arsenal of Wordbench utilities. Never again will you be late for a date or baffled by binary.

BEFORE YOU START

The first thing to do when you get your ST Amiga Format cover disk is to make a back up copy of it. Full instructions for this are given on page 46.

Before you use any of the programs read the instructions on the following pages. If you have any problems check the documentation on the disk itself. If it still won't work see page 46 for details of how to get a replacement.

WICKED

The constabularies are under threat of being on call to emerge. Will you and the team win over Wicked.

SPHERICAL

Wizards, witches, spells and monsters. All the ingredients of a great game from Rainbow Art.

EXPLODE

Blow it away! Then you might just be ready to tackle Exploder. The rules are simple, winning isn't.

MANDELSHOW

The Amiga's outstanding graphics are the only limit on the fractalizing capabilities of the Mandelshow disk.

EARN

£800

SEE PAGE 44

All you have to do is describe an ability to write to our best program and have it featured on our Diskworld.



ST

SPHERICAL

PROGRAM: BY RAINBOW ARTS, SOFTWARE FOR HARVEY MILNER, COLOUR SYSTEMS
MACHINE: COLOUR STS
FILES: STARTUP.PRG & CTR1.BRD

Spherical is the latest programming masterpiece from the West German software house, Rainbow Arts. The game will take you on a magical journey into a land of wizards, monsters and magic.

You play the part of a wizard-wielder with various weird and wonderful powers to aid you in your quest. Your aim is to guide your magical sphere through more than five increasingly difficult levels, overcoming all obstacles that you may meet up with along the way. Life is made a bit harder for you if you manage to collect the bonus objects which increase your power to cast spells.

In Spherical, you must learn to use the powers that you acquire during your battle through the different levels.



Never mind the huge monster, how do you get to the next level?

Learn to harness the explosive power of fireballs and create lightning to help you find the teleports that will transport you on to the next adventure.

GETTING GOING

To start the game double-click on the STARTUP.PRG icon from the Desktop.

SOME HINTS

When the game starts you have 30 seconds grace before the sphere starts to roll. In this time you need to create a path for the sphere to the portal, break in the sphere as it can't move, and collect all the green glass. You can stack the sphere on top before the 30 seconds is up by typing "T".

If you collect a helping hand it will be filled from the antenna. It will kill all of the enemies on the screen.

You can pause the game at any time by pressing the space bar. To begin the level again press the ESC key.



Please use mouse pointer on the squares and it will become unstable and explode.

ST

EXPLODE

PROGRAM: BY P. D. HERRS
MACHINE: ALL STS
FILES: EXPLODE.PRG, EXPLODE.DOC

All the mindless arcade violence cannot be good for the old grey matter! Every one and then, you need a trip down to the local brain exercise centre for some quick mental workouts. What game can possibly reach the parts that other games cannot? Step aside Arkanoid, step aside Dungeon Master, for Exploide is here.

The object of the game is to fill the entire board with all your own pieces.

You do this by placing your own pieces on the board. Each square, depending upon its location on the board, can only handle a set number of pieces before it becomes unstable and explodes, sending fragments into all adjacent squares and capturing your opponent's pieces. Time it right and you can set off a chain reaction!

HINTS AND TIPS

Exploide may look like a very simple board game on the surface, but the more you play, the sooner will come to appreciate its heavily strategy based gameplay. The first thing you must do is to try and capture as many of the corner pieces as is possible and then work in to the centre, gradually capturing your opponent's pieces.

GETTING GOING

You can load Exploide by double-clicking on the EXPLODE.PRG icon on the Desktop. Exploide is designed to be run on a low resolution, colour ST but it is also perfectly playable on both medium and high resolution STs. Full instructions, including a run down of the rules, are available within the EXPLODE.doc.

AMIGA

VCOMMANDS

PROGRAM: BY TOGETHER FILES
MACHINE: ALL AMIGAS
FILES: VCLAMP.VOL, VOICE.VOLUME.VOL, EQUATOR.CAR, VPRINT, VCOMMANDS.DOC

Take to anyone who has used a system based on the professional operating system line and they soon starting asking us also how primitive the Amiga's old



VCommands provides you with all the tools you need to produce innovative batch files.

command line interface is. Using its complete applications can be written in no time at all using what is called Shell scripts. These are programs written completely using DOS commands. In fact, VCOMMANDS batch files.

The thing that separates the scripts from Amiga batch files is their extensive string handling and decision making facilities. In VCommands, you can call one handling to your batch files.

VCommands is a collection of six AmigaDOS commands designed to allow complex text manipulation within your batch files. All the commands are designed to work on ST command storage areas. In addition, if you feel that you cannot say anything.

They have many uses. In fact, for example, you can use VCommands to protect your data by making the user enter a pass word before the rest of a disk. Start-Up-Sequence is even used.



SETTING GOING

ICOMMAND is designed for use from the Amiga command line interface (CLI). The first thing you should do is to copy them to the C: directory of your work disk. Full instructions on how to use ICOMMAND are in the ICOMB.MSD-DRAW.

AMIGA

WE UTILS

PROGRAM: BY LEMMON
FILE: WE_UTILS
MACHINE: ALL AMIGAS
FILES: COLORDRAW.COM-
VERSION WE_UTILS.DOC

The Calendar and Converter programs, collectively known hereafter as WE UTILS, are two little programs that deserve a place on every self-respecting Workbench disk.

We won't spoil your intelligence by telling you what Calendar is— suffice to say it isn't an astronomical tutorial. The program tracks the current date from the Amiga's built-in system clock.



Multi-tasking of the beauty. Here, both Converter and Calendar are running simultaneously.

and then displays the days of that month in a little window on the Workbench screen. To change the date displayed, you'll have to load the Preferences tool which can be found on your Workbench disk and change it from there.

Converter is a tool designed for the programmers among you. Unless you've got a number base Converter chip implanted into your brain (all good programmers come

with one installed as standard), converting numbers between binary, decimal and hexadecimal can be a pain on even the kindest of bases. This, then, is where Converter can help — just select the base that the original number is in, enter it using the mouse and then select the base you wish it converted to.

SETTING GOING

You can load both Converter and Calendar by double clicking on their appropriate icons. Full instructions for using these little gems are in the file WE_UTILS.DOC.

BT

TOOLS

PROGRAM: BY P. AUBURY
MACHINE: ALL STX
FILES: TOOLS.PRG,
TOOLS.DOC

TOOLS is a database program that lets you save the name of databases in the face of ever-changing filepaths. The traditional fringe category as for the word "database" is of an incredibly dull paper screen filled with even duller text. But not, you've got an ST which has one of the finest windowing environments on any machine and it has high resolution graphics, so why not use these in a database?

TOOLS uses both of these facilities to full effect. With TOOLS, you can import graphics with ease



The demonstration database lets you keep track of the computer world.

The June 1988 Issue



ICOMB will also allow you to import graphics.



AMIGA

ELECTRIC DREAMS PRESENTS

WICKED

BY BRYAN COX
BINARY VISION LTD.

Starting out on your mission against the dark forces.

WICKED

PROGRAM: BY ACTIVISION
MACHINE: ALL AMIGAS
FILES: WICKED,
WICKED.DCU

This month's Amiga demo is of the soon to be released game by Activision, Wicked. It's a battle of good and evil that mixes arcade action with tactical planning. You play the good guy who's out to save the universe from a fate worse than death.

Evil is spreading through the 12 zodiac constellations and must be stopped, each constellation has three stars infected with evil and you have got to stop it. The cover disk demo contains one of the 10 stars that are being problems.

Full instructions on how to play are included in the game in the form of a tutorial style guide to the game.

If you want to skip the instructions then just press fire on the joystick and you can go straight in there and start playing, but it's advisable to read the instructions the first time you play.

The only thing that you need to know concerns the control in the centre of the playing screen.

During each day and night looks ated by the sun or moon-protected the symbol splits in two and a tarot card appears. Simultaneously a globe is thrown out and if you catch the globe something happens to you, either good, bad or debate able. You can tell what will happen by the tarot card, but you'll have



Big trouble from the evil growth in this Heaven star. Your gear settings controls are controlled by double click while pointing from your opponents generators.

How far working out what each of the cards does if you find out the hard way.

SAVING YOUR SOUL

Wicked can be loaded by putting the cover disk in the drive when asked for the Workbench disk.



The blue evil portal sends the spaces spinning around the stars.



and the whole program is also completely GEM based. But that isn't all, TCOG could also quite easily claim to be the easiest database in existence; even Gary



Is the easiest database ever invented?

can operate it (which is really quite an achievement).

The process of setting up and maintaining your database is simplicity itself and is probably faster than any database you've ever used before.

TCOG can be used not only as a database but you could even try to set up an expert system using its excellent reasoning system as well. The database doesn't really need instructions on how to use it but, in the name of tradition and to keep you happy, we've included complete instructions in the form of a 148 text file.

GETTING GOING

You can load TCOG by double clicking on the TCOG.PRG icon on the Desktop. Full instructions are included in the TCOG folder.

ST

**FRactal
PROGRAM BY TREVOR
SCOTT**

**FILES: ALL GDS,
FRACTAL.PRG,
FRACTAL.DOC**

Confucius states that if you possess 100 dishes and — out of that 100 dishes — only one is of value to you, that particular one will be the



Fractal viewing is valuable data disk from the studios of TBS.

best to be crumpled. If you've never lost all of your valuable data, then Fractal will be the answer to your prayers.

Fractal not only lets you save your valuable files, but will also attempt to repair soft errors it finds on your disk. No guarantees though.

GETTING GOING

You can load Fractal by double clicking on the FRACTAL.PRG icon on the Desktop. Full instructions on all features and controls are available within the FRACTAL folder.

AMIGA

**Mandelbrot
PROGRAM BY PFC SHALPER
MACHING ALL AMIGAS**
**FILES: MANDEL.BROW,
MANDEL.BROW.DOC, STAMP,
POSITION.PIC**

Fractal graphic generators come in many different forms, ranging from the classic Mandelbrot set through to the fascinating 3D landscape generators which seem to pop up in everything from Star Trek movies to computer games. It doesn't take a brain the size of two planets to work out that MANDEL.BROW is named around the Mandelbrot set as formulated by Benoit Mandelbrot.

For those of you who have never encountered the Mandelbrot set before, it is a graphical representation of a complex mathematical expression. The fascinating thing about Mandelbrot's set is the more you zoom in, the more complex the resulting image becomes. Although the area is finite — lying within a circle defined by $x^2 + y^2 = 4$ — its circumference isn't — the edge is infinitely complex and of infinite length.

Mandelbrot's requires a lot of calculations and even with a powerful processor such as the 68000, they can take a very long time to produce, so go and make yourself a nice cup of coffee and be prepared to wait!

GETTING GOING

You can take a plunge into the fascinating world of fractal graphics by double-clicking on the MANDEL.BROW icon on the Desktop. Full instructions on how to get the best results, are in the MANDEL.BROW document.



This is the entire Mandelbrot set — a beautiful, complex world to explore. As you zoom in (fractal) a whole new world of universes will be revealed.



YOUR PROGRAMMING SKILL COULD EARN YOU £800

Name: _____

Address: _____

Phone: _____

(Daytime) _____

(Evening) _____

My program name is: _____

For ST Amiga

Approximate total size of files in kilobytes _____ K

(Do not count one programs larger than 200K; shorter submissions, under 100K, stand the best chance of publication)

It is a:

Game Technical tool

Business utility Art program

Music program Educational

Novelty Other _____

BRIEF DESCRIPTION _____

(Checklist please tick)

Stamped addressed envelope for return

README.DOC explanation file on disk

Printout of README.DOC file (if possible)

Name, address, machine type written on label

Disk certified virus free

IMPORTANT - Please sign this declaration:

This program is submitted for publication by ST Format or Amiga Format. It is my own work and has not been submitted for publication elsewhere. I claim my national title and glory.

Signed _____

Date _____

If you've got any questions or advice get in touch with us via Amiga World. You may also contact other readers' email addresses, interesting in learning, visit the website.

1. Write your program featured twice.

2. Receive a free colour enhanced print on the disk (which requires exactly five to six use programs).

3. All in all, receive, sign it and send it to Amiga World.

4. Receive a free colour enhanced print on the disk (which requires exactly five to six use programs).

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15. Receive a free colour enhanced print on the disk (which requires exactly five to six use programs).

16. Receive a free colour enhanced print on the disk (which requires exactly five to six use programs).

HOW TO USE YOUR DISK

The ST Amiga Format cover disk is in a special format which can be read by both the ST and Amiga. Even if you are a seasoned computer user, please read these instructions carefully or you could 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 both the ST and Amiga manuals, won't work. Instead you will need to format a disk and copy the files individually. Don't panic, this isn't as difficult.

ON THE ST

Instructions for a single drive machine.

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

Note that our special cover disk contains 300 more files than will fit on a standard single-sided ST disk. If you own an old 3.5", you'll have to be selective and copy only the files you want.

ON THE AMIGA

Instructions for a single drive A500.

1. Start your Amiga up with your normal Workbench disk.
2. Take a blank disk and install it in the normal way.
3. Now enter the GUI by double clicking on the GUI icon that is in your System drawer on a standard Workbench disk. Once the GUI window pops up, stretch it to full size using the window sizing gadgets at the bottom right hand corner of the GUI window.
4. Now enter the following GUI commands to set up our working environment (remember to press **RETURN** after each):

```
WANTED: BASIC
COPY C:\WORK\OVER\PROJECTS\LABELS.D
NAME:
COPY C:\LABELS\CRYSTALL LABEL.C
NAME: BASIC.DOC
PROTECT BASIC.DOC
```

```
PROTECT BASIC.COPY.DOC
PROTECT BASIC.CRYSTAL.DOC
PROTECT BASIC.CRYSTALL.DOC
PROTECT BASIC.CRYSTALL.LABEL
PROTECT BASIC.CRYSTALL.DOC
```

5. Once you have entered the commands and the drive light has gone out, take out your Workbench disk and put your ST Amiga Format master disk in the internal drive (D:). To start the copying process, enter the following GUI command:

```
COPY C:\D:\*.* BASIC <Press RETURN>
6. During copying, the machine will display a list of the files being copied. Once copying has finished, remove your cover disk and insert your freshly formatted blank disk into the external drive and enter the following commands:
COPY BASIC.DOC C:\D:\BASIC.DOC
DELETE BASIC.DOC <Press RETURN>
```

7. That's now the top level of your cover disk successfully copied. The next step is rather more complicated. Firstly, remove your copy disk and insert your cover disk into the internal drive and enter the following:

```
D:\D:\D:\*.* <Press RETURN>
```

- The Amiga should then display a list of all the directories on your cover disk which will look something like the following:

```
FILED (dir)
+ (dir)
demo (dir)
demo (dir)
```

- You should now write down the list into a piece of paper (the list extension on each is not needed).

8. With your cover disk in the internal drive, each directory that was listed has to be copied individually from your cover disk into your copy disk. For the sake of example, if your cover disk contained a directory called **TRIED**, you would enter the following command:

```
COPY C:\D:\TRIED ALL.DOC <Press
```

```
RETURN>
```

Now remove our cover disk and insert your destination disk and enter the following:

```
WANTED: C:\D:\TRIED <Press RETURN>
COPY BASIC ALL.DOC <Press RETURN>
```

9. Now repeat stage 8 for every directory in your cover disk master (in the GUI command above, replace each instance of the word **TRIED** with the name of the directory to be copied). Once all directories are copied, use ST Amiga Format cover disk will have been successfully copied.

The final step in backing up your cover disk is to give it the same name as the copy disk and make it directly bootable using the following commands:

```
WANTED: C:\D:\D:\D:\*.*
DELETE D:\*.* <Press RETURN>
FORMAT D:\*.* <Press RETURN>
```

USING THE PROGRAMS

All the programs on the cover disk have been set up so that they are as easy to use as it is possible. If you do have problems with a program, full instructions on loading and running a program are included in the disk pages and these should get you up and running. If you do have problems, read the documentation to LOGO that is included with every program.

ON THE ST

To display the contents of a program's documentation file, double click on its icon and a sliding box will pop up which includes an option to allow you to display the file's contents on the screen. Select **SCREEN** and the file will be displayed.

ON THE AMIGA

To display a documentation file on the Amiga, just double click on the appropriate DOC file to be viewed and a window will open and the file's contents will be displayed. Pressing the space bar will advance a page at a time.

COPYING THE DISK

Unless explicitly stated the programs on the cover disk are not public domain and the copyright remains with the author. Selling these programs without the author's permission is against the laws of copyright and offenders will be hit with a big stick.

HAVING TROUBLE WITH THE DISK?

We have done our best to check that the programs on this month's disk are simple to use, error free and have no known viruses. However, we cannot provide telephone support on-line, using the software, and we cannot accept liability for any consequences of using the programs.

If your ST Amiga Format disk is faulty - and out of time of thousands duplicated were not damaged too - you should send it back by July 18 for a free replacement to: ST AMIGA COMPANY, 25th FLOOR, (CONCEPT LABS. UNIT A, WEST MARKS, LONDON ROAD, BARNET, NORTH HANTS) BN11 8SL.

Here's your chance to get your mitts on ASAP's fabulous 40Mb hard drive for your Amiga A500. Simply answer the questions below and pop a card in the post - you could be the lucky winner of a quality hard drive courtesy of ASAP and ST Amiga Format.

WIN AN AMIGA HARD DRIVE

- WINNER**
1. Competition entries received after Thursday July 11 will be sent to members of Amiga Format.
 1. Employees of Future Publishing and ASAP may not enter the competition - sorry, Jean.
 2. The editor's decision is final, so don't argue with him!

Little Johnny has 14 Amiga disks - four of them are half filled with utilities, seven of them are 75% full of PD programs, while the rest of the floppies are completely packed with applications and data files. Remembering that each Amiga disk can store 880K and that Amstruc has 40Mbytes (40860K) of storage, work out how much room will be left on the hard drive once Johnny has transferred the contents of all the disks to the hard drive. Write your answer - in K - on the back of an envelope or postcard and get it to us as soon as possible.

Whether you use your machine for business, creativity or leisure, your Amiga system will benefit from having a fast, reliable and high capacity storage system.

Amstruc's Amiga 4000's Amiga Format delivers 40Mb of storage capacity - which is equivalent to our 45 disks worth of software - and can shift data 10

times faster than floppy drives. Once you've used a hard drive you'll never need to go back to floppies.

Amstruc's sleek design and colour choice means it will look out of place beside your Amiga 4000. Your system's performance will be improved so much with Amstruc that you'll

wonder how you managed without it.

If you want to find out exactly what Amstruc can do for you, turn to our feature on hard drives starting on page 50. Once you've read it, answer the three questions below and send your answers on a postcard or the back of a stuck-down envelope

to AMIGA HARD DISK COMPETITION, ST AMIGA, 10 BARRON, 4 QUEEN STREET, SOUTH GAVEL, The first entrant picked out of the hat - with all questions answered correctly, of course - wins AMIGA's Amstruc. Tough luck over your idea.

All entries must reach us by Thursday July 11.

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DATA / ST
DISK
SERIES

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Use a hard disk at your peril - once bitten you'll never be happy with a floppy again. Format's hard men take the risk.

DRIVING FORCE

HOW IT WORKS

Hard disks operate in a similar fashion to floppy disks. The data and heads of a hard drive unit are inside a sealed chamber. A hard disk is much faster, more reliable, and stores many more times the capacity of a floppy. The speed and precision of a hard drive results in a greater information density and shorter access times. Floppy disk drives spin from 300 to 300rpm depending on their design. A hard disk drive spins at 3,000rpm.

The hard drive head is designed to float on a cushion of air several microns in thickness in one thousandth of a millimeter above the disk, better known as a platter. The platter is accurately machined and very rigid (unlike a floppy). There are usually two or more heads to read fixed drive with one or two heads on each side of the disk. Multiple heads in various sizes and will have from 100 to 1000 cylinders. They are mounted in all tracks on a horizontal disk drive.

There are two common hard disk formatting techniques: MFM and RLL. MFM (Modified Frequency Modulation) stores 20% more data storage space than conventional hard disk. MFM frequency modulation format. Most drives can be formatted to either MFM or RLL, specification, but a disk format drive controller is needed in each case.





Floppy drives are fantastic at first — fast, reasonably reliable and cheap in storage. The more you use your system though, the more you realize how handy extra storage and even greater access speeds would be. Only a hard disk can provide you with the necessary power.

You must, however, be sure you need a hard disk. If you're a dicker for shoot-em-ups then there's little point in investing in a hard disk — most arcade action games are protected and consequently can't be copied across. That said, there are a growing number of games — mainly from the States and mostly adventures — that allow you to backup to hard disk. Things like *Goldrush*, *Leisure Suit Larry*, *Dragon's Lair*, *Roger Rabbit*, and *Zork* Jans.

For creative use a hard drive is a must. DTP actually becomes a joy when you've got several fonts, cutouts and text files to load and save, you need something that's going to do the job quickly. Animation packages, graphics utilities, sound sampling software, MIDI applications, word processors and programing tools all generate an enormous amount of data. Floppies really aren't the solution.

Our last look at hard drives for the ST and Amiga was over six months ago. In that time there's been a small scale revolution with drive prices plummeting and a string of new low-cost drives appearing. Here's what to look for:

AMDRIVE

**C389 ■ Amiga 500G/5000 ■
ASAP, Queenway Business
Centre, Brigg Road,
Southampton, SO14 3BT (0704
288000)**

AMDP's Amdrive is available in two versions: an external model that connects to the 4000's expansion port and an internal model that fits into one of the 4000's zero slots. Both versions offer 40Mb of storage.

To add to the confusion, there are

UPGRADE DETAILS

Third Cause can upgrade an Atari 5004, 5080, Megafile 24, Megafile 36, Super, Triangle or Cosmos with a much faster and higher capacity drive. For example, an 5004 could be upgraded to a 40Mb formatted Winchester drive.

This drive not only provides 40Mb more capacity but offers 25% more performance. It also offers mechanical head auto-parking and a far faster set of software utilities.

This set of upgrade costs £295. Talk to Third Cause on 0273 43866.

USING A HARD DISK WITH KICKSTART 1.3

Before the release of Kickstart and Harddisk 1.3, Amiga hard drives were embarrassingly slow compared to other units on machines such as the ST and PC. With the release of 1.3, Commodore set the record straight by carrying out a major overhaul of the way the Amiga handles its hard drives.

There are essentially two new aspects of hard drive handling under 1.3: the new FastFile System (FFS) and auto-boot support.

FFS is designed to speed up all hard disk operations. Commodore claim speed increases of up to seven times. The only negative point of FFS is that it is not compatible with the older (and slower) systems, this means that to take advantage of FFS you'll have to reformat your hard drive.

To take advantage of 1.3's auto-boot facility, both your machine and your hard disk will have to support the feature. Your machine must have Kickstart 1.3 installed and the hard drive must have been FFS'd. In short, check these things when buying a drive.



SOFTWARE SECURITY

Hard disks are not immune from corruption. To help your workstation backup 20MB of data a backup utility is needed.

Superback for the Amiga from the Data Company will backup any or all of the files and directories from your hard disk onto floppy disks or to several external disks.

Both the Amiga Copy/Restore III (071040) and III Marketing (089) (0833) will Superback. Price is a few grand under \$50.

TwoKix from Microbit (876) (0808) is the best for ST users, as well as hard-disk backup. Superkit lets you dismount your hard disk and create a data cache. It's \$299 retail.

two years of A500 drive, a standard drive without auto-booting support for \$299 and an auto-booting version for an extra \$50. If you cannot afford the initial extra expense of the auto-booting drive, ASAP provides an upgrade service for all existing Amiga owners. The A500 version supports auto-booting as standard.

To take advantage of the auto-booting facility, your machine must be fitted out with Realtime 2.3. ASAP can do the upgrade for £75.

Installation is very straightforward on an A500 - all you do is remove the plastic cover from the expansion bus on the right hand side of your machine and slot the drive family in place. The A2000 Amiga drive draws its power from the host computer while the A500 version needs its own independent power supply.

The Amiga comes pre-formatted under the new 1.3 Fast File System which helps to speed up disk operation considerably. The unit is both sturdy and reliable and is an ideal choice if you're in the market for an Amiga hard drive.

Jason Holborn

THIRD COAST

From £289.95 Third Coast, Unit 5, Bradley Hall Trading Estate, Skelton, Wigan, WMB 9SS (02047 406464).

Third Coast's hard drive is available in several configurations: 20MB (884) £1399, 30MB (1104), 60MB (1114) £1549 and 30MB (1139). The disk comes formatted and partitioned. Partitioning splits the hard disk into smaller, more manageable, sections, and each part is given a drive identifier: C, D, E, etc. A maximum of 12 partitions are allowed.

The hard drive has a DMA-in port which means the ST can make use of



other DMA devices. The laser printer and CD-ROM drive, for instance.

Several public domain hard disk utilities are provided which, amongst other things, allow you to format the drive. Unless your hard disk starts throwing up errors there should be no need for reformatting, but certainly wouldn't use this program for less than 20 minutes to format a disk.

Third Coast's review drive also contained a tape streamer within the same unit. The streamer is used for backing up your entire hard disk - it's fast and very reliable. The storage medium used looks identical to an audio cassette, but it's not the same. The streamer tapes are capable of storing 200MB of information! The stand alone unit isn't cheap (£2799), although compared to similar systems for PCs it is, a tape streamer

plus 60MB hard drive in one enclosure costs £1299. Details of other configurations are available from Third Coast.

Third Coast's drives really do represent good value for money. The drives are much cheaper than other manufacturers' offerings - Atari's prices, for instance, are put to shame. Although the Third Coast units don't match the ST's colour scheme, they are designed to last and have enough room inside for two hard disks or a hard disk and a tape streamer.

Richard Mordant

TINY TIGER

From £449.95 M All Amigas, MAST, Unit 1, Diggins, Broadhill, Arvon, Scotland, KA27 8RN (017988 254).

Along with the drive you get a cable, a 24-page booklet on DOS utilities, operating instructions, a boot disk and a 16-Mbit power pack. The contents of the package tell you this is no ordinary hard drive. Since after has a hard drive been run from a power supply? And the cable fits into the parallel port.

The drive is roughly the size of a standard double column disk box - very small and neat. The front panel of the Tiny Tiger has a green LED which flashes when the drive is active. There's also an illuminated label telling you the capacity of the drive. This should read 30MB, but somehow 40 appeared on the source model.

The rear of the drive sports three 20-way D-type connectors. These operate as a through parallel connector, a connector for a second storage device and as a gateway to the rings.

Setting the drive up could not be easier; it's just a matter of using the supplied cable to connect Tiny Tiger to the rings, inserting the free hard boot disk into the internal floppy drive and waiting for around 30 seconds. Hard drive auto-booting isn't possible.

Because the drive is an American import the manual tends to be mislaid; it takes several re-reads to figure out how to set up the drive. This, say MAST, is going to be rectified as a new manual is in the process of being written. There is no command to park the drive head before switching off, a serious omission because megabytes of information can go astray if the drive is jolted and the head hits the surface.

Overall the drive is well built and is, surprisingly, fast considering data is being pushed through the parallel port. It's also reasonably cheap. However booting is only possible via floppy and is consequently slow and the very unusual use of the parallel port does not inspire confidence. The power supply and connections are also less than satisfactory. North investigating, however.

Kevin Cowardale

HARD DRIVEN FACTS

Drive	Machine	Size Mb	Price £	Manufacturer	Phone
Third Coast	ST	22	399	Third Coast	0257 436464
Third Coast	ST	68	549	Third Coast	0257 436464
Third Coast	ST	130	963	Third Coast	0257 436464
u20	ST	20	399	Systems 2000	0793 514255
u40	ST	40	499	Systems 2000	0793 514255
u70	ST	70	699	Systems 2000	0793 514255
Supra 30	Amiga	30	798	Frutiger	0423 530577
Supra 12	ST	32	508	Frutiger	0423 530577
Internal	Mega ST	42	858	Frutiger	0423 530577
BancoLine	Amiga	20	558	BancoLine	01903 3636
BancoLine	Amiga	40	658	BancoLine	01903 3636
BancoLine	Amiga	80	958	BancoLine	01903 3636
Tiny Tiger 30	Amiga	30	450	MAST	0177952 234
Tiny Tiger 42	Amiga	42	580	MAST	0177952 234
Tiny Tiger 84	Amiga	84	900	MAST	0177952 234
Amivision	Amiga	40	399	ASAP	734 380222
Megabyte 30	ST	30	499	Amey/501	01300 3399
A2090A	A2000	20	514	Commodore	0628 730088
A2090A	A2000	40	845	Commodore	0628 730088

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Amiga 1000 60 Mb \$279.00	Hard 300 150 Mb \$349.00	Amiga Controller (cables) \$ 399.00	Hard Controller (cables) \$ 399.00
Amiga 1000 90 Mb \$359.00	Hard 300 200 Mb \$399.00	Amiga Controller (cables) \$ 499.00	Hard Controller (cables) \$ 499.00
Amiga 1000 120 Mb \$439.00	Hard 300 250 Mb \$449.00	Amiga Controller (cables) \$ 599.00	Hard Controller (cables) \$ 599.00
Amiga 1000 150 Mb \$519.00	Hard 300 300 Mb \$499.00	Amiga Controller (cables) \$ 699.00	Hard Controller (cables) \$ 699.00
Amiga 1000 180 Mb \$599.00	Hard 300 350 Mb \$549.00	Amiga Controller (cables) \$ 799.00	Hard Controller (cables) \$ 799.00
Amiga 1000 210 Mb \$679.00	Hard 300 400 Mb \$599.00	Amiga Controller (cables) \$ 899.00	Hard Controller (cables) \$ 899.00
Amiga 1000 240 Mb \$759.00	Hard 300 450 Mb \$649.00	Amiga Controller (cables) \$ 999.00	Hard Controller (cables) \$ 999.00
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Amiga 1000 390 Mb \$1159.00	Hard 300 700 Mb \$899.00		
Amiga 1000 420 Mb \$1239.00	Hard 300 750 Mb \$949.00		
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PAGESTREAM

Truly professional desktop publishing has been a long time coming to the ST and Amiga. With PageStream NEIL SARGENT thinks it has finally arrived.

The much heralded, yet little seen, desktop publishing package PageStream is here. The offspring of Publishing Partner, the first DTP application specifically for the ST, it is now a fully matured program with all the hallmarks of sophistication impressed on it.

In page approach and look it is very much like the granddaddy of them all, PageMaker, but it also possesses many features found in other high-end (and high-priced) Macintosh applications, so very welcome printing of 12.75-35 might suggest that it is yet another budget DTP package. Budget-priced it may be, but budget-feared - no so! PageStream is a selective synthesis of the best parts of other programs and a good few of its own innovations besides, based on the original Publishing Partner. Naturally PostScript-compatible scalable fonts and full colour separations are among the features, but there's more, a lot more.

The latest extract to the DTP world comes on five disks, containing pri-

gram, fonts, utilities such as spelling and self-hypertexting dictionaries, clip art, printer drivers and newly written import modules.

The manual for this American program is being rewritten by a team of British authors which should give it a more homely touch and proper spelling.

PageStream is fairly lauding at the courts with goodies, and it is to the credit of the writing skills of chief programmer David Kucumaker that the box contained the POSTSCRIPT PDS to just 3.5 disks, enabling, theoretically, owners of 5.25 EPs and Amigas to operate it. Realistically though a minimum set-up of a single disk, mono screen and a one megabyte machine is recommended. A printer would come in handy too.

WORKING CLEAN

Existing owners of Publishing Partner will find themselves perfectly at home with its big brother. PageStream's dialogue boxes are how more akin to standard GEM although they keep the feel and look of PP with some enhancements. It has retained the familiar and overall concept of creating pages or documents with movable frames or boxes (object).

The second feature PageStream's intuitive and easy approach to the job of putting together pages lies in the combination of an extensive menu bar layout and the comprehensive toolbox section.

The toolbox can be positioned anywhere on the screen. The toolbox's icons include a text column object, picture reshaping icons and a comprehensive set of drawing tools with tools for arcs and elliptical arcs.

The bar has nine sections with pull-down menus, from left to right: File, Edit, Layout, View, Style, Format, Text, Object and Global. A great deal of thought and work seems to have gone into this. The menus and what is contained in them are in logical and interesting sequences.

Because of the capacious menu bar and its instant range of options, the DTP operator now has an at-a-glance choice of 132 initial selections. Only occasionally is there an example of a window with a window. Coupled with the streamlined facilities, the approach makes dragging and shifting simply itself, and a lot of fun - which is what it should be.

PageStream is fully WYSIWYG.

Large characters, in whatever screen font, are blocky or jagged but PageStream's printed output, using scalable outline fonts, from a swaption dot matrix or laser is truly superb. And at the end of the day that's what really matters in professional desktop publishing.

A large variety of printer drivers come with the package, including ones for colour, PostScript and Linotronic machines. You can of course print to disk if you choose.

PageStream can take text from third window ST, first third, and WordPerfect for the ST and WordPerfect for the Amiga. ASCII files are also catered for but they will have to be edited if your favourite WP is not supported. PageStream's own text handler is more than adequate for direct and speedy entry.

Graphics or picture handling is comprehensive and IMG, JIF, TIF, PEG, Degas (including compressed), GEM Metafile, EPS (Encapsulated PostScript) and IMPCG (Illustrated Encapsulated PostScript) provide the facilities to harness scanned images, including colour ones.

Colours are limited only by the screen mode you are in because up to 40 colours can be defined using the RGB - red, green, blue - values. Depending on your printer you could see a spot colour or grayscale background for text. A number of colour printers are supported.

OBJECTIVE APPROACH

Text can be entered either directly into predefined columns or 'text objects' can be created for letters such as headlines, drops, or special effects like reverse blocks. Either way it can be treated as an object and moved around the page, or copied, pasted or appended to other page or document. In its column form it can be increased into narrower columns without losing its point size but it will leave you with an overflow of text. It is unable to stretch a text column as it will lose its paragraph format. The bar seems to allow any elements such as point size, typeface, or style attributes by highlighting it and changing it from within the Style menu.

The Lasso highlighting routine will enable you to instantly recall on screen the exact typographical properties you gave to any section of text.

PageStream recognises two class-

TIMES ARE-A-CHANGEABLE

With the use of Postscript printing is fast. Two fonts, including the standard Times (italic) Times for copyright reasons and Helvetica are already included. Together with a large selection of style attributes this enables you to produce scores of different typographical effects.

The program provides a user-definable system for width and height, giving literally thousands of permutations of point size. Using the X and Y size you can specify, for example, 50 point width and 80 point height. You can direct the program, (subject to memory) to produce text and line sizes from just a point to 12.75 points. If you want to you can create billboard style posters by using the 'filling' facility. Beside point sizing eight other measuring systems are supported.

With the ability to freeze one character spacing (leading) to a family of a thousand or so an (as yet un-named) or (PDS), together with advanced underlining features, PageStream gives the user the utmost typographical control.

Text can be made to flow around graphics. This surround facility comes in three modes and will accurately handle the most juggling of objects.



■ PageStream can substitute the existing tools in a nearly infinite number of combinations giving total typographical control.

GROUP THERAPY

One of the most important features of PageDraw is its ability to group objects. Imagine that you have created a complex layout—a set of advertisements, a magazine, or a book. It is made up of lots of small graphics and text in dozens of different types of text, of differing size and font. You have drawn a thick line box around it to complete the set. It is your work of art and has taken time. You decide that you want to place it somewhere else on the page or copy it onto another page. This neat PDF package thus means that your one item has become ten separate objects—all of which have to be moved, copied, pasted and re-aligned. It is a tedious procedure, involving countless trips to the clipboard or better yet, it can be supported.

With PageDraw, to simply draw a rubber-band around the entire collection of objects and using the Group command all these selected objects are combined into a single object called a group. A single set of sizing squares will appear around the illustration and you can treat your new object just as any other object, copying and pasting and then appending it to another document. The group will retain all of the original elements you gave it. Such a facility is a boon to anyone who regularly has to reproduce a complete design of graphics and text, such as a logo or a marketing advertisement in a number of magazines.

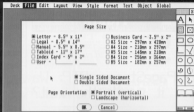
It is graphics files, bit-map pictures, such as Quark, Degas compressed and IMG files, and object-oriented drawings such as AutoDraw. Once they have been imported in they too become objects and can be clicked on and moved around the page.

A similar function is the Select All option under the Edit menu. By selecting this command all the objects on a page can be picked up and moved or copied to a multiple object from one page to another.

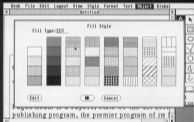
CREATING TO YOU AND ME

Its program is absolutely perfect and the new handbook that PageDraw offers from it, that it is a little slow at editing or re-sizing the screen. This can be turned up somewhat though by using a technique called zooming. This allows you to make the program display a font under a pre-defined point size as a series of dashes instead of re-drawing large blocks of text. Screen re-draws can be further quickened by clicking off the Show Pictures function. One screen function that is a real boon is the Variable Zoom feature which can magnify a selected area up to 1,500 per cent of actual size.

PageDraw allows you to make your own style sheets and number every



The first stage when setting PageDraw to double page size. There's everything from business card size right up to A4-size (letter size). You can also choose page orientation (vertical/horizontal), and page numbering. You can define your own page size if none of the standard paper sizes meet your needs. You must be careful not to create paper larger than your monitor.



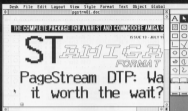
Backgrounds and objects can be filled with a custom pattern or font. This can be anything from 0% (white) to 100% (black), while patterns range from horizontal lines to very complex designs.



You can set up 'style sheets' for your documents. These allow font style information such as typeface and text size. Producing a complete document is made much simpler and many typographic tasks are avoided.



Objects, including text, can be rotated and aligned. These utilities are particularly useful for text—features on their own draw the edge of a page are easy to achieve, something which many Macintosh programs would do well to emulate.



► The flexible zoom facility allows for precise layouts.



► Text can be made to run around the most complex of objects.



► The fonts and powerful typographical control features also help create the most interesting designs.

stand as it is entered. You can also specify your own master page. Professionally created templates for the newsletter to DTP are not supported and this would be a welcome addition to any future upgrade. Three tutorials, however, guide you easily into the intricate workings of this complex yet easy-to-use program.

As mentioned, it comes with 20 fonts, which is more than enough, but I would have been better if SoftLogic had dispensed with at least a couple of them, notably Oriental and Creative of Britain, in return for a good thick, well chosen sans serif typeface suitable to impact headlines. The nearest it can provide for a newspaper style 'Lead' headline is Helvetica Bold. At this point it is worth noting that tabloid-sized newspapers are catered for. The maximum screen document size is 35.2 by 38.2 inches - not quite large enough for a broadsheet paper, such as The Independent. Seven pre-set page sizes, including ones for business cards and manuals, are in the Layout menu.

PageStream is a state of physical screens and useful features. Among these is a screen colours editor, which with a mouse setup means you can edit with white on black; a facility to set an save macros which allow you to perform a sequence of common editing operations by pressing a single key, and the port for the full ASCII character set, including scores of special characters such as bullets, trademark, copyright, registered trademark and foreign language symbols. You can also italicize and underline, use text routing, edit word ratios, reset pages, edit fonts, cover. Publishing Partner links to PageStream and adds to both its spelling and hyphenation dictionaries. For the price, speed and fit is undeniably a good package, virtually every command to be given via the keyboard.

POWER TO THE PEOPLE

PageStream comes with so many features that it is impossible in this space to describe them all - suffice it to say that I cannot stress enough the high remarkable quality of the printed output.

PageStream is a milestone in DTP history on the ST and Amiga. It provides almost every feature of other programs, some doing more than their rivals the price - plus some of its own specialities.

PageStream is just the start in the aim that the ST and Amiga computers need to cut from baby and squawks in the high-end desktop publishing map.

It's only two disadvantages of these of all powerful DTP packages - the hardware needed to use them is an practical map. As over a megabyte on two disk drives are a good idea and you can stretch to a hard disk it becomes so much easier.

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ST FURTHER READING

ST programmers best:
The Complete Atari ST
 Programmer's Reference
 from by N. Paul, pub-
 lished by Osborne

PURE LOGIC

Only Vulcans and computers think logically. **TUBBY FOSTER** has some hints for evaluating them in assembler.

Logical operations treat data as simple bit patterns (or bit masks). NOT takes one operand and inverts it for the bits. Or becomes 0s and 1s become 1s. This section of code inserts a screen (as seen in monochrome):

```

SCREEN EQU $01, $0, $0
ST SCREEN
MOVE #SCREEN, D0
$30000 logical screen
MOVE D0, DADR+
MOVE $0, DADR+

```

The remaining logical operations, OR, AND, XOR, use two operands. OR inclusion of variables (or bit masks) by providing 1s where either operand signal (quantized) is on:

```

OR011001
OR 00001111
AND 10011111
OR includes or1 gives 1s where either operand set and both operands have 1s, or.

```

```

OR011001
OR 00001111
AND 10011111
OR gives 1s only where both operands

```

have 1s, or:

```

OR011001
AND 00001111
AND 00000000

```

Logical operations are useful when dealing with bit-map graphics. Suppose, for instance, we wish to clear the right-most seven bits of a word in D0 then "AND #07FF0000" would do it. Where 1s appear in #07FF00 the corresponding bits in D0 are left unchanged, where 0s appear the bits in D0 are cleared.

SHIFT OPERATIONS

Shift operations allow byte, word or longword bit patterns to be moved left (towards bit 0) or right (towards bit 31). Suppose D0.N holds 57BCA, after 1.S, #5,00' D0.W holds 57BCA. Ors are shifted in from the right-hand side. The C and X flags contain the last bit to be shifted out (but bit 15 is) they are set in 57BCA becoming 50FCE and C and X are cleared (according to the last bit to be shifted out on the right).

Shift operations are useful in

scrolling routines (like the 05 SOURCE.0) but can also be used for simple multiplication and division. A shift left by one place is equivalent to a multiply by two so 1.S, #4,00' multiplying the contents of D0.W by 16. 1.SR #5,00' divides the contents of D0 by 32. These instructions are much faster than the usual MUL, DIV, MUL.L, DIV.L and DIV.W are "unpacked", in the case of a left shift the sign extended part of both positive and negative numbers is correctly maintained but a right shift invalidates negative numbers. To avoid this the instruction ASR (arithmetic shift right) ensures that the MSB, i.e. the sign bit, is always maintained for each shifted place. For example, "ASR #5,00" when D0 holds 3 and D0.W holds -48 gives 6 (57F0 becomes 57F6). ASL also exists but is equivalent to 1.S. When using shift operations to multiply and divide you must bear in mind that an overflow or underflow may occur if your shift too much (1 is exchanged to ASR).

Rotate (ROL, ROR) operations are similar to shift but the bits shifted out are wrapped around. As bits move out from one end they are moved into the other end. ROL #0, D1' changes 14700 held in D1.W to 5C000.

BIT MANIPULATION

Four instructions operate on single bits. BTST tests a specific bit, leaving the bit unchanged and setting Z if the bit is 0 and clearing Z if the bit is 1. BCLR, BSET and BCHG test the original bit and



GENERAL POINTS ON WRITING PROGRAMS

In large programs it is necessary to make sound plans. Write brief notes about what the program should achieve and then identify the major elements that comprise the program. Once this is done in your mind write a list of the steps that you see you computers will be needed. Such notes may draw from, amongst other, your region of a screen, read a "file" (represented using both the keyboard, mouse, floppy diskette, different screens, connect arbitrary numbers into a suitable ASCII form for printing).

Make sure that the support routines are fully understood (do write the main sections of code that use them). You have to locate short, manageable sections of code that can be tested without much trouble. It is common for code to be defined and contain mistakes at least initially. You may find that only through repeated testing, often unnecessarily, is it possible to fully understand what is required and how to go about writing it. It is worth persevering with something.

You will find it helpful to keep separate all pointing to a list of your variables throughout the code. In this way you can be sure that all variables and flags are mentioned at least once in an effort to find, for example,

FOR: 0704.00 a screen or window

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 facility
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► Strapping on the 68000 chip allows instruction set to be the case of 67 and Amiga assembly language programming.



AMIGA READING

Amiga programmer may want to flip up to the

- books:
- Hardware Reference Manual
- 68040 Kernel Reference Manual: Part
- 68040 Kernel/Behavior Manual: Libs and Services
- 68040 Behavior Manual: published by Addison-Wesley (get the new 5th edition's version 3 edition)
- AmigaDOS Manual published by Bentley.

them close, set or insert the bit instructions. These single bit manipulation instructions are useful for implementing your own flags. Flags keep a record of whether a given condition applies or not. For instance if bit 3 of the byte at label 'my_flags' is set to record that text should be proportionally spaced then the following lines could appear in a text routine:

```

move #00000000, my_flags(BYTE)
add.l #proportional_text_code_for_regular_text, my_flags
move #00000000, my_flags(BYTE)
code_for_proportional_text
move #00000000, my_flags

```

SPECIAL INSTRUCTIONS

If the instructions not yet covered the following are most useful. A table of the entire 68000 instruction set giving their permitted addressing modes appears in this month's cover disk at **W07.00.5**.

LDX Rn,Rn', where Rn and Rn' are any data or address register, simply exchanges the entire register contents. **BR** and **BRN** are **BR** and **BRN** but jump to absolute addresses. **JSR Rn'** is particularly useful for implementing a so-called jump table. Suppose you are writing a file-chasing program and want to treat each colour separately in order to achieve maximum speed. If the top-bit colour bit to 75h is held in D0,R then we could use:

```

lea    D0,D0        ;D0 = D0, D0 = D0
move.l D0,D0        ;D0 = D0, D0 = D0
move.l D0,D0        ;D0 = D0, D0 = D0
move.l D0,D0        ;D0 = D0, D0 = D0
move.l D0,D0        ;D0 = D0, D0 = D0
move.l D0,D0        ;D0 = D0, D0 = D0

```

Note that the instruction implied by the parentheses in **JSR Rn'** refers to where the jump is to be made to not where the address for the code is to be found.

"BMP Dn" swaps the 68000 of data register Dn with a 68000 of the same register. So **BMP D5** swaps D11 holds 0123456789 gives 9876543210 (notice how hexadecimal numbers are easy to understand).

"STL -Dn" tests bytes, words and longwords. The data is exchanged by the N and Z flags are updated accordingly to whether the tested data is negative or zero.

CONCLUSIONS

The fundamentals of 68000 programming have now been covered. To progress further you should write many programs that perform simple tasks in order to familiarize yourself with the language. Operating system routines held in the ST and Amiga ROMs can be studied, but are often slow and prohibitively expensive in C, BCPL, or other such. We recommend you will make the assembly language itself is willing to be any other language. Forth, Lisp, FORTRAN, or that which counts is its clear expression of ideas.

BRANCHES, OVERFLOWS AND CARRIES

The branch instruction **"BBA label"** is used to alter the program flow i.e. to leave one section of code and jump to another section at the address identified by the label.

Branches can be made conditional. This label causes a branch to the label if the condition code, CC, is true. Available conditions are:

- EQ equality (Z set)
- NE not equal (Z clear)
- GT greater than (N and V clear)
- LT less than (N and V set)
- GE greater than or equal (N and V clear)
- LE less than or equal (N and V set)
- HI high (S) and Z clear
- LO low or same (S and Z set)
- CS carry set (C set)
- CC carry clear (C clear)
- VS overflow set (V set)
- VC overflow clear (V clear)
- PL plus (N clear)
- MI minus (N set)
- PL plus (N clear)
- MI minus (N set)
- GT greater than (N and V set and Z clear) or (N and Z clear)
- LT less than or equal (S set) or (N set and V clear) or (N clear and V set)
- LT less than (N set and V clear) or (N clear and V set)

The conditions involving the overflow flag, V, should be used for signed arithmetic and those involving the carry flag, C, are for unsigned arithmetic.

If an arithmetic operation tries to produce a signed number which is too great (or too negative) to fit in the register then an overflow condition is generated, i.e. the V flag is set. This can be trapped and using a conditional branch.

```

move #100,my_count
move #100,my_count
move #100,my_count
move #100,my_count
move #100,my_count

```

If you want to ensure that data is kept within reasonable limits so overflows or underflows do not occur. This isn't always possible though as if you are writing an unsigned data test for a carry and if you are using signed data look for an overflow.

```

move #0,D0
move #100,D0
move #100,D0
move #100,D0
move #100,D0

```

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All you have to do to win one of these prizes is answer the following simple questions and write them down on back of a postcard or sealed envelope.

The first correct answer pulled out of the pocket will win the pool table and can start worrying about when they're going to put it away they get it home, and the next ten will receive a trip to parcel through their letter box. Send your answers (along with your name and address to: 3D Pool Comp., BT Amps Limited, 4 Queen Street, Bath BA1 1LL).

2) How many feet must be kept on the floor at all times when playing pool?

- a) none
- b) one
- c) two

3) How many balls are there on the table including the black?

- a) 12
- b) 15
- c) 18

RULES

- 1) No bribing the judges (unless it's a very big bribe)
- 2) Only one entry per person. (Don't it strange that two hundred people called Wayne Ford live at the same address?)
- 3) The editors decide in final. (That means he'll be picking the winners)
- 4) There is no rule top.

QUESTIONS

1) What number can be found on the black ball?

- a) 7
- b) 8
- c) 15



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SCREEN PLAY

...NEWS...NEWS...NEWS...

With the PC Show coming up in September, most of the large software houses are looking to hold back their big titles for release closer to the date. As a result, it looks as if the traditionally quiet summer months are going to be ganged into darkness, but not all is doom and gloom. Microsoft's summer line-up includes the much-awaited **BLOODWITCH** and **PROBE** as well as the **FALCOM** mission disks. However,



Microsoft is due soon and we should hopefully see some more US Gold conversions before autumn starts. The games held up for the PC Stage include Warner's **Starlord** and **Shogun** from Electronic Arts, **TEAM FANES** and **Eight** from Team 17, **Entertainment International** have been delayed but US Gold are responsible for some of the biggest hold-ups. The much-delayed **BETWEEN ELOOPS**, **Slaver** and **Black Ops** have all little voices of the summer thus far. Some of the original and **STAR OF THE ART** Microsoft games premiered last month, also look unlikely life out much before Christmas.

Meanwhile, **Spies**, **Intercompany** that brought you **GENFIELD** and have been threatening to release the sequel, **Genfield - a Winner is Bad**, have decided to change their name to **FIRE EDGE** and mark the momentous occasion by finally releasing this much-delayed game. **GENIE** is their latest project, scheduled for release in September which means we might just get to see it next autumn.

IT'S GALACTIC WARFARE

Forgotten Worlds...72

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TOTAL ECLIPSE

MICROSTATUS



■ One console that occurs often is a match-making scene. Here you have to shoot one eye so that a message goes to the other eye in resonance.



■ Some rooms are blocked out and thereby when you reach your death. Don't waste the batteries though.

In *Freescape*'s latest *Freescape* where you can walk like an Egyptian, and an archaeological digsite. The setting has moved from a futuristic outer space to a 1900s Earth, the good old Indiana Jones era.

Let's be in danger of destruction (not again, thanks to the work of a pharaoh). The pharaoh was a bit messy with his people in the air and didn't get it and he put a curse upon the pyramid, so if the sun's eye is blocked from the pyramid during the hours of daylight then the moon will appear and cover the earth in darkness, not to mention the side effects of the destruction (I will not mention the total effect, lol).

Amiga - Shareware (DIP)

CD - CDDA (Shareware)

The action takes place in the real pyramid and you have to reach the shrine of the sun god at the top of before 300m, which is when a total eclipse of the sun is due. If you don't then watch out for falling debris.

Freescape is more problem-oriented than the previous two *Freescape* games. *Braker* and *Darkack*, and many of the problems can be solved in more than one way. Your most dangerous adversary is time, the obstacles in the pyramid are less hostile than you find in the outer space adventures. That doesn't mean you're alone though, because in *Egyptian* game would be complete without a buddy or two. Your only other danger is falling from a great height.

Another feature that has been added to the game is darkness. Some rooms are pitch black,

and so you have to turn on your trusty torch, there isn't an infinite supply of battery power however so you have to take care when you use your torch and never forget to switch it off when you don't need it. The whole room isn't illuminated by the torch beam, so you have to look around more to spot doors, walls and other important details. Arrows and Egyptian hieroglyphs are used to open locked doors and allow access to other parts of the pyramid.



One other thing that you have to keep your eye on is your water bottle. Being in the middle of the desert you are bound to get a little overheated and so you have to keep cool with a drink of water. If you run out of water your heart beat speeds and if it gets too fast you'll die.

Water can be replenished from troughs filtered throughout the pyramid.

EFFECTS

Graphically *Total Eclipse* is very similar to the previous *Freescape* games, with the same aesthetic, but easily recognizable 3D shapes.

Sound in the *Freescape* has been getting much better and *Total Eclipse* has the best yet. The sound effects are very good and the tone is excellent.

The music really conveys the atmosphere of the game, which is a very important factor in any game.

G A M E

CONCLUSION

Although the *Freescape* games are not very good and the *Freescape* better than the previous ones, the *Freescape* games are not that great. You're getting an excellent game, but it's not necessarily the best. The *Freescape* games are a lot of fun, but they're not the best. The *Freescape* games are a lot of fun, but they're not the best.

■ The entrance passage to the pyramid has two things in it that you'll have to avoid any chance of completing the game, water and an arrow. Without water you'll die, and without the arrow you'll die, and eventually the two heart effects and arrows are needed to speed up the end game.

Delivery

1991-1992

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Last year, Microsoft released the astonishing *Dungeon Master* on the ST which spawned a revolution in adventure games. It continued to sell over the months, and has now sold a staggering 250,000 copies which, particularly for the ST and Amiga series, is a great achievement.

Unsurprisingly Microsoft are devoting their time to their latest release, *Bloodspell*, a game destined to clear as much of a storm as *Dungeon Master* did last year. With a fantastic gameplay and an original heroquest feature, *Bloodspell* is a game you'll hear a lot about over the next few months - and read our interview with the programmers on page 62.

To celebrate our birthday, Microsoft are giving away 50 Labyrinth copies to ST Amiga Format readers. Labyrinth is the hugely popular, real-life fantasy game set in the South East and based around a Dungeons and Dragons storyline. In addition, 20 copies of copies of *Bloodspell* are also on offer to those of you who really can't wait for it to get into the shops.

Answer the three questions below and send your answers on a postcard to MICROSOFT Labyrinth COMPETITION, ST AMIGA FORMAT, FUTURE PUBLISHING, 4 QUEEN STREET, SOUTH, SA1 1EL. Remember to include the name of your computer and your age on the card. The first 20 who answer will be pulled from a hat on July 13.

QUESTIONS

Which Microsoft software house was responsible for programming *Dungeon Master* on the ST and Amiga?

- a) Microsoft
- b) C&D
- c) EA
- d) EA

What is the name of the quest in *Dungeon Master* that is the most difficult to complete?

- a) The quest of the Golden Orb
- b) The quest of the Golden Orb
- c) The quest of the Golden Orb
- d) The quest of the Golden Orb

Which computer is *Bloodspell* being written on?

- a) ST
- b) Amiga
- c) ST
- d) Amiga

RULES

1. Competition entries must be submitted by July 13.
2. Conditions of entry: Publishing Ltd. Microsoft may not enter unless they want to limit themselves to a certain age group.
3. The editor's decision is considered final and no correspondence will be entered into.

Microsoft have come up with the ultimate prize for any fantasy addict - 50 trips to the Labyrinth role-playing fantasy zone.

WIN A TRIP TO LABYRINTH

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Emperor Blax is a weird type of guy who's obsessed with destruction of the universe. Now this might not be too bad if he hadn't drilled computer sites to make cubes, all of which have grown into headcases desperate to destroy all civilization.

AIM

The cities they destroyed have been raised and have become known as Forgotten Worlds. But two superior warriors have been created to fight back against the evil and rescue the world back from Blax. With the Emperor pre-

dicted by three demigods - The Golden Dragon, The Lord of the East, and The Phoenix - you go where you're going to have a lot of fun ahead of you as one of the good guys.

STRATEGY

The game is split into four levels which take you from the Ice Slaves through the Dark Planes and Hellish World and into the God's Domain.

At the end of each of the four levels you encounter an evil monster who must be low on into submission using various



Level two features deadly snakes literally scattered across the landscape. One emplacement line the path towards the Lord Dragon who can only be destroyed by a Host of Responder in the front.



The shop's the place to go if you all the weapons you need.



Simultaneous play means that two characters can be controlled with a joystick each. This makes steering your characters for better if you can learn to work together.



The God of War features at the end of level three. As even as you have encountered with a multitude of fiends it's into some real hot fun. The God of War protects the fortress and can only be destroyed by firing at his stomach.

PROGRAMMERS

Forgotten Worlds was programmed by Art, a Birmingham programming team. Tim Boyd was responsible for the ST conversion with Chris Cooper writing for the Amiga. Brian Wilson, Richard Underhill and Karen McConner did the original conversions. The graphics were designed on the Amiga by Paul Taylor. Detail work was used and then the images were ported down to the ST and eighth machines. In all the team spent six months of programming time to complete with all versions written on the main machine. As such it was used in the coding of the ST and Amiga versions.

Art are signed up to work with US Gold on a multi-platform project, however, we are certain that it is a Dreamcast environment is almost certainly their next step.



On your way to meet Blax you confront a host of unlikely enemies from Worlds make an appearance but Blax is still the real bad



because you're managed to overcome.

The City Scape test you making your way towards the entrance of the underground complex. The guards here are fairly easy to overcome although some just rotate boards make the occasional appearance just for good measure. Once inside, you must steer through potentially lethal gas pipes and on towards the next level. The first visual test question makes an appearance here although some good timing soon reminds this.

The other levels follow the same theme with a range of man-

ners paving the way to an eventual level question.

As you progress through the different levels you come across the occasional shop like the leeches of Sembury's you'll ever see. Eight different types of weaponry are on sale ranging from flaming scrolls to four-pointed stars. Depending on the number of tokens obtained during play, you can purchase enough firepower to make sure you become to one's best. These tokens can be collected by firing a few blasts at the enemy and catching the blue crystals he leaves behind.

The broken ring to master

in Forgotten Worlds is the psychic movement. With no fire button (except you move around in the usual way) if you press for good food the psychic will either the left or the right then you begin to rotate around at speed. This means that you can aim your gun in any direction and fire but if you get carried away during paralytic you can find your character turning round and round without successfully shooting anyone.

EFFECTS

The graphics are smooth and well defined although the Amiga ver-

sion is better in this department. The most striking aspect of the game is the colour and detail of a whole army of different monsters. Particularly effective are the larger monsters which have been animated to be as menacing as possible although most that they themselves are limited.

The screen scrolls relatively smoothly during gameplay with moments of lull leaving a remarkable resemblance to a Type 41 timer.

Sound effects are well sampled and do little to fill your BT. However they do create the feel of atmospheric ambience to some good old-fashioned blasting. Again, the Amiga version sounds more impressive effects here.

37 - **Amiga 1000**

14/10 - **1000**

ENTERTAINMENT



ADAPTATION



MOVIE/VIDEO



PLAYING INTEREST



OVERALL 86%



4 Sharp graphics make this shoot-em-up visually brilliant particularly in this Amiga version.



5 Blasting away at the enemy will produce a token which can be used in all the shops.

Forgotten Worlds is another beautifully-looking, blockbuster. However, it's one of the best 3D shoot-em-ups produced and with large, well-drawn sprites, making up the different characters a quality becomes an intriguing challenge.

It could be faster at times but it's still infinitely addictive. Blasting the psychic movement can become amazing particularly if you're used to the more common 'good gun the fire but for shoot-em-up.

As part of our good competition issue, US Gold are offering copies of the game and Peters. All you need to do is send us the name of US Gold's No. 1 hit last Christmas. The first 25 lucky entries named receive copies of the game and the next five will get their hands on a Forgotten Worlds T-shirt. And send your entries to US GOLD COMPETITION at our usual address.

Mark Hughes

CONCLUSION

FORGOTTEN WORLDS

US GOLD



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3D POOL

FIREBIRD



■ The competition is played over three rounds with a combination with 'Muller's' Joe Barbers in the final.

Pool has always been a favourite game to play in the pub, especially when you've got a pint handy to keep your throat grazed. Computerised pool games have been around for a very long time, but this is the first time that you can play in 3D. Unfortunately this computerised version doesn't come with a job-built around so you'll have to settle for just playing the game instead.

The game is endorsed by the current European and UK champions 'Muller's' Joe Barbers and if you're good enough you'll get to meet a computerised equivalent of Joe in the final. Before you take on Joe you have to battle your way through the quarter and semi-finals in which you meet opponents of varying skill. Each match is played out of three frames with the winner of the three going on to the next stage of the competition.

All other pool games are viewed from overhead and so movement around the table is unnecessary, but in 3D Pool it's essential. Not only can you move



■ When you get bored of playing the normal games you can try your hand at snook, darts, or even draughts your turn.

all around the table, but you can also zoom in and out and view the table from different vertical angles. The zoom feature is useful for planning those tricky shots. Change of angle also helps in lining up shots. A zoom spot can be applied to any part of the ball and the power of the shot altered.

EFFECTS

If it wasn't for the 3D graphics then this would be just another pool game. Being able to view the table from any angle and the 3D

perspective does make the difference though. The 3D is done so well and you can even see the light shining off the balls. True to the 3D effect being up shots is simple, although it takes a few games of practice to judge the angles correctly. You get all the sound of the real thing, with the exception of the drums, cymbals, etc. By the real thing I mean the balls bump into each other. There are no fancy effects when a snooker - most pool games lack the music from The King plays at least some of the time.



■ Looking up for a shot certainly has its merits, you can view the table from any angle and it helps the player line up more shots. In fact, it's a real bonus for those who like a bit of zooming.

3D-Music 2000

Single - 799p. 40 mins.



CONCLUSION

Pool and snooker are games that require lots of hand-eye co-ordination when played on a table, but with a computer it's merely a task of lining the ball up using your eye and applying spin to exactly where you want and power according to a sliding scale. This takes away some of the skill required and removes a large portion of the fun.

3D Pool is better than most as you can see the table as a player would, but it's just not the same as playing against a potential Steve Davis in a dark and smoky room, the atmosphere's not there. That doesn't stop it from being an excellent game however and being able to play against another person keeps the interest level going when you're beaten at the computer opponents, but it still loses out to the real thing in the long term.

3D Pool does have one major advantage over a normal pool table: it fits on your desk.

Gary Barret



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RULES

1. Competition entries must be received by July 10. Any received after this date will be sent into a million entries and fed to our duck editor.

2. Employees of Future Publishing and Entertainment International may not enter. Not even their best.

3. The editor's decision is final and no correspondence will be entered into.

QUESTIONS

What make of car was the popular Crazy Cars II vehicle, modelled on?

The Crazy Cars II game sees you racing against an endless number of super-fast enemies, who are they?

In which issue of ST Amiga Format was Crazy Cars II reviewed?

Apart from Brands Hatch, which other British race tracks host Grand Prix?



I seemed appropriate to review a game in which you're a pirate in the same issue that there's a feature on software piracy. Don your pirate's hat, set up the Jolly Roger, inflate your parrot and strap on your wooden leg for a voyage into the seventeenth century.

Before you begin your swash-buckling career on the Spanish Main you can choose your nationality: English, French, Spanish or Dutch. Go on, be a patriot and send those Spaniards to Davy Jones' locker.

Once you're ready for a life on the ocean wave you leave port in search of adventure. You could set course for an honest trader and live out your sailing life in relative safety, but your crew won't be too keen on it, they've pirates and they want plunder.



■ Ship to, Spanish Coastal shall we go... over and 'ere a look at sails away into the sunset!

A lot of time is spent sailing around the ocean waiting the look-out to yell 'Ship ho'. Once the flag you can move in closer and if you think you can handle it go in for

PIRATES

MICROPROSE

halls. Sea battles are first of all carried out at cannon range and when you feel ready you can close for hand to hand combat and leap onto the enemy ship with a cutlass between your teeth. Hand to hand is resolved between you and the enemy captain in a simple fight with your trusty cutlass. Win and you can add another ship to your fleet, lose and you'll spend some time in a dark and drab prison cell.

Out on the ocean you'll also have to contend with dangerous reefs, or you'll sink and then spend time stranded on a desert island with nothing to do, but not fear, be in the sun and learn to speak the local native dialect (sounds pretty good to me, where is this island?).

There are times when you'll meet some unwelcome looking pirates with bits of treasure maps to sell, which may or may not be genuine. They're always worth checking out though because it's a damn easy option to dig a hole that it is to capture a ship or town

"Look! It's that pesky sea-dog! Mr. Carlo!" A roving group of 26 men asks to join your crew. Do you...
Sign them up?
Turn them away?



■ These men look a bit rough and ready Carlo, and I wonder if they're those 'dread' Spaniards you came for this crew, but what do you think?

for the loot.

As play progresses you'll come across information about your family, who seem to have been captured and sent all over the Spanish Main. There are also some pirates out there that are worth more than their weight in gold if you capture them and then ransom them off. And of course life on the high seas just wouldn't be complete without some romance and some of the game's best characters are very pretty

ing. When you're in port or encounter an enemy vessel you see an animated picture and they are much better.

IT - Nov 1988

Imp - In a title

EPISODE

1 2 3 4 5 6 7 8 9 10

ADVENTURE

1 2 3 4 5 6 7 8 9 10

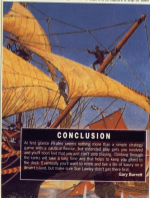
ROMANTICISM

1 2 3 4 5 6 7 8 9 10

GRAPHIC PRESENTATION

1 2 3 4 5 6 7 8 9 10

OVERALL 74%



CONCLUSION

At first glance *Pirates* seems nothing more than a simple strategy game with a nautical theme, but extended play gets you involved and you'll soon find that you just can't stop playing. Cutting through the rules will take a long time and that helps to keep you glued to the deck. Eventually you'll want to retire and live a life of luxury on a desert island, but make sure Sir Lancelot didn't get there first.

Gary Barrett

Do you wish to select a special historical period?
No, Thanks
Yes

Which nation chosen?
English & French

Do you wish to select a special historical period?
No, Thanks
Yes

What is your family name (Smith, Jones, etc.)?

Co. Mr. Carlo, which

Which special ability do you have?

Skill at Fighting
Skill at navigation
Skill at strategy
Hit and Chase
Skill at medicine

■ High Carlo sets sail, loaded with five heavy chests and enough food for 200 men. How do you feel about it? Do you wish to select a special historical period?
No, Thanks
Yes



■ The aim of Bloodwych is to save the kingdom of Gwynneth with five heroes, a four-saber wizard and two dragons and, although the four magical crystals which must be collected in sequence, these are then taken to the holy tower where a magnificent, ancient wizard, Dring, lives. He must be defeated using the crystals.

A GAME OF TAG

Celebrated eight-bit programmers, the Tagliani Brothers, have made their first move into 16-bit with Bloodwych. MARK HUGHAM went to meet them.



Did you know this was the artist where Douglas Blaker had his legs Modelled off? asked Tag, vaulting into the air and dramatically falling out of a floating morning.
"Yes," muttered a voice from the background.

"Was one thing I must say is that you have to mention Merrosoft and what a great company it is," instantly responded like so soft's PR woman, Cally Compas, who had come along to watch.

"Merrosoft is a good company," reassured Tag sincerely, cutting a string of praise about the magic of Merrosoft.

The Taylors Brothers have been in the programming industry for longer than most. Presumably their career has been focused very much on the digital scene and Bloodsuck is their first product to make it into the Global market. The likes of Red LED and Gaylord had emerged from the Twilight state which was masterminded by the Taylors and survived right up until early last year. That was when Bloodsuck was first conceived.

The game is Merrosoft's follow-up to Dungeon Master offering a fantasy strategy game in the Dungeons and Dragons vein.

Dungeon Master was Merrosoft's major money-spinner, programmed for the IBM by PRL and recently released on the Amiga. Where Bloodsuck steers away from Dungeon Master is in its free player option. Two characters can be directed around the castle each observed from one half of the screen. Being a completely interactive environment, they can meet each other along the way and confront identical obstacles.

It was this innovation for the game which first inspired Merrosoft to look seriously at Crystal Quest, as it was then known, and consider taking on the project way back in March 1988.

"We initially designed the game around the 3D aspect before we went two-steps," explained Tag quietly. "The game was Peter's idea." Here a Tag's brother. "We felt it was an unusual idea and wanted to do it. So we went to Merrosoft's Peter Dillma and John Cooke to talk it over."

Red LED was a strategy game which was extremely well received and although Bloodsuck features a totally different twist it's still the strategy vein which seems to be Tag's strong point. He was latched out of generosity for including in Dungeons & Dragons so much that his games, some drew also attention but it's background which has given him a good shout for this latest project.

"We usually spend about an hour thinking about what we're going to produce as we do actually working on it," offered Tag when asked to trace the whole design process from the beginning.

"I generally develop all the ideas and then he works on them and generates them," said Peter, nodding towards his brother.

"Yes, he came up with some graphics first of all and we used the limited animation available in Degas Elite to see if it was still feasible. If it is then I code it."

"I usually just write sections and then insert them into a main control routine. It takes a bit longer than you might think. We started Bloodsuck with some definite ideas but it just kept growing and growing as we stirred at the time to help it stabilize.

"There's a conversation system in the game and it was getting bigger at the time in order to accommodate sub-headings for each conversation and then I took it and showed it to my wife. Her first question was 'How do I ask him his name?' and I hadn't included that at all.

"The game becomes an obsession," confessed Tag. "Although it's still easy to get one distracted which is why we have deadlines. Sometimes things seem fine but we tend to work on a day to day basis. I usually think to myself 'I'll get this bit done today' and I try to get it done before collapsing. If that fails I go to bed tired and wake up five times, then work until I get tired again. This usually means working real hard and engineering. Luckily I can manage with just two or three hours sleep then I crash out for a couple of days.

"Programming is an art form but there's also a lot of junk written. It's nice when you see a quality product such as Dora's Tale, Dungeon Master and a lot of the Crosswise stuff - the quality and content set off the screen at you. But you get so many games and you load them up then watch them all again and never go back to them," commented Tag.

"I can imagine people putting together something which could survive as an art form. But, after all, these are just games. People's imagination will have changed in two or three years' time and they will be forgotten.

"I need to play chess and sometimes you play serious matches but other times you play just to watch someone else. It's that sense programming is an art form."



Digital motorcycle games are finally in vogue as a general case of yuppies fix but they can be addictive and fun. Microstyle's latest game is RWF, firmly in the mould of the motorcycle game but this time boasting a host of extras to add that elusive spark of competitive spirit.

The game is arranged as a competition against other motorcyclists and the tracks included are as fair as could be possible. Ropes in Holland and Grand Prix are just some of the robotised tracks which have been included. The objective is, as ever, to beat your opponents and although they tear off into oblivion at the start of the race, it's not impossible to come at least somewhere in the ratings which are produced at the end of each race.

Eight opponents are listed at the top of the screen with a red marker indicating your location in the many bunch. This type of display keeps you on the edge of your chair throughout the game, especially when those vital seconds start affecting your chances.

EFFECTS

With this type of racing game, it's the crash routines which you'll see most often. Start of a bad spillage of blood and guts, these have been executed adequately. Your character leaps into the air after a crash and then tumbles into the grass. His next trick is to get along the road, pushing his bike before eventually climbing back on again. One fall from your bike and you stand in a chance of winning the race.

The motorcycle graphics are fairly impressive but the roadside scenery isn't nothing to rave about. Unfortunately the trees look like

the green wallpaper nobody likes and the stadium signs are little better. Crashing into them also tends to be very much a hit and miss - sometimes they'll just sail blindly past but at other points you crash into them and steal straight into the sky.

The sound is effective, with a real sense of thrust to it but the increase through six gear changes is portrayed with perfect sound effects. It's here that the real impression of speed is given.

IT - Jerald (1988)

Large - Lambert



Pushing this thing along the road is tough. One fall from your bike and you stand little chance of winning - just like the real thing. These types of extras make RWF unusual and exciting.

RWF

MICROSTYLE



It's a typical race. Suddenly the flag goes down and you're off straddling the steel. When it's all happen you have to not just the right line - low high and the like whenever out of control, too low and you get crashes. Brilliantly realistic.

CONCLUSION

RWF is far from being original but it plays well. The tracks and turns in the road are skilful enough to make sure that you're changing gears at the time which is a definite improvement on the likes of Super Duke where you could race around the course in top gear. With backing from Honda and based around an RFP Formula One bike it feels realistic and the game definitely benefits from this.

However, it lacks the graphical quality which makes GT and Amiga games so exciting and after a while, even with a real number of different bikes, it becomes tedious. However, if you're looking for a motorcycle game that has the whole competitive atmosphere and the attention to factual accuracy makes this one of the best.

Mark Hughes

SCORES

0 1 2 3 4 5

EXCELLENCE

0 1 2 3 4 5

ENTERTAINMENT

0 1 2 3 4 5

LASTING INTEREST

0 1 2 3 4 5

OVERALL 88%



TREBLE



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WEIRD DREAMS



RAINBIRD



It's well worn, drifting off to sleep is one thing but waking up in the middle of a confused landscape where all sorts of animal and plant life sets out to attack you is altogether another. It's a bit like falling asleep just before the Government came into power and is welcoming to most employment.

AIM

The game tests your logic competence in a hospital bed, drifting helplessly into the surreal world of your subconscious. In this world anything is possible. The game is arranged in a set of rooms, where the only objective is to stay alive just long enough to wake up again.

The game is arranged around a hall of mirrors, where doors lead off to each of five separate puzzles. Only three of these can be accessed at first, the others become available later when the first have been completed. Those available can be accessed in any order.

STRATEGY

The game opens with a visit to the candy machine. You must pick up some of the candy and then leap to meet the stick. The stick can be dodged as it spins around but if you miss it for too long then it becomes covered in candy and the only way out is to toss one of your live toes.

If you survive this then the next step is to confront the tumble box by depositing your ball of candy and trying to retrieve the one held by the box. Orbs play an important role in the game. The objective of each room is to pick up the orb and then return back to the hall of mirrors. The game features five different rooms with an obstacle behind each. The first room deals with the candy floor

and tumble box, then there is almost where you have to leap off and catch flying ball and then the long-necked monster. The third room takes you into a garden where deadly rocks threaten to take your head off and an evil cat-invested little girl steals a vicious game of ball with you. The fourth room tests your eye coordination where you must leap across the tops of a spool and some of them with a skeleton in it. You must quickly respond to the clues where you perform more utility tasks and finally find out why you had to visit the orb.

EFFECTS

Visual effects in *Weird Dreams* are stunning. Not only has great attention been paid to the music game system but even the space between levels has been thought beautifully with a one-hour or so rotating tape of a galaxy of marked objects will rotate to take you in two with a couple. Some graphics are faultless. Drawing from the top screen the game keys to the left will change the candy machine has been carefully animated to keep the action smooth and intriguing. Even the scene organ on the first puzzle



Why the much of *Weird Dreams* will swirl and up into this level is revealed from the hall of mirrors.



usually succeeds in looking like a dream singer.

With attention paid to the graphics, games are often lost due to a poor soundtrack. Yet in the case of the addition of a few real bits of sampled sound work have improved the whole mix, but at least the best effort. (The occasionally more in the same area) appears to stand out.

S - Jay's GVR

Imp - Jay's GVR

STYLISH	★★★★★
IMMERSION	★★★★★
BOUNDARIES	★★★★★
LASTING INTEREST	★★★★★
OVERALL 81%	



► The state of affairs is where you return after each challenge. The creature hasn't been after a party in the relevant level.

Without doubt, *Rain Bird* is an original and cleverly reworked game. The graphics are beautiful and movement is so smooth that the game just goes with confidence. However, a ridiculously long wait between levels and potentially short wait to very little to sustain interest over any long period of time. Some music can often be over in a matter of seconds, particularly when you approach the game for the first time. It's great just a minor issue but a major frustration.

The problems in the different levels are enticing, but they lack the kind of depth which would have made them more fulfilling. However, once you begin to number the different challenges you can soon begin to anticipate any problems in the area, as the game suddenly becomes more addictive. It's doubtful whether the addition level will ever rival that of a shoot'em up but *Rain Bird* is striking and unusual enough to see you delving into a world of being nightmare over and over again.

Mark Higham

CONCLUSION

Let the fun caused more than and great than anything else in history (except maybe migration) and it has been the background for so many computer games as the earth being threatened by alien invaders. By get your love in the problem for that funky little *Savage*, whose mission has been kidnapped and locked away in a dark and dingy coffin dungeon.

There are three games which last occasionally and passwords are needed to access the two later levels. Levels two and three can be played without passwords, but you only have one life.

Level one is a non-sound-on-line anything-in-eight game which sees you hunting bats at those naughty little monsters who just can't wait to sink their fangs into you. Occasionally you come across a big, mean and nasty monster, and these take a hell of a lot of killing. If you manage to fight your way to the end of the level you'll be given a password for level two.

In the second level you wander across the valley of death and have to avoid the traps and ugly monsters. Yet again there are hordes of monsters out to get you, but fortunately they can be dispatched with a blast of good old-fashioned magic.

After defeating several waves of bad guys, you get the final password and arrive at another entrance to the castle, which is high above your head. Not being the sort of person that gives up easily you send your faithful, faithful friend, Eddie the Eagle (and of course, not man-of-steel) with a bit of a flap it's time to rescue your true love and best, as yet more of those bit of demons.

The music in *Savage* is mediocre and the sound effects are little better. Graphically it's nothing special either, there's plenty of colour and animation is good, but there's nothing to make it leap out at you and make you say "Wow".

Savage unfortunately lacks that essential quality which makes an awesome game and you're left feeling that you've seen it your hands which you'll play for a while, but will soon be of. Add up to the standards expected of Rainbird.

Gary Barrett

STYLISH 8.0
IMMERSION 8.0
BOUNDARIES 8.5
LASTING INTEREST 8.5
OVERALL 61%
S - Jay's GVR
Imp - Jay's GVR

SAVAGE

RAINBIRD





DEMON'S WINTER

SSIUS GOLD

You'll never complain about the English weather again. For once all the land will be covered with snow, and the oceans will turn to blood, unless - can you guess? - a band of valiant adventurers can save the world from its terrible fate.

The demon god Malion (who's in a name I like) is trapped in the heart of a volcano where even now he power is growing. Millions of Malion travel the world causing death and destruction as they work on the task of releasing their god.

Amiga - Macintosh - DOS

ST - CD-ROM Interface



Before you begin on your quest to save the world you need to create a party of adventurers. It is here you can begin the quest and you can choose any one of the races: dwarf, elf, dark elf, troll or human, and 30 character classes: ranger, paladin, barbarian, monk, cleric, thief, wizard, sorcerer, visionary and scholar. After you've chosen the race and class of the character you can choose ten skills for it. Make use that all level one characters has the Light Flames spell, because they can be used to heal your characters. A priest is useful too as they can destroy undead using the power of their deity to strike them down, saving you from having to go in and fight them hand to body hand.

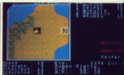
Now that you have your band of adventurers it's time to explore the world and seek the means to bind Malion in the volcano for all eternity. The world is filled with dangerous foes to fight and as you explore you'll gain experience which will enable you to improve in combat and magical skills. Eventually you'll be able to buy a ship and then explore the oceans and reach far off lands. Malion and his minions await your hand, and they will stop at nothing to defeat you.

EFFECTS

The less said about the graphics the better really, they're colorful alright, but what's poorly animated and lacking in detail. The world graphics are very simple, in fact the whole game looks extremely eight-bit and the sound is just as bad with ineffective effects and an absolutely disturbingly awful signature tune on the title screen.



■ Move the free command on the street and magic to cast safe your opponents.



■ Your party of heroes explore the world looking for malion, adventures and ready wild things. A long list of options allow to dip at the map with which you control the adventures.



■ An important part of the game is character creation, choosing the right features of magical and magical skills is important. Having the right number of spells is very important, as you can't use them all. At least one of your wizards has the Light Flames spell to be respectful.



The label of role playing game has been applied to many games in the past, and the majority are just hack and slash games with no thought involved at all. *Demon's Winter* was called a role playing game, but was just a hack-and-slash with pointy graphics. The *Barly's Tale* is closer to role playing with more than just simple puzzles to solve, there was some plot and more challenging mental constraints to deal with. *Demon's Winter* takes a step forward along the role playing lines with the multitude of options available to you and the more realistic combat in which you have much more control. Tactics can used properly for a change, unfortunately so much has been done to make the game play well that the appearance has fallen by the wayside, it looks and sounds awful which is a terrible shame, because *Demon's Winter* is one of the best computer role playing games to date. SSI are still at the head of the field when it comes computer role playing and they look likely to stay there.

Gary Barrett

CONCLUSION

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CONCLUSION



■ The eyes of infinity are surrounded by the 12 signs of the zodiac. Movement in the zodiac is complete and repetitive the most obvious. Each sign is either a solid green, red or blue.



■ In other signs of the zodiac this appears after you've chosen one and the movements in the zodiac occur in the opposite pattern. Once a star and in the last, the zodiac.

■ In Scorpio your task is simple, it's more of an introduction to the game than anything else. Only two and possible in the zodiac which should prove to be no problem.



Binary design are the people behind Wicked and consist of Paul Harris and Rupert Rowland. They both took part in the game design, but Paul is the one who did the actual programing over a period of 18 months.

It was written using the Amiga development system which runs on a Mega CD. The code was then ported across to either the ST or Amiga. Graphics were designed using Paper Ditz (ST) and Proton Paint (Amiga).

Not wanting to be left out our competition birthday issue Activision are going away 20 Wicked T-shirts and two copies of the game. All you have to do is write down which sign of the zodiac begins on the June 21. Send your answers on the back of a postcard to WICKED-COMPE FROM at our usual address, not forgetting to say which machine you use.

COMPETITION

WICKED

ACTIVISION

Signs of the zodiac, tarot cards and computers may seem an odd combination, but all come together in Activision's latest game, Wicked. Good and evil are having their usual disagreement and want to annihilate each other.

AIM

The sun and moon are two opposing forces and you're an avatar of the sun as a quest to defeat the evil minions of the moon. Defeat the moon and gain eternal glory, fail and lose your soul.

STRATEGY

The action takes place in the 12 zodiacal constellations: Aries, Scorpio to Sagittarius. In each

constellation there are three stars in which the evil of the moon is trying to gain influence.

The evil is spreading in the form of a star growth which slowly traps. All over the screen. At the centre of the growth is a portal from which the infection comes. Occasionally the portal produces a spore which it left alone for too long flies off around the screen creating a new portal. To stop the evil growth from spreading to cover the entire screen you have to cover all of the evil portals with good and wholesome growth. Good growth however can't



■ The zodiacal signs form a circle around the sun and the moon. The sun is the good and the moon is the evil. If you want to win the game, you must defeat the evil of the moon and the sun.

GRAND MONSTER

RAINBOW ARTS

Getting your head kicked in takes on a whole new meaning if you happen to be a Belton, because all you are is a funny head.

You don't get your head kicked in, however, you do the kicking instead. The action takes place on a grassy pitch with you and your opponent standing at opposite ends of the playing field. In front of each of you is a row of kicking Beltons waiting to be kicked. The idea of the game is simple, kick these Beltons to the



■ Kick these funny Beltons up the pitch and kick on for the other side to win the match.

other end of the pitch and the spirit to the opposing line. Kick the line and you go into the end round of the game and if you're good enough you'll eventually reach the final. Your opponent's course has other goals because no one likes losing, not even a stupid pig, and the team he belongs to. You represent the funny people (Beltons) and must kick your way to victory.

In the first round of the competition you play through against seven other opponents in a knock-

CKED



another evil and so a gift must be placed to the evil portals and that's where you come in.

The level around the screen destroying the evil grows with a blast of fiery energy and clearing a pathway for good growth to the portal. The evil portals also shoot items which you must carry away and deposit on your own growth so that a new portal can be created.

Because of the moon guard you can't see and so their attack is tricky you do, unfortunately you can only fight back during the day



During the night the evilness level of the moon is visible and its minions can't be harmed.

time which is indicated by a gold sun in the centre of the screen. During the night the hideous face of the moon is depicted instead.

Once during each day and night the sun or moon splits smaller and a small sphere is released. At the same time a level card is shown which gives a clue to what the sphere does if you collect it. There are eight level cards: some beneficial and others hazardous, after a few games you'll know what each of the cards means and which to collect or avoid.

To win the game you must be victorious in the battle for the reclamation of Sagittarius, but you have to fight through at least three other civilizations before you can get there. It's best to start

Picked is a weird game, it combines strategy and arcade action with tact and strategy to produce an incredibly addictive game, for a while. There are three styles of game that you can play, tactical base, standard mix and arcade free, which cater for most players, but in the long term you may well get bored of just shooting growth. Actually completing the game will take a long time because in later civilizations there are hordes of evil portals and the computer or player must move intelligently if you do eventually win you're unlikely to play again, but you might still find it up occasionally to listen to the music. Thoroughly enjoyable and with plenty of visual references so what more could you want from a game?

Gary Barrett

CONCLUSION

During the day you can fight back against your evil enemies under the watchful eye of your ally the sun.



with Scorpio to get you used to the control and level cards.

EFFECTS

Sound is one thing that lets level isn't short of, an ominous tune plays before each game and a happier one if you win the battle for a civilization. There's also a nice melodic tune when you lose. Sound effects are excellent with a great marching sound as the moon sets your nest. The only criticism that can be levelled at the graphics is the size of the screen, they're small and on a screen covered with growth they're very difficult to spot, fortunately you do get an audible warning when one appears which makes them a little easier to find.



Once each day and night the moon or sun parts and reveals a level card. It small spheres also appears which has the effect of the level card, for good or evil.

W-Joyark 2.9.8

Logic - Excellent



SLAM

and than
I. Reach
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because
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you, the
and
the con-
quest
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in context, the winner of each match goes onto the next stage until you reach the round one final. After each match the Belmonts can get their own back in a bonus round. Here you just fend off the demons for as long as possible. Win the final and you get to test the features.

Fasten heading modes kicking Belmonts into the wailing middle of the Belmont who do any enemies. If you get enough life you go onto the next stage when you must defeat increasing

ly skilled opponents. The last thing you do is become GMS champion to beat the winners of three previous GMS tournaments.

Graphics in GMS are cute and humorous with plenty of detailed opponents. The title Belmont is particular look good, showing its anticipation of being knocked is the face.

Sound effects during the game consist entirely of hits and thuds and cheers from the crowd. There are some very good tones, or the selection screens but nothing



The final round has some memorabilia and games are played in a knockout basis.

ing screens during the game itself.

CONCLUSION

Grand Master Slam suffers in one important area: lasting interest. Game play is very repetitive, just kicking heads and playing one of the two intermediate stages. If there had been just a bit more

Amq-Joyark 2.9.8

IT - Average



thought put into gameplay that this would have been an excellent game, but lack of variation just killed you bored after a few games. In fact you'll get more long term satisfaction from putting the three girls, ripped with the game.

Gary Barrett

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When finances are tight there's only one option - knock up a couple of mega-bucks games and sell 'em for £24.99. MARK HIGHAM fancies himself as a whizz-kid.

**SELL
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SELL**



The are enthusiastic young coders, a computer studies course and a new computer and what do you have? An instant programmer. And what do programmers do? Live tools and lots of money of course. From all the adverts which litter computer magazines begging for programmers, it would be far to assume that they're really in demand. Many of the adverts promise riches of thousands of pounds as well as a sizable chunk from royalties on the game.

So, you want to get rich quick. How do you go about marketing a game?

THE IDEA WORKS?

Probably the least painful way to test the water is to work on an original idea and develop it, then take it to a software house and see what they say. It's usually best to send off the idea first and wait for a response from the company. The Nagens worked this way when they developed *Bloodwych* but it's really only a method used by already established programmers who intend to write the code for the game.

Most companies, particularly Activision and Microsoft, are on the lookout for any original concept. Even if you are not prepared to or capable of writing the final program, the idea may still have potential.

If you really want to approach a software house in this way then it's certainly advisable to take along samples of your work since the company has nothing to prove to them that you're actually capable of writing the software. If they like the idea and think you're able to write the program then a few post-its later and you'll be well on your way towards signing the contract.

Samples of your work are often an important aspect to finding a sale in the games industry. Even samples of good graphic design can prove useful. Entertainment International, being a fairly new software house, is always on the lookout for graphic artists and good technical demos are often enough to catch your name notice.

THEN THERE'S WRITING IT

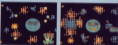
If however, you prefer the more traditional approach then you can always come up with the idea and start to code it yourself. Remember though that programs can often take a ridiculously long time to code, especially on the 16-bit scene, so it's not a good idea to give up work and start.

There is no way to do a convention since licenses are often acquired by software houses many months before the convention is announced. If you really want to pursue the idea then the best company to approach has to be US Gold. Samples of your work are imperative and they can usually spot a potential gem.

However there's always a market to



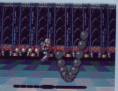
Examining the market and history of a company can assure that you get just the right exposure for a game. Being a fantasy game, *Bloodwych* was taken to Microsoft because it was felt that they knew more about this market than anyone else.



Asterix's second Microsoft game, reviewed in this issue, was written by a programming team which took the final product to distribution in the hope that it would be marketed. This just goes to demonstrate the high quality required by the leading software houses.



Manhattan Driver was written by George Sutherland, a team of just two people. This was advertised in magazines and was packaged as well as possible but in the end it sold 1000 more than his copies. Probe Software did however, show some interest, seeing it as a possible candidate for their own (future) conversion, by the end it failed.



Microsoft usually like to use a game and if they see potential in it there they'll make a small initial payment. No other money is paid until the program has been completed and play tested.

DO IT YOURSELF

There is, of course, an entirely different way to go about selling your game. The very brave can attempt to market the game themselves. The expense in this field can often prove enormous but if the game's a good idea then a few contacts in magazines and distributors' offices. Even programming houses have spotted potential in a game advertised and sold directly from the programmer. When Probe Software were given the Oduan project they found that a small programming team were already struggling to sell copies of a game called Operation Oduan. It was a car game based around the popular soap and so Probe Software looked at the coding and the kind of routines used to see if they could be adapted for use in their own Oduan project. For a while Probe furnished statements like "marketing wasn't the job before" it was eventually decided that the game wasn't good enough. This is by no means uncommon.

GET PACKING

While the coding is still taking place you may need to think about the artwork which will be used on disc labels and packaging. A helpful friend with a Cretel art can be recruited to assist here, united with problems of a percentage of the profits. People prepared to contribute sound effects and graphics are always useful, again brought along with promises of great reward.

A simple piece of artwork to make up the cover is the least approach, finished yourself in one or two colours like red and black otherwise you

can step into expensive territory. Alternatively you can use as many colours as you like and take the result to a professional colour photographer and get the perfect result. This method can be extremely expensive and is only advisable for the first few weeks of sale. This is the ideal time and so it's best to spend as little money as possible until you've received at orders. Use disc purchases of 10 or 100 discs can reduce the cost here and disc copy with your own disk drive at least in the short term.

AD HOC

One of the most costly expenses comes in the advertising bill. A half page of space can cost anything up to £200 for just a line and while advertising salesmen will always try to sell you more than you wanted, it's advisable to send copies of your game off to as many magazines as possible for review and hope that it receives some press. Even with a good review, it's surprising just how few orders appear. You could certainly think you'd done very well if you manage to cover your costs in this way. However, it's certainly a good method of getting noticed. Paper distributors and software houses will offer responses to a potentially good idea.

It is an illusion that the software industry is bursting with money. Unless you come up with an original game such as Pipework or Archipelago then you're unlikely to venture into the marketplace. However, if coming up with a good product then you will find a market for it.



Mars has adopted the strongest approach of any software company. They will look at getting it off the ground and to them are released unopposed. This might seem like a ridiculous approach but they also received a game and they released one which was doing similar. This programmer of the first game threatened to take them to court.

LEGEND



Actual Screenshots

Legend is one of 1988's newest releases. It was written by Markus Software, a team of four people who went through all the problems of marketing the game and themselves and then went to CBS, who eventually took over the distribution.

We found out them for original games which have been done carefully enough. Even if the final product is not up to the kind of standard required by today's market, a good idea can often undergo serious revision if the software house sees a market out there. Most will look at a good idea and if the graphics seem to be suffering or the sound effects are not worth much their suggestions can

if programmers for evaluation.

If a game is not accepted it does not necessarily mean that it was a bad game. Often software houses need to know more about the market before they'll consider backing it. Even if a new house is prepared to take on a game it's best to do some background research in order to state what the game will be marketed to your retailer too. Electronic Arts and Microsoft have both had considerable success in the adventures market so they are the one to go for if you have something to show. They know the market well and have enough experience to state what your game can be targeted at precisely the right people. Similarly, if you are experts in coin-op conversion and Action are always on looking to try this original idea.

When a software house decides they want to use your game then they will ask you to a meeting and show the kinds of changes they would like to see implemented. You tell them whether it's feasible or not and then you come the contract. An initial deposit is made if the idea is a good one and the software house is eager to use it. Then they will wait to see progress before making the payments.

Microsoft are not alone in making a small initial payment and then going to more financial aid until the game is completed. This might sound like a nice way of operating but many programmers have come across a problem: their code and given up altogether, shooting off to the other end of the country and leaving the software house with a useless product.

Virtually all software houses will at least look at your game. However, the games are good enough. Determined international review around the games a week, all of which are covered. Products which have appeared this way are Stormcooper and it's late coming release, Pipeline.



Entertainment International have been responsible for marketing several games within and off houses. Both Stormcooper and Pipeline were written by programmers unknown to it.

be made or other teams introduced into the project.

When one of the biggest obstacles appears is in conversion. ST and Amiga games are almost always backed up by the equivalent on their scoring partner, even if the game is only a straight port you must be proficient in the other side. Eight-bit versions are also often required, particularly if you are dealing with the larger houses such as Ocean, US Gold, Microsoft or Activision where all formats usually appear at some time. This does not mean that you have to be able to program every computer out there because other programmers will be introduced to cover the versions which you cannot do yourself.

A letter is often a sufficient approach to a software house. It's all very well producing a prototype in some attempt to see the managing director but at the end of the day you'll always be sent away until the software house has passed your game over to a team

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GAME BUSTERS

When you're all alone and you're feeling low; when the nights are long and the terror is real; where ya gonna go? Gamebusters! Go ahead, make your day.

The concluding part to this epic arcade adventure.

Level 8 - Hit the top pairs of creatures with the quartered bow (a wall level sword). Jump over the caterpillar-like creatures when the lead is as far down as possible. Walk past the poison to get the lead. Walk backwards and the lead will exit the creature. Once the lead has finished eating, walk forwards and the water starts to rise. When the water is just below the lead's mouth you should begin to jump. Continue jumping until the water is below its mouth. The wall will disappear allowing you to walk forward again. Hit the bats of fire with your sword to prevent them from hitting you. You can increase your hit strength by hitting the grey creatures on top of the wall. When the wall disappears walk forwards to finish the level.

SWORD OF SODAN

Level 10 - Use a magic sapper as soon as you appear on this level. Activate a power shield and immediately jump towards the man. Hit him once to kill him then jump to the right to finish the level (you will be shown at the start). Don't waste any time because you will need the power shield for the next level.

Level 11 - Jump towards the massive creature and continue to hit it until it disappears. The power shield should last long enough. Don't panic when you see the sword because you can actually jump over the energy that he fires.

You will have to repeat this for a long time - especially if

your remaining hit strength is low.

You should have two magic sappers and a power shield with which to finish off Jones. When Dr. Or is gone crazy you can kill him five loads of blue energy bolts at you, activate the power shield and both magic sappers. Walk towards him and continue to hit him - he should only last two or three hits before he dies.

All you have to do now is walk to the right and you can see the end sequence.

By pressing C, P or HELP during a game to see some hidden messages. Also by putting disk three in at the Nintendo console to see some details about the program.
Daniel Nelson
Doncaster,
South Yorkshire

HOLLYWOOD HIJINKS ST & AMIGA

To open the first door, turn backwards and, then walk, then north. To open the safe in the north turn the dial right three, left (twice) and right five. Confused by the mirror? Put the this paper on top of the yellowed paper. Put the candlestick in the cannon and light the fuse. Open the compartment and take the mask.

Sarah Carter
Redditch, Worce

OPERATION WOLF AMIGA

Level 1 - Communications
Easy with only 20 troops, four choppers and five tanks. Knock out large groups of troops, tanks and choppers with single grenades. Try to shoot the towers with black shells, but as these move leaves which can deplete your energy level.

Level 2 - Jungle
A little harder this level with 60 troops, eight tanks and eight tanks - however, with no lady flowers. At the end of this level the general appears with a jet fuselage. Make sure you have at least one full magazine of ammo. Be careful not to hit the jet. Good timing is essential and remember the general has a revolver. You can kill him with about 15 good shots.

Level 3 - Village
Easy this level with only 40 troops, four choppers and three tanks. The only real dangers are the troops with the hand grenades. Take your time and only use gas fire. Try and save your grenades for the next level. Don't worry if you lose a lot of energy because most of your energy is replenished level. Pick up as much ammo as possible.

Level 4 - Powder Magazine
This one's got 45 troops, seven choppers and five tanks. Don't hang around on this level. This is where the saved grenades come in useful. Try and clear it as quickly as possible. Watch out for troops with large machine guns as they wear bullet proof vests, only a well placed head shot will waste 'em. What on this level are stream bedded lava-like ropes - shoot these skin heads as soon as they appear. Don't worry about running out of ammo on this level as your ammo is replenished at the end of the stage.

Level 5 - Concentration Camp
Real tough this level with its 75





troops, 12 choopers, knife throwers, grenade throwers and troops with bazookas. And on top of all these are five hostages to rescue. If you don't save all five you will not complete the game. Make sure you don't kill any or let the enemy get near them. Pick up as many grenades and magazines as possible, or steel traps and pits when the screen is empty, as you will need as much ammo as possible for the next level.

Level 6 - Airport

With 85 troops, 11 choppers and four tanks you're in for fun. Try and take out as much of the enemy as possible with gas fire. You'll also need to pick up as much ammo as is available for the first chopper. Wait until the chopper fires its grenades and then fire your grenades at the same time.

Bonus Screen

In between some of the levels there are bonus screens. Always fire grenades at the middle choopers and you will have no problems.

Andrew McCarrigg

Maxborough, South Yorkshire

HYBRIS

Amiga

Load the game and wait for the high-scores table to appear. Type COMBANDM and press the fire button to play the game. Press F10 during the game; your ship should glow. This means your ship is invulnerable and you've got unlimited energy and smart bombs. Press F2 to F5 to get the five different editions. F5 advances a level.

Andrew Phang

Australia

ENLIGHTENMENT

Amiga

When you have reached a new or unexplored plane, take out the disk and kill the druid. Instead of returning to the village of Israhah, you will be returned to the plane that you died on. Insert the disk and start playing again. This tip can be repeated as many times as you want.

There is one problem in doing this however: you lose all the spells that you had before and start the game again with the normal complement of spells: gales, food, fire etc. You might not last long on some of the later levels, but at least you can do some exploring for when you try and complete the game the hard way.

Faouan Mirza

London



DOUBLE DRAGON

ST

Start a two player game and hold the fire button and down key on both joysticks. Press ESC until the credits go together. You now have infinite credits. Go on park, rescue that girl!

Chris Harding

Amersham



FOFT

ST

Advertisement in rank has nothing to do with the amount of credits to your name. Instead it is credited to the amount of screens you complete and ships destroyed. The only way to earn credits is to

haggle on the trade-net (you get credits for missions, but it would take a long while to amass a fortune). By staying in the space station on the net and trading in guns, food, gold, you will quickly build your fortune.

Trading to space stations requires you to jump until you can't get any further.

To complete missions:

1. Take message; get go there! (the E key)
2. Destroy alien, but not

- alien; kill it + the E key
 3. Destroy last
 4. Collect during the E key
 5. Investigate disappearance of 4
 6. Use E key
 7. Search for survivors
 8. Escort VIP. Land on planet the go to destination.
 9. Go and report.
 9. Destroy alien.
 10. Rescue children. Land on planet.
- M Collins**
Bristol

DOUBLE YOUR MONEY

From real world onwards things get complicated because instead of one magazine there are two: ST Format and Amiga Format. So get these tips and guides written and in the good to ST Format/Amiga Format, 4 Green Street, Bath, Avon BA1 1EL. Make sure you send the relevant tip to the correct magazine.

This month's winners are:

Kevin Ponder, who wins several Amiga goodies, for his excellent *Power Rangers*.

St. Collins provided the *Restoration of First Reader* tips, so some ST software for free.

Their prizes are on the way courtesy of the ODF.

PACLAND

Amiga

Level 1 - jump on the fire hydrant to reveal skeletons. On the third fire hydrant, go to the right then walk against it. Four Pac-Man will now be wearing a blue cap which means the little ghosts dropped from the planes. Can now be turned into 200 points on every hit.

Jump over a car coming from the right, wait until it turns around, jump on top of it as it moves to the left and you will find no more ghosts appear on the screen.

To pick up a nice bonus at the end of the level, jump when the E of TIME appears.

Level 2 - jump on top of each car to get the ghosts. Finish off in the same manner as level 1 to pick up a nice bonus.

Level 3 - keep your finger on the jump button to reach the end of the logs easily. Run fast at the springboard and jump when you see the springs pressed. Tap the joystick to the right to get over the pool.

Level 4 - get off back and watch the coin-pipe take over.



Level 5 and 6 - these are easy with the bonus as you go back over the previous two levels. At the end of 4, jump on the last step to get a bonus. At the end of 5, jump when you see the whole of your wife in the picture.

Level 7 - worth out for the double-check boxes, but if you do the same car trick as in

level 1 you'll have a clear ride. Jump at the end when E appears.

Level 8 - this is all remaining pools, but wiggle like mad and heep!

Kevin Ponder

Widnes

Northwich



PREVIEWS



■ **Adventure Island** is a medieval-style adventure which sets you exploring subterranean and ancient ruins in a land of somewhat fully magical creatures. The adventures you'll have been created by Peter Lyon with Mark Gorman responsible for programming. Adventure is scheduled for release on the PC in the next few weeks so make sure you catch the review in the first issue of *PC FOCUS*.



■ **Dungeons and Dragons** has a medieval-style adventure which sets you exploring subterranean and ancient ruins in a land of somewhat fully magical creatures. The adventures you'll have been created by Peter Lyon with Mark Gorman responsible for programming. Adventure is scheduled for release on the PC in the next few weeks so make sure you catch the review in the first issue of *PC FOCUS*.



■ **Sleeping Gods** (see page 102) is the first release in Entertainment International's new Strategic Fantasy series, currently promoting heavily. It's an adventure game with a conventional objective (you'll meet a God. Along the way, you'll encounter such entities as the Phrygians - a weird, old race who made you aware of water in a different way - and there are no straight cut of quests. The game is arranged as a set of bits, each one featuring challenges to the characters using skill and resource accumulation on the way. These levels range from puzzles to islands.

Sleeping Gods doesn't make it a blockbuster, but it's an advance step of things to watch. And that's important in a crowded adventure.



■ That medieval great white is back to terrorise the waters of Bonty Island again. The classic film has made it onto the computer screen as an archaeological adventure game.

SCREAMS FROM SCREEN 7

This month sees the appearance of another new label, Screen 7. A host of new products are lined up for the summer months, the first of which is intended to be a



■ The player must overcome all obstacles and dangers in order to save the ship's crew from a huge shipwreck in High Seas.



■ The exploits of a young Britisher girl are captured in **Ship**.

computer simulation of the 1870s class. **Jack Stone** will be serving in the night shift and that's not all. The 1940s are well reprised around the 1918-19. Screen 7's first release is scheduled for June.

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and said it is my intent to repair and fix the whole thing. If there's anyone out there who purchased a MJ2149 chip and chopped it in half then tough.

WE ARE TALKING DIALOG

This tip was sent in by M. Langley of West Sussex for those of you who have ever wanted your dialog boxes to be transparent or fragmented or for the buttons to be superimposed directly onto the main program display.

The process uses WERCOS but should be able to be converted to any other WCI.

1. Select Frame from the box menu.
2. Highlight the root tree object.
3. Select Extras from the Plug menu.
4. Set the X, Y, width, height attributes to 0.0,0.0,400 (or 200 in color).
5. Select the BGR color button.
6. Click on OK.
7. Select size from the border menu.
8. Enter a value of 0 in the dialog box.

9. Add objects where you feel like - the root object's presence can be ignored.

Don't be and change the size and dimensions (step 4) by dragging since a bug in WERCOS will cause negative values of X and Y which will result in problems when you edit your resource file at a later date.

WELL, I'LL BE SCANNED

For people who use a hard disk and make constant requirements on DOS, it's not uncommon to move DOS into the AUTO folder on a hard disk. This is fine for most things but the Data Handoffcenter software will clash with DOS and cause infinite problems, unless Mr. F. Thompson from North Brisbane, Darcol did intend to resolve the problem soon.

REALLY HARD PROBLEMS

Marjo Armitage from Sheffield has written to Format with more information on auto-loading hard drives, the crashing of programs, or AUTO folders and DataDoc Accessories. He has been using an Atari 2020 20MB hard drive

and was developing a DataDoc accessory which was accidentally based onto hard disk and not erased. When the machine was installed again, the accessory was auto-loaded from the hard drive which instantly caused the AT to crash.

The way around this, according to those in the know at Atari, is to power up the monitor, external drives and hard drive as normal and then power up the computer. As soon as the light on the internal floppy disk has flashed, power down and hold the alternate key.



Almost all hard drive auto-loading software is designed to erase loading if this key is depressed. The software will appear as normal but without any icons for the hard drive. If this happens to work then keep trying - it will function properly at the end. Using the utilities supplied with the hard drive, it should then be possible to edit out the offending files and then re-install the auto-load driver.

COLABBIT

RealViewer is a curious program, totally without documentation, to say the least uncommon to find curious file holders' secrets. Alfred Aarn from Manchester has found an animation feature masked behind the Colabbit icon.

It can be accessed by pressing down on the right mouse button when the pointer is over the 'I' in Colabbit. You may need to try this several times before it works correctly but since you're intrigued it the new icon will appear on the panel. It looks like an old Gamma and gives you something new to play with.

CREATING PRINTER DRIVERS

The manual supplied with the Word is efficient enough in explaining the operation of the software, but when it comes to the section on installing your own printer driver, it becomes unhelpful in its explanation of some very basic points.

If you try some of the print or driver's supplied with the Word, it's likely that you'll obtain some form of printout eventually, but unless your printer matches one of those drivers exactly then some of Mr. Word's own advice may not show up on the finished document. In fact, here are:

- 1) Open the **PRINTERS** folder box.
- 2) Select **LJ 80-PRN** from the **PRINTERS** folder and drag it to your main directory window. **CLICK** on OK at the prompt, then when the copy has finished you will have two **LJ 80-PRN** files, one in each window.

Note: I only picked the **LJ 80-PRN** file as most options are used on it. Deleted when finished use the **Source** file.

3) **CLICK** on the **LJ 80-PRN** file in the main directory window and then on the file name at the top of screen. Select **Show Info** and change the **HEX** extension to a **DOC** extension. You have now created a file that can be loaded into the Word.

4) Load the Word and then select **LJ 80-DOC**, this will be loaded in and you will be prompted with the configuration table for a fairly standard dot matrix printer.

Scroll down the document a short way, and also in the heading "Printer characteristics" and choose the you will set the printers, leave these alone for now.

Note: Only the file and last names apply in dot matrix. If all is not well then try the printers if you need a display, enter in your manual.

5) This will now require your printer manual to find the correct format codes, the address and a list of commands. Use **Format** and the cursor keys to input your own codes. Sometimes down the list offering the lines one by one until you reach the heading "Escapement Table, with any luck, you will not need to alter any of the entries listed here at the moment.

6) When we come to the good part then the last step of A.S. 1, selected from these entries, make quite informative manual, before entering your hard work, go to the menu selected **File** and click on **WP** (Make to form it all then go to **File** and select **Save as**). Rename your work to reflect your printer, you have just created a **HEX** extension. **CLICK** on OK in any prompts that appear when saving, go to **File** and select **Quit**.

7) Click on your **HEX** file and drag it to the **PRINTERS** folder window. When asked, your new **HEX** file will be ready to be installed. **Click** on **INSTALL.PRG**, this will list a directory of all available files. Select the one you have just created and **click** on OK.

8) When finished, drag the **HEX** **PRINT.DOC** the over to the main directory window and rename. **Click** on OK in any prompts.

9) You should now be ready to try out your new driver. Note: if you have created a data sheet to hold your **DOC** files on, you must copy your new **HEX** **PRINT.DOC** over to it.

If it's now a good idea to type out a test document using the format and including all the different test styles available. Obtain a printer and monitor if you see if any styles or combinations are not as they should be.

If all is not well then try to look to step three to try out again.



WIN LOADSA DOSH

If you're having trouble with your AT or if you have any hints or tips which other AT owners will find useful then send them (name, address in Scotland, ST16 0RQ or, if Great Street, Bath, BA1 1LL). Each month we give away £50 for our favourite tip so if you're looking for some extra dosh, get writing.



WORKBENCH

HARD TIMES

When programming machine code on my Commodore 64, all I had was an area of RAM and a set of graphics registers which controlled the screen, sprites and the raster. This was the basic level of the machine - if I wanted anything to happen it was up to me to program it.

Things aren't that simple on the Amiga. There is such a wealth of ideas to contend, I'm not sure where to start. I simply cannot find the machine's basic level. I'm particularly interested in the graphics library and I am therefore considering buying the Amiga

If you're got an Amiga and you're got a problem then you're in the right place. This month JASON HOLBORN answers more of your queries and puts the final touches to his AmigaDOS tutorial.

Hardware Reference Manual and AmigaDOS Amiga System Programming Guide - you won't regret it.



■ Moving up from the Commodore 64 can be a frightening experience for the best of us!

ROM Format Manual. What I want to know is will the book describe the way the computer holds screen info, uses the raster, etc? I am particularly interested in writing arcade style games.

Time Flinders

The Amiga system's software libraries, multitasking, Disc etc) is only an interface between the programmer and the Amiga hardware. If you ignore the operating system and program the hardware directly, Amiga programming is in fact very similar to programming on a machine such as the 68k. All the Amiga custom chips are memory-mapped and can therefore be easily programmed using direct addressing.

You'll find that nearly all Amiga programmers program the Amiga from this basic level. Programming the Amiga hardware may sound obvious, but, surprisingly, it is a lot more than working with the system's software. It can be a real joy to work with. Instead of buying the ROM Format Manual, treat yourself to the Amiga

Hardware Reference Manual and AmigaDOS Amiga System Programming Guide - you won't regret it.

could not get the following line to work:

INCLUDE "PROLOG.COMMON;LIBRARY;".

The assembler produces error code 4005, which the docs. it refers to, is "lib.lib, temp or library".

James Cook

Clarity

1. The three different file types can be split into two different groups: the first two (.lib) and (temp) are library definition files that tell AmigaDOS where all the routines are located in a library. They do this by using what are known as library offsets. The library file is the actual library data. These library files are not just for AmigaDOS, but can be used with any language.

2. There are, once again, two different types of library: those that are disk-based and those that are ROM-based. The ROM-based libraries are held in the Kickstart ROM while the disk libraries are held in the LISTS directory of your boot disk.

(Disk-based libraries can automatically be pulled into memory when the library is opened and can then be "flushed" from memory when the library is closed. Both libraries that you mention are actually held in ROM which explains their absence from your disk.

3. The INCLUDE line is trying to read the assembler equivalent of AmigaDOS's temp files. These files include files are only available on the full version of AmigaDOS which can still be bought for the amazing price of £25 from our mail order department on 0415 740215.

STARRY EYED

Have you ever wanted to create one of those weird swirling starfield effects that seem to cascade up in computer games quite a lot these days?

Well, with Deluxe Paint you can. The first thing you must do is define a range of eight colours - all black except for one or two that must be white. Next, define a cycle range to these eight colours, set the cycle speed to maximum and then start them cycling by pressing the TAB key.

Finally, select CIRCLE from the menu, turn on sprites and click on the closed line tool draw gadget to start. Now draw your wacky pattern, starting from the centre of the screen and using slowly outward.

Cable Beach

Solitude

MOUSE MAINTENANCE
Anyone who has owned an Amiga for more than a couple of months will know that the first thing to go wrong is usually the mouse. The most common problem with the mouse is malfunctioning mouse buttons. This problem can be temporarily fixed using the following:

First, open up your mouse carefully not to lose the screws and carefully remove the sticky tape between the two mouse button switches.

Swap the pressure pads and when the are correctly orientated, re-apply the sticky tape. Put the mouse back together, check

LOST WITHOUT A BRMAP

I have had an Amiga 500 for five months now and I am generally pleased with the computer. Recently there have been a few things causing me distress:

1. Please could you explain the purpose of, and the difference between, the following library associated extensions: .lib, .lib, .temp and .library?

2. Why are the lib, temp, library and graphics.library files missing from the LISTS directory on my Workbench 1.2 disk?

3. Finally, while using the Deluxe Assembler from cover disk #11, I

HELP - I NEED HOLBORN

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Send your problems to: Amiga Holborn at WORKBENCH HELP@F, Amiga Format, 4 Queen Street, Bath BA1 1EL.

Unfortunately we can only answer your queries in print. We can't enter into any correspondence even if you enclose an SAE - save yourself a stamp.



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are your mouse will work for the a while.

Surely the other mouse button will stop functioning? Surprisingly, it doesn't because the problem isn't just with the left switches, but the actual mouse button itself which can become worn.

Buster Collins
Buck

COVER OVER BLUES

My problem concerns your Cover disk. I understand how to copy them to another disk by dragging the icons to the 5.25 disk and then to the destination disk, but to the destination disk. Unfortunately I have not been able to follow the suggestions of it still's letter in your Workbench version in locating the file called MORE. Everything goes well from the CLI until the line MORE FROM-ADD. Everything seems to stop and the CLI tells me it cannot find MORE-ADD. What am I doing wrong?

Jonathan Smith
Stoneware
Northwales.

First, you seem to have made a typing error — there should actually be a space between FROM and ADD. Second, if you are having problems backing up our cover disks, refer to our new improved About time about you files. About — CL FROM TO USE, THE FROM page at the end of the Disk Edit's section. This provides complete instructions on backing up your coverdisk from the CLI.

ALL CHANGE IN WORKBENCH

As you've probably already found out, your beloved AT Amiga Format is no longer your favourite magazine when it next reaches the post box that not only will Workbench continue in Amiga Format, but it will also be much bigger and better!

But because we'll be Amiga specific doesn't mean that you'll see any of your favourite bits ending in those nice Amiga Format well known Workbench pages which means more tips, but where going to write these little gems? Your Amiga Format will be your magazine and we hope to put as many of your tips in as possible.

To attend you, we'll be dipping our toes in the best tip of the month — get writing! Send all your tips to: SYSTEMS, BENCH, AMIGA, (FORMAT), 4 QUEEN STREET, BATH BA1 1TL.

BEGINNER'S CORNER

This month in Beginner's Corner, we present the final instalment of our AmigaDOS tutorial by looking into a few of the more exotic CLI commands that the Commandery manual editors forgot to tell you about.

The first thing you must do (as always) is to set up a more usable working environment. Boot up your Amiga, load Workbench and drop down into the CLI and enter the following:

```
COPY C:\CC\CLIP\WEL\DELTA\COPY.PAS ->P:\DOS
ACCORD -
DATE 000 000 ->P:\DOS PICTURE
```



GOING WILD WITH CARDS

So far you've looked at a couple of the more commonly used CLI commands and how they can be used to carry out particular operations on individual files. Working with individual files is all very nice, but when working with a large number of files you can waste an awful lot of time unnecessarily. Wouldn't it be nice if you could display all files that end in a .BMP extension, and then delete them first, not just permanently. AmigaDOS does allow you to carry out

ing with **S** and ending in **DOC** were found if you entered a few like:

```
DIR C:\DOS
```

AmigaDOS will then read the disk directory and report on any files that fulfil both of these rules. For example, if you had a file called SUP.DOC and a file called S.M.P.S.Watching.DOC, both fulfil the wildcard rules above and would therefore be reported.

As you may have already noticed, the two symbols used for wildcarding under AmigaDOS are the hash (#) symbol and the question mark (?). The wild card examples we've already looked at are rather straightforward — but, using the question mark symbol, even stringent wildcarding can be carried out.

The hash symbol is used in conjunction with the question mark to obtain any unspecified number of unknown characters. By using # if you call AmigaDOS that you're not interested in the number of characters or which particular characters they are. The hash comes into its own when working with long filenames.

The question mark is a bit like the hash in its flexibility as it can be used to display any ASCII character. The question mark allows you more pre-



Experimenting with wildcards from the CLI.

vious control over the different aspects of a filename such as its size. If you wanted to display all question mark filenames that started with an **S** and ended with **DOC**, you could enter:

```
DIR S?*****.DOC
```

Some very complex wildcarding is possible by using the question mark. For example, what files in the following command listing is display?

```
DIR ?*****.??*
```

such operations using what are known as wildcards.

Wildcards are best described as pattern matching symbols. Using wildcards, you can give AmigaDOS a number of rules about the files you are interested in; it will then only act on files that fulfil all of these rules. For example, using wildcards you could ask AmigaDOS to only display files that start with the letter **S** using the line:

```
DIR S*
```

This line tells AmigaDOS that we are only interested in the first letter of a filename being an **S** — the rest of the filename is of no interest and can be anything ranging from 0 to 255 characters long.

This could be extended so that only files start-



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THE AMPLIFIER

This small unit has been designed and built in the U.K. specifically for use with the Amiga. It uses the latest microchip technology to produce a hefty 2 watt per channel of high quality sound. Twin volume controls allow both volume and balance to be set and a LED indicates that the unit is in operation. The amplifier connects to the AMIGA via the two phono sockets at the rear of the computer. Measurements: - 10cm x 7cm x 2cm.

SPEAKERS

The speakers that come complete with the SOUNDBLASTER are 20 watt 3 way speakers and are contained in an attractive hi-tek enclosure. The speakers sound as superb as they look thanks to a powerful 3 inch woofer for all the low tones, a 2 inch mid-range speaker for all the middle notes and a tiny 1 inch tweeter to reproduce all the top of the scale tones. The speakers connect to the amplifier via 2.5 metres of cable for each of the two speakers. Speaker measurements: - 19 cm x 10cm x 13cm.

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ARGASM

JASON HOLBORN previews the latest Amiga assembler that promises to leave the competition standing.



■ Just how taken over can a computer be, the author and everything.

Which machine do you think the vast majority of games software for the ST and Amiga are written on? Although the answer seems obvious, surprisingly it isn't an ST or an Amiga, but it is in fact the PC-based DOS system.

The reason why nine out of 10 programmers prefer DOS is because of its mindbogglingly fast assembly speed—compared to the operating speed of a DOS system to an ST or Amiga assembler is like racing a Porsche 911 against a late-1980s Ford.

One of the few software houses to use the Amiga for all their software development is Joe Sant's Argonaut Software, authors of the highly acclaimed Starblaster 2. All Argonaut's Amiga and ST games were written using HOLO's Argonaut assembler, but even Joe's relatively fast assembly speed was started to get to Joe and so Argonaut says here.

BLANKET TEXT!

Argonaut was originally designed as an in-house tool for the use of Argonaut's 11-strong team of programmers. The main requirement of Argonaut in those early days was to increase assembly speed to at least twice that of Dospack2 while still retaining 100 per cent compatibility with



■ Argonaut's editor allows simultaneous writing and assembling of as many source files as you can load into memory.

Speed doesn't just increase in the assembler as Argonaut's text editor is one of the fastest around. This increase in text display speed is achieved by not using the Amiga's console device, but instead using Argonaut's custom routines to literally blast text onto the screen using the Amiga's blitter.

YUM YUM, GIMME SOLARIS!

The Argonaut assembler is a powerful tool and can be used from both the text editor and, for the purists among you, the CLI. Argonaut's career is special in that it is optimized to achieve maximum assembly speeds, typically seven times that of Dospack2. Argonaut also offers many extra features such as label cross-referencing and the ability to view the cycle times of each instruction—a very useful feature when trying to optimize your code. Argonaut does not include a monitor/debugger such as Hubble!Blivver! and so if you do need one, this will have to be bought separately. The decision to leave out the monitor was based mainly around the fact that most games software will take over the machine and therefore render any monitor program useless. If you do require a monitor/debugger, they can be bought separately (check out HubbleScope—see if the best around).

AVAILABILITY

Joe intends demonstrating Argonaut at the next Amiga Developers' Conference in San Francisco, and it should be com-

mercially available some time in late July. Final pricing and marketing details are still to be final but Argonaut hope to market the product throughout at about the same price as Dospack2 (US\$25).

When Argonaut is released, it will herald the arrival of the first truly professional quality assembler system for the Amiga. At last, the average user will have access to a development system that offers similar performance to a DOS system at an unbelievable price. If you're an Amiga assembler programmer, then you just cannot afford to ignore Argonaut.

BENCHMARK CORNER

Will not convinced about Argonaut's speed? If it's hard to see and figures that you're after then just take a look at the table below. These benchmarks were carried out on a standard Amiga 2000 with 1 Mb of memory and a 20MHz processor, except for the DOS tests which were done on an 80386 PC-AT.

Block	Dospack 2	DOS	Argonaut	% less over	% less over
				Dospack	DOS
1	84,000	88,000	950,000	78%	300%
2	88,000	170,000	1,224,000	100%	600%
3	14,000	90,000	115,000	85%	700%
4	130,000	200,000	2,100,000	310%	1,500%
5	6,000	13,000	45,000	70%	300%

Benchmark 1—2000 lines of MOVEB @ 100,000

Benchmark 2—1000 lines of BIF

Benchmark 3—2000 lines of MOVE L @ 100,000 @ 10,000 L

Benchmark 4—Conditional Assembly test using 10000 lines

Benchmark 5—Block Handling (Block containing 10 BIFs, lines, called 1000 times)



■ The Argonaut assembler in action. Both assembly time and a lines per second count are displayed as well as a nice reference of all labels used.

HOLO's system—when Argonaut started making speed increases of over 1000 per cent everyone was amazed. Argonaut consists of two distinct parts—the Argonaut text editor and the assembler. The text editor looks similar to HOLO's editor but has two major differences. Firstly, the Argonaut editor is a full-size window after that allows as many different source files to be edited in separate windows as memory will allow.

PRIZE QUESTIONNAIRE

Goodbye ST Amiga Format, hello ST Format and Amiga Format. But before that happens we need to know what you enjoy about the existing package. Fill out the form and you could win a year's subscription to the magazine of your choice.

As you're probably aware, ST Amiga Format will cease to exist next month. There will be two magazines in its place: ST Format and Amiga Format. You'll get twice the coverage, twice the number of disk programs and twice the action for your machine. But to mould the perfect magazine we need your input. Fill in the form, pop it in the post and you could be one of the lucky winners to get a year's subscription to either ST Format or Amiga Format.

The place to send your form is ST Amiga Format Questionnaire, 4 Queen Street, Bath, BA1 3EL. You must get your entry in by the 30th of July to be eligible for the competition. The first few entries pulled out of the hat win—and that's final!

Name

Address

Occupation

1. How old are you?

- under 16
- 17-24
- 25-34
- 35-44
- 45-54
- over 54

2. What are you?

- Man
- Woman
- Other

3. How much do you earn a year?

- Nothing
- Under your taxem
- £5,000-£9,999
- £10,000-£19,999
- £20,000-£24,999
- £25,000-£29,999
- Over £30,000

4. What TV programmes do you watch?

5. Which newspapers do you read regularly?

6. What car/bike do you drive?

7. What sports do you play?

8. List your hobbies other than computing

9. Which computer(s) do you use?

- LC601
- LC602
- Mag 1
- Mag 2
- Mag 4
- Mag 4
- None
- Ataris
- Amiga
- Amiga
- Amiga
- Amiga
- Other

10. What hardware do you use? (tick as many as apply)

- Second drive
- Hard drive
- Video display
- Sound card(s)
- MSX interface (Amiga only)
- MSX instrument
- Joystick
- Mouse
- Memory upgrade
- Printer
- Monitor

11. What software do you use? (tick as many as apply)

- Games
- CAD software
- Wordprocessor
- Database
- Spreadsheet
- Art package
- Animation software
- Music software
- MSX software
- OS/2 package
- High-end language
- Assembly language
- Comms software

12. What do you use your machine for?

- File a percentage (tick)
- Letters
- Contracts
- Business

13. Roughly how much do you spend on computer gear each month?

- Under £20
- £21-£30
- £31-£50
- £51-£80
- £81-£100
- Over £100

14. Breakdown your expenditure last year

- Hardware
- Games software

- Creative software
- Business software

15. How much do you think you'll spend in the next year?

- Hardware
- Games software
- Creative software
- Business software

16. What are your top-five brands of software?

17. List and rate the magazines you read

- ST Amiga Format
- ST Format
- Amiga Format
- Amiga

18. Rate your interest in the following sections of ST Amiga Format.

- News
- Features
- Game/Art
- OS/2 projects
- Hardware reviews
- Software reviews
- MSX
- Books
- Strategy
- OS/2
- OS/2
- Competition
- Adverts
- Installation
- Games
- Game System
- Specialty features
- PS updates
- Assembly tutorial
- Desktop
- Windows

19. If it weren't, tick the drive type you would

- Single sided
- Double sided

20. Amiga owners, do you use the CLI?

- Sometimes
- Sometimes
- Often

21. It's your magazine - what do you want to see in it?

22. Which magazine will you be buying?

- ST Format
- Amiga Format

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▲ The "FORMAT SUPERDISK" selection ▼

The latest and greatest, featured on this month's cover disk - with very special price tags!

Archipelagos

From Logarithm RRP £24.95 **OUR PRICE £17.95** (A saving of £7.00!) ST 0247



In Archipelagos you are floating, as it were, above a group of islands known as an Archipelago - green fields surrounded by sandy yellow beaches in a deep blue sea. Scattered around the Archipelago are stones, and somewhere there is one special stone - the Obelisk. Embodied in the Obelisk, is the power that cleansed the islands of tumours in Ancient Times. And the blood of the ancient peoples will come to stain the land surface. To remove the power you must destroy the Obelisk. And the only way to do this is to join every stone to the Obelisk by a continuous line, even by building rain bridges from island to island. If that is what is required, then ability to create the landbridges that will connect the stones is determined by the collector of spores/pods - which can grow quickly. For as the sky grows darker, the eggs begin to hatch and with a mighty clap of thunder the poisoned blood of the ancients will spread like fire. Some eggs will swell out away of the island fast. You must work fast! Order Code ST030



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ONLY £19.95

From Database AMG

RRP £24.95 Our Price £19.95 ST 0247

The ultimate way to create graphics and animations on the ST, whether on-line or in conjunction with 4-DTP packages. Flair Paint has taken the market by storm. Real-time graphics functions and ultra fast operational speeds are achieved through 100 per cent machine code software with little interference from the host. Features include: "Demo, 31 level individual pixel magnification for fine editing. Repetitive cut-out screen for adding individual areas then paste back in. "Bezier shape and line drawing including Bezier curves, Arcs and Polygons. "Food and Boundary fill. "Swirling around canvas area. "Wipeout - allows you to work on a canvas bigger than your screen. More than two years in the making, GAM coded Flair paint is set to start a revolution. Here your chance to become part of it! Order Code ST340



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Consisting of FOUR great titles, at prices individually £19.95 now available in one REMARKABLE COLLECTION at only £23.95. It includes:

Nebulae - a brilliant impressive variation to the platform theme taking control of a creature called POGO. The objective - is to demolish a series of towers.

Neptune is the best game I have ever seen on the ST! ST Amiga Format

Exciter - Armed with a backpack brimming with grenades and a hotshot

driver, our hero sets out on his quest. He aims gratuitous violence.

Wilderness - Guide your ship through scorpions, demon dragons, goat's heads and mines in search of diamonds. Possibly the strangest release in terms of blastability!

Synaps - One of the best shooters to date. Be stunned by the quality graphics while flying space-ships and accumulating weapons.

ST version order code ST363 Amiga version order code ST364



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This superb joystick comes from one of the largest and most reliable manufacturers, Konix. With ergonomic design it ensures a perfect fit for every hand, and maximum efficiency. The fire button is positioned directly beneath your trigger finger for super-fast reactions, and precision control, it lets you feel your every move and sustain maximum playability.

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Order code ST541



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READER OFFERS

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STAMIGA

FORUM



Forgotten Worlds from U.S. Gold

RRP £19.99 ST Amiga Price £13.95
Empire Boss, the God of Destruction along with a further eight evil gods intend to destroy all known civilisation. These cities or "Dust Ruins" have now become known as "Forgotten Worlds". Now two superior warriors intend to fight back and retrieve the world from the evil Bos. Make your way through four levels guarded by three dem-gods each with their own deadly form of attack and defence.

Buy weapons at shops, using your tokens accumulated along the way. Struggle through all these stages to meet your final battle, the war against Bos himself!
Order Code: ST120

A Special Compilation for Amiga Owners.

Lombard RAC Rally and Pioneer Plague from Mircam Software. The RRP for each product is £24.95. But we are offering the two for only £29.95 (a saving of £20!).



Lombard/RAC Rally

Rallying is rather different from normal racing, and Lombard RAC Rally features a variety of incident weather, from fog to night driving, together with three stage types, including an impressive mountain track. The object of the rally's 15 stages is to win enough to pay for repairs and keep your car in prime condition.



Beating lap-times reaps rewards but wealth can be further increased by entering a quiz game. If you want to race, you must first complete all 15 stages against the clock. You can then complete them all again, but in competition.

Pioneer Plague

The Pioneer Probe Mk II was created to solve Earth's over-population problems. It runs around finding uninhabited planets and terra-forming

them so that they're ready to be colonised. Sounds like a great idea? It might have been. A genetic defect in Mk II meant that it no longer creates environmental variety — which is a key of explaining the fact that all the planets' planet surfaces look identical — turning everything into a large slab. With the Mk III now out of control, it just makes all planets like without needing to see if it's inhabited. It's up to you to prevent the spread of the Probes. The Lifestar will take you around the Universe but the airship is your attack vehicle. By selecting a planet with Pioneer Probes in the vicinity, the Lifestar will whisk you away to a sub-Euclidean space zone. The quicker you cruise through here the fewer probes you'll need to total when you get to your chosen planet.

Once a planet has been cleared it's back to the map to select somewhere else. When all planets have been cleared it's over — and better luck next time!
Amiga ONLY
Order Code: RAC15



HISOFT DEVPAC 1

Unleash the power in your machine - teach yourself the fastest programming language there is with **ST Amiga Format** and **HiSoft!**

If you're at all interested in programming your ST or Amiga, you may have read a lot about the different languages you can get, BASIC, C, Pascal... they're all got their fans, but for sheer speed there's only one choice: programming directly in 68000 Assembly language.

Starting last month, ST Amiga Format started a two-part tutorial series to show you how to program in Assembly. And the system we've picked to teach you with is HiSoft's Devpac 1 - widely recognised as one of the best assemblers you can learn on.

There was a cut-down version on the cover disk for you to get the feel of, but now you decide to get serious we know you'll want to get hold of the full version.

HERE'S WHAT YOU GET

■ HISOFT 'GENHAM'

Full screen mouse-driven integrated editor and assembler for preparing your programs. Once you've typed the code in, a simple click of a menu assembles your program to a machine code disk file.

For the convenience, your assembler program can include macros, conditional assembly and any ST or Amiga operating system call.

■ HISOFT 'MORHAM'

Monitoring program to help you debug your programs when they go wrong, inspect and change any memory locations, watch your pro-

gram running and spot errors as they happen.

Once you're happy with a program, it can be run as a simple stand-alone clickable file, just like any commercial program you buy.

■ EXTRA DISK

With a full version of Devpac 1, all the library files you need to write any ST or Amiga program, and example files to get you going.

■ COMPREHENSIVE MANUAL

150 page ring-bound documentation with full details of using Devpac 1.

Order code **STDL3**.....ST

Order code **STDL4**.....Amiga

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No. 1, 1984

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1. All items are despatched by first class mail.
2. All prices include VAT, postage and packing.
4. You will normally receive software within 7 days of ordering. Please allow 3-3 weeks in case of temporary shortages.

**SEE DETAILS OF OUR
SUBSCRIPTION OFFER ON PAGE**

58

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Credit card orders on a 24-hour basis.
Please have your credit card number ready.



FORMAT LETTERS

Need some practice on your wordprocessor? Write to us with your wiggles and worries and be immortalised in print. Send your SF-style epistles to STUART ANDERTON, ST Format, 4 Queen Street, Bath BA1 1EJ. Amiga owners should send stuff to BOB WADE at the same address.

TAKING SIDES

Why is it that all software houses produce ST software on single-sided disks which can only handle a pathetic 360KB? It's with double-sided disks started to be produced nearly two years ago and are standard in whatever ST is purchased nowadays. Double-sided disks can easily be formatted to 800K plus using a device to transfer so why in the hell do our software houses do something about this? ST owners with single-sided drives are in a minority now, and lots of it annoying, to keep having to swap disks in between games. Do come on all you software houses take note and keep up with the times.

Michael Robinson
Stroud, Berks.

GLOBES AWAY

I am after back issues of ST Amiga Format namely 8, 9 and 10. Are these available?
D.J. Ross
Wrex, Essex.

Most back issues of Format are still available, but check first on 0450 74611. Send a cheque for £2.95 made payable to Future Publishing to Format Back Issues, Future Publishing, The Old Elm, Sowerby, Sowerby TA11 7DF.

BOTTOM PRICE PAGE

When I read the review of Europa Sketch in ST Amiga Format 11 I was inspired to make my own pack! It cost as much as 10 pounds.



■ A real and very expensive pack - but you can make your very own, like this style.

It really worked, eventually! Few people have the skill to make a label, but a home made pack is

but an old rule and some sticky tape baby from anyone.

Take an old plastic ruler and use it off a couple of centimetres from the end. Draw a cross on the ruler with black felt pen and stick it to the back of your mouse with the tape - and that's it!

The pack can then be used to trace a line drawing from paper to the screen, using a paint package. Though it's not fantastically accurate it's much easier than by hand. You'll find your drawings will be squashed on screen, but this can be rectified if you have a zoom function in your paint package (adding 4 or 8-pixel Edit). And there you have it, or rather you don't until you make it, as Barry Norman might say.

Wow, I would like to know why in Format's new image, everybody in the Format team except you, has a mug shot at the top of their pages. I will buy next month and to see what a phenomenal look is!

Mark Halsey
Buckden, Leicestershire.

No picture of me this month because I don't want to foster a Stalinist personality cult.

MORE FURBERN

In reply to Marcus Furber's letter issue 10 I would totally agree that your magazine would be greatly improved by cutting out all the boring rubbish - the games reviews, purely Atari material, and letters like this, and providing more serious stuff, especially for the BASIC programmers. After all, everyone has a 'best' BASIC interpreter whereas C and Assembly (and games) are reserved for the privileged few with bottomless resources.

Seriously though, you are obviously trying to cater for every one (except BASIC programmers) and to continue doing so I suggest you increase your coverage by extending your magazine to all read 500 pages and 12 disks each month, for the same cover price. You might then be able to cover about 10% of what the

Amiga cost 90% of what the ST has to offer!

By the way, my daughter picked up the magazine and said, "Why do they call it 'Stam Amiga'?" Very apt, I thought. Guess which machine I have.

Paul Singer/Pilling
Mickleover, Derby.

Well, as of last month the disk will be packed with Amiga only stuff and the ST won't get a single mention - assuming you're Amiga Format that is.

SPEED STAGES

In your article about assembly language in issue 11 of ST Amiga Format, you made a special point of mentioning the speed of each



■ The good old IBM. You know where you were with a cheap-but-stable.

instruction. Years ago when I wrote 280 code on the Spectrabt I realised that analysing the rate of straight code/looping could lead to faster results and thus bought the 280 Reference Guide by Ian Tully (published by Nelson House). This book lists all the instructions and their relative speeds.

When the new Magna 220 began came out in 1998 I spotted that they had added the 68000 version of this invaluable reference book to their stock. Unfortunately, after waiting three months, I still hadn't received a copy and so I got my money back.

Getting back to the point, do you know where I can get a copy of the 68000 version of the book? If not, can you recommend a good



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book that lets the clock cycle
lines to each instruction?
M.R. Sheridan-Davies
Buckpool, Lancs.

Any bookshop will be able to
order it for you if you know the
ISBN.

IBM AN IDEOT

If you give a price to your most
obscure readers, I think I would be
one of the possible winners.

I've been interested in compu-
ters for a long time, mainly to
make music with them. Recently I
changed job and decided to buy
one. And I, who always thought of
buying an Atari, bought a PC com-
puter. I have to take work home
and at work they use IBM's. Ever
since that day I have regretted it.
Everyone I talk, Atari makes
MSD want it's almost impossible
to find anything else at a reasonable
price. That's why I finally decided
to ask you, do you know of any
programs that enables me to run
Atari programs on my Philips AM5
511?

Yes, of course I could buy an
Atari, but my PC took two years
to use for.

William Vanden Ende
Bilpin, N.H.

Some old chap, you're a bit
stuck. The only way to run Atari
programs on the PC would be to
buy a GEMDOS coprocessor
board, and even then I doubt it
would work with a MIDI interface.
It would cost several times
the price of an AT. Get saving
again.

GIWAS A FIE

It's not going to bother to tell you
about how wonderful you are
because you probably all ready
know. Instead I'll get right to the
point. About a month ago I was
editing in a little creative word
simulation when my figure
started to play by himself.

It went right to the top left-
hand corner of the screen and
stayed there, being made quite
faded. I hunched my ST off and on
again and released. The same
thing happened again, but this
time the man continued being but
stayed where he was. This hap-
pened on and off for about a
month and just up with it.

Today however, I was work-
ing within GEM and the pointer
started to fade in and out and
changed colour, every now and
then at about 10 second
intervals it would completely dis-
appear and disappear to those
who entering a window draw it

The best possible taste?

It is certainly the case that "marketing folk stuck
to a creative idea have always turned to simplistic
sexist messages to sell their products" (*Blow*
Simulation, Format 12).

Considering that this supposedly investigative
feature was filled with bare breasts (the nipple
count was an extraordinarily high 22, plus a few
near misses), smugly contented and unconvinc-
ing credit shots and one rather occupied male (possi-
bly doing the morning, but possibly not, it would be
to make one point).

Magazine folk stuck to a creative idea have
always turned to simplistic sexist images to sell
their products.

Stuart Downy
Stonemage, Hants.

If I want to see pictures of topless women I shall go
to the newspaper and buy a gutter press newspaper
or suitable magazine. I have no wish to see
your publication go the same way as *Amiga*
Photographer. It is all too easy for magazines which
cover male-oriented interests to exploit the female
factor - I hesitate to speak up for the women out
there who have *Amiga* and STs but I don't say they
will have found it alluring and embarrassing.

I wouldn't have minded the pictures if the arti-
cle had been written a bit more carefully. It treated
the matter insensitively and inadequately.
Photography in computer games is to be taken no
less seriously than in other media.

Andrew Johnson
Apleby, Nottingham

Sex should be dealt with openly as better a very
factual and natural activity. My guess is the way you
presented the subject.

First the cover. A picture of Kim Basinger in
SLIP (besides with all the connotations of kinky sex
[yes I have seen the film and found it distasteful,
although I was wrong]). The cover disk was care-
fully positioned to make you think there might be a
nipple underneath.

Trade things did not improve. The judgements
with which text was almost allowed out by various
amounts of female hair.

the circles which erased them-
selves. So I turned it off and on
again and whilst double-clicking on
a disk icon the pointer stayed
where it was and a blurring
sound, much like when you press
a wrong key, arose from the com-
puter. Then there was silence and
I could not get the pointer to oper-
ate again. I turned the computer
off and on again and the same
thing happened again and again.

You may be able to tell I'm in
a bit of a spot and some direction
from you would help a lot.

James Davis
Plymouth, Devon.

After consultation with our techni-
cal experts we have come to the

conclusion that your machine is
"broken". Our advice is take it to
your nearest computer dealer
and offer them money if they
restore it to life.

A MAN OF LETTERS

I do not usually write in to *magpa*
pages but there was a comment on
issue 11 from a D'Twaddle from
Hull commenting on badly cover
disk.

I have been a subscriber to
ST *Amiga* Forum for 12 months,
since the magazine first hit the
streets, and in all that time I have
only had one disk that did not
work.

This I sent back straight away



Kim Basinger "knowing".

The debate about erotica vs. porn is a difficult
and sensitive one. As responsible magazine you
have a role to play in this. Come on it's have some
serious debate on the issue.

Darrell Byrne
Luton, Beds.

It's impossible to deal with a subject like pornography
without offending anybody, and we apologise if
you were. But the subject is an important one
and needed to be brought out for debate. Since
we published the article Channel 4, the Sunday
Times and I'll have at followed it up.

There is a lot of very handsome pen sex there
on disk. We had to go to great lengths to find any
page (other than material which we could use -
the cleaners were rather shocked by the cutting
room files). This illegal material is widely distrib-
uted among under age computer users and the prob-
lem is almost completely ignored. Hopefully our
article might have made some people more aware
of the extent of it.

I'm not going to get involved in the
moral-corn argument, the issue is very sensitive
and people of differing opinions seldom come to
any settlement.

I was, however, mildly surprised that we
haven't received any letters from female readers.

and had a replacement in my
hands within a week, so I do not
see that this is a great problem.

I think that if the programs on
the cover disk were valued in cash
we would most certainly have very
good value for our money. The
only thing that I think might be of
some use in the future within your
magazine would be a helpline.

PJ McPuffy
Halesh, Gwynedd.

You need technical help? Write to
Desktop or Workbench for the
best advice money-can buy.

CELEBRATE COCK-UP

As one of the oldest STP forums
celebrating specifically for the ST, I



was interested to read your review of Calamus. We have been testing the product over a number of months, and I have to say that it simply offers the best cut out for a \$3,895.00 that I have seen from any DTP software, regardless of the machine.



■ Calamus makes shortcuts.

But Mark Higgins is wrong when he states that Calamus offers a very limited number of keyboard shortcuts. You can easily write your own, inside the ST's laser is a file called CALAMUS.HLP. These, all the menu functions and icons are explained in table form, and can be edited in any text editor. All that is required for a keyboard shortcut is to add a space and any character, and that feature will be available from the alternate key plus the designated character. So now, for example, I can set up the rules and change the print from underlines to notes with just two keystrokes.

Also, as I understand it, the

LR release of Calamus will include PostScript facilities.
John C. Rutall
InterMedia, Pleasanton.

MR. ANGRY

I am angry. You have made me angry. I quote from Format issue 11 page 7, "Yes I know it isn't playable on the cover, on the disk side, in the contents and in the disk pages (several times). Up. We screwed up."

What do I see on the cover of issue 11? "Playable demos on disk", what do I see on page seven? "Playable demos of both our Format Gold games. On the ST side there's two levels of the interesting addictive Archipelago in the contents" "Archipelago" - playable demo of Logotron's Format Gold-Video game.

Have you considered standing for Parliament? You're obviously allied as many countries.

David Knight
Northolt, Middlesex.

A few people had some problems with Archipelago, but those who persevered got it to work eventually. It seems it must be loaded from medium resolution mode.

CALL THE BIRNIE

I am in a terrible dilemma, and



■ The Angry. An excellent idea, but on the other hand...

without some good advice will also be looking for a reputable psychiatrist.

I have owned a CPO404 for several years (don't run away in disgust) and have become quite a prolific BASIC programmer in my free time. I have been considering for some time how upgrading to a 16-bit machine and what I have done, hopefully by the end of the year. The Amiga and ST are the best obvious contenders, but I have no idea which one to choose.

I have been reading various

magazines for the past few months hoping to gain some insight into the advantages and disadvantages of these computers. I have found ST Amiga Format one of the most helpful in providing such information.

I want to play good, arcade quality games as well as serious programming and wordprocessing. I know that the Amiga has a slight edge over the ST with sound and graphics capabilities, but it does have a rather slow and noisy disk operating system and the ST does appear more popular on the software scene. So each one appears to have advantages over the other one.

Please help my predicament. I would greatly appreciate an unbiased opinion of the real pros and advantages of both these machines.

Which ever one I do eventually decide on, I am sure to continue reading your excellent magazine. Keep up the good work.

Daniel Hopkins
Carmarthen, Gwynedd.

You summed up the case pretty well yourself. Both machines work as advertised, both have excellent games and great applications software. If graphics and sound are the most important things in your life, try an Amiga, otherwise the bundle of goodies Alan gives away with the ST is a tempting package. The bottom line: if you can't make up your mind, test a case. You won't go far wrong with either machine.

PC PROBLEMS

I was prompted to write by a note of letters in issue 11. I am in a bind about using an Am II and have been using the technique of transferring the

Label nutters

A little tip for Nick Catchpole. Before putting on a new label, peel off the backing and then very carefully stick it on your forehead.

Yes, that's right, on your forehead.

Turn the label then stick it on your forehead again. Repeat until the label covers most of its stick and allows it to be peeled off.

Metalised labels can still be a little stubborn and having lifted a corner use Rosinoid directly on the underside. From experience I have found it does not damage the media if you are accidentally overgenerous.

Two words of warning. First, printers beware! Rosinoid is highly flammable. Also it can cause headaches and other symptoms if used in large quantities in confined spaces.

Finally, having removed the old label, have readers thought of colour-coding their disk collector - red for utilities, green for games, etc.

I stock 3.5-inch disk labels in eight different colours, and my advert elsewhere in the magazine for details.

Brian Burton
Goldmark Systems.

The lengths people will go to to just plug their products!

if you think it's a well idea at least give it a go.

Robert Muller
Preston, Yorks.

Come on, this is a wind up isn't it?

Nick Catchpole is not the only one who has found difficulty in removing old disk labels (Letters, Format 12).

I found the solution to the problem is a tin of Rosinoid lighter fluid (spirit). The tin even has a switch (good to stop it evaporating).

My method is to squirt on sufficient quantity to float over one side of the disk label - on 3.5-inch disks it's easier if you do the anti-clockwise side first. As the petrol soaks in it softens the label adhesive





described by L. G. Bouinger for some six months now with the PC at school.

As with everything there is a problem: the two drives on the at-least machines run at different speeds and so in the long term files can get jammed. I have now had File Allocation Table (FAT) corrupted on the disk after a couple of months of use. The only solution is to reformat the disk either on a PC or using the disk's own accessory given away on issue 'The disk. You can then copy the files back onto the disk. (What? You don't make back up?) Oh dear! When using the disk always keep a backup. Do not use it to store vital information, you'll be asking for trouble.

Also a nice note to Sean Corrie. Read *ST Amiga Format* every month. He was not the last letter from Northern Ireland. He was the seventh.

And finally congratulations on producing the best magazine in the business. I have bought a copy of every issue and treasure them all.

Paul Snigg
Co. Antrim, Northern Ireland.

SHOPPING LIST

We'll not have used my Amiga 500 mainly for games but I have spent some time trying to learn the Amiga DOS. It would suit me to use my computer for preparing, printing, and filing various documents.

Could you recommend:
■ A suitable printer, one which will operate as a short file



■ WordPerfect professional wordprocessing on the Amiga

printer. I have the Star 1C10 colour printer but know very little about it.

■ A suitable wordprocessor for domestic use, one including a spelling checker and expandable dictionary.

■ A desktop publishing package which I could use for my letter writing needs, but would also allow me and my children to learn about such a package?

P. Neal
South Woodford, London

The Star 1C10 is an excellent printer, but I would only go for colour if you really need it. The

same money will buy you a better black on white machine. As for wordprocessors, check out Perfect from Amiga (which we use in our office) and WordPerfect. Both are fully professional packages offering all the features you'll ever need.

STP is a bit harder - most software is so packed with features that it can take a while to get to grips with. You could do worse than to take a look at ForceStream, reviewed on page 24.

ALL THAT JAZZ

I wonder if you could possibly advise us as to the method of using my Atari 1040 in the production of high-quality recordings. I



■ Classic music on the AT.

am a clarinetist and run a jazz band. If I am not mistaken it is possible, is it not, to digitise musical sounds and reproduce them through software?

I am not interested in electronic or artificial sounds and I have synthesizers. Could you please advise what else do I need to purchase?

L. S. Blunt
Derby

See me after

I was wondering who to send this letter to, maybe PC Plus, or perhaps Computer Shopper, but then I thought again, I read *ST Amiga Format* so I might as well send it in a letter.

Yves it all happened just before the Easter holidays at my school in a small seaside town of Creran in Scotland. A couple of friends and I were marking about on the school's Amiga. One PC-compatible which all of a sudden I came up with the best idea to teach myself some PC machine code. My two friends who are friends in all things PC showed me how to print my name in a .COM file and I was impressed - well I don't think PCs could do that, it being a bit tedious. I suggested we make a longer message along the lines of 'HELLO MR PLANE PLEASE DO NOT PROTECT THE CLOUDS. THIS COMPUTER HAS BEEN PROTECTED WITH A VIRUS. OK, BY THE WAY DON'T TOUCH THE HARD-DISK...'

Just then the physics teacher walked in. We were there for a while and were subsequently booted out of the computer room. Out door in the privacy of our last year, well, last two months.

That, however wasn't the best of it, oh no. We were called back to the computer room to explain our actions.

All winners this month



As it's the very last issue of *ST Amiga Format*, we're going to give every single one of the authors of letters published this month their very own *Format* personal organiser.

Sometimes our generosity takes its breath away. 'Winning' means we've got a wonderful letter! Congratulations to all of you.

But the prize giving doesn't stop this month. The writer of the best letter published each issue in both *ST Format* and *Amiga Format* will receive a floppy

disk as a reward. We have a 'I worked out exactly what it will be yet, but not included, it'll be good!'

Write to both *ST Format* and *Amiga Format* at 4 Queen Street, Bath BA1 1LJ. We reserve the right to hack your letters in pieces if the fancy takes us. And we can't answer correspondence except in print - long, long, busy!

You'll need a digitiser, like the one we described in issue 11, and some sound sampling software like Reply from that issue's disk. But don't expect ready professional results. The sampling frequency and computing hardware aren't up to CD quality audio - but it'll give you an idea of what can be done.

CONTINENTAL TRAVELS

I own an Atari ST and am slowly going, on a holiday to feed Germany where a friend of mine owns an Amiga.

I was wondering if the

Format cover disks would work on the Atari and vice versa without affecting any of the files on the disk.

Neale Colquhoun Sheepert, Cheshire

The cover disks should work fine on an Amiga after being used in an ST providing that you don't write anything to the disk.

The peculiar disk format we use stores some of the Amiga information in disk space which the ST thinks is empty and vice versa, so it tends to get overwritten if you save onto the disk. A good reason to back it up.

The teacher typed the file out. He wouldn't let it file then found the message, and deleted the program from the disk and asked, quite sensibly, 'What's all this behind of this could not be the original virus program after the message - how can I be sure that it is not?'

The truth of the matter is, all we wrote was a program which prints a message on screen, what written in machine code. It was a PFWP system, and since when was it best news to type in:

BY THE WAY: "HELLO MR PLANE"
BY THE WAY:

I hope that you print this letter, not for fame and fortune! but just to prove that people in authority are not always right.

Sean Kelly
Creran, Argyshire

Very old chap, but fit with the teacher.

He had no way of knowing if it was a virus or not - it certainly looked like one, and even you obviously thought it was. Amazing it was a file size it's unreasonable to assume that if you had the technical knowledge you'd find it funny to write a real one.

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DON'T MISS AMIGA FORMAT NEXT MONTH

IN A NEWSAGENT NEAR YOU ON
THURSDAY 13TH OF JULY

Among the many features packed into the tabling, launch issue you'll find:

VIDEO TRYING

An overview of what you can do with a portable video recorder, video camera and the right software. Plus a look at how Laserdisc from Alternative Image cuts their Amiga A2000s to produce corporate promotional videos.

COMMODORE PERSPECTIVE

Dr William Haines, Commodore's technical support manager, gives his views of the Amiga in the future. Haines reckons there hasn't been a game written that shows off the Amiga's true capabilities.

ADDED ON TEST

Exclusive look at Commodore's forthcoming razor Amiga. Both 68020 processor, enhanced chip set, 40MB hard disk, 2Mb RAM, Kickstart 1.4... it's a real power machine.

HOT SHOTS

The Amiga Format team, which already, mainly of the award-winning in-ACE area, gives its opinion of what are the best 10 Amiga games to date.

PLUS

500k of games, demos and utilities on disk, reviews of the latest music and graphics packages, pages and pages of the latest games and some fabulous competitions. All free for £2.95! Don't miss the action.



LOOK OUT FOR ST FORMAT NEXT MONTH

IN A NEWSAGENT NEAR YOU ON
THURSDAY 20TH OF JULY

Justing for position in the thriving first issue will be:

THE STAIN STORY

An insight into Atari past, present and future, including a look at the machines of the moment - the latest ST and Mega 1. There's also the Atari Show which promises many surprises.

FRIGHT NIGHT

Machines that go bump in the night! Fantasy? Or does it really happen? Possessed silicon - a special investigation into unexplained computer phenomena.

DIY PROJECT

Build a device to double exactly

what your disk drive's head is going on to. A simple project that'll only cost around £35 in parts.

CASSANDRA COMPLEX

Interview with American techno-rock group Cassandra Complex. How and why they use 1540s connected to their musical instruments via MIDI.

PLUS

Over 500k of demos and utilities on the cover disk, your chance to win spectacular Thunderblade arcade machine prize, the hottest games, graphics tutorial, some from the States, covers column, new adult comic strip - the issue's star.

Miss it at your peril!



ADVERTISERS INDEX

Adventure	121
Amiga Supplies	40
Alpha Computing	40
Amor	84
Amor	8
ARC	90
16 Bit Software	88
Ami Centre	98
Castle Software	88
Commodore	107
Cue 5000	94-95
Computer Connections	116
CP	116
Digital	111
East	74-75
Diamond Computer Systems	88
Hyperion	87

Digital International	118
Living Computer Centre	107
Emulate	103
Emulate	49
Emu Video	63
EU/Amiga/Computer	77
George Thompson Services	94
Gene Data Media UK	84
Gameport Systems	99
Hi-Sun	82
Highway Computers Ltd	102
Home Based Business Ltd	107
HomeWork UK	78
Hot Spot	89
InterMedia	119
Impressions	112
Laserline Computing	80-82

Magic Software Inty	117
Mirrored	2882-32, 33
Mogulnet	89
Morison	83
Morison	75
MUSIC Systems	79
Morison	19
Palace	11
Pixelate	27
Pixel To Choose	88
Pixelation	87-9, 9
Quartz	70
Quartz	78
Romanus Palace	89
Romanus Data Systems	87
Salvo Station	111
SCS	43-47

SCS	114
Scout	107
Soft Group International	50-52
Star Software	112
Software Club International	110
Software Super Store	100
Software	119
Software Express	114
Software PD Service	43
ST/Amiga/Amiga Ltd	38
Third Coast	40
Tronix	73
Trust Computer Systems	73
Trojan Computing	41-43
Trojan Audio	47
Wizards	104



CHUCKIE EGG II

RELEASED DUE TO PUBLIC DEMAND
 GUARANTEED SALMONELLA FREE



Choozy Egg!

If you have played the classic computer game Chuckie Egg you badly need an introduction to this "cooking" sequel, which takes us from the hen house to the chocolate Easter egg.

This eggcellent game is guaranteed to be salmonella free on your Amiga, ST or PC machines. It will give hours of entertainment and no matter how many times you unwrap the disc and sample the goodies it will neither make you fat nor rot your teeth!

CHUCKIE EGG II

Available on Atari ST/Amiga/Spectrum/Commodore/Amstrad soon on PC

CHUCKIE EGG

Available on Atari ST/Amiga/Spectrum/Commodore/Amstrad /Atari/M64/Chargon/BBC/Electron soon on PC



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Bloodwych



**ARGUE! BARTER!
LIE THROUGH
YOUR TEETH!!!**



More 27 Screen Shots



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Amstrad CPC (Disk)	£14.99
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Commodore 64 (Disk)	£12.99

As the people of the Bloodwych awake to a new dawn, they find a stranger in their midst - born one of many races he has come. His task: to halt the demon that lies dormant within the Castle of the Bloodwych.

Utilisation of the Crystals of Sanguin will secure the Behemoth in his lair for all eternity. Should they remain separate, then he shall rise to bring darkness into the world.

This unique role-playing fantasy game allows greater interaction with the environment than has ever been seen before. Argue, barter, negotiate - even lie through your teeth! The fully implemented personalities of all the characters in Bloodwych allows a rich style of role-playing that has only been dreamt of.

With one or two player simultaneous mode, this is the game that you've been waiting for. Bloodwych for those that dare!