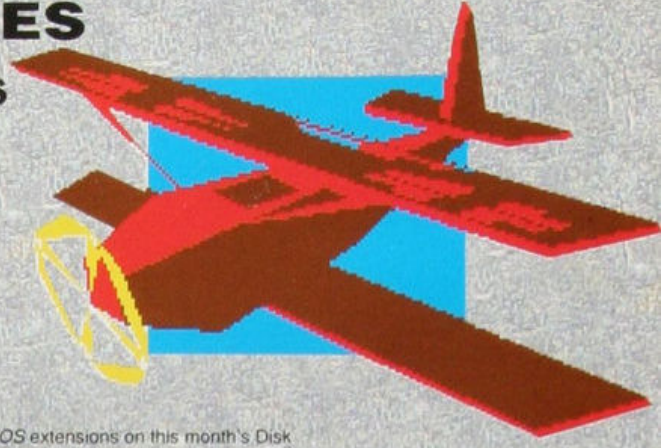


ST FORMAT

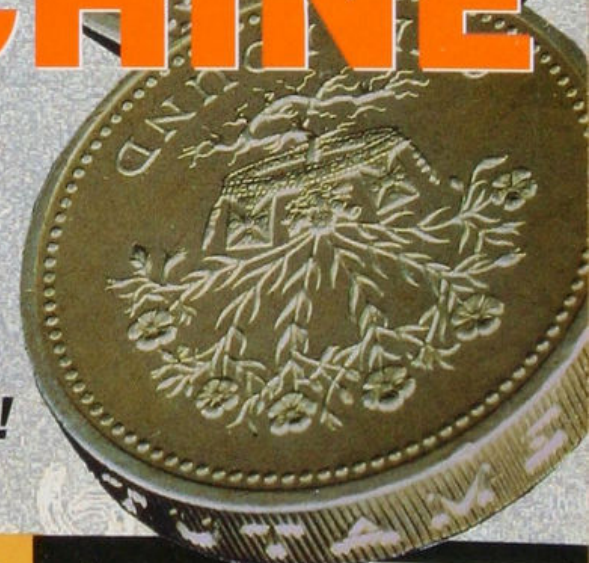
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and we
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first!



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- Catch files from your modem using **Auto-Capture**
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ALL PROGRAMS STE COMPATIBLE

Disk format by Rob Norrhen

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Welcome to ST FORMAT



● Mark Higham, *STF's* Editor, looking particularly welcoming. You know the sort of thing. Come on in, open arms, nice to see you, how are the kids, rabbit rabbit rabbit. Makes you feel all warm inside, doesn't it?

Here we are again, another issue and you've barely had time to finish the last one. Get all the way through this one in the space of a month and you'll deserve a prize.

This month's big feature could end up earning you a tidy fortune. Reviews and features always talk about the amazing power you can get from your ST. I thought it was about time we told you how to make use of that power for a change. It's all very well devoting desk space to this phenomenal machine, but why not make it earn its keep for a change? That was the thinking behind this month's big feature revealing ways to use your ST to earn you some cash. Let me know if you strike gold as a result of the feature!

If you can't resist earning some cash, why not try writing your own game? It's been promised since Christmas and now it's finally here: this month we've got the first review of *STOS 3D*, a 3D game programming language.

And if you're one of the many thousands of new ST owners who joined us last issue, check out page 55. We're now running a regular series aimed at newcomers to the ST. Each month we'll look at different ST applications and present you with a straightforward, jargon-free guide. This month, graphics is put under the microscope. From next issue we're also running a new tips section where we guarantee to answer every query we receive, so if you're having problems (leave the Claire Rayner stuff to the tabloids) then put pen to paper and write to *ST Answers*, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW.

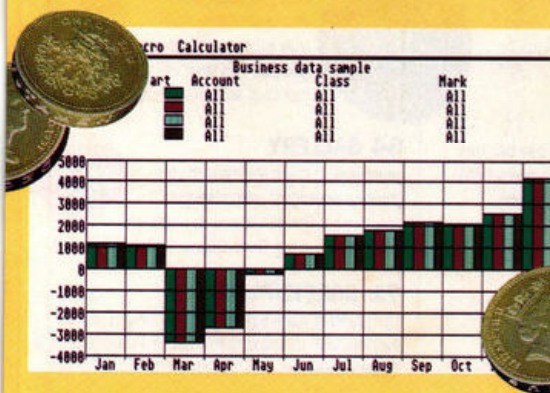
For now, though, turn the page and take a look through this month's startling issue. I'm sure you'll agree there's something here for everyone.

Happy reading!

Mark Higham

Mark Higham, Editor.

Just some of the delights we have in store:



● With the country in the middle of an economic recession (or at the end of one, depending on the political party you listen to), why not seize this opportunity to make some cash using your ST? We tell you how it's done. Turn to page 30.



● Our exclusive review of *STOS 3D* proves that anyone can write a 3D game. Let's face it, if we can do it, you can too. 3D games without the hassle of complicated mathematics and tricky programming techniques have just become possible! Turn to page 40.



● If you don't think you can write 3D games, try playing them instead! *Mercenary 3* has been released and we give it a good going over. Keep an eye out for Future Publishing, which makes an appearance in the game! See page 74.



● There's some controversy about the new *Timeworks Publisher 2*. First check out our comprehensive review on page 58, then flick to Feedback on page 138 to find out why a couple of our readers found it a nightmare to use - though the producers, GST, disagreed with them...

ST FORMAT

ABC January - June 1991 70,258

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Thank you. Bouquets gratefully received after the show, which should be somewhere around page 148 - unless Gail has anything to do with it. Oops, did we say that? Surely not!

Contributions are normally accepted only on the basis of full assignment of copyright to Future Publishing (or should that be Publishing?) Quick, someone raise the curtain. Where's the sound engineer? Come on, let's get this show on the road.

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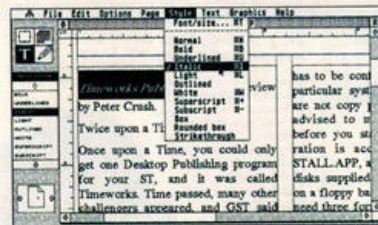
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THE GREAT STF COVER DISK

Turn to page 18 now!



1,192,857 BYTES ON THIS MONTH'S COVER DISK

Explore your deepest terrors; fry your brain with an exclusive version of the most *Kozmic* pattern generator there is; write games that get at all your STE's extra features; boot up with Mandelbrot; and more

The Addams family might feel at home in this monster-ridden castle adventure, but is *your* heart up to this particular **Knightmare**? Find out with our *complete* preview level...



Make the most of *STOS*: add this extension to your copy of *STOS* and you've got no less than 35 new commands. Now you can access the STE's 4,096-colour palette, use six joysticks, carry out hardware scrolling and much more!

PLUS ● *Kozmic* - Relive those fabulous '60s head-trips with this psychedelic pattern generator ● *Fastbase* - a comprehensive database that can even incorporate graphics into your records ● A money-saving capture utility to use with your modem ● *and more!*

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● You wouldn't read about it - except in the pages of *ST FORMAT*, of course!

THE BEST THING SINCE TIMEWORKS PUBLISHER!



TIMEWORKS PUBLISHER 2 ST

If you wonder how you ever got along without your Timeworks PublisherSM – wait till you get your hands on Timeworks Publisher 2!

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Text and graphics imports now cover an even wider range of word processing and art packages, and new quick-keys make a speedier job of selecting text blocks and graphics. There's a superb new manual too.

These are just some of the enhancements offered by this major upgrade – in addition to all the Timeworks Publisher features you know and love. It's still just as simple to use and enjoy; still superb value for money.

If you're already a Timeworks Publisher user, you'll know our policy on preferential upgrade offers. If you're not, then why not find out what all the excitement is about?

Clip the coupon or phone for the full details. At only £110 (RRP excluding VAT) for new users, or £34.95 (excluding VAT and p+p) for a full upgrade, you'll soon be wondering how you ever got by without Timeworks Publisher 2!

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STF

New expansion cards promise vastly improved resolution and far more colours ● No *Civilization* on the ST?

16 million colours on your ST

by Chris Lloyd

The high-end graphics scene on the ST family of machines is set to rocket higher with the imminent release of several expansion cards to increase the screen resolution and number of colours to almost unimaginable levels.

Currently, the finest detail possible on an ST screen is a high res display of 640 x 400 pixels (picture elements), but only in black and white. The new cards offer vastly improved detail, many more colours, or both. Though what you can actually achieve in practice depends very much on the capabilities of your monitor and your software, this gives the ST range even more potential for applications such as computer-aided design, video, desktop publishing and highly-detailed graphics.



● This stunning screenshot demonstrates the photographic realism of 24-bit colour, due for the ST range soon. You'll need at least a Mega ST and a special monitor to take advantage of the new expansion cards, but for the first time what you see on-screen is every bit as good as any printed output.

els with 16 colours on-screen at once from a potential palette of 4,096 colours. There's a version for the Mega ST priced at \$599.95, which simply fits into the expansion bus, and another for the Mega STE and TT for \$799.95, which uses the VME bus. Dover say they have worked closely to Atari's official specifications and achieved a very

card. The present version (£249.00 from Titan Designs ☎ 021 415 4155; runs on Mega STs only) enables you to use the oversized Moniterm monitor, but the new version also offers twice the resolution – that is, four times the total image area – of the current best screen display.

German company Matrix Datensystem are producing boards to fit the new VME bus in the Mega STE and TT. The C32 board gives 800 x 608 pixels in 256 colours, and the C75Z gives a massive 1,024 x 768. Owners of the "old" Mega ST can look forward to the Crazy Dots card from TKR in Germany, which again gives 1,024 x 768 pixels in



● By comparison, the normal 16-colour ST low resolution image is crude and blocky – as is especially evident in the rose on the right and the large orchid-like thing in the middle. Programs from graphics and desktop publishing to games are set to become more vibrant, lifelike and colourful.

256 colours. Also in development are boards to convert VGA (Video Graphics Array) cards for use with any ST. VGA cards are used in the latest PC-contemptibles to give a display of 640 x 480 pixels, marginally better than the ST's present high res, but with 16 colours on-screen.

That's just the tip of the iceberg. In the next year there are set to be over half a dozen ways of expanding the colour graphics on your ST. Whether or not all these goodies get imported into the UK remains to be seen. However, if any do wend their way over the water, expect to see comprehensive reviews in *ST FORMAT*. We can't wait.



● Even without any difference in resolution, the benefits of 24-bit colour are clear. There may be no more pixels, but there are simply more colours to use.



● A standard 16-colour image at the same resolution and magnification – but what's happened to her blue eyes, and what colour is her scarf?

The new cards hail from America and Germany and are mostly designed with the new Mega STE and TTs in mind, fitting into existing slots on the machines' printed circuit boards (PCBs). It's not going to be cheap, you need a multisync monitor and a wad to get going, but the results are a stunning photo-realistic display.

Dover Research from America (☎ 0101 612 492 3913) have released the ISAC board, giving 1,024 x 768 pix-

high level of compatibility, so any program that also sticks to Atari specs should run perfectly with the new board. Distribution to the UK, however, has not yet been arranged. (Offers are invited!)

In development is the even more impressive 24-bit colour card, called Leonardo. This gives you the ability to use a ridiculous 16 million colours on a Mega STE or TT. Also being worked on is a new version of the Reflex graphics

More MIDI music

by Ed Ricketts

The Third MIDI Music Show is scheduled to take place between Friday 24 and Sunday 26 April, at the Novotel, Hammersmith, in London, the same venue as last year. The show promises to be four times bigger this year, both in terms of exhibitors and potential visitors; the organisers, Westminster Exhibitions, expect an attendance of 14,000 over the three days. Most of the major manufacturers will be there, including Atari (of course), Roland, Yamaha, Korg, Akai and Sound Technology, and many will be launching new projects.

Like last year, there will also be demonstrations and seminars by professional musicians on various aspects of MIDI use. On Friday, it's High End Digital Day,

aimed primarily at the professional user. Saturday and Sunday cover a wide range of topics including "Sequencing on the Atari and Apple Mac," "MIDI in Multi-Media", and "Getting through to the A'n'R man" for aspirant pop stars. Live gigs are to be held throughout the show.

Education is also covered with the "MIDI in Education" forum, including an interactive session between a panel of experts and an audience, on the topic of MIDI equipment in the National Curriculum. And of course there'll be plenty of discounted equipment on sale for the bargain hunter.

Tickets are £5 in advance or £6 on the door and are available on the Ticket Hotline ☎ 081 547 1183. For further information contact Tim Collins, Westminster Exhibitions Ltd, Surrey House, 34 Eden Street, Kingston, Surrey KT1 1ER, ☎ 081 549 3444.

SAVE MONEY AND GET HOLD OF ST EVERY MONTH – PAGE 114 →

→ The single-sided ST is dead at last

by Mark Higham

Single-sided STs are now officially out of the running. From next month, *ST FORMAT* will stop supporting the obsolete single-sided format with our Cover Disk.

In doing so, *STF* joins the vast array of software publishers who gave up producing software on single-sided disks some time ago. In fact, considering that so much software is now available only on double-sided disks and upgrading to a double-sided drive costs as little as £35, there are very few single-sided STs still in use.

Atari originally adopted the single-sided format simply because it enabled them to sell STs at a lower price. At first the plan was that single-sided STs would be able to read double-sided disks, even though they couldn't access all of the information contained on them. However, Atari put the read/write head on the "wrong" side of the drive, making it impossible for single-sided drives to read double-sided disks at all (though all double-sided drives can read single-sided disks).

Atari have been trying to push the double-sided ST as the standard model

ever since it replaced single-sided STs way back in 1987. However, they had sold so many single-sided STs (an estimated 30,000 machines) and all those STs proved so durable that it has taken this long to bury the single-sided machine once and for all.

Games software publishers were the first to start making use of the advantages of double-sided STs. In August 1989 French-based games publishers Infogrames released the first double-sided only game, *Quest for the Time Bird*, but UK publishers were slow to follow. Despite the fact that twice as much information can be held on a double-sided disk, reducing the number of disks required in a game and therefore also bringing down the production costs, UK publishers were afraid of alienating too many ST owners from their games by moving to the double-sided format too soon. As late as September 1990, Electronic

From next month, *ST FORMAT*'s Cover Disk goes double-sided-only – so now is the time to upgrade

Arts were seeking our advice about the number of single-sided ST owners still left in the country as they toyed with the idea of finally making the switch to

double-sided format. Five months later our reader survey results showed that only between 3% and 6% of ST owners were still using single-sided machines, and that figure was enough to convince the games publishers to switch to a double-sided format.

Serious software is a slightly different case, which may explain why publishers of this type of software have traditionally been slower to adopt the double-sided format. The detailed graphics and sampled sound that form the basis of many good games aren't needed in most serious software, so the core programs don't become ridiculously large. If a serious package can fit into the 360K available on one single-sided disk, then obviously a software house is likely to use the single-sided format and appeal to both single-sided and double-sided owners.

This is the case with several packages, including the programming package *GFA Basic 3* (£64.95 GFA Data Media ☎ 0734 794941), the entry-level word processor *K-Word 2* (£39.95 Kuma Software ☎ 0734 844335) and the screen-image printing utility *Flexidump Plus* (£37.95 Zitasoft ☎ 0923 672102). But these relatively simple packages are exceptions to the rule –

most serious packages tend to appear only on double-sided disks.

This is true of complex desktop publishing packages like *Pagestream 2* (£199.95 Silica ☎ 081 309 1111) and *Timeworks Publisher 2* (reviewed on page 56), as well as the document processor *Calligrapher* (£139 Working Title ☎ 0865 883233) and the utilities package *Harlekin 2* (£59.95 HiSoft ☎ 0525 718181). The top-end word processor *Protect* (£152.75 Arnor ☎ 0733 68909), armed with its massive thesaurus and dictionary, has been put



● *Quest for the Time Bird* was the first double-sided-only game – though you had to have pretty good eyesight to spot the little sticker that told you. Now double-sided is the norm.

onto double-sided disks to cut down on production costs and to make the package easier to use. *STOS 3D* (reviewed on page 40) and the art package *Deluxe Paint* (£59.99 Electronic Arts ☎ 0753 549442) all fall into the same category.

Besides questionnaire results, another sign of the increasing exodus towards double-sided STs comes from sales of internal drive upgrades. Power Computing (☎ 0234 843388) sell two types of internal upgrade – the PC 7201 and the PC 72001. They claim they sell "close on 100 internal drive upgrades a month." At prices of £35 and £45 respectively, these upgrades are so cheap that it's hardly surprising people are making the switch. Couple this with the vast number of double-sided external disk drives which have been sold over the years and it's easy to see why the single-sided format is being abandoned so rapidly.

When we announced in *STF* 31 that we were planning to end our support for the single-sided format, we invited any owners of single-sided STs to protest. Out of more than 70,000 *STF* readers, only two did so.

From next month, *ST FORMAT* will join the swelling mass of publishers by switching to a double-sided disk format. This gives us the opportunity to cram more programs onto the Cover Disk, gives us greater flexibility in the size of programs we can use, makes it possible to give you bigger programs and makes them easier for you to find and copy when you want them.

● Still stuck with a single-sided drive? Upgrading is cheap and easy – for full details of what you need and how to do it, turn to this issue's Desktop section, beginning on page 119.

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ST FORMAT is the UK's leading magazine for the Atari ST, selling over 70,000 copies a month. We need a technical expert on the ST to improve our coverage of the machine's serious applications. We are looking for someone who can translate technical know-how into clear, jargon-free text. A firm grasp of the rules of grammar and a clear, lively writing style are as important as an in-depth, up-to-date knowledge of the ST and how it works.

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→ Not very civilised

by Mark Higham

In a shock move Microprose announced this month that they would not be releasing *Civilization* for the ST.

Civilization is the latest game from Sid Meier, the programmer who created the top-selling "management sim" *Railroad Tycoon*. The new game is set in 4000BC. The objective is to develop an entire civilisation by building up a small nomadic tribe. As the original tribe grows, smaller groups can be sent to discover new people and territories. By carefully managing your economy and defence you can move through different eras and run into historical figures like Ghengis Khan and Napoleon.

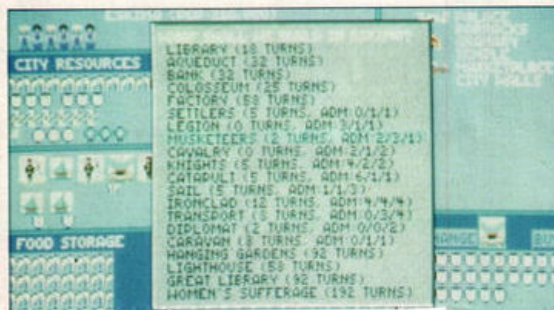
Ardent *Sim City* fans will recognise many of the elements which made *City* such a hit. Selling over 50,000 copies on the ST alone, *Sim City* proved that "creation" games can be one of the most addictive game formulas on the market.

Strategy games like this have traditionally sold well on the ST. Fans of shoot-'em-ups and arcade

games are investing in consoles to satisfy their demand for fast and furious gameplay, but consoles can never compete in the strategy and simulation game market, where the ST has always been strongest. That's why talk about no ST conversion of *Civilization* is particularly distressing.

Microprose plan to release versions of *Civilization* for other machines in September, at which time they'll make a firm decision on whether to write a conversion for the ST. This decision will be based on whether Microprose think an ST conversion is likely to sell. If you think Microprose should go ahead and write the ST conversion, then make sure you let them know. Only if they receive enough complaints from ST owners will they change their present position and produce an ST version. Address your criticisms to Customer Support Services, Microprose Software, Unit 1, Hampton Road Industrial Estate, Tetbury, Gloucester GL8 8LD. Every letter counts, so don't leave it to someone else to write - oh, and tell them *ST FORMAT* sent you. We've already got all our family writing to them!

● *Civilization* has all the ingredients of one of the best games ever. Trouble is, Microprose are suggesting there isn't going to be an ST version. Your views could make all the difference.



And now in Technicolour

Seurat is a new art program from American company SKWare One, and it's not just another art program but the first ST package to support colour IMG picture files. Up until now only black and white IMG pictures have been supported on the ST, and only then in very few art packages. (For a complete explanation of the IMG file format, see STF 30. If you missed that issue, turn to page 114 for the *FORMAT* back issue service.)

The program can also handle *Degas*, *Tiny*, *Neochrome*, *IFF*, *MacPaint* and *MAC* format files, and all ST models

are catered for, including the 4,096 colour palette of the STE, Mega STE and TT. Screens can be printed using the supplied Epson and HP DeskJet/LaserJet printer drivers, at resolutions between 75dpi and 300dpi (dots per inch). There's also an improved GDOS printing program which gives you the choice of landscape or portrait printing on HP printers.

Seurat is currently only available directly from SKWare One at PO Box 277, Bunker Hill, Illinois 62014, USA at a price of \$39.95.

GOT SOME ST NEWS FOR US?

If you have any ST news, write to the News Editor, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW - or if you have access to the Compu-Serve network, leave a message for *ST FORMAT*, User ID 100012,2571. Leads can be treated in strictest confidence if you wish, and we do pay for good stories.

No more Gallup?

om (v...
pot in its second...

ST CHART CHAT

Let's do the time warp again! The charts we got from Gallup this month showed Manchester United Europe at number two and Railroad Tycoon at number five - odd, since these games haven't actually been released on the ST yet. Gallup offered the excuse that their computer got its barcodes mixed up and mistakenly registered the PC versions of these games as ST sales! Makes you a bit more suspicious of those barcode checkouts in supermarkets, doesn't it?

budget titles are actually... - this

1	→	Lombard RA
2	↑	Hit Squad
3	NE	Fantasy Wo
4	↓	Code Mast
5	↑	TV Sports
6	NE	Mirror Im
7	↓	Ninja Rak
		Micro Va
		Little Pu
		Code M
		Pro Bo
		Code
		Xeno
		Mirro

In a bid to ensure that *ST FORMAT* runs up-to-date and accurate ST games charts, we've stopped running the Gallup charts.

Manchester United Europe and *Railroad Tycoon* both appeared at top positions in Gallup's ST chart before they were even released. At the time, Gallup used the excuse that their computer had mixed up the bar codes, so that the PC-contemptible versions of these releases registered as ST sales. But other games have inexplicably appeared at top positions and disappeared just as quickly. Take *Robin Smith's Cricket* for example. Released by Challenge Software, one of the smallest software publishers, it went straight into the December 1991 charts at number six and then disappeared completely two months later. This was odd because the game had actually been launched in July and according to Challenge had sold only a meagre 1,000 to 1,500 copies in total by the end of the year. "We were surprised it appeared in the charts at that time," Challenge told

● Some curious anomalies with the ST software sales chart forced us to stop running it, but there's something better in the pipeline...

ST FORMAT. Considering it had already been on sale for some five months, "there certainly wouldn't have been many sold during December."

We're currently looking into a way to provide you with a more accurate chart. ELSPA, the European Leisure Software Publishers Association, are investigating alternatives to the Gallup chart at the moment. If these don't pay off then we might discuss other ways of compiling the chart with Gallup.

So, thanks to those readers who wrote to say we'd forgotten the charts. You were almost right. If you think we should stop running the chart altogether - or if you think charts should be printed however inaccurate they might be - then write to Chart Attack, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW.

RUMOURS, RELEASES AND RECRIMINATIONS

● Sonic Curves have just released a collection of 128 sound patches for the Casio CZ series of keyboards for £24.95. The voices come complete with librarian software that enables you to name them to make sorting easier. SC also now supply the range of Evolution EVS-1 sounds previously marketed by Paladin Productions. Sonic Curves live at 19 Roseberry Drive, Great Ayton, Middlesborough, Cleveland TS9 6EQ.

● Music Pro Import (UK) are a new company specialising, not surprisingly, in importing music programs to the UK. Their first release is a French arranger/sequencer package with the somewhat unfortunate title of *Feeling Partner* - obviously it lost a little something in translation. The program incorporates a realtime harmony feature, six predefined instruments, 74 music styles, 32 algorithms and a library of models per group of styles. It's £175.00 from Music Pro Import (UK) on ☎ 081 789 8641.

● Famous in France but hardly heard of over here, the word processor *Le Redacteur* (The Editor) is now in its third incarnation, and at last is being distributed in the UK (at £119.00) by the ST Club (☎ 0602 410241). The program is apparently used by three national newspapers in France and has some tasty-sounding features like programmable macros, a font editor, verb conjugation and a built-in virus checker. Look out for the full review in *ST FORMAT* very soon.

● Another program which has gone through several versions is *Quick ST*, the once-PD screen accelerator which speeds up the display of all programs. Version three is now available and claims to be faster than its main rival, *Turbo ST*

(£29.95 Cambridge Business Software ☎ 0763 262582). The program works even with a blitter chip installed, which already speeds up display in the STE, and comes with the *MonSTER PD* utility to emulate very high screen resolutions up to 1,280 x 960 (as compared with the ST's normal high res 640 x 400). The program costs £19.95 from the ST Club ☎ 0602 410241. Upgrades from previous versions are £3.50 on return of your master disk.

● Yet another music program, the *Improviser*, has been released by Creative Sounds (£99.50, ☎ 0272 244395). It's an interactive improvisation editor that takes a four track sequence of bass, drums, harmony and melody as its input and generates multiple improvised lines as output. Its main aim is to teach the basics of improvisation, not to replace a human improviser. *Improviser* was written by a professional improv musician and has apparently been raved about in such august journals as *The Independent*.

● Spectravideo have just released another new mouse to add to the pile already available. It's called the Speed Mouse, but there's no indication why. Anyway it's £17.99 from Spectravideo on ☎ 081 900 0024.

● Users of the brilliant DTP package *PageStream 2* may be interested in a new program from American company Spar Systems. *PageAssistant* provides menu-driven on-line help and tutorials for getting the best out of the program, including cross-references to the manual. It comes with its own 52 page manual and is \$49.95 from Spar Systems, 381 Autumn Avenue, Brooklyn, New York 11208, USA ☎ 010 1 718 235 3169.

Showing all formats

● The All Formats Computer Fair continues to grow, with another three venues being added to its already impressive list this year, making a total of eight venues hosting 20 shows throughout 1992. The new venues are Haydock Park, halfway between Liverpool and Manchester, famed for its horse races; Donington Park, famed for its motor racing; and the Northumbria Centre in the North East, famed for nothing at all.

The complete list of fairs for the remainder of this year is as follows:

Sunday 23 February: National Motorcycle Museum

Sunday 8 March: City Hall, Candleriggs, Glasgow

Saturday 14 March: Horticultural Hall, Greycoat Street, Westminster

Sunday 15 March: Brunel Centre, Temple Meads, Bristol

Saturday 21 March: Donington Park

Sunday 22 March: University Sports Centre, Calverley Street, Leeds

Sunday 12 April: Northumbria Centre,

Washington

Sunday 26 April: National Motorcycle Museum

Saturday 16 May: Horticultural Hall, Greycoat Street, Westminster

Sunday 17 May: Brunel Centre, Temple Meads, Bristol

Sunday 7 June: City Hall, Candleriggs, Glasgow

Sunday 14 June: Haydock Park.

For advance tickets contact John Riding on ☎ 0225 868100.



● No, I said ST - "t" for track. Never heard of a micro called an SP Book...

The Addams Family



ocean

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Atari ST

LEANDER



LEANDER

Thanatos lurks in his lair, bathing in the power-giving life-force he is sucking from Princess Lucanna.

Princess Lucanna is dying: Imprisoned in the Sphere of Depletion her strength will soon be gone.

Meanwhile, Leander – Captain Of The Guards – kneels before his master seeking advice. He is told: *The princess is the balance between good and evil, if she dies, good dies and evil shall engulf the land.*

As Thanatos' power grows, the world succumbs to his evil grasp; Leander now has to face and conquer dangers beyond his darkest dreams before he can free the princess and save the land.

*You play the part of the Princess as she hangs around inside the Sphere Of Depletion waiting for Leander to rescue her. Will he make it? Or will you spend the entire game doing nothing but having your life-force sucked?

Leander: Where heroes Sphere to tread!

*Psygnosis reserve the right to amend this storyline.

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Screen Shots from the Amiga Version

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New god-game – or Managing Director game? – from Bullfrog ● Deuteros Data Disk virus ● Mirrorsoft lives

Bullfrog make a BOB or two

by Ed Ricketts

Now that *Populous 2* is out of the way for the Bullfrogs, they can expend all their energies on writing *BOB* (or *Higher Functions* as it may be known). *BOB* is being written by Sean Cooper, Clothes Show star and author of *Flood*. Like the *Populous* games, it features an isometric 3D view, but this time a much more local one. The game world is a

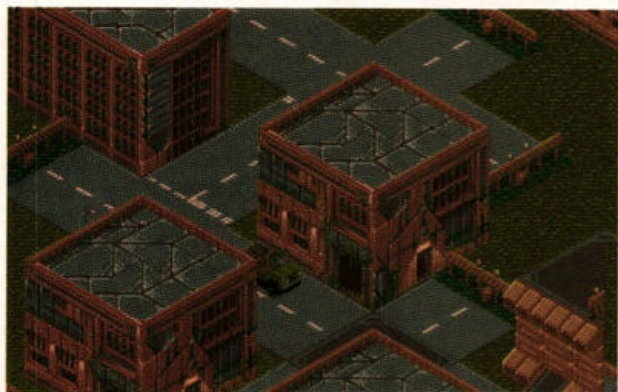
huge scrolling city, full of buildings, roads, cars and suchlike – much as you'd expect to find in a city, really.

Your role is that of the head of a huge corporation that produces cyborgs, and the aim is to become the largest company in the world. Under your direct control in the town you have only four cyborgs, whose actions you can influence (not dictate) by stimulating their brains to produce certain fluids. To make them become stronger, you would use adrenaline; to become more aware, sensory fluid; and to be-

come more intelligent, "initiative" fluid. Don't overdo the fluids, though. Using too much initiative means the cyborgs just wander off and do whatever they like, rather than listening to you, and that's no use to anyone.

After *BOB* (out sometime around June), Bullfrog plan *Creation* (an "anti god-sim" – more on this later this year) and *Flood 2* (scrapped for a while but now definitely planned). Then, Peter Molyneux reckons the Bullfrogs will be writing something so incredible he can't even begin to tell us about it yet. "You'd think I was mad," he explains (or rather, doesn't). The mystery project may apparently even take as long as two years to complete.

Whatever the game is, there's some ambiguity as to whether the game will appear from the Bullfrogs' usual publisher, Electronic Arts. The Bullfrogs weren't too pleased when they discovered that *Populous* was being sold on EA's budget label – by reading it in one of *STF's* sister magazines. No-one had informed them of the deal at all. For now and the immediate future, though, Bullfrog are sticking with EA.



● *BOB*, showing its little green car, and lots of roads, and trees, and buildings... but, er, no cyborgs, unfortunately. Hey, look, it's better than nothing.

Mirrorsoft 2: this time it's American

Ever since Robert Maxwell shuffled off this mortal coil, became an ex-publisher, ceased to be and so on, doubt hung over the future of Mirrorsoft (part of the Mirror group – hence the name) like a particularly nasty Damocles' sword. Then the sword finally fell and it was announced that Mirrorsoft had itself ceased to be. Rumours of a management buyout to revive the company were rife (as rumours tend to be), and indeed, it was soon announced that American games company Acclaim (from whom Ocean recently bought the rights for *The Simpsons*) had bought out the company. If you've got any problem with a Mirrorsoft game, or you're having trouble getting hold of the Mirrorsoft title you're after, you could do worse than to try contacting Acclaim on ☎ 0962 877788.

So, in one form or another, it seems likely that Mirrorsoft will emerge from the mess known as the Maxwell legacy, and planned releases like the *Mega Lo Mania* Data Disk, *Mega Lo Mania 2*, *Legend* and *Lure of the Temptress* will still see the light of day.

Grandly slammed

Grandslam Video, themselves no strangers to the perils of liquidation, seem to be back on their feet. At least, they've got three new ST releases planned.

Liverpool isn't a *Sim City* emulator, just yet another plain vanilla football sim. It offers all the usual stuff about kicks and so on, plus yet another "new" viewpoint. (Why doesn't someone do a viewpoint from *under* the pitch? Now that would be original!) *Nick Faldo's Golf* is, er, a golf sim endorsed by Nick Faldo, due for release in the late summer, and being written by Arc Developments (authors of *Forgotten*

Worlds and *R-Type 2*). Again, it offers the usual stuff, but this time a new feature: a modem link option. Great for adding realism to the game, but with the length of an average golf game (even a simulated one) in mind, not so great for your phone bill. There's also a training section based on Nick's own training vids.

Finally there's *Beavers*, also written by Arc. Nothing even a bit special about this one: it's an eight-way-scrolling four-level arcade platform "romp" featuring the cutesy Beavers, whose tails seem to be able to do everything. 'Nuff said.



● The big bear (beaver?) on the right has just asked if the one on the left spilled his pint. Beavers aren't any different from humans, y'know. Just a bit smaller and furrier.

THE VIRUS TERROR FROM BEYOND MARS

So *Deuteros* finally hit the streets just before Christmas, and not before time. A pity then that it was – er, flawed in a couple of ways. First, the game has a habit of locking-up every now and again – the cursor seems to "fall" to one side and stay there, not moving no matter what you do for about five minutes. Sometimes it comes back to life, sometimes not. Pressing the joystick <Fire> button sometimes re-activates it.

More seriously, though, the *Data Disk* has a virus on it – the *Signum BPL* virus, to be exact. Don't panic – there is no way this virus can infect your ST unless you boot up with the *Data Disk* in the drive, and there's no reason why you'd want to do that. What this little beggar normally does is sit in memory and wait until it finds another disk with some specific code (hidden in another virus) in its bootsector. When it finds this code, it executes it. No-one actually knows what this code does yet, because no-one's found the virus it belongs to. If it can't find the code, the *Signum* virus simply copies itself onto the new disk.

We called Activision and they said they weren't aware of any problem. This blasé attitude is surprising, but the most important question is: how on earth did a virus get onto a finished game disk? It's not been unknown for serious software to be released with a virus, but games hardly ever have them, simply because they just won't run if their bootsector is destroyed. While the presence of the virus is not disastrous, it's still possible that it could infect your disks – if, for example, the *Data Disk* was accidentally left in the drive when you booted.

If you're in any doubt at all, go through your disk collection with a virus checker. If you're really confident, you can do as we did and kill the virus on the *Data Disk* – the game still runs fine. But note: DON'T DO THIS FOR ANY OTHER GAMES DISKS! It'll ruin them. The best thing to do is to return your disks to Activision Europe at BP 40, 92101 Boulogne-Billancourt, France, and demand a virus-free version.

Activision aren't going to be releasing any more games for the ST. A shame? Maybe – though not if they're going to include a free but definitely unwanted virus with their games.

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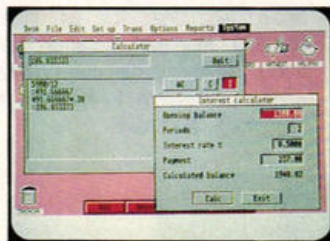
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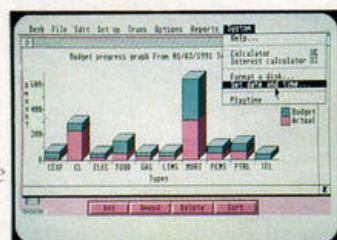


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It's a disk with a magazine stuck to it! Chris Lloyd is your guide

SIDE 1

KNIGHTMARE – Exclusive! Trolling around in dark caves, killing things. No, it's not an Outward Bound speleological weekend – it's a complete playable level from Mindscape's latest sortie into the world of graphical role playing games.

STOS STE EXTENSIONS – Get at the power of your STE using STOS BASIC. Complete interpreter and compiler extensions, adding 35 powerful new commands.

MANDEL BOOT – Installs a miniature Cray emulator that draws a Mandelbrot set into a disk's bootsector.

ASSEMBLY SOURCE CODE – Get to grips with GDOS with this assembly listing.

SIDE 2

KOZMIC – Special version of this weird kaleidoscopic picture generator.

FASTBASE – The best database ever to appear this issue, ever, probably.

MARROW – Convert cursor control into mouse control – wow!

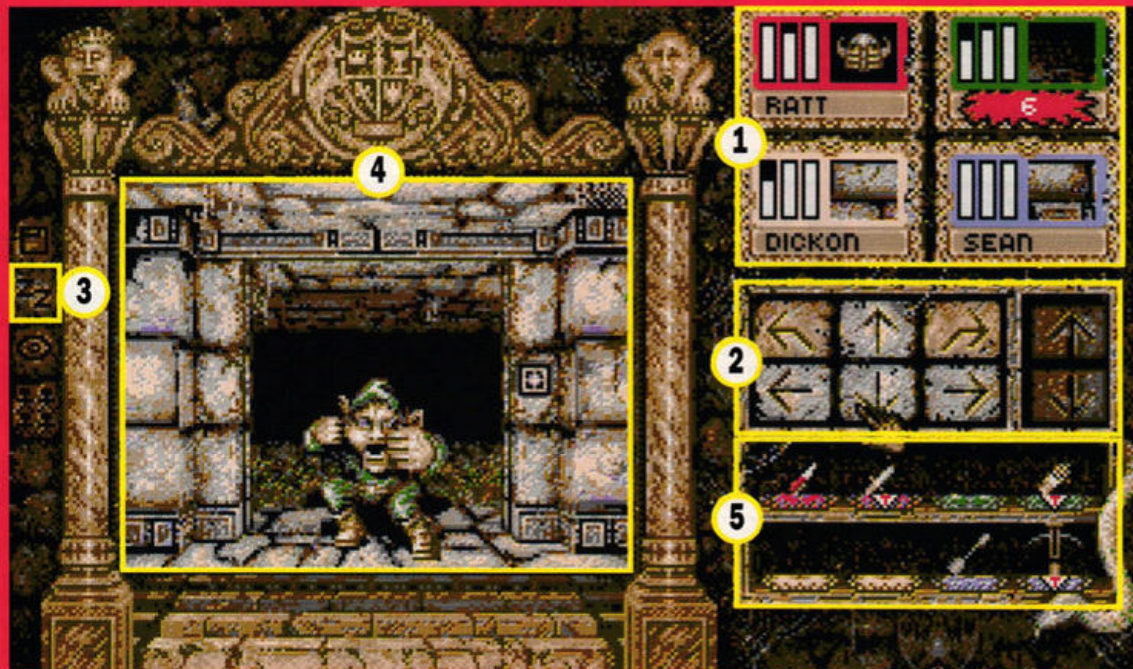
ACAPTURE – Captures data squirted into your serial port invisibly – ideal for comms.

FLOPPY CONFIGURE – Reconfigure disk drives without booting. Hello, drive B!

NO CLICK – Say goodbye to that the-keyboard-click-is-driving-me-right-round-the-bend misery.

STEP INTO MY KNIGHTMARE

Ever hear of a dungeon with a window? Well, that's what you've got here – plus all the icons to take control of your band of spelunkers...



1 Your band of unruly jabs – sorry, brave adventurers, who don't just go around hitting people, honest. Click with the left mouse button on a character, then again on another and they change places. Click twice with the left mouse button and that character becomes the leader – the one with the funny helmet. Clicking with the right button gets you to that character's inventory screen. The little bars above the character names represent, from left to right, your health, stamina and magic. It's the first one you want to watch. When this disappears say

goodbye to your character – all that's left is (gasp, choke) a heart.

2 The movement buttons. Click on these to send your party wandering around the dungeon and into the occasional wall.

3 Sleep icon. (Although how you can get a good rest on a cold, hard floor in a dungeon crawling with nasties is beyond me. Talk about nonchalant.)

4 Your window on the world, looking straight ahead. Here we see

the delightful elf character Bluebell. He's come to see you for a chat about wildflowers and macrame and to smash your face in. Come on, there's four of us!

5 Anything in your character's hands appears here. Click once with the right mouse button and if applicable up pops a menu of possible uses. Select one with the left button and a little triangle appears below the object. Click again with the right button and it's implemented. First stop is to get that crossbow shooting, matey.

BY: MINDSCAPE

SIDE: 1

MACHINE: ALL STs

RESOLUTION: LOW

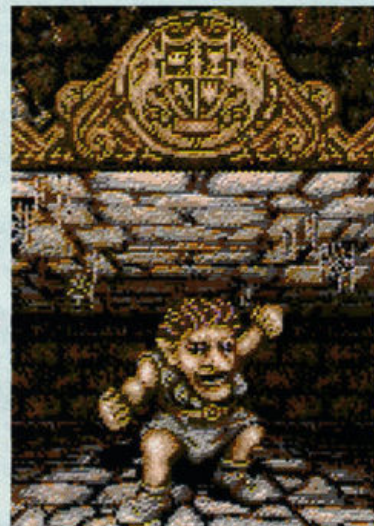
FOLDER: KNIGHT

FILES: KMMAG.PRG

GET STARTED WITH: KMMAG.PRG

Fanfare, please! Preeesenting: an exclusive playable level from Mindscape's *Knightmare* – the latest game to throw you into the world of dungeon probing. Explore the dark recesses of underground caverns, eat strange food you find lying around on the floor and generally charge around being terribly adventurous and saving monsters from ravening princesses.

To get going, just double-click on KMMAG.PRG. One word of warning, though: don't move the mouse while the



● "We come in peace, Mr Ogre. We – ow! That hurt! Look, I've got a penknife, you know, and it really is quite sharp, so – ouch! Right, that's it! I'm warning you – do that again and I really will do something."

EVERYTHING YOU REALLY NEED TO KNOW BEFORE YOU BEGIN

Protection is better than purée

To keep your Cover Disk absolutely safe, keep it write-protected by moving the little black tab so you can see through the hole. Nothing can now be written to your Disk, so there's no chance of you accidentally writing over or deleting any precious data. This also keeps you completely safe from viruses. The Disk is guaranteed virus-free, so don't take any chances.

Read Me, Read Me!

Space on the Cover Disk pages is limited, so you may often find text files on the Disk with more information. These have the file extension DOC – the three letters after the full stop. It's always a good idea to read these for more information on the program. Just double-click on them and select Show to display the text on-screen – or use

Quick View from Cover Disk 31 (see page 114 to order STF 31 if you missed it).

Back Me Up!

To keep your prized Cover Disk safe you should back up the disk, so if anything should go horribly wrong you've still got the original.

Because of the special disk format you can't do a direct disk to disk copy – you can't just drag the Floppy Drive A icon over the Floppy Drive B icon. So here's what you do. Each Cover Disk holds nearly 800K of goodies, so you'll probably need two blank disks to copy everything onto. Take a freshly formatted disk and copy across all the files, as follows.

1 Remember to write-protect the Cover Disk first. Put the Cover Disk into drive A. (If you're lucky enough to

have two drives, put your back-up disk into drive B. If not, just carry on.)

2 Double-click on the drive A icon to open up a window. Now drag one of the folders to the drive B icon. If you have just the one drive, your ST tells you when to swap disks.

3 Repeat this with all the folders except the SIDE_2 folder. When you get to this one, double-click on it to open it up and drag the folders from inside it to the drive B icon.

4 Keep copying folders like this, one by one, until your ST tells you there isn't enough room left on the new disk. When it does, re-copy the last folder (the one you were copying when you got the "disk full" message) and all the remaining folders onto your second blank disk. Job done!

• **Note** that some programs can't run straight from the Cover Disk and

must be copied first. Follow the instructions for each program and you'll be okay.

Still Single?

ST FORMAT uses a rather clever disk format (invented by whizzo disk doctor Rob Northen) which can be read by both single and double-sided drives. If you can open other folders but your ST grumbles about damaged data when you try to open the SIDE_2 folder, then you have a single-sided drive. These were fitted to early 520 STs and are now obsolete. Replacement drives are cheap and easy to fit – full details of what you need and how to do it are on page 124. Next month STF's Cover Disk is switching to the now-standard double-sided format, so if you're still struggling with a single it may be time to upgrade, perhaps.

Knightrmare

demo's loading, because it gets all grumpy and refuses to let you have it back. If it loads but you don't seem to have any mouse control, try it again, being careful not to nudge the mouse after clicking on the file.

At the start of this exclusive preview you're in a small square room. On the walls you find little cupboards –

click on these with the mouse and they open. Most contain clothes, but one has the much more important monster bashing equipment. The tree thing in there gives you a little message if you click on him, as do any purple globe things you find on the dungeon walls, so always check these out.

When you've tooled-up, click on the

button beside the door and enter the adventure proper and start exploring. You'll find locked doors, pressure pads, boats to row about and all sorts of life forms intent on your death. Keep an eye on those health statistics, though! If your ST suddenly resets it means your whole party has retired to the farm. Good luck.

Floppy Configure

BY: KEITH GERDES AND MICHAEL VENDERMAN

SIDE: 2

MACHINE: ALL STs

RESOLUTION: ALL RESOLUTIONS

FOLDER: CONFIG

FILES: DCFLPCFG.PRG,

DCFLPCFG.DOC

READ: DCFLPCFG.DOC

GET STARTED WITH:

DCFLPCFG.PRG

This one can be a real lifesaver. If you turn on your ST before your external disk drive, it doesn't know it's there. You do a mass of work and go to use drive B and it's invisible. Nothing to do but re-boot the system and start again – until now. Floppy Configure can tell your ST the drive exists without you having to re-boot. Just double-click on DCFLPCFG.PRG and click on the little switch labelled "drive B" to wake up your drive. Couldn't be simpler! Read the DOC file in the folder for more info. →

INVENTORY? SORRY, IT'S NOT ON MY LIST...

1 You get to this screen by clicking with the right button on a character name on the main screen. Click on your bod's name here for more detailed statistics.

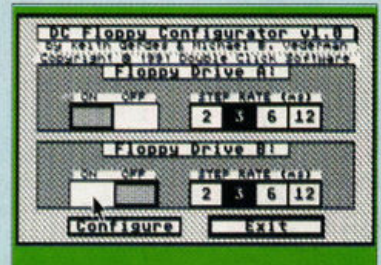
2 The picture of your body is also an energy bar. Let the bar reach your feet and you're in deep trouble.

3 Role player type stats – what a treat!

4 Click here to close the window and return to the fray.

5 Each little square is a space in your backpack to stash goodies.

6 To view the other characters click on the relevant colour.



• Another little gem of a utility from Double-Click Software. Floppy Configure enables you to kick-start floppy drives without re-booting. You can also fiddle with the seek rate if you've got 5.25 inch drives. Leave it at 3 m/s for standard ST drives.

well? arrrrr!



coin-op
madness **devastating**
out **now** on

TRONIX



ninja warriors
double dragon II
shinobi
continental circus
xenon
gemini wing
silkworm
double dragon I



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well? what are you waiting for?

Fastbase

BY: ANDREW BROWN

SIDE: 2

MACHINE: ALL STs

RESOLUTION: ALL RESOLUTIONS

FOLDER: FASTBASE

FILES: FASTBASE.TOS

TO GET STARTED: SEE BELOW

Hang around STs long enough and you come across databases. One of the cornerstones of "serious" comput-

ing, they hold and sort information, like huge intelligent filing cabinets. Data is stored in records, rather like cards in a cardfile. Records can be sorted in any order, searched through, printed, edited - all sorts.

Fastbase is a slick fully-featured database that runs in all resolutions and has a beautifully programmed interface. Multiple databases can be held in memory, graphics can be included as part of the record, and the program supports sophisticated query functions. This version is limited to using 20 fields, five databases in

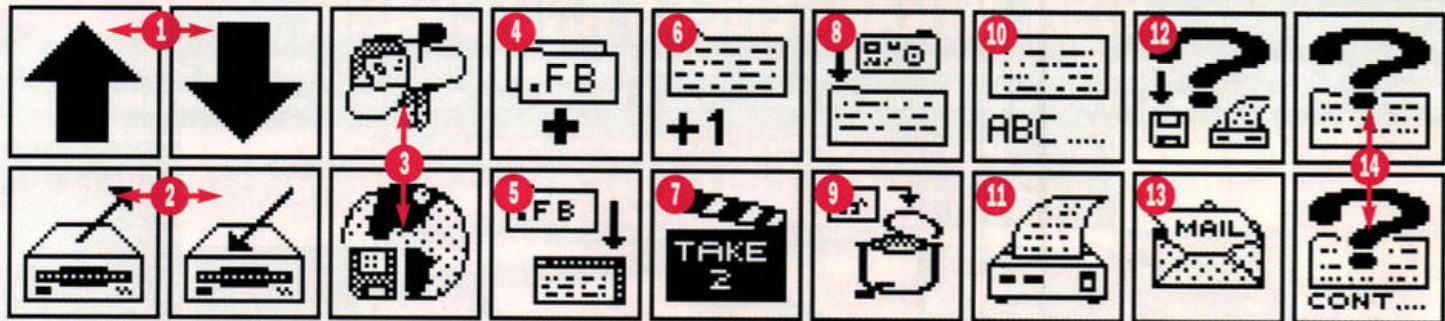
memory and a maximum of 10K of records - but you're not likely to need more! Try it and see. Apart from that, everything is there.

Note that you can't run Fastbase direct from the Cover Disk. In order to squeeze it on, we've had to archive it - archiving being a method of squashing data to save disk space - and the program needs to be un-squashed before you can use it. Copy the file FASTBASE.TOS to a blank, freshly-formatted double-sided disk, then double-click on it. It automatically de-archives itself, and after a few min-

utes you have a disk crammed with files, including examples for all resolutions and a meaty manual.

It's easy to get going with Fastbase. Select "load" from the File menu, choose a database suitable for the resolution you're in and open a window. To make the most of the program, you want a good read of the manual. Plus, the full unrestricted version complete with printed manual can be yours for £20, direct from the author - check out the README.TXT file for details. For your money, you're getting a cracker of a program.

Tools



Fastbase uses the familiar interface of menus, windows and icons - everything can be controlled with the mouse. To make things even easier, you can access the main features by clicking on the icons in the toolbox.

- 1 Go to previous or next record - steps backwards or forwards through the database.
- 2 Load and save database files - this version enables up to five databases to be loaded; the full version up to 22, memory permitting.
- 3 Import and export comma separated ASCII files - enables you to

import data from other database programs and even word processors.

- 4 Create new database - click on this and up pops a dialog box asking for the database name and passwords. The passwords are optional. Then it's on to creating your record fields.
- 5 Open a database window - once a database is loaded, click here to open up a window and view data.
- 6 Add a new record - select and type in new data to expand the database.
- 7 Edit record - click on this to edit the record currently displayed in the window. Press <Undo> to escape.

- 8 Add image - adds a picture to the current record. Fastbase supports Neochrome, Degas Elite, Tiny format compressed pictures and image files. A box appears on the record saying "view image;" click on this and the picture loads in from disk.
- 9 Remove image - zaps the picture from the current record.
- 10 Sort records - a powerful function to sort your data into some sort of order. Select the field to sort and whether it's to be in ascending or descending order and your ST does the laborious work of putting all the records into order.
- 11 Print records - enables you to print one, all or (by using a filter)

a selection of the records in your current database.

- 12 Query database - a powerful and flexible way of interrogating the database. You can filter fields and format the final report. Fastbase can hold up to 20 in memory. There are a few examples included to get you going.
- 13 Mailshot - produces a personalised mailshot, using a text file as a template and inserting data from your database.
- 14 Search database and continue search - enable you to search out any group of records you specify using a filter. It also allows for relational links to be created between databases.

Auto-Capture

BY: STUART COATES

SIDE: 2

MACHINE: ALL STs

RESOLUTION: ALL RESOLUTIONS

FOLDER: ACAPTURE

FILES: ACAPTURE.PRG, ACAPTURE.DOC

READ: ACAPTURE.DOC

TO GET STARTED: SEE BELOW

Ever logged-on to a bulletin board, listed all your mail and then remembered that you hadn't switched on your capture buffer? I know, keeps you awake at night just thinking about it. Well, now you can rest easy! Auto-Cap-

ture intercepts all the data coming in through the serial port and writes it to a file you can browse through later.

Create an AUTO folder on your favourite comms program disk and stash Auto-Capture away there so it's ready to strut its stuff every time you boot with that disk. You can turn the buffer on and off using the keyboard combination <Alternate>-<Left shift>-<Help>. If you leave it on all the time, the buffer captures lots of binary data, so save it for the text. It's a right smartie and uses a disk write cache of 10K to store data before writing it, so don't worry if the disk doesn't start whirring straight away. Have a read through the ACAPTURE.DOC text file on the Cover Disk for more information and sleep soundly at night.

Marrow

BY: STUART COATES

SIDE: 2

MACHINE: ALL STs

RESOLUTION: ALL RESOLUTIONS

FOLDER: MARROW

FILES: MARROW.PRG,

MARROW.DOC

READ: MARROW.DOC

TO GET STARTED: SEE BELOW

Marrow is short for Mouse to Arrow Converter. Any program which uses the cursor keys to scroll through a document can be converted so you can jiggle the mouse around instead.

To get started, copy MARROW.PRG into an AUTO folder or run it directly from the Desktop. It sits in

memory waiting for the magic keyboard combination: press <Alternate>, <Right shift> and <Help> together to toggle Marrow on and off. Just move the mouse up and down during programs like 1st Word and the document scrolls - much easier than pressing buttons on the keyboard. Read the text file MARROW.DOC for more info. →

AUTO FOLDERS

What's all this talk of AUTO folders? An AUTO folder is simply a folder called AUTO in the root directory of your boot disk - that is, not inside any other folders. It's handy because any programs with filenames ending in .ACC held in an AUTO folder are automatically run, before you even get the Desktop on-screen, when you boot your ST with that disk in the drive. This is ideal for programs like Marrow and No Click which set up configurations on your ST for you.

→ **Kozmic**

BY: DAVE HENNIKER

SIDE: 2

MACHINE: ALL STs

RESOLUTION: LOW ONLY

FOLDER: KOZMIC

FILES: KOZMIC.PRG,
KOZMIC_M.MBS, KOZTITLE.MBS,
READ_ME.DOC

READ: READ_ME.DOC

GET STARTED WITH: KOZMIC.PRG

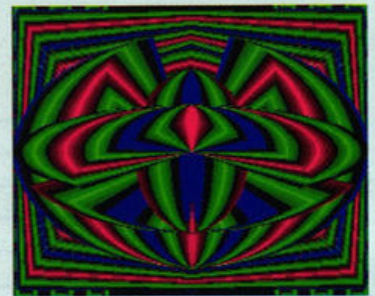
Welcome to the decidedly strange
and wonderful world of psychedelic

pattern generation. This is a specially written version of the popular Public Domain program that can run on a standard 520 ST. Everything is point and click, so get pointing and clicking! Don't try to save pictures on your Cover Disk - there isn't any room. Your best bet is to copy all the files in the KOZMIC folder onto a blank, freshly formatted disk, giving you plenty of room to play in.

If this Cover Disk version of Kozmic tickles your fancy and you've got a 1MByte or better machine, then you can get the bigger version direct from the author. Details are in the text file READ_ME.DOC.



● Many of Kozmic's functions have parameters you can adjust using menus. Just select the setup you want and click on "draw." Just keep fiddling about till you get the effect you want.



● With a bit of experimenting, you can incur serious eye damage. Set those brilliant colours cycling and pump up the Hawkwind!

**EXCLUSIVE
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SPIN, STRANGENESS AND CHARM

With Kozmic, all sorts of groovy effects can be yours. Go on - click on a few. Stop the drawing process at any point simply by hitting the Space-

bar or clicking with the right mouse button. Click again and you're sent back to the main menu, where you can start all over again.

SO, WHAT HAPPENS IF YOU CLICK ON ANY OF THESE?
Turn to page 24 to find out

PREVIOUS PALETTES	MULTI 3
MULTI	RED
BROWN GREY	BLUE GREEN
SUBTLE MULTI	PINK YELLOW
GREEN	RGB
MULTI 2	LOAD SCREEN
GREENY SILVER	SET UP COLOURS
GREENY SILVER 2	USER DEFINED

KOZMIC written in STOS by Dave Henniker 1991

SELECT PALETTE

- 1 About the program** - find out the average rainfall around the world - what did you think?
- 2 Help** - click here first.
- 3 Date and time** - set the date and time. Your pictures are then dated correctly.
- 4 Save** - saves the current picture in Neochrome or Degas Elite format. (Remember, you can't save to the original Cover Disk!)
- 5 Undo and partly undo** - Not operative here because of memory

restrictions. No panic, though: you can always repeat any pattern.

- 6 View** - take a butcher's.
- 7 Slow motion** - click with the left mouse button to turn this on and with the right to switch it off again. Useful when you want to stop a drawing at a specific point.
- 8 Clip** - you can restrict the drawing process to part of the screen. Use the mouse to define the area you want to operate on. Clicking with the right mouse button turns this off again.

- 9 Restore symmetry** - makes your screen horizontally symmetrical.
- 10 Cycle palette** - this starts to get wild when the colours flow! The left mouse button turns it on, right off. You can use the <C> key too.
- 11 Colour range** - by default Kozmic uses most of the palette, but you can get some smart effects by restricting the palette on some functions or changing the sweep method. Click on "default palette" to cancel all your changes.
- 12 CLS** - clears screen. If clip mode

(see number 8) is active, only that section is deleted.

- 13 Cycle palettes** - cycles through all the palettes so you can pick the best for your picture. Some give a very different look to a screen. See number 11 for more colour effects.
- 14 Palettes** - there are 27 to choose from.
- 15 Display loaded picture** - only available on the 1MByte version, not on this 520 version. Enables you to load in a Neochrome or Degas picture to draw on.



Image Power

Atari/Amiga Handheld Scanner

Available for the Commodore Amiga and the Atari ST range of computers, the Naksha A500 Scanner features switchable resolution between 200 and 400dpi, 32 grey shades and adjustable contrast.

Every Scanner comes complete with Express-IT! Software, an image utility which allows you to save images in formats which suit your favourite packages.

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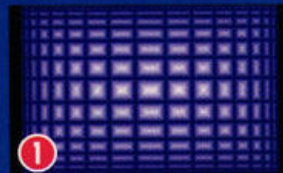
Prices exclude VAT E & O E Prices subject to change without prior notice
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The ultimate games machine deserves the ultimate mouse.

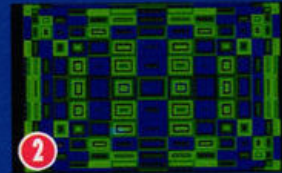
The Naksha Upgrade Mouse is silky smooth, operating at a high 280dpi resolution. Supplied with Mouse Mat, Pocket and **FREE** Operation Stealth. No cables - no fuss. Simply plug in and go.



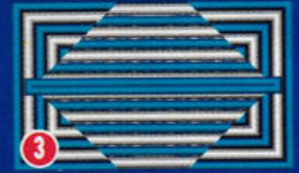
PSYCHEDELIC PATTERN SELECTION



1 Fish-eye type boxes.



2 Same boxes, different palette layout.



3 Box generator - draws constantly changing box patterns. Click with the left mouse button to change pattern type.



4 Spirals - click on the "set spirals" box to change the size, step rate and starting point.



5 Weird blobs!



6 Polymarks - click on "set poly" to alter polymarks, sizes and smear directions.



7 Rays - rays zooming from the middle of the screen.



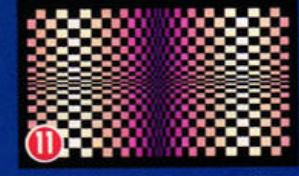
8 Diamonds - draws constantly changing diamond patterns.



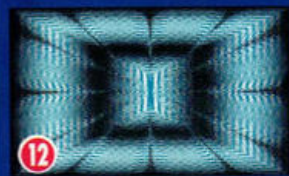
9 Pies - constantly generated bits of eclipses. Click on "set pies" to mess about with the sizes, step sizes and stuff.



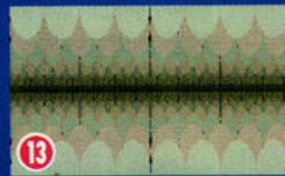
10 Polygons - starts producing freaky polygons. Select "i" for further information.



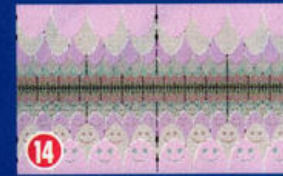
11 Op art - fills the screen with a chequerboard pattern. Select "set op" to fiddle with the design.



12 Moire - a series of lines fills the screen, as seen on GFA demos! Using the right mouse button changes the effect.



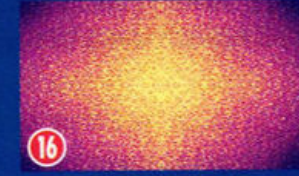
13 More weird blobs - this time symmetrical.



14 Blobs with faces!



15 Circles - draws - er, round things.



16 Dots - fills the picture with masses of pixels.

THE COVER DISK NEEDS YOU

We need your software - games, utilities, demos - anything good, original and short. If you've written anything worthy of the *ST FORMAT* Cover Disk, send it with this form and full documentation to: Chris Lloyd, *ST FORMAT* Cover Disk Editor, 30 Monmouth St, Bath, Avon BA1 2BW. Then please be patient: we get heaps of submissions, and we try to give them all a fair testing!

Name _____

Address _____

Daytime phone _____

Program title _____ Total size in K _____

On a separate sheet, explain concisely what the program does and what's great about it.

Don't forget to: ● Include on-disk and paper documentation ● Write your name and address on the disk ● Use a virus-free disk ● Keep a copy of your program, because contributions are non-returnable ● Enclose wads of cash. We pay for programs we use, but hey, we can use the dosh!

Please sign the following declaration: This program is submitted for publication in *ST FORMAT*. It is wholly my own work and I hereby agree to indemnify Future Publishing against any legal action should copyright problems arise.

Signed _____

No Click

BY: B WALKER

SIDE: 2

MACHINE: ALL STs

RESOLUTION: ALL RESOLUTIONS

FOLDER: NO_CLICK

FILES: NO_CLICK.PRG,

NO_CLICK.DOC

READ: NO_CLICK.DOC

TO GET STARTED: SEE BELOW

Oh no! The keyboard click is driving you barmy, and the only way to kill it is to run the Control Accessory - only that takes a chunk out of the memory you need to run a big program like *Time-works 2*. What can you do? Close your eyes and hope it goes away? How about this? Pop it into an AUTO folder, re-boot and the keyboard click turns up its toes. All for 1K! You can open your eyes now.

Assembly code

BY: ROGER PEARSON

SIDE: 1

MACHINE: ALL STs

RESOLUTION: ALL RESOLUTIONS

FOLDER: ASSEMBLY

FILE: GDOS.S

TO GET STARTED: SEE BELOW

GDOS is a system for controlling screen and printer output, giving access to hundreds of fonts and higher quality printout. Unfortunately it's also a bit of a nightmare, cumbersome and difficult to get to grips with. This month's assembly language programming tips page throws some light on the subject. The *Devpac 2* source code on the Disk is a sample routine for printing using GDOS. Turn to page 113 for an explanation of what it's all about.

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→ STOS STE Extension

BY: ASA BURROWS

SIDE: 1

MACHINE: ALL STs

RESOLUTION: ALL RESOLUTIONS

FOLDER: STOS

FILES: STE_EXTN.EXF,

STE_EXTN.ECF

TO GET STARTED: SEE BELOW

When STOS BASIC was written, the

STE was merely a gleam in Atari's eye. The "E" stands for "enhanced," and with extra colours, a blitter chip to speed screen display, stereo sound and other goodies, the machine became sexier than ever. Unfortunately you couldn't get at these extras in STOS without in-depth knowledge and lots of poking about. Until now, that is. On the Cover Disk are complete extensions for the interpreter and compiler that enable you to use all the "E" parts. All you need to add is STOS itself (and if you don't have that, you can order it and save a mammoth £42

in the bargain! See page 126).

Copy the file STE_EXTN.EXF into the STOS folder of your language disk and the file STE_EXTN.ECF to the COMPILER folder – if you've got it. You should, of course, use your working backups, not your original disks. Now run STOS and you should get a little welcoming message telling you that the extension is installed. STOS looks in these folders and loads files with the filename extensions EX? and EC?, where the "?" is a letter of the alphabet. If the extensions don't seem to install successfully then you've proba-

bly already got an extension ending in "F." Try renaming the new files to another letter – but not "B." It doesn't work, because of a little bugette.

● **Next month: another extension – the blitter chip gets the treatment! Unfortunately space is limited here and the command descriptions are very succinct. To get the most from these STE extensions, register your copy with the author. You'll get upgrades, technical support and a comprehensive manual with examples – all for £10. Send cheques or postal orders to: Asa Burrows, 67 Malvern Road, Leytonstone, London E11 3DJ.**

THE NEW STOS STE COMMANDS

● I'll take an "E," please, Bob

x = STE

This function returns 1 if the machine your game is to run on is an STE or 0 if it isn't. You can write-in a test to see if it's an STE or not and adjust your game to suit, giving STE owners the extra features but still making the program compatible with all STs.

● Joysticks

Your STE now has the ability to use up to six of the little waggles.

x = LSTICK (j)

Returns the current status of the joystick's left position. The value x holds either -1 if the joystick is in the left position or zero if it isn't. You can access up to six joysticks, and j holds the number of the stick you want, one to six.

The following functions work exactly the same way for the other directions specified and the <Fire> button.

x = RSTICK (j) right

x = USTICK (j) up

x = DSTICK (j) down

x = FSTICK (j) fire

To access joysticks one and two you need to use these other commands:

STICKS ON

This command activates the interrupt routine for twin joysticks control on the ST and STE. It also disables the mouse.

STICKS OFF

This de-activates the interrupt routine and re-activates the mouse. The new extension is completely compatible with the twin sticks extension, so if you have that you can use the same commands without any bother. They have been included in the STE extension to maintain compatibility.

x = STICK1 and x = STICK2

Returns the status of joysticks 1 and 2 respectively. The variable holds one byte laid out as follows. This is a bit of a bind and it's better to stick with the easier joystick commands.

Bit description:

0 up if bit set, 1 down if bit set, 2 left if bit set, 3 right if bit set, 4 unused 5 unused, 6 unused, 7 fire if bit set

● Light Gun/Pen

If you have a light gun or pen you can now write a shoot-'em-up for it.

x = LIGHT X and y = LIGHT Y

These two commands return the x and y coordinates of your gun or pen when the <Fire> button is pressed and hold them until it's

pressed again. To check the <Fire> button use the FSTICK (3) command – the button is returned as joystick three.

● Extended colour palette

The STE has a palette of 4,096 colours rather than an ST's 512.

E PALETTE \$RGB,\$RGB,...

(up to 16 colour values)

This command works exactly like the PALETTE command in STOS, except that it uses a hex number for the colour values. Hex uses base 16 rather than the decimal base 10. Letters are used for values over nine. Ten is represented by "a," 11 by "b" and so on, up to "f" for 15. White now becomes \$fff.

E COLOUR colour,\$RGB

The same as the COLOUR command, but using hex values and access to the 4,096 colours.

x = E COLOR (colour)

No, this isn't a spelling mistake, it's just a limitation of STOS. You can't use the same name for a command and function. This command returns the RGB value of the colour number, 0 to 15.

● STE DAC and Microwire Interface

The DAC is one of the best things added to the STE. This brilliant Digital to Analog Converter plays

raw sample sound in stereo, and with the Microwire Interface you can set left and right volume control as well as treble and bass.

DAC CONVERT start address of sample, end address of sample

Because the STE DAC plays raw sampled sound, you need to convert your STOS Maestro samples. DAC CONVERT does the job almost instantly. Ideal for using the same sample data for the ST and STE.

DAC SPEED

Sets the speed of sample replay. 0=6kHz, 1=12.5kHz, 2=25kHz and 4 is a pretty amazing 50kHz.

DAC RAW start address of sample, end address of sample
Plays your raw sample.

DAC MONO and DAC STEREO

Guess what? Sets the sample to be mono or stereo.

DAC LOOP ON and DAC LOOP OFF
Want an endless wall of noise? Set the loop function on and off with these commands.

DAC M VOLUME volume

DAC L VOLUME volume

DAC R VOLUME volume

DAC TREBLE volume

DAC BASS volume

These commands set the master, left and right volume and the treble and bass. The volume can be anywhere from 0 to 12.

DAC MIX ON and DAC MIX OFF
These commands enable you to mix the PSG sound chip with the STE's DAC.

DAC STOP

Tricky one, this. It, er, stops the DAC. Amazing, isn't it?

● Hardware Scrolling

The STE has hardware scrolling which enables screen data to be shifted in bytes rather than words using the hardware. All this adds up to single pixel scrolling.

HARD SCREEN SIZE w,h,mode

Sets the screen's logical size: w=width of screen and h=height of screen ready for scrolling.

HARD SCREEN OFFSET x,y

This command tells the ST where to start displaying the screen.

x = HARD PHYSIC (screen address)

This command tells the ST where the screen is stored.

HARD INTER ON and HARD INTER OFF

Once you have set all the hardware scrolling commands you can turn on the scrolling with these two. While the interrupt routine is running you use the HARD SCREEN OFFSET to get the scrolling effect. If an error occurs while interrupt is on, STOS turns hardware scrolling off.

Mandel Boot

BY: PAUL DONNELLY

SIDE: 1

MACHINE: ALL STs

RESOLUTION: LOW ONLY

FOLDER: MANDEL

FILES: MAN_BOOT.PRG,

READ_ME.LOW

READ: READ_ME.LOW

GET STARTED WITH:

MAN_BOOT.PRG

Just what you've always wanted: a super-fast Mandelbrot set generator that fits in a disk's bootsector. The bootsector is a 512 byte block right at the start of a disk that can hold tiny programs to tell your ST to run a game or suchlike. It's also the place where viruses lurk. Your ST always looks at the bootsector of the disk in drive A for instructions when you switch it on.

Warning! Although putting a Mandy on a normal disk is perfectly harmless, don't, whatever you do, try to install one on a commercial game disk because you'll ruin it – you have been warned!

Choose an unimportant or backup disk to try it out on, then insert your backup copy of the Cover Disk, double-click on MAN_BOOT.PRG and dance around the room listening to the music. When the program asks you to, insert the disk you want to install the little wonder on and press the Spacebar. If things work your ST resets and before your very eyes a fractal picture is drawn in 4.2 seconds. Not only that: it performs the same miracle every time you boot your ST with that disk in the drive.

Completely frivolous? Not quite. Mandel Boot occupies all the "unused" space in a normal bootsector, so the only way a bootsector virus can fit on is by over-writing Mandel Boot. This means that if you've installed Mandy successfully and it stops working one day, that disk may well have caught a virus, so you know to check it with your virus-killer. An added little bonusette, there.

PROBLEMS? WE CAN HELP!

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● Got a problem with one of the Cover Disk programs? Make sure you've read all the relevant Cover Disk pages and any document files on disk. Consult your ST Owner's Manual – that might have the information you need. Still got a problem? Then give us a ring the ST FORMAT Cover Disk Hotline on Wednesday. We'll do our best to sort it out – but when you ring, try to have your ST nearby.

Cover Disk Hotline ☎ 0225 442244

Wednesday 2 – 6pm only

● Please note: this line is for Cover Disk problems only. If you have any other queries, write to us at ST Answers, ST FORMAT, 30 Monmouth Street, Bath, Avon BA1 2BW. We'll reply in the pages of STF as soon as space is available.

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AS RECOMMENDED BY ST FORMAT SUPPLEMENT OCTOBER 1991

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If you need to construct your own special monitor lead, this DIN plug is the bit that plugs into the STE. **PRICE £2.00 - STF RATING 83%**

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If you have a colour and mono monitor this box enables you to switch between them without unplugging the leads. **PRICE £15.99 - STF RATING 78%**

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Going for gold

The ST is the most versatile home micro you can buy, whether you're using it for games or for "serious" applications like word processing, music or programming. But with all that computing power, is there any earning power as well? Can you use your ST to make money and ride out the recession? Tim Anderson investigates the possibilities and pitfalls

Remember those Comfort adverts on TV towards the end of last year? Remember the Government's striking ads for their youth training scheme – the ones where those artisan types sculpted themselves out of solid rock? Both these adverts were designed on an ST! As *ST FORMAT* revealed in detail in issue 26, Mike Marchant's video company is taking the film world by storm, producing mock-ups of adverts exactly as they are to appear on screen and thus enabling ad agencies to see exactly what they're getting before they commit themselves to the expense of shooting on film.

Mike Marchant's highly successful business is built on the power of his ST. He saw an opening and exploited it with a very simple ST setup – as he ex-

plains, "Everyone is thinking about using computers in the area of post-production but I'm the only person to use an ST in pre-production." Mike's services are in such great demand that he has been commissioned to produce a mock-up of an advert for Chevrolet in America, and another for Volkswagen in France. (If you missed the details in *STF* 26, turn to our back issue service on page 114.)

You don't need to be ambitious to make money with your ST. Whatever you already use your ST for, you can make money out of it

You don't need to be this ambitious to make money with your ST. Whatever you already use your ST for, you can earn money out of it.

A WORLD OF OPPORTUNITY

It all starts with your imagination. What skills have you learned since getting your ST? Even if it's only basic word processing, that means opportunities for selling typing services or helping a nearby business with a mailshot. And you'll be able to think of other local needs. For example, many of the advertising leaflets that get pushed through your front door are not well designed. If you see one which you could do better using your ST, why not show your work to the people who sent it out, and suggest that they come to you next time?

Leaflets aren't the only possibility: think of all the posters, notices and hand-written signs you see. Could you do better using your ST? Your local theatre groups would welcome more effective posters – and although few such groups could justify the hundreds of pounds a professional graphic designer might charge, most would be happy to pay you £20, £30 or more for an ST-quality design. Perhaps a local restaurant would like a more professional-looking menu? Or the corner shop might need more readable notices. You're likely to spot possibilities like these every day.

Maybe you've spent many hours puzzling out how to make some piece of software work for you. It might be music software, programming, desktop publishing, graphics, communications, database or spreadsheet programs – anything, really. You now have the re-



YOUR OWN BULLETIN BOARD – ONLINE RICHES?

● Malcolm Burridge reveals the secret to making money with a simple comms setup.

Bulletin boards have a huge hobbyist following but they're not often perceived as a good way to make money. With some nifty hardware, a modicum of imagination and a subscription fee you can start raking in the cash

Anyone can set up a BBS – Bulletin Board System – and become a Sysop (system operator). All it takes is an ST, a phone line, and a modem. It's good fun, but not a path to riches, according to leading ST Sysop Malcolm Burridge of the Bath BBS (☎ 0225 840060). "I don't believe anyone can make a real profit. Very few boards even charge a subscription. You need a lot of investment for people to say, yes, it's worth paying for."

The problem is that, although you can set up a part-time BBS just by getting a modem and a hard drive, if the system has any success you soon need a dedicated phone line – £160.00 from British Telecom. To be practical, the BBS needs a dedicated ST as well, with at least a 65MByte hard drive (like the Progate 60MByte, £437.00 from Cambridge Business Software ☎ 0763 262582). Then, a BBS has to be worth connecting to, which means getting regular new supplies of good PD software. That means high phone bills for connecting to boards in Germany and the USA, where a lot of ST software is produced. Malcolm also recommends getting the best modem you can

afford – the faster it operates, the less you pay to BT. The Supra 2400 modem (£129.85 Surface UK ☎ 081 566 6677) is great, or if your budget can stretch to it you could try the top-of-the-range Supra 9600 Plus (£495.00).

Malcolm's been going for three years and has made a success of his Bath BBS, but only reckons to break even on his equipment costs – there's no return on the time he spends, except fun and fulfilment. Could you do better? On-line games are now a big feature of BBSs seeking to make a profit. They may never challenge the 0898 numbers for profitability, but if you can provide a specialised service you've got something to charge for. People will always pay for what they really want.



● One of Malcolm's novel ways to increase interest in his Bulletin Board was to tie up a deal with us whereby he makes available the programs from *ST FORMAT*'s past Cover Disks. Nice one, Mal.



sources to help others avoid the mistakes you made, perhaps by writing a user's guide, or by being a consultant to a local shop or business setting up their own ST system.

And now that you can get your ST humming, why not put it to good use? Any word processor or database system keeps lists of names and addresses and does simple mail merging. Many shops, restaurants, garages and other concerns would benefit from mailing selected customers with their special offers or promoting some kind of new service or product. In a recession, this kind of promotion is more important and cost-effective than ever. Here's where you could help them with your ST.

You could hold a mailing list on their behalf, and either supply them with printed labels or even offer a complete mailing service.



THE ART OF MAKING MONEY

Are you a talented artist? With the explosion in DTP systems, people are hungry for attractive, imaginative clip-art – ready-drawn pictures they can import into their own DTP documents. Yes, there's masses of clip-art in PD libraries, but it's often poorly organised and very variable in quality. It's also mostly bit-mapped – saved as pixels or little chunks of colour that start looking very blocky if they're scaled up – and there's a shortage of the more flexible GEM artwork – where each element of the picture is defined as a set of coordinates, meaning that it can be re-scaled without loss of quality. Not only pictures, but special headings and borders can transform DTP output even on cheap systems.

Musical? If you have a MIDI music setup, perhaps you could follow the example of Dave Clackett, founder of Hands On MIDI Software. As we revealed in

STF 30, Dave has built up a business supplying ready-recorded MIDI song files you can play back on your own MIDI equipment – and to put a disk of songs together he probably uses less equipment than you already have!

Look at the scorewriting feature in STF 29 – turn to page 114 to order your copy if you don't have one – and see how easy it is to produce publishing-standard musical scores with an ST and an inkjet printer, like the Canon Bubblejet BJ-10e from Canon ☎ 081 773 3173 (officially £405.00, but you can find it for much less by checking the adverts). Schools, colleges, churches, and local musicians may well have a need for scores to be transcribed from handwritten efforts or from MIDI files. You could have a business on your hands from an ad in the local paper or some carefully-worded letters with samples of your work. It's easy to offer good value: the ST does in minutes what would have taken hours – and specialist training – just a few years ago.

Your ST can help you in marketing your services as well. All too often, good ideas fail because of poor presentation or poor publicity. Your ST gives you the tools to give your correspondence a professional, error-free appearance; to produce leaflets and instructions that are clear and appealing; to design simple posters and advertisements; to mail existing and potential customers with suitable publicity – and loads more.

Notice we've got this far with no mention of programming skills! There's no need to be a technical whiz to put your ST to profitable use. But if you have learned to program, a whole range of new possibilities



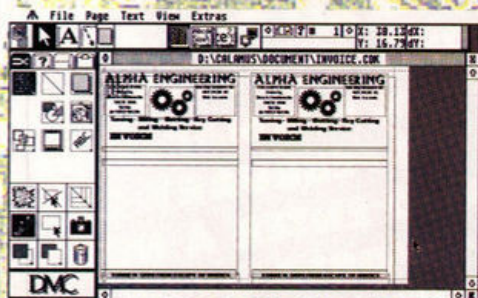
TEN WAYS TO SET YOUR ST TO WORK

- 1 Start your own magazine. You don't need expensive DTP software to produce professional-looking results – EZ Text Plus (zzSoft ☎ 0254 672965) may have all you need for under £20! (And STF 22 has all the inside tips you need – see page 114 if you missed it.)
- 2 Set up a printing business – all you need is an ST, a printer, and a cheap desktop photocopier.
- 3 Write a program for the *FORMAT* Cover Disk. STF pays for every reader program used! (See page 26 for the info we need along with your submission.)
- 4 Sell your graphics to a games company – see page 39. STF 30 featured a complete graphics package, and STF 29 gave you everything you need to produce your own audio-visual animations. Top professionals revealed their secrets in Issue 27 – and there's more tips and techniques from the pros every month in STF's Gallery pages (this issue, page 64).
- 5 Draw some clip-art with your art package and market it. PD libraries (see the STF directory on page 48) are a ready-made distribution network – ask one what financial arrangements are possible.
- 6 Write a book and publish it yourself. You know the ST, so write about it!
- 7 Run a mailing-list service for local businesses.
- 8 Win a fab prize in an STF compo – try your hand at the one on page 144.
- 9 Become a consultant, helping others with their ST hardware and software.
- 10 Compose a top ten hit with *Sequencer One* – it was yours with STF 30, and the special Sound and Vision feature in that issue is full of ideas, as well as inside tips on how it's done from Dave Clackett of Hands On MIDI Software.

DESKTOP PUBLISHING FOR PROFIT

Desktop Publishing gives you the opportunity to exercise your creative skills. More importantly, it also gives you a chance to make a packet. John Pegg did exactly that when he left his job at the RAF. He's made so much money that he's now running his own DTP business – with help from the Government

After 37 years in the RAF, retirement gave a new career to ST enthusiast John Pegg. Computing for him started ten years ago, when his wife bought him a Commodore VIC 20 with 2.5K of memory. "It blew up one day, so I went out and bought a Commodore 16." That didn't work for long either (what do you expect from a games-machine company?), so John moved over to an Atari XL, and then a 520 STF. "It was just a hobby. Then I started doing some simple notices with *Degas Elite*. I realised I could make a business out of it."



● One of John's designs for an invoice proves how creative you can be, even with business stationery.

John's new company is called Croft Enterprises, and was set up with careful planning. He produced a cash flow forecast and a business plan, and was accepted onto the local Business Enterprise Scheme. This subsidises his income by £40.00 a month for six months, and £20.00 monthly for nine months after that. He's producing letterheads, leaflets, posters, receipt books, business cards, and tickets for dances and functions. Another project is in pub food menus for a local hostelry. "No more hand-written price changes. I simply update the original in *Calamus* and print out a new copy."

John's system is based on a 520STFM, upgraded to 2.5MByte with Frontier's Xtra RAM (£119.99 from Frontier ☎ 0423 567140). He has an Atari SM124 mono monitor, as well as a Philips 8833 for colour. (The SM124 is available for £109.99 from Best Prices, ☎ 0903 700714. The Philips CM8833 Mark 2 colour monitor is £219.00 from Swift Micros ☎ 0582 476257.)

John's printer is a Hewlett Packard Deskjet 500 (£399.99 from Evesham Micros ☎ 0386 765500). Other hardware includes a Silver Reed flatbed scanner (for scanners try System Solutions ☎ 0753 832212), and a photocopier for printing off copies from the Deskjet's output.

Software is Signa's *Calamus* (£250.00 from

Signa ☎ 0252 341600), with occasional use of *PageStream* (£169.00 from Silica ☎ 081 309 1111). John also has a German utility program called *Spat* for touching up scanned artwork, and he hopes to get hold of a fax machine. "Orders could be faxed through to me and I could fax back with drafts of the *Calamus* output for approval." Other than that, John feels he has all the equipment he needs. Compared to what most people spend setting up businesses, the ST for John really is "power without the price."



● When John retired from the RAF his career was only just beginning. Now Croft Enterprises is a going concern with a very healthy future.

WORK IN PROGRESS

PC Format is the UK's leading PC leisure magazine and is devoted entirely to helping you get more out of your leisure time with the PC. Issue 6 is out on **February 27** and is a special American issue which includes all the news, gossip and releases from the Consumer Electronics Show in Las Vegas and a profile of Origin, the Texas-based creator of *Wing Commander*, *Strike Commander* and the *Ultima* series. In addition to our special features detailed below, there are all our regular sections on shareware, music, CD-ROM, problem solving and much, much more

March 1992 ■ Issue Six

PC FORMAT

The Modern Guide To Personal Leisure Computing

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3 .5-inch disk with this copy - also available with TWO 360k 5.25-inch disks

STARRING ROLE

Discover the life-obsessing world of role-playing games

ORIGIN

Origin, the creators of *Wing Commander*, reveal their plans for the future

News, interviews, game previews and more from America's biggest computer entertainment show

AMERICAN SPECIAL

THE PC FORMAT DISK ■ ISSUE SIX

THUNDERHAWK

Playable preview of the stunning new 3D helicopter combat simulator from Core Design

No Coverdisk? Then ask your newsagent for one. 3.5-inch disk with this copy.

SPACE EXPLORER

Launch yourself into... and their stunning games

PLUS: John Minson mouths off about software packaging ■ Games reviewed: 1...

(Contents subject to change without notice, because it's 1992 and all that, and the European community might decide we have to print features about rare Belgian vegetables instead.)



opens up. Look at the Public Domain and Shareware scene: there are a million and one disk formatters, Desk Accessories, demos and shoot-em-ups, but whole areas of programming that are virtually untouched. Choose a specialist subject and write the perfect software tailored especially for it. Of course, it must be something you know about – maybe a database for stamp collectors, an electronic cookery book or a menu-maker for dinner parties, the ultimate design aid for making kites or building model boats. Whatever your hobby or interest is, think of the software that would make it easier, quicker or more fun to do. You already know

how to market it, because you know the magazines, clubs, shops or conventions where the enthusiasts are. Or look at programs you already use. How could they be improved? What would you like them to do? Chances are you aren't the only one who's looking for that better, custom-designed program.

There's no need to be a technical whiz to put your ST to profitable use. But if you have learned to program, a whole range of new possibilities opens up

PD - A GIFT TO THE NEW PROGRAMMER

The whole Public Domain and Shareware scene is a gift to the new programmer. It's a ready-made distribution network for trying out early versions of your program, making demos available and building up contacts with other enthusiasts. Look at our interview with Roger Pearson on page 35 and see how a substantial business has built up based on that ever popular network.

Of course, there can be problems when people do not bother to register Shareware, but that really depends on how much incentive you give them. There needs to be a balance between providing a useable program and keeping something special for

MAKING MONEY ON A KNIFE EDGE

Take up the programming challenge and a real fortune could soon be yours. Games are recognised as the big money spinners but you can make a fortune at other ST applications as well, if you can come up with an original and essential idea. Martin Prchchodny did it, and now so can you!

Programming was a hobby for Martin Prchchodny. An engineer, he left his job to start a music studio, and of course immediately started using the ST, the music professional's micro of choice. When he had some trouble with a corrupted disk, he wrote (in assembly) his own solution: the disk recovery program *Knife ST*. It is still the best disk editor package available for the ST, and it's £34.95 from HiSoft (☎ 0525 718181).

Martin's advice to would-be programmers is: "You have to be dedicated, and you have to enjoy it. Also, get involved with a well-known company like HiSoft – don't try and go it alone! But I'm all for freelancers on the ST. I like to see it being used as more than a games machine."

Financially, it has been a hard road for Martin. "I had to take a job driving fork lift trucks to keep me going. There wasn't enough money in the ST for me to live on. I never got my money back on *Knife*. It took 18 months to develop – I'll never recoup all that."

Now, however, Martin runs his own company. A chance acquaintance with a doctor led to 18 months writing a package for a surgery. "He wanted a system to buy, but there was nothing suitable available, so I came up with the idea of doing something special. It's a modular system, written in Lattice C, and I finished it in October. It's been approved by the Family Practitioners'

Committee." Could this be a first for the ST?

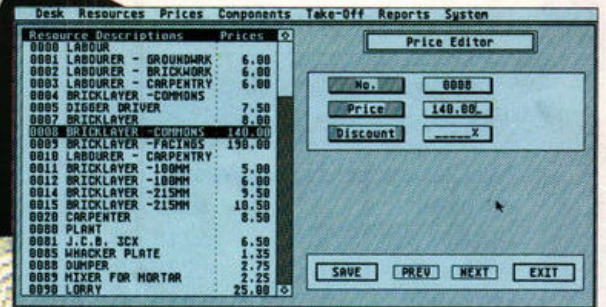
Martin is also working on a package for building contractors, since the ST is ideal as a budget computer for small builders. But to broaden its appeal, he may do a PC version as well.



Martin used Lattice C to write his first commercial program but there are a variety of other languages available which are far easier to get to grips with. GFA Basic (GFA ☎ 0734 794941) is easy to learn and ideal for business applications; Devpac 2 (HiSoft ☎ 0525 718181) is an assembly language package with a vast array of possibilities – ideal if you need speed, but it may be confusing if you're new to programming; STOS Basic (Mandarin ☎ 0625 859333) is designed to enable you to write games. The choice is enormous.



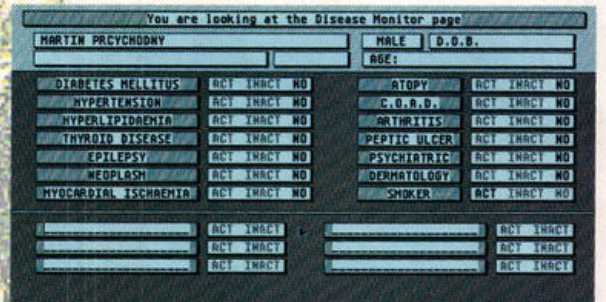
● Knife ST is still the most sophisticated disk editor around.



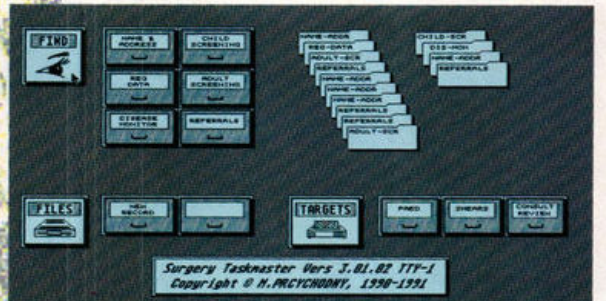
● Martin's useful program for builders. "Now, where did I put that whacker plate?"



● Where it all began: Martin Prchchodny's disk recovery program Knife ST.



● Keeping fit with Surgery Taskmaster – Martin's FPC-approved surgery administration program.



● Surgery Taskmaster's elegant initial screen.

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1040STE 2MB	£399.00
1040STE 4MB	£469.00
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All MEGA STE comes with mono monitor

TT 2MB	£2200.00
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TT 8MB	£2700.00

All TT's come with colour monitors

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ATARI ST SOFTWARE

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Superbase Pro	£169.00
Prodata	£55.00

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Cubase	£219.00
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registered users only, just as Roger does with EZ Text.

SELLING TO THE PROFESSIONALS

With software of sufficient quality, there's always the possibility of selling it to an established software company. David Link of HiSoft – the software house distributing programs like the leading disk editing package *Knife ST* and programming package *Devpac 2* – says the company welcomes new ideas. "We do like to see something reasonably finished. We don't have the resources to finish a program for people, and would want them to do their own manual, at least in rough form. The kind of thing we do is utilities and

simulations, not games – except maybe adventure games." If you do submit an idea to a software publisher, whether it's a game or something more serious, a lot hinges on the way you present it. Dodgy disks and scribbled documentation go from the envelope to the waste bin in seconds. It can make all the difference if you include a persuasive letter, a good description of the software and an explanation of who the likely users are and how the program can be marketed to them. The software house may not agree with your suggestions, but they'll take you more seriously for having given some thought to the commercial potential of your program. What sort of agreement you get depends on all kinds

of factors – the quality of the software, the likely size of the market, what price the company feels it can charge for the program. David Link says HiSoft are "very flexible."

The standard conditions would be a royalty with an advance. The royalty would be tiered according to how many were sold and probably be in the range of 10 to 20% of net receipts. For small programs, there might be a one-off payment instead."

A HELPING HAND

Serious about setting up your own company? The Government is keen to help small businesses, as are banks, who have an eye on your potential for future custom. Take advantage of both. Look in the Yellow

EZ TEXT – BUT IS IT EZ MONEY?

The Public Domain isn't traditionally a source of great wealth. When Roger Pearson wrote a desktop publishing program and sold it for just £15 he initially didn't get much of a response. Then he released a comprehensive demo into the PD and suddenly his sales snowballed. He hasn't looked back since.

Roger Pearson always planned to work in computing. After doing a course in programming, he put together a basic DTP program, called it *EZ Text*, and released a demo version into the Public Domain. "Nothing much hap-



● Roger's *EZ Text* was so successful that he's now busily working on a follow-up.

pened, so I got a job doing something else. But I had sent a disk to Future Publishing's *New Computer Express*. That magazine mentioned I'd written a DTP program, and said it was free. My phone didn't stop ringing! Actually, they got it wrong: the demo was free, but the program was £15.00. But the people who rang up reckoned, 'It's only 15 quid...' and just bought it."

That was three years ago. The success of *EZ Text* gave Roger the chance to develop the program, so he purchased a GDOS licence from Atari for £350. That gave him the right to distribute Atari's graphics and multi-font

operating system. Two years ago, the enhanced version of the program, *EZ Text Plus*, was released.

"I had a unique marketing idea. I wrote a program to satisfy the need for a cheap DTP package. I said to myself: 'I've got no money – how can I market the program?' I thought about the Public Domain libraries, like the ST Club and Goodmans. We came to an arrangement where they put a little notice in the catalogue and sold it as a sideline."

Since then, Roger hasn't looked back. "We've sold over 5,000 copies; I've only had to refund five people. I've got loads of letters from people who like the program." He's been able to build up a small company, and has people working for him, both on software development and on administration and packing. *EZ Text Plus* has been successful in Holland, Belgium, and the USA. And the forthcoming *EZ Text Professional*, complete with picture rescaling and import of GEM metafiles, will greatly enhance the performance of *EZ Text*. He's also produced a book/disk package about ST Machine Code – *Introducing Atari ST machine code* (ISBN 1-8734223-01-2; available for £20 from zzSoft ☎ 0254 672965).

Roger reckons the secret of success is "persistence and patience. You don't have to have super intelligence. But you've got to enjoy it. Also, I used to be a market trader, and those skills are very valuable. You've got to have certain skills to be self-employed – it's a bit of a gamble. And you've got to research the market." What are the snags? "Running a telephone helpline can be very demanding, although we're always glad to help. It's part of the deal, and it keeps you informed of any bugs and so on."

"It was frustrating that technical information on the ST was only available to registered developers, and registration cost £380. The ST is a quantum jump from machines like the 800XL or the Spec-

trum. It's an awfully complex machine." However, now is the time for budding programmers to show their colours, now that Atari have released this technical information (see News in *STF 31* – or page 114 to order that issue if you missed it).

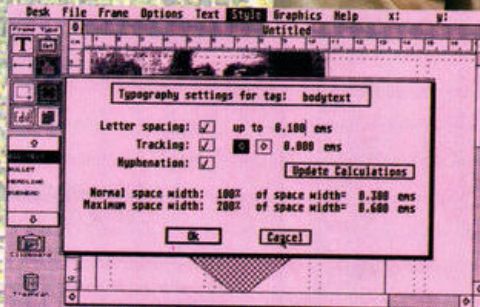
"Then," Roger continues, "you need to know your subject as well as the programming side. For example, in DTP, leading, kerning, graphics and so on. Then there's the competition to think about as well."

Written any great utilities? Roger's happy to consider taking on good programs, and he's also looking for a headline package, producing GEM metafiles. If you're handy with Assembler, the opportunities are there. And once you've proved your skills, one thing can easily lead to another: Roger Pearson is now writing *ST FORMAT*'s assembly programming tips page (see page 113).

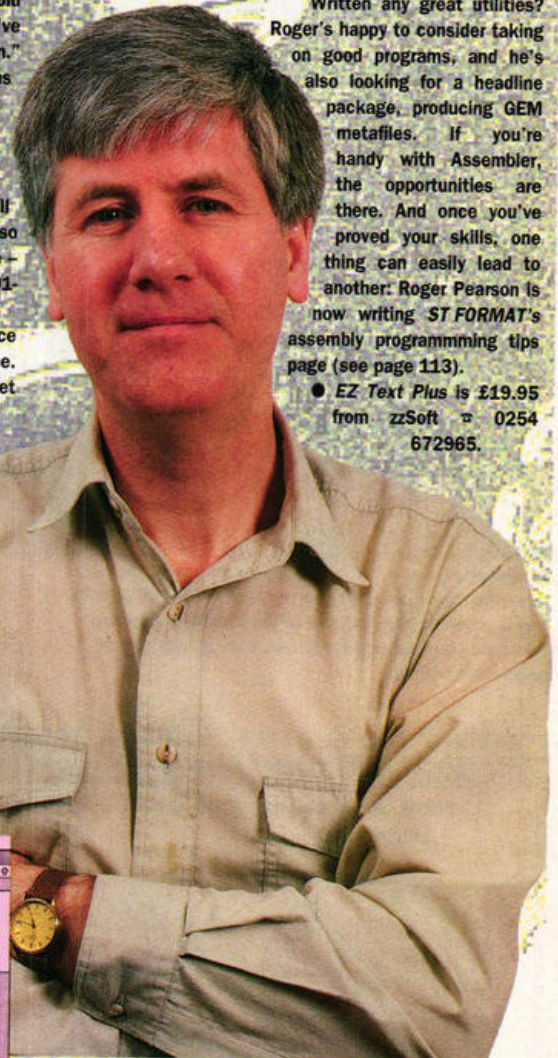
● *EZ Text Plus* is £19.95 from zzSoft ☎ 0254 672965.



● *EZ Text Plus* – one of the simpler ST DTP programs, but just what many people wanted, as programmer Roger Pearson discovered.



● A sneak preview of *EZ Text Professional*, the forthcoming full-featured DTP program from Roger Pearson's zzSoft.



● Since writing *EZ Text*, Roger's business has gone from strength to strength. Using the knowledge he gleaned while writing his DTP program he went away and wrote a book all about programming in assembly language – *Introducing Atari ST machine code*. It's available from his company, zzSoft.

Pages or ask at the local Employment Office about the Business Enterprise Scheme. Visit the small business advisors in the High Street banks and get advice on putting together cash flow projections and the like. Set your spreadsheet to work (for example, *KSpread 4*, £136.30 from Kuma ☎ 0734 844335, or the Shareware program *Opus 2.2*, from PD libraries – see *FORMAT's* extensive directory of PD libraries on page 48). The Enterprise Scheme are sure to be impressed no end if you have a well-presented business plan. Like John Pegg (interviewed on page 31), you might get a monthly contribution from Her Majesty while you're building up your trade.

With luck, you may find that your business just takes off. As the ST Club's Paul Glover revealed in

STF 25, the ST Club "was only ever intended as a spare time thing, but I ended up doing two full time jobs." In only a few years, it grew from little more than a hobby into a thriving business. They even launched a small magazine, *ST Applications*, because they wanted to do more and more with their catalogue. Today the ST Club is not only Paul's living but employs six people and has 30,000 customers.

Don't forget that businesses have certain respon-

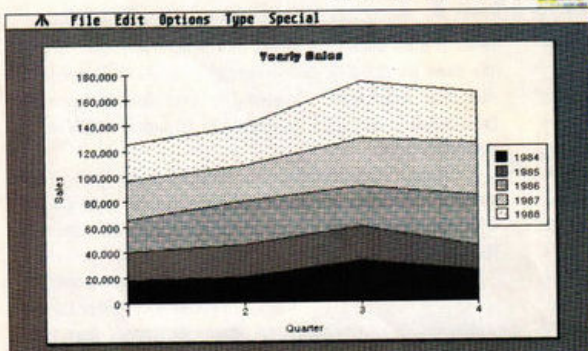
The whole Public Domain and Shareware scene is a gift to the new programmer

sibilities. You need to think about boring things like business rates, insurance and accounts. Getting good early advice is a lot more fun than trying to unscramble a mess later on. If you keep a list of customers on the ST, you may need to register your database – get advice about the Data Protection Act.

Can you make real money out of your ST? "Put it this way," says Roger Pearson: "you don't need to register for VAT unless your turnover is more than £35,000 a year. And we're registered for VAT." **stf**

● If you have any stories to tell about how you're making money with an ST, write to us at: "I'm making an absolute fortune," ST *FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW.

KEEPING COUNT OF YOUR FINANCES



● A good spreadsheet needn't cost the earth. If you've got 1MByte or more of RAM, try the Shareware program *Opus*. Check out our listing of PD libraries on page 48 to order your copy.

Desk Help Macro Calculator

Account analysis for Jan-89 to Dec-89

Account	1	2	3	4	5	Total
1 Pat West						
Account	437	233	662			1332
Travel						0
Misc.						0
MARKETING						0
Advertising	4232					4232
Printing	233					233
PRODUCTION						0
Raw materials			2412			2412
Packaging	441					441
Other						0
End balance	5990	125	99-1194	369	4203	
Income	4980	700	873	4720	2045	62424
Outgoings	8634	768	829	3179	2412	53921
Cash flow	3447	68	44	451	369	2683

● *Money Manager ST*, looking dull and, well, businesslike but it does all you need. Avoid a run-in with the taxman by making use of its VAT features and forecast your potential fortune with a very clever prediction utility.

Besides using your ST to generate money in the first place, why not use it to keep a track of where all your cash is coming from?

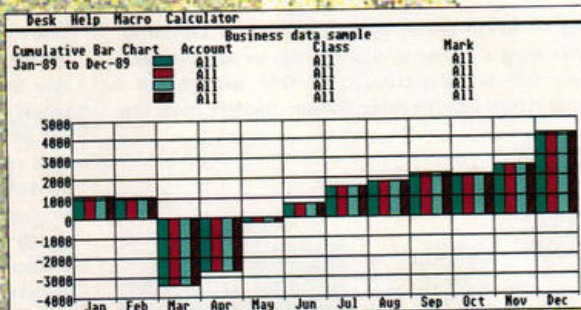
Once you've got that nice little business going, how are you going to keep track of the money? Two recently released ST packages are equally suitable both for keeping your domestic accounts in order and for a home-based business.

Connect Software's *Money Manager* (£49.95, ☎ 081 743 9762) has been converted from a PC program, which explains why the GEM interface feels like an afterthought. All your income and expenditure can be coded, so you know what category it comes into. Up to 20 accounts can be defined, each of which can be your own transactions with a bank or a customer's transactions with you. A VAT facility is included. You can get reports on your past business or a forecast, either as figures, pie charts or bar charts. Macros – pre-defined key shortcuts that enable you to save a sequence of keystrokes as a single command – can be set up to speed up regular operations.

Digitia (☎ 0395 270273) have brought out *Home Accounts 2* (£54.99). By contrast with *Money Manager*, its use of GEM is outstanding and colour users even get 3D shading. The manual is beautifully produced and even entertaining – which is quite a feat for an accounts program. As with *Money Manager*, you can classify your income and expenditure by type, and the number of accounts you can define is limited only by memory. There is more choice of graph-

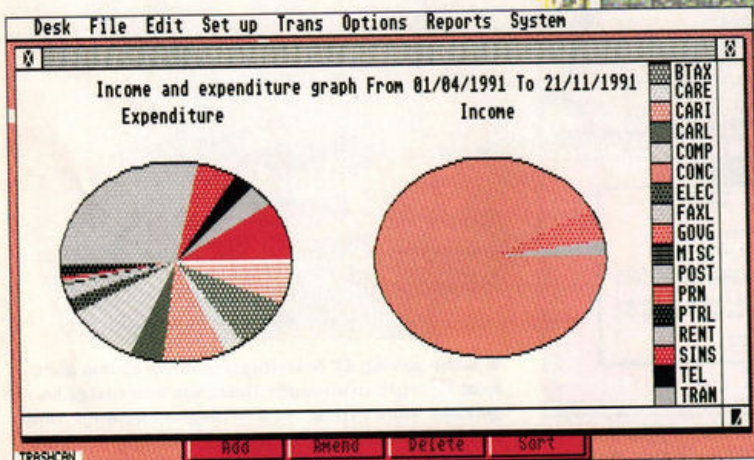
cal report styles and also a mysterious item on the menu called Playtime. All in all, it's ideal for the ST owner wanting to get a grip on home finances and keep good records of a small business as well.

If your business grows, you may need to consider automating your invoicing, customer statements, stock control, and so on. For total flexibility, you could program this yourself with a database like *Superbase Professional* (£169.00, Cambridge Business Software ☎ 0763 262582), but a cheaper option would be a package like

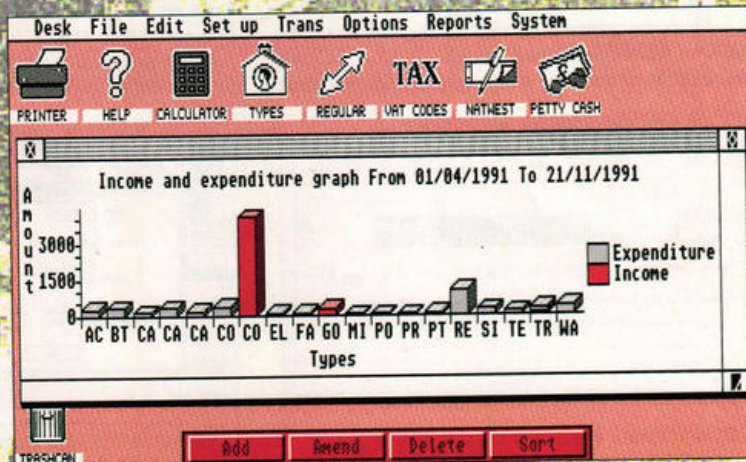


● A temporary dip in income revealed by *Money Manager ST*.

Digitia's System 3 (£59.99). If you need full accounts including trial balance, profit and loss, and other boring financial-type stuff, *Digitia's Cashbook Controller* series (£59.99) may do all you need. Alternative, but more expensive, systems are available from Sage (Cambridge Business Software). Check out the budget systems from Bay Computers (☎ 0524 831162) as well, and the Shareware program *Double Sentry*, a full double-entry accounting system available from PD libraries (see page 48 for our library directory). For more info on financial packages, see our guide to business software in STF 28. (If you missed that issue, turn to page 114.)



● *Home Accounts 2* offers a wide choice of graphical presentations and is so easy to use that anyone can quickly make it perform. Digitia also operate a help



line if you really can't get to grips with it. VAT and loan calculation facilities are just some of the advanced features useful to a small business.

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Good graphics are always in demand from games publishers. Once you've drawn a picture in one art package it can easily be transferred to other computer formats, making your work even more appealing. An ideal way to exhibit your talents is through our Gallery pages

What are the chances for new ST artists who fancy seeing their graphics in the latest blockbuster games? According to Alison Beasley at games software house Mirrosoft, "We're always looking for graphic artists. But what comes in is not usually of a standard we can use."

Mirrosoft do have some graphic artists working from home, although they are most often part of an established programming team. Alison has some tips for people wanting to send in work. "Do some homework, see what's available in all the areas, like flight sims, adventures, shoot-'em-ups. And find your own styles - don't try to copy someone else's. Send in a disk containing samples in as many styles as possible, including people, animals and buildings. Animation is really important, so demonstrate that as well." Flexibility counts for a lot: "Often, we need people who can do different styles for different games."



Peter Molyneux of Bullfrog - the hit game-makers behind *PowerMonger* and *Populous* - is keen to encourage new ST artists. The most likely opening is in the design of intro sequences rather than in-game effects, and because intros can just be bolted to the front of games they can easily be produced by a freelancer rather than the game designer. In fact, for both *PowerMonger* and *Populous 2*, Bullfrog commissioned outside programmers to create the art and the sound effects used in the intro sequences. (For more details of what's involved, see *STF's* special feature in issue 29 - and if you missed that, see page 114.)

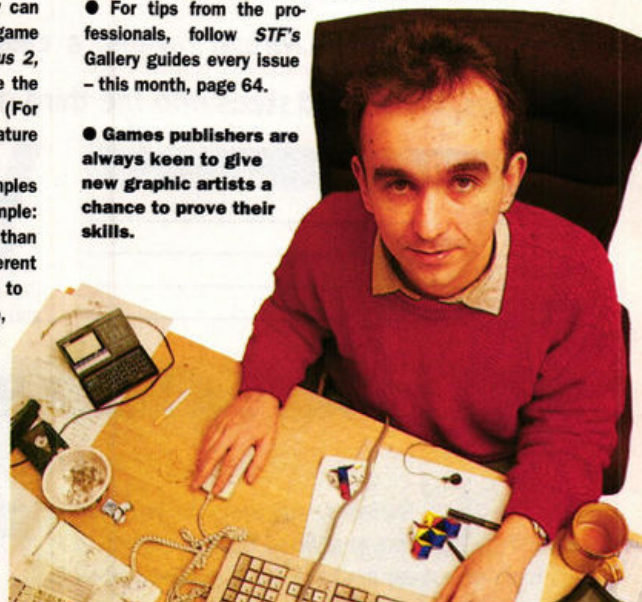
Nick Wilde at Psygnosis says that graphic samples from hopeful artists arrive most weeks. His tip is simple: "They just have to be good - in fact, excellent rather than good." He also points out that ST graphics are a different skill from paper-based art, which is why it's important to send in a disk. If Psygnosis see something they like, they invite the artist up for an interview. But, like Mirrosoft's, most of their artists are in-house, unless they're alongside a programmer who's also working from home. Rewards? Neither Mirrosoft nor Psygnosis would say any more than "negotiable."

London-based GJ Productions (☎ 081 995 2723) are working on a video project combining state-of-the-art ST graphics and animation with an original music score. Project coordinator Daz James says the project has already gained considerable interest in the entertainment industry - and backing from "a well-known

musician." They are now looking for "spectacular graphic routines or animations" and want to hear from programmers or coders who think they are up to the mark. If you're into ST graphics, it could mean a whole new career!

● For tips from the professionals, follow *STF's* Gallery guides every issue - this month, page 64.

● Games publishers are always keen to give new graphic artists a chance to prove their skills.



FLYING HIGH IN THE WORLD OF GAMES PROGRAMMING

Nick Brown took his game to HiSoft to market and made himself a packet - but there are other games publishers who offer even greater rewards.

What's it like to be a freelance programmer? "A bit of a struggle," according to Nick Brown, author of the acclaimed *Proflight ST* flight simulator. Nick is a specialist in microchip-controlled equipment. He began programming on home micros when he bought a BBC for his kids. He looked at the flight simulator programs available for the Beeb and thought he could do better, so he started sketching out ideas. He had some spare time on his hands and took the idea to some games companies. "They weren't really interested. They wouldn't discuss anything with you - just asked for it to be sent in." Eventually, he did find a small company willing to take it on, and they sold 27,000 copies. A big success, except that programs for the Beeb were so cheap that the return was very small compared to the time spent programming.

When the ST came out, with its massive memory and fast processor, Nick saw the chance to do a flight simulator that was a vast improvement on anything that had gone before. "At that time, only *Flight Simulator 2* was around as a serious simulation. Although it's a good program, I thought it was very unimpressive technically." 2,000 programming hours later, *Proflight ST* was born. He talked to HiSoft, who agreed to market the program in return for a royalty. Even so, Nick reckons he's a long way from getting any sort of sensible return on the time he's spent. "I question my sanity at times. But I feel as if I have a slight mission in life - to get a pro-



● It's hard work but games programming can be very rewarding in the end.

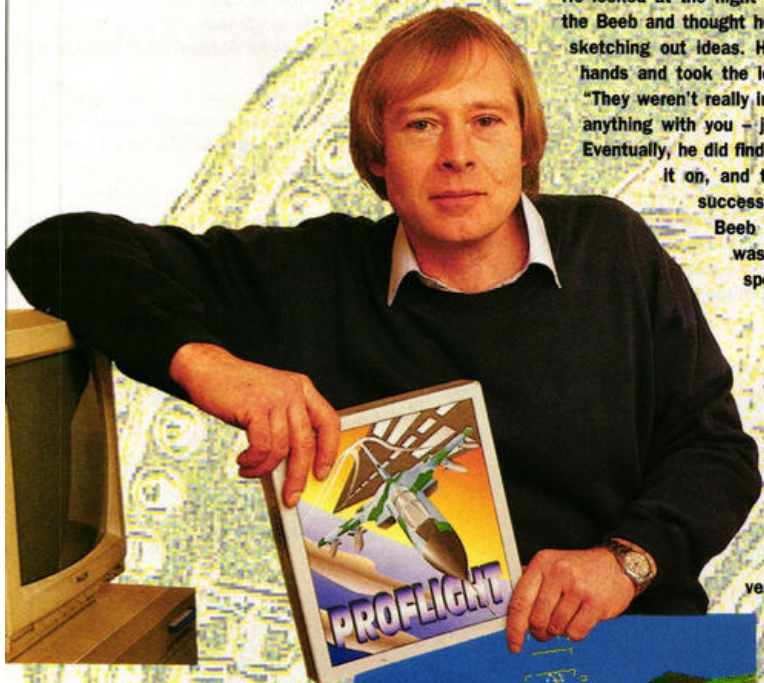
gram not for the out-and-out games freak, but to have a more realistic stab at simulation."

All Nick's work is done in assembly language, using *Devpac ST* (£39.95 from HiSoft ☎ 0525 713716). "A high level language like C compromises the program. There's all the 'noise' of the language in the background." Since *Devpac* was so easy to use, Nick didn't bother with C or Pascal even in the non-critical sections of the code. But, although the software was good, he does feel he could have saved time by getting better hardware. "I didn't have a suitable development system. It's a problem faced by freelancers as opposed to big companies."

Nick's advice to new programmers is that they find a company to do the marketing. "It's not sensible to market it yourself. You're too tied up with the programming." Ideally, you would tie up a marketing deal before writing the program but that's not realistic when the companies insist on seeing a finished program. "There's also a risk in showing ideas to games companies. They might just nick the idea and get their own programmers onto it."

It's a tough job at times, but there must be something rewarding about programming because Nick is now hard at work on *Proflight 2*.

Proflight is £39.95 from HiSoft ☎ 0525 718181.



● Freelance games programming offers some money-making opportunities, as Nick Brown discovered. He's now flying high with *Proflight* (Inset).

An extra dimension

Armed only with a virtual raygun, a clean pair of socks and a tube of smarties, Chris Lloyd steps into the third dimension

the start and has finally made it – bringing the extra dimension within reach of BASIC programmers.

In a 3D world, objects are stored as a series of points rather than flat images made up of pixels. Your program places the objects within a virtual world along with your viewpoint. Your ST then does a bit of complex number crunching to figure out what you could see



STOS 3D

MACHINE: COLOUR STs (STOS BASIC required)

PRICE: £34.95

FROM: MANDARIN

CONTACT: 0625 859333

You need to be a right clever-clogs to do 3D programming, don't you? All that maths and complicated assembly code before you can even start creating a virtual world to shoot things in. Not any more! An supplement to the STOS BASIC game creation language to create and manipulate 3D objects was planned right from

TAKE A DEEP BREATH AS YOU CHANT WITH ME - 3 DEEEEEEEEEEEEEEEEE

The *Object Modeller - OM* - is entirely icon-driven. There are over 50 of the little devils to click on - many are twin function ones. Clicking with the right-hand mouse button instead of the left one accesses another function. All a bit of a handful at first but, thankfully, all logical once you get acquainted.

- 1 **System blocks** - The five basic building blocks for your 3D world. You have five basic shapes to work from. Each object can consist of up to eight of them
- 2 **Storage area** - You can store five of your own 3D objects here, ready to be copied to the work areas
- 3 **Work areas** - This is where the action takes place - stretching and rotating to your heart's content
- 4 **Glue** - After you select surfaces on two blocks, this glues them together neatly
- 5 **Copy** - Copies an object from one area to another
- 6 **Precedence and culling** - This baby works out all the hidden lines for you, figuring which bits are visible and which aren't. Click with the right button and it simplifies your object when viewed at a distance. This speeds up your programs by ignoring

details that aren't really visible when the object is very small

- 7 **Delete object** - Zaps the current object into oblivion
- 8 **Delete block or group** - Kills a highlighted block or group of objects
- 9 **Snap and centre** - Click on the left button and nearby points on your object are brought together, correcting any little gaps or mistakes. Click with the right and the objects' centres are moved to the centre of gravity. This is the point which your object is going to rotate about and is also used to position the object in your world
- 10 **Undo** - Vital when dealing with complex modelling - undoes the last action
- 11 **Zoom** - Gives you a large screen view of one object, viewed head-on. This is where you edit
- 12 **Aligning tools** - After you select a face, these align it parallel to the X,Y or Z plane
- 13 **Highlight mode** - Switches between the two methods of highlighting components - one is easier to see but obscures surface details
- 14 **Disk access** - Brings up a fileselector to save and load your creations
- 15 **Info** - Your object's techie details are given here, like size, line and point numbers.
- 16 **Colour controls** - Switches between the possible colour combinations for a selected object. Each object has three colours taken from a palette

of seven. With the red, green and blue icons you can change any of the block's colours by fiddling with the values of each colour

- 17 **Reset** - Resets the editor, so if things get in a right pickle you can start again without quitting
- 18 **Quit** - Catapults you from your chair straight into the ceiling
- 19 **Rotation tool** - Click and hold down the left button while you wiggle the mouse around and the object is revealed in all its 3D glory. Click with the right button and *OM* resets the object's axes to the screen, so you can get at it from every angle
- 20 **XYZ tools** - Moves the object around on screen - has no effect on the object itself
- 21 **Block tools** - These select blocks and parts of blocks ready to be edited. The crosses deselect them and the exclamation marks undo your cock-up
- 22 **Pull tool** - Use this to stretch and squash your basic blocks. Sensitivity depends on where you click on the icon
- 23 **Group commands** - Here you can select groups of blocks to stretch, rotate and position them. With practice, it's possible to shift blocks to any position relative to each other
- 24 **Surface detail controls** - The surface detail is all vector based, so it's made from filled shapes which are built up from straight lines. It is possible to copy the same pattern onto as many faces as you want.



● This example demo shows a 3D pen writing on a 3D pad of paper. If you move the paper, then the writing moves with it.



● Eight blocks are not as limiting as you might think. Clever use of surface detail means that the table is actually only one block.

and displays the resulting image. You can move things around and view them from any angle. Flight sims are the most obvious example – complete 3D landscapes for you to zoom about in.

STOS 3D comes in two parts: *OM* – the *Object Modeller*, to create objects – and the extensions to the *STOS* interpreter and compiler, to manipulate them from within programs. The extensions add 90K to your programs and the 3D world needs plenty of workspace to breathe in. Although *STOS 3D* is useable on a 520, memory may get tight. There's a complete 3D game provided as well as dozens of example objects to get you going. The manual is pretty comprehensive and introduces you slowly to the process.

The first step is to boot up *OM* and get those wacky shapes together. *OM* is completely mouse-driven, with all the functions laid out on a panel of icons. Each object is constructed from five basic

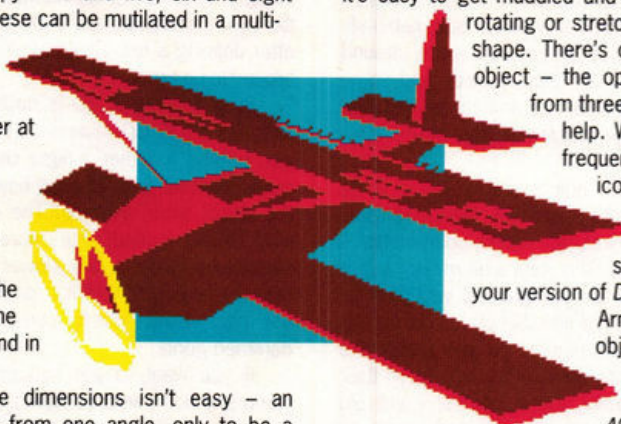
blocks – a cube, a pyramid and five, six and eight-sided flat shapes. These can be mutilated in a multitude of ways.

Objects can be made of up to eight blocks joined together at any orientation. Add some surface detail and some pretty impressive designs can be put together. The trade-off is speed – the more complex it is, the slower it moves around in your program.

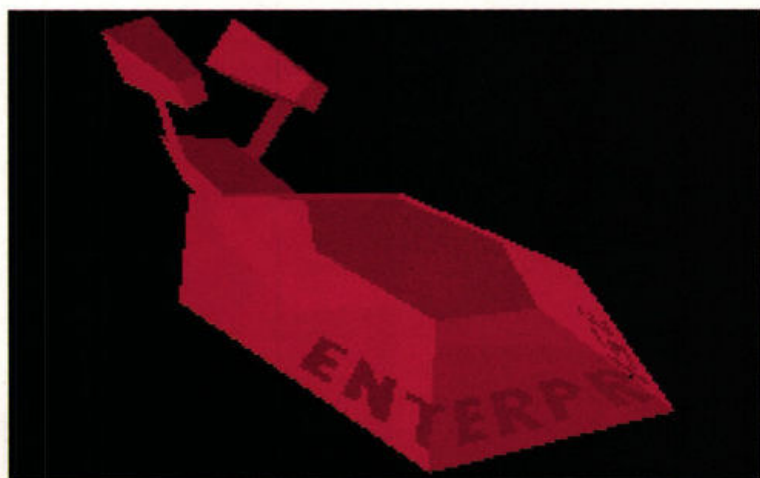
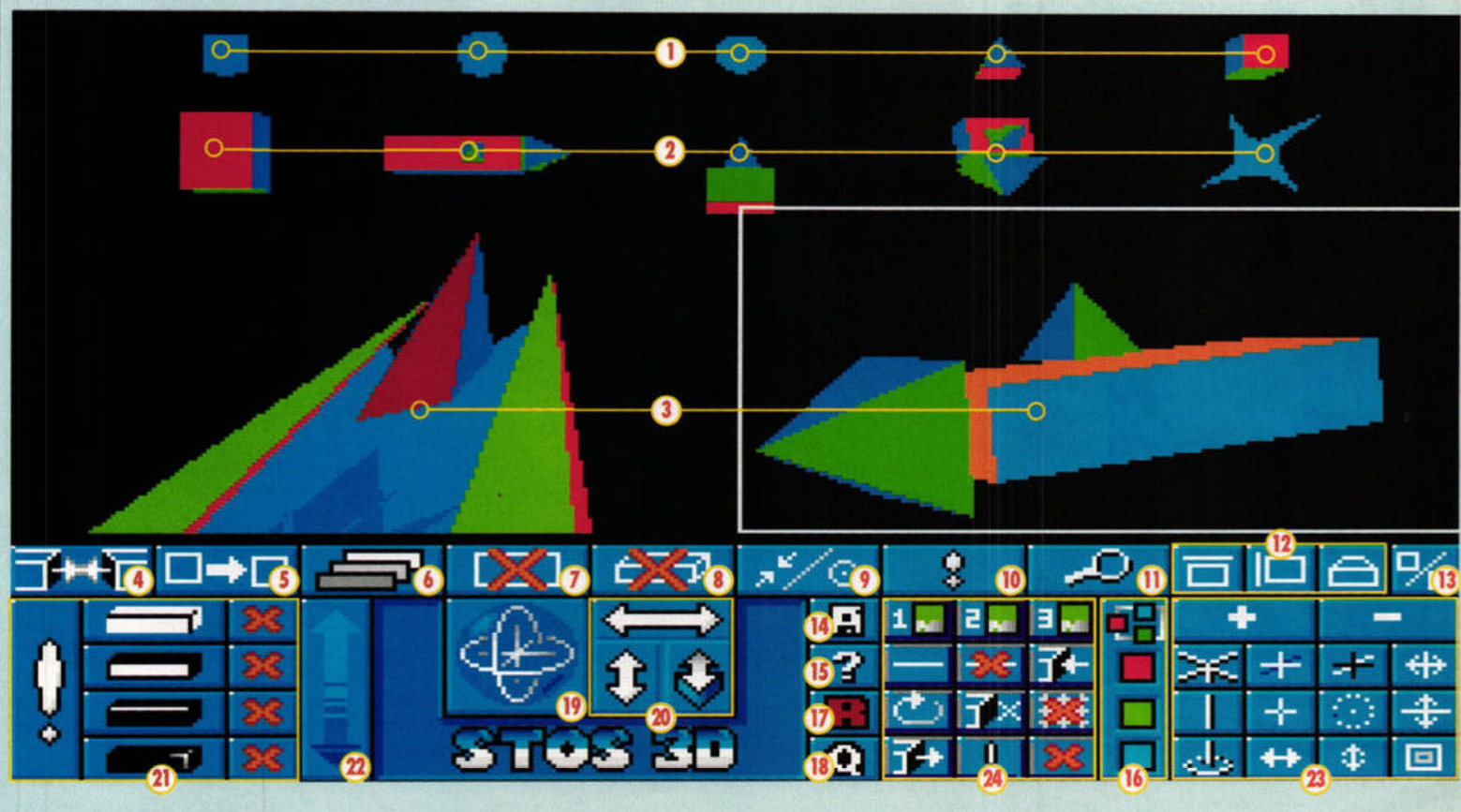
Working in three dimensions isn't easy – an object can look fine from one angle, only to be a complete mess when rotated. Things can get very confusing at first trying to orientate objects properly.

It's easy to get muddled and muck up a design by rotating or stretching something out of shape. There's only one view of each object – the option to view a shape from three sides at once would help. With perseverance and frequent use of the Undo icon, you should be able to build up an impressive fleet of spaceships ready for your version of *Death from Space*.

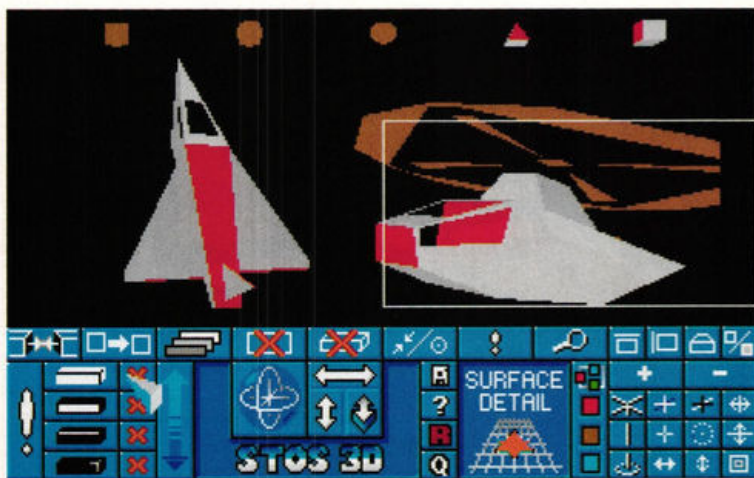
Armed with a folder of objects, it's time to start programming. The extension adds over 40 new commands to play with. The heart of any 3D program is a loop containing the command to draw, which calculates and



→



● It had to be done, didn't it? Load him into your virtual world and send him to the stars. Good-looking objects can be created using simple building blocks. The wording is surface detail mapped onto three faces of the block.



● There are some well-impressive examples. Surface details filled with black become see-through windows in your object. The plane and chopper have proper canopies – you could even add pilots inside them.

→ displays the 3D world for you. Objects can be placed anywhere, moved, rotated, animated and generally thrown about at will. Set up collision zones around your objects, add a missile-shaped block and some code to figure relative bearings and range and that shoot-'em-up you always wanted to play starts coming together.

Many of the new commands are similar to sprite commands with an added dimension. There are three coordinate systems. First, the world coordinates – this is your virtual world. This gets a bit messy if your player is pointing at a funny angle and you want an object to appear in front of him. Second, local coordinates are based on an object, so you can make objects move relative to each other, whatever their world coordinates. Lastly, there are the good old screen coordinates, so that you can find where an object is on-screen and whap an explosion sprite over the top of him after you have blasted him with a virtual missile.

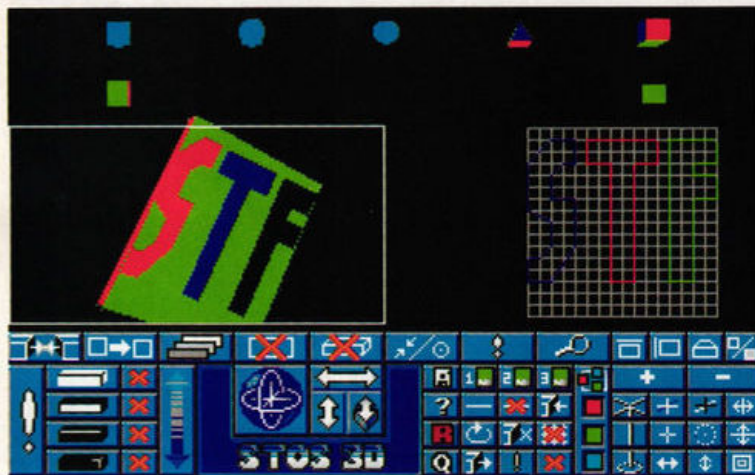
A set of commands converts between the coordinate systems. All the angles are calculated using the previously unknown Voodoo Rotation Units – 182 to a degree. These enable you to fine tune rotations. To save you from madness, there are commands which move your object relative to its current attitude, rather than absolute values. Points on objects and surface details can be animated using animation

strings. Considering the complexity of the process, the new commands are easy to get to grips with – after defining a few objects you can have them flying around in no time.

Programming in 3D is notoriously difficult, and, although STOS 3D makes it as easy as it's likely to get, putting together a flight sim is still going to be major work for you. You can have up to 20 objects in the virtual world at once. The crunch is, as always with BASIC, speed. The more objects and game mechanics involved, the slower it gets. Keep things reasonably simple and it's okay – not super-fast but not bad at all, which, considering it's BASIC, is dammed good.

If you want to get into programming a virtual world and don't want to spend years learning assembly, then STOS 3D is the biscuit. 3D modelling takes a while to get your head around and there's no getting away from a bit of maths if you want more than a spinning cube demo, but the real beauty of it is the flexibility. You have a full BASIC language directly integrated with a 3D environment rather than a dedicated system. You're not likely to write a sequel to *Star-glider*, but set your sights a little lower and the results are impressive and, for the first time, within reach of us not-such-right-clever-clogs types. **stf**

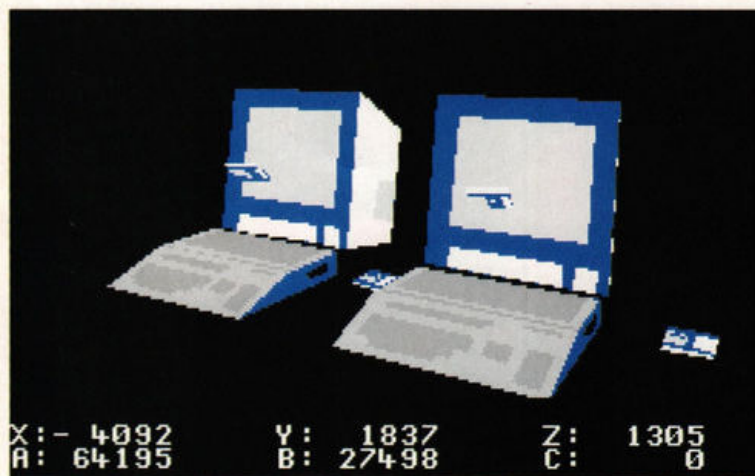
● Save £5 when you buy your copy of STOS 3D through STF's special offers – turn to page 126 immediately!



● Any face can have surface detail mapped onto it made from filled shapes. The results add realism without slowing things down too much and are able to be reused on any number of blocks using the same file.



● Create a few objects, design a game world for the live ones among them to roam in – and shoot 'em down. With only simple STOS commands, you can knock up complete 3D games after lunch – well, nearly.



● An example program – two virtual STs with spinning disks. Move the mouse and you can fly about and see the objects from all angles.



● Complicated 3D objects take time to put together, remember to save your work if you've been slaving away on the latest shoot-'em-up all night.

STOS 3D

£34.95 Mandarin ☎ 0625 859333

FEATURES: 92%

A wealth of new commands to manipulate a virtual world. *Object Modeller* is comprehensive and powerful.

EASE OF USE: 85%

3D modelling is initially confusing, with loads of icons to master. The extra commands are reasonably simple, with plenty of examples to get you going.

SPEED: 80%

The limitations of BASIC show up – only the simplest 3D world moves around with any speed. Games are all slow, but still amazing for BASIC.

RESULTS: 90%

As long as you're not too ambitious, the results are amazing. – 3D objects can be painlessly integrated within your STOS programs.

THE COMPETITION

This is the only 3D system useable within BASIC. If you just want a straight 3D game, Domark's *3D Construction Kit* (STF 95% £49.99 ☎ 081 780 2222) gives a more complex world but isn't nearly as flexible.

STF RATING: 90%

The third dimension comes within reach of BASIC programmers – brilliant. The down side is the speed.



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GAMES

ANNIHILATOR

Budgie - Disk 88



● What a concept – squads of sprites come down towards your ship, while you whizz left and right trying to blast them. *Annihilator* is a well-crafted shoot-'em-up in the classic mould. The PD is littered with similar games, but this is one of the best going.

Just when you thought *Space Invaders* had been done to death, up pops a new version. This one's a cross between the old classic and *Galaxians* – the little devils dive down at you, too. Every now and then a power-up floats down to give you a fighting chance. Instead of the one-hit-and-you're-dead stuff, you get shields which gradually drain as the aliens from another world – that you have to destroy – do their best to destroy you. Every five levels there's an extra big baddie to deal with. The sprites are detailed and move smoothly. The collision detection is spot on, too. Not exactly mind-taxing gear but useful for whiling away an hour or so bringing death to our little green friends – or, in this case, blue.

STF RATING – 86%

DENNIS AND DENISE

Budgie - Disk 77



● *Dennis and Denise* has pretty uninspiring graphics. Still, at least they match the gameplay. Thankfully, a password system means you only need to play each level once. Between levels there's a little puzzle game to get past.

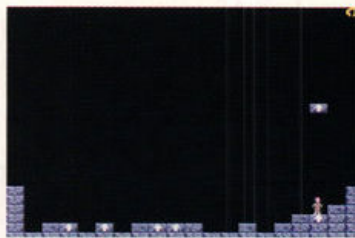
Welcome to frustration alley. *Dennis and Denise* is a sexist-free flip-screen left to right jobby. You need to jump over or duck your way past the bullets and pits. Each level has a time limit – make it and you're given the password. Along the way are various – mostly good – tokens, but occasionally they're not so good – instant death, for example. They change each time, so it's actually pot luck.

It's all a matter of memorising each level and then timing your movements. The whole affair is accompanied by the worst kind of chip music. Playable for a while, but it's not really one of Budgie's better releases.

STF RATING – 65%

CRUSH

Budgie - Disk 82



● This most certainly is not a game for people with a persecution complex. *Crush* is an incredibly hectic scramble to avoid being made very flat. Control is rather sensitive and it's easy to leap into a block as it falls onto you.

An original and slightly weird game. In *Crush* you're stuck in a pit while a crane constantly moves back and forth dropping large blocks of stone on your head. The blocks are always dropped directly over you, so the first safety tip is to keep moving. The idea is to escape over the side walls. You can only jump so far, so you need to get those blocks stacked staircase-fashion to get out. "Too easy!" I hear you cry. Okay then, how about blocks with arrows on that send you skidding about all over the place, and others that destroy your carefully laid plans? The first level is a push-over, but from there on in it gets rapidly more frantic. Not a game that's going to have you coming back for very long.

STF RATING – 63%

RED ALERT

Merton PD - Disk MG 28



● *Red Alert* is a cheery little game of mass destruction. Enemy warheads fly in from all directions, including offshore subs. Strategic placing of your defences is vital – it's easy to destroy your own cities while defending them. MAD or what?

It's a sobering thought that the scenario of nuclear war depicted in *Red Alert* was, and to a lesser extent still is, a possibility. But hey, this is a game, so let's play! Your job is to see how long you can protect your cities. First, you place your cities, missile silos and laser projectors onto a map of Europe or America, then wait for the incoming missiles. Much as you do in *Missile Command* you direct the fire from your missile batteries to destroy the warheads before they zap your bods. Defeat is inevitable – missiles keep coming until all that's left is radioactive waste. Passable enough game but lacks that one-more-go feeling.

STF RATING – 63%

ART AND MUSIC

STOS DMA PLAYER

Goodmans PDL - Disk BAS 36



● Get at your DMA chip with this *STOS* sample player. There are plenty of examples and instructions to get you going. The big advantage of using the DMA chip is that it takes no processor time – sampled music without any loss of speed. Terrific!

You've got this STE, right? It can produce sexy stereo sound using the DMA chip, right? But unfortunately there's not much software support yet. The process is simple – it's all a matter of poking values into your ST's memory. You just need to know the memory addresses and the parameters. The hard bit is knowing the values needed – get any wrong and you're bound to crash. This disk explains all you need to know to get samples whizzing between speakers using *STOS* – including setting balance, bass, treble and volume. The program *Convert* converts two mono samples into one stereo masterpiece. Bingo! You can get at those STE features!

STF RATING – 80%

TAROT IMG FILES

ImageArt - Disk 1037



Pictures from a range of bit-mapped images available from ImageArt. This two disk package has a complete set of 17th Century higher arcana tarot cards – ideal for DTP work. Each is roughly 450 by 800 pixels and all the disks come with a printout, so you don't need to load in each one to find out what they are. The quality is good and, if you're in need of a few professional images to brighten up a document, look no further.

STF RATING – 70%

MIDI FILES

Arrow PD - Disk MID 05

26 standard MIDI files. You need to set up the voices to match unless you've a Roland U-220 module. The files are small and pretty basic, but they do make a good starting point for plagiarising. Among them you can find such classics as "Peggy Sue" and "The Entertainer." Professional MIDI files cost far too many quids – the Public Domain is a much better place to start, especially if you're only going to be fiddling about anyway.

STF RATING – 60%

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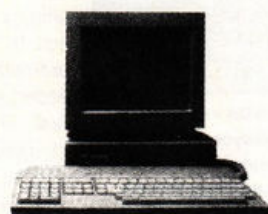
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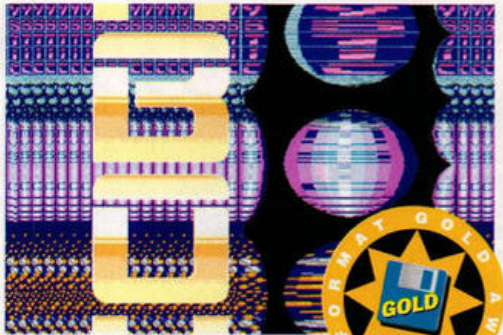
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DEMOS

PUNISH YOUR MACHINE

Caledonia PDL - Disks D 112 and 113



● The cosmical magic rasters screen from the *Punish Your Machine* demo by Delta Force. Full-screen sine wobbling graphics and scrolling magnifying glasses. Brilliant. There's also a fabby reset starfield demo.

This wonderful monster of a demo was created at the second international coding conference in Germany. There are 15 demos which are spread over two disks and you need to be packing 1MByte. There's a straightforward and colourful menu - none of that messing about guiding sprites around business.

Among the goodies is a phenomenally fast Mandelbrot generator and a complete oriental-style strategy game, *Ishido* - which means "the way of the stones." Even if you're not into the demo scene, this one's worth a look even if only to see what your ST is capable of.

STF RATING - 90%

ZOOLOOK

Prophecy PDL - Disk DEM 122 and 123



● A picture of the fella himself to have a gander at while you're listening to this groovy music. *Zoolook* comes on two disks and in three flavours. This really is digitised music at its very best.

This is by far one of the best bits of digital music you're able to hear on your ST. The sound quality is absolutely stunning and the song goes on for ages and ages - magnificent. There are three versions on the disk for the 520 ST, 520 STE and 1040 STE. The last version is, of course, the best. The chances are that you didn't know your ST could sound so good. Probably.

STF RATING - 81%

RED SECTOR MEGADEMO

State 808 PDL - Disk MDM 23



● Yoof kulture, where would we be without it, eh? Well, it'd certainly be a damn sight quieter for starters. The *Red Sector Megademo* has got a couple of dead fab mixes, is vaguely psychedelic and adolescent, but all in all is good fun.

Yo! Get that baseball-cap on backwards and pull up a pair of trousers that are big enough to house a family. The *Red Sector Megademo* has got some pretty funky house music as well as brilliant visuals to match. There's also an absolute multitude of flashing images and nutty samples. So, then, all you have to do is turn off the lights and get pulsing, matey.

There are two sequences separated by a rather dodgy animation of two hedgehogs - er, mating. So, if acid house is your bag, bag this one. Manic vibes.

STF RATING - 85%

THE YEAR AFTER DEMO

Caledonia PDL - Disk D 104



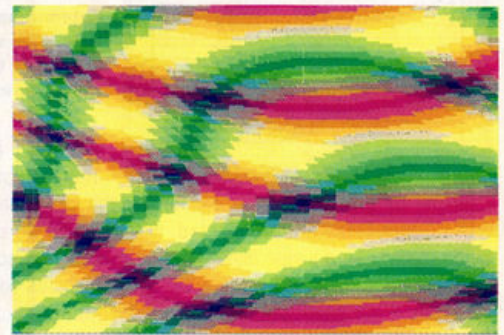
● The GMT screen from *The Year After Demo* from the German Alliance. Like most of the megademos, it needs 1MByte of memory to run. Looks pretty, doesn't it? If you're really patient, you could try reading the scroll line. But then again, why bother?

Boot up this megademo and you're confronted with the Desktop from one of those Amiga games machine things. Click on the drive icon and up comes a window for the sub-demos. There are eight of these with some very flash scroll lines - if you like that kind of thing. The best screen is the Braindrops one with spinning patterns made from little ray-traced balls - very fast and smooth. What is it with little ray-traced balls? You get the feeling it's the same sprite in all the demos.

STF RATING - 73%

LIGHTNING DEMO

Riverdene PDL - Disk 956



● The hypnotic plasma screen is the highlight of the *Pendragons' Lightning Demo*. You can simulate the effect by cutting out this picture and floating it in the middle of a bath of water and splashing about making waves.

You get at the myriad sub-demos in this megademo by guiding your little blob chappie around a colourful full-screen world. Bit of a chore really - a straight menu would be less hassle. There are the usual wibbly text scrollers and bouncing balls, all beautifully put together. Lots of full-screen stuff and a couple of groovy tracker sounds, too. One of the demos turns out to be a 3D object designer, though it can't load or save. The most original and best bit is the plasma screen, which claims to be the first on an ST. Mathematically-generated bands of colour wave about in a fascinating display of - er, mathematically-generated bands of colour waving about.

STF RATING - 82%

IMAGIC

Jennix PD - Disk 309



● Desk-lamps with personality - aren't they cute? *Imagic* is a clip from a computer animation and it's good for a viewing or two, but that's about it. Once again, you need 1MByte to run it.

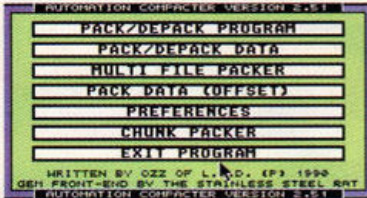
No scroll lines to read and horrible music, *Imagic* is a straight 45 seconds of digitised animation. It's been swiped from a ray-traced animation by a super-duprr machine and converted for your ST by some Gerran chaps. A cute baby desk-lamp bounces around on a ball for a while until the ball gets squashed and the baby lamp looks despondently at the flattened remains. Not much to it, really.

STF RATING - 60% →

→ UTILITIES

PACKERS AND COMPRESSION

Goodmans PDL - Disk GD 702



● The easiest control screen to use is Automation's packer. Not all packers work with all programs. Luckily, there are plenty to choose from, including one which works as a Desk Accessory.

We could all do with more disk space. There's not a lot you can do about the capacity of a disk, but you can shrink the programs. Most of the programs on STF's Cover Disks are compacted, which is why we can bring you over one million bytes of data on a single disk! Here's a disk full of packing programs. They work by examining the data and using a bit of flash maths to squash it. When you run the program, it automatically uncompresses itself before actually running. The only disadvantage is a slight delay. There are seven packers, a couple of unpackers as well as two disk archivers in this collection. The best all round performer is probably Pack-Ice - it's the one we use. If you want to get more on your disks, get packing.

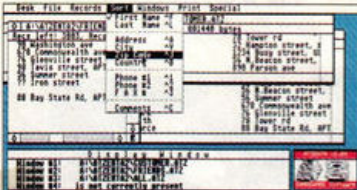
STF RATING - 74%

ATZENTA 2

Caledonia PDL - Disk AU 136

Imagine you're really popular - so popular you get backache carrying your address book around. What you need is an electronic one. Atzenta is a GEM-driven address database. You can have up to four windows open at once - each with a different set of addresses. Adding and editing records is a doddle and they can be sorted in a multitude of ways. There's room for phone and fax numbers as well as auto-phone dialling and a password system for those sensitive 0898 numbers. Now all you need are really big pockets to cart your ST around in.

STF RATING - 74%



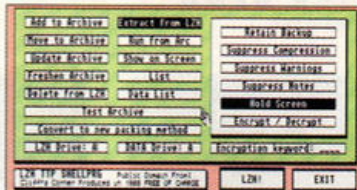
● Atzenta uses the familiar system of windows and menus to keep records on all your contacts. Everything is simple to use, if a little slow at times.

ARCING UTILITIES

Seven Disk - Disk 369

Archiving is a compaction method similar to packing programs, but you can't run the resulting file without de-arc-ing it first. The advantage is greater compaction and the ability to pack a group of files into a compressed file. Used for transfer by modem where time is money. Arc, now up to v6.02, is the standard archiver for the PC bore. LHarc claims to be more effective and comes with a shell program to protect you from the hideous command-line interface. The neatest program is SFX-LHarc which converts LZH files created by LHarc into self-extracting files.

STF RATING - 72%



● Archiving programs originated on the PC, so are a real pain to use - none of that mouse and clicking business. But the ST version of LHarc has a rather nice shell program.

WIZARD TOP TEN

We asked Wizard PD Library which disks they would take if they were stranded on a desert island with only an ST for company.

1. **ST WRITER AND FIRST WORD** - Disk DWPR 06. The two best word processors in the Public Domain.
2. **PUBLIC PAINTER** - Disk ART 07. Mono art program that can produce A4 printouts - ideal for simple DTP work.
3. **LLAMATRON AND TETRIS** - Disk ARC 37. The brilliant manic blast *Llamatron* and the hypnotic pile-'em-up, *Tetris*.
4. **NOISETRACKER** - Disk MUS 18. Probably the best tracker program around.

5. **COMPACT DISK 2** - Disk KME 02. The game *Match-it*, the *CBIT 90* demo and the 300K batmix tracker module.
6. **ART ST** - Disk ART 18. Spiffy art program - works in all resolutions.
7. **BOARD GAMES** - Disk DBRD 01. Board games including *Othello*, *Draughts*, *Mastermind* and *Wheel of Fortune*.
8. **WADDINGTON SEQUENCER** - Disk DMUS 03. The 32 track sequencer by Henry Cosh, plus a few other musical goodies.
9. **GALAXIANS** - Disk LIC 30. The old favourite arcade blast - this is the Budgie version.
10. **SAFE AS HOUSES** - Disk LIC 43. Excellent version of *Monopoly*.

The **FORMAT** PD directory

● Where to go for Public Domain software - demos, games and utilities for around £3 a disk (or even less)! If you write to any of these PD libraries for a catalogue, remember to enclose an SAE. ● Budgie games are available from all PD libraries indicated by a (B). Simply mention the disk number (above the review) when you order the disk.

SOUTH OF ENGLAND

Arrow PD, 6 Kents Orchard, Perry Street, South Chard, Somerset TA20 2QB

Atari Advantage, 56 Bath Road, Cheltenham GL53 7HJ ☎ 0242 224340

Awesomedemos, 3 Mason Road, Seaford, East Sussex BN25 3EE

B-Soft, 2 Oliver Drive, Calcot, Reading, Berks. RG3 5XN ☎ 0734 419981

C. Hacks PDL, 19 Latimer Drive, Laindon, Essex SS15 4RD ☎ 0268 416888

Elmsort, PO Box 17, Loughton, Essex IG10 2EE

EVPD, 15 Cleeve Road, Gotherington, Cheltenham, Glos. GL52 4EW

Freaks PDL, 29 Leap Valley Crescent, Downend, Bristol BS16 6TQ ☎ 0272 570122 (B)

Gemini Shareware, 10 Warwick Avenue, Slough, Berks. SL2 1DX ☎ 0753 28183

ImageArt, 19 Brenda Road, London SW17 7DD ☎ 081 767 4761

Jennix PD, 66 Abbey Road, Strood, Rochester, Kent ME2 3QB ☎ 0634 723659

MT Software, Greensward House, The Broadway, Totland, Isle of Wight PO39 0BX ☎ 0983 756056 (B)

Mertin PD, 10 Grasmere Avenue, Merton Park, London SW19 3DX

New Age PDL, 30 Anderson Estate, Lower Road, Hockley, Essex SS5 5NG

PD Essentials, 22 Fern Avenue, Mitcham, Surrey CR4 1LS

Prophecy PD, 390 Coulsdon Road, Old Coulsdon, Surrey CR5 1EF ☎ 0737 554536

Public Dominator PD Atari, PO Box 927, Bishops Stortford, Herts. CM23 3TZ ☎ 0279 757692 (B)

Public Sector PDL, 50 Ripon Road, Stevenage, Herts. SG1 4NA ☎ 0438 364722 / 361324

Riverdene PDL, 30a School Road, Tilehurst, Reading, Berks RG3 5AN ☎ 0734 452416 (B)

Senlac, 14 Oaklea Close, Old Road Road, St Leonards On Sea, E.Sussex TN37 7HB ☎ 0424 753070

Seven Disk, Digswell Water Lodge, Digswell Lane, Welwyn Garden City, Herts AL7 1SN ☎ 0438 840456

Softville PD, Unit 5, Stratfield Park, Eletra Avenue, Waterlooville, Hants PO7 7XN ☎ 0705 266509 (B)

Solent Software, 53 Rufus Gardens, Totton, Hants. SO4 3TA ☎ 0703 868882

South West Software Library, PO Box 562, Wimborne, Dorset BH21 2YD (B)

Tower Top PDL, The Coragen Corporation, 59 Tappenhoe Lane, Blechley, Milton Keynes, MK3 7AD ☎ 0908 373642

Warzone PDL, 53 Ropewalk, River Street, St Judes, Bristol BS2 9EG

Wizard PD, 178 Waverley Road, Reading, Berks, RG3 2PZ ☎ 0734 574685 (B)

Wacko Software, Willem Pijperstraat 63, 1077XL Amsterdam, The Netherlands

NORTH OF ENGLAND

Alpha Computing, 32 Meadow Drive, Halifax, W Yorks HX3 5JZ

Akore Shareware, 7 Fishergate Point, Lower Parliament Street, Nottingham NG1 1GD ☎ 0800 252221

D W Stables, Unit 1, Johnson's Shopping Centre, 29-31 Bond Street, Blackpool FY4 1BQ ☎ 0253 404550

EM PDL, 54 Watnall Road, Hucknall, Nottingham NG15 7LE ☎ 0602 630071

Goodman PDL, 16 Conrad Close, Meir Hay Estate, Longton, Stoke on Trent, Staffs ST3 1SW ☎ 0782 335650 (B)

High Tec Sequencing Services PDL, 20 South Lane, Shelf, Halifax, W. Yorks. HX3 7PN ☎ 0274 606205

LAPD, 80 Lee Lane, Langley, Heanor, Derbys. DE7 7HN ☎ 0773 761944 (B)

Metropolis PD, 38 Howick Park Drive, Penwortham, Preston PR1 0LU ☎ 0772 748422

Nightshift PD, 8 Bertelin Road, Beaconside, Stafford ST16 3JJ ☎ 0785 49332

Page 6 Publishing, PO Box 54, Stafford ST16 1DR ☎ 0785 213928 (B)

PD.ST, 95 Elton Road, Sandbach, Cheshire CW11 9NF

ST Club, 9 Sutton Place, 49 Stoney St, Nottingham NG1 1LX ☎ 0602 410241 (B)

The Source PD, 7 Shearwater Lane, Norton, Stockton-On-Tees, Cleveland TS20 1SH ☎ 0642 550896

Tower PD, PO Box 40, Thornton-Cleveleys, Blackpool FY5 3PH

TruST PD, 18 The Park, Southwam, Halifax, HX3 9QY ☎ 0422 341606 (B)

SCOTLAND

Caledonia PDL, 250 Oldtown Road, Hiltou, Inverness, N2 4PT ☎ 0463 225736 (B)

The Circular PD Library, 14 Morrison Drive, Lennoxton, Glasgow G65 7BA

Floppyshop ST, 45 Provost Graham Avenue, Hazelhead, Aberdeen AB1 8HB ☎ 0224 312756 (B)

Office Choice, Suite 14, Avon House, Town Centre, Cumbernauld G67 1EJ (B)

State 808 PDL, 3A Old Lanark Road, Carlisle, Scotland ML8 4HW

WoolleySoft, Humblesknowe Cottage, Ramolye, Dunblane, Perthshire, Scotland FK15 0BA

WALES

Ian Blair Enterprises, 78 Carmarthen Road, Swansea SA1 1HS ☎ 0792 649060

Star PD, 1 Solva Road, Clase, Swansea SA6 7NX

OVERSEAS

Algemene ComputerClub Nederland (ACN), Postbus 5011, 2000 CA Haarlem ☎ Holland 023 326858

Atari ST User Group Norway, c/o SA Jensen, N-3630 Rodenberg, Norway

Public Domain Corporation, 4320 - 196th SW, Suite B-140, Lynnwood, WA 98036-6721, USA ☎ 0101 206 745 5980 (catalogue £1)

ST-PLUG, 1670 Heron Road, Box 22026, Ottawa, Ontario, Canada K1V 0C2 ☎ BBS 0101 613 731 2779. (B)

Wacko Software, Willem Pijperstraat 63, 1077XL Amsterdam, The Netherlands

BUYER BEWARE: Inclusion in this directory does not imply that ST FORMAT endorses or recommends any individual PD Library in any way.

● If you run a PD library not listed here and wish to be included, or if you are already listed and want to amend any details, send full details and a copy of your latest catalogue to: PD Directory, ST FORMAT, 30 Monmouth Street, Bath, Avon BA1 2BW

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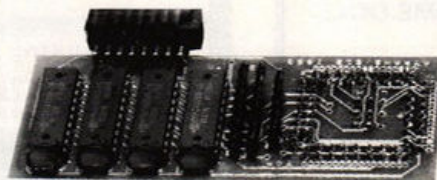
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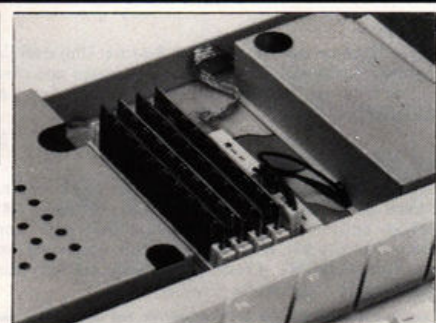
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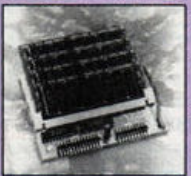


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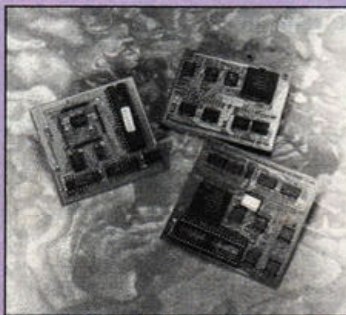
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STOS surgery



the twin joystick routine. This version supports Mandarin's official version and returns the mouse to its default state if any error occurs with your program. No other version works like this.

Bli – as they say – me, this STOS has a lot in it. Asa Burrows helps you find your way through the maze and shows you a few shortcuts to boot

This software could make you rich. Very rich. Or so she thought. The scene: a small town somewhere in England. Token girlie enters, carrying a parcel from her local computer shop. Its contents: STOS, *The Game Creator*. She seductively unwraps the parcel and suggestively rams the disk into the drive. Then she finds the reference card. STOS is massive, she realises – and before you can tell her about extensions and extra commands she packs it away and puts it in a dark cupboard, never to be seen again.

A familiar scenario? Come on, admit it. Over 20,000 people who own STOS don't actually use it, probably. Why? Because they don't know BASIC. If you are one of those who have a copy hidden in the cupboard, get it out, brush off the dust and tune in next month, because starting with the next instalment STOS Surgery is catering for the beginner as well as the advanced user. But until then, let's tackle some of your queries, beginning with screens.

DAMN SPRITE!

How many times have you hit your ST because the STOS Sprite Editor's drawing sprites are a pain to work with? Easy solution. Load the Sprite Editor as a BASIC program, not an Accessory, then save bank one. Run the Sprite Editor and load in the bank you have saved. Now you can change the Editor's sprites. When you have finished playing with them, save your new sprites onto the disk and exit the Sprite Editor. You should now be back to the STOS BASIC Editor with the Sprite Editor program still in memory. Load the bank containing your new sprites, then save the Sprite Editor as an Accessory. When you next use the Sprite Editor, it uses your newly defined sprites.

SCREEN SWAP

When you're using sprites, there are three kinds of screens involved. There's the physical screen – the

one you can actually see. Then there's the logical screen, which is where your ST sends its data to construct the image. Finally, there's the back screen – a copy of the physical screen without the sprites on it, used to fill in the areas of screen that the sprites have moved over. When STOS is in its default state, physical and logical screens are pointing to the same address (so everything you draw is immediately visible), while the back screen is pointing to its own address. When you use the screen swap technique, remember the back screen address is different to the physical and logical screen address and all you have to do is set the logical screen to the back screen address. If you don't and you reserve an extra screen you waste 32K of memory as the back screen is sitting idle.

TEMPLATE STOS

When you start a program you probably start from scratch. Before you start your next program, write a template program for all your future programs. Your template might contain 10 to 20 `rem` statements at the beginning, a couple of startup lines and an error trapping routine. The error trapping routine can save you plenty of time when you test your program because the error routine STOS uses is BASIC and when you are using screen swap STOS does not return you to the Editor properly and it looks like the software has crashed.

TWIN JOYSTICKS

There is a limitation with STOS. Okay, there are several limitations. The one I refer to is the lack of twin joysticks as standard. There are a couple of twin joystick extensions floating around, including *STE Extension* – and that's yours on this issue's Cover Disk. For details, see the Cover Disk pages, starting on page 18. Even if you don't own an STE you can still install the extension. The extension enables any ST to use

EXTENSIONS

Trying to decide the names of your new commands can be a pain in the neck – and when you finally have your names STOS doesn't work properly with them. When I was working with *STE Extension* I set up part of my token list like this.

```
dc.b "other", 128
dc.b "ste", 129 ; Return STE status
dc.b "ste colour", 130 ; Set STE colour
dc.b "ste col", 131 ; Return STE colour
Did this work? Not a chance. When I use the ste colour command or the ste col function, the Editor picked up the ste function. This is what should be done:
dc.b "ste colour", 128
dc.b "ste col", 129
dc.b "other", 130
dc.b "ste", 131
```

This works fine. It's quite logical, really!

● Fancy creating the next *Starglider*, expanding your horizons with an extra dimension (or something like that)? The new extension, *STOS 3D*, offers you the chance to explore the fascinating world of virtual reality, create any complex 3D object using simple building blocks, display up to 20 objects at once on-screen – and run all this at up to 25 frames a second! Does it live up to its promise? Check out the complete *STF* review on page 41.

OVER TO YOU

To order STOS – complete with compiler, *Maestro* sound package and over 600 sprites – at a massive saving of £42 – turn to page 126. Or perhaps you already use STOS. Got some hot STOS tips to share? Need a perplexing programming predicament sorted out? Let us know about it! From next month we're starting a very special ST Answers section where a panel of experts, including Asa Burrows, will answer every query we receive and respond to your tips and cries for help. Write to: ST Answers STOS Surgery, ST FORMAT, 30 Monmouth Street, Bath, Avon BA1 2BW. Sorry, we can only answer in these pages – personal replies are impossible.



SCREEN FORMAT

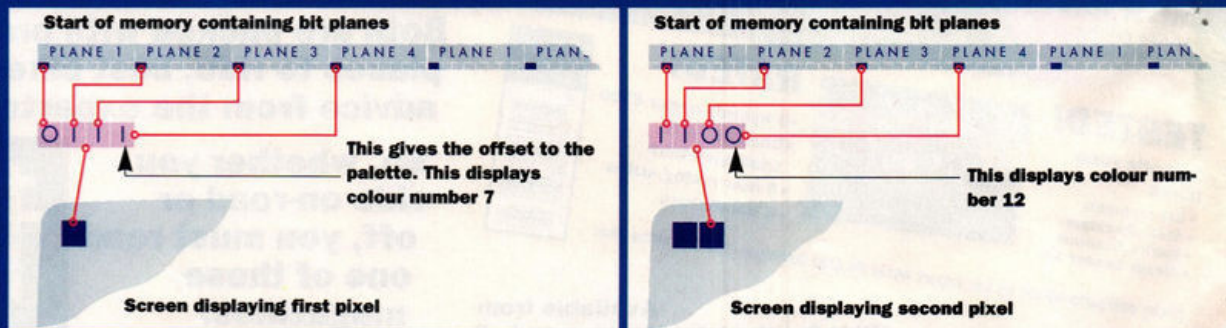
The STOS "appear" routine is a bit of a giveaway, and we suggested in Issue 30 that you might like to write your own appear routine. Tony Stevenson of London asks: "How can I write my own 'appear' routine without knowing the ST screen layout?" The answer is, you can't – well, at least not properly – so here's a quick explanation of the ST screen layout.

The ST screen is made up of "bitplanes" interleaved with each other, as illustrated. Each bitplane consists of one word, which is 16 bits. In low resolution – the standard display mode for games and many art packages, giving you 320 x 200 picture elements or pixels on-screen – four bits are needed to represent one pixel on the screen. The illustration shows

how the bitplanes represent the pixels on the screen and you should be able to work out how many bitplanes are needed for one scan line. A scan line is one line on the screen and in low resolution there are 200 lines. The point is that a picture is not stored in memory simply in a

logical pixel-by-pixel order but fragmented, so your "appear" routine has to take account of how the picture is represented and where the data is to be found.

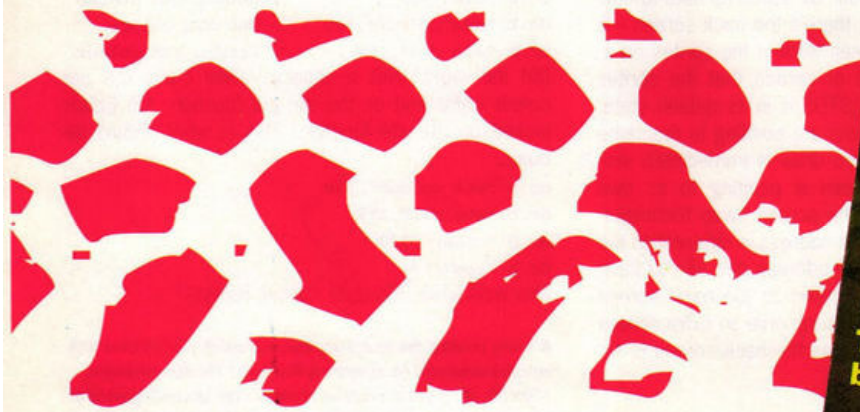
Now you know all that, there's nothing stopping you, is there?



● ST screens are split into bitplanes – the data used to construct the screen is fragmented, not stored in simple pixel-by-pixel order.

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Start here for better graphics

Puzzled by pixellated pictures? Confused by colours? Can't compose that chef d'oeuvre? Your graphics guide is Neil Jackson



Sooner or later, the chances are you're going to want to use your ST for drawing, either to create an incredibly colourful masterpiece or just for a bit of a doodle. Everybody knows that the ST is a powerful graphics tool, but

turning that power to your advantage doesn't seem easy at first. For a start, the ST's three resolution-graphic modes – low, medium and high resolution – offer widely varying capabilities, and choosing the best one for your intended image can be important.

The panel below explains exactly what you can do in each resolution.

FILE STYLES

The most popular picture file format on the ST is the →

THE RIGHT RESOLUTION

THE LOWDOWN ON LOW RES

● Each of the 64,000 pixels on your ST's screen in low res looks like a square which gives quite a blocky – known as "pixellated" – effect.

The most commonly used mode for artwork is low resolution – colloquially known as low res. In this mode, the ST's screen is stored in memory as a large grid, 320 dots across by 200 dots vertically. Each dot is one picture element – known as a pixel. In low res mode 64,000 pixels make up the entire screen.

Your ST's video chip – which handles the passing of screen data to the monitor or TV – uses 16 internal locations called palette registers to hold the brightness information for each colour. This enables you to have up to 16 different colours on screen at once, regardless of whether you have an ST or an STE. Each pixel on-screen contains the number of one of these 16 palette registers and that causes the pixel to be displayed in the corresponding colour. Thus, when you change the colour stored in a palette register, all pixels which point to that register change to the new colour.

MEDIUM, BUT NOT RARE

● In medium res, pixels are rectangular because there are twice as many horizontally across your ST's screen. The effect is slightly smoother than in low res.

The ST's medium resolution mode is very similar to the low res mode, but there are a few small differences. The medium resolution display is larger in the horizontal direction, with 640 pixels to each line. Each pixel is physically thinner than those in low resolution and this enables you to create much smoother lines. The vertical size is the same at 200 pixels.

To store the more detailed horizontal lines, your ST requires double the amount of memory, but it gets around this by reducing the number of colours that are available in medium resolution. Instead of the 16 active palette registers that are available in low resolution, there are only four available in medium res. Consequently, the space required for each pixel is halved, which enables the medium resolution screen to fit into exactly the same memory space as the low res version – 32K.

HIGHER AND HIGHER

● The pixels in high resolution appear as a quarter of the size of the pixels in low res. This enables you to create much smoother lines – but only in mono.

The most detailed graphic mode on your ST is the high res mode, which you can only access with a special high resolution monochrome monitor. The trouble with high resolution monitors is that they can't display medium or low res pictures, so to access all three modes on your ST you need a colour monitor – or TV – and a high res monitor, as well.

High res, like medium res, uses 640 pixels on each horizontal line, but it also uses 400 pixels vertically, enabling you to create even smoother lines. This would again double the memory needed to store a screen picture, and the ST uses the same trick to reduce the space. Instead of four or 16 colours, high res mode has only two possible colours – black and white. Because you only need one bit to select either colour for a particular pixel, the memory requirements are effectively halved again. Thus, all ST screens, regardless of resolution, fit into the same space – 32KBytes.

But understanding the layout of the ST's screen won't help you create great graphics – you need some way of accessing the screen space to draw your images. This is best done using a program called an art package. There are many different art packages to choose from, but they're not all equally good. The most common problem with art packages is the format of the files they create when you save your image – see "File Styles" above.

JARGON BUSTERS

BITMAP – an image or part of an image, made up of many pixels. All art packages produce bitmaps.

FORMAT – in graphics, the way pictures are stored in files. Different art packages save images using different methods of compression or special header information which indicates the art package used to create the image.

MONITOR – basically a television, without the TV tuning and receiving circuits fitted. A monitor connected to your ST

generally gives better picture quality than you can get on a TV.

MONOCHROME – "single colour" – in ST terms, monochrome is used to refer to the high resolution black and white display only.

PALETTE – the current group of colours which your ST has been set up to use. There are 16 storage locations in an ST's palette, but each location can be changed to vary the colours in the palette.

PIXEL – short for picture ele-

ment. A pixel is a small dot which forms one tiny part of an image. There are 64,000 pixels in a low resolution image.

REGISTER – a particular location in your ST's memory.

RESOLUTION – the level of detail of a screen mode either low, medium or high. The more pixels per screen, the higher the resolution or definition of the finished image.

SCROLL – to move a bitmap in a straight line either vertically or horizontally, so that it gradually disappears off screen.

GOT A PROBLEM?

Still baffled, dazed or confused by getting started in graphics? Write to our new section ST Answers where our panel of experts will answer every query we receive. The address to send those puzzling problems to is ST Answers, Graphics, ST FORMAT, 30 Monmouth Street, Bath, Avon BA1 2BW. Sorry, we can only answer questions in these pages – personal replies are impossible.

→ Degas format, which is derived from Electronic Arts' *Degas Elite*. Its popularity largely stems from the fact that it was one of the earliest art programs available for the ST and has the advantage of being able to run in all three ST resolutions.

Degas files are easily recognised by the last three letters of the filename, after the dot. The first of these letters is always a P, and the next letter is either an I (denoting an uncompressed Degas image) or a C (denoting an image which has been squeezed down to occupy less space on disk). The final character is either 1, 2 or 3, depending on the resolution of the Degas image. 1 denotes a low res screen, 2 is medium res and 3 is high res. Therefore, typical Degas filenames could be either MYSCREEN.PI1 - a low res, uncompressed screen, or MYSCREEN.PC3 - a compressed high res screen.

There are other popular packages which produce their own file formats - *Neochrome* from Goodman Enterprises produces .NEO files, *DeluxePaint* from Electronic Arts creates .IFF files and *Canvas* pro-

duces a variety of formats (.CPT, .CNV and .FUL). However, all these art packages are able to load and save Degas low resolution files, too.

IMAGES AND IMAGINATION

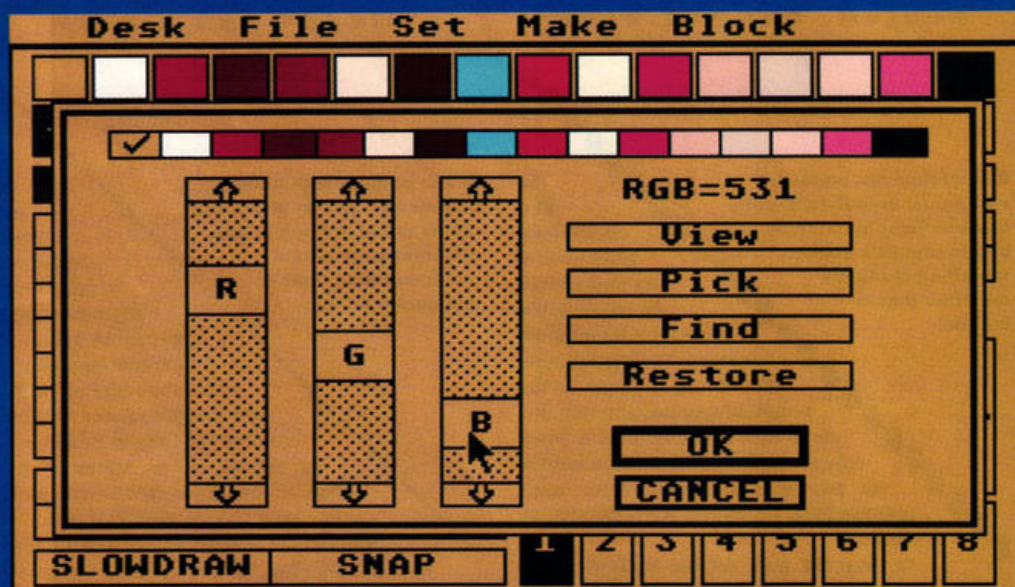
With an art package, you can really start to push your ST to its limits. Art packages form the basis for almost all image-related tricks you might see in games or demo programs. There are many effects that you can experiment with once you've created a basic image. The simplest is colour-cycling, which can be used to animate simple images. The trick here is to draw separate images in different colours on the same screen, and then change the colour information in each of the palette registers. The data in each palette register is passed to the next register in an endless loop. Thus 16 images can be created on one screen, and then made to look as if they are moving.

Another simple animation effect can be produced by just moving an image across the screen. This

trick, called scrolling, can give the illusion of movement, though it lacks finesse since objects look as if they are merely sliding across the screen. A better technique is the one used by games programmers - flip-frame animation. This involves the creation of several images on different screens. The images are displayed one after another in quick succession. If the images are scrolled at the same time, the illusion really seems to work. Objects can be made to walk, or change shape as they move, and providing the delay between frames is short, impressive cartoon-style animation can be created, even in a simple programming language like BASIC.

- *DeluxePaint* is available from Electronic Arts at £59.99 = 0753 549442
 - *Neochrome* can be obtained from Goodman Enterprises at £5.95 = 0782 335650
 - *Canvas* was yours on Cover Disk 30 - if you don't have a copy of that, turn to page 114 to order it now!
- To see what seasoned ST graphics creators have been doing - and the sort of thing you could soon be achieving - turn to the Kandy Coloured Tangerine Flake Streamline Picture Show on page 64.

CREATING COLOURS



● Using either the Control Panel Accessory - CONTROL.ACC (above) or sliders such as those in the art package *DeluxePaint* (below) you can alter the levels of red, green or blue light to create the shade you want.



Your ST's screen colours are created from three basic components - red, green and blue light - which are mixed together in varying proportions. You probably remember from school that paint-mixing is subtractive - that is, the more colours you add, the darker the end result becomes - and it depends on three primary colours - red, yellow and blue. Conversely, light-mixing - which is what you're doing on an ST when you create colours - is additive and uses green instead of yellow. In this instance, the more colours you add, the lighter the final colour gets until it becomes white instead of black.

On your ST you control the amount of each red, green and blue primary by increasing or decreasing each one's brightness level. On the older ST there are eight possible brightness levels for each primary, numbered zero to seven. The now standard STE increases this to 16 possible brightness levels from zero to 15. A zero level effectively switches the respective primary off, while a seven or a 15 indicates maximum brightness, which explains why black is stored as 0,0,0 on both machines, white is 7,7,7 or 15,15,15, and pure red is 7,0,0 or 15,0,0, for example. From this, it's fairly simple to work out that there are 8 x 8 x 8 - that's 512 - possible colour combinations on an ST and 16 x 16 x 16 - a massive 4,096 - on an STE.

You can experiment with colour creation even if you don't have your own art package. All STs and STEs are supplied with a Control Panel Accessory called CONTROL.ACC which you can use to alter the colours of your Desktop. Restart or boot your ST with the Control Panel disk in the drive and then select Control Panel from the Desk menu in the top left corner of the Desktop.

The Control Panel has three vertical sliders on the left which you can use to alter the brightness levels of each of the primary colours. You select the colour palette register to change by clicking on one of the 16 blocks of colour at the bottom of the panel.

Similarly, art packages use the same type of sliders to control colour changing. As with the Control Panel, there is usually a numeric display which shows the actual brightness levels stored in the palette registers.

POWER COMPUTING

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Twice upon a time

Timeworks DTP was the first ever ST desktop publishing program and it's still one of the cheapest. But since its release in 1988, new and varied publishing packages have appeared, offering the kinds of features which make *Timeworks* appear positively archaic. Rising to the challenge, GST have released *Timeworks Publisher 2*. Peter Crush asks whether it was worth the wait

Timeworks Publisher 2

MACHINE: ALL STs

PRICE: £129.25

FROM: ELECTRIC DISTRIBUTION

CONTACT: 0480 496666

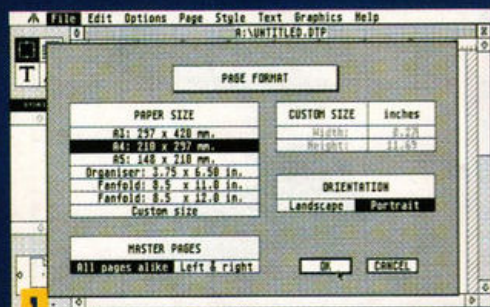
In the heady days of the late '80s, all you needed to take on the world was your 1st Word word processing software, Degas art program and *Timeworks DTP*. For quite a while, GST Software, the British company behind 1st Word and *Timeworks*, had a sort of monopoly with this text-based software. However, it wasn't long before competitors had their own programs on the market. But whereas 1st Word was improved and upgraded into 1st Word Plus (£79.95, from Electric Distribution) to meet the challenge, nothing much happened to *Timeworks*. Luckily for GST, this easy to use, cheap to buy, and quite capable DTP software became very popular, and is still probably the most widely used DTP package for the ST. But time marches on, and, with the advent of Mirrosoft's *Fleet Street Publisher 3*, the expensive German DTP program Calamus, and SoftLogic's

jazzy American *PageStream 2*, poor old *Timeworks* was beginning to look a bit long in the tooth. But the backroom boffins at GST have not been idle. Enter, in the nick of time – *Timeworks 2!*

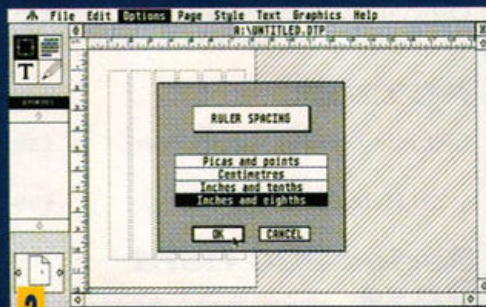
Timeworks Publisher 2 is supplied on six disks, together with a manual which runs to almost 300 pages. It is useable on the humblest of STs – all you need is a 520 ST, but it must have a double-sided disk drive, and 1MByte of memory is recommended. Any less and you can't install the additional fonts. Before you use *Timeworks 2*, it has to be configured to run on your particular system. The master disks are not copy-protected, and you are advised to make backup copies before you start anything.

Configuration is accomplished with *INSTALL.APP*, a program on one of the disks supplied. The procedure is very simple – the software does most of the work for you. You are prompted to answer whether you have a single floppy, twin floppy drive or hard drive ST, a mono or colour monitor, and what printer you use. Click on the boxes displayed to answer these questions and follow the on-screen directions. All the necessary files are extracted from the master disks and copied onto three working

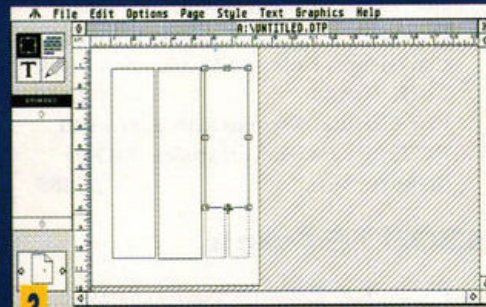
HONEST, OFFICER, IT WAS A FRAME UP! – OR HOW TO PU



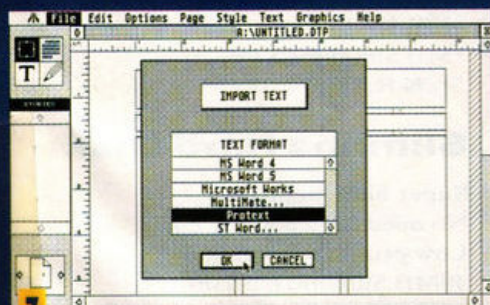
1 To start any DTP document you have to specify various things like the size of the page, whether it's a single or double spread, and if it's Landscape or Portrait orientation. To save doing this every time, you can set up "Style Sheets," store them on disk and load them in as required.



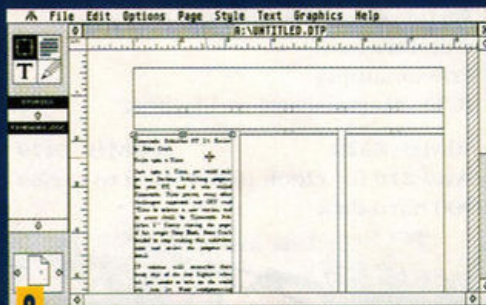
2 It's a good idea to set up rulers, which are visible at the top and side of the screen, to show the units you prefer. There are four alternative measurement units – click on your chosen option and the crosshairs show you where the mouse pointer is on your page.



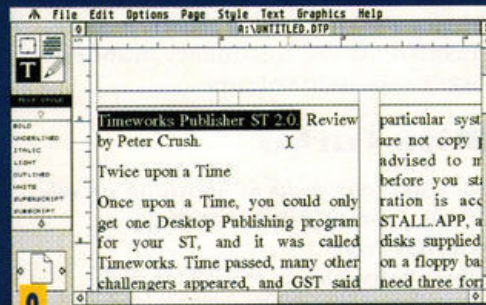
3 The square black icon (top left) indicates you're in Frame mode, and, using your mouse pointer, you draw the three frames which later contain the text. Clicking on a frame makes it "active," and dragging it handles with the mouse pointer resizes it to suit.



7 Having created the frames, it's time to bring in your text. Simply drop down the File menu and select the "Import text" option. The dialog box enables you to specify what kind of text file you want from a wide range of word processors, including non-ST ones.



8 The text file is read from disk, and the usual GEM selector is used to choose it. The name of the file (in this case "TIMESWORK.DOC") appears in the Browser – a list to the left of the screen. Just clicking in the empty frames causes this text file to be imported into them.



9 Viewing the text at double size for clarity, click on the large T icon in the top left. This puts you in Text mode, and the mouse pointer changes into an I shape. If you drag this I-beam cursor across any part of the text, text becomes a "Block" and is shown highlighted.

VERSION 2'S NEW FEATURES

Timeworks Publisher 2 has many new features, but any files created in v1 are compatible with, and can be loaded into, v2. Interestingly, file compatibility also exists between *Timeworks 2* and *Timeworks PC*, the version of the program for the PC-contemptible. The important new features are:

Extra Fonts: *Timeworks 2* now comes with four extra fonts in addition to the standard Swiss, Roman, Rockface, Drury Lane and Dingbats – making a total of nine, though these aren't an option if you're using an ST with less than 1MByte of memory so for serious use you'd be advised to upgrade.

Irregular text runaround: Gives that professional look to your documents. The text can be made to flow around the user-defined outline of an illustration, no matter what shape it is. See step 18 on page 60 for an example.

New text editing facilities: More extensive text styles, improved tab handling and many keyboard shortcuts. Can import text in virtually any format.

Better printer support: *Timeworks 2* drives all the usual 9-pin and 24-pin dot matrix printers, plus the HP Deskjet, Laserjet 2 and Canon Bubblejet inkjet printers, Atari's SLM 804 and SLM 605 laser printers, and others.

Improved printing quality of imported colour and greyscale images is

claimed, and you can choose not to output any pictures in your document to speed up draft printing. Outputs to a PostScript file or printer.

Autosave: Enables you to specify automatic timed saving of the file you're working on. This prevents any chance of you losing your work by accident, and automatically creates a backup .BAK file for even greater security.

Better document handling: You can now save default settings for directory paths, style sheets, text and picture import formats, view/hidden tools, rulers and so on, making it easy to configure and keep *Timeworks* how you want it.

Better frame handling: You can select all or some of the frames on a page, define them as a group, then cut, copy, paste, move or resize them simultaneously, vastly speeding up the time it takes to layout a page.

Image import: You can load a whole variety of different pictures into your document. ST and Apple Macintosh art files are supported, increasing the potential clip-art you can use. *Degas* compressed and uncompressed, *Neochrome*, .GEM, .IMG, .PIC, .EPS, TIFF, and .PCX files are the options.

Page numbering formats: A choice of four is offered. You can define page sizes up to 22 inches square and add or delete several pages, not just one.

floppy disks or your hard drive by this procedure. This includes the creation of an AUTO folder containing GDOS v1.1. The installation program also creates the necessary ASSIGN.SYS and font files, the whole process being a very user-friendly affair considering the usual problems mere mortals have when dealing with GDOS matters! Installation takes about half an hour, or less if you are using a hard drive.

As you can see from our guide to the step-by-step creation of a dummy page, using *Timeworks 2*

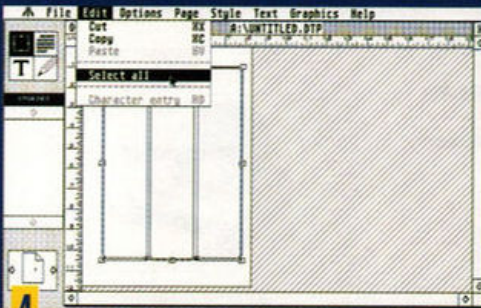
is pretty easy, and, without too much trouble, you can produce an attractive result. However, there are one or two shortcomings that unfortunately keep the program in the mid-range rather than the top-of-the-range bracket.

First, the use of GDOS fonts is very memory intensive, especially for the larger point sizes. This means that the largest point size usually installed is 40 point – only just over half an inch high. This prevented trying out *Timeworks 2* to produce a copy of

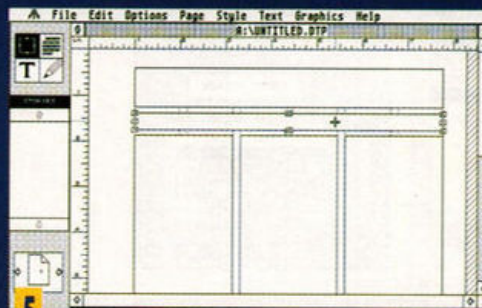
an STF page, the usual test we run on DTP programs – the heading on page 58, for instance, is 83 point. There is no easy way to generate and install bigger sizes of fonts without using external programs like Jeremy Hughes' excellent *Fontkit Plus 3* (£19.95 from the ST Club ☎ 0602 410241), which serious users may want to do. Font compression techniques could have been used to enable *Timeworks 2* to use more fonts by overcoming the disk storage space problem. GST ought to remedy this, and have indi-



IS ONTO THE DOLE QUEUE IN 18 EASY-TO-FOLLOW STEPS



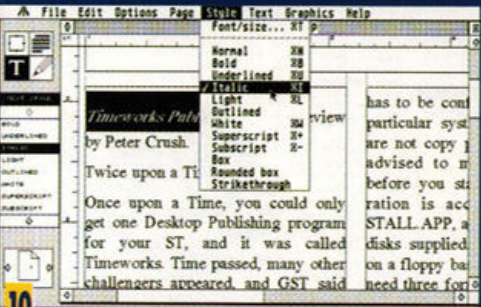
4 This new feature is handy – you can select all the frames on a page and manipulate them as a group. A large frame encompasses them all and they can be resized simultaneously by dragging the handles. You can also move them as a group to a new position on the page.



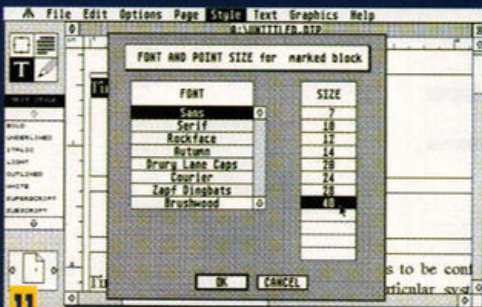
5 To contain the headline and subheading, two new frames are drawn and positioned across the top of the three columns already created, which are moved down to make room. The page is viewed here at three-quarter size – you can also select Half, Full, Actual, and Double-size views.



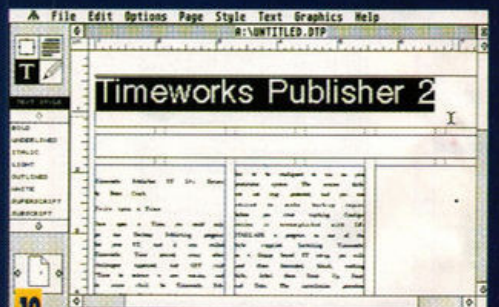
6 Instead of drawing the Frames manually, you can use this dialog box from the Options menu. It enables you to specify the number of columns you require, the distance between them, and their positions on the page. *Timeworks 2* then automatically creates them for you.



10 The "Style" menu enables you to restyle your "Block" of text and change the way it appears. In this case, the italic style is chosen, and straightaway the on-screen representation of the text is shown slanted. An italic font is used when it is printed out.



11 A block of text, which can be any length from a whole paragraph to a single character, can also have its font and point size changed. How many fonts and sizes you can use is determined by the amount of available memory and disk space – the more you have, the better.



12 Being in text mode enables you to type text in directly – not recommended for long passages, but fine for headlines and so on. When your text is in position, it can be restyled to your desired font, size and style. Clicking anywhere outside the block deselects it.

WHAT IS DTP AND WHAT CAN IT DO?

Desktop publishing programs are used to create most of the published material that you read. Newspapers, books and modern magazines like *ST FORMAT* are all originated with DTP software. Not too long ago, you had to have prohibitively expensive typesetting equipment, or resort to pasting together the elements of your page and the liberal use of Letraset. The advent of computers like the ST, with its affordable and powerful software, has changed all that. Now anybody can publish written material – a revolution in communications as momentous as the invention of the printing press! As a result there has been an upsurge in the number of fanzines.

Producing the artwork for a printed object, from a simple handbill to a complicated book, involves putting together text and pictures. DTP is best thought of as the final page layout stage of this process and the method by which you can really fine tune the final appearance of your material. So before you reach for your DTP package, you have to prepare all the elements to be included in your masterpiece. This is what you do.

1. Write the text using your favourite ST word processor – see *STF* 31 for a selection of the best around. (If you don't have a copy of that issue, turn to page 114 to order a copy now.) Save the finished text file onto disk. *Timeworks* always handled 1st Word Plus files, but now copes with many other WPs like *Protext* (£152.75, Arnor ☎ 0733 68909) and *Le Rédacteur*

(£119.00, ST Club ☎ 0602 410241) as well.

2. Next, prepare any picture files by using art programs like *Degas Elite* (£25.99 Electronic Arts ☎ 0753 549442) or *DeluxePaint* (£59.99, also from Electronic Arts) and saving them to disk. You can get ready prepared pics on Public Domain disks (see *STF*'s PD library directory on page 48), or use a scanner to digitise photos or drawings, converting them into images your ST programs can understand, and store them on disk, too.

3. Now you are ready to integrate text and graphics, so load your DTP program and decide on the basic design of your page. If you want three columns, like those used in this page, you simply draw three "frames" on the page on your screen using the mouse pointer.

4. Now you can import the text you prepared earlier – it's loaded from the disk you saved it onto and "poured" into the frames you created. Likewise, you can draw boxes on the DTP page for your pictures and import the pics the same way, even running text around the pictures if you want.

5. With the text and graphic files placed onto your page, you can arrange them just as you want. The DTP package acts like a designer's draughtboard – you can move everything about, change the size of this, trim that, alter the style and layout and so on, all with a just few mouse clicks! When you're happy with your creation, save the final DTP file and print it.

→ cated that it's under consideration.

Second, *Timeworks 2*'s output quality is adequate rather than brilliant, this again being a limitation of the GDOS and the large amounts of memory used for printer fonts. When you see the quality of the outline vector fonts in rival DTP software, especially at larger sizes, the printouts from *Timeworks 2* look a little "blocky," although at smaller sizes they are fine.

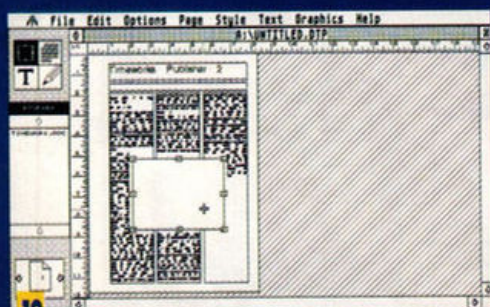
You can install your own fonts when you know how, but the *Timeworks* manual rather glosses over this. A read of the *Fontkit* manual explains all. The use of the new Font Scaling Module GDOS, long overdue from Atari, should help solve all these drawbacks.

A minor hiccup which we came across concerns the fileselector. *Timeworks* runs better using an alternative fileselector. Using the standard ST selector, it

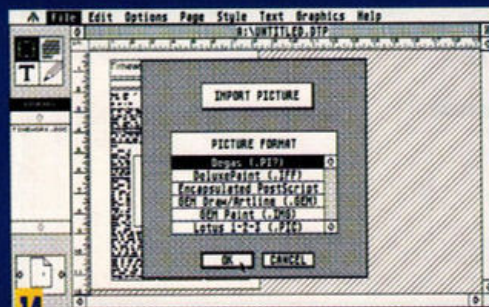
can look as if *Timeworks* has frozen, though it does eventually work. This is a little bug which GST will fix.

The upshot is you can obtain average to good results easily, or coax better ones if you are prepared to do a little extra study of GDOS and so on. This makes *Timeworks 2* very suitable for run-of-the-mill tasks – reports, newsletters and the like – but not so suitable for more up-market demands, where

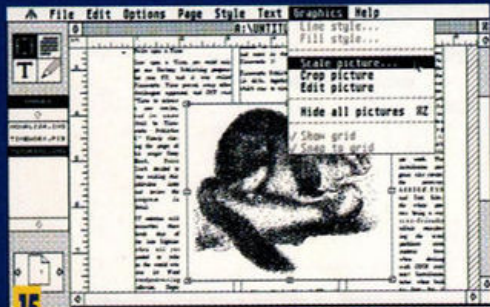
THE FINE ART OF PICTURE HANGING



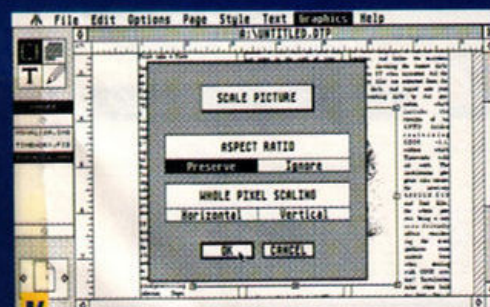
13 If you view your DTP document at Full, you can easily draw a new frame anywhere you want on the page. It can then be used to contain a picture, resized and moved about on-screen. The text is pushed away from it and automatically reformatted so that it reads correctly.



14 *Timeworks 2* can import a wide range of picture file formats – all the popular ST file types are catered for, as are those used by the Amiga games machine and PC-contemptibles. Both bitmap and vector images can be used, and colour pics are converted to mono.



15 Once you have imported your image from disk file into the frame, it is fitted to match your frame's dimensions. However, you may not want to have the image stretched or squashed at all, in which case you can rescale the picture by using the Scale option from the Graphics menu.



16 These options affect the appearance of your picture when you rescale it. "Preserving" the aspect ratio of the image, you keep the original proportions of the picture, no matter what shape the frame is. Whole pixel scaling prevents the unsightly tartan effects so often seen.

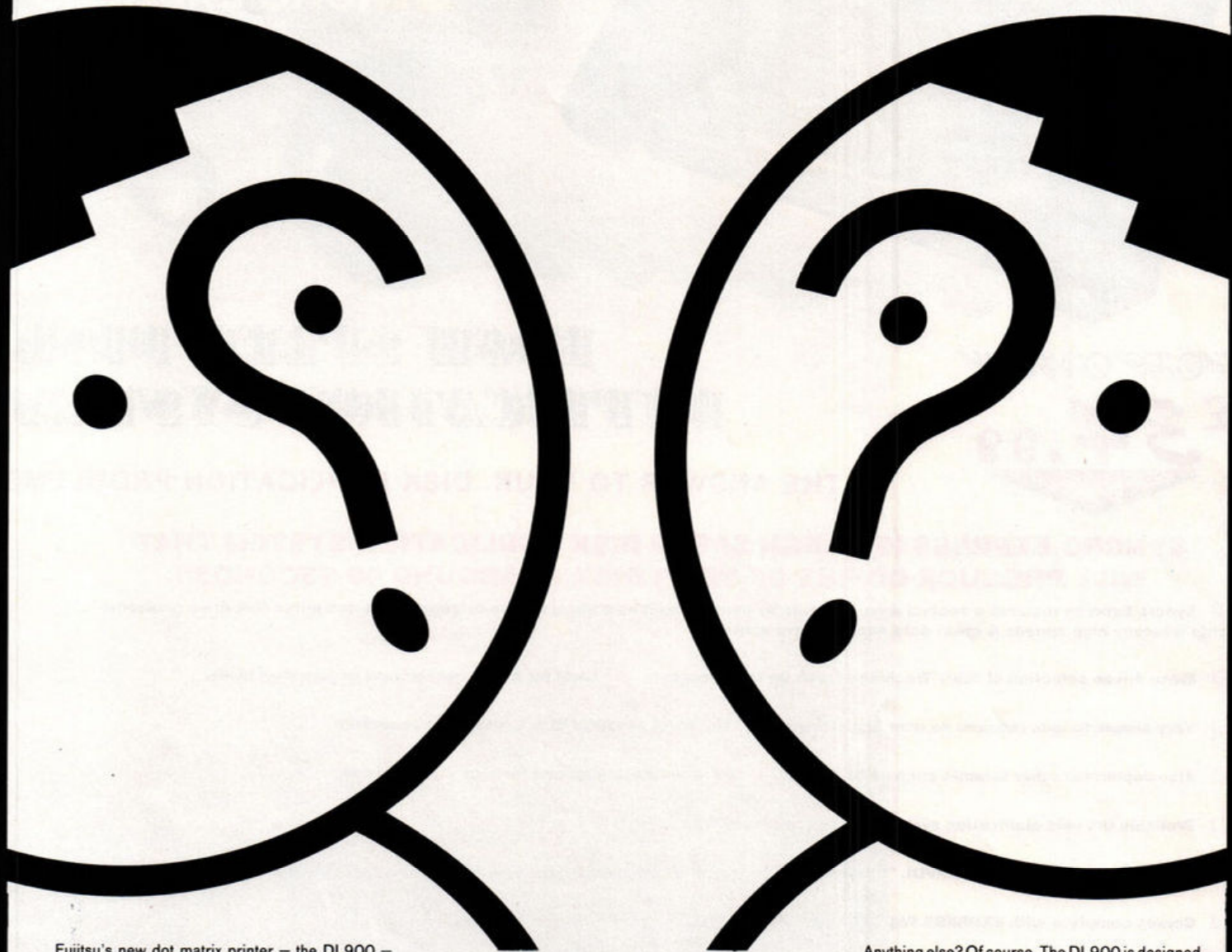


17 To produce the pleasing and professional text runaround widely used in publishing, you can define an irregular border around your image. A rubber-band type line follows your mouse pointer, clicking locks each point, and you can then draw the next section of the line.



18 And there you have it – a classy production with the text flowing neatly around this completely inappropriate but attractive image. Any number of pictures can be put onto your pages – memory permitting – and you can even edit them pixel by pixel with a built-in picture editor facility.

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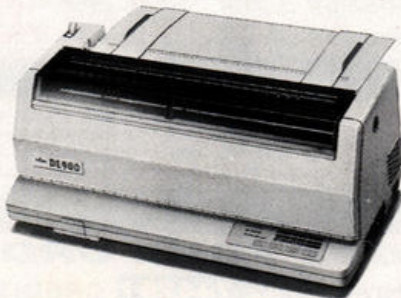
Can you expect really high quality print output, for instance? Well yes you can. The DL900 is a 24-pin printer with a speed of 180cps.

Do you get a variety of printing options? Sure. You can print envelopes, bar-codes and labels with a wide range of resident fonts.

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Easy to use? Definitely. The free set-up program disc means it's simple to configure the DL900 via your PC.



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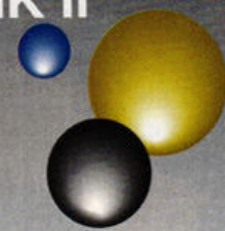
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THE BEGINNERS GUIDE TO JARGON

ASCII text: Plain computer text lacking any fancy extra styles like bold, italic, underlined, and so on. ASCII is used for "Read Me" files on disk, for communication between computers, and often for DTP work where its simplicity is a great virtue.

Bitmaps: Text or images made up of little squares (called pixels) - the more they are magnified from their original size, the more blocky they look. *Timeworks 2* uses quite reasonable bitmapped fonts, but can use image files in both bitmap and vector format.

Bullets: Typographical symbols usually used to preface each item in a printed list to give impact - can be anything from a star to a pointing hand. *Timeworks* has a whole range of these, including symbols for circles, squares, telephones and scissors.

Font: A complete set of letters, numbers and characters in a particular design and size of text. Nine fonts are provided with *Timeworks 2*, but there are hundreds of others available from the Public Domain and commercial sources.

Frame: These are the rectangular boxes and columns you draw on the DTP page, into which the text and pictures are placed. Frames show on-screen and are normally invisible when you print the page out, but you can choose to give them visible printed borders if you wish.

GDOS: Graphical Device Operating System, the part of the ST's operating system that deals with the handling of bitmapped screen and printer fonts. Atari inexplicably left it out of the operating system sup-

plied with your ST, but v1.1 of GDOS is supplied with *Timeworks 2*, is essential for its use and runs automatically. We've looked at programming GDOS in detail on page 113.

Loading: Pronounced "Ledding". The distance between the baseline of a line of text and the baseline of the one below it. It is measured in "points," and, if it is too small, the lines of text are squeezed together and look congested. All DTP programs enable you to adjust leading to your taste.

Point size: Points are the old typographical measurement units still used in these decimal days. There are 72 points to one inch, so 12 point text - the commonly used size for printers and typewriters - is one-sixth of an inch high. This text is 6.5 points high.

Text style: Text can come in plain vanilla or be bold, italic, light, underlined, among other things, or a combination of many of these styles. If your word processor produces text in these styles, *Timeworks 2* can probably import and retain them, or restyle them within itself.

Vector: Vector graphics and text are shaped by mathematical formulae instead of being bitmapped. Consequently, they can be enlarged and still look good, with smoother outlines. However, vector based or "outline" text doesn't always look good at small point sizes.

WYSIWYG: What You See Is What You Get. Since screen fonts rarely correspond exactly with the printer fonts (because of the difference in resolution between these devices), very few programs give true WYSIWYG. To really see the results, you have to print them.

you can't obtain true typeset quality or colour separations, for instance. But it would be unfair to expect this when the top line DTP packages cost many times more. There is, however, no doubt that if you already have the earlier version you'd benefit from upgrading, and if you are looking for an easy-to-use, first DTP package, *Timeworks 2* is an ideal choice.

With the friendly GST Helpline, you should get better support than that provided with much other ST DTP software. Needless to say, *Timeworks 2*'s value-for-money increases when you notice that the program is available at less than the "list" price from the many dealers stocking this all-British program. **stf**

Save £30 on your copy of *Timeworks 2* by turning to our Special Offers section on page 126. The helpline service operated by GST stirred up controversy among two of our readers who invested in the first versions of the package. See their complaints and GST's response in our *Feedback* section, beginning on page 138.

TIMWORKS PUBLISHER 2

£129.25 Electric Distribution ☎ 0480 496666 (Upgrade from v1 £44.57, or £32.82 for Softline members)

FEATURES: 80%
Good, workmanlike facilities, but lacks the bells and whistles such as colour and text rotation effects found in more expensive packages.

SPEED: 85%
Zipper than many of the other DTP programs for the ST when it comes to screen redraws and so on. And it's quick to operate.

EASE OF USE: 90%
Very straightforward to use even for the novice. Both the program and manual are direct, clear and to the point. It works on any ST system.

THE COMPETITION

- *PageStream 2* (£199.99 SoftLogic/Silica ☎ 081 309 1111). This highest scoring program (STF rating 94%) rivals even fully-professional DTP software used to produce colour magazines like *STF*.
- *Fleet Street Publisher 3* (£184.30 from Silica). STF rating 87%. Not as easy to use as *Timeworks*, but excellent on typographical control, and outputs *PostScript* quality results on any printer.
- *Calamus* (£258.75 Expressworks ☎ 0252 726255). STF rating 90%. Arguably the most professional DTP software for the ST, but pricey, complicated to use, uses non-standard fonts. A colour version, *Calamus SL* is due soon.

STF RATING: 88%
Timeworks 2 should have scored higher, but the new features, while welcome, aren't a vast improvement on v1. Atari's delay with FSM-GDOS has hindered many of the improvements possible. But it's a nifty program and it's available in the shops at an attractive price. When the new GDOS comes along, great things are promised.

Feed Your ST!

MEMORY UPGRADES

HCS STE and MEGA UPGRADES

HCE STE memory upgrade kits come complete with full fitting instructions on how to plug into your STE. Should your STE have a rare type of module, we stock the alternative so it can be easily swapped. 2 and 4 Mb kits come complete with multitasking software, memory checker and utilities disk!

Upgrade from 520 to 1040	£19.00
To 2 Megabytes	£65.00
To 4 Megabytes	£129.25

STFCM and Mega ST upgrade kits

Xtraram Deluxe allows the novice to upgrade the ST with ease. They come complete with comprehensive instructions. All versions can carry up to 4Mb and have been carefully designed to even fit less common ST's, without soldering! (Eg C100109 and soldered in MMU). The solder in kit is for those with more electronics experience. This offers a low cost solution complete with sockets, instructions etc..

Solder in kit to 1Mb	£25.00
Frontier Xtraram Deluxe Quality SIMM upgrading system	
Upgrade to 1Mb	£55.00
Upgrade 2.5Mb	£94.00
Upgrade to 4Mb	£155.00

REPLACEMENTS

The HCS replacement internal power supply and double sided disk drive upgrades come complete with fitting instructions and plug straight into the ST without soldering. The PSU produces less heat than the original, so is more reliable.

Replacement power supply	£39.95
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EMULATORS AND ACCELERATORS

PC Emulators from Compo

PC Emulators fit onto the microprocessor in the ST. They offer a high degree of compatibility by employing a genuine PC microprocessor. PC Speed give a 4 fold increase in speed over a standard PC, AT Speed 8; 6 fold, AT Speed C16; 8.4 fold. The C16 coprocessor socket allows fitment of a maths chip to perform calculations 50x faster.

AT Speed C16	£215.00
AT Speed 8	£140.00
PC Speed	£90.00
Fitting for above	£30.00

Spectre GCR Mac Emulator

The Spectre GCR cartridge allows the ST to emulate the Mac giving 20% more speed than the Mac plus 30% more screen area! It is fully compatible with ST hard drives. When used in conjunction with the SST it can beat the fastest Macs. The megatalk board fits the Mega ST to allow connection to Mac specific printers and the LAN network. It also allows direct connection to MAC SCSI peripherals.

SPECTRE GCR (Inc 128K Roms)	£340.00
Megatalk Board	£250.00

68030 SST Accelerator Board

The new 68030 accelerator gives a new dimension of speed to the ST. Using the 33MHZ option it can accelerate the ST EIGHT fold. Currently available for the Mega ST shortly available for the STE/FM. Space for an additional 8Mb of

68030 SST - 33 with processor	£550.00
--------------------------------------------	----------------

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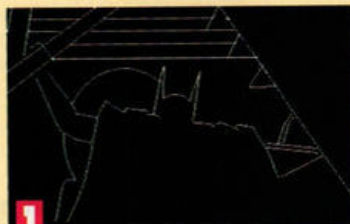
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Goods normally dispatched within 2 working days. E & OE

THE KANDY COLOURED TANGERINE FLAKE STREAMLINE PICTURE SHOW

ROBIN NOT INCLUDED

£25 winner **Peter Halloran** of **Dorset** is a bit of an old hand in the Gallery. His rendition of Batman is taken from the graphic novel "Black Orchid." Peter chose it because "it seemed to have a lot of atmosphere." Peter uses *DeluxePaint*.



1 "The picture outline was laid down using Line, Curve and Freehand Draw. The basic palette was also chosen and stayed more or less the same throughout each stage.



2 Here some basic colours were added. This was done to give the picture some depth and to see if the colours would work. At this stage I did some shading - a test to check that the dithering would work with these shades. The outline was also tidied up and this stayed roughly the same.



3 More colour was added, together with some construction lines. These were put down to enable certain parts of the picture to be filled in and edited. The bottom part of the light was also done at this stage. I used a gradient fill initially, but this didn't really work, so I did it by hand.

ALL A-QUIVER

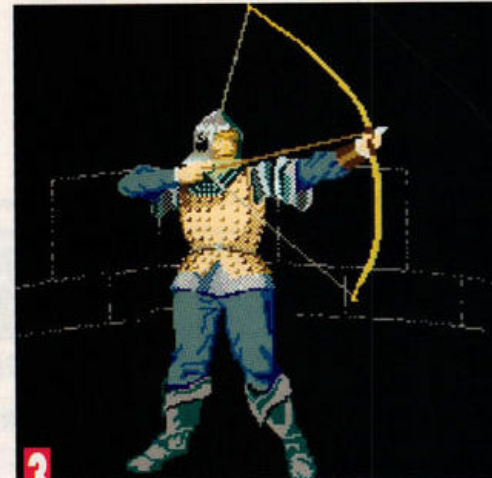
The Archer is **Mark Deighton** of **Enfield's** first attempt at drawing on his ST. He used *Neochrome*, which just goes to show that, er, some people are still using it, though it's quite old. (Ahem.)



1 "I started by drawing a stick man in order to get the basic proportions of the figure right, then drew in the rough outline from there.



2 The next stage was to choose the colours. Once I have the palette right, I fill in each area with an appropriate shade. Once this is completed, I start work on shading any flesh areas, starting from the bottom of the screen and working my way up. I used a chequerboard effect to suggest chain mail.



3 Clothing and weaponry are picked out in more detail - shading is added to the figure to give him extra depth on his clothes, face and hands. Finally, to complete the picture, a simple background is added."

AT THE SIGN OF THE LAUGHING PIG

P G Hambridge (or, to his friends, just plain ol' P) of **Birmingham** is a "young 50ish" sort of person who likes nothing better (well, not much) than a good old mess around with *DeluxePaint* (though he uses *Canvas* a bit, too).

"It was winter, so I decided to do something seasonal, like this inn.



1 I just placed some lines and dotted lines to get some idea of how and where various aspects of the scene were to go.



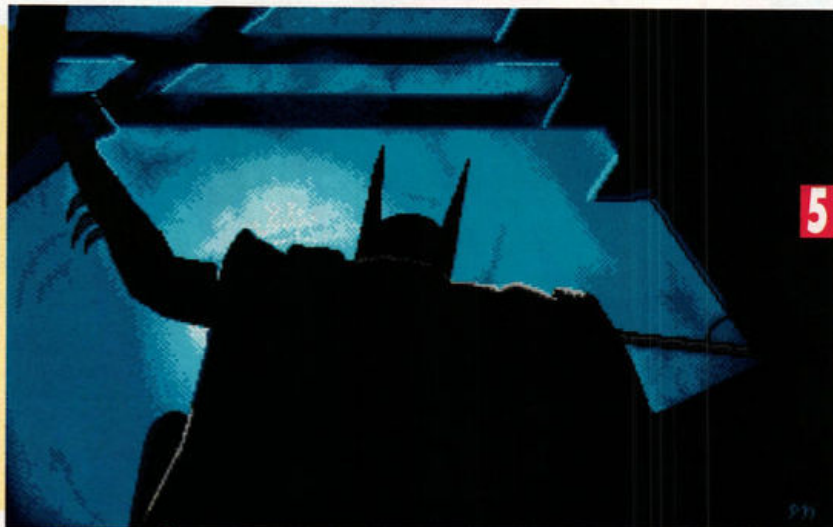
2 I started filling in using the Line tool around an outline and then filling with the Fill tool. Then, with various brush sizes and colours, I created the effect of shape and depth, added text to the sign and drew three blobs on screen for later use as brushes. I continued as before to finish inn.

As your regular host recovers from an overdose of poster paint-sniffing (remember, don't try this at home), blast from the past Ed Ricketts steps in and wades through your magnificent bitplanes

Ah, the smell of a newly-unwrapped disk bearing pixels arranged in heavenly order. Oh, the thrill of seeing just what that blob of colour in the top right is actually supposed to be for the first time. Eeh, the sheer pounding excitement of knowing the next disk – the very next disk – could be the best piece of art you've ever seen. Or not. Yes indeed, we love your piccies down here at the KCTFSPS. Send 'em in! Hundreds of the blighters! In stages! With lots of long, lovingly-written explanations of just what the heck you did in each stage. Address those disks'n'papers to: Gallery, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW. Remember: £25 for a few hours' work is about right, really.



4 The main part of the light was also done by hand here. It took ages because often the dithering looked wrong. Batman himself was shaded at this point.



5 This is the final picture with a subtle change in the palette. Overall, the picture took around five hours and seems to look better on a TV rather than a monitor."

GOLDILOCKS IN BEARS SCANDAL

Anthony Harper of **Notts** is another *Neochrome* user. "It's good value for no money," is the way he puts it. He saw this picture in his son Daniel's *Ladybird* book and thought it would be a good idea to have a bash at it.



2 Large areas were shaded using *Area Fill*. The trees were created with *Line Draw* and leaves made with the large spray nozzle. I used *Line Draw* to create the fence, drew the squirrel and shaded it.

1 "I used *Line Draw* to create the roof, and put in small lines with the *Pencil*. I made one stitch with the *Pencil*, and copied this several times using the *Copy Box*. Next I drew the doors, windows and characters, also with the *Pencil*. The characters were then moved into position.



3 The squirrel was placed into position using the *Copy Box* which overlapped the fence and shaded in the last pieces."

- *DeluxePaint* is £59.99 from *Electronic Arts* (☎ 0753 549442)
- *Neochrome* is £5.95 from *Goodman Enterprises* (☎ 0782 335650)
- *Canvas* was yours on *Cover Disk 30* – turn to page 114 for details of how to get hold of a copy if you don't have it.



3 I picked up the inn as a brush and transferred it to buffer two. Then, I drew some short lines several pixels long – some grouped together and others at different angles – to form fine branches of trees. I drew tree trunks and sprayed on finer branches. Next, I filled in the top half of the sky with light grey sprayed with white dots, and the bottom half of the sky white with grey dots.



4 I picked up the inn from buffer two and placed it back on the main picture to cover any over-spraying. I copied trees from buffer two to *Canvas* – which is better for sizing – then I copied it back and positioned it on the picture. I filled in the verge and road, then, using the *Curve* tool to draw lines with oranges and yellows, I used the *FX* tool to blend and smear for effect.



5 Finally, I drew in fences, added another tree and wall, then altered the colour and text on the signs to complete the picture."

Let Nintendo NES and Nintendo Game Boy owners rejoice, for the second issue of Total is now on sale...

Issue 2 of TOTAL! is a quality publication written and designed by professionals to the highest possible standard...



QUICK! GET HIM OFF!



... But you'll have to move fast

Hang on, I thought we just took issue one and changed all the titles so we could take two weeks off!

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 Neodesk v3 **£34**
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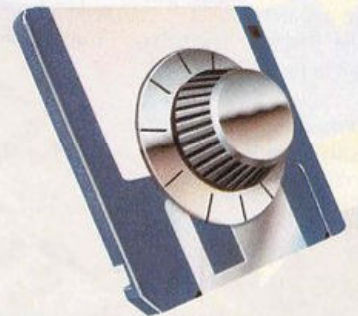
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How are we?

This is your chance to tell us exactly how you want *ST FORMAT* to be!

Whether this is your first issue of *STF* or your 32nd, we want your comments. Is programming your thing? Would you rather leave music to Radio One? Let us know! Just tick the boxes that apply to you (as many as you like, except where a number is specified), and add comments where there's room - enclose a separate sheet if you need to. You can help make Britain's best-selling *ST* magazine what you want it to be - even better!

1. Which machine do you own?

- 520 ST with single-sided drive* a
- 520 ST with double-sided drive b
- 1040 ST c 520 STE d
- 1040 STE e Mega ST f
- Mega STE g TT h
- STACY i ST Book j

* If you have a second disk drive or upgraded single-sided drive, please tick the double-sided drive box

2. What other computers do you own or intend to buy in 1992?

- PC-compatible a
- Amiga b Archimedes c
- Sega console d Nintendo e

3. How much do you use your ST for the following applications?

- | | main use | a lot | some | very little | never |
|--------------------|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| Music | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c | <input type="checkbox"/> d | <input type="checkbox"/> e |
| Word processing | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c | <input type="checkbox"/> d | <input type="checkbox"/> e |
| Graphics | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c | <input type="checkbox"/> d | <input type="checkbox"/> e |
| Games | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c | <input type="checkbox"/> d | <input type="checkbox"/> e |
| Business | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c | <input type="checkbox"/> d | <input type="checkbox"/> e |
| Desktop Publishing | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c | <input type="checkbox"/> d | <input type="checkbox"/> e |
| Programming | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c | <input type="checkbox"/> d | <input type="checkbox"/> e |
| Educational | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c | <input type="checkbox"/> d | <input type="checkbox"/> e |

4. What hardware do you (a) own or (b) intend to buy during 1992?

- | | own | intend to buy |
|----------------------|--------------------------|--------------------------|
| Second disk drive | <input type="checkbox"/> | <input type="checkbox"/> |
| Hard drive | <input type="checkbox"/> | <input type="checkbox"/> |
| Joystick | <input type="checkbox"/> | <input type="checkbox"/> |
| Modem | <input type="checkbox"/> | <input type="checkbox"/> |
| Memory upgrade | <input type="checkbox"/> | <input type="checkbox"/> |
| Printer | <input type="checkbox"/> | <input type="checkbox"/> |
| Laser printer | <input type="checkbox"/> | <input type="checkbox"/> |
| Monitor | <input type="checkbox"/> | <input type="checkbox"/> |
| Scanner/Digitiser | <input type="checkbox"/> | <input type="checkbox"/> |
| Mouse | <input type="checkbox"/> | <input type="checkbox"/> |
| MIDI music equipment | <input type="checkbox"/> | <input type="checkbox"/> |

5. What software do you (a) own or (b) intend to buy during 1992?

- | | own | intend to buy |
|--------------------------|--------------------------|--------------------------|
| Word processor | <input type="checkbox"/> | <input type="checkbox"/> |
| Desktop Publishing | <input type="checkbox"/> | <input type="checkbox"/> |
| Database | <input type="checkbox"/> | <input type="checkbox"/> |
| Spreadsheet/Accounts | <input type="checkbox"/> | <input type="checkbox"/> |
| Graphics | <input type="checkbox"/> | <input type="checkbox"/> |
| Music software under £90 | <input type="checkbox"/> | <input type="checkbox"/> |
| Music software over £90 | <input type="checkbox"/> | <input type="checkbox"/> |
| Communications | <input type="checkbox"/> | <input type="checkbox"/> |
| Assembler | <input type="checkbox"/> | <input type="checkbox"/> |

- BASIC
- Other programming languages
- Educational

6. Will you be buying games in 1992?

- Yes
- No

7. What computer magazines do you read? (Please rate each out of ten)

- ST FORMAT/10
 -/10
 -/10
 -/10
- And non-computer magazines?**
-/10
 -/10
 -/10

8. What are the main reasons you buy STF? (Tick only two, please)

- For the Cover Disk
- For the reviews of new products
- For hardware or software roundups
- For our extensive hints and tips
- For our tutorials and series
- For the adverts
- For up-to-date news
- For a good general read

9. Rate our regular sections out of ten and indicate whether you want to see more or less of them.

- | | more | same | less |
|------------------|----------------------------|----------------------------|----------------------------|
| News | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c |
| Games News | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c |
| Cover Disk | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c |
| Previews | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c |
| Public Domain | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c |
| Music | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c |
| Education | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c |
| Art Gallery | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c |
| Competitions | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c |
| Desktop | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c |
| Gamebusters | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c |
| Programming tips | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c |
| Letters | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c |
| Adverts | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c |
| Game reviews | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c |
| Hardware reviews | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c |
| Software reviews | <input type="checkbox"/> a | <input type="checkbox"/> b | <input type="checkbox"/> c |

10. What features would you like to see more of in future issues of ST FORMAT? (Tick only two)

- Serious software comparisons
- Hardware comparisons
- Interviews and programmer profiles
- Tutorials for individual programs
- Programming
- Music
- More beginners' introductions to areas of computing (eg modems, DTP etc)
- Games features
- Games roundups

11. How many issues of STF have you ever bought?

12. How many do you expect to buy in the next 12 months?

13. How many other people read your copy of STF?

14. What has been your favourite cover on STF? (A reminder of recent covers can be found on page 114)

15. In issue 30 we gave away two complete programs and charged only £1 more for the issue. Would you like to see more two-disk issues in the future? Yes No

Comments
.....
.....

16. What sort of programs would you like to see more of on future Cover Disks? (Tick only two)

- Game demos
- Reader programs
- Graphics utilities
- Public Domain software
- Music programs
- Business demos
- Other (specify):
.....
.....

17. As regards the ST, do you consider yourself to be - a novice? a
fairly experienced? b an expert? c

18. How old are you?
Under 12 a 13-18 b 19-24 c
25-40 d 41-60 e Over 60 f

19. What sex are you?
Male Female

20. What is your income in a year?
Under £3,000 a £3,000 - £6,000 b
£6,000 - £10,000 c £10,000 - £15,000 d
£15,000 - £20,000 e Over £20,000 f

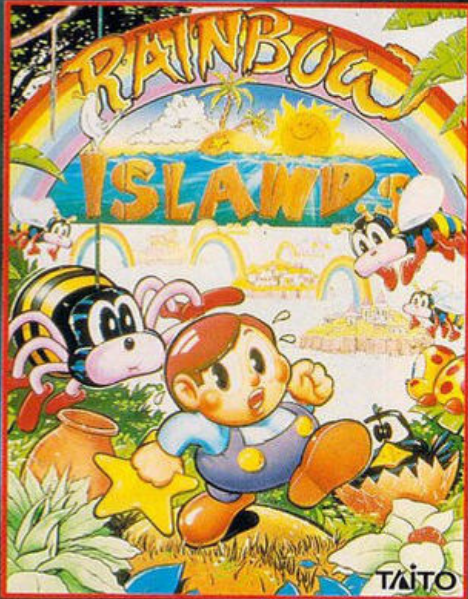
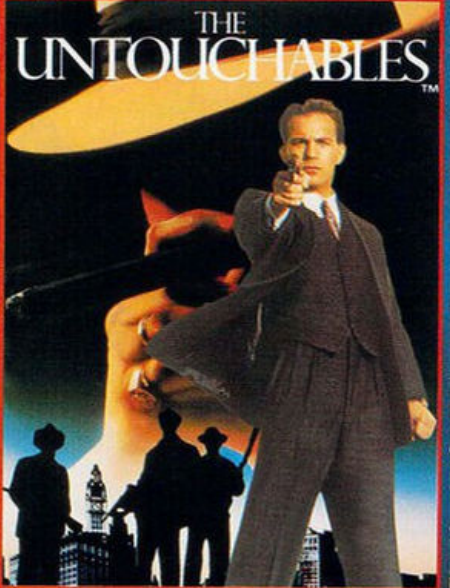
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22. If you'd like to make any comments about how ST FORMAT can be improved, or have any suggestions for features, please jot them on a piece of paper and enclose them with this form. The Editor promises to read every last one!

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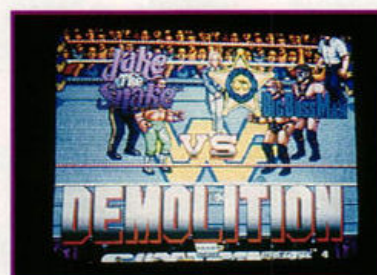
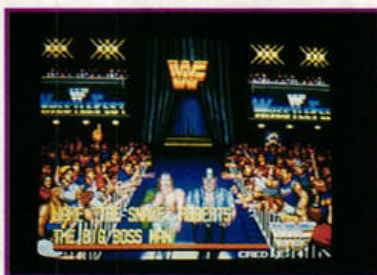
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SCREENPLAY

Take this page slowly. Perhaps just read one or two letters at first. Then, after a couple of weeks, if you're feeling up to it, try a word. Then another. When you've mastered sentences, you can – very carefully – have a go at the punctuation. But! Always remember: safety before speed

THE ST FORMAT REVIEWERS: Fed up with paying call-out charges, they've all taken a vow of silence



ED RICKETTS
Ed once recorded a version of "Swing Low, Sweet Chariot." Unfortunately it was never played on radio because it was over four hours long. And dismal.



PAULA RICHARDS
Fresh from her one-woman show off Broadway ("Baader-Meinhoff - The Putney Years"), Paula has plans to start a vole farm somewhere in Surrey.



CHRIS LLOYD
Chris gets rather nervous – not to say twitchy – during these winter months, because of a bad experience he had with a calendar when he was a child.



JAMES LEACH
Before he was had up for fox-baiting and rat-teasing, James was the leading parliamentary candidate for South Shields (South South West region).



MERCENARY 3
"You only want me for my money, you swine." "Yes, that's right, actually." "Eh?" "Yep. Your money. Your dosh. Your spondulicks. Your greenbacks, even. Now shut up and lend me a fiver till Friday." (Cue credits)
page 74



DEUTERIOS
It's arrived – the game so legendary that small undiscovered tribes in the Congo sing songs of how the great god Deuterios will one day visit them and bestow great gifts on their peoples. Just thought you might like to know.
page 78



WRESTLEMANIA
Inn the blue corner... "Wild" Jay Stockton, a 300-pound man in a red body stocking, sequins an' high-heeled boots! Inn the white corner... one of those nasty long-legged spiders. An' there goes "Wild" Jay, straight out of the ring!
page 80



MEGA TWINS
A harrowing tale of two 4MByte STs separated at manufacture and their life-long search for each other? If only. Actually, it's a silly game about two elves and their twee wanderings in the land of Gnorm. Something like that, anyway.
page 80



OH NO! MORE LEMMINGS
Oh no! More horrible beepy tunes! More excruciatingly punsome puns on the word "lemming"! More level codes for Gamebusters! More exclamation marks! We hope you're satisfied, Psynosis!
page 88



ADVANTAGE TENNIS
"Plop!" went the ball. "Ooh!" went the crowd. "Unghh!" went the receiving player. "Thwack!" went the racquet. "Ooh!" went the crowd again. "Yawn!" went the reader. "Snip!" went the Editor. And so on... (Cue ball)
page 90

UNDER INSPECTION THIS MONTH

Advantage Tennis	90
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STF REVIEW POLICY

- It is ST FORMAT policy to review only completely finished games – that is, the games you could actually buy in the shops – never incomplete or demo versions
- We review all games released, but only when they're finished. We won't be rushed into reviewing unfinished games to beat our "competitors"

MERCENARY 3 – FULLY DETAILED SOLUTION ● MAGIC POCKETS AND MEGA LO MANIA – GUIDES FROM THE PROGRAMMERS THEMSELVES ● NO LESS THAN 20 TOP GAMES CRACKED ● PAGE 101



● You're the smarmy one in the middle of this graphic adventure, not like the unhip peeps in their "army-look" headgear. That definitely went out last year.



● All the graphics were originally drawn on a Macintosh (capable of displaying 16 million colours!) and then ported over to the ST in 16 colours.

PREVIEW - BAT 2

"There was a time," goes the song, "when they used to say, that behind every great game, there had to be a great animal." And it's still true, y'know. Look at BAT 2 - oh hang on, you can't, it's not out yet. Have a word with Ed Ricketts about it

If the word *BAT* conjures up nothing more to you than a flying beastie who has more right to be in your house than you have, you obviously haven't played one of the most innovative graphic adventures of last year. *BAT* (Bureau of Astral Troubleshooters) from UBI Soft was strange, compulsive and the first game to use the MV-16 sound board, a small piece of hardware sold with the game which provided four channel music and sound effects. Now it's set to be followed by a sequel.

In *BAT 2* you once again play an agent of the Bureau, sent to investigate the fate of a colleague on the planet of Shedishan. This colleague, Sylvia Hadford, was herself investigating the sinister figure known as the Koshan. The Koshan has a complete monopoly over the supply of Echiatone 21 on the planet - a very precious material. The Confederation of the Galaxies isn't too

pleased about such a dubious character having this control, hence their hiring of the *BAT*. Sylvia was posing as a rich property holder to lure the Koshan out of hiding, but now an attempt has been made on her life. So the plot revolves around you finding Sylvia and ultimately disposing of Koshan in some way or other.

The game uses the same system as its predecessor. Locations are presented as a full- or part-screen graphic. Over this graphic you move your cursor, which changes depending on its context. Move it over a character and you're able to talk to it. Move it over a door and you can go in that direction. In this way you can pick up objects, interrogate characters and make full use of the facilities the city has to offer.

You might find you can befriend some of the characters you meet. In fact, you can take four people along

with you to help; or you can instruct them to go off and try to find out something for you, tell them to meet you at a certain time, or just pump them for information. Be careful, though: you might tell people something, only to find they've forgotten it a couple of hours later, which means they end up missing a meeting.

But not all the characters are friendly. You may get into a fight with a street gladiator, in which case there are two ways you can deal with him. A strategical fight involves the careful and thoughtful play of a sub-game, but the other option - arcade - means you can pick up a gun and plug away at the enemy *Operation Wolf* style. Here reactions are more important than thought.

To warn you of danger before you're knee-deep in it, you can use BOB, your Bidirectional Organic Bioputer, which is handily implanted in your arm. BOB has undergone many improvements since his appearance in the first game. This marvellous device can now be programmed, using a series of action and condition icons which you link together to form

programs, on the lines of IF DANGER WARN "DANGER" or preferably something more intelligent.

What's more, it's a parallel processor, so you can run as many programs simultaneously as you can fit into memory at once. From BOB you can also check out the state of your health or that of your companions, or even play one of four built-in arcade games in order to pass the time (and win yourself some money).

At some point during the game you need to use each of the four faster methods of transport available in the city. For instance, you need the taxi to reach the business sector of the city and the spacecraft to travel to other planets - for there are indeed other planets to be visited. These vehicles can be piloted on automatic or manually. The advantage of automatic pilot is that you can't crash, but it costs a bomb. Manually, it's free, but you do have to be a good driver.

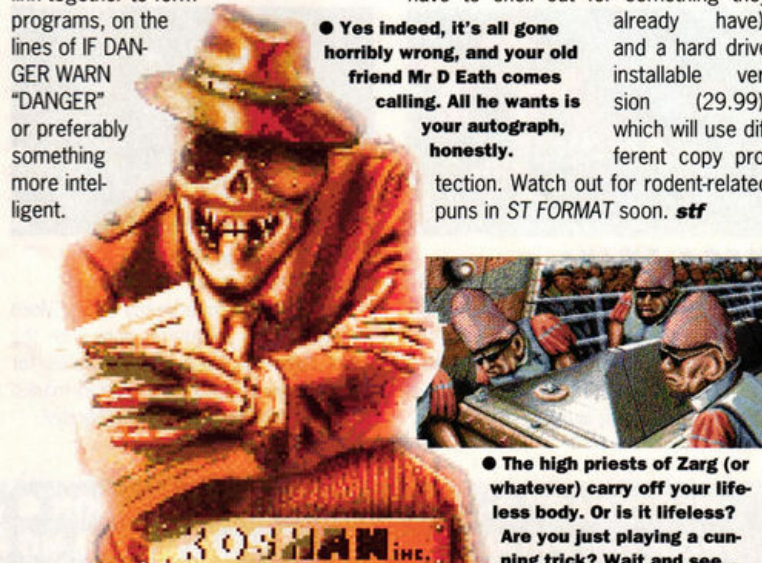
BAT 2, which should be around sometime in March, is likely to be sold in three (count 'em) different versions: one with the sound card included (£34.99) and one without (£29.99 - so people who bought the first *BAT* don't have to shell out for something they already have); and a hard drive installable version (29.99), which will use different copy protection. Watch out for rodent-related puns in *ST FORMAT* soon. **stf**



● The introduction to one of the flight simulators available within the game. This one sends you whizzing through long underground tunnels for no apparent reason at all. Oh well.



● Oh dear. You seem to have got into a fight with one of the strange android monkey races (don't laugh) of Roma 2. He's not too happy about what you've done to his make-up, neither.



● Yes indeed, it's all gone horribly wrong, and your old friend Mr D Eath comes calling. All he wants is your autograph, honestly.

● The high priests of Zarg (or whatever) carry off your lifeless body. Or is it lifeless? Are you just playing a cunning trick? Wait and see...

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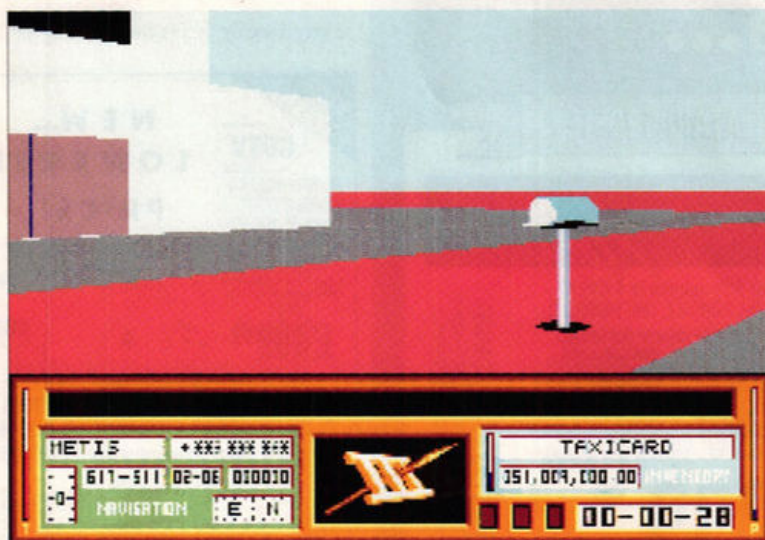
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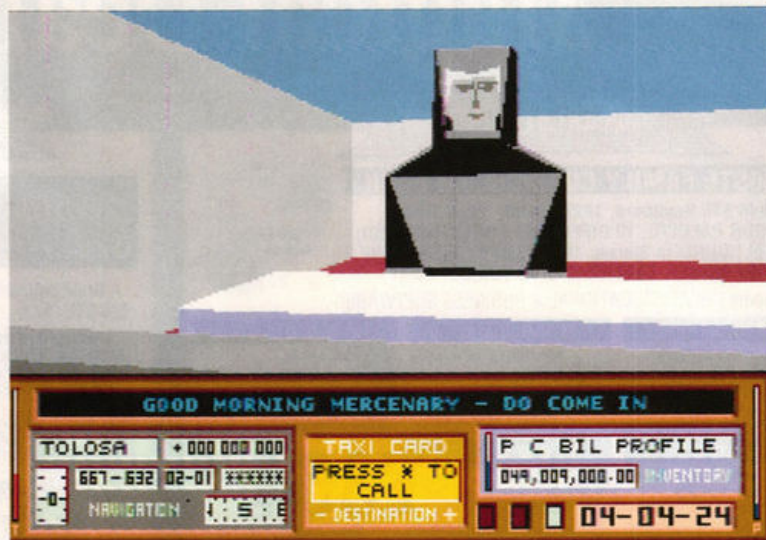
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● Come on now, let's face it, you didn't really want to spend the rest of your days on this earth on endless chat shows reliving your experience as a mercenary anyway, did you? Get out there and show ol' PC Bil that old mercenaries never die, they just appear in sequels.



● "Ah, Mr Mercenary, please do come in." In the very best tradition of James Bond villains, PC Bil has one small but telling quirk, one pretty minor yet extremely strange deformity: he has no lower half to his body. But then, none of us is perfect - just look at Marc Almond, for instance.

MERCENARY 3



And lo, it did come to pass that Paul Woakes put up the dreaded sign "Do Not Disturb" on his door. And there were sounds of frantic typing, of cursing and of enormous joy. And yea, at the end of that millennium, there was born the game that was called *Mercenary 3*, and verily, it had its father's polygons

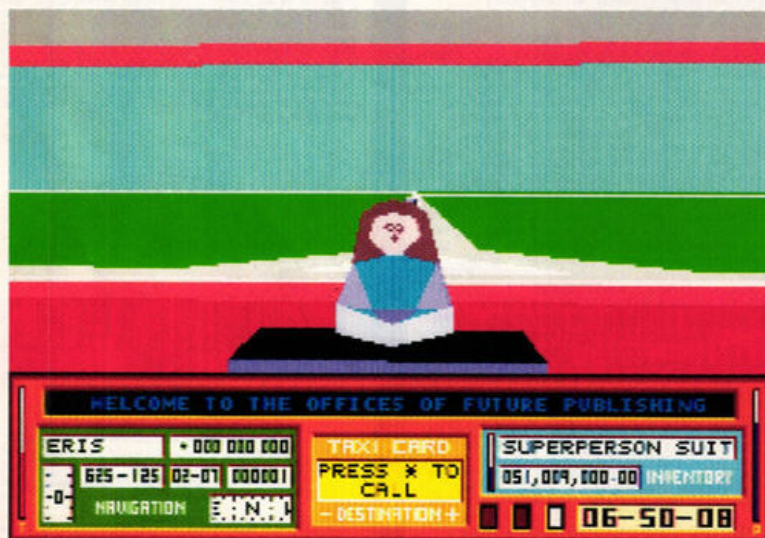
It's just not fair, is it? There you are, hero of the moment after saving the planet Eris from the comet Damocles (remember all that in *Damocles*?) and they chuck you into prison, condemned to wait for *Mercenary 3* to arrive. A terror-inducing prospect, given author Paul Woakes' past record of deadline-(un)meeting.

Luckily, Mr Woakes didn't take quite such a grey-hair-fostering long time coming up with *Merc 3* as he did *Damocles*, so once again the weird, wild, and probably even wacky Gamma solar system is yours to explore.

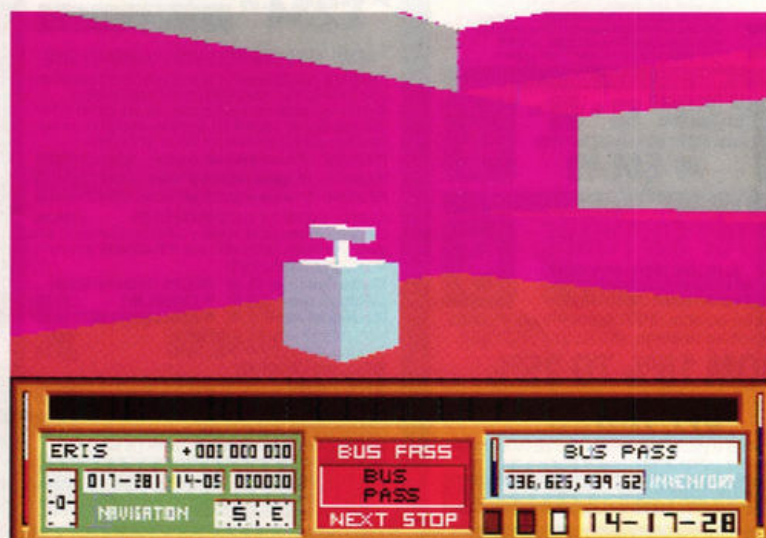
So now you're an enormously rich ex-mercenary with nothing to look forward to except a long slow slide into

obscurity. At least, until you get wind of what one rather unsavoury character called PC Bil is up to. Mr Bil has also become rather rich through some dodgy business deals. He's now about to spend his readies in building whacking great Pulvin mines on the peaceful island of Dion North (which, of course, you knew when it all was fields), in the process completely ruining the environment.

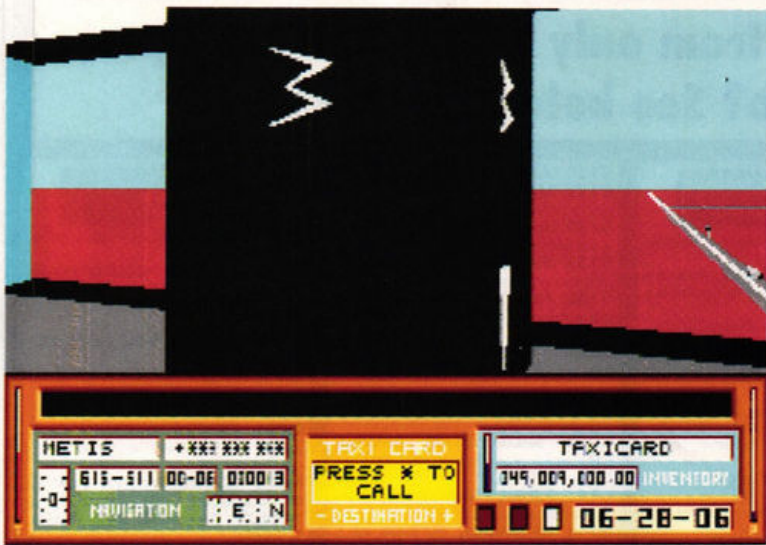
So, with the best interests of the people in mind (and, of course, no thought at all of making a few more spondulicks on the side for yourself), you set out to stop Mr Bil any which way you can. And, although you're not really aware of it to begin with, there's



● Blimey, Future Publishing's looking a bit empty. It's not time for the company weekend again yet, is it? You may find Future Publishing quite useful at some point, particularly if you need to advertise something - or someone...



● It's obvious what this piece of kit is. Of course - it's an oddly-shaped footrest. No, all right then, it's a detonator. But a detonator isn't much good without explosives - and anyway, what would you want to blow up (he asked knowingly)?



● These black numbered boxes are nothing less than instant matter transporters. Walk into the side of one (it isn't going to hurt, really it isn't) and you're immediately taken to a similar transporter on another planet.

also a time limit. As usual, you have only the barest of clues as to how you should go about this. One thing's for sure, though, to get anywhere you're going to have to face the most heinous, the worst, the most devious, low-down and downright underhanded thing the Gamma system could throw at you: public transport.

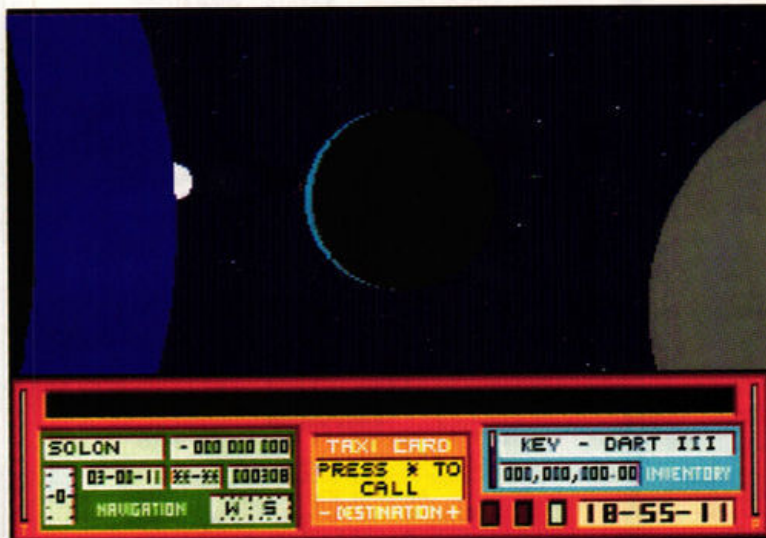
There are three ways of getting about. Buses are free, thanks to your bus-pass, but they only follow a predefined route. Catching a number 12 to take you where you want to go may mean waiting five minutes for it to arrive and then wasting more time shuttling along via all the destinations you don't want.

Taxis, on the other hand, take you exactly wherever you want to go, but at a considerable cost. As the taxi driver chatters on inanely, you can only watch in horror as your credits decrease at an alarming rate – if you're not already in a

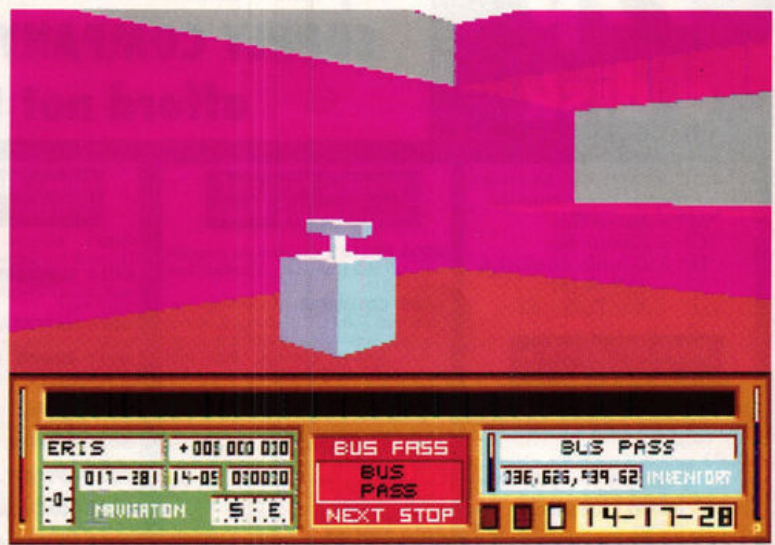
permanent coma from the way they take 90 degree corners at what seems like 70 mph. The same money-gobbling is true of inter-planetary or inter-city flights.

In *Damocles*, you had very little money but most things were free – there were plenty of ships, cars and suchlike just lounging about ready to be used. Now that you've got 51 million credits, things suddenly have to be paid for. There are other quicker and cheaper ways of getting about, but you have to be clever or lucky to find them. At least the buses and taxis are unrealistic – you can always depend on another bus coming along in a minute, and getting a taxi is as simple as using your taxi-card.

This forced reliance on public transport means the travel timetable that's included with the game becomes the most important thing in your life when you're playing *Merc 3*. It also serves as



● Space, not particularly the final frontier. Planet-hopping is fun (if you can find the darn planet you want), but wasteful of time; when you're travelling at close to the speed of light, time tends to hurry up just a tad.



● There are plenty of in-jokes for the sharp-eyed neo-mercenary to find and chuckle knowingly at. At least now we know where ol' Woakes hangs out when he's bashing these games together.

Previously the Gamma system was like a ghost town, full of buildings and objects but absolutely no people. Now you can't move for the blighters

a clue to some of the locations you should be visiting if you're to get anywhere. Visits to places like Margaret's Retreat, Boshers Bar and even good ol' Future Publishing should be high on your list. Don't expect to find the same buildings from *Damocles* – there's been some mighty big reconstruction going on during your, er, holiday.

Taxi drivers are just part of *Merc 3*'s other innovation: people. Previously, the Gamma system was like a ghost town only a little bit bigger – full of buildings and objects but absolutely no people. Now you can't move for the blighters. Receptionists, clerks, taxi drivers, pilots and so on jostle for your attention at every moment. Ignore them at your peril: some of them have some very useful tidbits of information, particularly (and appropriately) the garrulous taxi drivers. The people don't actually move about – they're just like part of the furniture.

Benson, your ninth generation PC, once again accompanies you – it's through it (him?) that all communication takes place. Strangely, though, he seems to have become much more passive during your incarceration, since he no longer makes those acid comments on your progress.

As before, you need to search each building carefully to find all its objects, and there's the same "wonder if it's

useful or not?" dilemma whenever you find something unusual, which leads to you carrying about every bit of tat you can lay your hands on. There's a normal limit of ten objects you can carry, but again, this can be increased when you know how. Some objects can be used and bring up a separate control panel when selected – it's worthwhile trying to use everything in this way, since some objects are more interesting than they first seem.

There are actually six different ways to complete *Merc 3*. Five of these are included as sealed solutions with the game, so if you get completely stuck you can throw your conscience to the wind and cheat. The sixth solution is the most financially rewarding, but it's up to you to find this one out.

The Gamma system is big, but mostly empty. You find that most of the planets are barren apart from their cities, and they only include a few key buildings. Consequently, there aren't all that many graphics for you to gawp at, but what there are include some of the best-designed 3D shapes you'll find anywhere, except perhaps in *Cybercon 3*. The graphics move with the same amount of smoothness as before – that is, lots – but they do tend to slow down slightly if you're in a "complex" room. In space, things get a little better with the planets and moons acting completely realistically and staying in their relative positions as you zoom about. *Damocles* fans will recognise the, er, sound effects (for want of a better word): the warbly beeps as a message appears from Benson, and – well, that's about all really. Oh, except for a bit of white noise here and there.

VERDICT: It's incredible what a few tweaks can do to a game system. The introduction of the public transport system is by turns frustrating and a god-

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Characters between asterixes show special requirements;

- *M* = Mono Res
- *C* = Colour Res
- *D* = Double sided disk
- *X* = 1Mb RAM
- (s) = Not TOS 1.62

Desk Accessories & Utilities

U001 Dir printer, various RAMdisks, snapshot saves screens to disk. Desk Acc. loader.

U003 Desk ACC formatter, calendar, clock, dir printer & a Disk Manager, programmers calculator.

U008 68000 ASSEMBLER, an address/mailling list. An autodial utility - date/time input. Label printer.

U009 - PICSWITCH 7, changes all graphic resolution. Hi-res & colour emulators. BBOOT boot from your B drive. SWITCHER 2 progs in memory at the same time.

FSEL 5.5, gives you improved facilities from the desk top.

U010 STE BOOTUP, boot your STE into medium res.

U011 DIY DEMO, create demos featuring a title screen & scrolling message, without any programming skills.

U014 ARC, file compiler. BICLOCK set time/date without using an ACC slot. FONTRIX loads an 8 bit font & make it GEM difficult. MONOEMU v5.0 makes your colour display think its hi-res mono so that you can run most mono programs.

U015 FILE SELECTOR V6.0, replacement for the GEM file selector. Select drive, sort, print, get full info on selected file, re-name, show time or name in selector. Virus Killer v2.01 detects 6 types of virus.

U016 100% IBM compatible formatter that formats 3.5" or 5.25" disks for DOS or TOS comes with source code. ARC SHELL v1.91 MEGA formatter, a multi-purpose disk format.

U019 DRFLOPPY, a disk sector editor, SCODE makes ASCII for easy data transfer.

U023 This disk is packed with various programs for printing all kinds of labels.

U024 CHK 2.3, Tells you everything you should ever need to know about a disk. DISK DOUBLER, is a utility for converting 2 single disks quickly onto 1 D/S disk. ST to IBM MODIFIER, alters the format of DS Atari disks so that an IBM can read them.

U027 ANTIDOTE, Super virus killer for detecting & killing all bootsector viruses, comes as a ACC.

U028 DISKMECH, is a powerful disk analyser/archiver/editor with options to edit sectors, format sectors, edit bytes, edit tracks & analyse disks, with full documentation. CPANEL is a vastly improved control panel.

U030 AMC GDOS, Atari's replacement for GDOS, used the same.

U032 MOUSE TRICKS, extensive control over mouse movement & menu style.

U033 MX-2 V2.3, a multi-tasking & multi-user environment allowing up to 7 concurrent tasks. *D*

U034 DOUBLE CLICK, format v3.03 9/10 sectors, 80/82 tracks.

U035 DEC, edit clone, disk engineer v3.01 allows you to do almost anything to a disk via GEM.

U040 AUTOGEM, autoboots any Gem program when booting. VC spreadsheet a non-GEM spreadsheet.

U041 ADDRESS LOG, on this disk there's a limited address book & label printer & a disk catalogue that auto disk directories.

U046 SUPER VKILLER, detects 5 different viruses, recognises 7 anti-viruses & 133 other types of boot sector.

U050 GEMINI, desktop replacement. All English version *DX*

U052 GEM PLUS, this is a great variant of Neodesk.

U057 GEMDOS USERS GUIDE, a disk full of information about GEMDOS.

U058 ATARI TOS 1.4 FIXERS, (STFMs with Rainbow TOS): POOLFIX, PRG & TOS 14 FIX. PRG for fixing o/s bugs.

U059 XCONTROL, Atari's latest TT control panel accessory for all ST's.

U063 MEMFILE 2.0, Memory and disk editor with powerful features.

Graphic, Font and Art/Drawing Disks

A005 PALART, excellent art program with full docs on disk. Excellent features. *C*

A009 COLUMBIA, A drawing program with some 3D elements & co-ord display. Studio (1Mb RAM) is a menu driven drawing package. Both programs are from Germany.

A012 DOODLE, this disk has the original mono & colour versions. Also some Mandelzooom pictures.

A013 ST GRAPH, a comprehensive graph program that can handle bar, horizontal bar, stacked bar, line & dot charts. The disk is formatted so that DS users can access extra routines.

A015 FONTS2, 7 screen & desktop fonts. Columbia, Devoll, Hudson Saturn, Spokane, Thames & Universal Roman.

A018 CANVAS, a great art package that fully supports the STE.

A020 PALETTE MASTER, A good art package that offers the user up to 512 colours. *C*

A024 FRACKTAL, is a fractal drawing program from Germany that comes with mono & colour versions.

A025 FONTKIT 3.31, by Jeremy Hughes. An excellent program, well improved on 3.2. *D*

A027 ANI-ST, ex-commercial package, quality animation system. You draw the initial & final shapes & the ST draws the ones in between.

A029 MASTERPAINT, drawing package, excellent features. Mono and colour.

A030 PICWORKS, this is a utility for enlarging, reformatting & manipulating pics up to 3 times normal size. *M*

A042 ST CAD v2.1, a medium or high res CAD package. Full docs very good. CALCPLLOT, scientific calculator and function plotter.

A043 THE ARTIST, A great drawing package with all the normal options. *M*

Clipart

C002 Various human figures, different cartoons, titles & more.

C003 Sports figures-high quality, July 4th logos.

C010 Occasional clips, various characters, etc.

C011 Loads more fruit & vegetables.

C012 Herbs & kitchen parts.

C013 Humorous clips plus the individual letters A-Z.

C015 Babies, boys & girls.

C016 More girls, scrolls & occasional clips.

C017 More Artdeco, baby boy & girl.

C018 More varied humorous clips

Wordprocessing & Desktop Publishing

W001-006 TEX, 6 disk pack, includes TEX the document processor. *M*

W008 1st WORD, Wordprocessor. Fully GEM based professional word-processor.

W015 HYPertext, Shareware prog suitable for the production of very professional documents. *MD*

W017 ST WRITER ELITE V4.1, top quality wordprocessor.

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Games Disks (colour unless stated)

G001 Warzone, Daleks, Haunted House & Mousemess.

G014 SUPERBREAKOUT, there are over 40 brick types all with special features. *M*

G016 NAPOLEON, conquer Europe, good wargame simulation. *M*

G017 EMPIRE BUILDER, property developer simulation. LOST TREASURE & JUMPSTER.

G018 RUSH, move the bricks in order to create a way out for the ball.

G020 YAHTZY, an extremely popular game.

G021 UPSTART, an excellent shooting the cherries game. *S*

G022 COMPANION, is a shoot 'em up mission in outer space.

G025 ENGLAND TEAM MANAGER, Football team management.

G027 DIE ALIEN BLOB, a great shoot 'em-up, excellent graphics.

G028 TREASURE SEARCH, find the hidden treasure. *D*

G032 BALLER, an arcade castle & cannons game graphic adv. *M*

G033 ADVENTURE WRITING SYSTEM, create adventures.

G037 TUNNEL VISION, a great maze game.

G038 BERMUDA RACE 2, the challenge is to sail to Bermuda.

G039 INVASION, adventure set on a huge spaceship.

G041 HACK! is a Dungeon & Dragons text adventure.

G045 AYATOLLA, Your border is under attack from terrorists.

G046 ROBOTZ, addictive & very playable game. There are 40 levels.

G047 FRUIT MACHINE, is a great fruit machine simulator.

G056 SLIDER, 3 levels, quality puzzle game.

G063 SOLITAIR, with 3D graphics. Macpam is a kind of Pacman. Galaxy & Sprengmeister are strategy games. *M*

G064 ATOMS, is a mentally challenging game for 2-4 players.

KILLERCHES, fast & furious chess game. AMMOTRACK's a super race & blast'em game.

G068 SKIDPAN, a motor racing game written in STOS. (Not STE).

G069 STOCKMARKET, wheel & deal. GALACTIC WARRIORS, shoot'em-up.

G084 FLOYD THE DROID, ultra fast shoot'em-up. Sampled sound.

G085 AIR WARRIOR, a flight simulator. Full docs.

G086 COMPUTER PINBALL, as it sounds. DEVASTATOR, a 3D strategy game.

G090 TALESPIN, the wolf and the 7 kids.

G092 FUZZBALL, a great platform game.

G093 SHIPWRECK, educational maths with graphics. Not STE.

G094 ZOG, a great blasting game. SUPER SENSORS

G097 WIZZARDS LAIR, complete text & graphic adventure.

G098 UNDER BERKWOOD, An absolutely massive graphic adventure

G100 NAVAL BATTLE, battleships

G102 CENTAURI, a horizontal scrolling shoot'em-up

G106 VIRUS, a game with great graphics and sound.

G108 FLYOVER, a bombing raid with a reasonable level of difficulty.

G109 GLOB, you collect cherry cakes while avoiding pursuers.

G111 TRACKER, you drive your tracker through enemy territory.

G112 OVERLANDER, a good shoot'em-up.

G113 CHANCE, the Archons have taken over a space platform close.

G114 ESCAPE FROM THE TOMB OF RA, collect jewels to prolong your life, find the secret passages, and if you can, get out alive.

G115 MUTANT, reactor in a nuclear powered mine goes out of control. The workers start to mutate. You must get to the end cavern & destroy it.

G116 KEY TO ATLANTIS, underwater scrolling shoot'em-up.

G118 MARS MAZE, good platform game. Work your way up against time.

G119 STEEL, blast everything in sight.

G122 HEDGEHOG, along the same vein as FROGGER.

G123 THE NAME GAME, based upon the Sun puzzle. Create your own.

G128 TARK, great text adventure.

G129 BATTLE FOR THE THRONE, a role playing adv.

G130 LLAMATRON, a great shareware game by Geoff Minter. *D*

G131 VIDEO POKER, Las Vegas poker playing machine.

G132 DERRICK THE DROID, a great mix of platform, shoot'em-up & puzzle game.

G136 PORK II, another send up of the ZORK series. Subtitled "The Gizzard if Showbiz".

G137 MORIA, a fantasy role playing game. *D*

G138 SHOOT'EM-UP BUILDER KIT, make programming shoot'em-ups easily. *D*

G141 DUNGEON! Multi choice fantasy adventure with some humour.

G144 HACKMAN, 50 levels of a great Pacman clone.

G145 ELEVEN CRYSTALS II, part 2 of a great text adventure by Fink.

G149 STARMAZE, Guide your craft around the various levels blasting the alien craft on your way.

Programming/ Language Disks

P001 6800 ASSEMBLER, **P008-P010, C LANGUAGE DISKS 1, 2 & 3** of Elementary C, a set of 3 disks.

P012 CPM EMULATOR, this is a CPM-8 version 2.0 that runs at 2MHz.

P013 CPM UTILITIES, for P012.

P017 PROGRAMMING EDITORS, CONTEXT V2, PRO-ED & P-EDIT, plenty of features & documents.

P020 SOZOBON C, probably the best PD C compiler with full K&R compiler support. *D*

P022 SPRITE EDITOR, create & save your own sprites.

P023 C TUTORIAL, disk manual, an excellent intro into C programming.

P026 MKRSC, a simple GEM resource construction utility.

Communications Disks

C005 UNITERM V2.0A, with auto-dialler & phone book.

C006 VANTERM 3.71 & 3.8, is just about the best PD communications package around.

Applications, Spreadsheets, Databases, etc.

S001 DATABASE 1, this is a GEM driven database.

S002 ST SHEET, this is a very good quality spreadsheet. *C*

S005 B/STAT V2.01, this is a sophisticated graphing & statistical analysis program. *DX*

S007 OPU5 V2.2, This program is a GEM based spreadsheet & charting program *DX*

S009 WG DATA, high quality DTB with custom screen layout. Full docs.

S011 DOUBLE SENTRY, an excellent fully working accounts package (no VAT).

S013 INVENTORY PRO V2.0, is a fully featured stock control system. Very powerful.

S016 SHEET V2, fully featured spreadsheet. Similar to Lotus 123 docs.

Music

M001 COMPOSER, a music creation program.

M012 SINGING CALIFORNIAN, reasons

M013 MUSIC WRITER, this program lets you create music on screen.

M016 CASIO CZ SOUNDS & EDITOR.

M018 ACCOMPANIST 2.3, full featured midi sequencer. *C*

M020 XBIOS, music construction kit.

M021 PERCUSSAMAN, is a 4 track, 16 instrument, digitally synthesised sequencer.

M022 SOUNDTRACKER PLAYER & MODULES. D DREAD1, D DREAD2, PAT MIX, RVB DEMO, SPREAD.

Educational

E002 WORLD MAP GAME.

E004 SPELLING, made easy.

E008 CHUNNEL, a French to English & vice-versa tutorial game, with words & short phrases. *C*

E011 TYPING TUTOR (2), with full documentation.

E013 MATHS MADE EASY, Another great program with speech synthesis.

E014 KIDGRAPH, KIDMUSIC, KIDPIANO, KIDPOTATO 'C'

E015 KIDPUBLISHER, DTP, Kidsong.

E016 DOT2DOT, join the dots to make pics. Also create your own.

E019 SOLAR SYSTEM GEOGRAPHY.

E020 GEOGRAPHY TUTOR a great shareware package.

E021 ZOO MAKER, a game with a difference, you are asked questions and the computer tries to guess the animal.

E023 COLOURING BOOK, superb program for the young.

General

F005 CONSTELLATIONS, a comprehensive Astronomers disk. *M*

F009 THE PLANETS, a slide show around the planets. *D*

F013 POOLWISE V3.5, a sophisticated pools predictor. Med res.

F016 ST TOUR, excellent guided tour of your ST.

F017 YOUR SECOND ATARI MANUAL, a 250Kbyte text file on the ST

F019 GENEALOGY, shareware package for tracing family trees.

F021 BUSINESS LETTERS, 100 business style letters in ASCII code.

Demos

D005 THE DEFINITIVE DEMO, by the Lost Boys. *D*

D006 SLATATANIC CULT, music demo I & music demo II. *D*

D007 ASTERIX DEMO, digital sound & pics.

D008 BOMB THE BASS, demo.

D009 TRANSYLVANIA DEMO, by the Lost Boys. *D*

D010 SOUND CONNEXIONS DEMO. *D*

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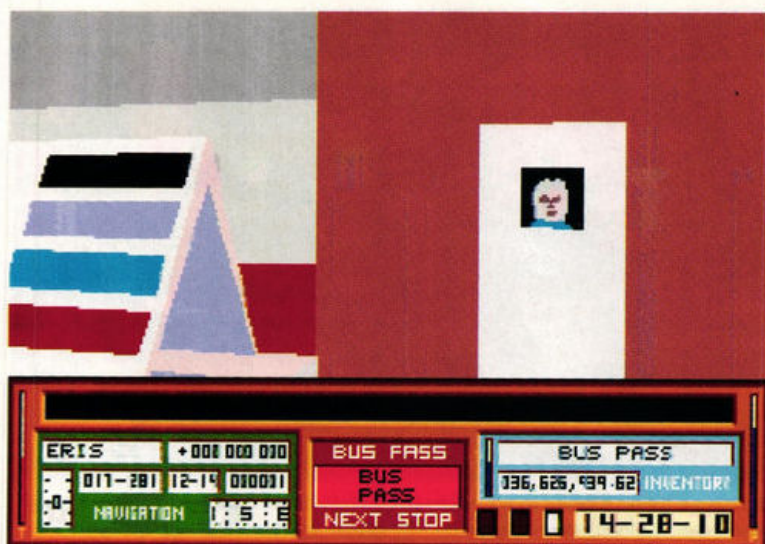
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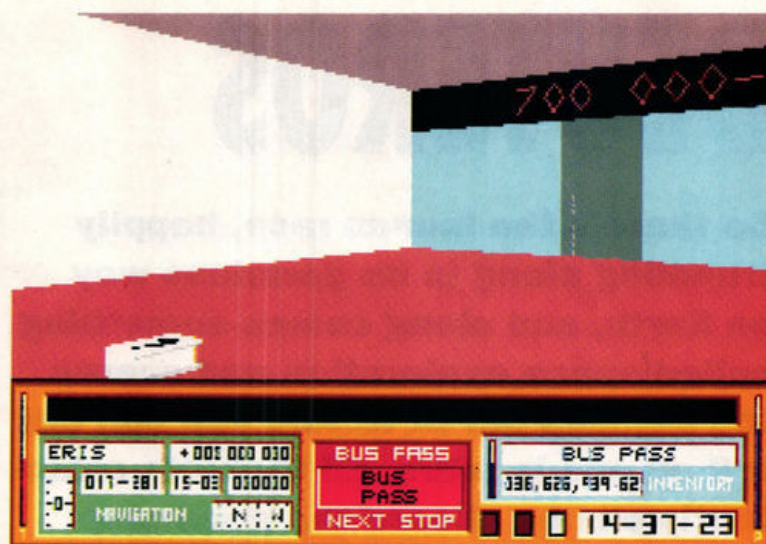
● Oh er, sorry, I think I've wandered into the wrong house. I thought this was the Eris Post Office HQ... oh, hang on, it is. Where's the ballot paper then? Oh yes, of course, that, um, thing on the table. Now then, which option?

send. It's frustrating because you do spend a lot of your time waiting for the next bus to arrive, or travelling about aimlessly with the hopeless robot taxi drivers on Gaea. But, on the other hand, you can always rely on getting a bus or taxi, so there's no need to worry about always finding a quick way to get around. It also provides a kind of structure to the game that was previously missing. Often in *Damocles*, you would find yourself wandering around with no idea of where you were or where you wanted to go. At least with the buses and taxis you know exactly what that innocuous block of a building looming up ahead is.

Looked at dispassionately, there's very little difference between *Mercenaries 2* and 3. But somehow, the new

To get anywhere you have to face the most heinous, the worst, the most low-down and downright underhanded thing the Gamma system could throw at you: public transport

elements here manage to make playing what is essentially the same game as *Damocles* enjoyable all over again – there's certainly no feeling that the game's just a money-grabbing re-hash. Quite the opposite – you get the same



● This hint book might be handy if you can find it. Although it's an astronomical price you don't have to pay for it – just pick it up, read it, then drop it again. But the book knows this, as you find out if you read it.

feeling of being able to explore anywhere you damn well want to, and there's always the lure of all those strange objects lurking about on obscure planets for you to find. If you've never played a *Mercenary* game before, get this. As an introduction, it's far better than *Damocles* because it's easier and more structured.

So, once again, Paul Woakes and Novagen (who must depend entirely on the *Mercenary* games just to stay in business – how many other successful games have they released?) have come up with the goods. But this should definitely be the last *Mercenary* jaunt – time for PW to spend another four years developing another game system, perhaps?

ED RICKETTS

MERCENARY 3

NOVAGEN – £29.99

- Not really all that different to *Damocles*, yet *Mercenary 3* manages to be an entirely new experience.
- *Cybercon 3* is perhaps its nearest contender. Its graphics are better, but the gameplay's tougher and it's not as immediately accessible.
- The *Freespace* games, like *Castle Master*, although similar just don't come anyway near close to the complexity and sophistication of *Mercenary 3* and *Damocles*.
- Great gameplay that unfolds in the same way as *Deuterios* (page 78).

STF RATING 90 %

PLANES, TRAINS AND AUTOMOBILES (WITHOUT THE TRAINS)

Even stinking rich mercenaries have to use the bus now and again, at least until they can find something more appropriate to get about in.



● Oi! For Gawd's sake keep your eyes on the road – er, space lane! These pilots are very good at their job but they do tend to have an unnerving trait of seeming to be more interested in you than the destination.



● Your own means of transport can be acquired in certain places, but the keys to a Dart III don't come cheap. And even when you're airborne you should keep a look-out for Bil's ships – they don't like you entering certain areas at all.



● You know that when one of the robot taxi drivers on Gaea says that, it really means "I'm about to drive around aimlessly for half an hour until I accidentally hit upon the destination you want." So much for the Industrial Revolution.

DEUTEROS

So there's the human race, happily trundling along in its gormless way on Earth, and along comes something called space exploration and scares the bejusus out of it. And you can bet it'll all end in tears. Ed Ricketts reluctantly climbs aboard the good ship *Vomit* and blasts off

It's like this. For a thousand years after the end of *Millennium 2.2*, the Earthlings (that's us) have been steadily forgetting the art of spaceflight learnt during that period so long ago. After all that strenuous exploration it seemed a good idea to just settle down, have the lifestyle equivalent of a nice cup of tea and let all that space colony nonsense sort itself out.

That is, until some ambitious git decided that perhaps it might be a good idea to get back out there and see what had been happening in the meantime. With a collective sigh of resignation, the humans begin poring over their old "How to Build A Spaceship in Ten Easy Steps" plans, hammering away feverishly behind locked doors – generally staying up late, drinking too much coffee and living only on Big Macs and chips.

Thus the scene is set for *Deuteros*. You find yourself in the year 3100 at the start of the new and glorious space age. Your position in the universe is

Earth City controller, which essentially means Man in Charge of Everything. Your first job is to get an orbital factory in place around the Earth in order to provide a stepping-stone to the rumoured Moonbase – supposedly built during the first Space Age.

But before you can build anything, you need some resources – minerals, metals, things like that. And before you

You find yourself in the year 3100 at the start of a new and glorious space age as Earth City Controller – Man in Charge of Everything

can get some resources, you need a mining derrick. And before you can build a mining derrick, you need to research it. And (hang on, there's not much more) before anything can be



● Strange things happen to you when you go into space. You become weightless. Your bones disintegrate (eventually). The papers want to know whose shirts you wear. Planet Earth is blue and there's nothing you can do. *Deuteros* – a smile, an orbital factory, and an obscure mineral.

researched, you need some people to research it. Nothing comes easy in *Deuteros*.

Orbital factories are built in eight parts, so you need a way of transferring these parts from Earth City to a place in orbit. Which means you need a shuttle – not to mention fuel – to get it going. All these things have got to be researched and built before you can get anywhere.

Unfortunately, shuttles can only shuttle (hence, surprisingly, the name) between the host planet and its orbital factory. So, how are you supposed to spread to the other planets in the solar system – and beyond it? You need to build an IOS – or Interplanetary Operations Spacecraft – for that. These enormous beasts are capable of travelling as far as you like (assuming they're given enough fuel) and are capable of carrying three pieces of equipment at the same time.

As your research and production teams become more experienced, they, er, research and produce things

much faster. You also find exotic items appearing on the research menu, like the Auto Cargo Computer, which can automate the ferrying of minerals from one place to another. But... just because you can research, it doesn't mean you can build it. Most items need strange minerals only found on other planets – you can see which by looking at the mineral analysis. You can only



● Resource stations are the planetary equivalents of the orbital factory. They're essentially resource recovery centres and need to be supplied with mining derricks before they work. The only problem is, you need an orbital factory in orbit before you can even think about building one – grrr!

HERE'S ONE WE PREPARED EARLIER

This number indicates the total trainable people left on earth - not many



● Start off by training up some people – clicking on the arrows increases the recruits for each section up to the maximum possible for each. Advance time and the doors close until everyone's trained. Remember to turn off the lights before you leave.

Move the cursor over the dots to see the details on that item



● Now nip over to the Research screen. You find the mining derrick has already been researched, so start researching the shuttle chassis. Meanwhile...

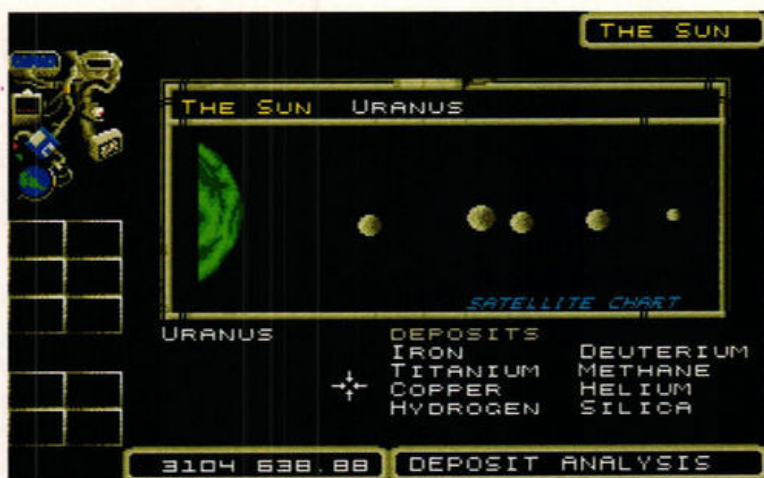
The graphic of the item is constructed as the item itself is constructed



● ...go over to Production and build a mining derrick or two. When you've done about four or five, the shuttle chassis should be completely researched and ready to build. First, though, you need to...



● Your first contact with the Methanoids is baffling rather than momentous, because you can't understand them without a communications pod. Returning with such a pod soon makes their wishes clear – they're after goods – and lots of them.



● The Deposit Analysis screen lists those minerals on each planet you need but can't reach yet. What it doesn't tell you is what particular use each mineral has, nor relative density, melting or boiling points. S'pose that could come in handy.

mine on these planets if there's an OF in orbit around it.

As you spread your operations over more planets, you may encounter other life forms. It's up to you to decide whether they're friendly or helpful, but you might find they can be quite useful in certain situations. In fact, it's when you meet these aliens that the plot of the game really starts to unfold. You finally have some sense of purpose and begin to see a way of finishing the game.

Deuterios isn't really a game that lends itself to especially stunning visuals, being more or less a series of static screens, so the well-drawn and detailed graphics come as a bonus. There's a tiny bit of animation (flashing lights and so on) to liven things up, but you don't really notice the visuals too much anyway because you're so engrossed in trying to build things. The sound is, well, odd; as in *Millennium 2.2* – most screens have got a constant noise burbling away in the background. Although it's not exactly musical,

strangely it does seem to fit the atmosphere precisely.

VERDICT: Like *Millennium 2.2*, *Deuterios* gives you the feeling of genuine exploration, of going where no man has gone before and discovering strange new things. You really do want to get out there and find out what's lurking on Neptune, Pluto or even in a dif-

You really want to get out and find out what's lurking on Neptune, Pluto or a different solar system, so you can build that interesting new invention

ferent solar system, so you can build that interesting new invention that's just appeared on the research screen. You

know that, just as things start to get routine and you think you've covered everything, a new threat or discovery will pop up and send you off along another tangent.

Unfortunately, though, to counter this feeling there's another one of frustration – frustration at the amount of researching, building, shuttling materials, undergoing long space trips and all the mundane things you have to do to get anywhere. Your mouse is always on the go (as it were), and even the simplest action demands that you visit at least three screens and click on four icons. Yes, this is realistic in the sense that in the real world nothing is immediately available, but this isn't the real world, it's a game – it should be enjoyable, not annoying. Coupled to this is the fact that at the start of the game you have almost no idea of what to do, beyond building an OF. If you don't read the manual carefully several times you'll still be lost an hour after starting the game. There's a lot to *Deuterios* – its author reckons it takes 30 hours to

play even when you know what you're doing. But this is partly because of the wasted time you spend in unproductive, frustrating actions, rather than fruitfully satisfying ones. It's possible to get to the heart of the game, and when you do, you'll be glad you persevered. It's just a shame that you virtually need to be a surgeon if you're ever going to get there.

ED RICKETS

DEUTERIOS

ACTIVISION – £29.99

- It's bigger and better than *Millennium 2.2*, but it shares that game's annoying "realism" – that is, that half the playing time is wasted.
- Seems like *Supremacy* at first, but it's less of an all-out battle. Thought definitely required here.
- In some ways, it's like *The Hound of Shadow*. The story is only revealed to you after extensive play.

STF RATING **83** %

The number of rigs you've got working



● ...install some more mining derricks so that your Resources section can build up its stores. Now build the shuttle chassis, research and build the shuttle drive, and...

Click this to scrap the shuttle and regain its resources



● ...scoot to the space dock. The shuttle is in three sections – stick the drive at the rear, and bung a crew in the front. You can't go anywhere without fuel, so research and produce that, then a tool pod and an OF frame section. Load it onto the shuttle...

Takes you to the service bay when docked



● ...and you're finally ready to send it up into orbit. Once there, just activate the tool pod and the first section of the orbital factory is built. Then simply repeat seven times, and before you can say "I'm sorry, I can't read that" you've got your first OF.

MEGATWINS



● In a bid to rid the kingdom of nasties and save the girlie, Yuk unslings his sword and lunges at the smiling two-headed dragon. Sadly, he ends up being toasted by the reptile in cold blood.



● There's lots to see and do when you visit the cheerful Crab family. Like killing them and making off with their priceless and irreplaceable collection of pearls.

In times of recession and world-wide strife, Mother Nature kindly bestows upon us cute arcade games to smooth the worry from our brows. *Megatwins*, by Mother Nature (via US Gold), is vying for the Andrex Puppy Award for making you embarrassed to be seen buying it.

You're on another planet – you'd have to be – and there are three (count 'em) Kingdoms: air, water and land. You must rid each of nasties before you can free some princess or other and discover some other legendary nonsense. Oh, I don't know. The point is, you –

and an easily bribed friend, if you

choose – have got to bounce along through Primary-Colour Land, bopping nasties with your sword and collecting glittering things. The baddies – which aren't particularly nasty or bad, actually – don't try and stop you much, but they do get in the way. Regretfully, you must murder them.

Each level is divided into sublevels which only seem to be a few screens long. This means that you come up against End-Of-Sub-Level-Baddies all over the place. No bad thing, because these actually put up a decent fight.

Every time you lose a life, you start the next exactly where you died, but with temporary invulnerability. So, even those who blub at not being able to get past certain bits of most games should be able to beat any nasty by using this feature for a sustained attack.

VERDICT: The graphics are big, colourful and smooth. What more do they need to be? The game is certainly large enough to keep you from your sleep for many a night, and the sound is as cute as your inner ear can withstand. If you haven't invested in a game of this ilk and you're feeling in need of some harmless goodwill, *Megatwins* is for you. It's a lot of fun and stands out like a beacon in an otherwise sad and depressing world (sigh).

JAMES LEACH



● Even in the sky you can't escape the ceaseless attack of the cute things. Flying with the aid of a small hat, Yuk can turn the cloud kingdom into something that resembles the Somme. It's an offer no mortal can refuse.

MEGATWINS

US GOLD £25.99

- Similar to *Rodland*, this is ideal for the toddler in your cellar – er, life.
- Although it's good, it's not very original – try *Toki* or any other of the hordes of arcade conversions. How many more cute-'em-ups can there be?

STF RATING 74%

WWF WRESTLEMANIA

WWF Wrestling is the most ridiculous sport that has ever been televised. You must have seen it – two (very) grown men pretend to do each other grievous bodily harm – which, if it were real, would kill both of them within five minutes – before shouting at the camera a lot. Pathetic.

Notwithstanding this, a sim of the sport has the potential to be an excellent game: all that pixel-pummelling without the sweaty rhetoric of brain-dead lumps of meat. You get to play one of three likely lads called The Ultimate Warrior, The Hulkster, and the British Bulldog, each of whom has a special move, like jumping

up and down on the opponent. After an initial bout of mutual insulting, you and an opponent mince daintily into the ring.

Moves, like kicking, punching and pinning, are controlled with various joysticks configurations – and there's quite a few of them. If you get involved in a grapple, you have to waggle the joystick rapidly in true Decathlon style; the fastest waggler wins the grapple and does his special move. If you're thrown to the floor it's a case of repeatedly hitting the <Fire> button until you get up – the weaker you are, the more presses you need. You can also climb up on the corner posts or even leave the ring completely

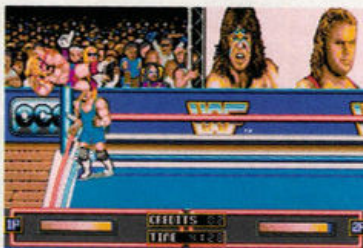
and run away. Each wrestler sprite has its own character, though they all suffer from a paucity of animation frames in their moves – two frames for a kick, for instance. Scrolling isn't too bad, and, on the whole, the display's pleasant enough. The sound's crap, as usual.

VERDICT: *WWF Wrestlemania's* not terrible, but it's only a beat-'em-up hiding under the guise of a wrestling game. There are some nice touches, like the way you can jump on your opponent from the post or leave the ring, but you really have seen it all before. And the mindless and extremely tiresome posing of the "contestants" both in the game and in the video that comes with it could well put you off.

ED RICKETS



● The Ultimate Muscle Group, or whatever he's called, decides to call for a taxi before the acting gets really bad and he has to pretend he's just been slightly stunned by his 20 stone opponent falling on him. *WWF Wrestlemania* – Larry learnt everything he knew there, y'know.



● Dirk the Pounding Pulsating Pectoral does his fabulous trick of tripping up, falling off the corner post and out of the ring, followed by his equally stunning move of lying on the floor, bleeding slowly.

WWF - WRESTLEMANIA

OCEAN - £25.99

- There aren't any other wrestling sims on the ST, so *WWF* has no direct competition. It is very similar to most beat-'em-ups though, like *Final Fight*, *Pit-Fighter* etc. etc.

STF RATING 63%



● "Here you are! Feel that! Go on, feel it! That's workmanship for you! That's British-made, that boot! Not like your American rubbish!" The British Bulldog gets all patriotic while his opponent fuels up his chainsaw.

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● Things start to get tough on Level Two of this hack'n'slash. This anti-social archer starts chucking arrows at Hegor as he gets close enough in this heroic quest. He's guarding the grappling hook needed to reach Level Four.

He looks like Desperate Dan with a blonde wig on. Don't say that to his face though, since each character Hegor meets in this scrolling hack-'n'-slash generally needs hospital treatment.

The plot is the usual wibble for the genre. Your evil brother – whom you dispatched into the bottomless pit of dissolution in the original *Barbarian* – is about to be resurrected, and apparently only you can stop it. Sounds like a cue for a heroic quest if ever there was one. There follows six sprawling levels of mayhem, as you – armed only with a pair of furry shorts and a very silly little helmet – make a real nuisance of yourself with the minions of darkness.

Your heroic barbarian is completely joystick controlled: you can punch, kick, duck and execute some amazing somersaulting leaps. It

takes a little practice to get used to all the moves, but once you do, you can use some lovely positions. Control is precise, so there's no swearing that you pushed the joystick in the opposite direction as you jump straight onto a

BARBARIAN 2

Somewhere in the universe, barbarians are playing games that involve staying at home and feeding the cat. Chris Lloyd immerses himself in one with no cats at all – not even one small one

waiting spear point. Unarmed, you're a dangerous dude, and, with a sword, you're even more of a force to be reckoned with. There's none of this one-hit-and-it's-back-to-the-start nonsense – there's a green bar representing your fitness. The level of the bar – and your relative health – is eroded by the number and force of your opponents' blows – some of them hit harder than others.

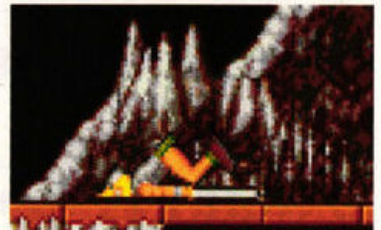
The first level is a merry walk along forest paths. The screen scrolls left and right, occasionally the path turns into or out of the screen leading to another section. If you're going to be able to remember your way around the levels, you need quite a bit of spacial awareness and logic. On your travels, you soon come across weapons stashed in chests.

As the game unfolds, the puzzles and traps get trickier and your enemies tougher and smarter. Fortunately, you can save your progress to disk at any point and come back to it later on.

The graphics are detailed and atmospheric, even though you do have a

chin of barbarian proportions – and incredible robustness. The animation of Hegor is fluid and everything moves at a fair pace. Each level has a new set of backgrounds and sprites – the game really does look good. Loading is accompanied by a sampled soundtrack and those with 1MByte or more get one of Psygnosis' impressive opening sequences. During the game you get sparse but suitable spot effects – a few sampled screams would liven it up no end, though. Extra brownie points are awarded for full use of extra memory and twin disk drives.

VERDICT: Leaping from platforms in a loincloth, finding objects and switches



● Not the most dignified of poses for a dragon slayer. Hegor practices his breaking-your-fall-with-your-chin trick.

YOU UNSPEAKABLE BRUTE, YOU

A *Barbarian* game wouldn't be complete without a decapitation or two, would it? Hegor, your hero, tries to look innocent as the guard's head

that made a remark about the huge size of your feet is brutally and swiftly separated from his body, which had more sense and didn't.

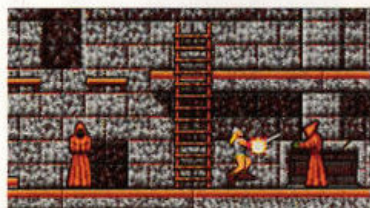
- 1 Energy bar – watch out for the green bottles to top this up – a night at the inn does the trick, too. Enemy attacks vary greatly in damage.
- 2 Weapon strength – Top this up with the clear potion flasks. Let it reach zero and your weapon explodes.
- 3 Inventory – You can carry up to three objects at once – cycle through them with the <Return> key.
- 4 Gold – Buys goodies like nice shiny battleaxes and health at the village shop.
- 5 Keys – Oh so slightly vital these – always seem to be in nasty places, too. Strange that.
- 6 Bolts and arrows – A safe way of dispatching those troublesome guards if you've got the ammo and found the shooters.



and throwing your weight around isn't original – not even vaguely. This game been written a dozen times before, rarely better though – *Barbarian 2* looks good and plays better than any of its predecessors.

Things start in a fairly pedestrian way and gradually get harder. There are plenty of ledges to perch on, pressure pads to stamp on and forces of evil to get righteous with. It lacks the in-depth involvement of heavyweight simulations and god-games, as well as the frantic arcade quality of shoot-'em-ups. Eventually you will work your way to the end of the game, but the chances are that you'll have had a jolly good bash doing so.

CHRIS LLOYD



● Level Four and the stakes are getting more serious than ever. Robed priests preach a practical sermon about the fires of damnation.

BARBARIAN 2

PSYGNOSIS – £25.99

Need 1MByte to see opening sequences

- Joystick controls much more accurate than *Pit Fighter*.
- Sound effects disappointing. See *Revenge of the Mutant Camels* for a game that also assaults the eardrums.
- Smaller sprites than *First Samurai*.
- Much more gameplay than Psygnosis' original *Barbarian* and Palace's *Barbarian*.

STF RATING 74%

IT'S DARK, IT'S DAMP, IT'S DANGEROUS, IT'S ER, D SOMETHING

Level Two – the caves of no hope. A series of horizontally- and vertically-scrolling rooms filled with traps, nasties and locked doors. The keys have, rather handily, been left lying about, but unfortunately in rather awkward places. There's also a whole new set of monsters and they're not pleased to see you. If you take the easy route from the forest, this is the first room you enter. Later rooms get harder.

1 These rocks look a little suspicious, don't they? Try standing underneath them, shouting and jumping up and down.

2 This section of floor crumbles away as you run over it.

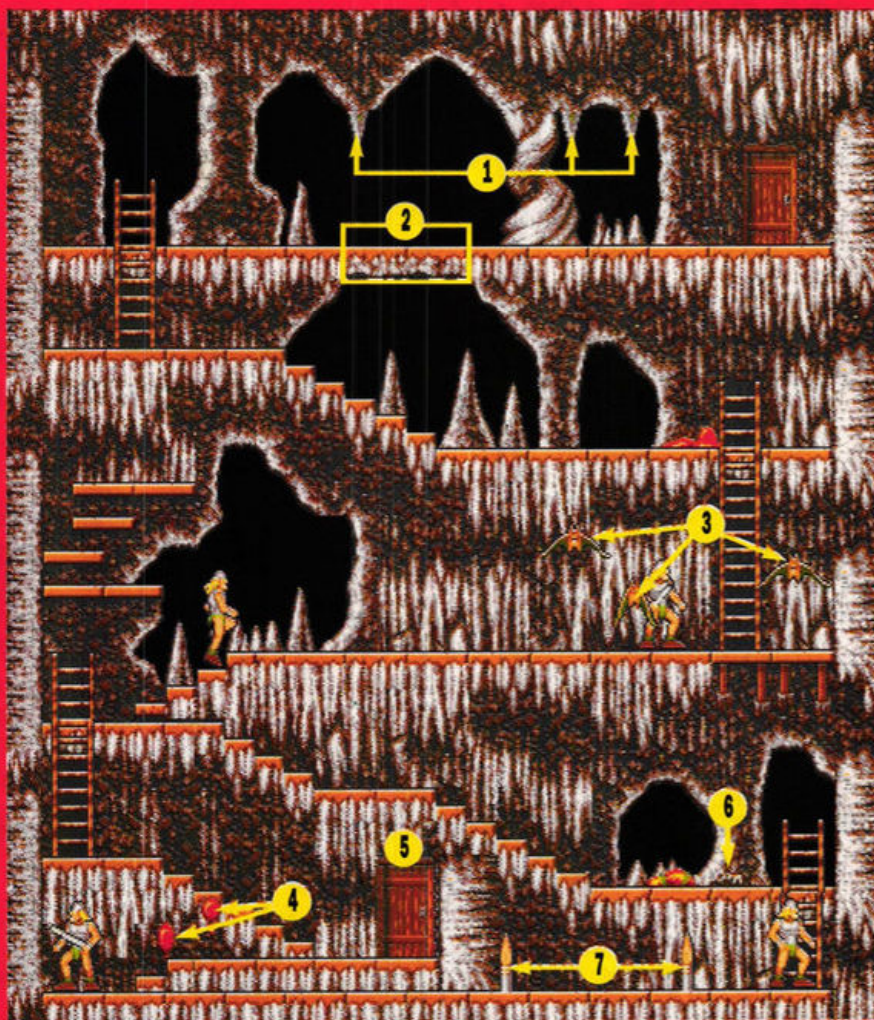
3 Look, Hegor – bats! What do we do when we see bats? That's right, get into a punch-up.

4 Oh no, it's the dreaded small red blob monsters. These drain your energy fast and are invincible. Run past as fast as you can.

5 A locked door. My instincts tell me this is the way to the next room and that somewhere in this room is a key.

6 The key to the door. As you approach it, a spike-throwing grub drops from the ceiling. He is deadly, so do a grab-and-run.

7 Horrible dead-end with giant spears shooting from the floor and the grub guarding the ladder up. It's very difficult to get out of, so you just have to explore it, don't you? Well, once maybe.



EXILE ON MAIN STREET

Level Three is a great mass of village streets crawling with guards. They don't bother you if you don't bother them. Should you sadly – and accidentally – hack one of the villagers to death, the whole lot are

after your blood. Wiping out the village population is a pretty major task. Time to try out that new move – putting your sword in the way when they try to hit you. The first street is shown here.

Village guards. These guys are tough and there are hordes of them. If you decide to fight your way through the village, you need to brush up your hitting tactics.

Mug this guy and he drops his axe – save yourself a fortune on shop prices.

Village idiots. This village seems to have lots of these – mug them for gold.

Village shop. This nearby shop specialises in sharp objects.

Exit back into the caves of no hope.



The entrance to another street.

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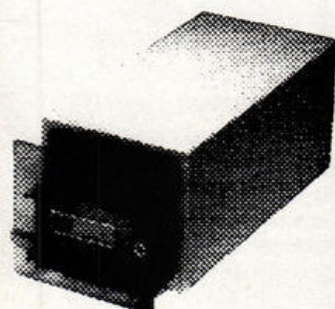
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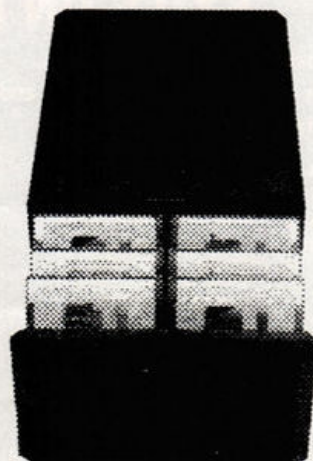
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● Second floor, dental aids and hernia harnesses. First floor, horizontally scrolling shoot-'em-ups. Basement, empty and dusty old room with nothing in it. Your mission begins in *Rubicon*, and you haven't had time to visit the lingerie dept yet.

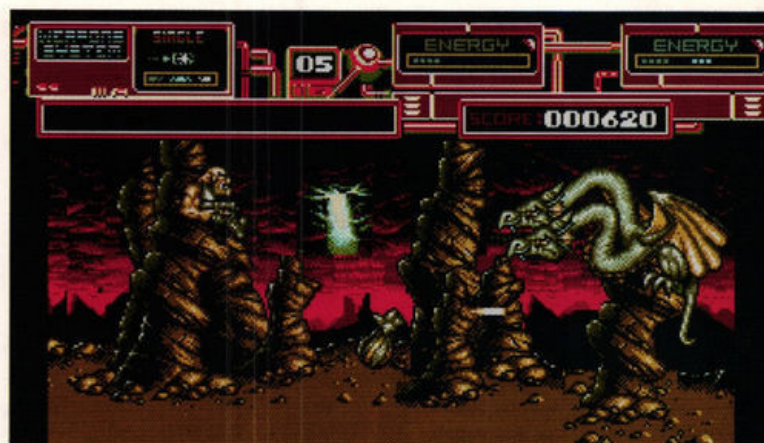
RUBICON

2001. Things have gone horribly wrong again. A nuclear reactor has gone a little bit wonky and the surrounding wildlife decided it might be a good idea to skip a few stages of the evolutionary process and turn straight into mutant monsters.

Luckily, there's you to sort things out – you with your big gun and undying loyalty to truth, honesty and the violent way of life. Plonked onto the first screen, you plug away at the enemies who swarm onto the screen in swamy hordes, and you're not allowed to leave

that screen and scroll onto the next until all the enemies are dead. Sometimes you can pick up weapons canisters to give you sexy-sounding firepower like seekers (ooh) and bolt lasers (aah). And so you progress through the levels one screen at a time, jumping, firing and dying.

The background graphics are a really lovely lurid shade of red, and very detailed to boot. Mr Hero runs and jumps satisfactorily enough, as do his foes, but they're not masterpiece sprites by any stretch of the imagina-



● Even the enormous two-headed dragon of the Returns Department doesn't deter you. You're determined to take back that genuine Ming china vase with the crack in it and exchange it for a bigger and better – intact – one.

tion. The music's pretty darn good though – there are some brilliantly funky tracks.

VERDICT: Out of the ordinary, exciting, unusual and strange – none of these words describe *Rubicon*. The words run-of-the-mill, average, competent and uninteresting do, however. It's really not very inspiring, but you can't really criticise the way it's been programmed, just the idea (or lack of one) behind it. Strictly five-minute fodder.

ED RICKETTS

RUBICON

21ST CENTURY
ENTERTAINMENT –
£25.99

● Like a hundred other shoot-'em-ups – Z-Out, Frenetic and so on – it's bland, uninspiring and not worth two plays.

STF RATING **64%**

GREAT NAPOLEONIC BATTLES

Both short and French. What an explosive combination. Napoleon was always destined for "greatness," especially if it came in the form of winning some major battles before having his low-slung bottom kicked at Waterloo.

Battles were battles then, and with *GNB*, you can relive some of his finest moments – and Waterloo as well. The game is a turn-by-turn hex-based affair which enables you to not only recreate those heady days when everyone had moustaches and an Englishman was worth ten foreigners, but enables you to design your own scenarios as well.

There are three pre-set theatres. Marengo (which he won), Quatre Bras (he also won) and Waterloo (well, yes). You load up each map and set of men separately – very tedious – and, when ready, enter the phases. Both you and your ST (two players aren't supported) move and

attack on alternate rounds. There are three types of unit: artillery, cavalry and infantry. Standard wargame symbols denote these, but with only three different types to learn, it's not too confusing. All the data you need on units, terrain and so on can be called up by hitting a key. Simple and accurate.

The combat itself is as dull as it could ever be. Whinnying horses, cracking muskets and the howls of the wounded were never on the cards, but all you get is a rather pathetic burp to indicate the bloody furnace of war is actually taking place somewhere.

What is of most interest about *GNB* is your ability to use the game system to create your own rules, map, unit strengths and positions. Virtually everything in the game is changeable, so if you're a historical wargames fan, you can set up almost any land battle from the last cen-

tury. Sadly, you can't redesign the messy movement and selection procedures you have to go through.

The game uses a half mouse, half keyboard system which deserved to be strangled at birth. This, combined with the rather noticeable time delay before your ST actually does anything, could put you off for good.

VERDICT: *Great Napoleonic Battles* isn't groundbreaking. It's brightly coloured and clear, but uses those dreadful wargame symbols that no-one outside the Army actually understands. The game jerks along like a survivor of a tough winter campaign, dragging your attention from the historical accuracy of the whole thing and making you annoyed.

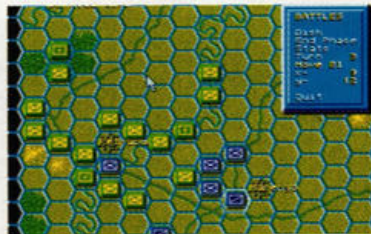
If you can live with the slowness and awkwardness of *GNB* and fancy tinkering around

with the armed forces of yesteryear, you can do so here. It's got to be the game's biggest selling point – and even then it's not much of one.

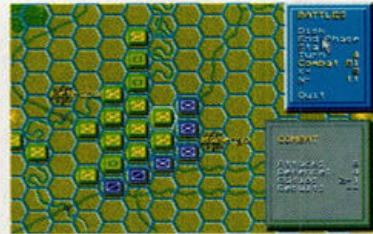
JAMES LEACH



● The movement phase. 12,000 of your men crawl stealthily to an abandoned farmhouse to ask for some butter.



● Battle is joined. The blue Napoleonic forces sweep north and encounter a huge army of irate tank crews, mysteriously transported back 150 years.



● Unlike the real thing, *GNB* enables you to see what's going on during the battle. To simulate the "fog of war" phenomenon, throw damp tea-towels at the screen at irritating time intervals.

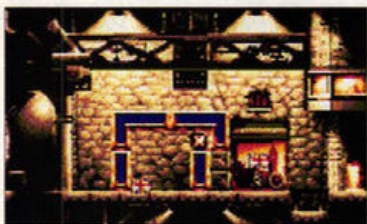
GREAT NAPOLEONIC BATTLES

IMPRESSIONS – £24.99

● Not one of the "new breed" of wargames like *Fort Apache*. Slow and finicky.
● Not really in the same league as *Borodino* or *Austerlitz*.
● Customise option is a nice touch for the enthusiast (with the anorak).

STF RATING **43%**

DEVIOUS DESIGNS



● **Bounce about furiously, practise that lifting, throwing things up, down or sideways and collect a few patriotic flags under the eye of the ever watchful Cubist fan, Dr Devious, so that, er, the world won't change shape.**

Imagine life without the wheel. Picture the earth and everything in it as a cube. Sound far-fetched? Well, that's as may be, but squaring the world is the twisted ambition of the obsessive geometrist Dr Devious. And you, JJ Maverick, are the only person who can stop him.

Devious Designs is a multi-level time-constrained puzzle game involving plenty of joystick waggling and random <Fire> button pressing. Each level starts by giving you a clue as to how to move onto the next one. For example, in Level One – a winter wonderland scene – you're told to practise lifting and carrying. If you do this with the right blocks at the right time, you're re-

warded with a circular igloo. Level Two greets you with "Jumping Jehosopha!" – and sure enough, lots of bounding about banging your head on the ceiling sends you off on a London bus sporting the poster "Cubed Earth? ✓" Once you get to the third level, you might wish you hadn't bothered, since you're upside-down inside what looks like an obscure fairground attraction constructed of blocks and ribbons. Being inverted, it's difficult to control where you're going, let alone bother to waste energy worrying about saving fairy cakes from eternal regularity.

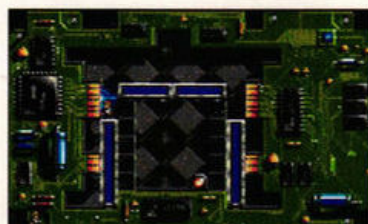
To achieve your mission, you have to try to get to falling objects before



● **23 seconds to go and you're heading for a nasty crack on the head. Some queer quirk of gravity soon has you back on the ceiling where you belong – still upside-down, helpless and somehow feeling distinctly queasy.**

they disappear into a cloud of dust – things like slimy snails, all sorts of fruit, tuneless tubas, a selection of European flags, the moon and stars... just what you'd expect, really. These things are more or less the same size as each other – and you, too. But don't worry about the potentially jammy effects of an outsized strawberry landing on you, since the objects ping satisfyingly into points as they touch you – or, indeed, as you run blindly into them.

The graphics are pretty detailed and colourful, and, while there's not an enormous amount going on, it's plenty if you're determined to plough your way through the levels rather than fiddle



● **Okay, so which bit do I have to pull and which do I push? And how on earth am I supposed to get out of here? The puzzles initially seem completely impenetrable, but then, after you've solved them, so obvious.**

around earning points. There are some good touches like the cloud that floats past white and smiling if you're doing well, but grey and frowning if you're failing miserably.

VERDICT: *Devious Designs* has a simple plot, a simple aim and, what with the clues to the different strategies you need to employ, you don't have to use too much brain power – ruthlessness with your joystick is far more effective. So, unless you have real concerns about the future of the spherical earth, *Devious Designs* isn't likely to keep you interested beyond a couple of hours on a rainy Sunday afternoon. In a nutshell, in fact, you'd have to be a real square to want to play this.

PAULA RICHARDS

DEVIOUS DESIGNS

IMAGEWORKS £25.99

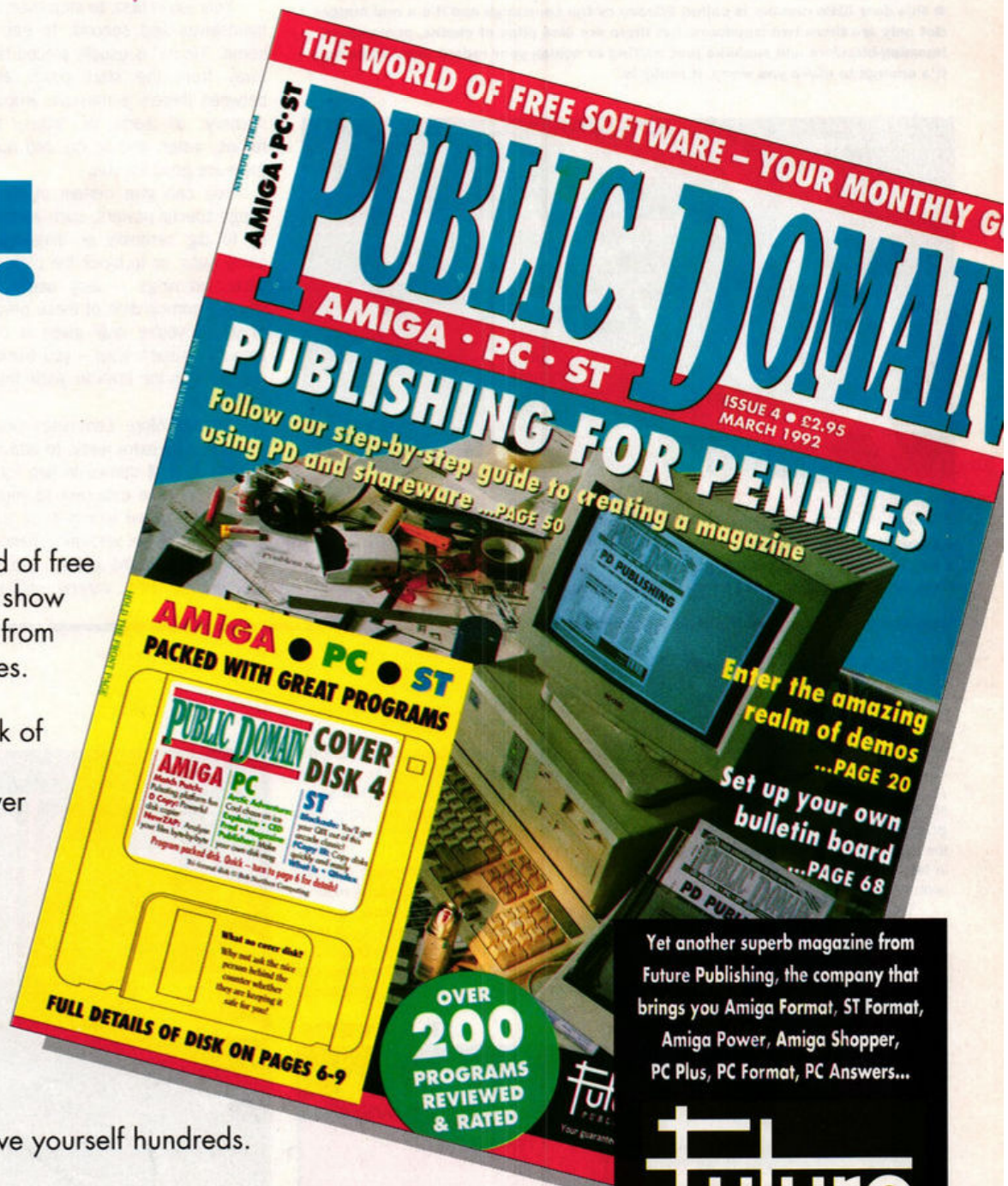
● Pretty, colourful and detailed graphics – it's more attractive to look at than Tetris.

● An original though totally unrealistic idea, making it difficult to get too excited about.

STF RATING 61%



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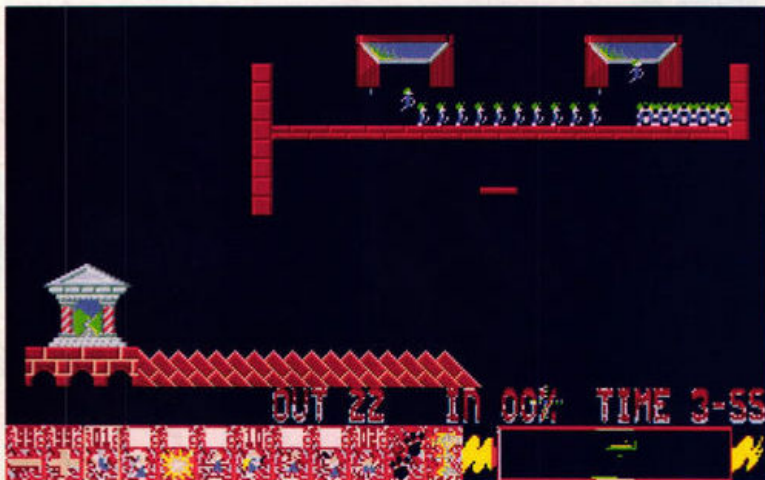
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● This dear little number is called *Silence of the Lemmings* and it's a real bugger. Not only are there two trapdoors, but there are also piles of chains, pummellers, lemming-blenders and suchlike just waiting to squish your rodent pals. *Lemmings* – it's enough to make you weep, it really is.



● Deceptively simple-looking, until you consider what powers you have: a climber, a vertical digger, and a bridge-builder. It does take a bit of concentration, thought and quite a lot of skill, but you can do it. Eventually.

OH NO! MORE LEMMINGS

To say that the original *Lemmings* were an enormous success is understating the case a just a bit, so we won't. Since their introduction to the world more than half a year ago, the world has smiled coyly, invited them in for tea and given them a quick peck on the cheek in a big way.

What happens in a game of *Lemmings*? Well, on each level the little fellas drop out of a trapdoor somewhere on the screen and immediately proceed to try and throw themselves off the nearest precipice.

Your job is first, to stop them killing themselves and second, to get them home. "Home" is usually placed far, far away from the start point, and in between there's a massive amount of scenery: all sorts of drops, traps, ramps, water, and so on, and none of them are good for you.

You can give certain of the lemmings special powers, such as the ability to dig vertically or diagonally, to climb walls, or to block the path of the other lemmings – very useful, that. Using a combination of these powers – of which you're only given a certain amount on each level – you work your way through the level to guide the lemmings home.

Oh No! More Lemmings provides you with 110 extra levels to add to the original 120. It comes in two forms – one with just the data disk so you need the original game to run it, or a complete stand-alone version – hence the different prices. As before, the levels are divided into varying difficulties:

Tame, Crazy, Wild, Wicked and Havoc. There are a whole new set of graphics – just as wild and wonderful as before – and even the sound effects have changed slightly – for the better, though they're still nowhere near as good as they could have been.

VERDICT: DMA Design couldn't really have gone wrong whatever they did for this disk – *Lemmings* is such an excellent concept it's extremely difficult to muck it up. There's a slight problem with the difficulty gradient of the levels, though; the Tame levels really are very tame and can be completed in ten minutes, but as soon as you hit the Crazy, you're having real problems – even if you're only on the first level. And £20 is perhaps a bit steep for a data disk – £15 would have been better. Apart from these petty wrinkles, have no hesitation at all in rushing out and buying *Oh No! More Lemmings* immediately.

ED RICKETTS

OH NO! MORE LEMMINGS

PSYGNOSIS –
£25.99/£19.99

● There are no competitors to *Lemmings* – it's a unique idea, brilliantly executed.

STF RATING 82 %

DOUBLE DRAGON 2

It should come as no surprise to hear that *Double Dragon 2* is a beat-'em-up. Once again you're the hero, strutting down the street, giving hell to the, if you will, punks, perps and bad guys. Quite why isn't really apparent. Anyhow, the punks and so on and so forth come at you in twos or threes, and with a deft flick of the boot, fall to your superior power.

There's a bit of clambering about the furniture (you wouldn't do that if you were at home, now, would you?) and then some more pulveri-

sation. Graphics are decidedly average, and the sound is, er, pretty weird: when he dies, the hero lets out an "ohh" that makes him sound like he's just missed his last bus rather than writhing around dying in agony.

VERDICT: Much of a muchness, really. After all, if you've seen one beat-'em-up, you've more or less seen them all. However, some seem to have a certain something that keep you at them for a little while at least, and *Double Dragon 2* is one of them. It's dated, fun for 20 minutes, and worth the money if you've nothing better to spend it on.

ED RICKETTS

DOUBLE DRAGON 2

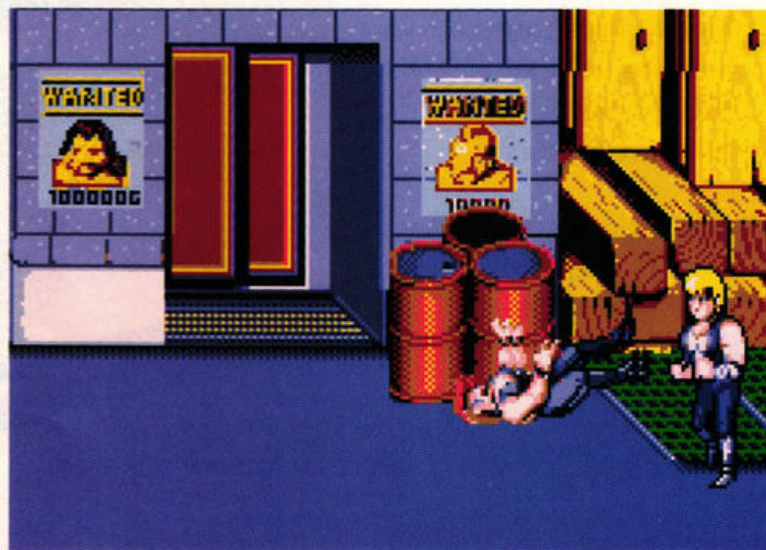
16 BLITZ – £7.99

● Not much different to *Ninja Spirit*, *Final Fight*, *Shadow Dancer* ad nauseum, ad your own.

STF RATING 52 %



● The fearless enemy lies on his back waiting for his tummy to be tickled. Our hero, Bo-Ring, wonders whether this is a trick and decides to just give him a biccyy instead. *Double Dragon 2*: nothing whatsoever to do with dragons.



● The muscle-bound and ligament-padded fearless enemy is a little bemused by the absence of our hero, Stu-Pid, who is otherwise engaged by looking for his dog who has just slipped his collar, run off and is causing havoc round by the dustbins. *Double Dragon 2*: plenty of dogs, but still no dragons.

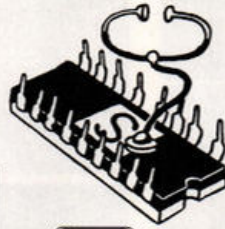
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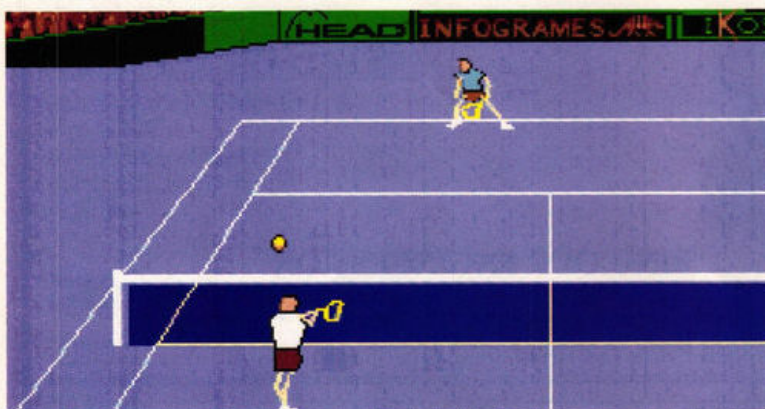
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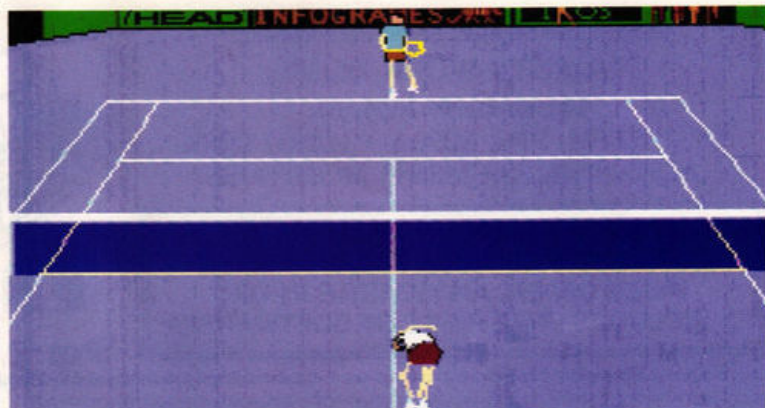
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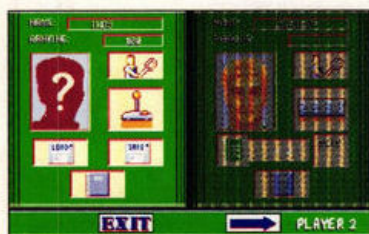


● **Ye Olde Traditional Tennis Joke No. 4:** what a racquet. Just when you think you're doing really well and returning all the serves competently, you realise it's because your ST is moving you about. Life's hard.

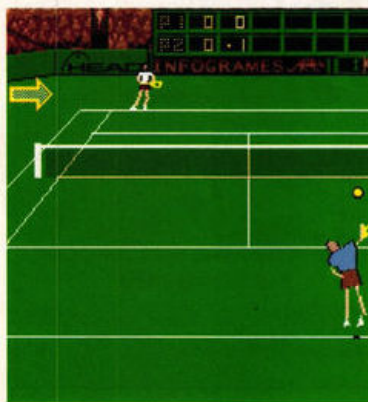


● **Aha! That's why it was all going horribly wrong!** Your player had a bit of gum stuck to his shoe. And the sun's too bright. And it's too cold. And your racquet needs restringing. And - er, you're crap at tennis.

ADVANTAGE TENNIS



● **Legends tell of a mystery tennis star... a man with the skill of Joe Dury, the staying power of Annabel Croft, and the self-control of John McEnroe... no wonder he's a mystery really, innit?**



● **Using a large arrow to distract your player is one way the ST-controlled top seeds can ensure victory. You can always pull the plug if you get too fed up by their brilliance.**



● **These impressive stats relate to you - handsome mystery, charming enigma, raconteur, model and smashing backhand tennis player. Ranked 100th out of 103, by the way.**

It seems that on this already overcrowded earth, we keep having to make room for more and more ST tennis games. Perhaps it's the kind of punishment we deserve. Certainly Dante would have approved.

But that's as maybe. *Advantage Tennis*, the latest, is a French offering which gives you the chance to beat some of the highest-paid brats in the world. All you have to do is boot-up, wait interminably for the three disks to munge their way through the unabridged version of "War and Peace," and then choose your player's characteristics.

You start ranked 100 in the world. Not bad, but you're desirous only of place one, so you define what you think your best shots should be - forearm lob, backhand smash, two-handed canasta, that sort of thing. You can then practise these at leisure before jetting to the sun and burning out in front of a crowd of thousands.

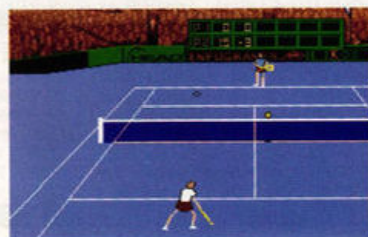
When you eventually get to the point where you can enter a competition, you are presented with a typical Wimbledon-on-the-BBC type view of the action. The camera (as it were) zooms in and out slightly, and follows the on-court action avidly by swinging left and right. The players appear rather malnourished, but their movements are

very lifelike. You feel that somebody at Infogrames has been watching a lot of tennis videos. This exactness is both a pleasure and a pain. It's brilliant when you've got the hang of moving - or are playing a particularly dreadful opponent - because you can really take part in exciting and realistic rallies. If they go on for long enough, the crowd applauds politely and you feel well satisfied.

But during most of the competitions, you're distinctly outclassed, and the stick-man you're controlling jerks pathetically to reach the 100mph smashes produced by the silicon marvel over the fence.

Sound is another aspect that has been carefully thought out. Digitised speech announces the scores in an infuriating American accent just like at real matches, and the ball strikes and bounces are completely believable - especially if you close your eyes and imagine strawberries and cream on a summer's day.

VERDICT: *Advantage Tennis* is far too stupid a name for something which is actually a lot of fun to play. That's the French for you, though. It's too difficult to get the hang of quickly, but if you persevere, not only do you improve, but you can save out your



● **Okay, so you look like Olive Oyl. At least your forehand smash is ranked second only to the famous Bryan Gould's on the Championship Circuit.**

rapidly rising star player to disk. It's therefore a long-term project, so stick to practising your lobs and backhands and your patience will be rewarded.

The graphics are very fast and smooth, and the sprites actually behave like tennis players, but without the tantrums, sex scandals and so on. They don't look too impressive when stationary, though, and the backdrops are all the same with minor colour changes for grass and clay.

Other piccies - like airliners travelling to exotic locations - are pretty good but rather irrelevant, as are the maps of the tournament circuit you follow - assuming you can get your service into shape before the next competition.

Overall, *Advantage Tennis* has to be one of the best games of its kind. If you can bear with the dreadful three disk accessing system and quickly click through the boring selection nonsense, you'll be pleased with the realism of the game itself. Love, love me do, as they say on court.

JAMES LEACH



● **Looks like you've lost that all-important match point. Oh, stop taking it all so seriously, it's only a game.**

ADVANTAGE TENNIS

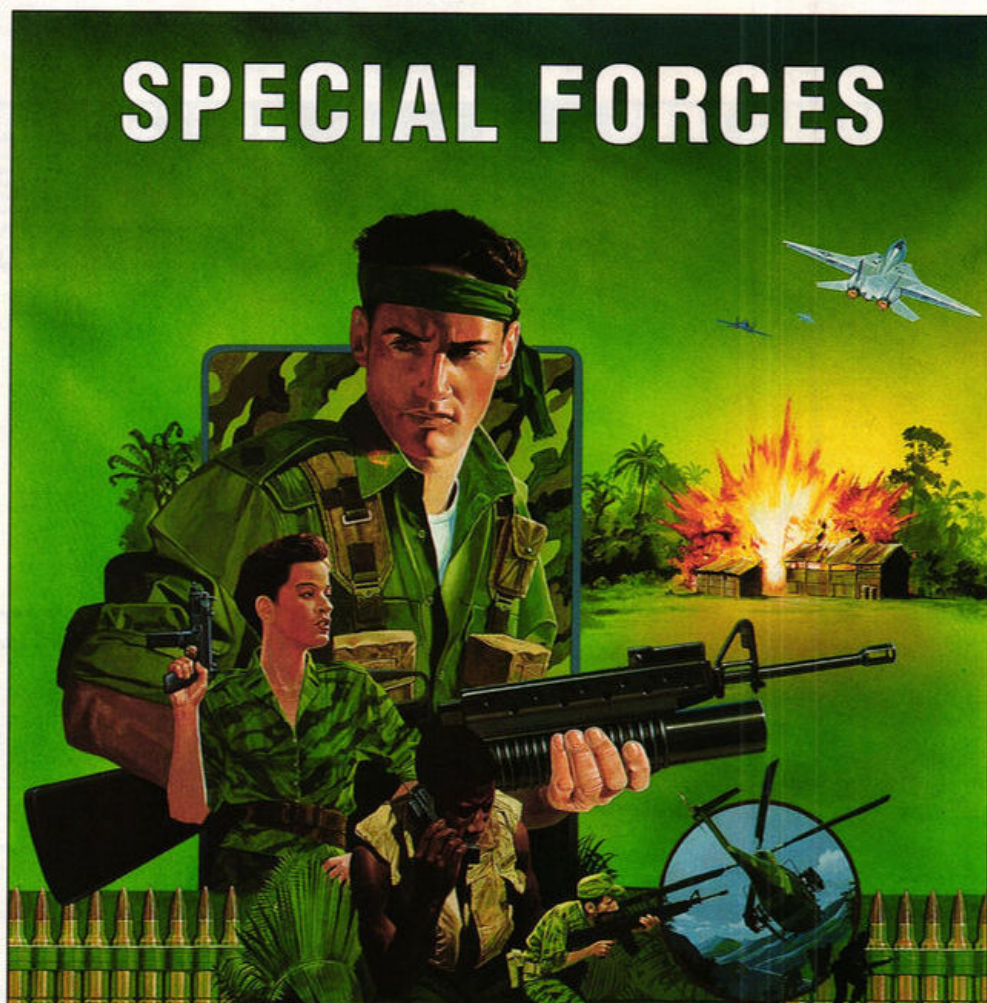
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● A rather good tennis game in here somewhere. Substantially better than *Pro Tennis* and *International 3D Tennis*

● It takes ages to set up and the off-court bits aren't as slick as the racket-related action.

STF RATING 79%

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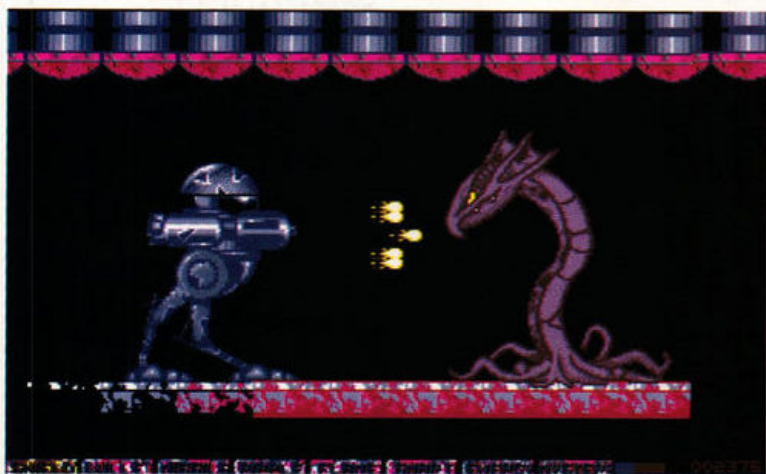
UNDER PRESSURE

The best thing about *The Empire Strikes Back* was definitely those Ack-Ack walkers – the big blighters with the distinctive striding action. No-one's really come up with the software equivalent, at least not on the ST, but *Under Pressure* tries very hard.

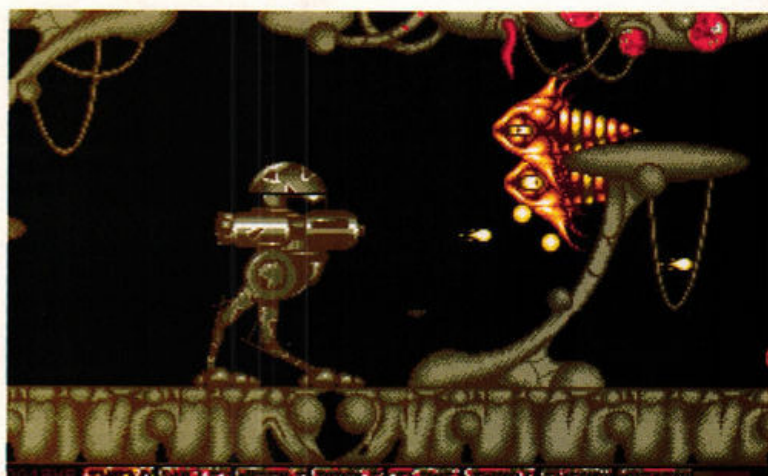
The hero of the piece is a robot called – er, nothing at all, who walks about in a very Ack-Ackish way. He does a lot of walking, this robot, because it's the only way he can get around. He also does a lot of shooting, because it's the only way he can kill things. And that's about all he does, walking and shooting. Occasionally other things shoot at him too – big

mutant flowers, strange metal objects, dragons and suchlike. If he shoots these nasties they might drop a shell, which, when picked up, goes towards helping the robot get a new piece of equipment, like a bigger gun or a shield. Now and again the robot has to jump off a platform onto another, or avoid a trap.

The robot is big, no doubt about it – he strides about confidently and fairly smoothly. Unfortunately he never turns around, so to walk backwards he just goes in the opposite direction. The other graphics are large and detailed too, and for once the sound effects are hefty enough to back them up.



● Yes, it looks very nice, yes, it's all very big and everything, but you just don't want to play it. Move right a bit, fire, fall off, die, move right a bit. Alternatively, put a bag on your head and stand in the corner.



● Have you heard the joke about the big robot who looks like a cross between ED-209 and an Ack-Ack walker, the bored fish, the lurid landscape and the boring game? Electronic Zoo have. They liked it so much they decided to tell everyone about it. 'Course, it's not as good as the one about the rabid nun, the rat and...

VERDICT: Very nice looking, but it's so booooring. The robot moves and jumps much too slowly for you to become involved, and it needs at least half a screen's run-up in order to launch itself. In fact, everything's way too big – there's no room at all for movement on the screen.

With a few improvements, this might have been a really good game, for example, by making the sprites smaller and the levels more convoluted. As it is, you might be bored, you might be frustrated, but you certainly won't be *Under Pressure*.

ED RICKETS

UNDER PRESSURE

ELECTRONIC ZOO – £25.99

- Innovative, large graphics, but not nearly frantic enough to challenge games like *R-Type 2* or *Llamatron*.
- Bigger and more colourful sprites than in almost any other game you'll have seen.

STF RATING 51%

STEVE MCQUEEN WESTPHASER

Sounds a bit funny... oh, it's French. Yes, our Continental cousins strike again with this new rendering of a traditional idea. The traditional idea is to move around the screen with your mouse, shooting at things that appear before they disappear.

The new rendering is that you play Doc Holliday, Pat Garrett, Calamity Jane and others, while doing it. "Steve McQueen?" I hear you cry forlornly. Er, he's not really in it. There's a drawing of him on the loading screen, though.

Anyway, the idea is to choose your hero, select which miscreant you wish to pursue – the

tougher the baddie, the more dosh you get – and click, or rather shoot at the map to indicate where you're headed.

When you arrive, the town is deserted. But only for a few seconds. Suddenly everybody is popping out of barrels, through windows, behind barns and over roofs to shoot at you. Use your mouse and limited ammo to blow them all away.

It sounds entertaining, and believe me when I say it isn't. You'll soon tire of the game because it's exactly the same every time. There are a handful of locations for the battles, and the baddies don't vary, so basically it's Yawn

City, Arizona. In its defence though, *Westphaser* does have a humorous, typically French style. The way that innocent civilians pop onto the screen during the most intense gunfight since Little Bighorn is brilliant, for example. And the manual's English leaves you wondering whether they aren't taking the mickey out of poor old Steve.

VERDICT: We're talking major silly here. These point and click type games were popular only when people first bought mouse-operated computers and it was a novelty to move the little chap around.

The sound effects aren't really too bad, though. You can get hold of a blunderbuss which sounds like a bus backfiring in a tunnel, and there are a few fleeting moments of enjoyment as you literally blast baddies out of their boots and shoes with it. It's only this weird Gallic sense of humour which could possibly save *Westphaser* from being relegated to the scrap-heap – like all those dreadful tinny cars the French make.

JAMES LEACH



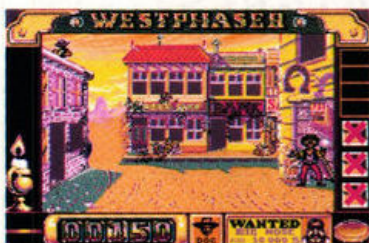
● We were enjoying a quiet drink when the Dalton, Clanton, Hilton and Hanson brothers burst in and started firing indiscriminately. The barman was the first to lose his job, then we were all made redundant. It was horrible.

STEVE MCQUEEN WESTPHASER

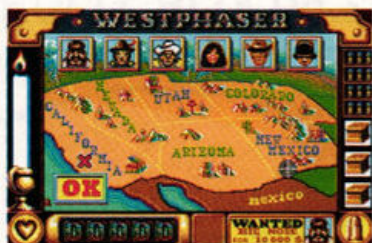
LORICIEL – £24.99

- It's like the first piece of PD you ever got hold of, except that the sound and graphics are a little better.
- It's also very strange. Steve McQueen must be desperate to put his name to this.

STF RATING 42%



● Dang! It's them thar Clantons. And they done brung the notorious Dalton gang too! Yep, reck'n this ding-dong'll separate the men from the mice! Excessive amounts of shooting and very little else in *Steve McQueen* – and it's not a silly name at all, actually.



● It's time. Time to go after Big Nose. The most feared and hated outlaw since Billy Braithwaite, the man with no name. Big Nose eschews ordinary handguns and totes twin Sinex dispensers that can kill a man at three paces (if he inhales deeply enough).

THUNDERJAWS

Unbelievable though it might seem, *Thunderjaws* just has to be a cross between the films *Thunderball* and *Jaws*. The plot fits too neatly.

You, a daring secret agent type, must swim – while avoiding sharks – to the evil underwater lair of the terrifying Madame Q. Once you get to this lair – or rather, series of lairs since there seem to be rather a lot of them separated by watery bits – you must rescue several scantily clad girlies, who then, in traditional girlie style, hug you a lot. *Thunderjaws* starts off in the water. You

are ejected from a sub and, armed only with an infinite number of harpoons, must kill all the sharks and enemy divers in the area.

You paddle to the right until you reach a door. Shoot it and you're inside the first complex. Here you can get out of those wet things and, with only a vest and that useful harpoon firer to protect you, you start to massacre the inhabitants of the recently peaceful undersea kingdom.

Guards, half-metal dogs and female punks attack you with monotonous regularity, and, once you've got far enough, you can pick up an Uzi, a flamethrower or some other more effective weapon to use on them. The best strategy is to hole up for a while in a defensive position, kill anyone at all who gets close to you, then move quickly into the next safe haven. If you use this technique, you shouldn't really ever be seriously



● Sharks, they say, can smell blood in the water five miles away. But can they detect a 3.5 inch floppy disk if it's immersed under water for a mere quarter of a second? Thought not.

threatened by the rows of hideous mutants and punks lining up to take a pot shot at you.

Eventually you meet an end-of-level guardian who is tougher to kill. With any luck, you've still got the flamethrower or an Uzi, in which case it's a much easier job to get rid of the biggie. Blast him away and it's back into the water for the next bout.

VERDICT: The idea is a little barnacle-encrusted, but it might have worked if the game ran faster. Instead, it jerks along at a rate comparable to continental drift.

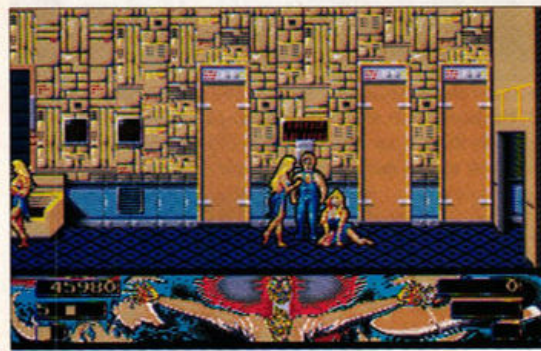
The sprites are fairly large, but this doesn't excuse the poor update rate. It's painfully slow and rather easy – the first time you play a game, you wouldn't expect to get to Level Three. But you get that far here – with *Thunderjaws*, you can buy it at 10am and have



● If our hero could just get to the Uzi on the sea bed, he might stand a fighting chance against those pesky man-eating Great Whites. Then we'd see who wears the pants in this ocean.

finished it by lunch. There are a few good spot effects – the explosions are pretty and there's a lot of blood clouding the water in the sub-aqua levels. But this just isn't enough. If only, if only it was faster and less jerky...

JAMES LEACH



● "No, I certainly won't go to bed with you. I'm not in the least bit tired." Our hero releases the grateful females without a thought for the sexism-in-software debate he's later going to be asked to contribute to.

THUNDERJAWS

DOMARK £24.99

Can run on single sided disks

● Traditional shoot-'em-up interspersed with watery segments.

● Nicely drawn sprites, but they're redrawn far too infrequently as in *Pitfighter*.

● Too easy. You'll have it completed before sun-up, that's for sure.

STF RATING 54%

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Screen shots are only intended to be illustrative of the gameplay and not the screen graphics which may vary considerably between formats in quality and appearance and are subject to the computer specifications.

Screen shots from Amiga formats.

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THE IMMORTAL

Many moons ago, as the mists of Death swept across the plains of Threngg and the sacred sponges of Zarb were immersed in the Custard of Kazzarak, your wise old Master, Mordamir, did a runner. Yep, vanished, he did. You haven't seen hide nor hair of the old git since. Of course, there are plenty of places he could be. Take that massive castle over there. No one ever comes out alive, so it's possible that the senile old goat's kipping in its bowels. Better go and check it out, then, hadn't you? The game starts with you

for locks, maps for tricky spear-infested paths and torches for dark areas. Luckily you can hold a huge inventory, and there are many useful items to collect.

As you search for Mordamir, you meet all sorts of creatures, most of whom try and kill you. Those that don't insist on speaking (in speech boxes) a weird Middle English dialect that only Chaucer could have understood. Never mind. That's fantasy for you.

VERDICT: *The Immortal* is more simple to understand than most official *Dungeons and Dragons* adventures. It's quick to get the hang of, but some of the tricks and traps make it tough. This

is exactly how a graphic adventure should be. Graphics are small but well-animated and fights are handled especially well. The peripheral graphics such as the objects which pop up in your inventory are all done with style and atmosphere. The game tries not to be cartoony but goes for the mystic look. It doesn't work perfectly, but the general effect is good enough. If you're a serious fantasy fan, *The Immortal* is a good solid game to try. Journey for many moons across the swamps of Ysggth to Whsmth to buy it.

JAMES LEACH



● Years of training and self-denial tell you for certain that this is a dead body. So speaking slowly and clearly to it is unlikely to have an enormous amount of effect. Never mind - you can always frisk it for cash.

actually inside the castle. You've got a 3D isometric view of each room, which makes movement and physical alignment a bit tricky at first. But once you've got the hang of it, you're fine. As



● You've killed the keeper of the chest. Now it's time to have a peep inside. Hmm. A quarter of wine gums and a copy of *ST FORMAT*. No wonder he guarded it with his life.

you wander around the castle, you come up against two sorts of problems. The first problem is the guards - lizardy type bods who wade straight into the attack. You carry out combat manoeuvres by moving the joystick violently in what you hope are the correct directions for jabbing, stabbing and lightly grazing. A vitality bar at the top of the screen tells you how well you are. You only get one life, so it's important to be careful.

The other problem is the puzzle. You can't go anywhere. Some places are blocked until you've sussed out how to get through them. Keys are needed



● One wrong step in this room and spears whizz out at all angles hitting you with suitably painful effects. Here a spear has lodged itself in the wizard's thrussock-pouch, missing both his legs by a mere whisker.

THE IMMORTAL

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- Not as exciting as *Dungeon Master* or *Captive*.
- Easier and quicker to get into than *Shadow Sorcerer*.
- Simple controls and tough puzzles make it playable.

STF RATING 77%

FORMAT RATINGS REVIEWED

How did *FORMAT* rate the games reviewed over the last three months?

POPULOUS 2	STF 30	95%
MERCENARY 3	page 74	90%
Silent Service	STF 30	88%
Populous	STF 30	88%
Realms	STF 31	87%
Robocod	STF 31	86%
Magic Fly	STF 31	84%
Deuteros	page 78	83%
Chart Attack	STF 31	83%
Oh No! More Lemmings	page 88	82%
Magnetic Scrolls Collection	STF 31	81%
Bug Hunt	STF 30	80%
Advantage Tennis	page 90	79%
Suspicious Cargo	STF 31	79%
First Samurai	STF 30	79%
Suspicious Cargo	STF 30	79%
Baby Jo	STF 30	79%
Train Set 2	STF 30	78%
Turrican	STF 31	77%
Lotus Turbo Challenge 2	STF 30	77%
The Immortal	page 96	77%
Rugby - The World Cup	STF 31	76%
Rolling Ronny	STF 30	76%
Barbarian 2	page 82	74%
Smash TV	STF 31	74%
The Simpsons	STF 31	74%
Megatwins	page 80	74%
Cisco Heat	STF 30	72%
Deathbringer	STF 30	72%
Guardians	STF 31	71%
Fighter Command	STF 31	71%
Wolfpack	STF 30	70%
Titanic Blinky	STF 31	69%
Fort Apache	STF 30	68%
Wild Wheels	STF 30	67%
Crime Time	STF 30	67%
Five Intelligent Strategy Games	STF 30	67%
Ynis Wintrin	STF 30	65%
Beast Busters	STF 30	64%
Rubicon	page 85	64%
Super Space Invaders	STF 30	63%
Strike Fleet	STF 30	63%
WWF Wrestling	page 80	63%
Hard Nova	STF 30	62%
Data Chess 2	STF 30	62%
Devious Designs	page 94	61%
Captain Planet and the Planetears	STF 30	61%
Action Pack	STF 31	56%
The Capcom Collection	STF 30	56%
Robozone	STF 30	54%
Thunderjaws	page 86	54%
Thunder Burner	STF 31	53%
Circuitry 1 and 2	STF 30	52%
Double Dragon 2	page 88	52%
Under Pressure	page 93	51%
Gauntlet 3	STF 31	48%
Great Napoleonic Battles	page 85	43%
Steve McQueen Westphaser	page 93	42%
Booly	STF 31	34%
Rugby Coach	STF 30	32%
Escape From Singe's Castle	STF 31	31%

NOTE: Games in red are reviewed in this issue

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To make sure you get the most out of *Sequencer One* we're offering special deals on other associated packages. For even more features, you can invest in Gajits' latest upgrade - *Sequencer One Plus*. Then there's the Sample Series, which gives you a set of samples you can load into *Sequencer One* (or *Sequencer One Plus*). The Hit Kit enables you to start writing your own professional drum tracks and bass lines.

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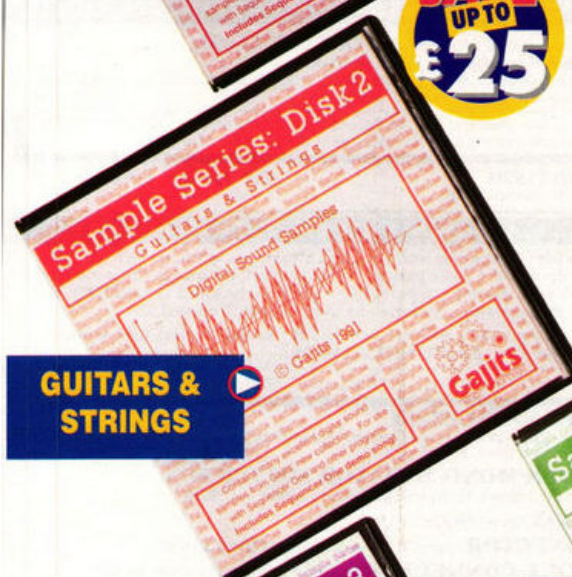
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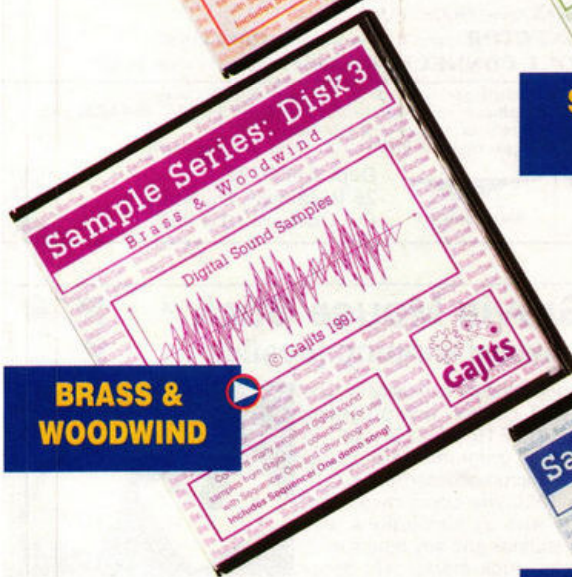
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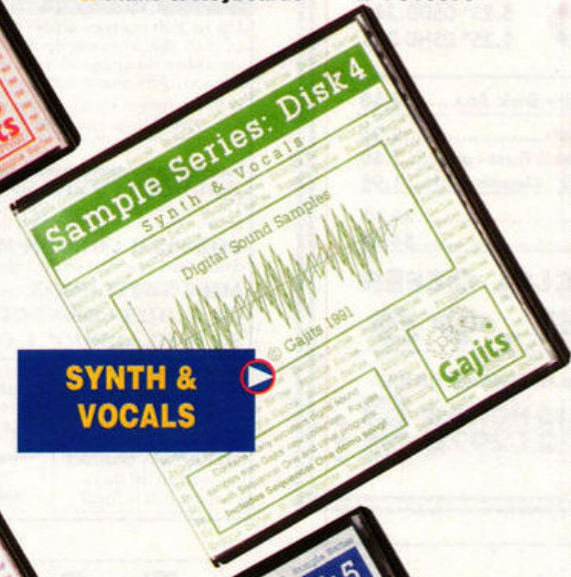
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ARMOUR-GEDDON

Psygnosis

When you start a game, go to Messages from the HQ screen. There's only one line of text here – DAY1 in yellow. Holding down the left mouse button on the top left of this text produces a continuous beeping noise. Press <Esc> while you do this and you get a message saying "YOU WOULDN'T LET IT LIE!" You're now invincible and have an unlimited supply of whatever you load up with. You can still crash and your undercarriage can still collapse, but the enemy can't destroy you.

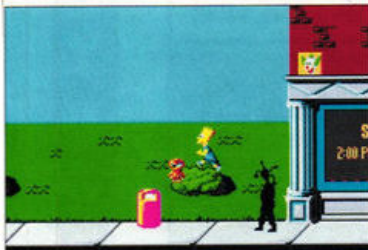
When you've just crashed a vehicle, go to EQUIP and click on its former vehicle icon. You can then drag back into the stores any unused equipment by taking it back as you would normally.

All this from John Wood of South Yorkshire.

BART SIMPSON vs THE SPACE MUTANTS

Ocean

On the title screen, while the family are watching television, type in (now what was it again?) COWABUNGA. (You have to be fairly quick.) Now you're invincible in the game with an infinite time limit to boot. Or type EAT MY SHORTS to skip levels.



● Never trust a man wearing an "alien-look" novelty headgear garment – he's bound to be bald underneath. Bart gets pink – not to mention invincible.

JIMMY WHITE'S WHIRLWIND SNOOKER

Virgin

When only the colours are left on the table, you can go for any colour without

fouling by pressing the corresponding keys 2 – 7, depending on the value of the ball you want to hit. This is very useful if you're snookered, but you do only get the points of the ball you were really "on." Thanks to Sailor Ripley for that.



● Ladies and gentlemen, Mr Jimmy White. "Here's my most famous trick shot. The cue ball rebounds off the red, sending it spinning into the pocket and drawing in all the other balls – in order, of course – by telepathic influence. The cue ball then jumps off the table, nips down the shops, does the shopping, goes home, makes the bed, tackles the washing-up and fixes that dripping tap you've been meaning to do for ages. Took years of practice, this one."

LEISURE SUIT LARRY

Sierra On-Line

This works for any of the three games. Select Load Game, but instead of using a saved game disk to load from, insert game disk 1, 2 or 3, and you can access various parts of the game instantly. Cheers to Peter Thomas of Cleveland.

LOTUS TURBO CHALLENGE 2

Gremlin

Jonathan Beddis of Gloucester has found the level codes for this racer.

- Stage 2: TWILIGHT
- Stage 3: PEA SOUP
- Stage 4: THE SKIDS
- Stage 5: PEACHES
- Stage 6: LIVERPOOL
- Stage 7: BAGLEY
- Stage 8: E BOW

DEESIDE: go to next stage when you run out of time

TURPENTINE: the timer stays on ten seconds.

RAILROAD TYCOON

Microprose

Go to the regional display and type \$ to top up your cash to \$500,000. Ta, Ryan Curtis of Kent.



● Providence, Rhode Island, home of the acclaimed supernatural/horror writer H P Lovecraft. Lovecraft is remembered for his creation of the Cthulhu Mythos, a myth cycle people are still adding to. Next: E A Poe and the rise of the American Gothic story.

REVENGE OF THE MUTANT CAMELS

Llamasoft

R Slater of South Humberside has come up with the level codes for this excellent blaster on last month's Cover Disk, and says anyone who plays this far without sending £5 to programmer Jeff Minter deserves to be shot. Quite right. (Oh, and anyone who missed last issue ought to turn to page 114 for the FORMAT back issue service.)



● People say it's strange. What could be more natural than a goat riding a llama being attacked by flying ciggies? Have you ever seen "Eraserhead"?

- 1 SIETCH TABR
- 2 OLLANTAYAMBO

- 3 RAVEADELICA
- 4 NEWCASTLE EMLYN
- 5 DROMEDARIA ZOOPHILIA
- 6 THIS IS BASINGSTOKE
- 7 OCCAM II
- 8 SMOKE ME A KIPPER
- 9 RED-HOT ZONE: RASPBERRY INFUNDIBULUM
- 10 WHITE-HOT ZONE: GOATS GOATS AND MORE GOATS

SILENT SERVICE 2

Microprose

Feeling out of your depth with this sub-nautical simulation? Roy Wellings steams to your rescue with some tips on when and where you need to be to net the big fish during your war career.

Start the war with Manila as your home base and select the East China Sea to patrol. Stay by the Formosa and Luzon straits – the battleships use these to get from Japan to the south. For your second patrol use Tjilatjap as your base. In early 1942 you should patrol the Makassar strait in the Celebes as warships move down the to the Java sea. As soon as Brisbane becomes available, move your base there. Then from June to August 1942, patrol the Solomons – Japanese warships are fighting the allies there.

After August move to Pearl Harbour and go on patrol just south of Truk island – warships use this as a frontline base. Keep patrolling here until the end of 1943 and you should meet very large convoys. Don't go north of Truk – there is no naval traffic. At the start of 1944 move to Darwin and patrol New Guinea to catch transport ships reinforcing the Japanese army there. In late 1944 move to Balikpapan in the Celebes, where the warships are starting to group. As soon as Saipan becomes available move there and keep patrolling the Japanese coast and around the Korea straits. Naval traffic is light after 1945 and the sea of Japan is your best bet.

The manual says you need lots of torpedos to sink the big ships – 12 for a super battleship, nine for a battleship and six for an aircraft carrier. In fact you need four for a super battleship, three for a battleship and two to sink a carrier. If you come across a squadron of destroyers led by a cruiser, don't engage them – it's not worth it.

TURRICAN 2

Rainbow Arts

On the title screen, press the Spacebar to access the main menu. Now press 1, 4, then 2 and finally <Esc>. Now you start the game with infinite lives and power lines. Thanks to Malcolm Begg and Bruce Menzies of Stonehaven.

XENON 2

Mirror Image

Type in RUSSIAN AIR while the game is paused. Unpause the game and press N to advance a level.

MERCENARY 3

Novagen



This is incredible. No sooner do we get the game to review (see page 74) than a complete set of solutions arrives too. It's from Iain Rawson of Leeds, who nets himself £50.

Note that although you get rough outlines of the solutions with the game, our solutions are the fully detailed and completely game-spoiling things, so only use them if desperate! They all let you complete the game, but with varying degrees of financial reward.

Only room for the first two this month...

1. GET ELECTED

Leave the prison, call a taxi and travel to the spaceport. Board the waiting spacecraft to be taken to Tolosa. Call a taxi on arrival and travel to PC Bil's HQ. Enter the building and go to the basement when told to. Use the transporter until you arrive on Dion at the Verdant Party HQ.

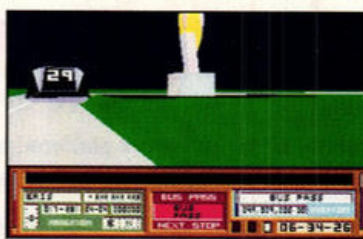
Leave the building and catch a number 11 bus. Travel to Bil's Drapery and collect the Superperson suit. Board the Superperson suit (yes, really!) and fly back to the Verdant Party HQ. Enter the building and go to the second floor. Use the transporter to get to Eris Capital City.

Leave ETA House and fly to Margaret's Retreat. Collect Door Key E and return to ETA House. Enter, go to the first floor and use the transporter to get to Vesta Parliament.

Leave the building and fly to the Election Registrar. Enter and find the Candidate's Log. Pick it up and use it to enter the election. You're now a politi-

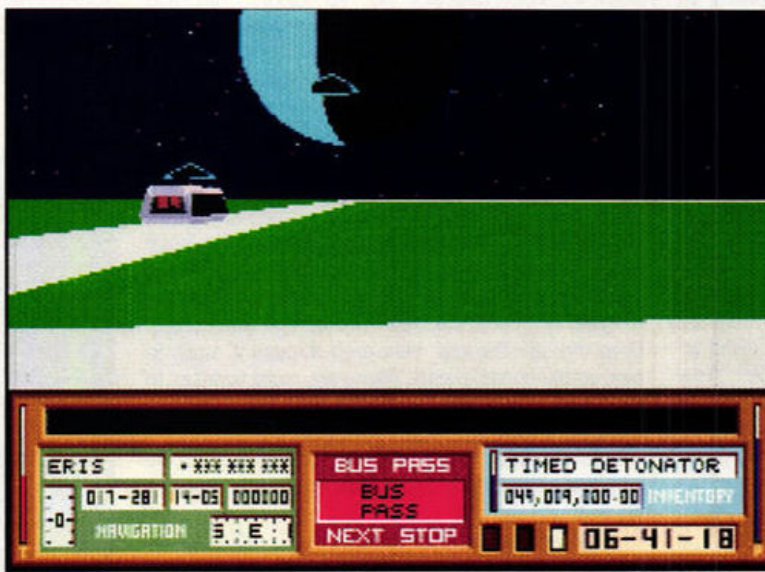
cian so do not do anything illegal such as killing any enemy craft, blowing things up or gambling - you have to keep a good image! Drop the Candidate's Log and leave the building after reading the Notice Board. Fly to the galaxy spaceport to meet the people there. After listening to them return to Vesta Parliament, go to the basement and use the transporter to travel to the Gaea Trade Commission.

Collect the Opinion Pole and use it to check on your progress as an elec-



● The number 29 bus stops at the Founder's Monument on Thursdays (PM), Friday (alternate months), and Tuesday afternoons during winter. For other routes, consult leaflet LL/B452, available by writing to... (cont. over).

tion candidate. Next travel to Logos via the transporter. Leave DHSS House, fly to BICC of Gaea and enter the building. Head for the second floor, where you're given some cash to fund your activities. Return to DHSS House, travel to the fourth floor and use the transporter to arrive at Eris Velos City. You now have to get your election campaign under



● "Young hooligans! They come round here in their souped-up space jets, buzzing our buses, frightening our cattle, smoking our women, shouting at our houses, jumping up and down on our floppy disks, and then they expect to be given a job!"

CHEATING? YOU DESERVE SIX OF THE BEST

Six of the best tips, that is. These are all from Jon Treby of Bedford.

THE BLUES BROTHERS

Titus

Type HOULQ on the character selection screen, then press 1 to 6 fol-



● Such a short tip, such a long way to go for the brave, not to say witless, young Prince of Persia. Laughing at danger, giggling at peril, and chuckling softly at discomfort, he wends his wendy way through the castle.

lowed by the Spacebar to skip to that level.

NIGHTBREED

Ocean

Type RISEN FROM THE DEAD at any point for good things to happen.

PRINCE OF PERSIA

Domark

Pressing <Shift>L skips levels.

RODLAND

The Sales Curve

Pause, press <Help> five times, then unpauses for infinite lives.

R-TYPE 2

Activision

Pause, press F1 followed by F2, then unpauses for infinite lives.

TERMINATOR 2

Ocean

Pause, press F1 then F2, press the <Fire> button and finally <Esc> to skip levels.



● Extra! Mythical cuddly fairytale Rodland creature caught in bomb blast survives without a scratch! Also inside: I was the love-slave of Elvis's son's homosexual alien lover. Plus! True life drama: "how I had my conscience removed in my quest to become an Editor."

way. Fly to Eris Television, enter the building and go to reception. Agree to their offer and leave. Travel to EKMPV Ad Agency and again agree to their offer. Fly to Key West Island and find Future Publishing (you can't miss it - it's the one with the ST FORMAT flag flying from it). Go to reception and accept their offer. (While you're there, have a look around - it's not really as empty as that!) Do the same at News Intergalactic and that little print shop Europress Publishing.

You should now have more votes than PC Bil. You now need to go and vote yourself. Travel to either transporter on Eris Capital City or Velos City, and use it to arrive on Dion at Verdant Party HQ again. Leave and fly to the Land Registry. Enter the building and go to the first floor. Pick up the Ballot Paper, use it and choose option two.

There's not a lot left to do now until the election. Fly around and stay out of trouble. Ignore the news stories that appear from time to time - they don't hurt you. When the election results are announced, return to Vesta Parliament using the transporters and go to the third floor. Collect Bil's Bill and go to the second floor. Go into the room on the left (as you look at the doors) to veto Bil's Bill and complete the game. Save the game if you're not sure which door to go through.

2. BANKRUPT BIL

Follow the first solution until you get the Superperson suit. Instead of returning to Verdant Party HQ, board the suit and fly to Dion North and visit Old Joan's Cottage. Collect the Lucky Charm and then return to Verdant Party HQ on Birmingham Island. Use the transporter to get to Bil Industries on Clotho.

Leave the building and catch a number 50 bus - it's safer than flying. Travel to Amplin Electronics and collect the Electromagnet. Take the bus back to Bil industries and use the transporter to get to Bacchus Waystation.

On Bacchus, fly to Bosh's Bar and enter. Read the message that comes up on how to use the one-armed bandit. Now you're ready to earn serious money and defeat PC Bil. Activate the Electromagnet and start the one-armed bandit. When the first dial is on the orange (the wheel-shaped picture) use + on the keypad to switch on the Electromagnet. The first dial should stop on the bell. If not, try switching on the Electromagnet sooner, or later, depending on whether it went past or stopped before the bell. Repeat this for all three dials and you should win the jackpot. Three or four jackpots are enough to bankrupt Bil and complete the game. If you're bored with the one-armed bandit, there's always the Wheel of Fortune at Uncle's Casino. The jackpot is smaller and so it takes longer to bankrupt Bil, but the Lucky Charm ensures you always win something.



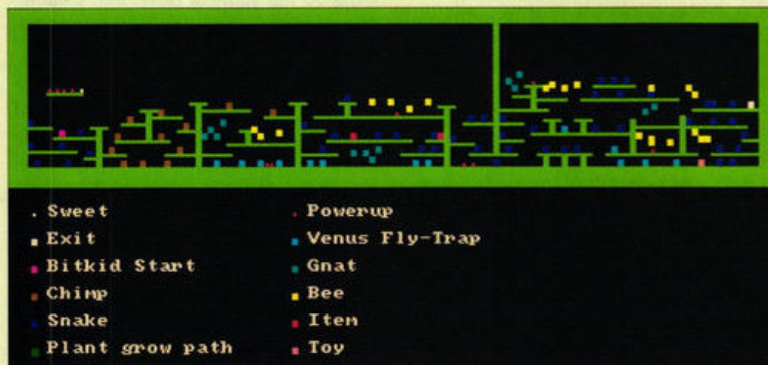
MAGIC POCKETS

RENEGADE

Last month, Sean Griffiths, the programmer of this enormous platform game, began to reveal all in the pages of *ST FORMAT*. The game is so huge, though, that we couldn't cover everything last issue, so we press on this month into section six...

THE JUNGLE SECTIONS

SIX

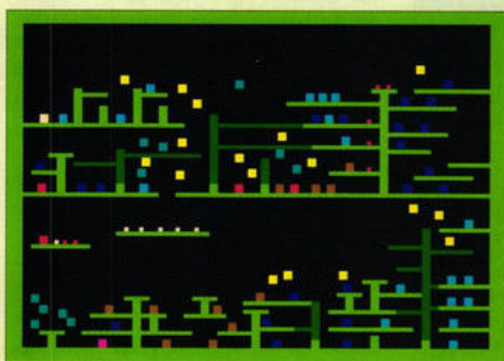


There is a change of gameplay here – spinning is a bit trickier. The first sections are designed to introduce you to the new nasties and their moves (but there are no growing plants here – wait till section seven). Don't miss the hidden ledge above the start point. Kill all the snakes and trap a couple of chimps for a good bonus. Keep travelling right to get to the toy. In the next section try to trap all the gnats, at the same time, then jump to burst them and you should get a good bonus.

Next, go down. These nasties are getting a bit tougher. Watch out for the Venus fly traps – they are vicious spitters. Pick up the bonus fruit and climb up and left. Kill the bees and collect the potion. Now move right and down and under the tree. Pick up the silver stars. If you next move right along the bottom you can pick up the toy, or you could cash in on your silver stars by climbing the tree and collecting the gold star at the top. The top route is for the more adventurous player. Then pick up the boxing gloves and punch as many nasties as possible for good steady points, then exit. The first secret room is a good one and worth going for. (Jump to get the fireballs.) The second secret room is also a good bonus.

Note: How to warp Level Two. The second secret room has a silver star and an "eater" in it. Pick up the star and feed the nasty with ten sweets. Each sweet he eats turns him into a better power-up! Then trap him, for a gold star and transporter helmet).

SEVEN



Kill the two nasties above you and trap all the gnats. Spin and burst. You should have a pile of lollipops to

pick up. Next move right. Watch out for the "roaming" chimps – they hang to branches. There are two bees at the top of the next tree. They are easy to kill but home in on you. Don't run away – this only makes things worse! Stand there and blast them.

Drop down now, and you find a bud at the bottom. Water it with a rain drop from your cloud and it grows, spreading branches across empty space. Get the idea? Now move right and water the next one. This one takes you up to the top ledges. The next section contains snakes –

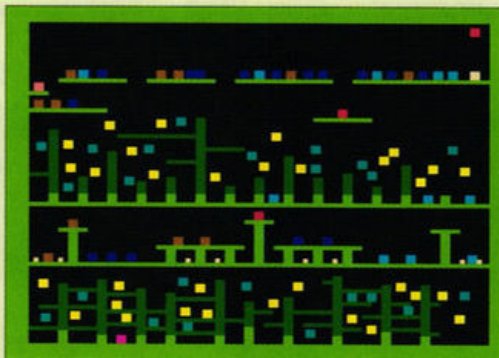
fast ones, slow ones, and tough ones.

Now move left, pick up the cocktails and throw sweets to the Venus fly traps – they're all "eaters." Trap them to get bonus power-ups. Jump off the branch, and try to take out as many nasties as you fall. Open the tack-bag at the bottom, and leave it there. Move right and climb up the tree's branches, picking up the bonuses as you go. Jump off the ledge again, pick up the bag, take a quick look at the TV and water the two plants. (This gives you higher platforms to stand on.) Climb the plants and spread some tacks. Drop through the gap, then drop through it again to pick up the bonus sweets. There are more bonuses to the left, but be careful you don't drop back down to the start.

Spin back up to top. Don't miss the bonus on the left! Spin up to the top again, watching out for the hostile fly-traps, and exit.

The secret room in this section is full of stuff. Repeated transports take you back here again and again.

EIGHT



A change of tactics here. A whole row of "buds" sits along the floor, waiting to be watered. They all grow to create multiple platforms. The best technique here is to throw a large cloud over a bud and spin off it. Repeat this process and you should find you're killing the nasties and watering the plants at the same time. Then pick a high plant and spin into the next section. Try to take a power-up with you! Collect all the bonuses and check the TV.

Ahead lies a tricky task. Again, rows and rows of "buds," but only one can yield the correct height plat-

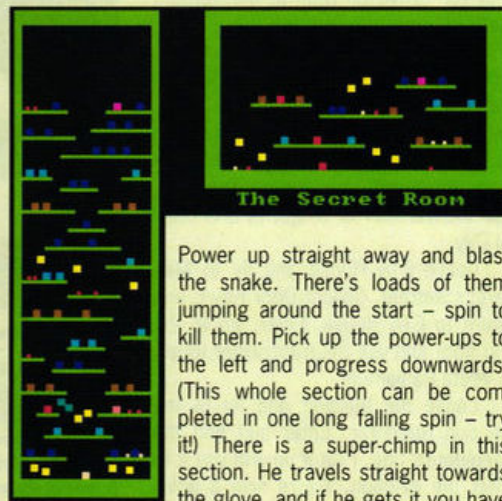
forms. Need a hint? It's the second on the left from the TV! A lot of balancing on stems is needed here. Climb the plant, jump across the gap to the left, pick up the glove, and move across the top, punching as you go. There is a secret ledge beneath the last gap before the exit, and a big cake worth 20,000 above the exit.

Try the secret room to pick up some Gobstoppers – they are not as useless as they seem!

NINE

Blast all the chimps and pick off the fly-traps. Then trap a snake, and burst it for "coins." This section is quite big, so pick your route carefully. Watch out for Venus fly-traps with gnats in their mouths, they're worth double points. The "buds" here grow into big plants. Try a secret room for coffee and tea – and bubblegum! Try to work your way to the right – this is where the glove is. There are hidden ledges at the very top, but how do you get them?

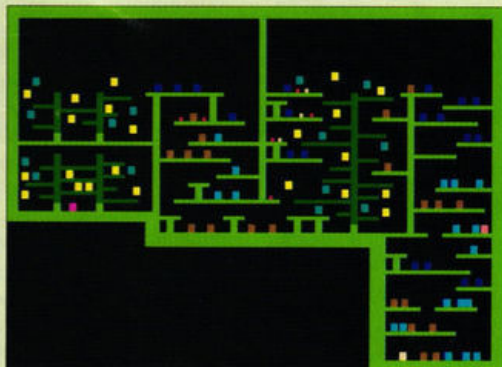
TEN



Power up straight away and blast the snake. There's loads of them jumping around the start – spin to kill them. Pick up the power-ups to the left and progress downwards. (This whole section can be completed in one long falling spin – try it!) There is a super-chimp in this section. He travels straight towards the glove, and if he gets it you have

to kill him to get it back. Don't miss the bonus opposite the glove. Transport to get to the secret room, which is a section within itself. Watch out for the bees by the exit – very aggressive!

ELEVEN



A small sub-section to start off. Kill all the nasties and water the plants to get to the next part, a similar section. Play for lives here – you're going to need them. Grow the plants and travel right. Try to drop on as

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→ many nasties as possible. Use the gold star to full effect. Watch out for the pit of fly-traps – these guys are vicious. Now move along the floor – the chimps are easy! This bud grows into one big plant. Pick up the bonuses on the branches on the left. Now right and down again. Watch the gap into the final pit – this is where the trouble starts. By now some chimp is bound to have your glove, so make sure you get it back! Now finish off these final nasties with the glove.

The secret rooms in these sections are serious tests of skill. You may well need to be powered up!

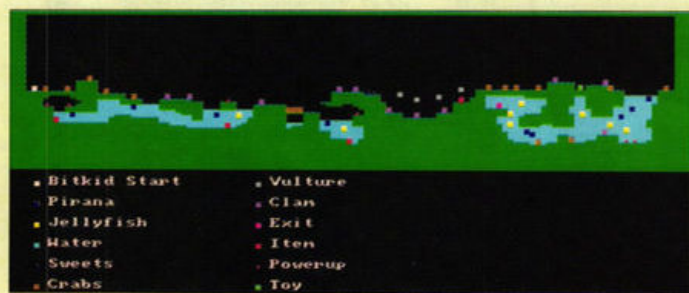
Beat the Gorilla

Take the glove quick, and be prepared to move. The best way to win is to move close to the gorilla, punch a couple of times and move away. Don't let him jump on you or trap you in a corner. If you get stunned wait for him to beat his chest before moving in again. He only takes ten hits. Don't lose your cool – it's not that hard.

THE LAKE SECTIONS

TWELVE

Play the above-water sections as usual, but remember you can only spin by jumping off ledges, so use this to your best advantage. Don't jump into the water (yet!) – you'll only lose a life. Freeze the ice first, then walk on



it. Careful! Jumping on the ice breaks it. If you get stuck in the water try throwing ice as you are drowning. This freezes the water beneath you.

Notice there are underwater caverns below you. Where the mountains are, jump and spin to take out as many nasties as possible. Look out for the clam – he spits at you! Once you pass the exit door, the bubble comes after you. Be careful – it moves in quickly. The diving helmet is just in front. The clam to the left is a super-nasty and steals your helmet if you're not quick enough. Now you've got your diving equipment you can go swimming. Take it easy at first and get used to the feel. You can't direct shots underwater so fast fire is very effective. Swim down, left and up to get to the exit.

Want to skip this level? Try going back on yourself!

THIRTEEN

First go left, jump off the edge and pick up the star. Now trap the two crabs and jump on them for a bonus. Jump the gap. If you fall through there are some power-ups but you end up in the water. Continue forwards. This section contains a large lake at the bottom and a number of platforms. The objective is to



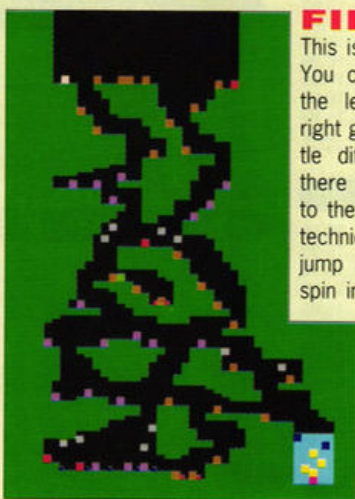
cross to the far right hand side, pick up the helmet and swim all the way back to the exit.

Drop down the second gap and take the bottom route to pick up the coins. The next set of crabs (by the sweets) are eaters, so leave them to eat or pick up the sweets. Look at the TV. Spot the life and fast fire? Don't miss the fruit bonus. Take the helmet and jump into the murky depths. There's a gold star here, but underwater gold stars turn into bonuses instead of helmets – you can't put two helmets on at the same time! Now swim left. If you missed the fast fire and lives, get them now. Climb out of the water and back in for the next section. As you approach the exit, watch out for the bubble. It appears directly above you. Don't hang around!

FOURTEEN



This section is tough. Go forward first, and kill the crabs and the vultures. Drop through the gap and use the drill. All nasties turn into power-ups! Now drop down again and pick up the power-ups. Keep dropping down to get to the bubblegum. Drift up to the very top again, then move right. There is a gold star here, plus coins and a secret passage. Ensure that you get a mega-power-up of some sort. This can give you the edge – you'll need it! Travel left and clear the nasties by the top of the water. Now roll down the "stairs" towards the bottom of the pit and move right to pick up your helmet. Go into the water, but move slowly – there's a lot of nasties in this small cavern. The secret rooms are full of nasties – sneaky, eh?



FIFTEEN

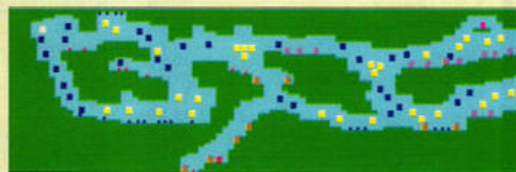
This is a very big pit. You can travel down the left gap or the right gap – there is little difference – and there is a bonus fruit to the right. The best technique here is to jump off ledges and spin into nasties. The helmet is in a cavern directly under the TV. If you pick it up now you may have some trouble, since you cannot spin with the helmet. Take the right hand pit and follow the arrow to the exit. If, however, you feel adventurous leave the helmet and drop left. There is a pit with power-ups, fireballs and a bubblegum machine. This way you can clear loads of nasties and drift back up to the helmet. Much more fun!

SIXTEEN



With the first few nasties try to get a power up – this helps you later. The helmet is right in front of you. Swim carefully and pick up as many sweets as possible – they help you score 5,000s and therefore get those all important power-ups. In tricky situations always go for coffee (fast fire), tea (fast power-up) and milk (extra lives). Swim up, down right and up again, to find your way out of this small water section. Once on dry land again, you're in an open section with separate platforms. Each of the platforms has a nasty and a power-up. Pick them all up and exit for a big bonus.

SEVENTEEN



Now you're underwater all the way. The immediate objective is to get powered up. This gives you the firepower to blast your way through. Pick up the silver star, get the coins and use the cocktail to create 10,000 points. Now travel down, firing all the time. Along the bottom pick up all the sweets. Now swim up again and into the little cave for an extra life, fast fire and magic fire. Go right now, for an easy school of fish to blast. Swim down and left quickly to pick up the tack bag (which should kill the crabs), and a 5,000 bonus. Leave this pit and swim back up and along the corridor. Use the tack bag again when you need to. (Try to use it on a ledge.) Then swim right over the pit and up to exit – though if you're powered up you could go round the bottom for bonus points.

EIGHTEEN



Kill the fish. Swim down and right, stay at the top and shoot down to clear the fish from the pit below you. Move downwards and pick up the coffee and tea. Now swim up and left. This whole section contains lots of vertical sections. Most of them have some sort of reward at the end. Watch out for clams that spit and some very touchy fish. Don't miss the Bitmap shades. As you enter the last section prepare for a blast – about ten jellyfish come at you. Swim up from here to exit.

Find the Treasure

This is a timed bonus section. Move as quickly as possible, pick up sweets casually and don't stop. Generally follow the arrow and see where it takes you. There are five different sections, one being picked at random. The most important thing of all is to find the exit, 'cos otherwise you don't receive the points you have collected.



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DEUTEROS

Activision

Some general stuff from **Lee Richmond** of **Leicester**. When you're about to attack an enemy factory, dock your ship onto one of your factories and fit it with a Fleet Control Computer and only put a pod of fuel on it. Put the ship into orbit, set a course for the enemy factory and engage the drive. You run out of fuel on the way, so disengage the drive when you run out of fuel and it says you're drifting. Advance time, and when you arrive you're told you're falling. Press Dock, advance time and you should find yourself in the factory.

Click on Panic and press the two levers on the right. Pressing the levers doesn't work the first time because you haven't researched it. After the first press you're able to research, but you lose a ship doing it. The second time you press the levers they turn off the self destruct. You now have the factory and 200 IOS drones – have a look at the Stores. Not

only that, there is a matter transceiver that you can then research.

Here are the translations of what the Hydroids say to you:

First message

We are monitoring all of your transmissions in an attempt to understand your language.

This message shall be repeated until we are able to communicate fluently.

There is a subject of great importance we must discuss with you.

Second message

Greetings once again, Human. Allow us to introduce ourselves. We are a peaceful race, similar to yourselves from a galaxy some 700,000 parsecs distant.

We have already made contact with a race in your galaxy and observe that you are both at war. This is to be expected.

We too have found them to be dishonourable. This time we must be certain before placing our trust

in you. Contact will follow when observations are complete.

Third message

Greetings, Friend. We believe we can trust you and request your assistance in a project to our mutual benefit.

Many years ago, we transmuted a gift to the Methanoids. A gift of great power and importance.

Sadly, they disassembled it in an attempt to understand that technology. A grave mistake. Our scanners tell us that the segments are scattered among eight stars in your galaxy.

We shall inform you of their exact location as we detect them.

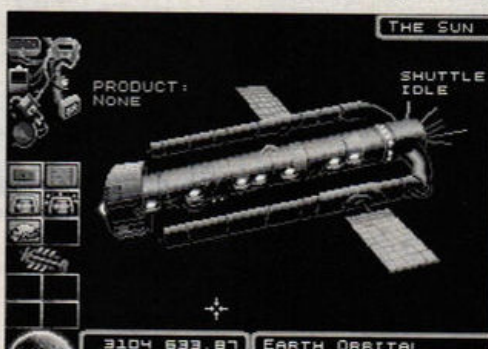
Fourth message

Greetings, Friend. We have confirmation from our scanners that one segment of our apparatus is lying in orbit around (?).

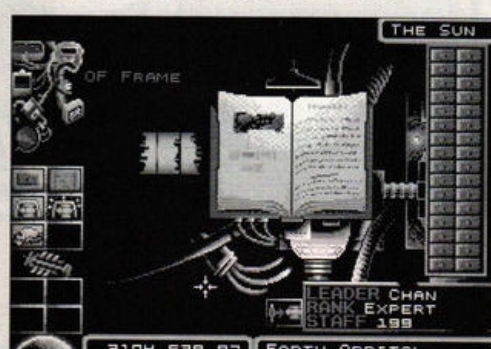
Please attempt to recover the segment and return it to any of your factories. *Good luck.*



● "Look at the mess in this place! Yes, you're very clever at building your IOSes and OFs, but you can't even keep Earth tidy." (Mrs Activision)



● Parking at the rear. Spacious garden (when docked). Lots of little flashing lights. Central heating, grge., wndws, firs, pointy bits on the end. \$1,000,050.

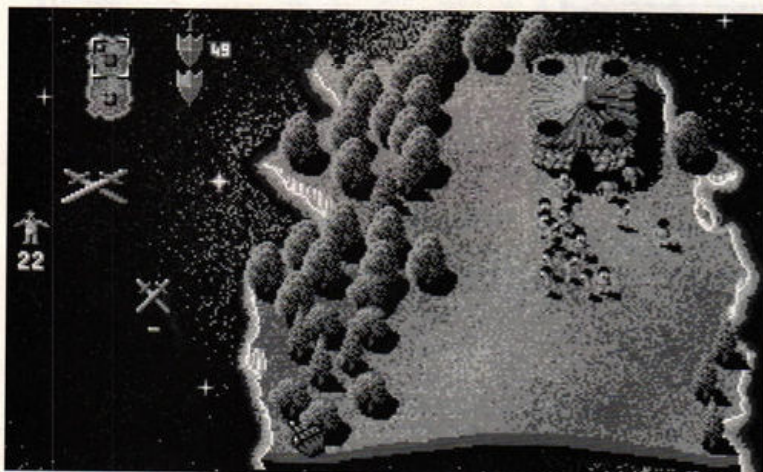


● What year is it supposed to be? 3100? Uh-huh – then why are they still using books for the plans of a blummin' Orbital Factory, then?

MEGA LO MANIA

Mirrorsoft

In **STF 29**, we brought you the first batch of tips from Mirrorsoft themselves, covering Epochs 1, 2 and 3 of this absorbing god-game. Then in issue 30, we battled through Epochs 4, 5 and 6. So, at last, we reach the tips for Epochs 7-9 and the Mother of Battles...



● The small island of Pain can be yours for a whole weekend every four years! Just answer this simple question: How many contestants have to enter this competition to make it worth our while? Send your answer and £35 to: About 4, 7 The Avenue...

1. Epoch 7 onwards takes the game into another plane. The pace slows from Epoch 1 to 5, then kicks into gear with the intro of nukes in Epoch 6. But

the easier availability of nukes, added to the introduction of SDIs and spaceships, makes every island from now on a hectic game of quick-on-the-draw.

2. SDI lasers are nearly always the most important things to build first if you can. Not only do they save you from incoming nukes but they also defend well against conventional attacks and spaceships.

3. Try to build three or four SDIs before installing them, because smaller amounts can easily be destroyed by invading unarmed men if you are adjacent to an enemy sector. Sit on your building weapons menu while the SDIs are being produced in the factory and select your first SDI so that your cursor changes to the archer in the window. Then position the cursor over one of your tower's defence ports. This way you can wait for more SDIs to be produced before installing them, but in an emergency you can put down an SDI as soon as your sector's sky is darkened by an incoming nuke.

4. Learn the recipe of all high-tech

weapons to maximise efficiency and then, next time you start playing an island, only mine what you have to. This way you are able to start designing more quickly in this race against time.

5. Jet planes are always preferable to biplanes; they are more efficient in terms of materials used in relation to firepower.

6. The islands on Epoch 9 are like a scissors, paper and stone game, except it is nukes, SDIs and spaceships. Learn the preferences of your three opponents and adjust your first shout accordingly.

7. Remember to put some men in cold storage for the ultimate Mother of Battles. If you forget you cannot win the game.

8. Only shut down a sector if you are positive you will still be in a winning position without that sector. Otherwise you're just shooting yourself in the foot.

9. It is essential that you shut down towers on the larger islands of Epochs 7 and 8. Utopia, Vespa and the whole of Epoch 9 are so cramped and often so full of pock holes from nukes that it

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→ is impossible to find the space or time to shut down a tower when playing these islands.

10. Spread your men evenly throughout the islands in Epoch 9. You should've saved at least 200 men for this final onslaught. If not, take a chance and let your men reproduce for a bit before you start to plan your attack. If you do, ensure you make an alliance as soon as

possible or else you're twice as likely to be blown out the game.

11. Spaceships are incredibly powerful weapons - treat them with respect. Remember, one spaceship has the fire power of 100 unarmed men.

12. In the Mother of Battles, the enemy play with all of the men they managed to put into cold storage during the



● Is that Mirrorsoft we can see perched on that island which is slowly sinking into the sea? No, surely not. It would be slanderous to say so.

game. Therefore if your enemy has got a tower that looks as if it's been closed down on an island, it is sometimes advantageous to lose that island and try again.

13. During the Mother of Battles, build as many towers as possible to maximise reproductions, then attack when your army has become enormous. This is of course unless the enemy attack you first.

14. Don't listen to the Mega Lo Mania rap for long; you'll certainly go mad.

15. Remember to buy the data disk for Mega Lo Mania soon.

16. Buy Mega Lo Mania 2.

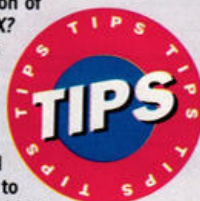
17. Whatever else you do, remember to (that's enough plugs - Ed).



● Revealed at last, in all its glory, the Planet of the Editors.

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Assembly pointers

A look at GDOS by STF's assembly expert, Roger Pearson



GDOS – an acronym for Graphics Device Operating System – is a part of GEM, the Graphics Environment Manager, that was left out of the ST's operating system. Unfortunately you can't actually buy it (unless you fork out to register with Atari as a programmer), but it comes supplied with programs that need to use it, like *Timeworks DTP* (£99.99 Electric Distribution ☎ 0480 496666) and *Easy Text Plus* (£19.95 zzSoft ☎ 0254 672965). To actually install GDOS you have to place it in an AUTO folder on the root directory of your boot disk and reboot your ST. If you're successful, a message is briefly placed at the top left of the screen, reading "ATARI GDOS RELEASE 1.0 RESIDENT" (or something similar).

Why do you want it? GDOS enables the application programmer to send many VDI calls to the printer. The VDI (Virtual Device Interface – part of the ST's ROM based operating system) presents the programmer with an array of graphic functions such as lines, fills, and such, which are typically used in art or DTP software. Some software saves the resultant file as a GEM metafile (with the file extension .GEM), which can then be printed by OUTPUT.APP – a Digital Research program, available to registered developers from Atari. This program is utilised by such software as *Easy Draw* and *Hyperdraw*. Other software saves the resultant file in its own format and then uses VDI calls that enable the programmer to print out the graphic VDI calls that were originally sent to the screen. Both *Timeworks DTP* and *Easy Text Plus* do this. Here we deal with the latter method of utilising GDOS, although the use of ASSIGN.SYS files is common to all GDOS programs.

ASSIGN.SYS

So that GDOS knows what it is dealing with, it needs to be able to read an ASCII file at boot-up called an ASSIGN.SYS file. Not surprisingly this file defines the parameters of the system we are dealing with. A typical ASSIGN.SYS file is shown below, assigning fonts for a medium res and high res screen and for a 9-pin dot matrix printer.

```
; ASSSIGN.SYS FILE FOR EASY TEXT DTP
path = \fonts\
;
01p screen.sys
;
02p screen.sys
;
03p screen.sys ; Med res screen fonts,
; Swiss & Dutch

SWSLSS10.FNT
SWSLSS14.FNT
SWSLSS18.FNT
SWSLSS36.FNT
SWSLSS48.FNT
SWMD_S18.FNT
DTCHMD10.FNT
DTCHMD12.FNT
DTCHMD18.FNT
DTCHMD24.FNT
;
04p screen.sys ; High res screen fonts,
; Swiss & Dutch

SWSHSS10.FNT
SWSHSS14.FNT
```

```
SWSHSS18.FNT
SWSHSS36.FNT
SWSHSS48.FNT
SWHI_S18.FNT
DTCHHI08.FNT
DTCHHI10.FNT
DTCHHI12.FNT
DTCHHI18.FNT
DTCHHI24.FNT
;
21 FX80.SYS ; Epson 9-pin printer driver
; & printer fonts

EPSHSS10.FNT
EPSHSS14.FNT
EPSHSS20.FNT
EPSHSS36.FNT
EPDTCH10.FNT
EPDTCH12.FNT
EPDTCH18.FNT
EPDTCH24.FNT
```

The printer driver referred to in the ASSIGN.SYS file FX80.SYS is a 50K+ file held in the FONTS folder. This folder is often called GEMSYS. The screen fonts usually have a resolution of 90 x 90 dpi (high res) or 90 x 45 dpi (medium res), while the FX80 printer driver uses printer fonts with a resolution of 120 x 144 dpi. A ";" in the ASSIGN.SYS file denotes that this line is to be ignored by GDOS – ideal for comments.

Once GDOS has been loaded, it is up to the programmer to determine the current screen resolution, load screen fonts and when printing load the printer driver and fonts.

Typically, a VDI call that prints a rounded rectangle `v_rbox()` would have to have the handle (an identifying number) of the device it was sending the output to. Thus if you were outputting to the screen, as in an art program, it would have to have the handle of the screen; similarly if the rounded rectangle was to be printed to the printer, a handle would have to be obtained for that too. So ignoring the necessary GEM startup and ending code we would have something like this:

```
* send a rounded rectangle to
* an Epson-compatible 9-pin printer
* is GDOS present?
    moveq #-2,d0
    trap #2
    addq #2,d0
    beq quit ; jump to label

* v_opnwk()
* get printer handle, p_handle

* v_rbox()
* output rounded rectangle
    move #11,contrl
    move #2,contrl+2
    move #0,contrl+6
    move p_handle,contrl+12
    move #8,contrl+10 ; function 8
    move #100,ptsin ; x coord printer
    move #50,ptsin+2 ; y coord printer
    move #100+60,ptsin+4 ; x coord right
edge
    move #50+40,ptsin+6 ; y coord bottom
edge
    jsr vdi
```

JARGON BUSTERS

- Bit images** Files made up of actual screen data – that is, dots.
- GEM** Graphics Environment Manager, part of your ST's operating system
- Label** A marker defining a specific place in a program
- Operating system** The basic routines that hold your ST together, like disk formatting, sending characters to the screen, and the like. Held in the ST's ROM.
- Res** Screen resolution. The ST has three types of screen display, measured in picture elements or pixels on-screen: low res (320 x 200), medium res (640 x 200) and high res (640 x 400).
- ROM** Read Only Memory. This contains all the code used by the Desktop, disk input/output, and so on.
- Vector format** Mathematical description of a graphic image, also known as GEM metafiles. The image is redrawn when it is scaled up or down, so it's always clear.

```
* update workstation - actually print
* v_updwk()
    move #4,contrl
    move.w #0,contrl+2
    move.w #0,contrl+6
    move.w p_handle,contrl+12
    jsr vdi
```

quit:

```
p_handle ds.w 1
```

Although this code is incomplete, it gives the general idea of printing using the VDI. The complete code is on this issue's Cover Disk, so you can check out the whole routine. To be able to use the code on the Disk you should have GDOS installed, with an ASSIGN.SYS file which names the printer driver and the folder that contains the printer driver.

This code also answers a query from **Graham Stride of Bury**, who asks "How can I tell if GDOS has been booted?" Note also that many VDI calls crash if GDOS isn't installed.

Unfortunately the VDI bit blit calls are not available for the printer, so it is difficult to print bit images via the VDI. For more details about printing via the VDI and GDOS, see the book *Introducing Atari ST Machine Code* by R Pearson and S Hodgson (ISBN 1 8734223 01 2, £20 from zzSoft ☎ 0254 672965).

The latest incarnation of GDOS, FSM-GDOS, should be available soon – with a bit of luck! It looks as though it will need 2MByte of RAM and a hard drive to run, but it uses vector fonts for screen and printer, rather than the bitmapped fonts used by the more common GDOS, so output should look much crisper, especially at high magnification. **stf**

WE NEED YOUR TIPS!

If you have any assembly language programming tips or techniques to share, send them in and you could win £25! Or, if you have a programming problem, let's have it too. Next month we're starting an ST Answers section where a panel of experts, including Roger Pearson, will answer every query we receive and respond to your tips and help. Write to: ST Answers Assembly pointers, ST FORMAT, 30 Monmouth Street, Bath, Avon BA1 2BW. Sorry, we can only answer in these pages – personal replies are impossible.



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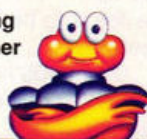
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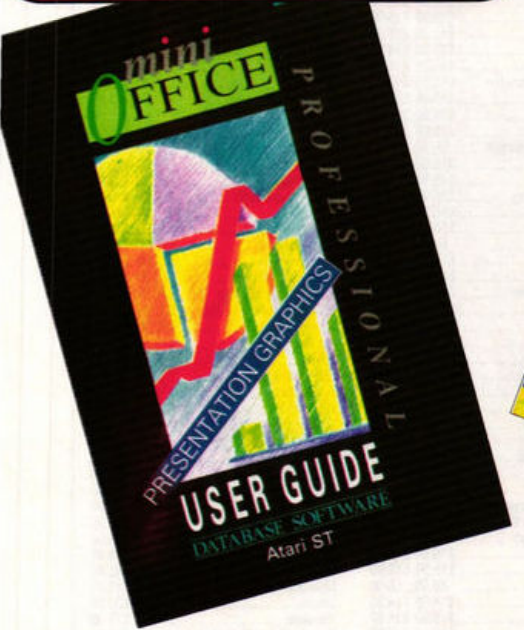
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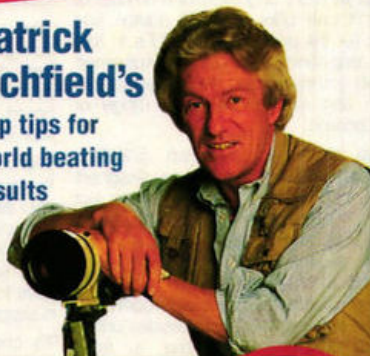
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Ladbroke Computing have been active in the field of ST Memory upgrades for a number of years and can offer upgrade advice and solutions for the entire range of ST's. In that time our engineers have gained experience in the field and have used that experience to research and develop our own range of upgrade boards.

We have developed our own 5/2/4Mb upgrade board using an in house designed, Multi layer circuit board which measures just 52mm x 62mm, smaller than a credit card. We have achieved this minitisation by utilising 4 Megabit memory chip technology. The result of this reduction in size is a reduction in cost and more reliable operation, due to the fact that the board resides under the ST's shielding protecting it from interference and reducing Electromagnetic emissions.

The board is manufactured in the UK and hand assembled in our workshops by skilled

technicians. The boards are then thoroughly tested before despatch.

The board now comes in three configurations, 5Mb, 2Mb and 4Mb. By using high density ZPP RAM chips of different capacities it is possible to start with a 5Mb board and to upgrade it to 2Mb and then 4Mb at a later date.

The boards require some soldering, due to the instability of some plug in devices, but are very easy to fit and come complete with full instructions to fit ANY ST including Mega's (except STE's which use SIMM boards). If your shifter chip is not socketed, you will have to desolder it and install a socket which is supplied.

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ST Secure is a security device which uses a combination of hardware and software to prevent unauthorised use of your ST. The 'Timelock' hardware can be installed in your ST in approx 30 minutes with no soldering involved. Then when you switch on your ST you must enter the correct password using the 'Key disk' or your ST will reset after 45 seconds. Only £25 inc VAT & Delivery

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Desktop



Shortly before disappearing in a puff of pixellated smoke, *ST FORMAT's* Technical Editor Neil Jackson muttered something about Desktop driving him to distraction. Couldn't have been referring to all the tips about SCSI hard drives, HD drives and double-sided floppy drives this issue, surely...

L'AHDI-DA DISK DILEMMA

If you're thinking of buying a hard drive on the cheap from an auction or a car-boot sale, you may have difficulty in connecting it to your ST. **Stephen Smith** from **Newcastle** has noticed the reason why – most hard drives for other micros use something called the SCSI (known as "scoosy" or "scuzzy") standard which doesn't work on STs.

SCSI (which actually stands for Small Computer Systems Interface) is just an "industry-standard" method of connecting computers to hard drives – which Atari chose to ignore. Instead, they use the AHDI (Atari Hard Drive Interface) which is similar, but different enough to be totally incompatible.

That's where the ICD Host Adaptor comes in. Currently it's the best device around for connecting

SCSI drives to AHDI-standard STs – that's all of 'em. The system sits between the SCSI connector on the hard drive and the ST's hard drive socket, providing things like timing clocks and translating the SCSI information into AHDI codes and connections. Most hard drives for the ST use the ICD board – it's just that they're generally mounted inside the casings and all you see is the connector for your ST.

So, if you spot that 30MByte Macintosh hard drive going for a song at the local estate agent's closing-down sale, snap it up by all means – there is a way you can use it. ICD boards are distributed in this country by Ladbroke Computing (☎ 0772 203166) and they come in several configurations. Contact Ladbroke, to find out which one is best for your particular hard drive.

MORE POWER, IGOR!

We've had a rather strange postcard from a chap in Malaysia who signs himself "16 year old Guy." He's just suffered from a blown internal power supply on his old 520 STFM and he wants to know how to fix it.

First, power supplies are very dangerous things to mess around with, especially if you don't know what you're doing. There are several high voltage (240 human-zapping volts) connections inside, so never, ever attempt to touch one if it's still plugged into the wall.

But if you have a friendly engineer around, or someone skilled in the safe use of a soldering iron, the following information might be useful for those of you with power supply problems. Apparently, some early ST power supplies (Atari code numbered ASP34-4) did have a few "common faults." Atari's Technical Note No ST/HW/0063 suggests three probable causes for a blown unit. These are:

1. Transistor marked Q2 blows, causing resistor R8 and transistor Q1 to fail too. Often transistor Q1 is visibly cracked! Occasionally, resistors R4, R5, and R9, and Opto-coupler PC1 also fail at the same time. In all cases the main two amp fuse has also blown.
2. Either resistor R2 or R3 blows. To check these, one leg – on each resistor – needs to be removed so that you can check their resistance level properly. The main two amp fuse may not have blown in this case.
3. The main fuse blows or blackens, but the fault is different from the first case. If this happens, the Bridge Rectifier DB1 may be the cause.

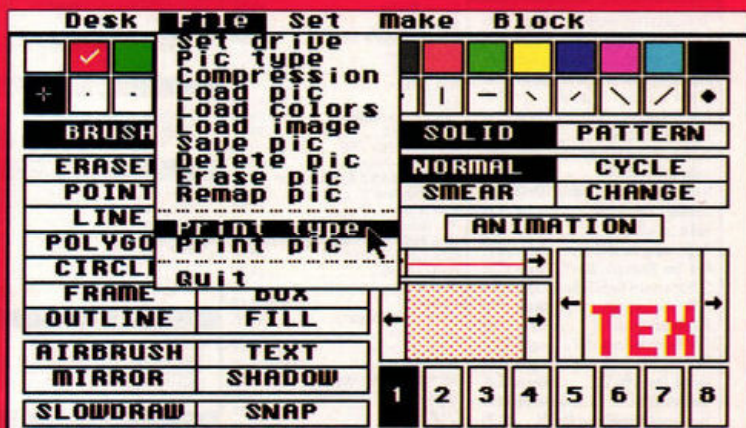
You can obtain all the parts needed direct from Atari (☎ 0753 533344), or from many electronic hobby stores – if your local store can't help, try Maplin's mail order (☎ 0702 554155). Here's a list of the items mentioned above, plus the codes you need for ordering them from shops and/or Atari. The entire lot should cost you less than a fiver.

	Atari Code
Transistor Q2 (type BU508)	C070806
Transistor Q1 (type 2SC1384)	C070805
Resistor R8 (type 1 ohm, 2 watt)	C070828-010
Resistor R4 (type 330 ohm, 2 watt)	C070829-331
Resistor R5 (type 51 ohm, 2 watt)	C070829-510
Resistor R9 (type 120 ohm, 2 watt)	C070829-121
Resistors R2 & R3 (type 150 Kohm, 2 watt)	C070831-154
Optocoupler PC1 (type CNY65)	C070844
Bridge Rectifier DB1 (type GI, W08M)	C070811

PUT COLOUR IN YOUR CHEEKS

Here's a quick tip from Andrew Shepherd in Wolverhampton for people with Star colour printers and *Degas Elite*. To print out your artistic masterpieces, you can simply use the printer driver for the JX-80C which is supplied

with *Degas Elite*. The driver should give perfect results on all Star LC-200s and LC-10s, in full colour, and save you a hunt round the Public Domain libraries for the specific Star printer drivers.



● To get colour output on your Star colour printer when you're using *Degas Elite*, all you need to do is move down the File menu like this... and read the text just above. (Well, you didn't think we could fit it all into just a caption, did you?)



MIRACULOUS MANGLING MODEMS

In *STF 31*, our Feedback section suggested a few solutions to Mike Hardy of Lancashire, who was having problems with his Minor Miracles WS2000 Modem. Since then, reader Craig Margrove from Milton Keynes has written in begging for more help with his own MMWS2000. It seems he

● We had to run this picture. The Minor Miracles WS2000 was the first modem *STF's* Editor ever owned, and it still brings a nostalgic tear to his eye...

managed to use our Feedback hint to get himself connected to a bulletin board after previously being unable to – great news! But, even though his comms software *Vanterm* tells him he's "ON-LINE," all he gets a string of garbled characters something like "Xx@xXXX~" and so on. Understandably, Craig is a bit dejected at having got so near and yet so far away from connection.

One solution may be related to the connection speed of the bulletin board he is calling. Most are 1,200 or 2,400 baud Full

Duplex these days, and very few support the old 1,200/75 baud – V23 or Prestel standard – which the MMWS2000 was designed for. Sadly, the MMWS2000 cannot support the straight 1,200 baud speed, but some boards – including the Bath BBS (☎ 0225 840060) – still support 300 baud. You can use this on the MMWS2000 without too much difficulty. Just use the original Feedback hint to get you started, but select 300 baud instead of 1,200 baud. (If you missed that issue, see page 114.)



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HOW TO MAKE AN ST MEGA-DRIVE

In **STF 30**, we brought you details of how to connect your ST to one of those new standard PC-compatible 1.44MByte disk drives – also known as High Density (HD) drives. (If you missed that issue, turn to page 114 for the *FORMAT* back issue service.) The problem was that to get 1.44MBytes on them, HD drives require a much higher stepping pulse than your ST can normally supply, and we challenged *STF* readers to come up with details of the necessary modifications. In response to the challenge, **Jim Watson** from **Bedfordshire** has sent in this mammoth tip for upgrading your ST to a 1.44MByte disk drive. It's an extremely cheap and simple circuit, and can be built for around £1.50.



But be warned: don't attempt it if you're not quite sure about TTL logic or if you've never used a soldering iron before. If you've got any friendly engineers nearby, get them to do the cutting and soldering using this information as a basic guide. If you do it yourself and mess it up, you'll stop your ST from working, so take note. You also need to buy a High Density (HD) drive to replace your standard ST internal one. First, a quick look at how it works.

The standard ST disk drive controller – the WD1772 chip – is clocked at 8MHz on pin 8, providing the correct pulses for a normal 720K disk drive. For a 1.44MByte disk drive to work at full capacity, you need to be able to double this clock speed when reading and writing to high density disks. You also need to buy special high density disks, which have increased capacity over a normal double density disk. These are easily identified by their extra hole, which looks rather like a second write-protect notch.

When a high density disk is inserted, the

1.44MByte drive looks for the second hole in the disk. When it sees this hole it tries to read 80 track, 18 sector format, which is why it requires the 16MHz clock. If the drive detects only one hole, then it requires the 8MHz clock and tries to read the 80 track, 9 sector format – the normal ST format (to coin a phrase).

You have to add the circuit which uses the detection signal from the drive to select the appropriate clock. Pin 2 on the 34-way IDC cable from the drive carries this high density detection signal. This is a logic 0 for high density and a logic 1 (5v) for normal density (720K). The circuit shown in the illustration is the basic circuit required: two clocks, 8MHz and 16MHz, and a way of detecting if a high density disk is inserted.

It works as follows: When a high-density disk is inserted, a logic 0 is applied to both legs of the central NAND gate. This puts a logic 1 on one leg of the top NAND gate and causes the output of this top gate to go on and off in time with the 16MHz signal.

At the same time, a logic 0 is applied to one leg of the bottom NAND gate. A logic 0 into any leg of a NAND gate produces a logic 1 at the output, so the bottom NAND gate gives out a logic 1 no matter what the 8MHz signal is doing.

You now have a 16MHz signal coming into the top of the Exclusive-OR gate – shown as the box with =1 in it. On the bottom of the Exclusive-OR gate you have a constant logic 1. When the two inputs to the Exclusive-OR are different – that is, when the top input is 0 – then there is a logic 1 output. So the output of this gate produces a copy of the 16MHz clock coming in.

When a normal double-density disk is inserted, the gates are switched around. The high-density

detect is now a logic 1. Two logic 1 inputs to the central NAND gate give a logic 0 out. This is fed to the top NAND gate. Again the logic 0 into this NAND gate produces a logic 1 output regardless, effectively switching the 16MHz signal off.

On the bottom NAND gate's inputs you have a logic 1 and the 8MHz signal, causing the output to be a copy of the 8MHz signal.

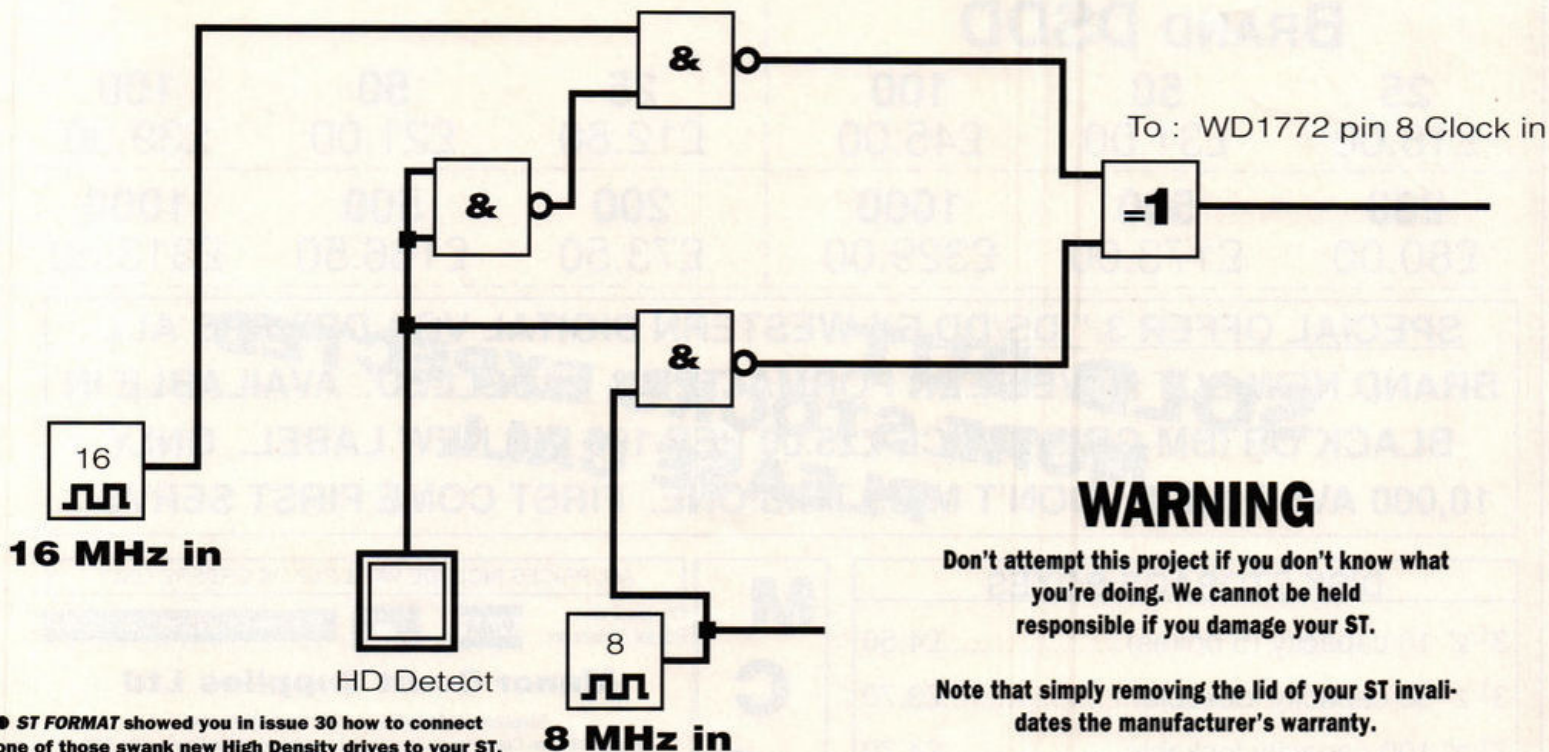
Now, on the Exclusive-OR gate you have a logic 1 from the top NAND gate and an 8MHz signal from the bottom NAND gate. As before, when the two inputs to this gate are different you have an output. So, in this instance, you have 8MHz out.

Okay, so you've got your clocks – the next problem is what to do with them. You need to open up your ST, locate and then cut the circuit board track that feeds pin 8 of the WD1772 (clock in). Use that as the 8MHz input to your home-made circuit. Pin 39 on the Shifter chip produces a 16MHz signal that can be used for the 16MHz input.

Connect the output of your board to pin 8 of the WD1772. The existing track has to be cut or else you get a constant 8MHz still coming into the WD1772. Wires from the Shifter should be as short as possible and, if you can, you should use screened cable to stop any RF interference from the inside of the ST affecting the 16MHz signal.

An important note: not all WD1772 chips are compatible to run at 16MHz. They were only designed to run at 8MHz, but because manufacturing tolerances are inevitable some work at the higher speed and others do not. You can buy the new STE Ajax chip from Atari (Ⓜ 0753 533344) if yours doesn't want to play ball. Sadly, there's no way of finding this out before you begin.

Also, if you have two drives, upgrade them both to HD drives or you'll have problems using the 720K drive when the clock rate is 16MHz.



WARNING

Don't attempt this project if you don't know what you're doing. We cannot be held responsible if you damage your ST.

Note that simply removing the lid of your ST invalidates the manufacturer's warranty.

● *ST FORMAT* showed you in issue 30 how to connect one of those swank new High Density drives to your ST, but to actually get the advertised 1.44MByte of data onto it you need to cobble together this neat little clock speed switching circuit. It'll cost you all of £1.50 and it's easy – if you can handle a soldering iron.

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GFA programmers' surgery

Once again, Barrie Capel tackles your GFA Basic programming queries

Jared Cooper in North Humberside is writing an art program and wants to know how to do three things:

- (a) Detect how much time has elapsed from a given point.
- (b) Draw a "rubber-band" line on the screen with the mouse without destroying what is there already.
- (c) Draw ellipses with the mouse.

● Question (a) is simple, thanks to the ST having a system variable called TIMER, which is also a function in GFA Basic. This means that you can't use it as a variable name, since it already contains a counter value which is incremented every 200th of a second. The line

Print TIMER
prints its current value. Repeat it, and the value returned will have increased a bit.

If you have on the first line of your program:

T%=TIMER
from then on, calling the following procedure:

```
Procedure check_time
    elapsed%=(TIMER-T%)/200
```

Return
results in the variable elapsed% equalling the number of seconds elapsed since the program was run. So, if you want to go and do something else after 30 seconds, all you need is an If elapsed%>30 statement, and then reset the variable elapsed% to 0 ready to count the next 30 seconds.

● Question (b) is a lot easier to solve when you know what the GRAPHMODE command is for. For example, GRAPHMODE 3 results in anything you draw on the screen being inverted – that is, black becomes white and white becomes black. Colours also have their inverse values. Once we draw a line on the screen over other objects, the line's colour depends on the colour of those objects underneath – but at least we can still see it clearly! However, if you think about it, drawing the line again over the one we have just put there inverts the colours again back to their original state. So, the best solution is to hold down the mouse at the intended line's start position, switch to GRAPHMODE 3 and, continuously reading the mouse position, draw the line twice. On releasing the mouse button, switch to GRAPHMODE 0 – the default – and draw the line.

(Note: the symbol ↵ in the following listings means do not enter a line return.)

```
Do
    Mouse startx%,starty%,z%
        ! Get line start point
    If z%=1 ! Left mouse button
        Hidem ! Hide mouse pointer
        Graphmode 3 ! Set screen mode
        While z%=1 ! While button down
            Mouse endx%,endy%,z%
                ! End of line position
            Line startx%,starty%,endx%,endy%
                ! Draw line

            oldx%=x1% ! This routine ensures
            oldy%=y1% ! line stays on screen
            Repeat ! when mouse not moved
                Until x1%<>oldx% or ↵
                    y1%<>oldy% or Mousek

            Line x%,y%,oldx%,oldy%
                ! Invert it back again
        Wend
        Graphmode 0 ! Set screen mode back
        Line x%,y%,x1%,y1%
            ! Draw line solid
    Endif
Loop
```

● Question (c), about drawing ellipses, is a little more tricky, and needs a little more thought, so let's start with the basics – a circle.

Use the above listing as a "shell" and replace the three LINE commands in order, with the following Circle commands:

```
Circle x%,y%,x1%
Circle x%,y%,oldx%
Circle x%,y%,x1%
```

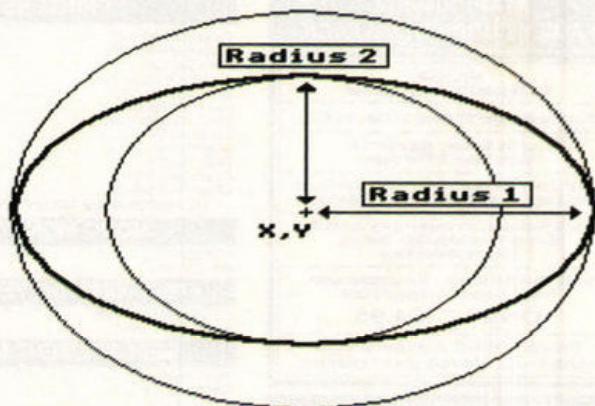
The X% and Y% now give you the coordinates of the centre of the circle, but the Circle command has to have a radius parameter, so we use x1%, and use the X axis of the mouse, (x%), to alter it. Therefore, holding the mouse button and moving the mouse left and right results in different sized circles. When you reach the required size, release the button and the circle is drawn solid.

Ellipses are just the same, only they need to be supplied with two radii – an internal one and an external one. Radius 1 in the illustration can be controlled with x1% again, and we can then alter radius 2 with the y1% variable. So once again, using your "shell" program, change the three circle commands to the following.

```
Ellipse x%,y%,x1%,y1%
Ellipse x%,y%,oldx%,oldy%
Ellipse x%,y%,x1%,y1%
```

That should give you all you need!

● Next month, Desktop undergoes a metamorphosis and becomes ST Answers, but we'll still be answering all your GFA BASIC programming queries – see the box on page 124 for all the details.



● Drawing ellipses with the mouse is just like drawing circles, except with two radii. If you've forgotten all your geometry lessons, we show you how!

A CHOICE SELECTION OF SHORTIES

INTEGER VALUES

Using integer values in your programs (by putting a percent symbol - % - on the end of the variable's name) makes them run much faster, as long as the values required are whole numbers like 12, 140, 23,123 and the like, not floating point values like 42.534, for example, which would lose the .534 as an integer value. Try the following two examples and time how long they take to run:

' Example 1 - Floating Point Loop

```
For a=1 to 50000
    Add b,a
Next a
```

' Example 2 - Integer Loop

```
For a%=1 to 50000
    Add b%,a%
Next a%
```

CONDITIONAL BRANCHING

When testing for conditions in loops (REPEAT... UNTIL, WHILE... WEND and so on), you may want the condition for exiting to be when a value is no longer zero. One example is exiting a loop if a mouse button is pressed, and could be written as follows:

```
Repeat
    Mouse x%,y%,z%
Until z%<>0
```

However, in many other cases as well, despite not seeming to make much sense, the shortened Until z% can replace the condition in the above example to give:

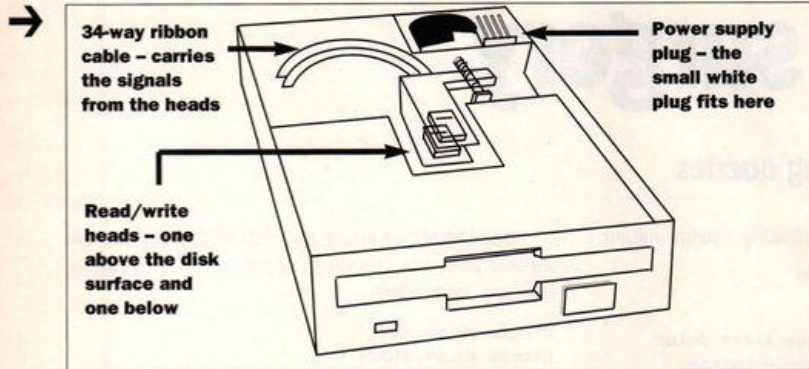
```
Repeat
    Mouse x%,y%,z%
Until z%
```

Until z% and While z% are interpreted by GFA Basic as shortened versions of Until Z%=TRUE and While Z%=TRUE respectively. Both are tests which return true or false depending on the value of the variable z%. As long as z% stays at zero, the test returns FALSE. As soon as z% is greater than zero (button pressed), the test returns TRUE and the loop is exited.

There are many cases where this can be used to save quite a bit of memory – and typing! – in large programs, or when you're working on 520 STs where memory is running low – every byte counts!

WAITING FOR INPUT

Yet another version of the "Wait until a button is pressed" routine – compact, clean and probably the most straightforward: Repeat Until Mousek



● Connecting a new double-sided disk drive is easy - the only two connections are shown above. The hard part is keeping track of which screws went where...

TIME TO DOUBLE UP

Okay, so it's finally going to happen. From next month, the ST *FORMAT* Cover Disk is going "double-sided" in an effort to make yet more space available for bigger, better programs. But that means that all you old-fashioned "singlies" - both of you - won't be able to use the new-style disk. Unless you're prepared, that is.

Upgrading your old ST to a double-sided drive is neither difficult or expensive, contrary to popular belief. For example, Power Computing (☎ 0234 843388) can supply you with a brand spanking new 800K double-sider for as little as 35 quid - not to be sneezed at. Their PC7201 drive is designed as a quick replacement for the ST's internal drive - and it really is simple to fit. Just follow these simple steps!

1 The first thing you need to do is disconnect your ST from all power sources and remove the mouse, joystick, monitor and printer cables from the various

connectors. Then, turn your ST upside-down and remove the seven phillips-head (cross-head) screws which secure the top of the casing. Don't worry about voiding your guarantee - if you've got a single-sided drive it's long since out-of-date anyway. Put the screws safely to one side, noting their lengths and which holes they came from - some are longer than others and if incorrectly re-inserted they can damage the top surface of your keyboard. You have been warned.

2 Next remove the three screws which secure the disk drive to the base of the unit. Once you've done that, flip the ST over and gently prise off the top part of the casing. It should come off easily, but it might need a bit of jiggling to get it free. When the lid's off, you'll see a large plate of metal covering the guts of your ST. Put the lid safely away somewhere and see if there's a smaller plate screwed down near the back of the disk drive. Remove it carefully to give you better access to the drive's cables.

3 There are two cables connected to the drive - a large 34-way ribbon cable and a multi-wire affair with a small white plug on the end. Remove these carefully and the disk drive should be totally free. Lift it out - but don't chuck it away. You may find a use for it in a future issue of *STF*...

4 Take your new double-sided drive and plug in the small white connector (which provides the power to

the drive). Next, check the ribbon cable plug to find a small triangle which indicates pin 1. Connect the plug so that its pin 1 matches with the pin marked "1" on the disk drive socket.

5 Now, the most difficult bit. With your third hand, try to insert the drive's securing screws from underneath the ST. Give them a bit of a turn, just to bite in and hold the drive - you can tighten them up later.

6 Next, replace the metal shield and screw it down before jiggling the top casing back into position again. Then turn the ST over and insert the casing screws. Finally, tighten up the disk drive screws.

You can now reconnect your ST to all its favourite peripherals and everything's the same as it was - except that you can now read, write and format double-sided disks, and you need never miss the bulging new *ST FORMAT* Cover Disks! **stf**

WE NEED YOUR TIPS!

If you have any technical tips or techniques to share, send them in and you could win £25 - or even more for a detailed DIY project or something radical, like a solar-powered ST conversion, perhaps. Or, if you have a tech-type problem, let's have that too. Next month we're starting an *ST Answers* section where a panel of experts will answer every query we receive. Write to: *ST Answers*, *ST FORMAT*, 30 Monmouth Street, Bath, Avon BA1 2BW. To help us get your tip or query to the right expert, please indicate on the envelope what it concerns - GFA programming, printer problems, whatever it may be. Sorry, we can only answer in these pages - personal replies are impossible.



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7 B/W SCANNER



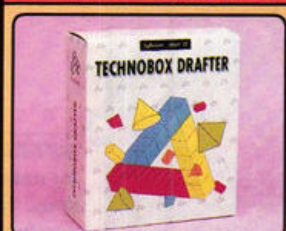
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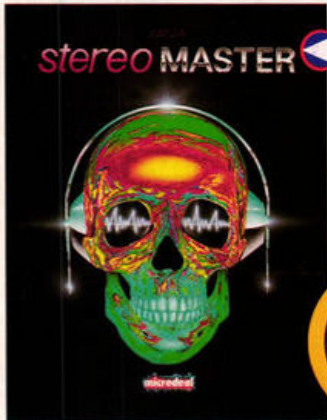
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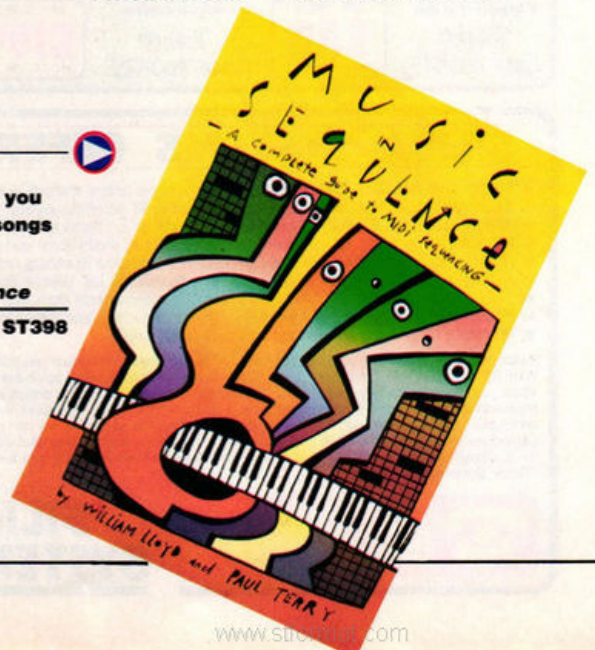
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Not just the facts...

Death in the afternoon, garden games and Do-It-Yourself edsoft? The range of ST education software available proves that variety really is the spice of life! *STF's* education specialist Terry Freedman explores an inspiring and absorbing murder and mystery package for older children, Prisma's response to Europress's *Fun School* series, Pepe's garden, and some things you can do for yourself with a word processor – apart from the obvious!

Death of a President

AGE RANGE: 11 UPWARDS

MACHINE: ALL COLOUR STs

PRICE: £4.95

FROM: GOODMANS PDL

CONTACT: 0782 335650

Was it the CIA, the Mafia or the grassy knoll who killed JFK? Now you can investigate for yourself and draw your own conclusions. *Death of a President* is a three disk set which deals with the assassination of President Kennedy. Now there's a story that, being nearly 30 years old, is history (and doesn't that make you feel old!), yet it has all the ingredients of a modern thriller – skullduggery, implied nastiness in the corridors of power, mystery – the lot. This package aims to bring home to kids that history can be

Death of a President has all the ingredients of a modern thriller – skullduggery, implied nastiness in the corridors of power, mystery – the lot.

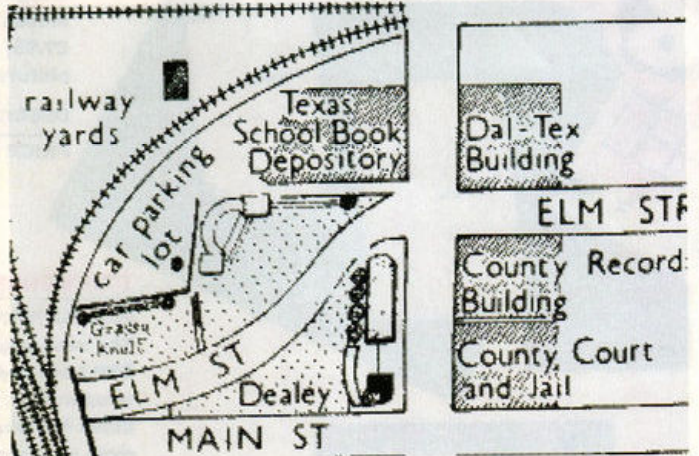
exciting and relevant, and not something you just have to do in some boring old reading room.

This is different from the usual sort of edsoft you get for the ST: there isn't a set order in which you have to do things, no questions, no right answers, no parents' manual. This package is all about exploring.

Disk One is a photographic database in which you can follow the different aspects of the Kennedy mystery through pictures and words. Click on a photograph and a text box appears, giving you a part of the story. This is done very well, and poses interesting questions throughout. There are even some sound effects. The only (minor) quibble is that you sometimes have to try clicking in several places on the screen before hitting the "hot spot" that makes the text appear.

Disk Two contains an audio database – that is, a set of recordings by people such as the police chief in Dallas and Martin Luther King. There are also plenty of text documents which you can read from the Desktop or print out.

Disk Three is called *A Day in Dallas* and is an adventure game in which you hunt around the scene



● Maps like this add an enormous amount of realism to the *Death of a President* adventure game, and help bring home "the scene of the crime."

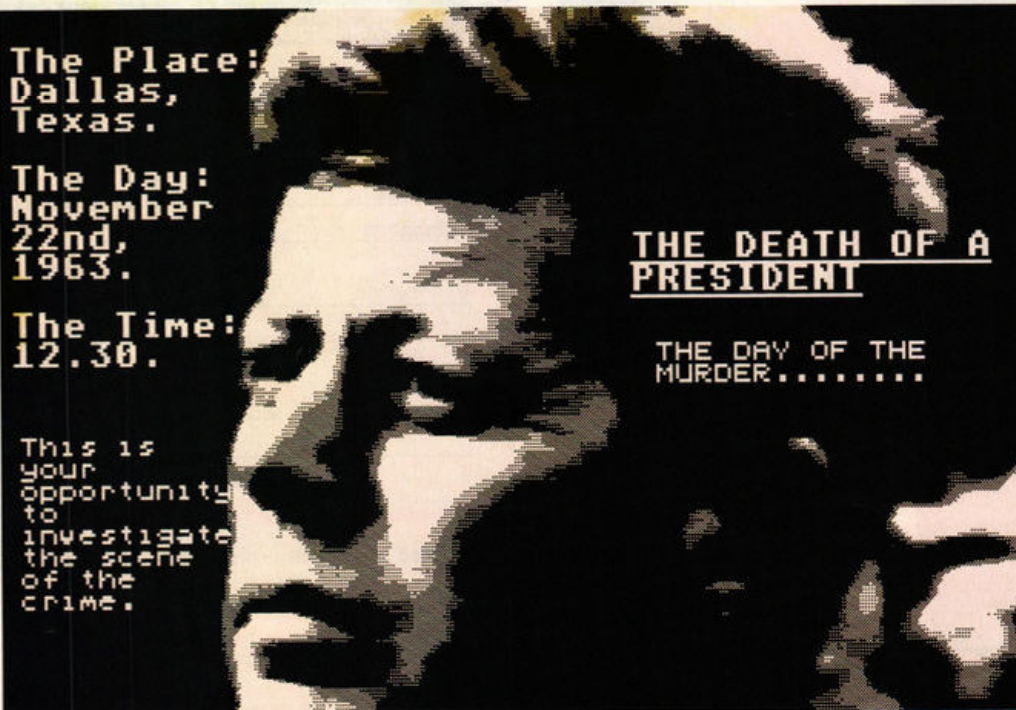
of the crime and speak to witnesses in a quest to unravel the mystery.

To be honest, it's a bit artificial to think of this set merely as a collection of separate disks: the idea is that you delve into the Kennedy mystery – or different aspects of it – in different ways.

All in all, this is an absolutely incredible program that has been used successfully in schools. Now there's the rub: can it be successfully used at home? To help your children get the most out of it, you're probably going to have to get them interested in the Kennedy business to start with – but perhaps Kevin Costner can do that part for you. Also, one of the program's very strengths – its open-endedness – is a weakness: no score to tell you how well you've done, for instance.

One last criticism: the long-term value might be a bit limited in the sense that once you've been through the disks, you've been through them, and that's the end of the matter. On the other hand, you could take a wider viewpoint and argue that, if this package stimulates you to read up and find out more about the intricacies of the Kennedy business, it does have long term interest. And a fiver is hardly going to break the bank, now is it? For older children who want something they can really get their teeth into, this is the one to go for.

Contents: Three double-sided disks; documentation on disk.



● Excellent graphics make learning a pleasure, and show that the ST can easily rival much pricier machines.

PRESENTATION	9
EASE OF USE	8
LONG TERM INTEREST	7
VALUE FOR MONEY	10
EDUCATIONAL VALUE	10
OVERALL	80%

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→ **Pepe's Garden**

AGE RANGE: 3 - 7
MACHINE: ALL COLOUR STs
PRICE: £25.99
FROM: PRISMA
CONTACT: 0244 326244

This package consists of two double-sided disks but, surprisingly, there are only five different programs. These are *Garden Games*, which has to do with shapes and colours, *Alphabet Tree*, which is about recognising and matching letters, *Creepers*, in which you match words and/or objects, *Counting Corner*, which is about counting and adding up, and *Paint Pot*, a painting package.

The common element in all the games is the presence of Pepe, a mouse - that and the fact that they all take place in a garden. No doubt that's why it's called *Pepe's Garden*.

The games are well-presented and colourful, and the animated sequences which start each one are



● Son of *Fun School*? *Pepe's Garden* has a lot to offer and scores highly on entertainment value.

superb. Mind you, probably too much effort has gone into them at the expense of other things. For instance, it seems to be impossible to exit from some of the programs without resetting your ST. This gets to be a bit tedious, to say the least.

Prisma obviously see this package as an answer to the *Fun School* range. Not only does it have several programs in it, but each program can be played at different levels. In fact, you could be forgiven for mistaking it for *Fun School 3* if you walked into the room just as the menu screen was loading up.

The games themselves are fairly good in terms of how they go about teaching you things. In the adding-up game, for example, you're shown a number of objects of different colours and you have to say how many there are of each colour, and then how many there are altogether. In the shapes matching section, your interest is held by having to move a bee or a butterfly to the right answer - much better than a boring old mouse pointer!

Talking of which, when you load up the program, the mouse pointer is actually a mouse - that is, the furry variety. In fact, if the main aim of all this is to entertain your child, it's a definite winner. A good



● The graphics and animation are beautiful, though maybe just a shade too "busy" for comfort.

aspect of *Garden Games* is that, as well as being able to choose from four levels, you can select any of six levels of timing. That's a total of 24 options - not bad at all!

Unfortunately, there are some aspects of it that you might not like too much. For instance, in the adding-up game you don't get any help when you get your sums wrong. In other parts of the program, there seems to be a technique for selecting the bit you want which, being adults, we were unable to fathom. This is especially true of *Creepers*.

Another disappointment is the fact that you can't change things yourself to make the sums more difficult or the vocabulary harder. Yes, okay, not many programs do have that sort of facility - but maybe they should!

Compared with the *Fun School* range, this has more fun but the other has more school. Despite the stated age range and the different levels, *Pepe's Garden* is more suitable for the younger child. Its chief contribution to learning is the excellent graphics and sound - if these can't get your toddler interested in learning on your ST, nothing will. For the over 5s, though, go for *Fun School 4*, reviewed last month. (And if you missed that review, turn to page 114 for the *FORMAT* back issue service.) **stf**

Contents: two double-sided disks; eight-page manual; poster for colouring in.

PRESENTATION	9
EASE OF USE	6
LONG TERM INTEREST	7
VALUE FOR MONEY	7
EDUCATIONAL VALUE	7
OVERALL	72%

DIY EDSOFT - or HERE'S ONE I PREPARED EARLIER

For some reason or other, there's more ST education software for younger children than for the secondary school age group. Don't know why - but why worry anyway? If you've got some ideas, a lot of time and some scissors and glue - oops, that's not quite right. But there are plenty of programs out there which enable you to produce decent edsoft yourself with no programming knowledge whatsoever.

Next month we'll be looking at one particularly impressive piece of DIY edsoft - but for now, consider the humble word processor.

If you've got a word processor, you can make up games along the following lines. (If you haven't, then you should get the back issue of *STF 27*, 'cos it came with a free copy of the superb PD program *ST Writer Elite* - see

page 114 for details of how to order your copy if you don't have it.) These are all tried and tested methods, and you can make them as hard or as easy as you like. In fact, the only difference between your DIY efforts and a full-blown commercial package is that yours is unlikely to have flashing lights and bells ringing. You'll probably be able to think of other advantages, too!

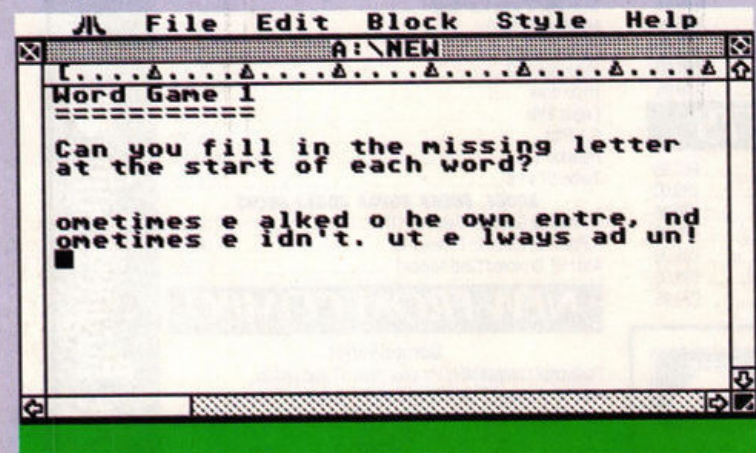
1. Word process a piece of text with the first letter of each line missing. The educational challenge is to complete the text properly.
2. Getting a bit more sophisticated now, you can miss out whole words from the main text; bung 'em in at the bottom of the page so that your child can select the "best-fit" words to complete the sentences.
3. On a different tack, try putting in misspellings - es-

pecially if you happen to know that your spellchecker doesn't pick them up! (Nasty, eh?)

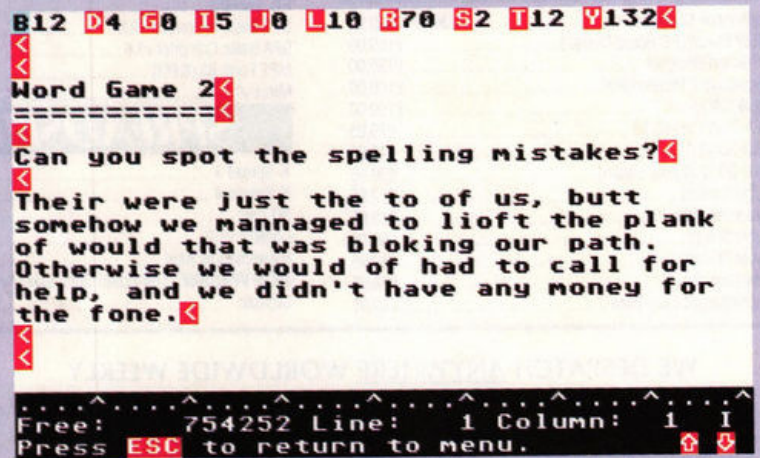
4. How about this for an inspired piece of sadism: put loads of misspellings in which the spellchecker absolutely won't pick up, such as "deer" instead of "dear," "mite" for "might" and so on.

5. Finally (for now, at any rate), try preparing a poem with all the lines jumbled up. Not blank verse - it's got to be something that rhymes. The idea is for the child to rearrange the poem to put it in the correct order. Not only does this help children learn English skills, but it also helps teach them how to use the cut and paste functions in a word processor.

There are absolutely loads of things like this you can do, so why not give it a bash?



● Personally, I an't ee nything rong ith his - urely here's ome lskake! ow ou an ducate our hildren y etting hem o ort ut his ext!



● Games like this are quick and easy to prepare, and help to teach a much wider variety of skills than you might imagine!

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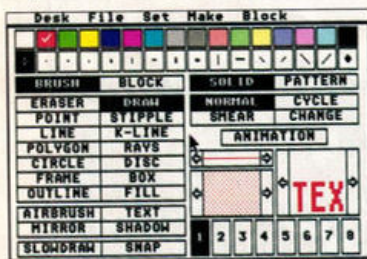
It's all true, then - there really is more in Britain's best-selling ST magazine! Or at least there has been, as this complete index to every single issue of *ST FORMAT* proves. A couple of points to note, though: Cover Disk and Public Domain programs are not included, and only specific reviews are indexed, not references to hardware within a feature (modems mentioned within a comms feature, monitors within a DTP feature, and so on). Where something has been reviewed more than once - in a roundup as well as on its own, or something like that - all relevant issue numbers are listed, with the issue of the main review in **bold type**, but only the most recent *STF* rating is given.

There's so much

The *ST FORMAT* team (and it is a team, y'know) proudly present The Complete Index To Everything Ever in *ST FORMAT*: hand-crafted from the very finest characters by Ed, lovingly padded with spaces and a few tabs by Alex and Paula, and certainly not hastily chucked together at the last minute by Paul with a few pics thrown in, no way

SOFTWARE

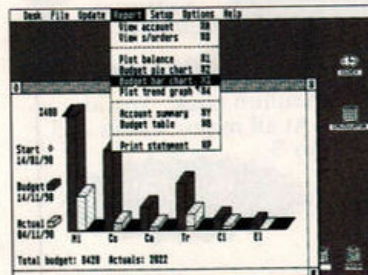
Title	Supplier	Issue	STF rating
Art and graphics			
Canvas	Microdeal	9	94%
Cyber Paint 2	Electric Dist	24, 30	88%
Cyber Studio	Electric Dist	30	79%
Degas Elite	Electronic Arts	30	90%
Deluxe Paint	Electronic Arts	15, 19, 24, 30	88%
GFA Draft Plus 3	GFA	19	90%
GFA Raytrace	GFA	3	78%
Image	Third Coast	10	50%
MegaPaint 2	Tommy S'ware	14	93%



● *Degas Elite* - getting a bit long in the tooth, but still one of the most popular art programs on the ST.

Outline Art	Signa	6	95%
Paintpot	Switchsoft	9	76%
Quantum Paint 2	Eidersoft	4	79%
Retouche	CopyCare	21, 30	81%
Spectrum 512	Silica	30	74%
Trip a Tron	Llamasoft	24	91%

Business			
Adimens	Kuma	28	70%
Cashbook			
Combination	Digita	28	80%
Cashmaster	Intraset	28	86%
Day by Day	Digita	28	88%
DGBase	Digita	28, 31	71%
Graphicsheet	Glentop	28, 31	76%
Home Accounts 2	Digita	28, 31	90%
Hyperchart	Atari	12	90%
Informer 2	Soft-Aware	23	79%
K-Spread 4	Kuma	19, 28	80%
LDW Power	Silica	28	84%
Market Breaker	Jewsbury	15	77%
Mini Office			
Communication	Silica	28	71%
Mini Office Pro	Europress	28	56%
Personal Finance			
Manager Plus	Michtron	19, 28	81%
Personal Tax			
Planner	Digita	28, 31	74%
Prodata	Arnor	7, 28	74%
ProShare ST	TC Devel'ts	15, 28	69%
Superbase			
Personal 2	Precision	19	91%
Superbase Pro	Precision	28, 31	86%
System 3	Digita	11	90%



● Accounts and balances needn't mean screens full of boring figures: like many "serious" programs, *Personal Finance Manager Plus* offers much more.



● *Timeworks DTP* is one of the best systems for a first publishing setup - and the recent upgrade makes it even more attractive if you have 1MByte.

Desktop publishing			
Calamus	Signa	6, 30	90%
Easy Text Plus	zzSoft	30, 31	68%
Fleet Street	Silica	6, 28, 30, 31	76%
Publisher 3		30, 31	76%
Pagestream 2	Soft-Logik	28, 30, 31	95%
Proxima	Netw'k News	6	96%
Timeworks DTP	GST/Electric Distribution	28, 30, 31	72%
Educational			
Answer Back Quiz	Kosmos	13	87%
Better Maths	School S'ware	29	53%
Better Spelling	School S'ware	16	30%
Caterpillar Spell	MB Software	17	15%
CH001/E	C Hack's PDL	27	67%
Count and Add	Scetlander	30	82%

Donald's Alphabet Chase,			
Mickey's Runaway Zoo,			
Goofy's Railway Express			
	Nathan S'ware	26	58%
First Letters	Rainbow	28	67%
First Maths	ST Club	29	75%
First Paint	Hat Software	14	89%
First Type	Hat Software	14	93%
Fraction Goblins,			
Picture Fractions,			
Reasoning with Trolls			
	Coombe Valley	23	88%
Fun School 2	Database	3	-
Fun School 3	Database	15	91%
Fun School 4	Europress Software	31	91%

HARDWARE

(Details as explained under "Software" above)



● Modern art: "Pile of floppy drives next to an iceberg" by Picasso, although you can't quite see the iceberg in this shot. It is stunning though, believe us.

Emulators			
AT Speed C16	Compo	25	82%
ATonce/			
ATonce plus	Silica	25	85%

PC Ditto	Avant Garde	25	35%
PC Speed	Compo	4, 25	74%
Spectre GCR	Ladbroke	25	94%
Supercharger	Condor	7, 25	73%
Supercharger			
SC Plus 286	Condor	25	92%

Floppy Drives			
CSA 354 Drive	Cumana	28, 31	90%
Pandaal			
Daatadisk	Pandaal	28, 31	85%
PC720E Drive	Power	28, 31	69%
PL720 Drive	Power	28	85%
PL720B Drive	Power	28	89%
Power 2MByte upgrade			
	Power	31	92%
Roctec RF 302R Drive			
	Ladbroke	28	78%
Zydec Drive	Evesham	28	80%

Hard Drives			
Atari Megafile 30	Silica	27	60%
GAS 85MByte hard drive	Gasteiner	5	67%
Gasteiner 44R			
Removeable	Gasteiner	27	73%
Gasteiner			
85MByte	Gasteiner	27	77%
Hunter 70MByte	Hunter Business Systems	27	52%
ICD FA.ST	Silica	5, 17, 27	75%

Ladbroke			
52MByte	Ladbroke	27	81%
Mega Drive	Gasteiner	17	88%
Megafile 44	Atari	4	82%
PC 32MByte drive			
ST Adapter Kit	Third Coast	27	76%
Power 40MByte	Power	27	77%
Power 40MByte			
Slimline	Power	27	74%
Power 900E			
Data Injection	Power	17	85%
Power Drive 900	Power	17	92%
Power Rewritable			
Optical Drive	Power	17	93%
Protar 40DC	Protar	27	90%
Protar 44R			
Removeable	Protar	27	79%
Reference 40	Evesham	27	73%
Supra Drive	Third Coast	17	84%
Supradrive			
40MByte	Surface UK	27	75%
Syquest Removeable			
Cartridge Drive	Gasteiner	17	89%
Third Coast			
32MByte	Third Coast	27	69%
Vortex 40MByte	Silica	27	68%
Vortex Datajet	Silica	17	94%
Memory upgrades			
Alfa Data	Gasteiner	25	83%
Aries 2MByte	Ladbroke	25	84%

to it

Henrietta's			
Book of Spells	Scetlander	28	92%
Junior Typist	School S'ware	30	78%
Kidpublisher Pro	D A Brumleve	11	95%
Kidzone	MTS (UK)	28	62%
Kosmos Language			
Tutors	Kosmos	13	80%
Learn to read			
with Prof	Prisma	12	93%
Learning to Type	Hat Software	14	93%
Let's Spell			
Out and About	Softstuff	24	91%
Magic Maths	School S'ware	12	75%
Magic Story Book	Softstuff	28	87%
Master Time	B Ware	25	87%
Maths Blaster +	Ablac	26	91%
Maths Dragons,			
Cave Maze,			
Tidy the House	Coombe Valley	18	79%
Memory Lane	Ablac	27	64%
Mix and Match	Scetlander	26	37%
Moon Letters	Shoestring	28	67%
My Letters, Numbers			
& Words	Ablac	27	67%
Nought to Nine	Hat Software	17	81%
Puzzle Books			
1 & 2	Soft Stuff	22	61%
Reading Pack			
1 & 2	HS Software	23	89%
Real Spelling Game/			
Launch Code	MB Software	17	10%
Robot Words	Shoestring	30	82%
Roddy & Mastico	UBI Soft	23	68%
Shapes & colours	Rainbow	29	81%
ST Vocab	Academic	17	86%
The Three Bears	School S'ware	12	28%
VerbMaster	Academic	25	85%

Music

Band in a Box			
/Professional	Zone Dist	29, 30	94%
C-Lab Creator v3	Sound Tech	20	92%
C-Lab			
Notator Alpha	Sound Tech	23	85%

C-Lab Notator	Sound Tech	30	92%
Chameleon	Keynote	7, 12	85%
Edittrack Gold	Atlantic Audio	30	86%
FM Melody Maker	Hybrid Arts	4	82%
Fractal Music			
Composer	Fractal Music	28, 30	88%
Fractal Music	Data Music	28	86%
Freestyle	Zone Dist	30	76%
Genwave	Interval Music	7	90%
Hitman	Dr T	9	88%
Midiman	Hollis	7	86%
MIDIstudio			
Master	Ladbroke	30	91%
Music Maker	Hybrid Arts	2	-
Music Publisher	Take Control	6	46%
MusiCAL	Evenlode	11	90%
Prodigy	Digital Muse	8	92%
Proscore	Comus	6	80%
Quartet	Microdeal	5	94%
Replay Pro	Microdeal	6	90%
Sequencer One	Gajits	8	91%
Steinberg Cubase	Evenlode	2	-
Steinberg Cubeat	Evenlode	17, 30	89%
Super Librarian	MCMXCIX	2	-
TCB Tracker	MPH Software	16	93%
Tiger Cub	MCM	10	91%
Tiger	MCMXCIX	5	80%
Trackman 2	Hollis	22	97%
Virtuoso	Digital Muse	3	-
X-OR	MCMXCIX	5	89%

Programming

C Interpreter	Hisoft	17	-
Devpac 2	Hisoft	30, 31	87%
GFA 3 Compiler	GFA	2	91%
GFA Basic 3	GFA	30, 31	86%
Lattice C	Hisoft	30, 31	90%
Mark Williams C	Electric Dist	17	-



● Though it has a few telltale quirks that "serious" programmers scoff at, STOS enables you to write games from adventures to shoot-'em-ups.

Evesham 2MByte	Evesham	25	72%
Gigatron	Compo	25	82%
Power 2MByte	Power	25	92%
Third Coast			
0.5MByte	Third Coast	25	87%
X-Tra RAM	Frontier	25	81%
Z-RAM	Third Coast	25	74%

Mice and joysticks

Cheetah 125+ joystick			
Premier		31	76%
Cordless mouse			
Practical Solutions		7-	
Gravis			
Mousestick	RC Simul'ns	24	90%
Gravis Switch Joystick	RC Simul'ns	27	85%
Naksha Mouse	Naksha	7, 31	88%
Power Mouse	Power	31	79%
Quickshot 3 Plus			
Turbo joystick	Spectravideo	31	77%
Sting-Ray joystick	Spectravideo	31	81%

Modems

2400 modem	Supra	31	90%
9600 Plus	Supra	31	84%
Fax modem	Atari W'kshop	31	78%

Monitors

CM8833 Mk 2 (colour)	Philips	31	90%
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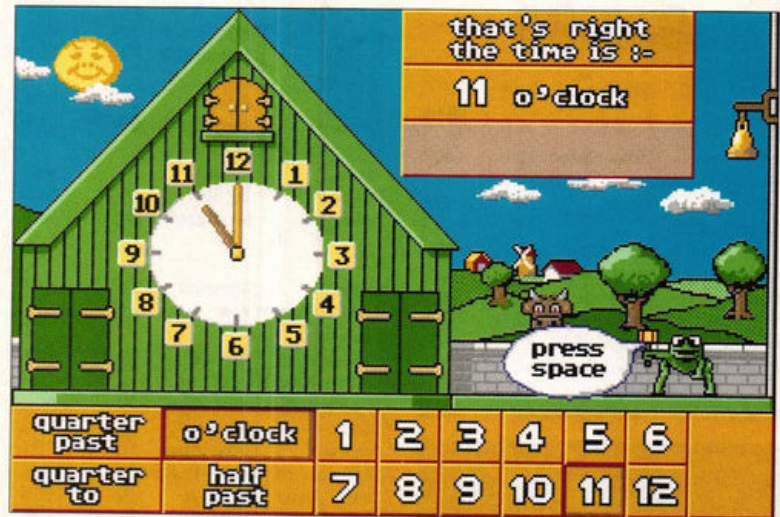
Crystal Print	Qume	4	-
SC1224 (colour)	Atari	31	84%
SM124 (mono)	Atari	31	90%

Music

EVS-1	Sound Tech	15	88%
Master Sound Software			
Horizons		1	-
Monster Stereo	MPH	22	87%
Pro-Series 12			
Sound Sampler	AVR	16, 30	84%
Pro-Series 16-bit Sampler	AVR	25	94%
Replay 8			
Sound Sampler	Microdeal	18	95%
Roland CF-10			
Digital Fader	Roland	17	86%
Roland CN-20 Musical Entry Pad	Roland	17	87%
Sound Tools	AVR	28	82%
Stereo Playback	Microdeal	22	82%
Stereo Replay	Microdeal	29	89%
Studiomaster			
MA36	Studiomaster	2	-

Printers

BJ-10e	Canon	17, 25, 31	90%
Citizen 120-D	Citizen	17	
DeskJet 500	H'lett Packard	20, 25	90%
F-800	Kyocera	5	-



● Fun School 3 is among the best ST edsoft - the second package in the series was the first educational software to challenge games in the sales charts.

Power Basic	Hisoft	30	88%
Prospero C	Prospero	17	-
Prospero Pascal	Prospero	30, 31	82%
STOS Compiler	Mandarin	1	-
STOS	Mandarin	30, 31	73%

Utilities

3D Constr'n Kit	Domark	24	95%
Art Tutor	Castlesoft	21	73%
Circuit Maker 2	Iliad Software	7	47%
Dash	Microdeal	5	75%
DC Desktop	Softville	21	71%
DC Utilities	Softville	21	85%
Flexidump Plus	Care/Zitasoft	21	84%
Font Editor	Signa	6	90%
Fontkit Plus 3	ST Club	20	90%
Harlekin	Hisoft	12	89%
Harlekin 2	Hisoft	27, 31	92%
Knife ST	Hisoft	31	86%
Mission Control	GFA	12	79%
Multidesk	Atari W'kshop	5, 31	80%
Neodesk	Electric Dist	5	87%
Neodesk 3	Electric Dist	18, 31	94%
Shoot 'em up Construction Kit	Palace	4	86%
Ultimate			
Virus Killer	Douglas	31	91%
Universal			
Item Selector	ISM	5	90%

Word processors/editors

Calligrapher Pro	Working Title	22, 26, 30, 31	85%
First Word Plus	GST Software	22, 31	83%
K-Word	Kuma	22	85%
K-Word 2	Kuma	28, 31	76%
Protex 5	Armor	19, 22	95%
Protex 5.5	Armor	28, 31	95%
Regent Word 2	ISM	3	89%
Script	Signa	7, 22	85%
Signum 2	Signum	22	85%
ST Word Writer	GST	22	91%
Tempus 2	Hisoft	3	78%
That's Write	Compo	3, 22, 31	82%
Word Writer ST	GST Software	31	86%
Wordflair	Hisoft	22	87%
Write On	Compo	22	90%

Miscellaneous

Astrobase			
Electric Ephemeris		12	90%
Astrology			
for Beginners	Astrocalc	12	83%
Astronomy Lab,	ST Club	9	90%
Tarot	Astrocalc	12	60%
That's Fun Face	Cavendish	2	-

GLX600	Gestetner	5	-
HL4	Brother	25	89%
KX-P1081	Panasonic	25	85%
KX-P1123	Panasonic	25, 31	90%
KX-P4420	Panasonic	25	80%
Laser Printer 8	Star	4	-
LaserJet 2	H'lett Packard	4, 5	-
Laserjet 3P	H'lett Packard	25, 30, 31	91%
Laserprinter	IBM	5	-
LBP-4 printer	Canon	5	-
LC-10 printer	Star	17, 25, 31	88%
LC-24/LC-24 Colour printers	Star	17, 25	80%
LC-200	Star	17	80%
LQ-400	Epson	25	85%
LX-400	Epson	17, 25	75%
M-1309	Brother	25	78%
M-1324	Brother	25	85%
MT-81	Mannesman		
Tally		17	-
OP-105A	Seikosha	4	-
Paintjet printer	H'lett Packard	25	80%
ProDot 24	Citizen	25	87%
SLM 605	Atari	25, 31	89%
SLM 804	Atari	4	-
SQ 850	Epson	25	73%
Swift 9	Citizen	25	87%
Swift 24	Citizen	25	75%

Scanners and digitisers

Daatascan	Kempston	9	90%
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Daatascan Pro			
Pandaal		15	93%
Daatascan			
A4 Pro	Pandaal	23	96%
Geniscan			
GS4500	Datel	9	82%
Golden Image	Evesham	18	95%
IMG Scan	Ladbroke	9	64%
Mark 4 Cherry			
Digitiser	Cherry	29	88%
MIGraph	Software		
Hand Scanner	Express	9	85%
Realtiser	Third Coast	7	85%

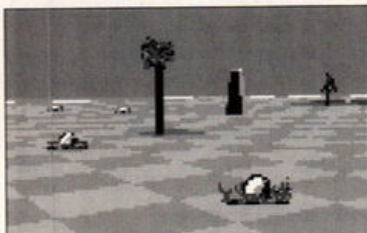
Miscellaneous gadgets and gizmos

Eprom Blower	J E Sinclair	3	80%
GST Gold	Third Coast	5	90%
Hypercache	Third Coast	3	79%
K.AT	Q Logic	29	82%
Mega ST1	Atari	1	-
Met-2 Satellite			
Receiver	ICS	11	-
Parsec			
4768 board	Research	2	-
Robokit	Silica Shop	5	82%
SGS Net	Bath BBS	9	95%
SIMM conversion	Evesham	31	86%
ST Host Adaptor	Third Coast	10	85%
ST-IC	Romulus	30	61%
Teletext Adaptor	Microtext	5	81%
Tweety Board			
Bath Computer Shack		2	-

GAMES



Title	Supplier	Issue	STF rating
A			
Action Pack	Action Sixteen	31	56%
Advanced Destroyer Simulator	Futura	20	79%
Adventures of Robin Hood	Millennium	29	68%
Alpha Waves	Infogrames	18	83%
Altered Beast	Activision	4	82%
AMC	Dinamic	13	69%
Anarchy	Psygnosis	9	77%
Ancient Battles	Cases Computer Simul'ns	16	54%
Antago	Art of Dreams	14	84%



● Archipelagos was an extremely original game with a concept so incredibly exciting and - er, original it's impossible to explain it here. So we won't try.

Aquanaut	Addictive	8	41%
Armada	Arc/Atari	10	91%
Armour-Geddon	Psygnosis	26	91%
Astaroth	Hewson	1	72%
Astate	New Deal	14	38%
ATF 2	Digital Integ	18	74%
Atomic Robokid	Activision	17	82%
Atomino	Psygnosis	26	74%
Atomix	Thalion/USG	13	79%
Austerlitz	Mirrorsoft	8	92%
Axel's Magic Hammer	Gremlin/Kixx	6, 22	68%

B			
Baby Jo	Loriciel	30	79%
Back to the Future 2	Mirrorsoft/Infogrames	14	62%
Back to the Future 3	Infogrames	23	52%
Back to the Gold Age	UBI Soft	17	57%
Backgammon Royale	Oxford	22	70%
Badlands	Domark	18	72%
Badlands Pete	Arc	17	32%
Ball Game, The	Electronic Zoo	26	73%
Barbarian 2	Kixx	21	56%
Barbarian	Kixx	25	65%
BAT	UBI Soft	17	92%
Batman	Ocean	6	91%
Battle Command	Ocean	19	93%
Battle Master	Mirrorsoft	14	82%
Battlebound	On-Line	22	72%
Battletech	Infocom	4	72%
Beach Volley	Ocean	7	62%
Beast Busters	Activision	30	64%
Betrayal	Rainbird	22	76%
Beverly Hills Cop	Tynesoft	8	49%
Billiards 2 Sim	Infogrames	26	71%
Bionic Command	Kixx	25	63%
Black Tiger	US Gold	8	70%
Blasteroids	Kixx	21	62%
Blinky's Scary School	Zeppelin	17	70%
Blitzkrieg	Impressions	17	57%
Blockout	Rainbow Arts	14	72%
Blood Money	Psygnosis	2	90%
Bloodwych	Mirrorsoft	1	95%
Blues Brothers	Titus	29	72%
Booly	Loriciel	31	34%
Boston Bomb Club	Palace	28	76%

Brain Blasters	Ubi Soft	18	88%
Brat	Imageworks	22	86%
Breach 2	Impressions	14	82%
BSS Jane			
Seymour	Gremlin	16	87%
Bubble +	Infogrames	12	38%
Buffalo Bill's Wild Rodeo	Tynesoft	2	83%
Bug Bash	Big Shot	20	58%
Builderland	Infogrames	24	71%

C			
Cadaver	Mirrorsoft	15	81%
California Games	Kixx	25	81%
Capcom Collection	US Gold	30	54%
Captain Planet & the Planeteers	Mindscape	30	61%
Captive	Mindscape	16	93%
Car-Vup	Core Design	18	79%
Carrier Command	Mirror Image	23	91%
Castle Master	Incentive	10	90%
Castle Warrior	Delphine	3	43%
Challenge Golf	On-Line	27	52%
Champion of the Raj	Mirrorsoft	25	78%
Championship Tie Break	Ocean	15	83%
Charge of the Light Brigade	Impressions	29	52%
Chariots of Wrath	Impressions	2	59%
Chart Attack	Gremlin	31	83%
Chase HQ	Ocean	7	71%
Chase HQ 2 - Special Criminal Investigations	Ocean	18	78%
Chess Simulator	Infogrames	18	62%
Chip's Challenge	US Gold	18	82%
Chronoquest 2	Psygnosis	12	88%
Chuck Rock	Core Design	23	82%
Chuck Yeager's AFT	Electronic Arts	17	34%
Cisco Heat	Imageworks	30	72%
Cloud Kingdoms	GBH	27	68%
Codename: Iceman	Sierra On-Line	21	77%
Cohort	Impressions	24	69%
Coin Op Hits 3	US Gold	23	51%
Colorado	Action 16	21	61%
Colossus			
Conflict Europe	Mirrorsoft	3	84%
Conflict	Mastertronic	18	60%
Conqueror	Rainbow Arts	9	91%
Continental Circus	Mastertronic	4, 22	60%
Corporation	Core Design	18	87%
Cosmic Pirate	Action 16	20	80%
Crackdown	US Gold	10	81%
Creepy	Atlantis	26	72%
Cricket Captain	D & H Games	17	73%
Crime Does Not Pay	Titus	25	77%
Crime Time	Starbyte	30	67%
Crime Wave	US Gold	20	38%
Cruise for a Corpse	US Gold	29	76%
Crystals of Arborea	Palace	22	78%
Curse of Ra	Rainbow Arts	18	83%
Curse of the Azure Bonds	US Gold/SSI	21	74%
Cyberball	Domark	12	80%
Cybercon 3	US Gold	22	91%

D			
Damocles	Novagen	13, 31	94%
Damocles Mission Disk	Novagen	19	85%
Dan Dare 3	Virgin/M'tronic	12	63%
Dark Century	Titus	8	52%
Dark Sky Over Paradise	Interactive	11	63%
Darkman	Ocean	29	61%
Day of the Pharaoh	Rainbow Arts	5	63%
Day of the Viper	Accolade	6	80%
Days of Thunder	Mindscape	16	88%
Dead End	Interactive	15	65%

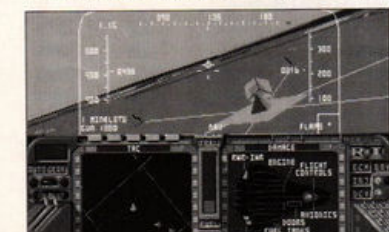
Deathbringer	Empire	30	72%
Début	Pandora	14	77%
Defender 2	ARC	18, 31	88%
Demon's Tomb	Virgin		
/Melbourne		10	61%
Demoniak	Palace	23	80%
Dick Tracy	Titus	20	25%
Double Dragon	16 Blitz Plus		
/M'tronic		21	71%
Double Dragon 2	Virgin/M'tronic5		75%
Dr. Doom's Revenge	Empire	8	29%
Dragon Breed	Activision	17	68%
Dragon's Breath	Palace	10	92%
Dragon's Lair	Readysoft		
/Ent Int		12	43%
Dragon's Lair 2: Time Warp	Readysoft	20	58%
Dragon's Lair: Escape from Singe's Castle	Readysoft	31	31%
Dragonflight	Thalion	15	71%
Drakkhen	Infogrames	5	79%
Driller	Kixx	22	91%
Duel, The: Test Drive 2	Accolade	22	81%
Dungeon Master	Mirrorsoft	31	92%
Dungeons, Amethysts, Alchemists	Atlantis	12	69%
Dynasty Wars	US Gold	12	68%

E			
E-Motion	Accolade	9	76%
Edd the Duck	Impulze	19	73%
Elf	Ocean	29, 31	89%
Elvira	Accolade	22	80%
Emlyn Hughes International Soccer	Audiogenic	11	75%
Enchanted Lands	Thalion	20	92%
Encounter	Novagen	24	58%



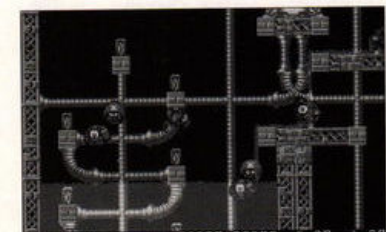
● Addams? No, sorry, I don't know anybody called Addams. My name's Elvira, and I've always dressed like this.

England Championship Special	Grandslam	29	56%
Escape from the Planet of the Robot Monsters	Domark	10	80%
ESWAT	US Gold	19	31%
Evolution	Nigma Adv	29	70%
Exile	Audiogenic	28	92%
Exterminator	Audiogenic	19	87%
Eye of Horus	Logotron	3	84%
F			
F-15 Strike Eagle 2	Microprose	26	90%
F-19 Stealth Fighter	Microprose	12, 31	96%
F-29 Retaliator	Ocean	13	76%
Face Off	Krisalis	29	65%
Falcon Mission Disk 2	Mirrorsoft	15	70%



● F-19 Stealth Fighter: about as stealthy as a huge screaming orange.

Famous Five on a Treasure Island	Enigma	26	61%
Ferrari Formula One	Electronic Arts	4	62%
Feudal Lords	Impressions	23	65%
Fighter Command	Impressions	31	71%
Final Battle	PSS	18	52%
Final Command	UBI Soft	12	82%
Final Conflict	Impressions	17	75%
Final Fight	US Gold	29	74%
Finale Compil'n	Elite	19	65%
Fire & Brimstone	Microprose	11	84%
Fire & Forget 2	Titus	17	48%
Fireball	Microprose	16	70%
First Contact	Microprose	5	58%
First Samurai	Imageworks	30, 31	79%
Five Intelligent Strategy Games	Oxford	30	54%
Flames of Freedom - Midwinter 2	Rainbird	26	92%
Flight of the Intruder	Mirrorsoft	27, 31	92%
Flip-It & Magnose	Imageworks	17	72%
Flood	Electronic Arts	13, 24	87%
Football Direc'r 2	D & H Games	29	43%
Footballer of the Year 2	GBH	27	67%
Forgotten Worlds	Kixx	25	71%



● Definitely a "Magic Roundabout"-esque flavour to Flood, the Bullfrogs' homage to psychopathic teddies.

Fort Apache	Impressions	30	68%
Frenetic	Core Design	26	51%
Frontline	Cases Computer Simul'ns	11	49%
Full Metal Planete	Infogrames	10	78%
Future Basketball	Hewson	16	81%
Future Wars	Palace	5	87%

G			
Galaxy Force	Activision	6	68%
Games Summer Edition	Kixx	3, 26	88%
Garfield - A Winter's Tail	Softtek	25	69%
Gauntlet 2	Kixx	21	86%
Gauntlet 3	US Gold	31	48%
Gazza 2	Empire	20	86%
Gemini Wing	16 Blitz Plus	21	64%
Germ Crazy	Electronic Zoo	25	88%
Gettysburg	Arc/Atari	17	93%
Ghostbusters 2	Activision	7	62%
Ghosts 'n' Goblins	Elite	12	69%
Ghouls 'n' Ghosts	US Gold	6	84%
Go	Oxford	22	75%
Gods	Renegade	22	92%
Gold of the Aztecs	US Gold	16	71%
Golden Axe	Virgin	18	82%
Gravity	Imageworks	8	93%
Gremlins 2	Elite	18	70%
Guardians	Loriciel	31	71%

H			
Hard Drivin'	Domark	6	84%
Hard Drivin' 2	Domark	21	81%
Hard Nova	Electronic Arts	30	62%
Harley Davidson - the Road to Sturgis	Mindscape	14	76%
Hawaiian Odyssey	Sublogic	6	73%

Helter Skelter	Audiogenic	18	75%
Hero Quest	Gremlin	24	78%
Heroes	Domark	16	85%
Hill Street Blues	Krisalis	24	83%
Hitchhiker's Guide to the Galaxy	Mastertronic	30	76%
Horror Zombies from the Crypt	Millennium	19	74%
Hostages	Action 16	20	90%
Hound of Shadow	Electronic Arts	5	90%
Hoyle's Book of Games	Sierra On-Line	16	73%
Hunter	Activision	26	92%
Hydra	Domark	24	55%

Khalaan	Rainbow Arts	13	59%
Kick Off	Anco	2	88%
Kick Off			
Extra Time	Anco	8	49%
Kick Off 2	Anco	14	92%
Kid Gloves	GBH	10,27	44%
Killing Cloud	Imageworks	22	93%
Killing Game			
Show	Psygnosis	23,31	90%
King of Chicago	Mirrorsoft	1	61%
Klax	Domark	11	87%
Knight Force	Titus	5	70%
Kult	Exxos	1	73%

Lost Patrol	Ocean	18	88%
Lost Soul	MPH Software	17	68%
Lotus Esprit Turbo			
Challenge	Gremlin	18	86%
Lotus Turbo			
Challenge 2	Gremlin	30	77%

Moonfall	21st Century	29	24%
Moonshine			
Racers	Millennium	23	78%
Moonwalker	US Gold	5	84%
Multi-Player Soccer			
Manager	D & H Games	20	81%
Murder	US Gold	14	72%
Murders in Space	Infogrames	18	83%
Mystical	Infogrames	19	76%

M

Magic Fly	Electronic Arts	14, 31	91%
Magic Lines	Thalion	15	47%
Magic Pockets	Renegade	27, 31	90%
Magnetic Scrolls Collection	Virgin	30,31	81%

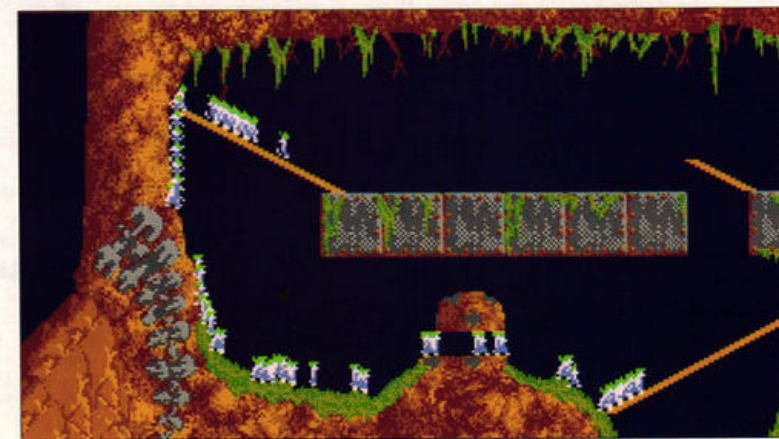


● **The Killing Game Show**: high-tech weaponry, keys and violent death abound in the belfries of Notre Dame. A little-known chapter of Victor Hugo's classic novel. Soon to be a major TV mini series starring Arnold Schwarzenegger as Quasimodo.

L

Lancaster	CRL	5	81%
Last Ninja 2	Activision	14	86%
Leather Goddesses of Phobos	Mastertronic	30	78%
LED Storm	Kixx	25	72%
Legend of Faerghail	Rainbow Arts	17	90%
Legend of the Lost	Impressions	17	22%
Leisure Suit Larry 3	Sierra On-Line	15	61%
Lemmings	Psygnosis	24	94%
Leonardo	Ent Int	2	62%

Manix	Millennium	15	71%
Manchester United	Krisalis	11	60%
Masterblazer	Rainbow Arts	23	74%
Matrix Marauders	Psygnosis	19	73%
Maupiti Island	UBI Soft	26	79%
Maya	Action 16	20	83%
Mean Streets	US Gold	16	84%
Mega Lo Mania	Mirrorsoft	27	94%
MegaTraveller 1	Empire	24	67%
Merchant Colony	Impressions	23	84%
MERCS	US Gold	25	61%
Metal Masters	Infogrames	20	88%
Microprose Golf	Microprose	27, 31	95%

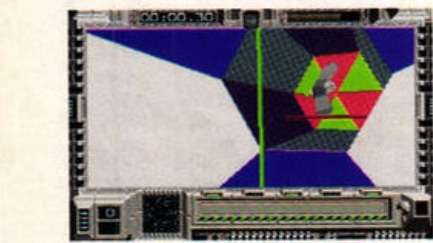


● **Have you played the uncut version of Lemmings?** Now there's an experience. Level 15, "Put that thing down," is a particularly entertaining (and educational) task. (And you should see Level 69. Then again, perhaps you shouldn't.)

Let Sleeping Gods Lie	Ent Int	1	72%
Licence to Kill	Domark	1	76%
Life & Death	Mindscape	26	72%
Light Corridor	Infogrames	17	82%
Line of Fire	US Gold	19	39%
Llamatron	Llamasoft	31	95%
Logical	Rainbow Arts	25	76%
Loom	Lucasfilm	16, 30, 31	81%
Loopz	Audiogenic	16	58%
Lords of Chaos	The Software Business	24	82%

Midnight Resistance	Ocean	13	41%
Midwinter	Microprose	9	96%
MiG-29 - Soviet Fighter	Codemasters	18	30%
MiG-29 Fulcrum	Domark	20	92%
MiG-29M			
Superfulcrum	Domark	29	85%
Mighty Bombjack	Elite	21	48%
Mike Read's Computer Pop Quiz	Encore	16	71%
M1 Tank Platoon	Microprose	17	84%
Monty Python	Virgin	14	84%

Immortal, The	Electronic Arts	16	87%
Imperium	Electronic Arts	12, 30	87%
Impossamole	Gremlin	26	68%
Impossible Mission 2	Kixx	25	80%
Indiana Jones & the Last Crusade	US Gold/Kixx	2,29	26%
Indiana Jones - The Graphic Adventure	US Gold	4	77%
Infestation	Psygnosis	11	69%
International 3D Tennis	Palace	16	88%
International Championship Athletics	Hawk	28	49%
International Ice Hockey	Impulze	23	38%
International Soccer Challenge	Microprose	15	85%
Interphase	Mirrorsoft	4	93%
Iron Lord	UBI Soft	7	90%
Italia '90	Code Masters	11	60%

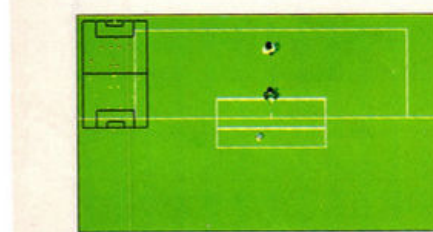


● **Interphase** - a **FORMAT** Gold winner and also yours, complete and with not a byte missing, with **STF 18**.

Ivan "Ironman" Stewart's Super Offroad	Virgin	19	68%
Ivanhoe	Ocean	10	66%

Jahangir Khan's World Championship Squash	Krisalis	24	73%
James Bond Collection	Domark	29	57%
James Pond	Millennium	17	81%
Jimmy White's Whirlwind			
Snooker	Virgin	27,31	94%
Judge Dredd	Virgin M'tronic	19	41%
Jumping Jackson	Infogrames	6	56%
Jupiter's Masterdrive	UBI Soft	20	76%

Kenny Dalglish Soccer Match	Impressions	7	32%
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● **Ah, the green of the field, the thud of a boot upon a head, the cry of an enraged supporter: That's Kick Off 2.**

Narco Police	Ocean	21	64%
'Nam 1965-1975	Domark	23	76%
Navy Moves	Electronic Arts	1	69%
Navy Seals	Ocean	25	72%
New Zealand Story	Ocean	3	78%
Night Shift	Lucasfilm	20	86%
Nightbreed	Ocean	16	58%
9 Lives	Arc	18	74%
Ninja Remix	System 3	19	81%
Ninja Warriors	Virgin Games	6	69%
Nitro	Psygnosis	18	41%
North & South	Infogrames	7	58%

O

Official Everton Football Club			
Intelligentsia	Amfas	14	57%
Omicron Conspiracy	Mirrorsoft	18	42%
Onslaught	Hewson	5	90%
Operation Stealth	US Gold	15, 31	93%
Operation Thunderbolt	Ocean	9	73%
Oriental Games	Microstyle	10	78%
Othello Killer	UBI Soft	24	65%
Outrun	Kixx	21	38%
Outrun Europa	US Gold	29	58%
Outzone	UBI Soft	25	66%

P

P-47 Thunderbolt	Firebird	7	67%
Pang	Ocean	18	88%
Paradroid 90	Hewson/Activision	17	78%
Paris Dakar	Tomahawk	10	32%
Passing Shot	Imageworks/Mirrorsoft	3	71%
Phobia	Mirrorsoft	1	65%
Photon Storm	Atari/Arc	12	51%
Pick 'n' Pile	UBI Soft	17	46%
Pictionary	Domark	6	72%
Pinball Magic	Loriciel/US Gold	11	71%

Pipe Mania	Empire	9	76%
Pit-Fighter	Domark	28	65%
Player Manager	Anco	11	93%
Plotting	Ocean	16	72%
Populous	Electronic Arts	30, 31	88%
Populous 2	Electronic Arts	30, 31	95%
Powerdrift	Activision	6	83%
Powermonger	Electronic Arts	19	93%
Predator 2	Imageworks	23	67%
Prehistorik	Titus	25	68%
Prince of Persia	Domark	19,31	90%
Pro Tennis Tour	UBI Soft	5	70%
Pro Tennis Tour 2	UBI Soft	24	73%
Proflight	Hisoft	30	88%
Projectyle	Electronic Arts	12,24	91%
Prophecy 1 - the Viking Child	Wired	13	67%
Prosoccer 2190	Vulture	17	12%
Puzznic	Ocean	18	86%

Q

Quadrel	Loriciel	23	74%
Quartz	Firebird	2	75%
Quest for the Time Bird	Infogrames	2	78%
Question of Sport	Encore	16	70%

R

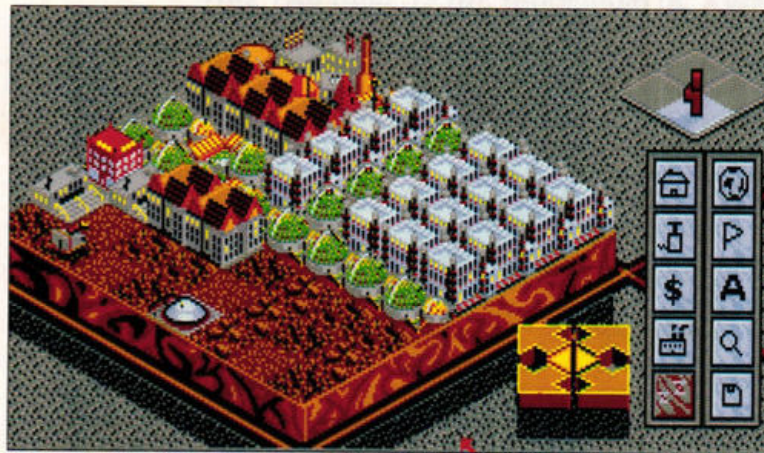
R-Type	Activision	31	79%
R-Type 2	Activision	26	78%
Railroad Tycoon	Microprose	28,31	93%
Rainbow Islands	Ocean	9	93%

Rainbow Warrior	Microstyle	4	47%
Ranarama	Players	17	75%
Ranx	Ubi Soft	17	70%
RBI 2	Domark	27	76%
Realms	Virgin	31	87%
Red Heat	Ocean	2	52%
Red Lightning	SSI	1	64%
Red Storm Rising	Microprose	5	89%
Resolution 101	Logotron/ Millennium	11	93%
Revelation	Krisalis	21	64%
Rick Dangerous 2	Microprose	15	86%
Rings of Medusa	Starbyte	8	69%
Risk	Leisure Genius	9	68%
Road Blasters	Kixx	21	43%
Robocod	Millennium	31	86%
Robocop	Ocean	2	56%
Robocop 2	Ocean	19	84%
Robozone	Imageworks	30	54%
Rock Star Ate My Hamster	Codemasters	17	68%
Rocket Ranger	Cinemaware/ Mirrorsoft	3	73%
Rodland	Storm	29	70%
Rolling Ronny	Virgin	30	76%
Rorke's Drift	Impressions	13	46%
Rotor	Action 16	20	73%
Rotox	US Gold	12	81%
Rugby - the World Cup	Domark	31	76%
Rugby Coach	D & H Games	30	32%

S

Safari Guns	Infogrames	6	33%
Saint Dragon	Sales Curve	16	78%
Sarakon	Virgin	28	74%
Satan	Dinamic	15	39%
Scapeghost	Level 9	6	35%
Scrabble Deluxe	Virgin	30	68%
Secret of Monkey Island	Lucasfilm/ US Gold	23, 30, 31	94%
Seven Gates of Jambala	Grandslam	7	78%
Shadow Dancer	US Gold	25	67%
Shadow of the Beast	Psygnosis	17	83%
Shadow Sorcerer	US Gold	29	69%
Shadow Warriors	Ocean	18	58%
Sharkey's Moll	Zeppelin	26	39%
Shinobi	Virgin Games	5	47%
Silent Service 2	Microprose	30	88%
Silkworm	16 Blitz Plus/ Mastertronic	21	73%
Sim City	Infogrames	12, 31	92%
Simpsons: Bart vs. the Space Mutants	Ocean	31	74%
Simulcra	Microstyle	15	81%
Skate Wars	Ubi Soft	16	63%
Skidz	Gremlin	13	71%
Skull & Crossbones	Domark	24	59%
Sky Fox 2	Electronic Arts	1	58%
Slayer	Hewson	3	54%
Sly Spy			
Secret Agent	Ocean	14	59%
Smash TV	Ocean	31	74%
Snoopy	The Edge	6	39%
Snott	Grafic Visions	26	52%
Soccer Glory	Tanglewood	11	29%
Space Ace	Readysoft/ Empire	10	58%

Space Harrier 2	Grandslam	9	51%
Space Quest 3	Sierra On-Line	4	83%
Space Rogue	Mindscape/ Origin	16	30%
Speedball 2	Mirrorsoft	18	88%
Spellbound	Psygnosis	17	79%
Spiderman	Empire	17	74%
Spindizzy Worlds	Activision	17	91%
Spy Who Loved Me	Domark	17	80%
Star Command	SSI	5	37%
Starblade	Simarils/ Palace	12	51%



● "Ooh yes, we've just moved into Utopia House. We've got a lovely view across the laser turret and on a clear day you can see right across to the tankyard and see all the little tanks. It's much better than that horrible Populous estate."

Starflight	Electronic Arts	11	70%
Starwrek	Castlesoft	7	15%
Steve Davis			
World Snooker	CDS Software	21	78%
Stormball	Millennium	24	71%
Stormlord	Hewson	6	80%
Street Fighter	Kixx	25	52%
Street Hockey	Gonzo Games	18	64%
Strider	US Gold	3	92%
Strider 2	US Gold	17	79%
Strike Fleet	Electronic Arts	30	63%
STUN Runner	Domark	19	42%
Stunt Car Racer	Microstyle	4	74%
Subuteo	Electronic Zoo	17	70%
Super Cars: The Muscle Cars	Accolade	23	70%
Super Gridrunner	Action 16	21	88%
Super League Soccer	Impressions	6	62%
Super Monaco GP	US Gold	21	71%
Super Skweek	Infogrames	24	81%
Super Space Invaders	Domark	30	63%
Super Wonder Boy in Monster Land	Activision	6	82%
Supercars	GBH	27	74%
Supercars 2	Gremlin	24	74%
Supremacy	Melbourne House	18	90%
Suspicious Cargo	Gremlin	31	79%
Switchblade	Kixx	25	58%
Switchblade 2	Gremlin	26	81%
SWIV	Storm	22	78%

T

Team Suzuki	Gremlin	21	69%
Team Yankee	Empire	16	84%
Teenage Mutant Hero Turtles	Mirrorsoft/ Imagework	19	38%
Terminator 2	Ocean	29	63%
Test Drive 2 Car Disk	Accolade	23	70%
Test Drive 2: Scenery Disks	Accolade	23	63%
Tetris	Infogrames	24	69%
Thalion - the First Year	Thalion	23	81%

Their Finest Hour - the Battle of Britain	USGold	15	91%
Theme Park			
Mystery	Mirrorsoft	11	80%
3D Pool	Mirror Image	23	87%
Thunder Blade	Kixx	21	34%
Thunder Burner	Loricel	31	53%
Thunderhawk			
AH-73M	Core Design	28	91%
Thunderhawk	Core Design	31	91%
Thunderstrike	Millennium		
Time	/Logotron	13	88%
	Empire	7	79%

Time Machine	Activision	16	83%
Tintin on the Moon	Infogrames	5	73%
Titanic Blinky	Zeppelin	31	69%
Toki	Ocean	25	78%
Tom & the Ghost	Ubi Soft	25	67%
Toobin'	Domark	6	74%
Torvak			
the Warrior	Core	17	70%
Total Recall	Ocean	20	66%
Tournament Golf	Ultimate	20	73%



● The Ed does insist on including his holiday snaps. We're just wondering who that is in the foreground.

Tower of Babel	Microprose	5	94%
Toyota Celica			
GT Rally	Gremlin	18	79%
Toyottes, The	Infogrames	12	81%
Treasure Island			
Dizzy	Codemasters	17	82%
Treasure Trap	Electronic Zoo	13	81%
Treble			
Champions	Challenge	14	19%
Turbo Outrun	US Gold	6	70%
Turrican	Rainbow Arts/ Kixx	17, 31	77%
Turrican 2	Rainbow Arts	20	89%
Tusker	System 3	15	51%
TV Sports Football	Mirrorsoft	4	68%
Twin World	Ubi Soft	7	69%

U

Ultimate Ride	Mindscape	18	67%
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UN Squadron	US Gold	17	46%
Universal Military Simulator 2	Microprose	15	87%
Universe 3	Impressions	15	48%
Untouchables	Ocean	7	81%
USS John Young	Magic Bytes	18	34%
Utopia	Gremlin	29, 31	90%

V

Vaxine	US Gold	15	84%
Vector Championship			
Run	Impulze	18	40%
Venus the Flytrap	Gremlin	15	77%
Verminator	Rainbird	2	83%
Vigilante	Kixx	21	35%
Virtual Worlds	Domark	27	78%
Viz	Virgin	21	74%
Voodoo			
Nightmare	Palace	17	76%
Vroom	Ubi Soft	29, 31	92%

W

Warhead	Activision	11	90%
Warlock the Avenger	Millennium	22	43%
Warp	Grandslam	7	20%
Waterloo	Mirrorsoft	1	91%
Wayne Gretzky Hockey	Mirrorsoft	10	90%
Web of Terror	Impressions	16	35%
Weird Tales	Interactive Technology	15	72%
Welltris	Infogrames	19	71%
Wild Streets	Titus	8	71%
Wild Wheels	Ocean	30	67%
Wildlife	New Deal Productions	14	21%



● Xenon 2 is all very well, but it's so terribly terribly déglanté, don't you feel? I know I do. And so does Mother.

Windwalker	Mindscape	10	51%
Wings of Death	Thalion/Active	16	81%
Winning Team	Domark	24	56%
Wipe Out	Gonzo Games	13	64%
Wolfpack	Imageworks	30	70%
Wonderland	Virgin		
World Championship Soccer	Elite	21	69%
World Class Leaderboard	Kixx	21	82%
World Soccer	Zeppelin	17	66%
Wrath of the Demon	Readysoft	21	81%
Wreckers	Audiogenic	27	68%

X

Xenon	16 Blitz Plus/ Mastertronic	21	70%
Xenon 2	Mirror Image	3, 31	90%
Xenophobe	Microstyle	5	55%

Y

Yolanda	Millennium	14	58%
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Z

Z-Out	Rainbow Arts	28	53%
Zombi	Ubi Soft	17	40%
Zone Warriors	Electronic Arts	28	39%

All of which goes to prove that starting your title with Z is not as good as P. Or something. **stf**



● Look at the sheen on that parquet floor. Starglider 2 could never be accused of being messy.

Feedback

The liveliest letters in the history of the known universe. Address your letters to

The Editor, Feedback, ST FORMAT, 30 Monmouth Street, Bath BA1 2BW



A SHOVE IN THE WRONG DIRECTION?

There is much said about the price of software, and why buying mail order is so much cheaper than the local software emporium. I have a few comments to make about retailers of ST leisure software.

First, there is hardly ever a "try before you buy" facility available. I'm a 29 year old with a penchant for flight sims, and this has caused me to postpone a purchase indefinitely. Most shops don't have an ST for demonstrations often for fear of a horde of kids descending on them, begging for a free play with no intention of buying anything. One way round this is to do demonstrations to those who bring a parent with them.

Second, the retailers seem very badly informed about game release dates as software houses repeatedly shift sale dates.

Third, a number of retailers – as well as Atari themselves – bring out promotional packs which are often billed as, for instance, "£75 worth of games." If you say you don't want the games and ask for a £75 discount, the answer is always "No way!" By my reasoning, the games are therefore not worth £75 – they are usually quite elderly and can be purchased heavily discounted anyway.

Retailers justify their higher prices by saying they have higher overheads, but that is not enough. They should be providing more of a service. The "take it or leave it" attitude I have encountered in some shops only encourages me to look elsewhere – though there are some good retailers about, especially at the serious business end of the ST market. The games market is somewhat cut-throat, to put it mildly, and with so many good mail order outfits around, retailers have room for improvement.

Stephen Morgan
London

stf: No one would disagree that better advertising and promotion isn't a good thing, but are you sure you've got the right suggestions?

Would you really want to take a parent with you whenever you want to buy a game? I would argue that you can find

a great many STs up and running and, in many instances, the dealers are quite happy for their machines to be invaded by young kids – it proves the attraction of the machine. If you were in the market for a computer and you saw lots of

kids round an ST and no one around an Amiga games machine, which would you think was better? If your local store doesn't have an ST to demonstrate its games, ask if it's okay to take the game home and bring it back if you hate it. Shops do want to make sales, after all.

I've spoken to many software publishers about the way they shift release dates. Games in particular can often seem to be on target until the final testing stage, when a bug is discovered which throws the deadline to the wall. Publishers should certainly do more to keep dealers informed of changes in release dates, though a shift to more realistic deadlines in the first place would be a good idea. Given the choice, though, I'd far rather see an excellent game arrive late than a bugged one on time.

There's a problem with your point about promotional packs. When a dealer buys an ST with a special games pack promotion from Atari, he can hardly remove the games from the pack and sell them separately, not least because the games are all enclosed in a single box. Even if he could shift the games for £75, he'd only be making enough money to cover the cost of the £75 discount he gave you. Shop around and find an ST which doesn't come with a free pack if it bothers you that much, or sell the games to your friends.

Your final point suggesting that dealers don't know the ST is true but sad. I'd like to see more dealers in a position to help people new to the machine, but this isn't a problem exclusive to computers. I went to buy a video recorder from Curry's recently and I knew more about the machines on sale than the salesman. It's this lack of knowledge which caused us to put together last month's beginners' special issue (see page 114 if you missed it). Smaller computer stores are often more knowledgeable – check that a store can give you the information you

need before buying. If you really have no joy, give Silica's helpline a call on ☎ 081 309 1111 or write to our team of experts and we'll answer your problem in our new ST Answers section, starting next issue.

If anyone else has any suggestions on how shops could improve their sales of the ST, write to Sale Away, ST FORMAT, 30 Monmouth Street, Bath BA1 2BW.

PC SPEED SPED OFF

I would like to tell you about a problem with an advert from Gasteiner Technologies. This advert claims to sell the PC emulator PC Speed for £29.95.

I snapped up the chance of sending off for this special offer and got my Dad to phone up from work. They said, "We do not have any PC Speeds in stock at the moment for that price, but if we take your credit card number we may be able to send you one for £99.95." My Dad didn't like the idea of this and so asked if they were going to be at the Computer Shopper Show. When they said yes, we visited them at the show and they said we could get one for £29.95 from Compo Software.

We went and talked to Compo and they said that Gasteiner could never have sold any at that price because Compo never supplied any at that price to them. We said Gasteiner had told us that Compo could supply us with a PC Speed for that price. Compo said the only way to get it for £29.95 would be if we could get the Trading Standards to force Gasteiner to honour their ad.

Can you clear this up?

M E Holman
Middlesex

stf: To check this out I called Gasteiner and attempted to buy PC Speed for £29.95, pointing them to their advert. Gasteiner said this was an old version of PC Speed which is no longer available. When pressed, they said that originally they had a deal with Compo for 500 units, which had sold out. They also said that they don't sell PC Speed any longer and anyone interested in buying this package should speak to Compo software. The fact remains, however, that the advert shouldn't have been placed if Gasteiner couldn't fulfil orders.

As a result of your letter, we are no longer running adverts from Gasteiner

which claim to sell PC Speed at this price. If you want to take the matter further you can contact the Advertising Standards Authority on ☎ 071 580 5555 or write to them at Advertising Standards Authority Ltd, Brook House, 2-16 Torrington Place, London. WC1E 7HN. Whenever you buy any software, make sure you check it's the latest version you're investing in.

REVIEWS FOR SALE

As a loyal reader since issue six, I find myself now largely relying on your in-depth reviews before deciding to part with my cash – and, I am pleased to say, 99% of the time you are absolutely correct, in my opinion. However, at least twice I have bought a game following your review and have found the game to be complete rubbish, as have my friends. Although only two mistakes since issue six is a superb record, I must confess to having wondered at least once if any "backhanders" are received from the software companies in order to get a decent review. Please understand that I'm not accusing you of such actions, but because you're the only magazine I buy you're the only one I could write to to get an answer and your views on the subject.

Nathan Dukes
London E6

stf: It would be reprehensible for any magazine to take backhanders in return for good reviews, Nathan. I've heard tales of some of our competitors giving favourable reviews in a bid to encourage advertisers to support their publication, but I can assure you that has never happened with ST FORMAT. Just a casual glance through our Feedback pages indicates that on occasions our advertisers take umbrage at the scores we award to some of their packages and complain in writing.

Our job is to provide you, the reader, with clear buying recommendations. If the occasional advertiser gets upset with our ratings, we must be doing our job right. You must remember that we use a variety of reviewers in our games section and, on occasions, their tastes may not agree with yours.

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Back in STF 25 you spoke to the ST Club's Paul Glover and he gave advice



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E & OE

NO TIME FOR TIMEWORKS

● I suppose this letter should be addressed to one of your competitors since I bought a package on their recommendation. However, I may get a more considerate hearing from you.

The program in question is *Time-works DTP2*, the latest version, which took some two months to arrive.

I used to own the first version but traded it and, at the same time, became a member of the Softline system operated by GST. Having returned my application form for membership, I was told that my membership had lapsed – before I had joined. That took a couple of letters and several expensive phone calls to sort out.

Having finally resolved the problem, I attempted to use the service. However, on both occasions I tried to get help I was told I needed to talk to someone else, and waited long hours by the phone for a call which never came.

The only person I spoke to at Softline hadn't a clue what I was taking about.

As for the program, I attempted to go through the guided tour but got stalled because the manual didn't explain to the complete layman how to do things, so I had to work them out for myself. Now I am stalled again because the program doesn't do what the manual says. Calling Softline either involves one in a very expensive phone call, or the response that you require someone else to talk to.

I would dearly like to get my money back. Still, I should have known because I have had *First Word Plus* on my shelf for about a year unused since I can't make it work properly.

Finally, in case you think I am some sort of congenital idiot, I am 65 years old, having served in three different armed services – at one time having control of up to 25 personnel – and am currently clerk to a parish council, charities and a luncheon club for the elderly, being treasurer for all of them. But I can't work the "User Friendly" *Timeworks DTP*.

R Moyes
Suffolk

● In the first post after Christmas came my upgraded *Timeworks Publisher 2*. I started to install this new improved program to find that it would not install

the new additional fonts. When I try to start to program it, it crashes one out of three times, Default STY cannot be loaded and the program locks up sometimes after saving a document.

I contacted GST Software, only to be told that they have got the problems I mention, among others. So, I went to buy my latest copy of *ST FORMAT* to see if you were having the same problems. I found that you have not printed the article on this program as advertised last month. Is this because you were also having the same problems?

I think *Timeworks 2* is one of the best DTPs on the market, but I think it's wrong for a company to take money for a program they must have known had faults before they sent it out.

Paul Whiers
North Yorkshire

stf: You've doubtless discovered by now that we've reviewed *Timeworks 2* ourselves this month (see page 58) and given it a score of 88%. Although versions of *Timeworks 2* were available for review before Christmas, the final release didn't come until 19 December which is why we've had to wait so long to bring you our definitive review. Nevertheless, it's a superb package, so I was distressed to receive these letters and spoke to my reviewer and GST to try to sort out your problems.

● **From Paul Kaufman**
Softline Manager, GST:

We were concerned to hear about the problems your reader experienced with *Softline*, GST Software Products' technical support service. *Softline* has over 4,000 members and deals with over 1,000 calls per week on average. With this amount of activity, there are inevitably occasions when a member receives what he feels is an unsatisfactory service. But clearly any complaint is one too many.

We are always striving to improve the service we provide and have recently installed a new telephone answering system to improve efficiency, and now have six dedicated *Softline* staff dealing with members' queries.

side of caution. Be certain that you're in a position to handle the enquiries you receive. It's no good making a half-hearted decision to start a library, then deciding it was a bad idea when you get inundated with requests and you have no way to provide enough disks for your customers. Just because you have a large selection of PD, that's not a good enough reason to start a library – don't dream of huge amounts of profit, either. Remember that blank disks and postage cost you money too. PD libraries are notorious for closing down as quickly as they start up.

Paul Glover said modems are useful because they enable you to contact

other bulletin boards (BBSs), which are a rich source of Public Domain software. Foreign BBS systems like the US-based CompuServe (☎ 0272 25511) can provide you with a varied source of PD software not available through the UK libraries.

Since you didn't understand the difference between using a modem and "a good old fashioned telephone" are you sure you know enough to set up a PD library?

Now to deal with the specific points raised by your reader.



● There's the option to install additional fonts in *Timeworks 2*, but doing so's not always as easy as it sounds. Complaints have been received at *STF* about *Softline's* attitude.

have received with his original version of *Timeworks*. When he subsequently sought assistance with v2 he was not a fully paid up member and was duly informed that his "support" had indeed lapsed.

3. Long delays in dealing with members' calls are clearly unsatisfactory, but pre-Christmas, which is when we believe your reader was calling, *Softline* was exceptionally busy. In addition, half the staff were struck down with the seemingly annual flu bug which circulates the country. We are now recruiting additional staff to try and ensure this situation does not arise in future.

4. It is very hard to know at which level to pitch software manuals. Usually we work on the assumption that the user understands how to set up and use an ST already. The aim of our manuals is to show how to use the software, not to give a course in basic computer knowledge. However, for users who require further advice about page layout, typography and special effects, *Softline* does sell *The Timeworks Companion* by Ray Morrissey,

page 44)?

2. I am having problems with printing pictures using *Canvas*, from Cover Disk 30. I have a Panasonic KX-P1081 printer. When the printer prints a line, it leaves a blank line before printing the next line. What am I doing wrong?

3. Is it true that *Indy 3* and *Monkey Island 2* aren't going to be released for the ST?



● *Timeworks 2* took longer to arrive than anticipated, said GST, but *Softline* kept in touch with every customer and prides itself on its helpful support service.

can only apologise that, in this instance, our response was not satisfactory.

● *STF's* reviewer, Peter Crush, had this to say:

I tried the guided tour out on two computer-illiterate members of my family, and they could get things to work with a tiny bit of help from me since they had no knowledge of the usual GEM conventions. Anybody who has used ST programs before should have no trouble.

The paths for the Default Style and other options can be defined and saved from one of the menus. If these were set up wrongly, maybe the program could hang up because it couldn't find them. I had no real trouble with this, but it might throw an inexperienced user, though it's all explained in the manual. Little problems like this ought to be sorted out by the Helpline. When I was at GST, the people manning the Helpline seemed most helpful and knowledgeable and they have a dedicated office with a whole range of STs and programs set up.

Tom De Vleeschauwer

Belgium

stf: I have a few answers for you, Tom: 1. As we said in the review at the time, you can get hold of *FlexText* from *Working Title* ☎ 0865 883233.

Tom De Vleeschauwer
Belgium

1. As we said in the review at the time, you can get hold of *FlexText* from *Working Title* ☎ 0865 883233.

A BARRAGE OF QUERIES

I have a few questions for you:

1. Where can I get *FlexText* (STF 26,

on how to set up a PD library. I was wondering whether I need to get any legal advice or if any forms have to be signed. I have quite a large selection of PD for my ST. Also, why do you need a modem? What's wrong with the good old telephone?

Craig Higson
Manchester

stf: Provided you make certain you don't pass off commercial software as Public Domain, you shouldn't need any legal advice. If you have any doubt whether the software you are distributing may not be a genuine PD release, check with the author and err on the

CONSUMER PASSIONS

I am having nothing but trouble from one of the advertisers in your magazine: Third Coast Technologies of Standish, Wigan.

In October 1990 I ordered a copier from them to copy my own disks for back-up use at £149.99. I was sent a copier that didn't work. I phoned them and was told the wrong disk had been sent. A new disk arrived but it still wouldn't work. So I cancelled the cheque and order and sent back the copier. Then another copier arrived - also not working. I sent this back, and so on. This happened many times before I received a working copier. In the meantime, they had cashed another cheque I had sent them before I could stop this, too - at £10 a time.

Finally, a year after the order and payment was made, a letter arrived out of the blue giving me three days to pay up again or give proof of payment!

I have, in the past, ordered four items from them, having at this time not learnt my lesson. Only one item has worked as I received it the first time - a 2MByte RAM upgrade for an STE - but this had no instructions or free disk as advertised.

Since then, I read in the August ST Club magazine several letters about this company's attitude. They always seem to lose orders and ask customers to send copies of them, and they always seem to take a long time fulfilling these orders.

Since I've bought your magazine for two years and I used this company because of your adverts in it, I hold you partly responsible for this trouble.

R A Bounsall
Kent

stf: First of all, let me say that every company is likely to experience hiccups or have problems satisfying customers at some time or other. The test of a reputable company can be how much effort they put into sorting problems out. We contacted Third Coast, who told us they sold 4,634 of the copiers in question, and 91 were returned. Only one was defective hardware and was returned to the manufacturer in America; the other problems were down to software. We passed your letter on to Jason Miller, Managing Director of Third Coast, who said he would contact you directly and let us know the outcome. There wasn't time for Jason to do so before we had to go to press, but these pages are open for his response next month.

We haven't run any ads from Third Coast since the middle of last year. If you're having problems with Third Coast, there are two courses you can take. First, you can write with details of your problem to the Trading Standards Office, Newtown Hall, Library Street, Wigan WN1 1NN. Second, if the amount involved is less than £5,000, you can also pursue a claim through the Small Claims Court - starting the process should cost only about £20. The Wigan Trading Standards Office can send you details of how to go about it if you send them an SAE.

Be aware, though, that there is an ambiguity in the law that can be a head-

ache. Small Claims actions have to be heard in the town where the transaction took place - clear enough if you're suing a shop, but is a mail order contract made in your home or at the mail order company's offices? I know of Small Claims cases that succeeded in the home town of the buyer and others where the magistrate ruled that they had to be heard in the mail order company's home town. I recommend you ask at your local Small Claims Court for advice.

We would never knowingly accept adverts from dodgy companies, but it would be impossible for any magazine to check every claim made in every advert. However, ordering by mail can still be a smart move, if you keep these few tips in mind:

1. Mail orders are covered by the same laws as purchases in the shops. Under the Sale of Goods Act, whatever you buy must be "of merchantable quality," "fit for the purpose" and "as described" - which means, in a nutshell, the goods you receive must be the same as advertised and must work properly. If not, you're entitled to a replacement or your money back, just as if you'd bought defective goods in the High Street.

2. If an advert doesn't specify how long you can expect to wait for delivery, the British Code of Advertising Practice says "an advertiser should never take longer than 28 days to fulfil an order." If there's a problem with supplies or something similar, the advertiser should at least acknowledge your order and tell you when you can expect delivery. The other side of the coin is that you should wait about a month before you assume something has gone wrong.

3. There are a few simple ways to protect yourself. You can ask advertisers whether you can order Cash-on-Delivery - there's an extra charge for this and not all companies are able to offer the service, but at least you don't have to pay until your order actually turns up. Check that the company are reputable - ask your friends, keep reading STF's letters pages and check back issues to see that the company have been around for a while and haven't radically reduced the size of their adverts recently.

4. However, even reputable companies can run into financial trouble, so in many ways your best protection is plastic: if the goods you order cost over £100 and if you pay any part of the price by credit card (like Access or Visa, not a debit card like Switch), then the credit card company are liable along with the seller for any breach of contract.

This means that if the goods don't turn up you can claim against either the mail order company or the credit card company, and if the mail order company go bust you can still claim against the credit card company.

Finally, bear in mind that in the vast majority of cases you receive what you ordered in perfect condition and in good time. Ordering by mail can mean you save time and money, usually with less hassle than shopping in the High Street.

2. There should be a series of DIP switches - little slide-switches with only two positions - under the panel of your printer. One of them instructs your printer to send a line feed (LF) whenever it receives a carriage return (CR) - check the manual to find out which one. Set it so that no LFs are sent.

3. Monkey 2 is certainly going to be released for the ST, but probably not until early April. There's some speculation that Indy 3 may not make it onto the ST, though no firm decision has yet been made. If you think US Gold should do a conversion, then write to Bob Malin, US Gold, Units 2/3 Holford Way, Holford, Birmingham B6 7AX.

BROUGHT TO TASK

You've really gone and fluffed it this time. In the January issue you went and completely left out the games charts. This change had better not be permanent! Neither had the omission of MIDI Helpfile. Bring them back or I'll go and read a decent mag - Amiga Format, for example. Okay, so it's about the wrong computer. But 308 pages compared with ST FORMAT's measly 178. ST FORMAT, take note.

Rhys Jones
Beds

stf: Oh hell, you've really caught us out this time! Well, maybe not. I deliberately dropped the Gallup charts in the January issue - and ever since. Turn to the News on page eight to find out why.

MIDI Helpfile is about to be resurrected and included in our mammoth new tips section, ST Answers, which replaces Desktop from next month. This section will fill roughly 15 pages of next month's issue and feature tips for all the different ST subjects and applications. If you have any problems with your ST, write to ST Answers, ST FORMAT, 30 Monmouth Street, Bath, BA1 2BW. If possible, mark on the envelope what area you're asking about - printer problems, MIDI, whatever it may be. From next month we'll be answering every ST query we receive.

If you really think Amiga Format will give you better value for money, then buy it, though I fail to see how information about the Amiga is really going to help you get more from your ST. Although AF looks chunkier, they actually write no more editorial pages than us - their page count is higher because they run more adverts.

POPULARITY IN MONO

I was interested in your rundown in STF 30 of games compatible with a mono monitor. Here are a few from my collection to add to your list. I would recommend any of them, except Manhunter New York which is virtually unplayable.

- Manhunter New York (Sierra)
- Zac McCracken (Lucasfilm)

- Indiana Jones and the Last Crusade Adventure (Lucasfilm)
- All Infocom text adventures
- Legend of the Sword - a graphical adventure (Rainbird)
- Universal Military Simulator (Rainbird)
- Silicon Dreams (Rainbird/Level 9 - in fact, most Level 9 text adventures are mono compatible)
- Balance of Power (Mindscape)
- Tetris (Mirrorsoft)

There's only one arcade game, you notice. Most are quite old, but are available through mail order at discount prices - Special Reserve is a good place to start.

Tony Pressley
Notts

stf: Thanks for that list, Tony. Can anyone else come up with some more?

RAMMING IT UP

I am thinking of purchasing a 1MByte upgrade for my STFM. I would prefer a plug-in one which would not require any soldering. I don't know, however, if my ST has a soldered or socketed (surface mounted) MMU and video shifter chip.

M A Wheeldin
Lancs

stf: I would advise you to send your ST away to someone like Frontier Software (☎ 0423 567140) for your upgrade. Even if you think you know enough about the ST to fit a memory upgrade, there are many costly mistakes you can make. We bought three upgrades last year, and while my Technical Editor fitted his without a problem, my Games Editor and then News Editor both had to send their machines back to Ladbroke Computing (☎ 0772 201366) for repair. I'd advise you to do the same if you have problems.

SERIOUS ERRORS

I have just purchased an Atari 1040 STE and would greatly appreciate your advice on a few things.

First, when I try loading the language disk supplied with the machine, after approximately ten seconds a message appears on screen: "ERROR: this STE ROM version does not run." Also, when making a backup copy of the disk I found it to be formatted double-sided. Is this normal or have I got a faulty disk? I have tried the disk on another machine with just the same results.

Second, I am a self-employed motor mechanic and would like to do my business work on the STE. I need a package which will do my invoicing and invoice records, and take the place of my Simplex D cash book and my VAT book. I thought that System 3 from Digita may be okay, but would appreciate your advice or any other recommendation you could make.

D Abbots
North Yorkshire

SHORT BUT SWEET

● In STF 27 you printed an article called "Games that won't last a thousand seconds" and included games rated about 15% or less, but what I do not understand is why you included *Powermonger*, which was rated at 93%. Was this a misprint? If not, why is *Powermonger* included?

John Hall, Notts

- The article in question was an interview with programming team Millennium where they listed the ST games they thought worst. The ratings quoted were from past STF reviews. The fact that all the other games received scores around the 15% mark reflects the fact that Millennium agreed with our own opinions on those games. They disliked *Powermonger* because they felt the manual wasn't up to scratch and the gameplay wasn't addictive enough.

● I bought a copy of the game *Crackdown* and played it a couple of times before putting it in the back of a drawer and forgetting it - this may be a reflection on the quality of the game! On rediscovering it in August, I found that it refused to load, so I returned it to US Gold, hoping they could supply a replacement. Several weeks went by but no replacement came, so I wrote again saying that if they were unable to replace the game, could they please send back the two disks, so that I could at least use them as rather expensive blanks. I still haven't received any reply! Is this typical of software houses or are US Gold particularly bad at customer relations?

Ivan McKeon, Lancs

- I contacted US Gold on your behalf, Ivan, and they said they'd send out your copy of *Crackdown* immediately - you should have received it already. In my experience, US Gold operate a good customer relations service. If you have any future problems, resort to the phone as well as a letter and let me know if you still don't get any joy.

● My ST seems to be having a colour crisis. On the Desktop, whether I use a slow boot or fast boot, the disk drive and trash can icons are pink, while the writing has a pink box with a thin white border around it. All the windows are pink and so is the menu bar. According to the control panel, white (7,7,7) is now pink. The other palette boxes can be changed to white but not the relevant one, and there are

odd coloured boxes in between the palette. When the ST's running games or PD slideshows, the colours are often corrupted. *Kick Off 2* is unplayable with green and black lines across the pitch. Do you think my ST has a hardware problem or some kind of virus?

Anthony Higham, Herts

- Using a "slow boot" - starting up with no disk in the drive - guarantees there's no virus in your system, so that can't be the problem. It's possible you've got a dodgy connection, so try a different aerial or monitor lead before you panic, Anthony. If you're using a monitor, see if you get the correct colours by using a television instead. If you're already using a TV, try another one. It's a good idea to try and rule out your screen before casting an accusing finger at your ST. If you do find that your monitor is to blame, it may be a simple job of sorting out a dodgy connection to the port, which could be inexpensively repaired by a qualified technician. If you're absolutely convinced that your ST is to blame, take it to your nearest Atari dealer and ask his advice. Alternatively, call Silica on ☎ 081 309 1111 and see if they can help. Incidentally, you've got a surname to be proud of there.

● I have recently become a fan of the J R R Tolkien books about middle earth - *The Hobbit*, *Lord of the Rings*, and so on, and I noticed in an old issue of *ST Amiga Format* that there is (or was) a game called *War in Middle Earth*. I have been hunting around for this game but nobody seems to sell it. Is it still available?

Jim Herman, Essex

- The game was originally written by *Virgin*, so I contacted them to find out what had happened to it. *War in Middle Earth* was released on the ST some years ago and *Virgin* no longer stock it. We couldn't think of any other Tolkien games currently available, but have you tried *Battlemaster* from PSS (☎ 0203 525852)? This graphic adventure was rated at 82% and was set in a decidedly Tolkienesque landscape.

● **From A Black, Copycare Business Services**

I was most disappointed to read the review in STF 30 of *Retouche*, one of the programs we are currently marketing. The rating given conflicts with that in issue 21, where *Retouche* received a Gold rating

of 93%. I would appreciate it if you could correct the latest review - we have had several of our clients bring this error to our attention.

- The rating wasn't an error. As time passes, competitive packages are regularly released. Prices may tumble on new releases and the features expand wildly. It's our aim to provide readers with a clear buying recommendation, so we reserve the right to update scores. For example, the quality of *Activision's R-Type* was exceptional when it was released back in 1988, but now it's been superseded by shoot-'em-ups like *Xenon 2*, offering faster gameplay, smoother animation and superb graphics. If we were conducting a roundup of shoot-'em-ups, should we list *R-Type* with its original score of 96% and *Xenon 2* with a score of 90%? You would flock to buy *R-Type* and miss out on the wonderful *Xenon 2*. *R-Type* is still a classic, but by today's standards it doesn't rate quite as high. In this particular instance, *Retouche* featured as part of a roundup of graphics packages and we felt it was overpriced - though it is an excellent retouching package, in this context it doesn't offer enough to justify the price.

● Please could you tell me if there is a PC Emulator in the Public Domain. I've looked all over, but cannot find one.

Kef, North Yorkshire

- Our Public Domain expert has checked the PD and we've consulted with our sister magazine *Public Domain*. Sadly, we could find no sign of a PC emulator in the PD. If anyone knows of a library stocking a PC emulator, please drop me a line.

● Having been a fan of shoot-'em-ups for a long time, I've searched in vain for a great little game called *Phoenix*. You know the game - shoot the eagles for two levels, then blast your way through the ship at the end of each level.

Do you know a company that has it in stock?

Gary Parks, Hants

- I know the game but no-one has released it onto the PD circuit, Gary. However, *Dinamic* are working on a game called *MegaPhoenix* which they say should be out by the middle of May. *Dinamic* are based in Spain - you can give them a call on ☎ 010 341 542 7287 for more details.

FOOTBALL CRAZY

From Simon Rush, The Educational Software Club

I run a mail order company selling by direct mail a management game called *Football Crazy*. You may have noticed that Anco have released *Football Crazy Challenge* - a compilation of *Kick Off*, *Player Manager* and *Final Whistle*.

Please note that if you see the title *Football Crazy* in any other mail order company's lists of software, this refers to *Football Crazy Challenge* by Anco and not *Football Crazy* by ESP Soft-

stf: The error with your language disk seems a tad suspicious. It may be faulty, so take it back where you bought your ST and ask for a replacement disk. The ST formats to double-sided format by default. Your ST is perfectly able to read double-sided disks. In fact, I'd recommend using them because you can store twice as much information on them as on single-sided disks.

It's very difficult to advise you on the best package for your business needs based on the information you've

provided. There are a wide variety of packages which boast different features for the home user, small business, beginner or professional. We conducted a roundup of business/serious packages back in issue 28 - turn to page 114 for our back issue service if you missed it.

Home Accounts 2 (£54.95 from *Digit* ☎ 0395 270273) may fit your requirements. Alternatively, try *Cashmaster* (£39.95 from *Intraset* ☎ 0257 276800), which may suit your small business a little better.

A PROFITABLE ERROR



In issue 29, in reply to a letter, you stated that *Electronic Arts* have released a tips book for *Powermonger*, because of the inadequacies of the game manual. As an admirer of *Powermonger*, who has found parts of the manual incomprehensible if not actually contradictory, I felt that this may be the answer to my dreams, and consequently my fiancée phoned in an order. Imagine my astonishment when *Electronic Arts* sent the book with documentation indicating a price of £7.50, exclusive of VAT. Considering that no mention of this exorbitant cost was made in *ST FORMAT*, I feel you deserve your knuckles rapped.

I feel that the company themselves have many questions to answer, since it seems a mite cheeky to demand nearly a tenner, on top of the original outlay of £30, for a booklet to overcome their original errors in the manual. I am eagerly awaiting their response, which I will forward to you if it appears that they have a conscience.

Generally I am most impressed by the thoroughness of your publication, and it is this admiration which made this incident as unpleasant as it is.

Stephen Slater Doncaster

stf: I went away and stapled my right earlobe to the back of a donkey as punishment for my error, Stephen. I hope the £10 prize goes some way towards restoring our reputation.

I agree that *EA* ought to give *Powermonger* owners this extra guide free of charge. A poor manual is just like a bug in a game. The publishers would replace bugged copies of a game free of charge, but they make a profit out of a bugged manual - a shrewd business move but not very helpful. Fortunately, *EA* have learnt from their mistakes and have invested a great deal of their time in ensuring the manual to *Populous 2* comes up to scratch. Incidentally, *Mindscape* are in the process of preparing a manual to help you along with *Knightmare*, but as yet we don't know how much that's going to cost - if anything.

ware. This game is only available by direct mail from us and not from any other source. We'd be most interested to hear (on ☎ 0702 600557) if anybody has seen *Football Crazy* advertised and ordered it expecting our game, only to receive the Anco package - especially if you experienced difficulty returning the game bought in error. To avoid any more confusion we have named our latest release *Football Masters* rather than *Football Crazy 2*.

Got something to say? Write to The Editor, Feedback, ST FORMAT, 30 Monmouth Street, Bath, Avon BA1 2BW.

March quiz

If your heart is still pounding from the excitement of reading the rest of *STF* (except for those clever dicks who read it backwards, or read this bit first, or – anyway), we don't care. We've got another thrill up our voluminous collective sleeve – nothing less than the Quiz. Your host this month: Frontier Software, with over £1,000 worth of kit to get rid – er, give away

It seemed so big when you first saw it. (Snigger, ooer, fnarr, ahem.) You thought you'd never use it all up. 512K was an unimaginable luxury, something which would last forever. But then, when you tried to load that innocent-looking 46K demo which decompressed itself to 2MBytes, it all collapsed around your ears, didn't it? You realised with horror that 0.5MByte was pathetic, ridiculous, puny. The big boys were playing with 1, 2, even 4MBytes, and thought nothing of it.

So, look. Come over here into the corner, where it's more private. What you want – what you need – is a memory upgrade. And not just a piddling 0.5MByte upgrade, not even a 1MByte upgrade. Wouldn't 2MBytes of brand spanking new memory nestled inside your ST look good?

Of course it would. And that's what you can win by skimming over these almost-too-easy 20 questions. The first prize is a 2MByte Deluxe RAM upgrade board, courtesy of those extremely nice people at Frontier Software. This marvellous device bumps up the memory of your ST to undreamed-of limits. With a bog-standard 520STFM, you'll suddenly find you have 2.5 MBytes; with a 1040 or equivalent, you'll have 2MBytes – unfortunately the ST can't han-

dle a 3MByte configuration – and, of course, with a 2MByte ST you'll have the absolute bursting-at-the-seams limit of 4MBytes. And it really is a piece of pi – er, cake to fit.

Because the Deluxe board uses industry-standard SIMM modules – the same ones that fit into modern STEs – upgrading even further is possible later on, simply by buying the extra memory and slotting it into the upgrade board.

There is, though, only one of these lifesavers to be given away. One prize isn't very impressive, so Frontier (bless their little cotton socks) decided to throw in, very delicately, 50 of their Forget-Me-Clock 2s. Another brilliant idea, this. If you're fed up with setting up the date and time every time you reset your ST, wang one of these into its cartridge port. It'll keep the date and time even when the ST's off, and it won't tie up the port because it has a through-port of its own. You don't have to worry about the date or time ever again. (It's the sort of thing that keeps you up nights, believe us.)

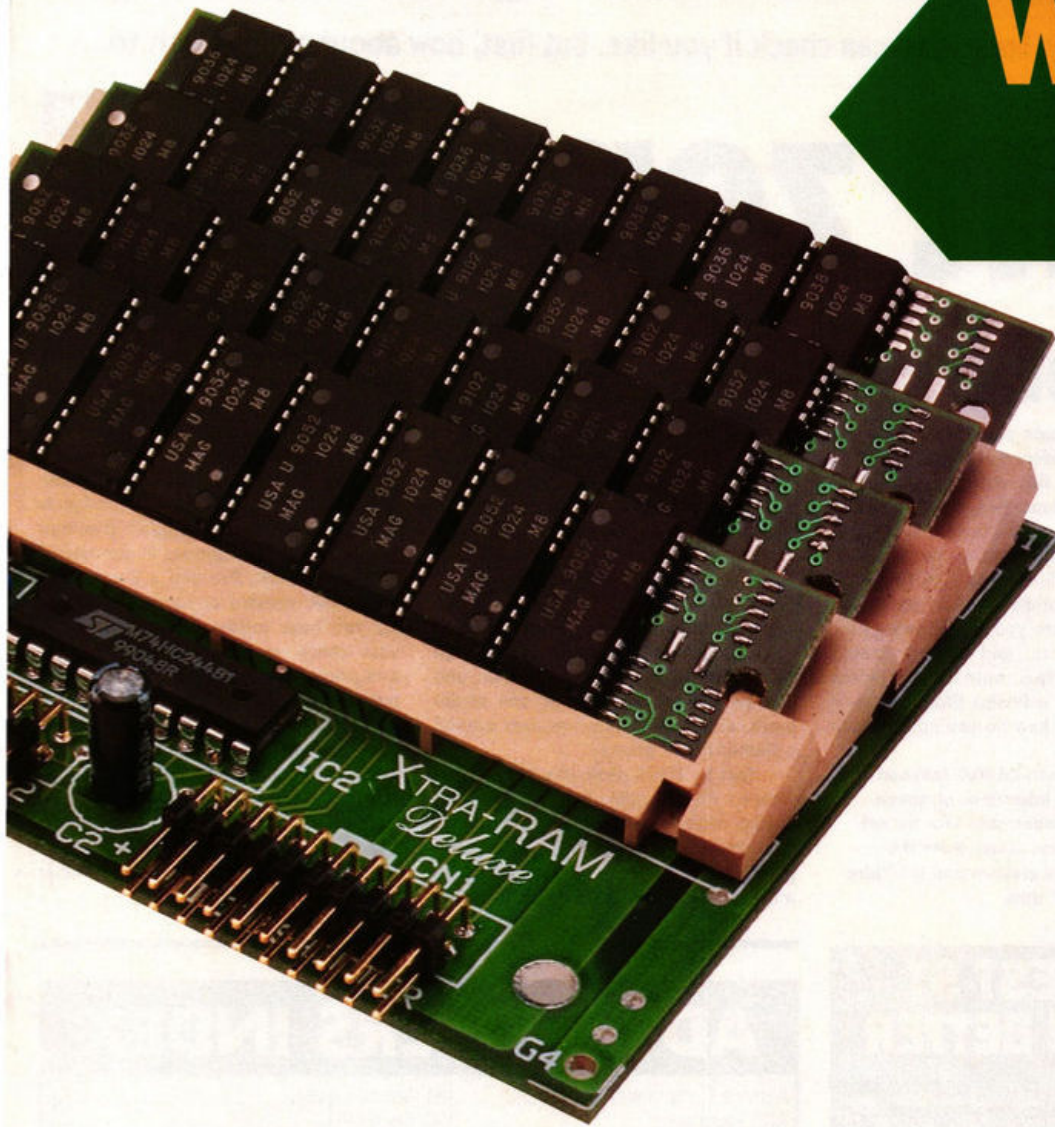
So there you have it. A 2MByte RAM upgrade board, plus 50 Forget-Me-Clock 2s, with a total value of over £1,000, to those inordinately good-fortuned people who win our, shall we say, quiz.



● Look at the through-port on that! Don't you just want to fondle the smooth curves of this Frontier Forget-Me-Clock 2? Don't you just want to croon to it? No, of course you don't – after all, you're a well-balanced person.

- 1 What's the usual upper limit point size of a font in *Timeworks Publisher 2*?
- 2 What does Sylvia Hadford work for?
- 3 Into which port do you plug the Forget-Me-Clock cartridge?
- 4 How many seconds to go before you get "a nasty crack on the head"?
- 5 Disk Three offers a day in which soap opera city?
- 6 What's only fun from 10am until lunch?
- 7 How many generations of PC is Benson?
- 8 What's the maximum size you can increase your ST's memory to?
- 9 How long do the Bullfrogs think that their "mystery game" is going to take to write?
- 10 What sort of book is *Atzenta 2*?
- 11 In which issue of *STF* did we review *The Official Everton Football Club Intelligentsia*?
- 12 What does Dougal have a passion for in "The Magic Roundabout"?
- 13 What was H P Lovecraft's home and birthplace?
- 14 Nick Brown sold a reasonable number of his flight simulation program for the BBC micro. How many is reasonable?

WIN! WIN! WIN!



● Er – all right, this isn't actually a 2MByte upgrade, it's a 4MByte. But hey! What's a few chips between friends? (Probably about £60.) Anyway, the 2MByte version is just as easy to fit, and lasts just as long. Plus it's a nice strawberry flavour.

- 15** How many seconds of animation is *Imagic*?
- 16** Who did Volkswagen France want to mock up an advert for them?
- 17** How many page numbering formats does *Timeworks Publisher 2* have?
- 18** What's the standard screen size in K of an ST screen?
- 19** So you're rich in *Mercenary 3*. But rich to the tune of how many credits?

- 20** What was the name of the character in "Monty Python's Flying Circus" who wore wellies and had a handkerchief on his head?

Right, get your answers down onto a postcard or sealed-down envelope and send it to **What Was It I Had To Do? Oh Yes – Enter The ST FORMAT Quiz, 29 Monmouth St, Bath, Avon BA1 2DL** by Friday 6 March.

Please indicate whether you own an ST or an STE, because the memory upgrades are slightly different.

THE RULES BOX

1. Think of a number. Divide it by two, and then add six. Multiply by 1.3, and again by 7.6. Take each digit in the number and add them together. Take this new number from 15, divide it by 4 and write it down. The number you're left with is the amount of time you've wasted assing about with numbers when all we wanted to tell you was that the closing date for the competition is Friday 6 March.

2. What's wrong with this conversation? "Mummy, what does Daddy do?" "He's the managing director of Frontier Software, darling." "Can me and my friend, whose father happens to own Future Publishing, enter this wonderful competition in *ST FORMAT*?" Oh dear. You can imagine the tears before bedtime in that particular household, can't you? We think you get the picture.

3. Paula Richards, Production Assistant, wishes it to be known that (a) she is actually not, as previously implied, a "fighting hellcat" and that (b) these unwarranted appearances in the Rules Box cause her a great deal of personal distress and are not in any way big or clever. (She's still a dab hand at rooting out those naughty multiple entries, though. So don't try sending in more than one entry – not if you want to see the sun rise again.)

4. Perhaps, somewhere in a parallel dimension, there's an identical copy of *ST FORMAT* being produced, with an identical competition in it. Identical, that is, except for the prizes. Perhaps that other *STF* has different prizes to offer. Not us. These are all we've got. No more. That's it. (And no sulking.)

5. I was saying to the Judge just the other day, "Hey, Judge! Just why is it your decision is so final? And how come you don't ever enter into any correspondence?" He just smiled in his smooth and enigmatic way and punched me in the mouth. That's the Judge for you. All heart.

FEBRUARY QUIZ ANSWERS

Actually, there aren't any this month because in February you had to use your own creative talents to write a song – if not a symphony – and so, of course, there are no right or wrong answers. 'Fraid you'll have to wait until next time to find out if you've won the Roland music goodies.

And now, the end is here – er, near. It's time to draw the final conclusion – sorry, curtain. That is, as they say, your lot. After this, there's nothing. Honestly. Look, you can check if you like. But first, how about a quick visit to...

Twilight zone

GOODBYE YET AGAIN

With lumpy throats and moist eyes, we are deeply saddened, heartbroken and even a little bit upset to have to announce the departure of one of STF's longest-serving stalwarts, Neil Jackson.

Neil was – how can we put it? – tall. But that's not all. He was also Technical Editor of the world's finest ST magazine (this one, in case you're wondering) for almost two years, and bravely braved the queries of "Neil, what are the pinout connections for a Philips CM8833 monitor?" and "Neil, how do you interface an

● Former STF Tech Ed Neil Jackson (pictured at his interview, all those years ago) demonstrates how he got the job in the first place. Note the smart-but-casual clothes and the "hire me – I'm cheap" grin.



Okimate printer to a Kenwood blender?" and – well, you get the picture. Despite this, he managed to stay sort of sane, and only damaged one or two people during his sojourn as Tech Ed.

It's thought that Neil's departure came about when he accidentally wandered into the Amiga Format offices one morning. Rumour has it he is still stuck there, unable to force his way through the mounds of rubbish to the door, and has even been accepted as one of the team, which was handy 'cos they wanted a Games Editor anyway.

And so Neil's desk (it's here somewhere, we're sure) lies forlorn and empty, waiting to be filled by a new, fresh-faced and eager Tech Writer, simply bursting with ideas on how to wire up a Morris Minor to a hard drive. Prospec-

TELL US A THING OR TWO

You don't have to be a technical expert to have a say over what's in *ST FORMAT*. We want to hear exactly what you think of Britain's best-selling ST magazine. Just fill in the reader survey on page 68 and mail it to us – free! Just like a hotline to the Editor, but without the phone bill!

tive candidates should see the advert on page 8 and apply to the Editor, enclosing a CV and a sample of their dazzlingly lucid and literate writing.

We'd also like to hear from ST experts in all fields with specialist knowledge of particular ST technical subjects and sufficient grasp of English grammar to answer readers' queries in our new ST Answers section. Are you a C programmer, MIDI maestro or hardware expert? Do you have insider knowledge of the vast range of ST-compatible printers and printer drivers? Even if you've got a proper job and don't want Neil's, STF may have some fabulously lucrative freelance work for you. Send a sample article to Expert Tease, *ST FORMAT*, 30 Monmouth Street, Bath, BA1 2BW.

And Neil, wherever you are: remember, it's not whether you can put it back together, it's whether you can remember where you put the screws.

NEXT MONTH: THE BEST ST MAGAZINE GETS EVEN BETTER

An amazing two Cover Disks, a brand new tips section, a *Sequencer One* series, a Gallery tips special and all our cheerful regulars – it's almost too much to handle!

Whether you're a newcomer to the ST scene or a hardened power user, next month's cover feature has something for you. If you've read this month's letters pages then you may have noticed that we're getting rid of our regular Desktop section. But don't panic! We're replacing it with a brand new tips section modestly called ST Answers. We've recruited a team of experts to answer every question we receive. From beginners' queries to programming, music to modems, we're answering over 100 common problems you've encountered. To get the section off to a flying start we're devoting at least 15 pages to these tips and revealing everything you ever wanted to know about your ST. And if you can't find the tip you're after, we're running a special Freepost coupon to enable you to send us your query free of charge. As if that isn't good enough, we're also promising to answer every problem we receive. From now on, your ST need never confound you again.

What did you say? You want more? As if all this isn't a good enough reason to buy next month's *ST FORMAT*, we're also putting a second disk on next month's cover and giving away a complete package (though we can't say what it is yet).

You want even more? Well how about this – we gave away the complete music sequencing package *Sequencer One* with the January issue of STF – and if you

missed it, turn to page 114 and order your copy now – enticing many readers to experiment with the ST's musical talents. But just how melodious is this music you're creating? Next month we're starting a new music series to help you get the most from *Sequencer One*. Start creating tunes you can be proud of with our step-by-step guide to using *Sequencer One*!

Then we've got our review of a brand new grammar checker program, an in-depth look at the latest Olivetti inkjet printer and a review of Ocean's much publicised 3D shoot-'em-up, *Epic*. Oh, and Microprose are even suggesting that we might finally get to see *Grand Prix* – though we're not going to hold our breath for that one.

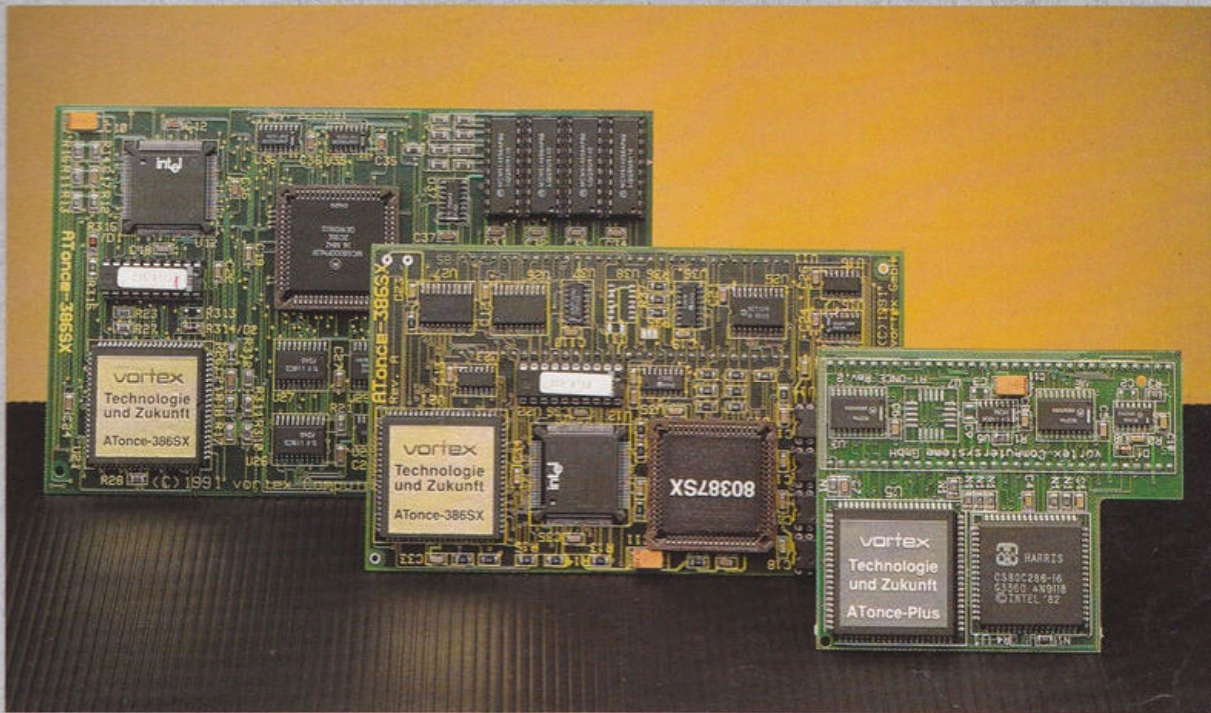
Is art your thing? Then you know that we also gave you the complete *Canvas* art package with issue 30 and offered a £200 prize for the best *Canvas* artist. Next issue we're announcing the winner and presenting a four page guide to different *Canvas* techniques you can use in your own pictures. If you missed *Canvas*, turn to page 114 to order STF 30.

With all this on offer, copies of STF 33 are likely to sell out fast, so reserve your copy with your newsagent now – there's a handy form and more details on page 15 – or take the easy option and turn to page 114 to subscribe. At the very least, make sure you get down to your newsagent on Thursday 12 March and get your hands on Britain's biggest, liveliest and best-selling ST magazine. You know it makes sense.

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